

CYAPCO
FINAL STATUS SURVEY RELEASE RECORD
SOUTHWEST SITE STORAGE AREA
SURVEY UNIT 9520-0001

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SOUTHWEST SITE STORAGE AREA
SURVEY UNIT 9520-0001

RELEASE RECORD

TABLE OF CONTENTS

1. SURVEY UNIT DESCRIPTION	3
2. CLASSIFICATION BASIS.....	3
3. DATA QUALITY OBJECTIVES (DQO)	5
4. SURVEY DESIGN.....	8
5. SURVEY IMPLEMENTATION	12
6. SURVEY RESULTS	13
7. QUALITY CONTROL.....	16
8. INVESTIGATIONS AND RESULTS	17
9. REMEDIATION AND RESULTS	17
10. CHANGES FROM THE FINAL STATUS SURVEY PLAN.....	17
11. DATA QUALITY ASSESSMENT (DQA)	18
12. ANOMALIES	18
13. CONCLUSION	18
14. ATTACHMENTS	19
14.1 Attachment 1 – Figures (6 pages including cover)	
14.2 Attachment 2 – Scan Results (7 pages including cover)	
14.3 Attachment 3 – Laboratory Data (110 pages including cover)	
14.4 Attachment 4 – DQA Results (14 pages including covers)	

TOTAL 156

SOUTHWEST SITE STORAGE AREA

SURVEY UNIT 9520-0001

RELEASE RECORD

1. SURVEY UNIT DESCRIPTION

Survey Unit 9520-0001 (Southwest Site Storage Area) is designated as Final Status Survey (FSS) Class 2 and consists of 9,777 m² (2.4 acres) of uninhabited open land located approximately 740 feet from the reference coordinate system benchmark used at Haddam Neck Plant (HNP) (see Attachment 1). The survey unit is bounded as follows: land Survey Unit 9304-0001 and land Survey Unit 9306-0000 to the north (called north as oriented with the north to south flow of the Connecticut River), land Survey Unit 9522-0005 and the Discharge Canal to the east, land Survey Unit 9520-0002 to the south, and the Connecticut River to the west. The survey unit is relatively level open space in the middle of the peninsula. The restoration of the peninsula for FSS has removed most of the surface interference in the survey unit.

The reference coordinates associated with this survey unit are E003 through E008 by S072 through S078 (refer to 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 9520-0001 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,
- d) Visual inspections and a "walkdown."

A review of the 10CFR50.75(g)(1) database report and historical files shows a documented history of the use of this survey unit as a radioactive materials storage area. Additionally, at least one (1) case of contamination to underlying soil has been recorded (refer to survey performed 3/23/1985). Examples of some of the major events are provided below.

- a) Plant Incident Report (PIR) 80-37 reported the discovery of three (3) discrete sources of elevated activity on the Southeast Site Storage area in March 1980, along with other areas around the site. Two locations are believed to be associated with Survey Unit 9520-0001 based on a review of the 1980 survey maps. The ground level dose rate over one (1) spot was 3 millirem per hour (mR/hr) and, after digging below about one and

SOUTHWEST SITE STORAGE AREA
SURVEY UNIT 9520-0001

RELEASE RECORD

a half feet (1 ½ ft) of dirt, the contact reading was reported at about 400 mR/hr. The activity was found above a piece of uncontaminated construction rubble and according to PIR 80-37 a possible mode of transfer of this contamination from the Radiologically Controlled Area (RCA) could have been from the use of contaminated tools or equipment during the storage of uncontaminated construction rubble; however, the time of deposition could not be determined. Isotopic analysis of this discrete source identified Co-60 as the predominant isotope. Another discrete source (identified as 3-24-1) was found near the first discrete source and Co-60 was also the predominant isotope. Both elevated areas were removed upon detection according to the historical records.

- b) Health Physics surveys performed in 1983 and 1985 document the discovery of radioactive material (strainers, bolts, wood pallets, sections of pipe, etc.) on the peninsula. The 1985 survey documents the discovery of contaminated dirt under a pallet.
- c) Plant Information Report (PIR) 89-35 and related surveys: Documents the discovery of radioactive spoils that were deposited on the peninsula in 1989 following removal from the outfall area outside the Radiologically Controlled Area (RCA). Once identified, the spoils were removed according to the surveys.
- d) Condition Report (CR) 04-1128: Documents the discovery of contamination on a B-25 container lid. The exact storage location of the B-25 container on the peninsula was not provided. There is no indication that contamination spread to the ground.
- e) CR 05-0314: Documents the discovery of excavation spoils, intended for backfill, above the radiological criteria for use as backfill. These spoils were located south of 9520-0001, likely in Survey Units 9520-0003 and 9520-0004 based on review of the documentation. According to the CR closure documentation, the affected spoils were removed and packaged for disposal. Follow-up survey and sampling was performed and the results were below established action levels.

A review of the *"Initial and Supplemental Characterization Reports"* as well as the previous *"Classification Basis Summaries"* was performed. Survey Unit 9520-0001 was initially designated as Class 2 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 (references 2-2 and 2-7 respectively). The second source document justified a Class 2 designation for those areas for which there was historical evidence of contamination above the Derived Concentration Guideline Levels (DCGLs - refer to Section 2 for definition and description of DCGL), but for which recent surveys had shown that decontamination efforts had occurred and that the radiological conditions were expected to be below the DCGLs. Additional

SOUTHWEST SITE STORAGE AREA
SURVEY UNIT 9520-0001

RELEASE RECORD

justification for a Class 2 designation based on survey and sampling data was provided as another reference to the LTP by the "*Haddam Neck Plant Historical Site Assessment Supplement*".

Removal of material and restoration of the peninsula for FSS has been ongoing since 2000 starting with the radiological release of the South Access Point and several abandoned trailers. The collapse of the Radioactive Material(s) Area (RMA) boundary and removal of subsurface commodities has produced a large data set that has helped characterize the radiological contaminants of concern and extent of contamination. Although Co-60 has been identified in the past (e.g., the two discrete sources of elevated activity identified in March 1980), Cs-137 has been the only radionuclide that has been consistently reported in concentrations above detection levels and with the potential to exceed the screening criteria (refer to Section 3).

Characterization was performed in August 2006 to support final classification and FSS planning. Statistical quantities (mean, median and standard deviation) from the 2006 characterization survey conducted under SSWP 06-07-006 are provided in Table 1.

Table 1 – Basic Statistical Quantities for Cs-137 from the 2006 Characterization Survey	
Minimum Observed Concentration (pCi/g) :	6.38E-03
Maximum Observed Concentration (pCi/g) :	9.94E-02
Mean (pCi/g):	4.49E-02
Median (pCi/g):	4.87E-02
Standard Deviation (pCi/g):	3.48E-02

The FSS Engineer performed a visual inspection and walk-down during September 2006 to assess the physical condition of the survey unit, evaluate access points and travel paths and identify potentially hazardous conditions.

This survey area is affected by existing groundwater (reference CY memo ISC 06-024) which will be a source of dose from residual radioactivity, as discussed in Section 3 under the Data Quality Objectives.

Based upon the results of radiological surveys performed over six years of restoration and the 2006 characterization survey , it was concluded that there was a low probability for residual radioactivity in concentrations greater than the DCGLs justifying a final survey unit classification of Class 2 (refer to Section 3).

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*

SOUTHWEST SITE STORAGE AREA
SURVEY UNIT 9520-0001

RELEASE RECORD

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 9520-0001 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

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

The total dose under the LTP criteria is twenty-five (25) mrem/yr 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.

SOUTHWEST SITE STORAGE AREA
SURVEY UNIT 9520-0001

RELEASE RECORD

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

Equation 2

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

The allowable dose for soil in this survey unit is seventeen (17) mrem/yr TEDE as shown by Equation 2 above. The concentration of residual radioactivity resulting in seventeen (17) mrem/yr TEDE is designated as the Operational DCGL, and has been established for the radionuclides of concern as provided in Table 2.

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

SOUTHWEST SITE STORAGE AREA
SURVEY UNIT 9520-0001

RELEASE RECORD

Table 2 – Radionuclide Specific Base Case Soil DCGL, Operational DCGLs and Required Minimum Detectable Concentrations			
Radionuclide ⁽¹⁾	Base Case Soil DCGL (pCi/g) ⁽²⁾	Operational DCGL (pCi/g) ⁽³⁾	Required MDC (pCi/g) ⁽⁴⁾
Pu-241	8.70E+02	5.92E+02	3.48E+01
Am-241 ⁽⁵⁾	2.58E+01	1.75E+01	1.03E+00
Cm-243/244	2.90E+01	1.97E+01	1.16E+00

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

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

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

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

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

Another important facet of the DQO process is to identify the radionuclides of concern and determine the concentration variability. Soil samples were collected in 2006 to establish the radiological condition Survey Unit 9520-0001 for FSS. Cs-137 was the only gamma emitting radionuclide reported in concentrations with the potential for exceeding the screening criteria. The characterization data were used for the survey design and are provided in Table 1.

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

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 an integrated sample design that combines scanning surveys and sampling which can be either random or biased.

The DQO process determined that Cs-137 would be the radionuclide of concern in Survey Unit 9520-0001 (refer to Section 3). Other radionuclides identified during this FSS would be evaluated to ensure adequate survey design.

SOUTHWEST SITE STORAGE AREA
SURVEY UNIT 9520-0001

RELEASE RECORD

Surrogate DCGLs were not required for this survey unit via screening under LTP Section 5.4.7.2, "*Gross Activity DCGLs*". Radionuclide screening or de-selection is a process where an individual radionuclide or 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.

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

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

The number of soil samples for FSS was determined in accordance with Procedure RPM 5.1-12, "*Determination of the Number of Surface Samples for Final Status Survey*." The Lower Bound of the Gray Region (LBGR) was set in accordance with Procedure RPM 5.1-11 to 5.31 to maintain the relative shift (Δ/σ) in the range of 1 and 3. The resulting Adjusted Relative Shift was 2.0. A Prospective Power Curve was generated using COMPASS, a software package developed under the sponsorship of the United States Nuclear Regulatory Commission (USNRC) for implementation of the MARSSIM in support of the decommissioning license termination rule (10CFR20, Subpart E). The result of the COMPASS computer run showed adequate power for the survey design. The survey design specified fifteen (15) surface soil samples for non-parametric statistical testing and four (4) samples at biased locations.

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

Judgmental sampling was included as a feature of this survey design to account for any anomalies potentially identified in the field.

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

SOUTHWEST SITE STORAGE AREA
SURVEY UNIT 9520-0001

RELEASE RECORD

Table 3 - Sample Measurement Locations with Associated GPS Coordinates		
Designation	Northing	Easting
9520-0001-001F ⁽¹⁾	236189.49	668834.46
9520-0001-002F	236111.70	668699.74
9520-0001-003F	236111.70	668789.55
9520-0001-004F	236111.70	668879.37
9520-0001-005F	236033.92	668654.83
9520-0001-006F	236033.92	668744.64
9520-0001-007F	236033.92	668834.46
9520-0001-008F	236033.92	668924.28
9520-0001-009F	236033.92	669014.09
9520-0001-010F	235956.14	668789.55
9520-0001-011F	235956.14	668879.37
9520-0001-012F	235956.14	668969.19
9520-0001-013F	235956.14	669059.00
9520-0001-014F	235878.35	668924.28
9520-0001-015F	235878.35	669014.09
9520-0001-016F	235985.38	669033.90
9520-0001-017F	235971.74	669066.91
9520-0001-018F	235953.44	669097.67
9520-0001-019F	236052.02	668782.03
9520-0001-020F ⁽¹⁾	235944.35	668847.80

(1) Sample location 1 was inaccessible due to a steep slope; sample location 20 was added under an FSS plan addendum (refer to Section 10)

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

SOUTHWEST SITE STORAGE AREA
SURVEY UNIT 9520-0001

RELEASE RECORD

collection of two (2) soil samples for “split sample” analysis by the off-site laboratory. These locations were selected randomly using the Microsoft Excel “RANDBETWEEN” function. The number of quality control soil samples was about 10% of fifteen (15) samples.

The LTP specifies a required scanning coverage of 10% to 100% for outdoor Class 2 areas. The fraction of scanning coverage was determined during the DQO process with the total amount and location(s) based on the likelihood of finding elevated activity during FSS. Based on the historical site assessment, the characterization data available, and the use of the survey unit to store spoils from remediation, it was determined that scanning was required in three (3) separate areas. The total surface area to be scanned was approximately 50% of the survey unit. One of the scan areas provided 100% coverage of the area where the two discrete sources of elevated activity found in 1980 are believed to have been based on a review of the 1980 survey maps. A map of the scan grid locations is provided in Attachment 1.

For this Class 2 survey unit, the “Investigation Level” for area scanning and soil sample measurement results are those levels specified in LTP, Table 5-8. Table 4 provides a synopsis of the survey design.

Table 4 – Synopsis of the Survey Design		
Feature	Design Criteria	Basis
Survey Unit Land Area	9,777 m ²	Based on AutoCAD-LT
Number of Measurements	19 (15 systematic grid) (4 biased)	Type 1 and Type 2 errors were 0.05, sigma was 0.035 pCi/g, the LBGR was adjusted to 5.31 to maintain Relative Shift in the range of 1 and 3
Grid Spacing	27.4 m	Based on triangular grid
Operational DCGL	5.38 pCi/g Cs-137	Administratively set to achieve 17 mrem/yr TEDE ⁽¹⁾
Soil Investigation Level	5.38 pCi/g Cs-137	The Operational DCGL meets the LTP criteria for a Class 2 survey unit
Scan Survey Area Coverage	Approximately 50% of the area	The LTP requires >10% area coverage for Class 2 survey units
Scan Investigation Level	Detectable over background	Administratively set to achieve 17 mrem/yr TEDE ⁽¹⁾

(1) The allowable dose for soil in this survey unit is 17 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)

SOUTHWEST SITE STORAGE AREA
SURVEY UNIT 9520-0001

RELEASE RECORD

5. SURVEY IMPLEMENTATION

Final status survey field activities were conducted under Work Plan and Inspection Record (WP&IR) 2006-0038. 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.

Three (3) scan areas were established that constituted approximately 50% of the surface area of Survey Unit 9520-0001. Grid lines, one meter wide, were painted on the ground of the scan area. A background survey was performed around the survey unit and it was determined that, using an Eberline E-600 with a SPA-3 sodium iodide detector, background ranged from 6,390 counts per minute (cpm) up to 9,630 cpm.

The scan areas were established and scanned for elevated readings (see Attachment 2 for all scan results). Scanning was performed with an Eberline E-600 using a SPA-3 sodium iodide detector. The E-600 was operated in the rate-meter mode and used with audio response. The probe was positioned as close to the ground as possible and was moved at a scan speed of about 0.5 meters per second. Approximately 50% of the survey unit was scanned.

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. At each sample location, a one (1) meter radius around the sample flag or paint mark was scanned for elevated radiation levels.

Twenty-six (26) surface soil samples were collected and packaged in accordance with Haddam Neck Plant (HNP) Procedure RPM 5.1-3, "*Collection of Sample Media for Final Status Survey*" and FSS design. Samples were controlled, transported, stored, and transferred to the off-site laboratory using Chain-of-Custody (COC) protocol in accordance with Procedure RPM 5.1-5, "*Chain of Custody for Final Status Survey Samples*."

Two (2) samples (9520-0001-005F and 9520-0001-010F) were randomly selected for HTD radionuclide analysis.

The implementation of survey specific quality control measures included the collection of two (2) samples (9520-0001-004F and 9520-0001-012F) for "split sample" analysis.

SOUTHWEST SITE STORAGE AREA
SURVEY UNIT 9520-0001

RELEASE RECORD

6. SURVEY RESULTS

All field survey activities were conducted between October 2, 2006 and October 6, 2006.

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

Table 5 - Scan Results for Sample Measurement Locations			
Sample Measurement Location ⁽¹⁾	Highest Logged Reading (kcpm)	Action Level ⁽²⁾ (kcpm)	> Action Level ⁽³⁾
2	8.09	9.00	NO
3	8.71	8.91	NO
4	8.04	9.13	NO
5	5.14	6.22	NO
6	7.80	9.07	NO
7	7.88	8.90	NO
8	7.81	8.43	NO
9	7.86	7.47	YES
10	8.26	8.99	NO
11	9.13	10.00	NO
12	9.13	10.28	NO
13	7.39	7.81	NO
14	8.64	8.18	YES
15	7.99	9.10	NO
16	8.48	8.12	YES
17	7.92	9.04	NO

SOUTHWEST SITE STORAGE AREA
SURVEY UNIT 9520-0001

RELEASE RECORD

Table 5 - Scan Results for Sample Measurement Locations

Sample Measurement Location ⁽¹⁾	Highest Logged Reading (kcpm)	Action Level ⁽²⁾ (kcpm)	> Action Level ⁽³⁾
18	6.22	7.92	NO
19	7.40	9.16	NO
20	8.65	8.65	NO

(1) Sample location 1 was inaccessible due to a steep slope; sample location 20 was added under an FSS plan addendum (refer to Section 10)

(2) The action level is based on a measurement above ambient background in accordance with the FSS plan

(3) The FSS plan requires movement of the sample measurement location to the area within the 1 meter radius yielding the response above the action level

The scan areas, that comprised approximately 50% of the total surface area for the survey unit, were scanned for elevated radiation levels. The areas were scanned in accordance with the FSS plan on October 2, 2006 through October 6, 2006. Several elevated measurement locations were identified during scanning.

Table 6 provides an overview of the scan area survey. Scan results are provided in Attachment 2.

Table 6 - Scan Area Results

Scan Area	Highest Logged Reading (kcpm)	Action Level ⁽¹⁾ (kcpm)	Elevated Reading Identification ⁽²⁾	Investigation Sample
1	10.7	10.0	9520-01-ER-01-34-1	9520-0001-021F
			9520-01-ER-01-43-1	9520-0001-022F
			9520-01-ER-01-47-1	9520-0001-023F
			9520-01-SC-01-55-0	None ⁽³⁾
			9520-01-ER-01-71-1	9520-0001-027F
2	11.8	10.7	9520-01-SC-02-15-0	9520-0001-024F
3	10.0	9.24	9520-01-ER-03-6-1	9520-0001-025F
			9520-01-SC-03-8-0	9520-0001-026F

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

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

(3) Area was rescanned November 3, 2006, refer to Section 8 for details

SOUTHWEST SITE STORAGE AREA
SURVEY UNIT 9520-0001

RELEASE RECORD

The off-site laboratory employed for the radiological analyses of samples was General Engineering Laboratories, LLC. The laboratory analyzed the fifteen (15) samples collected for non-parametric statistical testing, the associated field splits, the four (4) biased samples, and the seven (7) confirmatory 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 was the only radionuclide reported in concentrations exceeding the de-selection criteria.

Cs-137 was identified in fourteen (14) of the fifteen (15) samples collected for non-parametric statistical testing. Cs-137 was the primary radionuclide confirming the DQOs. 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 fifteen (15) samples collected for non-parametric statistical testing results is provided in Table 7.

Table 7 - Summary of Soil Sample Results for the Statistical Sample Population		
Sample Number ⁽¹⁾	Cs-137 pCi/g	Fraction of the Operational DCGL ⁽²⁾
9520-0001-002F	4.73E-02	0.009
9520-0001-003F	1.01E-01	0.019
9520-0001-004F	5.12E-02	0.010
9520-0001-005F	1.45E-01	0.027
9520-0001-006F	1.05E-01	0.020
9520-0001-007F	6.06E-02	0.011
9520-0001-008F	4.05E-02	0.008
9520-0001-009F	4.75E-02	0.009
9520-0001-010F	3.40E-01	0.063
9520-0001-011F	4.24E-02	0.008
9520-0001-012F	1.34E-02	0.002
9520-0001-013F	5.71E-02	0.011
9520-0001-014F	1.77E-01	0.033
9520-0001-015F	6.73E-02	0.013
9520-0001-020F	6.53E-02	0.012

(1) Sample location 1 was inaccessible due to a steep slope; sample location 20 was added under an FSS plan addendum (refer to Section 10)

(2) The Operational DCGL from Table 2 is 5.38 pCi/g for Cs-137 to achieve 17 mrem/yr TEDE

SOUTHWEST SITE STORAGE AREA
SURVEY UNIT 9520-0001

RELEASE RECORD

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.

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. Sr-90 was the only HTD, which by analysis, met the criteria for detection (i.e., a result greater than two standard deviations uncertainty). The highest result for Sr-90 was at 4% of the Operational DCGL. Therefore, Sr-90 will not be considered in the final dose determination for this survey unit.

Table 8 - Hard-to-Detect Sample Results

Sample	Sr-90 (pCi/g)	Fraction of Operational DCGL ⁽¹⁾
9520-0001-010F	4.16E-02	0.040

(1) The Operational DCGL from Table 2 is 1.05 pCi/g for Sr-90 to achieve 17 mrem/yr TEDE

Four (4) biased samples were collected at locations selected by FSS Supervision based on professional judgment and observation. Gamma spectroscopy analysis was performed by the off-site laboratory to the required MDC.

Table 9 - Judgmental or Biased Sample Results

Sample Number	Cs-137 pCi/g	Fraction of the Operational DCGL ⁽¹⁾
9520-0001-016F	6.99E-02	0.043
9520-0001-017F	2.73E-02	0.020
9520-0001-018F	4.36E-02	0.024
9520-0001-019F	5.32E-02	0.026

(1) The Operational DCGL from Table 2 is 5.38 pCi/g for Cs-137 to achieve 17 mrem/yr TEDE

7. QUALITY CONTROL

The off-site laboratory processed the split samples and performed gamma spectroscopy analysis. Ten percent (10%) of the samples were selected for analysis, which exceeds the 5% minimum required by the LTP. The data were evaluated using USNRC acceptance criteria specified in Inspection Procedure 84750 as detailed in HNP Procedure RPM 5.1-24, "Split Sample Assessment for Final Status Survey". There was acceptable agreement between the field split results at location 9520-0001-004. Cs-137 was not detected in sufficient quantities in the field split results at location 9520-0001-012 to evaluate in

SOUTHWEST SITE STORAGE AREA
SURVEY UNIT 9520-0001

RELEASE RECORD

accordance with procedure. Evaluation using the reported results for K-40 resulted in acceptable agreement between the field split results at this location.

The sample analysis vendor, General Engineering Laboratories, LLC, maintains quality control and quality assurance plans as part of normal operation. Refer to Attachment 4 for data and data quality analysis results.

8. INVESTIGATIONS AND RESULTS

Seven confirmatory samples were collected from scan area 1, scan area 2 and scan area 3 at locations exhibiting elevated scan readings. The samples are denoted as shown in Table 6, with the sample results shown in Table 10 below.

Table 10 - Confirmatory Sample Results		
Sample Number	Cs-137 pCi/g	Fraction of the Operational DCGL ⁽¹⁾
9520-0001-021F	9.67E-02	0.045
9520-0001-022F	3.45E-02	0.032
9520-0001-023F	4.38E-02	0.024
9520-0001-024F	1.21E-02	0.018
9520-0001-025F	3.12E-02	0.024
9520-0001-026F	2.20E-02	0.030
9520-0001-027F	1.34E-02	0.015

(1) The Operational DCGL from Table 2 is 5.38 pCi/g for Cs-137 to achieve 17 mrem/yr TEDE

Additional scanning was performed in one (1) small location in November 2006 to obtain additional data relevant to the DQOs. The scanning was performed in one (1) strip approximately three (3) feet wide by thirty (30) long in scan area 1. No elevated readings were identified.

9. REMEDIATION AND RESULTS

Historically, no radiological remedial action as described by MARSSIM Section 5.4 was performed in this survey unit prior to or as a result of the FSS. Health Physics TSD BCY-HP-0078, "*ALARA Evaluation of Soil Remediation in Support of Final Status Survey*," determined that remediation beyond that required to meet the release criteria is unnecessary and that the remaining residual radioactivity in soil was ALARA.

10. CHANGES FROM THE FINAL STATUS SURVEY PLAN

An addendum to the FSS plan was initiated October 2, 2006 to replace sample location #1, which was determined to be inaccessible for safety purposes. The location was on a steep slope near the Discharge Canal. Sample location #20 was determined randomly using VSP.

SOUTHWEST SITE STORAGE AREA

SURVEY UNIT 9520-0001

RELEASE RECORD

11. DATA QUALITY ASSESSMENT (DQA)

The DQO sample design and data were reviewed in accordance with Procedure RPM 5.1-23, "*Data Quality Assessment*," for completeness and consistency. The sampling design had adequate power as indicated by the Retrospective Power Curve. The Sign Test was performed on the data and compared to the original assumptions of the DQOs. The 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 2.

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.

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 40% of the standard deviation which indicates significant 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 2.35.

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

12. ANOMALIES

No anomalies were noted.

13. CONCLUSION

Survey Unit 9520-0001 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 and remediation 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 2.

SOUTHWEST SITE STORAGE AREA
SURVEY UNIT 9520-0001

RELEASE RECORD

The dose contribution from soil is less than 1 mrem/yr TEDE based on the average concentration of 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 not considered impacted by future groundwater radioactive contamination, as there are no underground structures, systems or components containing residual radioactive material within the groundwater saturated zone in the area (reference CY memo ISC 06-024); therefore, the dose contribution from future groundwater is zero (0) 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 3 mrem/yr TEDE. Therefore, Survey Unit 9520-0001 is acceptable for unrestricted release.

14. ATTACHMENTS

14.1 Attachment 1 – Survey Unit Location Map

14.2 Attachment 2 – Scan Results

14.3 Attachment 3 – Laboratory Results

14.4 Attachment 4 – DQA Results

CENTRAL PENINSULA
SURVEY UNIT 9520-0001

RELEASE RECORD

ATTACHMENT 1 (FIGURES)

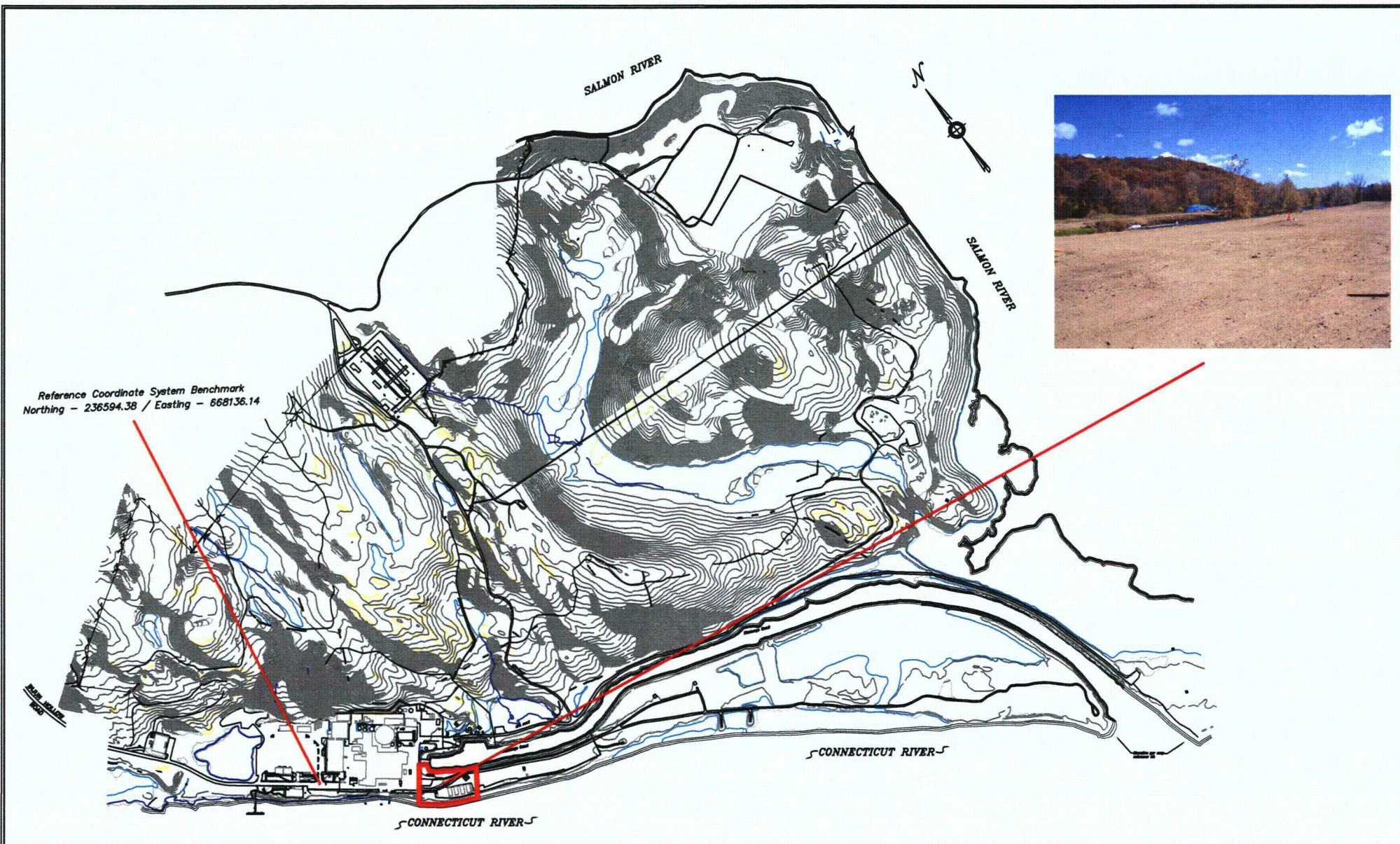


Figure 1



Connecticut Yankee Atomic Power Company
 Site Map With Reference To Survey Unit 9520-0001

Date

By

November 2006

J. McC.

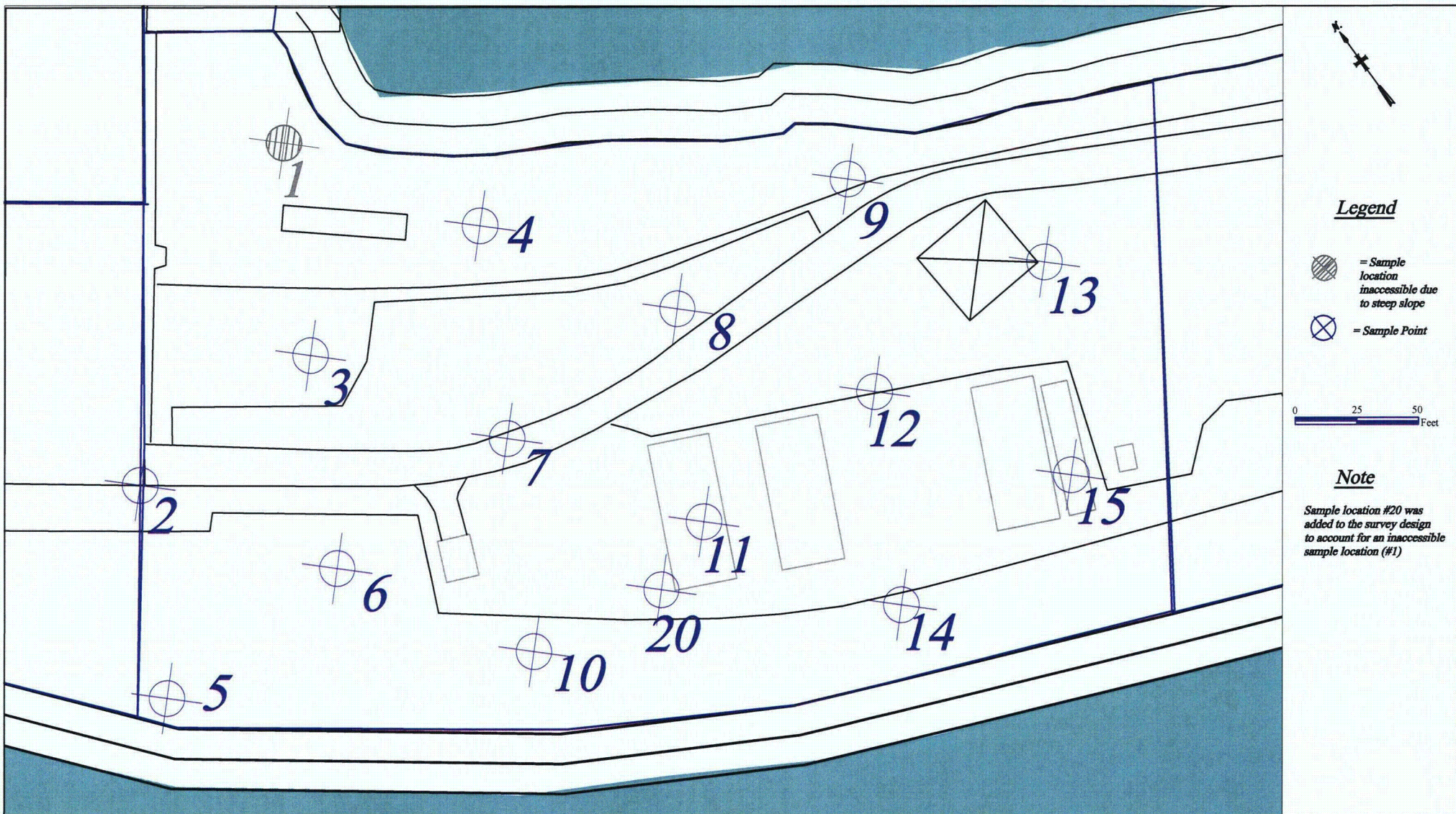


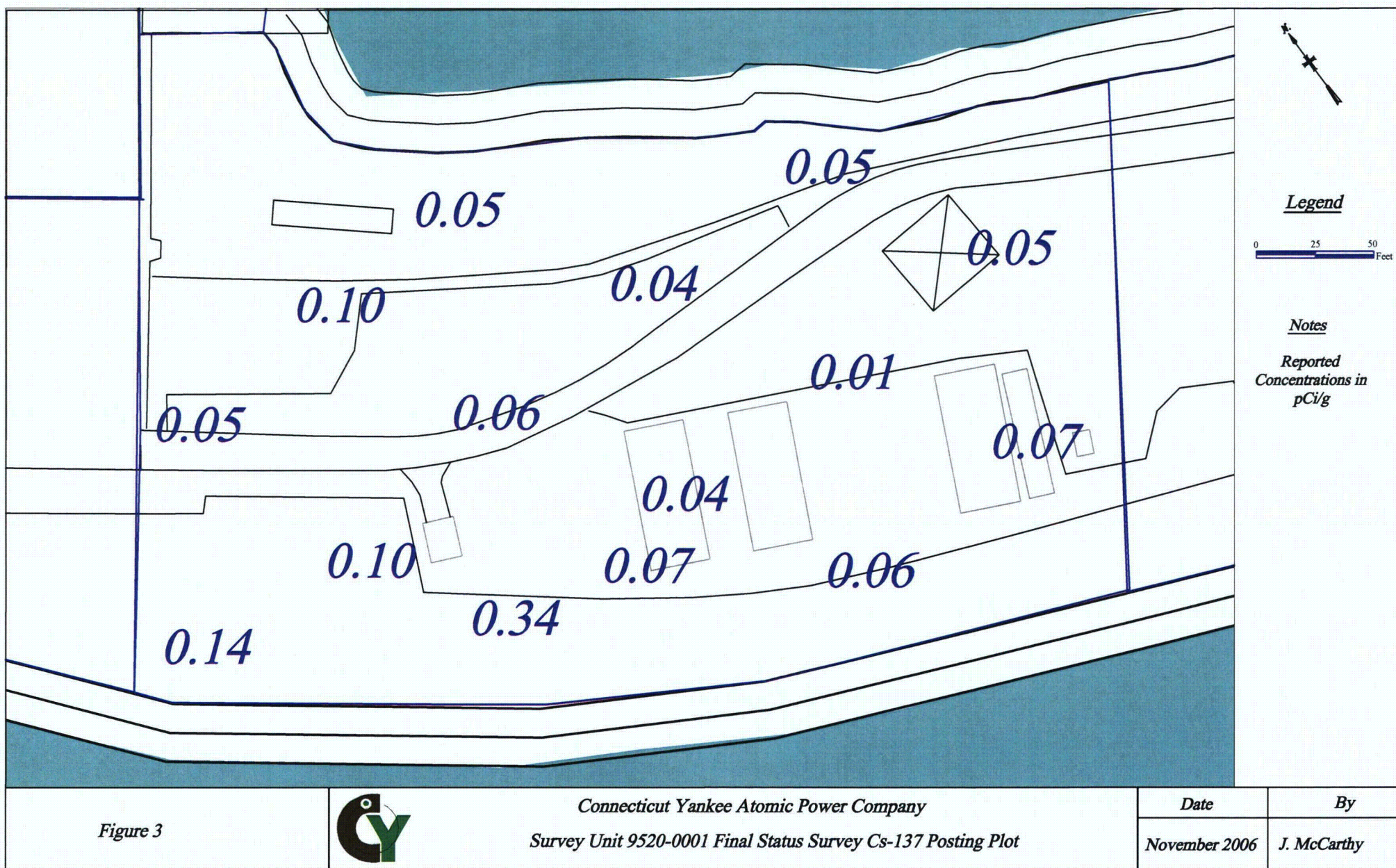
Figure 2

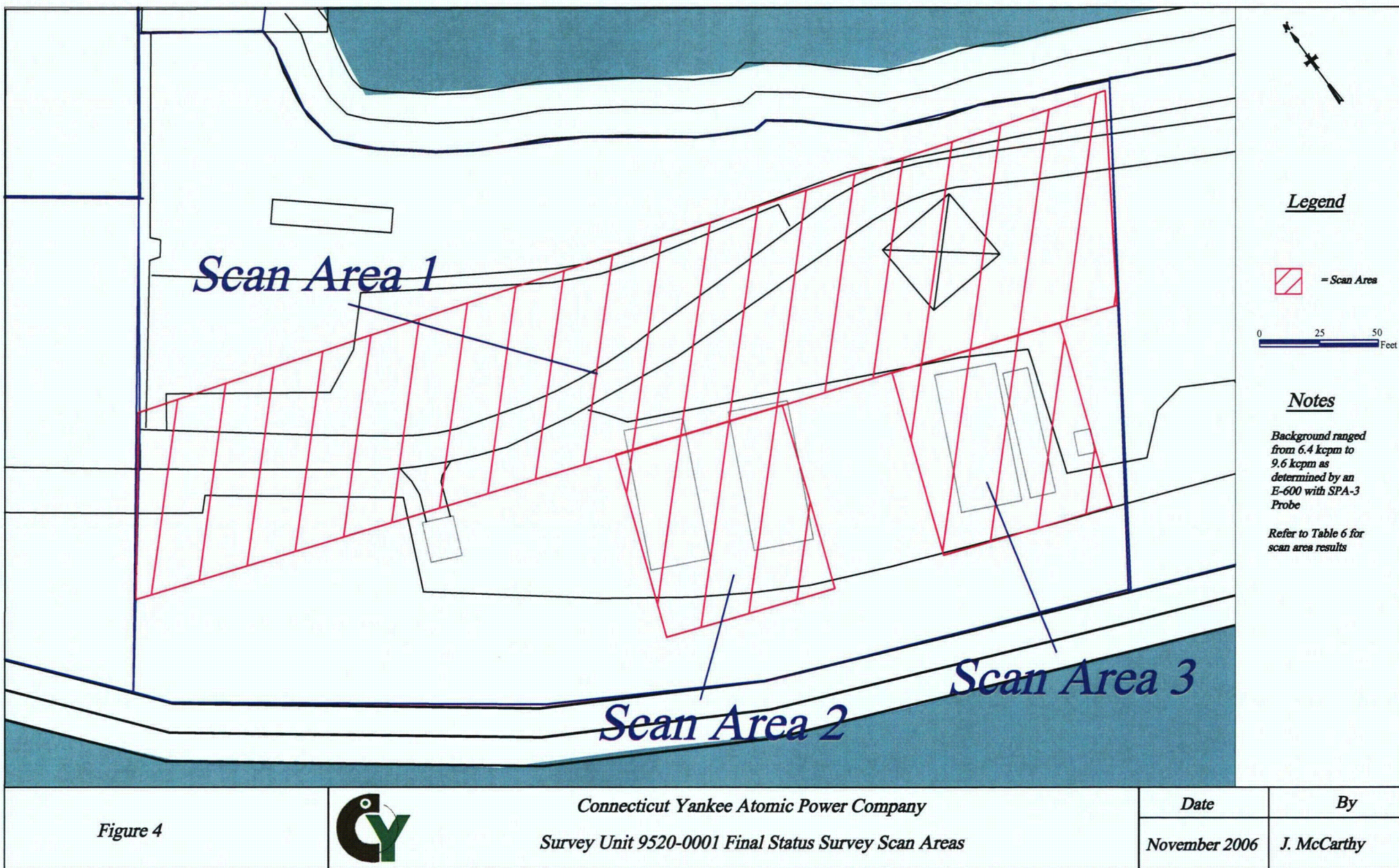


Connecticut Yankee Atomic Power Company
Survey Unit 9520-0001 Final Status Survey Design

Date
November 2006

By
J. McCarthy





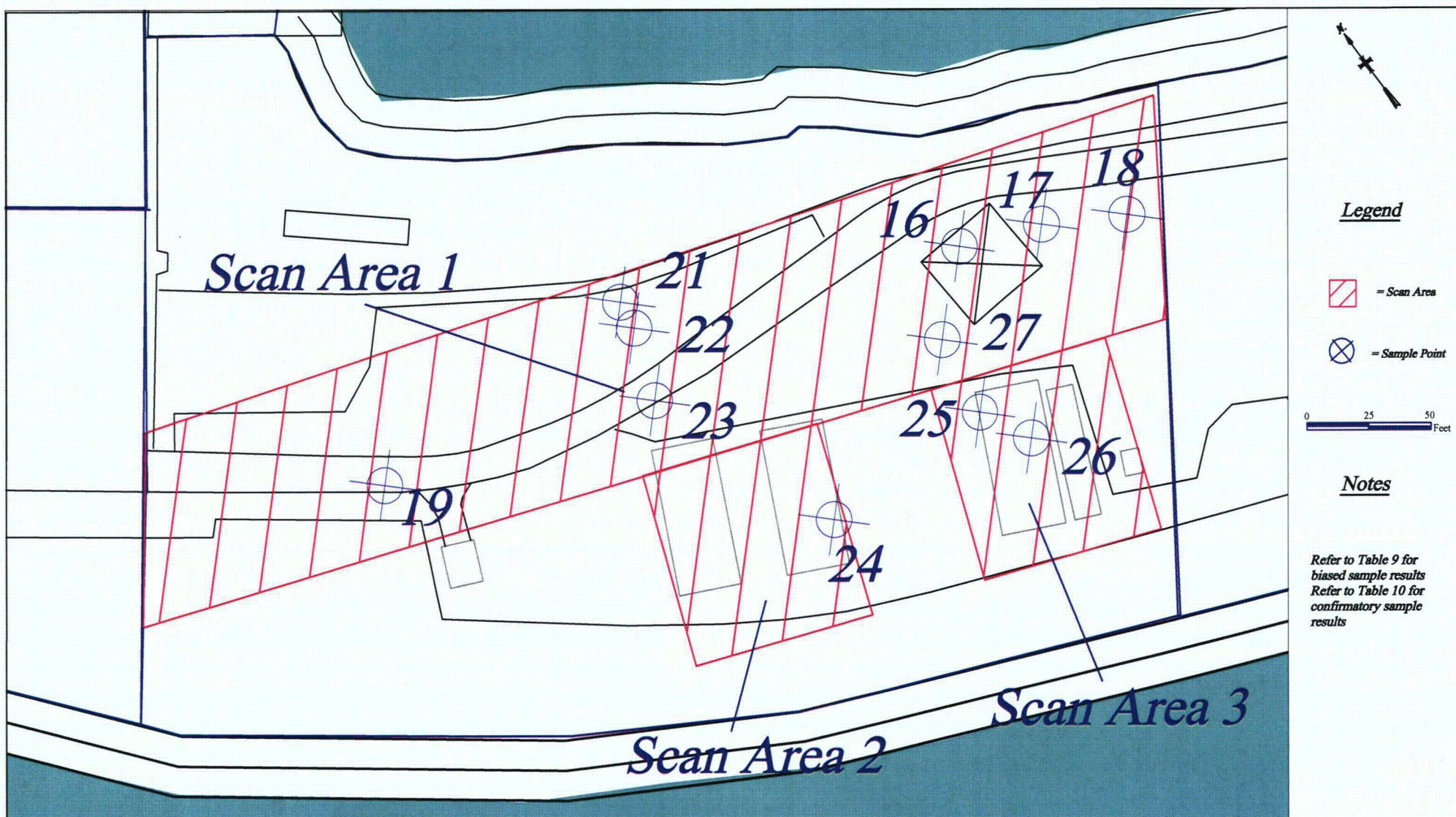


Figure 5



Connecticut Yankee Atomic Power Company
Survey Unit 9520-0001 Final Status Survey Biased and Confirmatory Samples

Date	By
November 2006	J. McCarthy

CENTRAL PENINSULA
SURVEY UNIT 9520-0001

RELEASE RECORD

ATTACHMENT 2 (SCAN RESULTS)

Survey Release Record Sample Location Scan Results

Survey Unit 9520-0001

<u>Sample Name</u>	<u>Background (cpm)</u>	<u>Action Level (cpm)</u>	<u>Results (cpm)</u>	<u>Above AL</u>	<u>Log Date</u>	<u>Log Time</u>	<u>E600 S/N</u>	<u>Probe S/N</u>
9520-01-SL-00-02-0	7.74E+03	9.00E+03	8.09E+03		10/2/2006	7:29:00	1114	1014
9520-01-SL-00-03-0	7.66E+03	8.91E+03	8.71E+03		10/2/2006	7:59:00	1114	1014
9520-01-SL-00-04-0	7.86E+03	9.13E+03	8.04E+03		10/2/2006	8:11:00	1114	1014
9520-01-SL-00-05-0	5.19E+03	6.22E+03	5.14E+03		10/2/2006	7:41:00	1114	1014
9520-01-SL-00-06-0	7.81E+03	9.07E+03	7.80E+03		10/2/2006	7:47:00	1114	1014
9520-01-SL-00-07-0	7.65E+03	8.90E+03	7.88E+03		10/2/2006	8:04:00	1114	1014
9520-01-SL-00-08-0	7.22E+03	8.43E+03	7.81E+03		10/2/2006	8:19:00	1114	1014
9520-01-SL-00-09-0	6.33E+03	7.47E+03	7.86E+03	+	10/2/2006	9:49:00	1114	1014
9520-01-SL-00-10-0	7.73E+03	8.99E+03	8.26E+03		10/2/2006	13:56:00	1114	1014
9520-01-SL-00-11-0	8.67E+03	1.00E+04	9.13E+03		10/2/2006	13:39:00	1114	1014
9520-01-SL-00-12-0	8.93E+03	1.03E+04	9.13E+03		10/2/2006	9:55:00	1114	1014
9520-01-SL-00-13-0	6.65E+03	7.81E+03	7.39E+03		10/2/2006	13:35:00	1114	1014
9520-01-SL-00-14-0	6.99E+03	8.18E+03	8.64E+03	+	10/2/2006	13:12:00	1114	1014
9520-01-SL-00-15-0	7.84E+03	9.10E+03	7.99E+03		10/2/2006	13:16:00	1114	1014
9520-01-SL-00-16-0	6.93E+03	8.12E+03	8.48E+03	+	10/2/2006	10:03:00	1114	1014
9520-01-SL-00-17-0	7.78E+03	9.04E+03	7.92E+03		10/2/2006	10:11:00	1114	1014
9520-01-SL-00-18-0	6.75E+03	7.92E+03	6.22E+03		10/2/2006	10:13:00	1114	1014
9520-01-SL-00-19-0	7.89E+03	9.16E+03	7.40E+03		10/2/2006	13:49:00	1114	1014
9520-01-SL-00-20-0	7.42E+03	8.65E+03	8.65E+03		10/4/2006	13:12:00	1105	1012

Survey Release Record Scan Area Results

Survey Unit 9520-0001

9520-0001 SCAN AREA 1

<u>Sample Name</u>	<u>Background (cpm)</u>	<u>Action Level (cpm)</u>	<u>Results (cpm)</u>	<u>Above AL</u>	<u>Log Date</u>	<u>Log Time</u>	<u>E600 S/N</u>	<u>Probe S/N</u>
9520-01-SC-01-01-0	9.03E+03	1.04E+04	9.18E+03		10/3/2006	9:54:00	1114	1014
9520-01-SC-01-02-0	9.49E+03	1.09E+04	8.87E+03		10/3/2006	9:57:00	1114	1014
9520-01-SC-01-03-0	8.70E+03	1.00E+04	9.18E+03		10/3/2006	10:02:00	1114	1014
9520-01-SC-01-04-0	9.28E+03	1.07E+04	8.68E+03		10/3/2006	10:06:00	1114	1014
9520-01-SC-01-05-0	8.29E+03	9.59E+03	8.22E+03		10/3/2006	10:10:00	1114	1014
9520-01-SC-01-06-0	8.67E+03	1.00E+04	9.05E+03		10/3/2006	10:15:00	1114	1014
9520-01-SC-01-07-0	7.34E+03	8.56E+03	8.02E+03		10/3/2006	10:22:00	1114	1014
9520-01-SC-01-08-0	8.31E+03	9.61E+03	8.45E+03		10/3/2006	10:29:00	1114	1014
9520-01-SC-01-09-0	7.79E+03	9.05E+03	8.29E+03		10/3/2006	10:36:00	1114	1014
9520-01-SC-01-10-0	8.73E+03	1.01E+04	8.17E+03		10/3/2006	10:42:00	1114	1014
9520-01-SC-01-11-0	8.09E+03	9.37E+03	7.85E+03		10/3/2006	11:02:00	1114	1014
9520-01-SC-01-12-0	8.20E+03	9.49E+03	8.71E+03		10/3/2006	11:07:00	1114	1014
9520-01-SC-01-13-0	8.28E+03	9.58E+03	8.11E+03		10/3/2006	11:11:00	1114	1014
9520-01-SC-01-14-0	7.50E+03	8.74E+03	8.20E+03		10/3/2006	11:16:00	1114	1014
9520-01-SC-01-15-0	8.49E+03	9.81E+03	8.00E+03		10/3/2006	11:22:00	1114	1014
9520-01-SC-01-16-0	7.73E+03	8.99E+03	8.41E+03		10/3/2006	11:26:00	1114	1014
9520-01-SC-01-17-0	8.57E+03	9.89E+03	7.04E+03		10/3/2006	13:11:00	1114	1014
9520-01-SC-01-18-0	7.54E+03	8.78E+03	8.13E+03		10/3/2006	13:19:00	1114	1014
9520-01-SC-01-19-0	7.79E+03	9.05E+03	7.01E+03		10/3/2006	13:27:00	1114	1014
9520-01-SC-01-20-0	7.14E+03	8.35E+03	8.09E+03		10/3/2006	13:34:00	1114	1014
9520-01-SC-01-21-0	8.34E+03	9.64E+03	7.99E+03		10/3/2006	13:43:00	1114	1014
9520-01-SC-01-22-0	6.88E+03	8.06E+03	7.27E+03		10/3/2006	13:50:00	1114	1014
9520-01-SC-01-23-0	7.53E+03	8.77E+03	6.60E+03		10/3/2006	13:57:00	1114	1014
9520-01-SC-01-24-0	7.07E+03	8.27E+03	7.40E+03		10/3/2006	14:04:00	1114	1014
9520-01-SC-01-25-0	8.43E+03	9.74E+03	7.86E+03		10/3/2006	14:08:00	1114	1014
9520-01-SC-01-26-0	8.17E+03	9.46E+03	7.58E+03		10/4/2006	9:30:00	1105	1012
9520-01-SC-01-27-0	7.97E+03	9.24E+03	8.06E+03		10/4/2006	9:34:00	1105	1012
9520-01-SC-01-28-0	8.00E+03	9.28E+03	7.86E+03		10/4/2006	9:39:00	1105	1012
9520-01-SC-01-29-0	8.47E+03	9.78E+03	8.08E+03		10/4/2006	9:44:00	1105	1012

AL - Action Level

Survey Release Record Scan Area Results

Survey Unit 9520-0001

9520-01-SC-01-30-0	8.96E+03	1.03E+04	7.75E+03		10/4/2006	9:49:00	1105	1012
9520-01-SC-01-31-0	8.16E+03	9.45E+03	7.58E+03		10/4/2006	9:54:00	1105	1012
9520-01-SC-01-32-0	8.13E+03	9.42E+03	8.66E+03		10/4/2006	10:00:00	1105	1012
9520-01-SC-01-33-0	8.35E+03	9.65E+03	8.58E+03		10/4/2006	10:05:00	1105	1012
9520-01-SC-01-34-0	8.71E+03	1.00E+04	8.44E+03		10/4/2006	10:10:00	1105	1012
9520-01-ER-01-34-1	8.71E+03	1.00E+04	1.07E+04	+	10/4/2006	14:07:00	1105	1012
9520-01-SC-01-35-0	8.16E+03	9.45E+03	8.55E+03		10/4/2006	10:15:00	1105	1012
9520-01-SC-01-36-0	8.25E+03	9.55E+03	8.06E+03		10/4/2006	10:19:00	1105	1012
9520-01-SC-01-37-0	8.22E+03	9.51E+03	8.28E+03		10/4/2006	10:25:00	1105	1012
9520-01-SC-01-38-0	8.35E+03	9.65E+03	7.94E+03		10/4/2006	10:29:00	1105	1012
9520-01-SC-01-39-0	8.81E+03	1.02E+04	8.49E+03		10/4/2006	10:33:00	1105	1012
9520-01-SC-01-40-0	7.86E+03	9.13E+03	8.33E+03		10/4/2006	10:38:00	1105	1012
9520-01-SC-01-41-0	8.35E+03	9.65E+03	8.11E+03		10/4/2006	10:44:00	1105	1012
9520-01-SC-01-42-0	8.00E+03	9.28E+03	8.04E+03		10/4/2006	10:48:00	1105	1012
9520-01-SC-01-43-0	8.11E+03	9.40E+03	8.07E+03		10/4/2006	10:54:00	1105	1012
9520-01-ER-01-43-1	8.11E+03	9.40E+03	9.51E+03	+	10/4/2006	14:15:00	1105	1012
9520-01-SC-01-44-0	8.47E+03	9.78E+03	8.44E+03		10/4/2006	10:58:00	1105	1012
9520-01-SC-01-45-0	8.64E+03	9.97E+03	7.51E+03		10/4/2006	11:03:00	1105	1012
9520-01-SC-01-46-0	8.26E+03	9.56E+03	8.57E+03		10/4/2006	11:08:00	1105	1012
9520-01-SC-01-47-0	8.40E+03	9.71E+03	7.79E+03		10/4/2006	11:14:00	1105	1012
9520-01-ER-01-47-1	8.40E+03	9.71E+03	9.83E+03	+	10/4/2006	14:16:00	1105	1012
9520-01-SC-01-48-0	6.92E+03	8.11E+03	7.81E+03		10/4/2006	11:21:00	1105	1012
9520-01-SC-01-49-0	9.36E+03	1.07E+04	8.18E+03		10/4/2006	11:25:00	1105	1012
9520-01-SC-01-50-0	8.38E+03	9.69E+03	9.22E+03		10/4/2006	11:30:00	1105	1012
9520-01-SC-01-51-0	6.42E+03	7.56E+03	6.31E+03		10/5/2006	8:18:00	1105	1012
9520-01-SC-01-52-0	7.95E+03	9.22E+03	7.52E+03		10/5/2006	8:22:00	1105	1012
9520-01-SC-01-53-0	7.00E+03	8.19E+03	6.90E+03		10/5/2006	8:28:00	1105	1012
9520-01-SC-01-54-0	8.41E+03	9.72E+03	7.29E+03		10/5/2006	8:33:00	1105	1012
9520-01-SC-01-55-0	6.45E+03	7.60E+03	7.65E+03	+	10/5/2006	8:37:00	1105	1012
9520-01-SC-01-55-0	5.35E+03	6.39E+03	4.97E+03		11/3/2006	10:55:00	1112	1013
9520-01-SC-01-56-0	7.55E+03	8.79E+03	6.65E+03		10/5/2006	9:37:00	1105	1012

Survey Release Record Scan Area Results

Survey Unit 9520-0001

9520-01-SC-01-57-0	7.69E+03	8.94E+03	8.00E+03		10/5/2006	9:41:00	1105	1012
9520-01-SC-01-58-0	7.42E+03	8.65E+03	7.05E+03		10/5/2006	9:45:00	1105	1012
9520-01-SC-01-59-0	7.28E+03	8.50E+03	7.71E+03		10/5/2006	9:48:00	1105	1012
9520-01-SC-01-60-0	7.45E+03	8.68E+03	6.86E+03		10/5/2006	9:51:00	1105	1012
9520-01-SC-01-61-0	8.00E+03	9.28E+03	8.12E+03		10/5/2006	9:55:00	1105	1012
9520-01-SC-01-62-0	8.69E+03	1.00E+04	7.60E+03		10/5/2006	9:59:00	1105	1012
9520-01-SC-01-63-0	6.52E+03	7.67E+03	6.19E+03		10/5/2006	10:02:00	1105	1012
9520-01-SC-01-64-0	7.12E+03	8.32E+03	6.59E+03		10/5/2006	10:07:00	1105	1012
9520-01-SC-01-66-0	6.39E+03	7.53E+03	6.30E+03		10/5/2006	10:12:00	1105	1012
9520-01-SC-01-66-0	6.67E+03	7.84E+03	6.59E+03		10/5/2006	10:17:00	1105	1012
9520-01-SC-01-67-0	6.60E+03	7.76E+03	7.65E+03		10/5/2006	10:24:00	1105	1012
9520-01-SC-01-68-0	7.37E+03	8.60E+03	6.67E+03		10/5/2006	10:29:00	1105	1012
9520-01-SC-01-69-0	6.39E+03	7.53E+03	7.53E+03		10/5/2006	10:34:00	1105	1012
9520-01-SC-01-70-0	8.54E+03	9.86E+03	6.42E+03		10/5/2006	10:39:00	1105	1012
9520-01-SC-01-71-0	8.54E+03	8.52E+03	8.58E+03	+	10/5/2006	10:42:00	1105	1012
9520-01-ER-01-71-1	7.30E+03	8.52E+03	9.07E+03		10/6/2006	13:35:00	1105	1012
9520-01-SC-01-72-0	8.52E+03	9.84E+03	6.68E+03		10/5/2006	10:46:00	1105	1012
9520-01-SC-01-73-0	7.17E+03	8.38E+03	7.86E+03		10/5/2006	10:50:00	1105	1012
9520-01-SC-01-74-0	8.34E+03	9.64E+03	7.23E+03		10/5/2006	10:53:00	1105	1012
9520-01-SC-01-75-0	7.26E+03	8.48E+03	8.07E+03		10/5/2006	11:01:00	1105	1012
9520-01-SC-01-76-0	8.97E+03	1.03E+04	8.83E+03		10/5/2006	11:03:00	1105	1012

9520-0001 SCAN AREA 2

<u>Sample Name</u>	<u>Background (cpm)</u>	<u>Action Level (cpm)</u>	<u>Results (cpm)</u>	<u>Above AL</u>	<u>Log Date</u>	<u>Log Time</u>	<u>E600 S/N</u>	<u>Probe S/N</u>
9520-01-SC-02-01-0	7.41E+03	8.64E+03	7.72E+03		10/5/2006	13:18:00	1105	1012
9520-01-SC-02-02-0	9.60E+03	1.10E+04	8.81E+03		10/5/2006	13:34:00	1105	1012
9520-01-SC-02-03-0	8.48E+03	9.80E+03	8.31E+03		10/5/2006	13:37:00	1105	1012
9520-01-SC-02-04-0	7.91E+03	9.18E+03	8.16E+03		10/5/2006	13:39:00	1105	1012
9520-01-SC-02-05-0	8.51E+03	9.83E+03	8.85E+03		10/5/2006	13:42:00	1105	1012
9520-01-SC-02-06-0	7.87E+03	9.14E+03	8.26E+03		10/5/2006	13:47:00	1105	1012
9520-01-SC-02-07-0	8.52E+03	9.84E+03	9.49E+03		10/5/2006	13:51:00	1105	1012

AL - Action Level

Survey Release Record Scan Area Results

Survey Unit 9520-0001

9520-01-SC-02-08-0	8.90E+03	1.02E+04	1.00E+04		10/5/2006	13:58:00	1105	1012
9520-01-SC-02-09-0	9.21E+03	1.06E+04	9.34E+03		10/5/2006	14:01:00	1105	1012
9520-01-SC-02-10-0	8.81E+03	1.02E+04	8.76E+03		10/5/2006	14:05:00	1105	1012
9520-01-SC-02-11-0	8.34E+03	9.64E+03	8.17E+03		10/5/2006	14:08:00	1105	1012
9520-01-SC-02-12-0	8.55E+03	9.87E+03	8.89E+03		10/5/2006	14:11:00	1105	1012
9520-01-SC-02-13-0	8.77E+03	1.01E+04	8.63E+03		10/5/2006	14:14:00	1105	1012
9520-01-SC-02-14-0	9.63E+03	1.10E+04	9.33E+03		10/5/2006	14:16:00	1105	1012
9520-01-SC-02-15-0	9.33E+03	1.07E+04	1.01E+04		10/5/2006	14:20:00	1105	1012
9520-01-ER-02-15-1	9.33E+03	1.07E+04	1.18E+04	+	10/6/2006	10:41:00	1105	1012
9520-01-SC-02-16-0	9.55E+03	1.09E+04	8.54E+03		10/5/2006	14:23:00	1105	1012
9520-01-SC-02-17-0	9.08E+03	1.04E+04	9.67E+03		10/5/2006	14:25:00	1105	1012
9520-01-SC-02-18-0	8.91E+03	1.03E+04	8.68E+03		10/5/2006	14:28:00	1105	1012
9520-01-SC-02-19-0	8.69E+03	1.00E+04	8.13E+03		10/5/2006	14:31:00	1105	1012
9520-01-SC-02-20-0	8.63E+03	9.96E+03	7.84E+03		10/5/2006	14:34:00	1105	1012
9520-01-SC-02-21-0	7.82E+03	9.08E+03	8.02E+03		10/5/2006	14:36:00	1105	1012
9520-01-SC-02-22-0	7.75E+03	9.01E+03	7.47E+03		10/5/2006	14:38:00	1105	1012
9520-01-SC-02-23-0	7.51E+03	8.75E+03	8.11E+03		10/5/2006	14:40:00	1105	1012
9520-01-SC-02-24-0	7.28E+03	8.50E+03	7.64E+03		10/5/2006	14:44:00	1105	1012
9520-01-SC-02-25-0	7.87E+03	9.14E+03	8.31E+03		10/5/2006	14:59:00	1105	1012
9520-01-SC-02-26-0	7.30E+03	8.52E+03	7.08E+03		10/5/2006	15:02:00	1105	1012

9520-0001 SCAN AREA 3

<u>Sample Name</u>	<u>Background (cpm)</u>	<u>Action Level (cpm)</u>	<u>Results (cpm)</u>	<u>Above AL</u>	<u>Log Date</u>	<u>Log Time</u>	<u>E600 S/N</u>	<u>Probe S/N</u>
9520-01-SC-03-01-0	9.43E+03	1.08E+04	8.74E+03		10/6/2006	8:02:00	1105	1012
9520-01-SC-03-02-0	9.57E+03	1.10E+04	8.58E+03		10/6/2006	8:05:00	1105	1012
9520-01-SC-03-03-0	9.48E+03	1.09E+04	9.19E+03		10/6/2006	8:08:00	1105	1012
9520-01-SC-03-04-0	9.16E+03	1.05E+04	8.51E+03		10/6/2006	8:11:00	1105	1012
9520-01-SC-03-05-0	8.27E+03	9.57E+03	8.52E+03		10/6/2006	8:14:00	1105	1012
9520-01-SC-03-06-0	7.97E+03	9.24E+03	8.90E+03		10/6/2006	8:20:00	1105	1012
9520-01-ER-03-06-1	7.97E+03	9.24E+03	1.00E+04	+	10/6/2006	10:49:00	1105	1012
9520-01-SC-03-07-0	9.04E+03	1.04E+04	8.13E+03		10/6/2006	8:23:00	1105	1012

AL - Action Level

Survey Release Record Scan Area Results

Survey Unit 9520-0001

9520-01-SC-03-08-0	8.32E+03	9.62E+03	8.99E+03		10/6/2006	8:26:00	1105	1012
9520-01-ER-03-08-1	8.32E+03	9.62E+03	9.93E+03	+	10/6/2006	10:50:00	1105	1012
9520-01-SC-03-09-0	8.99E+03	1.03E+04	8.38E+03		10/6/2006	8:29:00	1105	1012
9520-01-SC-03-10-0	9.28E+03	1.07E+04	9.22E+03		10/6/2006	8:32:00	1105	1012
9520-01-SC-03-11-0	8.83E+03	1.02E+04	8.69E+03		10/6/2006	9:33:00	1105	1012
9520-01-SC-03-12-0	8.58E+03	9.90E+03	8.41E+03		10/6/2006	9:36:00	1105	1012
9520-01-SC-03-13-0	7.83E+03	9.09E+03	8.20E+03		10/6/2006	9:40:00	1105	1012
9520-01-SC-03-14-0	8.95E+03	1.03E+04	7.52E+03		10/6/2006	9:43:00	1105	1012
9520-01-SC-03-15-0	8.04E+03	9.32E+03	6.95E+03		10/6/2006	9:46:00	1105	1012
9520-01-SC-03-16-0	7.96E+03	9.23E+03	7.40E+03		10/6/2006	9:49:00	1105	1012
9520-01-SC-03-17-0	7.69E+03	8.94E+03	7.98E+03		10/6/2006	9:52:00	1105	1012
9520-01-SC-03-18-0	8.51E+03	9.83E+03	7.52E+03		10/6/2006	9:54:00	1105	1012
9520-01-SC-03-19-0	7.54E+03	8.78E+03	8.01E+03		10/6/2006	9:57:00	1105	1012
9520-01-SC-03-20-0	7.95E+03	9.22E+03	8.03E+03		10/6/2006	9:59:00	1105	1012
9520-01-SC-03-21-0	7.73E+03	8.99E+03	8.26E+03		10/6/2006	10:02:00	1105	1012
9520-01-SC-03-22-0	8.27E+03	9.57E+03	7.86E+03		10/6/2006	10:06:00	1105	1012
9520-01-SC-03-23-0	7.53E+03	8.77E+03	7.72E+03		10/6/2006	10:09:00	1105	1012
9520-01-SC-03-24-0	8.20E+03	9.49E+03	8.92E+03		10/6/2006	10:18:00	1105	1012
9520-01-SC-03-25-0	9.18E+03	1.05E+04	7.47E+03		10/6/2006	10:21:00	1105	1012
9520-01-SC-03-26-0	8.06E+03	9.34E+03	8.95E+03		10/6/2006	10:23:00	1105	1012
9520-01-SC-03-27-0	8.46E+03	9.77E+03	7.91E+03		10/6/2006	10:26:00	1105	1012
9520-01-SC-03-28-0	7.79E+03	9.05E+03	7.59E+03		10/6/2006	10:30:00	1105	1012
9520-01-SC-03-29-0	7.44E+03	8.67E+03	7.84E+03		10/6/2006	10:33:00	1105	1012
9520-01-SC-03-30-0	7.69E+03	8.94E+03	6.66E+03		10/6/2006	10:38:00	1105	1012

CENTRAL PENINSULA
SURVEY UNIT 9520-0001

RELEASE RECORD

ATTACHMENT 3 (LABORATORY DATA)

General Narrative

**General Narrative
for
Connecticut Yankee Atomic Power Co.
Revised Work Order: 173789
SDG: MSR#06-1338**

November 01, 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 October 11, 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>
173789001	9520-0001-012F
173789002	9520-0001-012FS
173789003	9520-0001-016F
173789004	9520-0001-017F
173789005	9520-0001-018F
173789006	9520-0001-002F
173789007	9520-0001-005F
173789008	9520-0001-006F
173789009	9520-0001-003F
173789010	9520-0001-007F
173789011	9520-0001-004F
173789012	9520-0001-004FS
173789013	9520-0001-008F
173789014	9520-0001-009F
173789015	9520-0001-014F
173789016	9520-0001-015F
173789017	9520-0001-013F
173789018	9520-0001-011F
173789019	9520-0001-019F
173789020	9520-0001-010F
173789021	9520-0001-020F
173789022	9520-0001-021F
173789023	9520-0001-022F
173789024	9520-0001-023F
173789025	9520-0001-024F

173789026 9520-0001-025F
173789027 9520-0001-026F
173789028 9520-0001-027F

Items of Note

This data package is a revision, provided to correct the IDs above from 9250- to 9520-.

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.

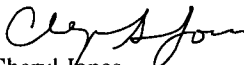
Analytical Request

Twenty-six 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 01 November 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

Connecticut Yankee Atomic Power Company 362 Injun Hollow Road, East Hampton, CT 06424 860-267-2556						Chain of Custody Form						No. 2006-00598			
Project Name: Haddam Neck Decommissioning						Analyses Requested					Lab Use Only				
Contact Name & Phone: Jack McCarthy 860-267-3924						FSSGAM	FSSALL					Comments:			
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road, Charleston SC, 29407 843 556 8171, Attn. Cheryl Jones												173789%			
Priority: <input type="checkbox"/> 30 D. <input checked="" type="checkbox"/> 14 D. <input type="checkbox"/> 7 D. <input type="checkbox"/> 3 D.															
Sample Designation	Date	Time	Media Code	Sample Type Code	Container Size- & Type Code						Comment, Preservation	Lab Sample ID			
9520-0001-012F	10/2/06	0953	TS	G	BP	X									
9520-0001-012FS	10/2/06	0953	TS	G	BP	X									
9520-0001-016F	10/2/06	1003	TS	G	BP	X									
9520-0001-017F	10/2/06	1010	TS	G	BP	X									
9520-0001-018F	10/2/06	1015	TS	G	BP	X									
NOTES: PO #: 002332 MSR #: 06-1338 SSWP# NA <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA												Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other		Internal Container Temp: 23 Deg. C Custody Sealed? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Custody Seal Intact? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
1) Relinquished By <i>John J. Gault</i>			Date/Time 10/10/06 1325			2) Received By <i>John J. Gault</i>			Date/Time 10/10/06 9:00			Bill of Lading # 7915 6441 5220			
3) Relinquished By			Date/Time			4) Received By			Date/Time						

Connecticut Yankee Atomic Power Company						Chain of Custody Form						No. 2006-00599		
362 Injun Hollow Road, East Hampton, CT 06424 860-267-2556														
Project Name: Haddam Neck Decommissioning						Analyses Requested					Lab Use Only			
Contact Name & Phone: Jack McCarthy 860-267-3924						FSSGAM	FSSALL						Comments:	
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road, Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones														
Priority: <input type="checkbox"/> 30 D. <input checked="" type="checkbox"/> 14 D. <input type="checkbox"/> 7 D. <input type="checkbox"/> 3 D.														
Sample Designation	Date	Time	Media Code	Sample Type Code	Container Size- & Type Code						Comment, Preservation	Lab Sample ID		
9520-0001-002F	10/2/06	0730	TS	G	BP	X								
9520-0001-005F	10/2/06	0741	TS	G	BP		X							
9520-0001-006F	10/2/06	0746	TS	G	BP	X								
9520-0001-003F	10/2/06	0800	TS	G	BP	X								
9520-0001-007F	10/2/06	0805	TS	G	BP	X								
9520-0001-004F	10/2/06	0810	TS	G	BP	X								
9520-0001-004FS	10/2/06	0810	TS	G	BP	X								
9520-0001-008F	10/2/06	0820	TS	G	BP	X								
9520-0001-009F	10/2/06	0946	TS	G	BP	X								
NOTES: PO #: 002332 MSR #: 06-133B SSWP# NA <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA														
1) Relinquished By <i>John DeGroot</i>			Date/Time 10/10/06 1325			2) Received By <i>Chauve</i>			Date/Time 10/11/06 900			Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other Bill of Lading # 7922-2003 3812		
3) Relinquished By			Date/Time			4) Received By			Date/Time					
Internal Container Temp <i>22</i> Deg. C Custody Sealed? <i>Y</i> <input checked="" type="checkbox"/> N <input type="checkbox"/> Custody Seal Intact? <i>Y</i> <input checked="" type="checkbox"/> N <input type="checkbox"/>														

Connecticut Yankee Atomic Power Company 362 Injun Hollow Road, East Hampton, CT 06424 860-267-2556						Chain of Custody Form						No. 2006-00600		
Project Name: Haddam Neck Decommissioning						Analyses Requested						Lab Use Only		
Contact Name & Phone: Jack McCarthy 860-267-3924						<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">FSSGAM</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">FSSALL</div> </div>						Comments:		
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road, Charleston SC, 29407 843 556 8171. Attn. Cheryl Jones														
Priority: <input type="checkbox"/> 30 D. <input checked="" type="checkbox"/> 14 D. <input type="checkbox"/> 7 D. <input type="checkbox"/> 3 D.														
Sample Designation	Date	Time	Media Code	Sample Type Code	Container Size- & Type Code								Comment, Preservation	Lab Sample ID
9520-0001-014F	10/2/06	1315	TS	G	BP	X								
9520-0001-015F	10/2/06	1317	TS	G	BP	X								
9520-0001-013F	10/2/06	1335	TS	G	BP	X								
9520-0001-011F	10/2/06	1340	TS	G	BP	X								
9520-0001-019F	10/2/06	1350	TS	G	BP	X								
9520-0001-010F	10/2/06	1400	TS	G	BP		X							
NOTES: PO #: 002332 MSR #: 06-1336 SSWP# NA <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA														
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> 1) Relinquished By <i>[Signature]</i> Date/Time 10/10/06 1325 3) Relinquished By Date/Time </div> <div style="width: 45%;"> 2) Received By <i>[Signature]</i> Date/Time 10/11/06 900 4) Received By Date/Time </div> </div>														
Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other												Internal Container Temp. 22 Deg. Custody Sealed? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Custody Seal Intact? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		
Bill of Lading # 7922 2003 3812														

Connecticut Yankee Atomic Power Company

362 Injun Hollow Road, East Hampton, CT 06424

860-267-2556

Chain of Custody Form

No. 2006-00604

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size- & Type Code	Analyses Requested						Lab Use Only			
Contact Name & Phone: Jack McCarthy 860-267-3924						FSSGAM	FSSALL							Comments:	
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones															
Priority: <input type="checkbox"/> 30 D. <input checked="" type="checkbox"/> 14 D. <input type="checkbox"/> 7 D. <input type="checkbox"/> 3 D.															
Sample Designation	Date	Time										Comment, Preservation	Lab Sample ID		
9520-0001-020F	10/4/06	1314	TS	G	BP	X									
9520-0001-021F	10/4/06	1412	TS	G	BP	X									
9520-0001-022F	10/4/06	1418	TS	G	BP	X									
9520-0001-023F	10/4/06	1420	TS	G	BP	X									
NOTES: PO #: 002332 MSR #: 06-1338 SSWP# NA <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA												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>23</u> Deg. C Custody Sealed? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Custody Seal Intact? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
1) Relinquished By <u>[Signature]</u> Date/Time <u>10/10/06 1325</u>			2) Received By <u>[Signature]</u> Date/Time <u>10/11/06 900</u>			7915 6441 5220 Bill of Lading #									
3) Relinquished By _____ Date/Time _____			4) Received By _____ Date/Time _____												

Connecticut Yankee Atomic Power Company362 Injun Hollow Road, East Hampton, CT 06424
860-267-2556**Chain of Custody Form**

No. 2006-00605

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size- & Type Code	Analyses Requested						Lab Use Only			
Contact Name & Phone: Jack McCarthy 860-267-3924						FSSGAM	FSSALL						Comments:		
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones															
Priority: <input type="checkbox"/> 30 D. <input checked="" type="checkbox"/> 14 D. <input type="checkbox"/> 7 D. <input type="checkbox"/> 3 D.															
Sample Designation	Date	Time										Comment, Preservation	Lab Sample ID		
9520-0001-024F	10/6/06	1047	TS	G	BP	X									
9520-0001-025F	10/6/06	1053	TS	G	BP	X									
9520-0001-026F	10/6/06	1055	TS	G	BP	X									
9520-0001-027F	10/6/06	1339	TS	G	BP	X									
NOTES: PO #: 002332 MSR #: 06-1338 SSWP# NA <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA												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>23</u> Deg. C Custody Sealed? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Custody Seal Intact? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
1) Relinquished By <u>John P. Gault</u>			Date/Time <u>10/10/06 1325</u>			2) Received By <u>Chase</u>			Date/Time <u>10/11/06 9:00</u>			Bill of Lading # <u>7915 6441 5220</u>			
3) Relinquished By			Date/Time			4) Received By			Date/Time						

Figure 1. Sample Check-in List

Date/Time Received: 10/11/06 9:00.

SDG#: MSR#06-1338

Work Order Number: 173789

Shipping Container ID: 195 6441 S220 Chain of Custody # 2006-00605 / 2006 00604
2006 00598

1. Custody Seals on shipping container intact? Yes ☒ No ☐

2. Custody Seals dated and signed? Yes ☒ No ☐

3. Chain-of-Custody record present? Yes ☒ No ☐

4. Cooler temperature 13

5. Vermiculite/packing materials is: Wet ☐ Dry ☒

6. Number of samples in shipping container: 13

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: Odum Date: 10/11/06

Telephoned to: _____ On _____ By _____

Figure 1. Sample Check-in List

Date/Time Received: 10-11-06 . 9:00 AM

SDG#: MSP#06-1338

Work Order Number: 173789

Shipping Container ID: 1922 20033812 Chain of Custody #: 2006-80599

1. Custody Seals on shipping container intact? Yes ☒ No ☐
2. Custody Seals dated and signed? Yes ☒ No ☐
3. Chain-of-Custody record present? Yes ☒ No ☐
4. Cooler temperature 22°
5. Vermiculite/packing materials is: Wet ☐ Dry ☒
6. Number of samples in shipping container: 15
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: Chase Date: 10/11/06

Telephoned to: _____ On _____ By _____

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 173789**

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:	578438
Prep Batch Number:	578107
Dry Soil Prep GL-RAD-A-021 Batch Number:	578102

Sample ID	Client ID
173789007	9520-0001-005F
173789020	9520-0001-010F
1201205319	Method Blank (MB)
1201205320	173789007(9520-0001-005F) Sample Duplicate (DUP)
1201205321	173789007(9520-0001-005F) Matrix Spike (MS)
1201205322	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: 173789007 (9520-0001-005F).

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.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

Additional comments were not required for this sample set.

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:	578439
Prep Batch Number:	578107
Dry Soil Prep GL-RAD-A-021 Batch Number:	578102

Sample ID	Client ID
173789007	9520-0001-005F
173789020	9520-0001-010F
1201205323	Method Blank (MB)
1201205324	173789007(9520-0001-005F) Sample Duplicate (DUP)
1201205325	173789007(9520-0001-005F) Matrix Spike (MS)
1201205326	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: 173789007 (9520-0001-005F).

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.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

Additional comments were not required for this sample set.

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:	580611
Prep Batch Number:	578107
Dry Soil Prep GL-RAD-A-021 Batch Number:	578102

Sample ID	Client ID
173789007	9520-0001-005F
173789020	9520-0001-010F
1201210563	Method Blank (MB)
1201210564	173789007(9520-0001-005F) Sample Duplicate (DUP)
1201210565	173789007(9520-0001-005F) Matrix Spike (MS)
1201210566	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: 173789007 (9520-0001-005F).

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

Sample 173789007 (9520-0001-005F) was recounted due to the quench number being outside of the calibration range.

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

Additional comments were not required for this sample set.

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:	578795
Prep Batch Number:	578102

Sample ID	Client ID
173789001	9520-0001-012F
173789002	9520-0001-012FS
173789003	9520-0001-016F
173789004	9520-0001-017F
173789005	9520-0001-018F
173789006	9520-0001-002F
173789007	9520-0001-005F
173789008	9520-0001-006F
173789009	9520-0001-003F
173789010	9520-0001-007F
173789011	9520-0001-004F
173789012	9520-0001-004FS
173789013	9520-0001-008F
173789014	9520-0001-009F
173789015	9520-0001-014F
173789016	9520-0001-015F
173789017	9520-0001-013F
173789018	9520-0001-011F
173789019	9520-0001-019F
173789020	9520-0001-010F
1201206222	Method Blank (MB)
1201206223	173789001(9520-0001-012F) Sample Duplicate (DUP)
1201206224	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: 173789001 (9520-0001-012F).

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

Additional comments were not required for this sample set.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to interference.	Europium-155	173789001
			173789011
			173789016
		Manganese-54	173789006
			173789008
UI	Data rejected due to low abundance.	Americium-241	173789004
		Cesium-134	173789004
			173789006
			173789007
			173789009
			173789011
			173789012
			173789016
			173789017
			173789018
			173789019
		Europium-155	173789013
		Silver-108m	1201206222

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: 578796
Prep Batch Number: 578103

Sample ID	Client ID
173789021	9520-0001-020F
173789022	9520-0001-021F
173789023	9520-0001-022F
173789024	9520-0001-023F
173789025	9520-0001-024F
173789026	9520-0001-025F
173789027	9520-0001-026F
173789028	9520-0001-027F
1201206225	Method Blank (MB)
1201206226	173317009(9801-00-SFB-01-C1) Sample Duplicate (DUP)
1201206227	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: 173317009 (9801-00-SFB-01-C1).

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

Sample 173789025 (9520-0001-024F) was recounted due to high MDA.

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

Additional comments were not required for this sample set.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to low abundance.	Cesium-134	173789021
			173789022
			173789023
			173789025
			173789026
			173789028

Method/Analysis Information

Product:	GFPC, Sr90, solid-ALL FSS
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:	578500
Prep Batch Number:	578107
Dry Soil Prep GL-RAD-A-021 Batch Number:	578102

Sample ID	Client ID
173789007	9520-0001-005F
173789020	9520-0001-010F
1201205511	Method Blank (MB)
1201205512	173770001(9106-0001-112F) Sample Duplicate (DUP)
1201205513	173770001(9106-0001-112F) Matrix Spike (MS)
1201205514	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: 173770001 (9106-0001-112F).

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.

Additional Comments

Additional comments were not required for this sample set.

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: 578363

Sample ID	Client ID
173789007	9520-0001-005F
173789020	9520-0001-010F
1201205177	Method Blank (MB)
1201205178	173770001(9106-0001-112F) Sample Duplicate (DUP)
1201205179	173770001(9106-0001-112F) Matrix Spike (MS)
1201205180	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: 173770001 (9106-0001-112F).

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

Additional comments were not required for this sample set.

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:	578445
Prep Batch Number:	578107
Dry Soil Prep GL-RAD-A-021 Batch Number:	578102

Sample ID	Client ID
173789007	9520-0001-005F
173789020	9520-0001-010F
1201205350	Method Blank (MB)
1201205351	173770001(9106-0001-112F) Sample Duplicate (DUP)
1201205352	173770001(9106-0001-112F) Matrix Spike (MS)
1201205353	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: 173770001 (9106-0001-112F).

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

Additional comments were not required for this sample set.

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:	578448
Prep Batch Number:	578107
Dry Soil Prep GL-RAD-A-021 Batch Number:	578102

Sample ID	Client ID
173789007	9520-0001-005F
173789020	9520-0001-010F
1201205362	Method Blank (MB)
1201205363	173770001(9106-0001-112F) Sample Duplicate (DUP)
1201205364	173770001(9106-0001-112F) Matrix Spike (MS)
1201205365	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: 173770001 (9106-0001-112F).

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

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	LSC, Tritium Dist, Solid-HTD2,ALL FSS
Analytical Method:	EPA 906.0 Modified
Analytical Batch Number:	578364

Sample ID	Client ID
173789007	9520-0001-005F
173789020	9520-0001-010F
1201205181	Method Blank (MB)
1201205182	173770001(9106-0001-112F) Sample Duplicate (DUP)
1201205183	173770001(9106-0001-112F) Matrix Spike (MS)
1201205184	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: 173770001 (9106-0001-112F).

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

Additional comments were not required for this sample set.

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: 578362

Sample ID	Client ID
173789007	9520-0001-005F
173789020	9520-0001-010F
1201205173	Method Blank (MB)
1201205174	173435001(9520-0003-039F) Sample Duplicate (DUP)
1201205175	173435001(9520-0003-039F) Matrix Spike (MS)
1201205176	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: 173435001 (9520-0003-039F).

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

The background was recounted due to high MDAs.

Miscellaneous Information:**NCR Documentation**

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

Additional Comments

Additional comments were not required for this sample set.

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: Ind 11/1/86

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#06-1338 GEL Work Order: 173789

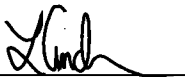
The Qualifiers in this report are defined as follows:

- * 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: November 1, 2006

Client Sample ID: 9520-0001-012F
Sample ID: 173789001
Matrix: TS
Collect Date: 02-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 10%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.710	+/-0.161	0.0535	+/-0.161	0.115	pCi/g						
Americium-241	U	0.000732	+/-0.0257	0.0243	+/-0.0257	0.0498	pCi/g						
Bismuth-212		0.744	+/-0.293	0.111	+/-0.293	0.237	pCi/g						
Bismuth-214		0.736	+/-0.0951	0.0311	+/-0.0951	0.0654	pCi/g						
Cesium-134	U	0.0357	+/-0.0245	0.0212	+/-0.0245	0.0447	pCi/g						
Cesium-137	U	0.0134	+/-0.0207	0.0186	+/-0.0207	0.0391	pCi/g						
Cobalt-60	U	0.00607	+/-0.0196	0.0173	+/-0.0196	0.0376	pCi/g						
Europium-152	U	-0.0192	+/-0.0458	0.0407	+/-0.0458	0.0849	pCi/g						
Europium-154	U	0.0108	+/-0.0712	0.0539	+/-0.0712	0.116	pCi/g						
Europium-155	UI	0.00	+/-0.0634	0.0391	+/-0.0634	0.0803	pCi/g						
Lead-212		0.886	+/-0.0566	0.0224	+/-0.0566	0.0465	pCi/g						
Lead-214		0.878	+/-0.0868	0.0291	+/-0.0868	0.0609	pCi/g						
Manganese-54	U	0.00608	+/-0.0237	0.0176	+/-0.0237	0.0373	pCi/g						
Niobium-94	U	0.00192	+/-0.0177	0.0153	+/-0.0177	0.0322	pCi/g						
Potassium-40		12.0	+/-0.796	0.116	+/-0.796	0.262	pCi/g						
Radium-226		0.736	+/-0.0951	0.0311	+/-0.0951	0.0654	pCi/g						
Silver-108m	U	-0.01	+/-0.0154	0.0132	+/-0.0154	0.0278	pCi/g						
Thallium-208		0.279	+/-0.040	0.0161	+/-0.040	0.0339	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	AXP2	10/11/06	2257	578102

The following Analytical Methods were performed

Method	Description
I	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: November 1, 2006

Client Sample ID: 9520-0001-012F
Sample ID: 173789001

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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: November 1, 2006

Client Sample ID: 9520-0001-012FS

Sample ID: 173789002

Matrix: TS

Collect Date: 02-OCT-06

Receive Date: 11-OCT-06

Collector: Client

Moisture: 10%

Project: YANK01204

Client ID: YANK001

Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.683	+/-0.229	0.0726	+/-0.229	0.154	pCi/g						
Americium-241	U	-0.00189	+/-0.0316	0.0278	+/-0.0316	0.0569	pCi/g						
Bismuth-212		0.352	+/-0.328	0.161	+/-0.328	0.339	pCi/g						
Bismuth-214		0.587	+/-0.109	0.0384	+/-0.109	0.0804	pCi/g						
Cesium-134	U	0.029	+/-0.0312	0.0258	+/-0.0312	0.0542	pCi/g						
Cesium-137	U	0.00881	+/-0.0255	0.0222	+/-0.0255	0.0466	pCi/g						
Cobalt-60	U	0.0136	+/-0.0257	0.0225	+/-0.0257	0.0483	pCi/g						
Europium-152	U	-0.00294	+/-0.0611	0.0517	+/-0.0611	0.107	pCi/g						
Europium-154	U	-0.0212	+/-0.0791	0.0651	+/-0.0791	0.139	pCi/g						
Europium-155	U	0.0231	+/-0.0685	0.043	+/-0.0685	0.0886	pCi/g						
Lead-212		0.750	+/-0.0597	0.0264	+/-0.0597	0.0547	pCi/g						
Lead-214		0.689	+/-0.0986	0.0361	+/-0.0986	0.075	pCi/g						
Manganese-54	U	0.00897	+/-0.026	0.0222	+/-0.026	0.0467	pCi/g						
Niobium-94	U	0.0124	+/-0.0221	0.0194	+/-0.0221	0.0407	pCi/g						
Potassium-40		11.9	+/-0.864	0.189	+/-0.864	0.409	pCi/g						
Radium-226		0.587	+/-0.109	0.0384	+/-0.109	0.0804	pCi/g						
Silver-108m	U	-0.0119	+/-0.0197	0.017	+/-0.0197	0.0356	pCi/g						
Thallium-208		0.271	+/-0.055	0.0193	+/-0.055	0.0406	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	AXP2	10/11/06	2257	578102

The following Analytical Methods were performed

Method	Description
I	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: November 1, 2006

Client Sample ID: 9520-0001-012FS
Sample ID: 173789002

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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: November 1, 2006

Client Sample ID: 9520-0001-016F
Sample ID: 173789003
Matrix: TS
Collect Date: 02-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 7.4%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.649	+/-0.172	0.0675	+/-0.172	0.135	pCi/g						
Americium-241	U	0.0321	+/-0.0312	0.0265	+/-0.0312	0.0529	pCi/g						
Bismuth-212		0.576	+/-0.300	0.151	+/-0.300	0.301	pCi/g						
Bismuth-214		0.683	+/-0.103	0.0307	+/-0.103	0.0614	pCi/g						
Cesium-134	U	0.0333	+/-0.0358	0.0239	+/-0.0358	0.0478	pCi/g						
Cesium-137		0.0699	+/-0.0427	0.0182	+/-0.0427	0.0364	pCi/g						
Cobalt-60	U	-0.0189	+/-0.0512	0.0198	+/-0.0512	0.0397	pCi/g						
Europium-152	U	-0.0243	+/-0.0676	0.0443	+/-0.0676	0.0885	pCi/g						
Europium-154	U	0.135	+/-0.0941	0.0702	+/-0.0941	0.140	pCi/g						
Europium-155	U	0.0515	+/-0.0512	0.040	+/-0.0512	0.080	pCi/g						
Lead-212		0.701	+/-0.0804	0.0246	+/-0.0804	0.0492	pCi/g						
Lead-214		0.580	+/-0.0959	0.0326	+/-0.0959	0.0651	pCi/g						
Manganese-54	U	0.0145	+/-0.0277	0.022	+/-0.0277	0.0439	pCi/g						
Niobium-94	U	-0.0165	+/-0.0191	0.0158	+/-0.0191	0.0317	pCi/g						
Potassium-40		10.1	+/-0.895	0.174	+/-0.895	0.348	pCi/g						
Radium-226		0.683	+/-0.103	0.0307	+/-0.103	0.0614	pCi/g						
Silver-108m	U	-0.00774	+/-0.0179	0.0153	+/-0.0179	0.0306	pCi/g						
Thallium-208		0.225	+/-0.0473	0.016	+/-0.0473	0.032	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	AXP2	10/11/06	2257	578102

The following Analytical Methods were performed

Method	Description
I	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: November 1, 2006

Client Sample ID: 9520-0001-016F
Sample ID: 173789003

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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: November 1, 2006

Client Sample ID: 9520-0001-017F

Sample ID: 173789004

Matrix: TS

Collect Date: 02-OCT-06

Receive Date: 11-OCT-06

Collector: Client

Moisture: 6.47%

Project: YANK01204

Client ID: YANK001

Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.775	+/-0.113	0.0345	+/-0.113	0.0741	pCi/g						
Americium-241	UI	0.00	+/-0.0655	0.0506	+/-0.0655	0.104	pCi/g						
Bismuth-212		0.608	+/-0.200	0.0935	+/-0.200	0.197	pCi/g						
Bismuth-214		0.504	+/-0.0692	0.0229	+/-0.0692	0.0481	pCi/g						
Cesium-134	UI	0.00	+/-0.0259	0.0163	+/-0.0259	0.0342	pCi/g						
Cesium-137		0.0273	+/-0.0198	0.0128	+/-0.0198	0.0269	pCi/g						
Cobalt-60	U	0.00729	+/-0.0129	0.0115	+/-0.0129	0.0248	pCi/g						
Europium-152	U	-0.0234	+/-0.0351	0.0306	+/-0.0351	0.064	pCi/g						
Europium-154	U	-0.014	+/-0.0361	0.029	+/-0.0361	0.0631	pCi/g						
Europium-155	U	-0.00452	+/-0.0438	0.0403	+/-0.0438	0.0829	pCi/g						
Lead-212		0.742	+/-0.0463	0.0189	+/-0.0463	0.039	pCi/g						
Lead-214		0.560	+/-0.0615	0.023	+/-0.0615	0.048	pCi/g						
Manganese-54	U	0.0014	+/-0.0112	0.0129	+/-0.0112	0.0271	pCi/g						
Niobium-94	U	0.0217	+/-0.020	0.0108	+/-0.020	0.0228	pCi/g						
Potassium-40		10.6	+/-0.602	0.100	+/-0.602	0.220	pCi/g						
Radium-226		0.504	+/-0.0692	0.0229	+/-0.0692	0.0481	pCi/g						
Silver-108m	U	0.00436	+/-0.0117	0.0106	+/-0.0117	0.0222	pCi/g						
Thallium-208		0.228	+/-0.0306	0.0115	+/-0.0306	0.0242	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	AXP2	10/11/06	2257	578102

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: November 1, 2006

Client Sample ID: 9520-0001-017F
Sample ID: 173789004

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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: November 1, 2006

Client Sample ID: 9520-0001-018F
Sample ID: 173789005
Matrix: TS
Collect Date: 02-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 9.4%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.780	+/-0.126	0.0428	+/-0.126	0.0913	pCi/g						
Americium-241	U	-0.00917	+/-0.0743	0.0632	+/-0.0743	0.130	pCi/g						
Bismuth-212		0.516	+/-0.193	0.097	+/-0.193	0.205	pCi/g						
Bismuth-214		0.624	+/-0.0711	0.0248	+/-0.0711	0.0519	pCi/g						
Cesium-134	U	0.0258	+/-0.0252	0.0176	+/-0.0252	0.0368	pCi/g						
Cesium-137		0.0436	+/-0.0242	0.0152	+/-0.0242	0.0318	pCi/g						
Cobalt-60	U	0.0116	+/-0.0175	0.0156	+/-0.0175	0.0334	pCi/g						
Europium-152	U	-0.016	+/-0.040	0.0328	+/-0.040	0.0683	pCi/g						
Europium-154	U	-0.0262	+/-0.0493	0.0396	+/-0.0493	0.0853	pCi/g						
Europium-155	U	0.0516	+/-0.0612	0.0366	+/-0.0612	0.0753	pCi/g						
Lead-212		0.790	+/-0.0504	0.0197	+/-0.0504	0.0406	pCi/g						
Lead-214		0.617	+/-0.074	0.0246	+/-0.074	0.0511	pCi/g						
Manganese-54	U	0.0218	+/-0.024	0.0131	+/-0.024	0.0277	pCi/g						
Niobium-94	U	0.00986	+/-0.0146	0.0129	+/-0.0146	0.027	pCi/g						
Potassium-40		10.9	+/-0.708	0.116	+/-0.708	0.254	pCi/g						
Radium-226		0.624	+/-0.0711	0.0248	+/-0.0711	0.0519	pCi/g						
Silver-108m	U	-0.00289	+/-0.0123	0.0107	+/-0.0123	0.0225	pCi/g						
Thallium-208		0.259	+/-0.0329	0.0125	+/-0.0329	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	AXP2	10/11/06	2257	578102

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: November 1, 2006

Client Sample ID: 9520-0001-018F
Sample ID: 173789005

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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: November 1, 2006

Client Sample ID: 9520-0001-002F
Sample ID: 173789006
Matrix: TS
Collect Date: 02-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 6.47%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.822	+/-0.156	0.037	+/-0.156	0.0782	pCi/g						
Americium-241	U	0.0132	+/-0.0377	0.0339	+/-0.0377	0.0693	pCi/g						
Bismuth-212		0.454	+/-0.173	0.0751	+/-0.173	0.158	pCi/g						
Bismuth-214		0.586	+/-0.0827	0.0178	+/-0.0827	0.0375	pCi/g						
Cesium-134	UI	0.00	+/-0.0243	0.0135	+/-0.0243	0.0282	pCi/g						
Cesium-137		0.0473	+/-0.0195	0.0101	+/-0.0195	0.0212	pCi/g						
Cobalt-60	U	0.0179	+/-0.0126	0.0121	+/-0.0126	0.0257	pCi/g						
Europium-152	U	0.0258	+/-0.0296	0.0267	+/-0.0296	0.0553	pCi/g						
Europium-154	U	-0.00702	+/-0.0367	0.0312	+/-0.0367	0.0668	pCi/g						
Europium-155	U	0.0355	+/-0.0341	0.0267	+/-0.0341	0.0548	pCi/g						
Lead-212		0.697	+/-0.0641	0.0164	+/-0.0641	0.0336	pCi/g						
Lead-214		0.603	+/-0.0714	0.0178	+/-0.0714	0.0369	pCi/g						
Manganese-54	UI	0.00	+/-0.00771	0.00982	+/-0.00771	0.0208	pCi/g						
Niobium-94	U	0.00618	+/-0.0109	0.00978	+/-0.0109	0.0205	pCi/g						
Potassium-40		11.9	+/-0.930	0.0894	+/-0.930	0.195	pCi/g						
Radium-226		0.586	+/-0.0827	0.0178	+/-0.0827	0.0375	pCi/g						
Silver-108m	U	-0.000687	+/-0.00975	0.00822	+/-0.00975	0.0172	pCi/g						
Thallium-208		0.204	+/-0.0314	0.00995	+/-0.0314	0.0209	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	AXP2	10/11/06	2257	578102

The following Analytical Methods were performed

Method	Description
I	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: November 1, 2006

Client Sample ID: 9520-0001-002F
Sample ID: 173789006

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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: November 1, 2006

Client Sample ID: 9520-0001-005F
Sample ID: 173789007
Matrix: TS
Collect Date: 02-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 9.74%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	-0.0354	+/-0.0474	0.0703	+/-0.0476	0.235	pCi/g	BXL1	10/17/06	0735	578438	1	
Curium-242	U	0.0568	+/-0.107	0.0474	+/-0.107	0.196	pCi/g						
Curium-243/244	U	-0.0631	+/-0.140	0.141	+/-0.140	0.376	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	0.0358	+/-0.0949	0.0423	+/-0.095	0.212	pCi/g	BXL1	10/17/06	0735	578439	2	
Plutonium-239/240	U	0.0132	+/-0.0999	0.0732	+/-0.0999	0.274	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	0.682	+/-8.14	6.80	+/-8.14	14.3	pCi/g	BXL1	10/23/06	1727	580611	3	
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.664	+/-0.120	0.037	+/-0.120	0.0789	pCi/g	MJH1	10/24/06	2037	578795	6	
Americium-241	U	0.0373	+/-0.0921	0.0663	+/-0.0921	0.136	pCi/g						
Bismuth-212		0.707	+/-0.211	0.0831	+/-0.211	0.176	pCi/g						
Bismuth-214		0.466	+/-0.058	0.0205	+/-0.058	0.0431	pCi/g						
Cesium-134	UI	0.00	+/-0.0228	0.0149	+/-0.0228	0.0313	pCi/g						
Cesium-137		0.145	+/-0.0341	0.0105	+/-0.0341	0.0221	pCi/g						
Cobalt-60	U	0.00575	+/-0.0139	0.0122	+/-0.0139	0.0262	pCi/g						
Europium-152	U	0.026	+/-0.0352	0.031	+/-0.0352	0.0643	pCi/g						
Europium-154	U	-0.0139	+/-0.0455	0.0376	+/-0.0455	0.0804	pCi/g						
Europium-155	U	0.0568	+/-0.0385	0.0374	+/-0.0385	0.0767	pCi/g						
Lead-212		0.682	+/-0.0424	0.0178	+/-0.0424	0.0366	pCi/g						
Lead-214		0.549	+/-0.0542	0.0212	+/-0.0542	0.044	pCi/g						
Manganese-54	U	0.018	+/-0.0136	0.00908	+/-0.0136	0.0195	pCi/g						
Niobium-94	U	0.0127	+/-0.0128	0.0116	+/-0.0128	0.0242	pCi/g						
Potassium-40		10.3	+/-0.609	0.0856	+/-0.609	0.191	pCi/g						
Radium-226		0.466	+/-0.058	0.0205	+/-0.058	0.0431	pCi/g						
Silver-108m	U	0.00454	+/-0.0114	0.0104	+/-0.0114	0.0217	pCi/g						
Thallium-208		0.187	+/-0.027	0.0116	+/-0.027	0.0244	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.0206	+/-0.0206	0.0137	+/-0.0206	0.0334	pCi/g	TC1	10/17/06	0743	578500	7	
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid-HTD2, ALL FSS</i>													
Tritium	U	-3.76	+/-5.56	4.92	+/-5.56	10.6	pCi/g	DFA1	10/15/06	0121	578364	8	

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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: November 1, 2006

Client Sample ID: 9520-0001-005F
Sample ID: 173789007

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Liquid Scintillation Analysis													
<i>Liquid Scint C14, Solid All, FSS</i>													
Carbon-14	U	-0.0723	+/-0.111	0.095	+/-0.111	0.195	pCi/g		AXD2	10/13/06	2004	578362	9
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	-4.61	+/-19.2	13.9	+/-19.2	28.6	pCi/g		MXPI	10/17/06	2336	578445	10
<i>Liquid Scint Ni63, Solid-ALL FSS</i>													
Nickel-63	U	-2.22	+/-8.88	7.55	+/-8.88	15.8	pCi/g		MXPI	10/17/06	1818	578448	11
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.0712	+/-0.258	0.214	+/-0.258	0.443	pCi/g		KXR1	10/18/06	0511	578363	12

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXP2	10/11/06	2257	578102

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	DOE EML HASL-300, Pu-11-RC Modified
5	DOE EML HASL-300, Pu-11-RC Modified
6	EML HASL 300, 4.5.2.3
7	EPA 905.0 Modified
8	EPA 906.0 Modified
9	EPA EERF C-01 Modified
10	DOE RESL Fe-1, Modified
11	DOE RESL Ni-1, Modified
12	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	79	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	59	(15%-125%)
Plutonium-241	Liquid Scint Pu241, Solid-ALL FS	79	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	78	

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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: November 1, 2006

Client Sample ID: 9520-0001-005F

Sample ID: 173789007

Project: YANK01204

Client ID: YANK001

Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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
- 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: November 1, 2006

Client Sample ID: 9520-0001-006F
Sample ID: 173789008
Matrix: TS
Collect Date: 02-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 8.98%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.827	+/-0.136	0.0519	+/-0.136	0.111	pCi/g						
Americium-241	U	-0.0191	+/-0.024	0.0208	+/-0.024	0.0426	pCi/g						
Bismuth-212		0.672	+/-0.246	0.121	+/-0.246	0.255	pCi/g						
Bismuth-214		0.674	+/-0.0856	0.029	+/-0.0856	0.0608	pCi/g						
Cesium-134	U	0.021	+/-0.031	0.0206	+/-0.031	0.0432	pCi/g						
Cesium-137		0.105	+/-0.0304	0.0175	+/-0.0304	0.0367	pCi/g						
Cobalt-60	U	0.00548	+/-0.0188	0.0162	+/-0.0188	0.0351	pCi/g						
Europium-152	U	-0.00127	+/-0.0439	0.0384	+/-0.0439	0.0797	pCi/g						
Europium-154	U	0.098	+/-0.110	0.0455	+/-0.110	0.0982	pCi/g						
Europium-155	U	0.0584	+/-0.0406	0.0368	+/-0.0406	0.0754	pCi/g						
Lead-212		0.804	+/-0.0602	0.028	+/-0.0602	0.0574	pCi/g						
Lead-214		0.748	+/-0.0648	0.0291	+/-0.0648	0.0604	pCi/g						
Manganese-54	UI	0.00	+/-0.0293	0.0146	+/-0.0293	0.0311	pCi/g						
Niobium-94	U	0.00533	+/-0.0177	0.0151	+/-0.0177	0.0317	pCi/g						
Potassium-40		9.91	+/-0.651	0.123	+/-0.651	0.272	pCi/g						
Radium-226		0.674	+/-0.0856	0.029	+/-0.0856	0.0608	pCi/g						
Silver-108m	U	-0.00386	+/-0.0161	0.0138	+/-0.0161	0.0287	pCi/g						
Thallium-208		0.309	+/-0.0466	0.015	+/-0.0466	0.0316	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	AXP2	10/11/06	2257	578102

The following Analytical Methods were performed

Method	Description
I	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: November 1, 2006

Client Sample ID: 9520-0001-006F
Sample ID: 173789008

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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: November 1, 2006

Client Sample ID: 9520-0001-003F
Sample ID: 173789009
Matrix: TS
Collect Date: 02-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 9.77%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.887	+/-0.158	0.0591	+/-0.158	0.124	pCi/g						
Americium-241	U	0.0257	+/-0.0257	0.0233	+/-0.0257	0.0474	pCi/g						
Bismuth-212		0.493	+/-0.280	0.133	+/-0.280	0.276	pCi/g						
Bismuth-214		0.654	+/-0.0847	0.0308	+/-0.0847	0.0641	pCi/g						
Cesium-134	UI	0.00	+/-0.053	0.023	+/-0.053	0.0476	pCi/g						
Cesium-137		0.101	+/-0.0425	0.0178	+/-0.0425	0.0369	pCi/g						
Cobalt-60	U	0.000675	+/-0.0189	0.0159	+/-0.0189	0.0339	pCi/g						
Europium-152	U	-0.0323	+/-0.0473	0.0389	+/-0.0473	0.0804	pCi/g						
Europium-154	U	-0.0112	+/-0.0618	0.0512	+/-0.0618	0.108	pCi/g						
Europium-155	U	0.0363	+/-0.0664	0.0375	+/-0.0664	0.0767	pCi/g						
Lead-212		0.726	+/-0.0492	0.0222	+/-0.0492	0.0457	pCi/g						
Lead-214		0.711	+/-0.0807	0.0287	+/-0.0807	0.0593	pCi/g						
Manganese-54	U	-0.00774	+/-0.0214	0.0174	+/-0.0214	0.0364	pCi/g						
Niobium-94	U	0.023	+/-0.0188	0.0169	+/-0.0188	0.035	pCi/g						
Potassium-40		11.3	+/-0.695	0.157	+/-0.695	0.334	pCi/g						
Radium-226		0.654	+/-0.0847	0.0308	+/-0.0847	0.0641	pCi/g						
Silver-108m	U	-0.00493	+/-0.0186	0.0144	+/-0.0186	0.0298	pCi/g						
Thallium-208		0.272	+/-0.0403	0.0167	+/-0.0403	0.0348	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	AXP2	10/11/06	2257	578102

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: November 1, 2006

Client Sample ID: 9520-0001-003F
Sample ID: 173789009

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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: November 1, 2006

Client Sample ID: 9520-0001-007F
Sample ID: 173789010
Matrix: TS
Collect Date: 02-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 8.63%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.712	+/-0.161	0.0567	+/-0.161	0.113	pCi/g						
Americium-241	U	0.0126	+/-0.0268	0.0217	+/-0.0268	0.0435	pCi/g						
Bismuth-212		0.710	+/-0.258	0.120	+/-0.258	0.239	pCi/g						
Bismuth-214		0.557	+/-0.0889	0.028	+/-0.0889	0.056	pCi/g						
Cesium-134	U	0.0351	+/-0.0272	0.0201	+/-0.0272	0.0402	pCi/g						
Cesium-137		0.0606	+/-0.0291	0.0161	+/-0.0291	0.0322	pCi/g						
Cobalt-60	U	-0.00802	+/-0.0215	0.0173	+/-0.0215	0.0346	pCi/g						
Europium-152	U	-0.0205	+/-0.0566	0.0367	+/-0.0566	0.0734	pCi/g						
Europium-154	U	0.00927	+/-0.0692	0.0587	+/-0.0692	0.117	pCi/g						
Europium-155	U	0.0561	+/-0.0488	0.0327	+/-0.0488	0.0653	pCi/g						
Lead-212		0.667	+/-0.0713	0.0204	+/-0.0713	0.0407	pCi/g						
Lead-214		0.614	+/-0.0884	0.0277	+/-0.0884	0.0553	pCi/g						
Manganese-54	U	-0.00272	+/-0.0196	0.0169	+/-0.0196	0.0338	pCi/g						
Niobium-94	U	0.0262	+/-0.0178	0.0167	+/-0.0178	0.0334	pCi/g						
Potassium-40		9.84	+/-0.765	0.168	+/-0.765	0.336	pCi/g						
Radium-226		0.557	+/-0.0889	0.028	+/-0.0889	0.056	pCi/g						
Silver-108m	U	-0.00649	+/-0.0154	0.0131	+/-0.0154	0.0262	pCi/g						
Thallium-208		0.180	+/-0.0434	0.0143	+/-0.0434	0.0287	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	AXP2	10/11/06	2257	578102

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: November 1, 2006

Client Sample ID: 9520-0001-007F
Sample ID: 173789010

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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
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- 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: November 1, 2006

Client Sample ID: 9520-0001-004F
Sample ID: 173789011
Matrix: TS
Collect Date: 02-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 10.2%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.821	+/-0.149	0.0492	+/-0.149	0.105	pCi/g						
Americium-241	U	0.113	+/-0.0746	0.0629	+/-0.0746	0.129	pCi/g						
Bismuth-212		0.327	+/-0.241	0.111	+/-0.241	0.235	pCi/g						
Bismuth-214		0.599	+/-0.0759	0.0252	+/-0.0759	0.0529	pCi/g						
Cesium-134	UI	0.00	+/-0.0345	0.0187	+/-0.0345	0.0391	pCi/g						
Cesium-137		0.0512	+/-0.0284	0.0146	+/-0.0284	0.0306	pCi/g						
Cobalt-60	U	0.00958	+/-0.0171	0.0154	+/-0.0171	0.0331	pCi/g						
Europium-152	U	0.00494	+/-0.0453	0.0386	+/-0.0453	0.0801	pCi/g						
Europium-154	U	0.0198	+/-0.0525	0.0464	+/-0.0525	0.0992	pCi/g						
Europium-155	UI	0.00	+/-0.0641	0.0387	+/-0.0641	0.0794	pCi/g						
Lead-212		0.785	+/-0.0528	0.0223	+/-0.0528	0.0459	pCi/g						
Lead-214		0.664	+/-0.0686	0.0289	+/-0.0686	0.0599	pCi/g						
Manganese-54	U	0.00223	+/-0.0167	0.0143	+/-0.0167	0.0301	pCi/g						
Niobium-94	U	0.000692	+/-0.0153	0.0131	+/-0.0153	0.0276	pCi/g						
Potassium-40		11.4	+/-0.714	0.134	+/-0.714	0.292	pCi/g						
Radium-226		0.599	+/-0.0759	0.0252	+/-0.0759	0.0529	pCi/g						
Silver-108m	U	0.000548	+/-0.015	0.0125	+/-0.015	0.0261	pCi/g						
Thallium-208		0.263	+/-0.038	0.0145	+/-0.038	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	AXP2	10/11/06	2257	578102

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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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: November 1, 2006

Client Sample ID: 9520-0001-004F
Sample ID: 173789011

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
-----------	-----------	--------	-------------	----	-----	-----	-------	----	---------	------	------	-------	-----

- > 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: November 1, 2006

Client Sample ID: 9520-0001-004FS
Sample ID: 173789012
Matrix: TS
Collect Date: 02-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 10.4%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.852	+/-0.153	0.0423	+/-0.153	0.0904	pCi/g						
Americium-241	U	-0.0117	+/-0.0884	0.0589	+/-0.0884	0.121	pCi/g						
Bismuth-212		0.618	+/-0.213	0.093	+/-0.213	0.197	pCi/g						
Bismuth-214		0.590	+/-0.0645	0.0252	+/-0.0645	0.0529	pCi/g						
Cesium-134	UI	0.00	+/-0.0242	0.0169	+/-0.0242	0.0355	pCi/g						
Cesium-137		0.0719	+/-0.0266	0.0138	+/-0.0266	0.029	pCi/g						
Cobalt-60	U	0.00877	+/-0.0165	0.0146	+/-0.0165	0.0313	pCi/g						
Europium-152	U	0.00644	+/-0.0389	0.0326	+/-0.0389	0.0679	pCi/g						
Europium-154	U	0.00308	+/-0.0481	0.0409	+/-0.0481	0.0878	pCi/g						
Europium-155	U	0.0555	+/-0.0635	0.0385	+/-0.0635	0.079	pCi/g						
Lead-212		0.797	+/-0.047	0.0188	+/-0.047	0.0387	pCi/g						
Lead-214		0.688	+/-0.0655	0.0215	+/-0.0655	0.0448	pCi/g						
Manganese-54	U	-0.00994	+/-0.0162	0.0129	+/-0.0162	0.0273	pCi/g						
Niobium-94	U	0.0061	+/-0.0218	0.012	+/-0.0218	0.0252	pCi/g						
Potassium-40		11.4	+/-0.682	0.0994	+/-0.682	0.221	pCi/g						
Radium-226		0.590	+/-0.0645	0.0252	+/-0.0645	0.0529	pCi/g						
Silver-108m	U	-0.00266	+/-0.0123	0.0107	+/-0.0123	0.0224	pCi/g						
Thallium-208		0.255	+/-0.0346	0.0129	+/-0.0346	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	AXP2	10/11/06	2257	578102

The following Analytical Methods were performed

Method	Description
I	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

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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: November 1, 2006

Client Sample ID: 9520-0001-004FS
Sample ID: 173789012

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
-----------	-----------	--------	-------------	----	-----	-----	-------	----	---------	------	------	-------	-----

- > 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: November 1, 2006

Client Sample ID: 9520-0001-008F
Sample ID: 173789013
Matrix: TS
Collect Date: 02-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 8.19%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.544	+/-0.122	0.0573	+/-0.122	0.123	pCi/g						
Americium-241	U	0.0295	+/-0.0639	0.0603	+/-0.0639	0.125	pCi/g						
Bismuth-212		0.484	+/-0.264	0.111	+/-0.264	0.238	pCi/g						
Bismuth-214		0.497	+/-0.0841	0.0266	+/-0.0841	0.0566	pCi/g						
Cesium-134	U	0.0133	+/-0.0201	0.018	+/-0.0201	0.0385	pCi/g						
Cesium-137		0.0405	+/-0.0341	0.0152	+/-0.0341	0.0325	pCi/g						
Cobalt-60	U	0.0107	+/-0.0188	0.0172	+/-0.0188	0.0377	pCi/g						
Europium-152	U	-0.0454	+/-0.0498	0.0394	+/-0.0498	0.0827	pCi/g						
Europium-154	U	-0.0116	+/-0.0527	0.0442	+/-0.0527	0.0974	pCi/g						
Europium-155	UI	0.00	+/-0.0837	0.0444	+/-0.0837	0.0917	pCi/g						
Lead-212		0.664	+/-0.0525	0.0219	+/-0.0525	0.0456	pCi/g						
Lead-214		0.538	+/-0.0763	0.0284	+/-0.0763	0.0595	pCi/g						
Manganese-54	U	-0.00125	+/-0.0186	0.0156	+/-0.0186	0.0335	pCi/g						
Niobium-94	U	0.00473	+/-0.016	0.014	+/-0.016	0.0298	pCi/g						
Potassium-40		10.4	+/-0.753	0.141	+/-0.753	0.315	pCi/g						
Radium-226		0.497	+/-0.0841	0.0266	+/-0.0841	0.0566	pCi/g						
Silver-108m	U	0.0178	+/-0.0135	0.013	+/-0.0135	0.0275	pCi/g						
Thallium-208		0.165	+/-0.0344	0.0156	+/-0.0344	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	AXP2	10/11/06	2257	578102

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: November 1, 2006

Client Sample ID: 9520-0001-008F
Sample ID: 173789013

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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: November 1, 2006

Client Sample ID: 9520-0001-009F

Sample ID: 173789014

Matrix: TS

Collect Date: 02-OCT-06

Receive Date: 11-OCT-06

Collector: Client

Moisture: 8.28%

Project: YANK01204

Client ID: YANK001

Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.759	+/-0.153	0.0588	+/-0.153	0.126	pCi/g						
Americium-241	U	-0.0972	+/-0.0903	0.0674	+/-0.0903	0.140	pCi/g		MJH1	10/25/06	0526	578795	1
Bismuth-212		0.435	+/-0.225	0.119	+/-0.225	0.254	pCi/g						
Bismuth-214		0.469	+/-0.078	0.0279	+/-0.078	0.0592	pCi/g						
Cesium-134	U	0.0415	+/-0.0353	0.0204	+/-0.0353	0.0432	pCi/g						
Cesium-137		0.0475	+/-0.0304	0.014	+/-0.0304	0.030	pCi/g						
Cobalt-60	U	-0.00778	+/-0.0174	0.0138	+/-0.0174	0.0308	pCi/g						
Europium-152	U	-0.0318	+/-0.0455	0.0367	+/-0.0455	0.0772	pCi/g						
Europium-154	U	0.0258	+/-0.0551	0.049	+/-0.0551	0.107	pCi/g						
Europium-155	U	0.0395	+/-0.0472	0.045	+/-0.0472	0.0929	pCi/g						
Lead-212		0.632	+/-0.0513	0.0216	+/-0.0513	0.0451	pCi/g						
Lead-214		0.534	+/-0.0809	0.0273	+/-0.0809	0.0574	pCi/g						
Manganese-54	U	0.00744	+/-0.018	0.0156	+/-0.018	0.0334	pCi/g						
Niobium-94	U	0.00309	+/-0.0163	0.0141	+/-0.0163	0.030	pCi/g						
Potassium-40		10.5	+/-0.810	0.144	+/-0.810	0.320	pCi/g						
Radium-226		0.469	+/-0.078	0.0279	+/-0.078	0.0592	pCi/g						
Silver-108m	U	0.00666	+/-0.015	0.0137	+/-0.015	0.0289	pCi/g						
Thallium-208		0.198	+/-0.0428	0.0142	+/-0.0428	0.0302	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	AXP2	10/11/06	2257	578102

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: November 1, 2006

Client Sample ID: 9520-0001-009F
Sample ID: 173789014

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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: November 1, 2006

Client Sample ID: 9520-0001-014F
Sample ID: 173789015
Matrix: TS
Collect Date: 02-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 9.66%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.897	+/-0.149	0.0519	+/-0.149	0.111	pCi/g		MJH1	10/25/06	0526	578795	I
Americium-241	U	0.0791	+/-0.121	0.0834	+/-0.121	0.172	pCi/g						
Bismuth-212		0.577	+/-0.253	0.106	+/-0.253	0.225	pCi/g						
Bismuth-214		0.631	+/-0.0868	0.0291	+/-0.0868	0.061	pCi/g						
Cesium-134	U	0.0308	+/-0.0213	0.0192	+/-0.0213	0.0404	pCi/g						
Cesium-137		0.177	+/-0.0421	0.0158	+/-0.0421	0.0333	pCi/g						
Cobalt-60	U	0.0044	+/-0.0188	0.016	+/-0.0188	0.0347	pCi/g						
Europium-152	U	-0.0114	+/-0.0483	0.0387	+/-0.0483	0.0806	pCi/g						
Europium-154	U	0.020	+/-0.054	0.0466	+/-0.054	0.101	pCi/g						
Europium-155	U	0.0858	+/-0.0638	0.0419	+/-0.0638	0.0863	pCi/g						
Lead-212		0.897	+/-0.0592	0.0245	+/-0.0592	0.0504	pCi/g						
Lead-214		0.772	+/-0.0847	0.0275	+/-0.0847	0.0573	pCi/g						
Manganese-54	U-0.000324		+/-0.0195	0.0159	+/-0.0195	0.0336	pCi/g						
Niobium-94	U	0.00831	+/-0.0164	0.014	+/-0.0164	0.0295	pCi/g						
Potassium-40		10.4	+/-0.742	0.136	+/-0.742	0.300	pCi/g						
Radium-226		0.631	+/-0.0868	0.0291	+/-0.0868	0.061	pCi/g						
Silver-108m	U	0.00209	+/-0.0155	0.0134	+/-0.0155	0.0281	pCi/g						
Thallium-208		0.271	+/-0.0434	0.0148	+/-0.0434	0.0312	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	AXP2	10/11/06	2257	578102

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: November 1, 2006

Client Sample ID: 9520-0001-014F
Sample ID: 173789015

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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: November 1, 2006

Client Sample ID: 9520-0001-015F
Sample ID: 173789016
Matrix: TS
Collect Date: 02-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 8.66%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.984	+/-0.172	0.0568	+/-0.172	0.122	pCi/g						
Americium-241	U	0.0133	+/-0.0279	0.0241	+/-0.0279	0.0494	pCi/g						
Bismuth-212		0.421	+/-0.262	0.150	+/-0.262	0.315	pCi/g						
Bismuth-214		0.783	+/-0.0922	0.0301	+/-0.0922	0.0636	pCi/g						
Cesium-134	UI	0.00	+/-0.0488	0.0226	+/-0.0488	0.0475	pCi/g						
Cesium-137		0.0673	+/-0.0345	0.0159	+/-0.0345	0.0338	pCi/g						
Cobalt-60	U	0.00123	+/-0.0188	0.0162	+/-0.0188	0.0354	pCi/g						
Europium-152	U	0.0268	+/-0.0475	0.0396	+/-0.0475	0.0828	pCi/g						
Europium-154	U	0.00362	+/-0.0674	0.0504	+/-0.0674	0.109	pCi/g						
Europium-155	UI	0.00	+/-0.0547	0.0383	+/-0.0547	0.0789	pCi/g						
Lead-212		0.899	+/-0.0592	0.0231	+/-0.0592	0.0478	pCi/g						
Lead-214		0.892	+/-0.0851	0.0321	+/-0.0851	0.0667	pCi/g						
Manganese-54	U	0.0194	+/-0.0206	0.0169	+/-0.0206	0.036	pCi/g						
Niobium-94	U	0.0151	+/-0.0176	0.016	+/-0.0176	0.0336	pCi/g						
Potassium-40		11.9	+/-0.820	0.136	+/-0.820	0.302	pCi/g						
Radium-226		0.783	+/-0.0922	0.0301	+/-0.0922	0.0636	pCi/g						
Silver-108m	U	0.000635	+/-0.016	0.0143	+/-0.016	0.030	pCi/g						
Thallium-208		0.314	+/-0.0436	0.0155	+/-0.0436	0.0329	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	AXP2	10/11/06	2257	578102

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: November 1, 2006

Client Sample ID: 9520-0001-015F
Sample ID: 173789016

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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: November 1, 2006

Client Sample ID: 9520-0001-013F
Sample ID: 173789017
Matrix: TS
Collect Date: 02-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 11.3%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.811	+/-0.136	0.0611	+/-0.136	0.130	pCi/g						
Americium-241	U	0.062	+/-0.0998	0.0664	+/-0.0998	0.137	pCi/g						
Bismuth-212		0.451	+/-0.196	0.101	+/-0.196	0.217	pCi/g						
Bismuth-214		0.494	+/-0.0744	0.0297	+/-0.0744	0.0628	pCi/g						
Cesium-134	UI	0.00	+/-0.0402	0.0216	+/-0.0402	0.0454	pCi/g						
Cesium-137		0.0571	+/-0.0235	0.0163	+/-0.0235	0.0344	pCi/g						
Cobalt-60	U	-0.0131	+/-0.0187	0.0149	+/-0.0187	0.0328	pCi/g						
Europium-152	U	-0.0323	+/-0.0502	0.0421	+/-0.0502	0.0879	pCi/g						
Europium-154	U	0.00158	+/-0.0535	0.0465	+/-0.0535	0.101	pCi/g						
Europium-155	U	0.0376	+/-0.0463	0.0453	+/-0.0463	0.0933	pCi/g						
Lead-212		0.645	+/-0.0546	0.0252	+/-0.0546	0.0521	pCi/g						
Lead-214		0.553	+/-0.0776	0.0306	+/-0.0776	0.0639	pCi/g						
Manganese-54	U	0.0184	+/-0.0178	0.0166	+/-0.0178	0.0353	pCi/g						
Niobium-94	U	0.00954	+/-0.0162	0.0147	+/-0.0162	0.0312	pCi/g						
Potassium-40		11.0	+/-0.785	0.132	+/-0.785	0.294	pCi/g						
Radium-226		0.494	+/-0.0744	0.0297	+/-0.0744	0.0628	pCi/g						
Silver-108m	U	0.00569	+/-0.0159	0.0138	+/-0.0159	0.0291	pCi/g						
Thallium-208		0.206	+/-0.0402	0.0143	+/-0.0402	0.0303	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	AXP2	10/11/06	2257	578102

The following Analytical Methods were performed

Method	Description
I	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: November 1, 2006

Client Sample ID: 9520-0001-013F
Sample ID: 173789017

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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: November 1, 2006

Client Sample ID: 9520-0001-011F
Sample ID: 173789018
Matrix: TS
Collect Date: 02-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 7.91%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.877	+/-0.133	0.0543	+/-0.133	0.116	pCi/g						
Americium-241	U	0.0706	+/-0.0386	0.0665	+/-0.0386	0.137	pCi/g						
Bismuth-212		0.511	+/-0.287	0.113	+/-0.287	0.239	pCi/g						
Bismuth-214		0.758	+/-0.0705	0.0254	+/-0.0705	0.0538	pCi/g						
Cesium-134	UI	0.00	+/-0.0286	0.0195	+/-0.0286	0.0411	pCi/g						
Cesium-137		0.0424	+/-0.0373	0.0149	+/-0.0373	0.0316	pCi/g						
Cobalt-60	U	-0.00297	+/-0.0201	0.0168	+/-0.0201	0.0364	pCi/g						
Europium-152	U	-0.0254	+/-0.0425	0.0349	+/-0.0425	0.0732	pCi/g						
Europium-154	U	0.0178	+/-0.0572	0.0502	+/-0.0572	0.108	pCi/g						
Europium-155	U	0.0592	+/-0.0526	0.0485	+/-0.0526	0.0995	pCi/g						
Lead-212		0.929	+/-0.0538	0.0218	+/-0.0538	0.0451	pCi/g						
Lead-214		0.868	+/-0.0918	0.0267	+/-0.0918	0.0559	pCi/g						
Manganese-54	U	0.0182	+/-0.019	0.0159	+/-0.019	0.0337	pCi/g						
Niobium-94	U	-0.00189	+/-0.0159	0.0135	+/-0.0159	0.0286	pCi/g						
Potassium-40		12.4	+/-0.846	0.122	+/-0.846	0.271	pCi/g						
Radium-226		0.758	+/-0.0705	0.0254	+/-0.0705	0.0538	pCi/g						
Silver-108m	U	0.00329	+/-0.0149	0.0136	+/-0.0149	0.0284	pCi/g						
Thallium-208		0.287	+/-0.0355	0.0149	+/-0.0355	0.0315	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	AXP2	10/11/06	2257	578102

The following Analytical Methods were performed

Method	Description
I	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: November 1, 2006

Client Sample ID: 9520-0001-011F
Sample ID: 173789018

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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: November 1, 2006

Client Sample ID: 9520-0001-019F
Sample ID: 173789019
Matrix: TS
Collect Date: 02-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 8.11%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.616	+/-0.145	0.0491	+/-0.145	0.0981	pCi/g		MJH1	10/25/06	0612	578795	1
Americium-241	U	0.0141	+/-0.0584	0.0476	+/-0.0584	0.0952	pCi/g						
Bismuth-212		0.261	+/-0.177	0.110	+/-0.177	0.220	pCi/g						
Bismuth-214		0.534	+/-0.0807	0.0243	+/-0.0807	0.0485	pCi/g						
Cesium-134	UI	0.00	+/-0.0223	0.019	+/-0.0223	0.0379	pCi/g						
Cesium-137		0.0532	+/-0.0258	0.0117	+/-0.0258	0.0233	pCi/g						
Cobalt-60	U	0.0147	+/-0.0172	0.0154	+/-0.0172	0.0308	pCi/g						
Europium-152	U	-0.000771	+/-0.0524	0.038	+/-0.0524	0.0759	pCi/g						
Europium-154	U	-0.0259	+/-0.0558	0.045	+/-0.0558	0.0899	pCi/g						
Europium-155	U	0.0415	+/-0.0454	0.0419	+/-0.0454	0.0837	pCi/g						
Lead-212		0.732	+/-0.074	0.0217	+/-0.074	0.0434	pCi/g						
Lead-214		0.613	+/-0.0824	0.0262	+/-0.0824	0.0524	pCi/g						
Manganese-54	U	0.00877	+/-0.0168	0.0145	+/-0.0168	0.029	pCi/g						
Niobium-94	U	0.00167	+/-0.0145	0.0129	+/-0.0145	0.0257	pCi/g						
Potassium-40		9.77	+/-0.852	0.130	+/-0.852	0.259	pCi/g						
Radium-226		0.534	+/-0.0807	0.0243	+/-0.0807	0.0485	pCi/g						
Silver-108m	U	-0.00664	+/-0.0144	0.0122	+/-0.0144	0.0245	pCi/g						
Thallium-208		0.215	+/-0.0332	0.0127	+/-0.0332	0.0253	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	AXP2	10/11/06	2257	578102

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: November 1, 2006

Client Sample ID: 9520-0001-019F
Sample ID: 173789019

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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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Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

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

Report Date: November 1, 2006

Client Sample ID: 9520-0001-010F
Sample ID: 173789020
Matrix: TS
Collect Date: 02-OCT-06
Receive Date: 11-OCT-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	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	-0.0337	+/-0.0866	0.0916	+/-0.0867	0.275	pCi/g	BXL1	10/17/06	0735	578438	1	
Curium-242	U	-0.0261	+/-0.0296	0.0564	+/-0.0297	0.211	pCi/g						
Curium-243/244	U	-0.12	+/-0.122	0.147	+/-0.123	0.385	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	-0.0208	+/-0.0288	0.055	+/-0.0289	0.227	pCi/g	BXL1	10/17/06	0735	578439	2	
Plutonium-239/240	U	-0.00866	+/-0.0963	0.0869	+/-0.0963	0.291	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	-2.03	+/-7.37	6.28	+/-7.37	13.2	pCi/g	BXL1	10/21/06	2003	580611	3	
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.804	+/-0.106	0.0407	+/-0.106	0.0865	pCi/g	MJH1	10/25/06	0528	578795	5	
Americium-241	U	0.0652	+/-0.0633	0.0471	+/-0.0633	0.097	pCi/g						
Bismuth-212		0.513	+/-0.175	0.0999	+/-0.175	0.210	pCi/g						
Bismuth-214		0.564	+/-0.067	0.0236	+/-0.067	0.0494	pCi/g						
Cesium-134	U	0.0243	+/-0.0185	0.0158	+/-0.0185	0.033	pCi/g						
Cesium-137		0.340	+/-0.0362	0.0132	+/-0.0362	0.0276	pCi/g						
Cobalt-60	U	0.0115	+/-0.0158	0.0121	+/-0.0158	0.026	pCi/g						
Europium-152	U	-0.0131	+/-0.0369	0.0315	+/-0.0369	0.0656	pCi/g						
Europium-154	U	-0.0118	+/-0.0461	0.0372	+/-0.0461	0.0795	pCi/g						
Europium-155	U	0.0315	+/-0.0458	0.0408	+/-0.0458	0.0838	pCi/g						
Lead-212		0.739	+/-0.0483	0.0203	+/-0.0483	0.0418	pCi/g						
Lead-214		0.620	+/-0.0715	0.0232	+/-0.0715	0.0484	pCi/g						
Manganese-54	U	0.0243	+/-0.0171	0.0123	+/-0.0171	0.026	pCi/g						
Niobium-94	U	0.00409	+/-0.0128	0.0113	+/-0.0128	0.0237	pCi/g						
Potassium-40		10.6	+/-0.632	0.115	+/-0.632	0.249	pCi/g						
Radium-226		0.564	+/-0.067	0.0236	+/-0.067	0.0494	pCi/g						
Silver-108m	U	0.00835	+/-0.0128	0.0113	+/-0.0128	0.0237	pCi/g						
Thallium-208		0.246	+/-0.0371	0.0121	+/-0.0371	0.0253	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90		0.0416	+/-0.0244	0.0146	+/-0.0245	0.0347	pCi/g	TC1	10/17/06	0743	578500	6	
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid-HTD2, ALL FSS</i>													
Tritium	U	-2.45	+/-5.36	4.66	+/-5.36	9.99	pCi/g	DFA1	10/15/06	0137	578364	7	

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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: November 1, 2006

Client Sample ID: 9520-0001-010F
Sample ID: 173789020

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Liquid Scintillation Analysis													
<i>Liquid Scint C14, Solid All, FSS</i> Carbon-14	U	-0.0134	+/-0.111	0.0932	+/-0.111	0.191	pCi/g		AXD2	10/13/06	2051	578362	8
<i>Liquid Scint Fe55, Solid-ALL FSS</i> Iron-55	U	-5.26	+/-19.4	14.2	+/-19.4	29.4	pCi/g		MXP1	10/18/06	0008	578445	9
<i>Liquid Scint Ni63, Solid-ALL FSS</i> Nickel-63	U	-5.57	+/-8.19	7.13	+/-8.19	15.0	pCi/g		MXP1	10/17/06	1835	578448	10
<i>Liquid Scint Tc99, Solid-ALL FSS</i> Technetium-99	U	0.266	+/-0.278	0.225	+/-0.278	0.466	pCi/g		KXR1	10/18/06	0528	578363	11

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXP2	10/11/06	2257	578102

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	86	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	61	(15%-125%)
Plutonium-241	Liquid Scint Pu241, Solid-ALL FS	84	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	74	

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

Report Date: November 1, 2006

Client Sample ID: 9520-0001-010F
Sample ID: 173789020

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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
- 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: November 1, 2006

Client Sample ID: 9520-0001-020F
Sample ID: 173789021
Matrix: TS
Collect Date: 04-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 8.03%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.925	+/-0.243	0.0927	+/-0.243	0.198	pCi/g						
Americium-241	U	-0.0137	+/-0.0424	0.0359	+/-0.0424	0.0739	pCi/g						
Bismuth-212		0.745	+/-0.436	0.207	+/-0.436	0.440	pCi/g						
Bismuth-214		0.663	+/-0.160	0.0483	+/-0.160	0.102	pCi/g						
Cesium-134	UI	0.00	+/-0.0475	0.0336	+/-0.0475	0.0709	pCi/g						
Cesium-137		0.0653	+/-0.0516	0.0277	+/-0.0516	0.0586	pCi/g						
Cobalt-60	U	3.670E-05	+/-0.0339	0.0281	+/-0.0339	0.0611	pCi/g						
Europium-152	U	-0.0198	+/-0.0749	0.0614	+/-0.0749	0.129	pCi/g						
Europium-154	U	-0.0481	+/-0.0961	0.0761	+/-0.0961	0.165	pCi/g						
Europium-155	U	0.0399	+/-0.0855	0.0528	+/-0.0855	0.109	pCi/g						
Lead-212		0.784	+/-0.0847	0.0506	+/-0.0847	0.104	pCi/g						
Lead-214		0.743	+/-0.125	0.0448	+/-0.125	0.0938	pCi/g						
Manganese-54	U	0.0352	+/-0.034	0.0302	+/-0.034	0.0638	pCi/g						
Niobium-94	U	0.00181	+/-0.0316	0.0266	+/-0.0316	0.056	pCi/g						
Potassium-40		13.6	+/-1.10	0.227	+/-1.10	0.502	pCi/g						
Radium-226		0.663	+/-0.160	0.0483	+/-0.160	0.102	pCi/g						
Silver-108m	U	0.0041	+/-0.0256	0.0226	+/-0.0256	0.0476	pCi/g						
Thallium-208		0.379	+/-0.0595	0.0268	+/-0.0595	0.0566	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	AXP2	10/11/06	2300	578103

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

Report Date: November 1, 2006

Client Sample ID: 9520-0001-020F
Sample ID: 173789021

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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: November 1, 2006

Client Sample ID: 9520-0001-021F
Sample ID: 173789022
Matrix: TS
Collect Date: 04-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 2.14%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		1.52	+/-0.153	0.049	+/-0.153	0.104	pCi/g						
Americium-241	U	-0.0189	+/-0.0792	0.0656	+/-0.0792	0.134	pCi/g						
Bismuth-212		0.818	+/-0.283	0.116	+/-0.283	0.243	pCi/g						
Bismuth-214		0.806	+/-0.0816	0.0279	+/-0.0816	0.0583	pCi/g						
Cesium-134	UI	0.00	+/-0.0294	0.0187	+/-0.0294	0.039	pCi/g						
Cesium-137		0.0967	+/-0.0446	0.0144	+/-0.0446	0.0302	pCi/g						
Cobalt-60	U	0.0144	+/-0.0173	0.0155	+/-0.0173	0.033	pCi/g						
Europium-152	U	-0.0608	+/-0.0453	0.0379	+/-0.0453	0.0788	pCi/g						
Europium-154	U	0.0279	+/-0.0559	0.0483	+/-0.0559	0.102	pCi/g						
Europium-155	U	0.0709	+/-0.0589	0.0549	+/-0.0589	0.112	pCi/g						
Lead-212		1.24	+/-0.0777	0.0446	+/-0.0777	0.0906	pCi/g						
Lead-214		0.966	+/-0.086	0.0286	+/-0.086	0.0594	pCi/g						
Manganese-54	U	0.0256	+/-0.017	0.0156	+/-0.017	0.0327	pCi/g						
Niobium-94	U	-0.0036	+/-0.0159	0.0139	+/-0.0159	0.0291	pCi/g						
Potassium-40		17.9	+/-0.827	0.127	+/-0.827	0.275	pCi/g						
Radium-226		0.806	+/-0.0816	0.0279	+/-0.0816	0.0583	pCi/g						
Silver-108m	U	0.00235	+/-0.0158	0.0139	+/-0.0158	0.0289	pCi/g						
Thallium-208		0.465	+/-0.0455	0.0146	+/-0.0455	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	AXP2	10/11/06	2300	578103

The following Analytical Methods were performed

Method	Description
I	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: November 1, 2006

Client Sample ID: 9520-0001-021F
Sample ID: 173789022

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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: November 1, 2006

Client Sample ID: 9520-0001-022F
Sample ID: 173789023
Matrix: TS
Collect Date: 04-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 4.76%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid – FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.703	+/-0.249	0.080	+/-0.249	0.160	pCi/g						
Americium-241	U	0.0347	+/-0.0441	0.0334	+/-0.0441	0.0669	pCi/g						
Bismuth-212		0.522	+/-0.396	0.190	+/-0.396	0.380	pCi/g						
Bismuth-214		0.810	+/-0.134	0.0422	+/-0.134	0.0843	pCi/g						
Cesium-134	UI	0.00	+/-0.0484	0.0325	+/-0.0484	0.0649	pCi/g						
Cesium-137	U	0.0345	+/-0.0315	0.0234	+/-0.0315	0.0467	pCi/g						
Cobalt-60	U	0.0239	+/-0.0327	0.028	+/-0.0327	0.0561	pCi/g						
Europium-152	U	0.0346	+/-0.0833	0.0579	+/-0.0833	0.116	pCi/g						
Europium-154	U	-0.0352	+/-0.0933	0.0746	+/-0.0933	0.149	pCi/g						
Europium-155	U	-0.0186	+/-0.0601	0.0527	+/-0.0601	0.105	pCi/g						
Lead-212		0.836	+/-0.0981	0.0315	+/-0.0981	0.0629	pCi/g						
Lead-214		0.775	+/-0.120	0.0411	+/-0.120	0.0821	pCi/g						
Manganese-54	U	-0.000212	+/-0.0317	0.0275	+/-0.0317	0.0549	pCi/g						
Niobium-94	U	-0.00346	+/-0.0259	0.0225	+/-0.0259	0.045	pCi/g						
Potassium-40		13.1	+/-1.12	0.234	+/-1.12	0.468	pCi/g						
Radium-226		0.810	+/-0.134	0.0422	+/-0.134	0.0843	pCi/g						
Silver-108m	U	0.00308	+/-0.0233	0.0204	+/-0.0233	0.0408	pCi/g						
Thallium-208		0.275	+/-0.0615	0.0228	+/-0.0615	0.0455	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	AXP2	10/11/06	2300	578103

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: November 1, 2006

Client Sample ID: 9520-0001-022F
Sample ID: 173789023

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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: November 1, 2006

Client Sample ID: 9520-0001-023F
Sample ID: 173789024
Matrix: TS
Collect Date: 04-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 5.29%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.782	+/-0.123	0.0454	+/-0.123	0.0968	pCi/g						
Americium-241	U	0.032	+/-0.110	0.0891	+/-0.110	0.184	pCi/g						
Bismuth-212		0.426	+/-0.190	0.101	+/-0.190	0.214	pCi/g						
Bismuth-214		0.668	+/-0.0767	0.0253	+/-0.0767	0.0532	pCi/g						
Cesium-134	U	0.0256	+/-0.017	0.0163	+/-0.017	0.0343	pCi/g						
Cesium-137		0.0438	+/-0.0239	0.0134	+/-0.0239	0.0282	pCi/g						
Cobalt-60	U	0.0156	+/-0.0174	0.0161	+/-0.0174	0.0344	pCi/g						
Europium-152	U	-0.0344	+/-0.0413	0.0355	+/-0.0413	0.0742	pCi/g						
Europium-154	U	-0.0373	+/-0.0501	0.0407	+/-0.0501	0.0875	pCi/g						
Europium-155	U	0.0734	+/-0.0803	0.0456	+/-0.0803	0.0942	pCi/g						
Lead-212		0.833	+/-0.0535	0.0226	+/-0.0535	0.0467	pCi/g						
Lead-214		0.730	+/-0.0737	0.0272	+/-0.0737	0.0566	pCi/g						
Manganese-54	U	0.018	+/-0.0176	0.0162	+/-0.0176	0.034	pCi/g						
Niobium-94	U	0.00555	+/-0.0149	0.0134	+/-0.0149	0.0282	pCi/g						
Potassium-40		12.6	+/-0.748	0.104	+/-0.748	0.230	pCi/g						
Radium-226		0.668	+/-0.0767	0.0253	+/-0.0767	0.0532	pCi/g						
Silver-108m	U	-0.00101	+/-0.0136	0.0119	+/-0.0136	0.025	pCi/g						
Thallium-208		0.252	+/-0.0371	0.0133	+/-0.0371	0.0281	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	AXP2	10/11/06	2300	578103

The following Analytical Methods were performed

Method	Description
I	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: November 1, 2006

Client Sample ID: 9520-0001-023F
Sample ID: 173789024

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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: November 1, 2006

Client Sample ID: 9520-0001-024F
Sample ID: 173789025
Matrix: TS
Collect Date: 06-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 9.35%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		1.28	+/-0.156	0.0501	+/-0.156	0.104	pCi/g						
Americium-241	U	0.0172	+/-0.0241	0.0219	+/-0.0241	0.0445	pCi/g						
Bismuth-212		0.858	+/-0.231	0.113	+/-0.231	0.233	pCi/g						
Bismuth-214		0.977	+/-0.0822	0.0275	+/-0.0822	0.0566	pCi/g						
Cesium-134	UI	0.00	+/-0.0296	0.0194	+/-0.0296	0.0399	pCi/g						
Cesium-137	U	0.0121	+/-0.0181	0.016	+/-0.0181	0.033	pCi/g						
Cobalt-60	U	-0.0117	+/-0.0176	0.0142	+/-0.0176	0.0298	pCi/g						
Europium-152	U	0.0459	+/-0.041	0.0364	+/-0.041	0.0747	pCi/g						
Europium-154	U	-0.00498	+/-0.0541	0.0455	+/-0.0541	0.0949	pCi/g						
Europium-155	U	0.0518	+/-0.0587	0.0324	+/-0.0587	0.0659	pCi/g						
Lead-212		1.22	+/-0.0494	0.0191	+/-0.0494	0.0391	pCi/g						
Lead-214		1.08	+/-0.0795	0.0259	+/-0.0795	0.0531	pCi/g						
Manganese-54	U	0.0255	+/-0.0186	0.0165	+/-0.0186	0.034	pCi/g						
Niobium-94	U	0.00889	+/-0.0166	0.0144	+/-0.0166	0.0297	pCi/g						
Potassium-40		14.4	+/-0.682	0.125	+/-0.682	0.265	pCi/g						
Radium-226		0.977	+/-0.0822	0.0275	+/-0.0822	0.0566	pCi/g						
Silver-108m	U	-0.00408	+/-0.0141	0.0125	+/-0.0141	0.0258	pCi/g						
Thallium-208		0.416	+/-0.0408	0.0145	+/-0.0408	0.0299	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	AXP2	10/11/06	2300	578103

The following Analytical Methods were performed

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

Notes:

The Qualifiers in this report are defined as follows :

- * 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: November 1, 2006

Client Sample ID: 9520-0001-024F
Sample ID: 173789025

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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- < 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: November 1, 2006

Client Sample ID: 9520-0001-025F
Sample ID: 173789026
Matrix: TS
Collect Date: 06-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 8.49%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		1.19	+/-0.169	0.0708	+/-0.169	0.152	pCi/g						
Americium-241	U	0.0112	+/-0.0311	0.0301	+/-0.0311	0.0617	pCi/g						
Bismuth-212		1.05	+/-0.316	0.159	+/-0.316	0.338	pCi/g						
Bismuth-214		0.953	+/-0.115	0.0344	+/-0.115	0.073	pCi/g						
Cesium-134	UI	0.00	+/-0.0358	0.0269	+/-0.0358	0.0567	pCi/g						
Cesium-137	U	0.0312	+/-0.0243	0.0201	+/-0.0243	0.0428	pCi/g						
Cobalt-60	U	0.0245	+/-0.0232	0.0221	+/-0.0232	0.048	pCi/g						
Europium-152	U	0.0206	+/-0.0541	0.0504	+/-0.0541	0.105	pCi/g						
Europium-154	U	0.0261	+/-0.0715	0.0636	+/-0.0715	0.138	pCi/g						
Europium-155	U	0.000177	+/-0.0529	0.0491	+/-0.0529	0.101	pCi/g						
Lead-212		1.14	+/-0.0677	0.030	+/-0.0677	0.0621	pCi/g						
Lead-214		0.928	+/-0.100	0.0407	+/-0.100	0.0846	pCi/g						
Manganese-54	U	0.00737	+/-0.0238	0.0207	+/-0.0238	0.044	pCi/g						
Niobium-94	U	-0.0042	+/-0.0227	0.0193	+/-0.0227	0.0408	pCi/g						
Potassium-40		14.9	+/-0.986	0.154	+/-0.986	0.347	pCi/g						
Radium-226		0.953	+/-0.115	0.0344	+/-0.115	0.073	pCi/g						
Silver-108m	U	0.00208	+/-0.019	0.0172	+/-0.019	0.0362	pCi/g						
Thallium-208		0.359	+/-0.0531	0.0202	+/-0.0531	0.0426	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	AXP2	10/11/06	2300	578103

The following Analytical Methods were performed

Method	Description
I	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: November 1, 2006

Client Sample ID: 9520-0001-025F
Sample ID: 173789026

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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: November 1, 2006

Client Sample ID: 9520-0001-026F
Sample ID: 173789027
Matrix: TS
Collect Date: 06-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 9.78%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		1.20	+/-0.236	0.0825	+/-0.236	0.175	pCi/g						
Americium-241	U	-0.0307	+/-0.0435	0.0353	+/-0.0435	0.0723	pCi/g						
Bismuth-212		0.669	+/-0.281	0.164	+/-0.281	0.349	pCi/g						
Bismuth-214		0.843	+/-0.129	0.0447	+/-0.129	0.0937	pCi/g						
Cesium-134	U	0.0583	+/-0.0506	0.0314	+/-0.0506	0.0658	pCi/g						
Cesium-137	U	0.022	+/-0.0299	0.0242	+/-0.0299	0.0509	pCi/g						
Cobalt-60	U	-0.00591	+/-0.028	0.023	+/-0.028	0.0499	pCi/g						
Europium-152	U	0.00979	+/-0.067	0.0581	+/-0.067	0.121	pCi/g						
Europium-154	U	-0.0103	+/-0.0871	0.0729	+/-0.0871	0.156	pCi/g						
Europium-155	U	0.0612	+/-0.0868	0.0507	+/-0.0868	0.104	pCi/g						
Lead-212		1.08	+/-0.0714	0.0345	+/-0.0714	0.071	pCi/g						
Lead-214		1.16	+/-0.122	0.0413	+/-0.122	0.086	pCi/g						
Manganese-54	U	0.0163	+/-0.0284	0.0248	+/-0.0284	0.0524	pCi/g						
Niobium-94	U	-0.0193	+/-0.0275	0.0225	+/-0.0275	0.0474	pCi/g						
Potassium-40		14.2	+/-1.09	0.227	+/-1.09	0.492	pCi/g						
Radium-226		0.843	+/-0.129	0.0447	+/-0.129	0.0937	pCi/g						
Silver-108m	U	-0.00802	+/-0.0217	0.0192	+/-0.0217	0.0402	pCi/g						
Thallium-208		0.436	+/-0.0705	0.0225	+/-0.0705	0.0473	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	AXP2	10/11/06	2300	578103

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: November 1, 2006

Client Sample ID: 9520-0001-026F
Sample ID: 173789027

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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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: November 1, 2006

Client Sample ID: 9520-0001-027F
Sample ID: 173789028
Matrix: TS
Collect Date: 06-OCT-06
Receive Date: 11-OCT-06
Collector: Client
Moisture: 6.32%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.790	+/-0.121	0.0415	+/-0.121	0.0883	pCi/g						
Americium-241	U	-0.0141	+/-0.0644	0.0547	+/-0.0644	0.112	pCi/g						
Bismuth-212		0.456	+/-0.192	0.104	+/-0.192	0.218	pCi/g						
Bismuth-214		0.575	+/-0.0695	0.0234	+/-0.0695	0.0491	pCi/g						
Cesium-134	UI	0.00	+/-0.0195	0.014	+/-0.0195	0.0296	pCi/g						
Cesium-137	U	0.0134	+/-0.0148	0.0133	+/-0.0148	0.028	pCi/g						
Cobalt-60	U	0.00418	+/-0.0147	0.0126	+/-0.0147	0.0271	pCi/g						
Europium-152	U	0.00178	+/-0.0358	0.0324	+/-0.0358	0.0674	pCi/g						
Europium-154	U	0.00827	+/-0.0483	0.0358	+/-0.0483	0.0767	pCi/g						
Europium-155	U	0.0473	+/-0.0447	0.0426	+/-0.0447	0.0876	pCi/g						
Lead-212		0.788	+/-0.048	0.0195	+/-0.048	0.0403	pCi/g						
Lead-214		0.803	+/-0.064	0.0227	+/-0.064	0.0474	pCi/g						
Manganese-54	U	0.00419	+/-0.0139	0.0125	+/-0.0139	0.0263	pCi/g						
Niobium-94	U	0.0129	+/-0.0121	0.0116	+/-0.0121	0.0244	pCi/g						
Potassium-40		11.9	+/-0.652	0.104	+/-0.652	0.226	pCi/g						
Radium-226		0.575	+/-0.0695	0.0234	+/-0.0695	0.0491	pCi/g						
Silver-108m	U	-0.00337	+/-0.0128	0.0112	+/-0.0128	0.0234	pCi/g						
Thallium-208		0.238	+/-0.0309	0.0117	+/-0.0309	0.0246	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	AXP2	10/11/06	2300	578103

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: November 1, 2006

Client Sample ID: 9520-0001-027F
Sample ID: 173789028

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
-----------	-----------	--------	-------------	----	-----	-----	-------	----	---------	------	------	-------	-----

- > 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: November 1, 2006

Page 1 of 12

Client : Connecticut Yankee Atomic Power
362 Injun Hollow Rd

Contact: East Hampton, Connecticut
Mr. Jack McCarthy

Workorder: 173789

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	578438										
QC1201205320	173789007	DUP									
Americium-241		U	-0.0354	U	-0.00211	pCi/g	177	(0% - 100%)	BXLI	10/17/06	07:35
		Uncert:	+/-0.0474		+/-0.262						
		TPU:	+/-0.0476		+/-0.262						
Curium-242		U	0.0568	U	0.162	pCi/g	96	(0% - 100%)			
		Uncert:	+/-0.107		+/-0.279						
		TPU:	+/-0.107		+/-0.280						
Curium-243/244		U	-0.0631	U	0.158	pCi/g	466	(0% - 100%)			
		Uncert:	+/-0.140		+/-0.347						
		TPU:	+/-0.140		+/-0.348						
QC1201205322	LCS										
Americium-241		13.0			13.0	pCi/g	100	(75%-125%)			
		Uncert:			+/-1.32						
		TPU: /			+/-2.09						
Curium-242				U	0.054	pCi/g					
		Uncert:			+/-0.101						
		TPU:			+/-0.101						
Curium-243/244		15.6			13.7	pCi/g	88	(75%-125%)			
		Uncert:			+/-1.36						
		TPU:			+/-2.18						
QC1201205319	MB										
Americium-241				U	0.0838	pCi/g					
		Uncert:			+/-0.154						
		TPU:			+/-0.155						
Curium-242				U	0.0756	pCi/g					
		Uncert:			+/-0.131						
		TPU:			+/-0.131						
Curium-243/244				U	-0.0902	pCi/g					
		Uncert:			+/-0.168						
		TPU:			+/-0.168						
QC1201205321	173789007	MS									
Americium-241		13.6	U	-0.0354	13.2	pCi/g	97	(75%-125%)			
		Uncert:		+/-0.0474	+/-1.41						
		TPU:		+/-0.0476	+/-2.19						
Curium-242		U	0.0568	U	0.115	pCi/g					
		Uncert:	+/-0.107		+/-0.143						
		TPU:	+/-0.107		+/-0.143						
Curium-243/244		16.4	U	-0.0631	16.5	pCi/g	101	(75%-125%)			
		Uncert:	+/-0.140		+/-1.58						
		TPU:	+/-0.140		+/-2.63						
Batch	578439										
QC1201205324	173789007	DUP									
Plutonium-238		U	0.0358	U	0.0338	pCi/g	6	(0% - 100%)	BXLI	10/17/06	07:35

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 173789

Page 2 of 12

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	578439										
Plutonium-239/240	U	Uncert:	+/-0.0949	+/-0.0897	pCi/g	1910	(0% - 100%)				
		TPU:	+/-0.095	+/-0.0898							
			0.0132	-0.0107							
		Uncert:	+/-0.0999	+/-0.0209							
		TPU:	+/-0.0999	+/-0.021							
QC1201205326	LCS										
Plutonium-238			U	-0.024	pCi/g		(75%-125%)				
Plutonium-239/240	12.0	Uncert:		+/-0.0332	pCi/g	98	(75%-125%)				
		TPU:		+/-0.0333							
				11.7							
		Uncert:		+/-1.50							
		TPU:		+/-2.07							
QC1201205323	MB										
Plutonium-238			U	-0.0237	pCi/g						
Plutonium-239/240	U	Uncert:		+/-0.0268	pCi/g						
		TPU:		+/-0.0269							
				-0.0632							
		Uncert:		+/-0.0438							
		TPU:		+/-0.0443							
QC1201205325	173789007	MS									
Plutonium-238		U	0.0358	0.117	pCi/g		(75%-125%)				
Plutonium-239/240	12.6	Uncert:	+/-0.0949	+/-0.161	pCi/g	99	(75%-125%)				
		TPU:	+/-0.095	+/-0.161							
			0.0132	12.5							
		Uncert:	+/-0.0999	+/-1.30							
		TPU:	+/-0.0999	+/-1.86							
Batch	580611										
QC1201210564	173789007	DUP									
Plutonium-241		U	0.682	-0.596	pCi/g	0	(0% - 100%)	BXL1	10/21/06	20:35	
		Uncert:	+/-8.14	+/-7.31							
		TPU:	+/-8.14	+/-7.31							
QC1201210566	LCS										
Plutonium-241		143		149	pCi/g		104	(75%-125%)		10/21/06	21:07
		Uncert:		+/-13.7							
		TPU:		+/-20.4							
QC1201210563	MB										
Plutonium-241			U	1.52	pCi/g					10/21/06	20:19
		Uncert:		+/-9.45							
		TPU:		+/-9.45							
QC1201210565	173789007	MS									
Plutonium-241		144	U	0.682	pCi/g		92	(75%-125%)		10/21/06	20:51
		Uncert:	+/-8.14	+/-12.3							
		TPU:	+/-8.14	+/-17.8							
Rad Gamma Spec											
Batch	578795										
QC1201206223	173789001	DUP									
Actinium-228			0.710	0.803	pCi/g	12	(0% - 100%)	MJH1	10/25/06	05:38	
		Uncert:	+/-0.161	+/-0.159							
				+/-0.159							

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 173789

Page 3 of 12

Parmname	NOM	Sample	Qual	QC	Units	RPD %	REC %	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 578795											
Americium-241		TPU:	+/-0.161								
	U	-0.000732	U	-0.0341	pCi/g	192		(0% - 100%)			
		Uncert:	+/-0.0257	+/-0.0816							
Bismuth-212		TPU:	+/-0.0257	+/-0.0816							
		0.744		0.539	pCi/g	32		(0% - 100%)			
		Uncert:	+/-0.293	+/-0.211							
Bismuth-214		TPU:	+/-0.293	+/-0.211							
		0.736		0.732	pCi/g	1		(0% - 100%)			
		Uncert:	+/-0.0951	+/-0.0791							
Cesium-134		TPU:	+/-0.0951	+/-0.0791							
	U	0.0357	U	0.0386	pCi/g	8		(0% - 100%)			
		Uncert:	+/-0.0245	+/-0.0306							
Cesium-137		TPU:	+/-0.0245	+/-0.0306							
	U	0.0134	U	-0.00267	pCi/g	299		(0% - 100%)			
		Uncert:	+/-0.0207	+/-0.021							
Cobalt-60		TPU:	+/-0.0207	+/-0.021							
	U	0.00607	U	-0.00401	pCi/g	977		(0% - 100%)			
		Uncert:	+/-0.0196	+/-0.0171							
Europium-152		TPU:	+/-0.0196	+/-0.0171							
	U	-0.0192	U	-0.0217	pCi/g	12		(0% - 100%)			
		Uncert:	+/-0.0458	+/-0.0422							
Europium-154		TPU:	+/-0.0458	+/-0.0422							
	U	0.0108	U	0.0146	pCi/g	30		(0% - 100%)			
		Uncert:	+/-0.0712	+/-0.0555							
Europium-155		TPU:	+/-0.0712	+/-0.0555							
	UI	0.00	U	0.0647	pCi/g	24		(0% - 100%)			
		Uncert:	+/-0.0634	+/-0.0468							
Lead-212		TPU:	+/-0.0634	+/-0.0468							
		0.886		0.788	pCi/g	12		(0% - 20%)			
		Uncert:	+/-0.0566	+/-0.0539							
Lead-214		TPU:	+/-0.0566	+/-0.0539							
		0.878		0.799	pCi/g	9		(0% - 20%)			
		Uncert:	+/-0.0868	+/-0.0786							
Manganese-54		TPU:	+/-0.0868	+/-0.0786							
	U	0.00608	U	0.0049	pCi/g	22		(0% - 100%)			
		Uncert:	+/-0.0237	+/-0.0166							
Niobium-94		TPU:	+/-0.0237	+/-0.0166							
	U	0.00192	U	0.000792	pCi/g	83		(0% - 100%)			
		Uncert:	+/-0.0177	+/-0.0158							
Potassium-40		TPU:	+/-0.0177	+/-0.0158							
		12.0		11.8	pCi/g	2		(0% - 20%)			
		Uncert:	+/-0.796	+/-0.696							
Radium-226		TPU:	+/-0.796	+/-0.696							
		0.736		0.732	pCi/g	1		(0% - 100%)			
		Uncert:	+/-0.0951	+/-0.0791							
Silver-108m		TPU:	+/-0.0951	+/-0.0791							
	U	-0.01	U	-0.00725	pCi/g	32		(0% - 100%)			
		Uncert:	+/-0.0154	+/-0.0142							

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 173789

Page 4 of 12

Parmname	NOM	Sample	Qual	QC	Units	RPD %	REC %	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 578795											
Thallium-208	TPU:	+/-0.0154		+/-0.0142							
		0.279		0.245	pCi/g	13		(0% - 100%)			
	Uncert:	+/-0.040		+/-0.0435							
	TPU:	+/-0.040		+/-0.0435							
QC1201206224 LCS											
Actinium-228			U	0.294	pCi/g					10/25/06	05:39
	Uncert:			+/-0.545							
Americium-241	TPU:			+/-0.545							
	23.4			25.2	pCi/g		108	(75%-125%)			
	Uncert:			+/-1.48							
	TPU:			+/-1.48							
Bismuth-212			U	-0.661	pCi/g						
	Uncert:			+/-1.02							
	TPU:			+/-1.02							
Bismuth-214			U	0.194	pCi/g						
	Uncert:			+/-0.222							
	TPU:			+/-0.222							
Cesium-134			U	-0.0344	pCi/g						
	Uncert:			+/-0.148							
	TPU:			+/-0.148							
Cesium-137	9.55			10.1	pCi/g		105	(75%-125%)			
	Uncert:			+/-0.451							
	TPU:			+/-0.451							
Cobalt-60	14.3			15.0	pCi/g		105	(75%-125%)			
	Uncert:			+/-0.649							
	TPU:			+/-0.649							
Europium-152			U	-0.0952	pCi/g						
	Uncert:			+/-0.296							
	TPU:			+/-0.296							
Europium-154			U	-0.00481	pCi/g						
	Uncert:			+/-0.232							
	TPU:			+/-0.232							
Europium-155			U	0.395	pCi/g						
	Uncert:			+/-0.327							
	TPU:			+/-0.327							
Lead-212			U	-0.116	pCi/g						
	Uncert:			+/-0.157							
	TPU:			+/-0.157							
Lead-214			U	0.112	pCi/g						
	Uncert:			+/-0.220							
	TPU:			+/-0.220							
Manganese-54			U	0.104	pCi/g						
	Uncert:			+/-0.130							
	TPU:			+/-0.130							
Niobium-94			U	-0.0332	pCi/g						
	Uncert:			+/-0.106							
	TPU:			+/-0.106							
Potassium-40			U	0.0915	pCi/g						

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 173789

Page 5 of 12

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	578795									
Radium-226	Uncert:		+/-1.14							
	TPU:		+/-1.14							
		U	0.194	pCi/g			(75%-125%)			
Silver-108m	Uncert:		+/-0.222							
	TPU:		+/-0.222							
		U	0.0383	pCi/g						
Thallium-208	Uncert:		+/-0.115							
	TPU:		+/-0.115							
		U	0.0695	pCi/g						
	Uncert:		+/-0.148							
	TPU:		+/-0.148							
QC1201206222 MB										
Actinium-228		U	0.00153	pCi/g					10/25/06	05:38
	Uncert:		+/-0.0624							
	TPU:		+/-0.0624							
Americium-241		U	0.00726	pCi/g						
	Uncert:		+/-0.0359							
	TPU:		+/-0.0359							
Bismuth-212		U	-0.0489	pCi/g						
	Uncert:		+/-0.0839							
	TPU:		+/-0.0839							
Bismuth-214		U	0.0134	pCi/g						
	Uncert:		+/-0.0302							
	TPU:		+/-0.0302							
Cesium-134		U	-0.00159	pCi/g						
	Uncert:		+/-0.0111							
	TPU:		+/-0.0111							
Cesium-137		U	-0.000159	pCi/g						
	Uncert:		+/-0.0108							
	TPU:		+/-0.0108							
Cobalt-60		U	-0.000513	pCi/g						
	Uncert:		+/-0.0108							
	TPU:		+/-0.0108							
Europium-152		U	0.00436	pCi/g						
	Uncert:		+/-0.0324							
	TPU:		+/-0.0324							
Europium-154		U	0.00889	pCi/g						
	Uncert:		+/-0.0351							
	TPU:		+/-0.0351							
Europium-155		U	0.0216	pCi/g						
	Uncert:		+/-0.0271							
	TPU:		+/-0.0271							
Lead-212		U	0.0305	pCi/g						
	Uncert:		+/-0.0177							
	TPU:		+/-0.0177							
Lead-214		U	0.0168	pCi/g						
	Uncert:		+/-0.0211							
	TPU:		+/-0.0211							

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 173789

Page 6 of 12

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	578795										
Manganese-54			U	-0.000572	pCi/g						
	Uncert:			+/-0.0111							
	TPU:			+/-0.0111							
Niobium-94			U	-0.00916	pCi/g						
	Uncert:			+/-0.0103							
	TPU:			+/-0.0103							
Potassium-40			U	0.145	pCi/g						
	Uncert:			+/-0.138							
	TPU:			+/-0.138							
Radium-226			U	0.0134	pCi/g						
	Uncert:			+/-0.0302							
	TPU:			+/-0.0302							
Silver-108m			UI	0.00	pCi/g						
	Uncert:			+/-0.0116							
	TPU:			+/-0.0116							
Thallium-208			U	0.00962	pCi/g						
	Uncert:			+/-0.0108							
	TPU:			+/-0.0108							
Batch	578796										
QC1201206226 173317009 DUP											
Actinium-228	UI	0.00		0.517	pCi/g	14		(0% - 100%)	MJH1	10/17/06	11:03
	Uncert:	+/-0.180		+/-0.160							
	TPU:	+/-0.180		+/-0.160							
Americium-241	U	0.0462	U	0.00541	pCi/g	158		(0% - 100%)			
	Uncert:	+/-0.0627		+/-0.0529							
	TPU:	+/-0.0627		+/-0.0529							
Bismuth-212	U	0.344	U	0.177	pCi/g	65		(0% - 100%)			
	Uncert:	+/-0.355		+/-0.317							
	TPU:	+/-0.355		+/-0.317							
Bismuth-214		0.361		0.399	pCi/g	10		(0% - 100%)			
	Uncert:	+/-0.150		+/-0.117							
	TPU:	+/-0.150		+/-0.117							
Cesium-134	U	0.0431	U	0.0142	pCi/g	101		(0% - 100%)			
	Uncert:	+/-0.0325		+/-0.028							
	TPU:	+/-0.0325		+/-0.028							
Cesium-137		20.2		19.9	pCi/g	2		(0% - 100%)			
	Uncert:	+/-0.343		+/-1.90							
	TPU:	+/-0.343		+/-1.90							
Cobalt-60	U	-0.0088	U	0.00728	pCi/g	2120		(0% - 100%)			
	Uncert:	+/-0.0319		+/-0.0279							
	TPU:	+/-0.0319		+/-0.0279							
Europium-152	U	0.0944	U	0.013	pCi/g	152		(0% - 100%)			
	Uncert:	+/-0.144		+/-0.159							
	TPU:	+/-0.144		+/-0.159							
Europium-154	U	0.0441	U	-0.0737	pCi/g	797		(0% - 100%)			
	Uncert:	+/-0.0938		+/-0.0902							
	TPU:	+/-0.0938		+/-0.0902							
Europium-155	U	0.099	U	0.0279	pCi/g	112		(0% - 100%)			

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 173789

Page 7 of 12

Parmname	NOM	Sample	Qual	QC	Units	RPD %	REC %	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	578796										
Lead-212		Uncert:	+/-0.0899	+/-0.0956	pCi/g	19		(0% - 100%)			
		TPU:	+/-0.0899	+/-0.0956							
			0.341	0.282							
Lead-214		Uncert:	+/-0.116	+/-0.106	pCi/g	6		(0% - 100%)			
		TPU:	+/-0.116	+/-0.106							
			0.417	0.442							
Manganese-54	U	Uncert:	+/-0.183	+/-0.169	pCi/g	48		(0% - 100%)			
		TPU:	+/-0.183	+/-0.169							
			0.0085	0.0139							
Niobium-94	U	Uncert:	+/-0.0316	+/-0.0228	pCi/g	57		(0% - 100%)			
		TPU:	+/-0.0316	+/-0.0228							
			0.033	0.0184							
Potassium-40		Uncert:	+/-0.0283	+/-0.0224	pCi/g	8		(0% - 20%)			
		TPU:	+/-0.0283	+/-0.0224							
			6.73	7.33							
Radium-226		Uncert:	+/-0.880	+/-0.778	pCi/g	10		(0% - 100%)			
		TPU:	+/-0.880	+/-0.778							
			0.361	0.399							
Silver-108m	U	Uncert:	+/-0.150	+/-0.117	pCi/g	183		(0% - 100%)			
		TPU:	+/-0.150	+/-0.117							
			0.00172	0.0397							
Thallium-208		Uncert:	+/-0.0559	+/-0.0588	pCi/g	19		(0% - 100%)			
		TPU:	+/-0.0559	+/-0.0588							
			0.177	0.147							
Actinium-228		Uncert:	+/-0.0611	+/-0.0636	pCi/g						10/17/06 11:24
		TPU:	+/-0.0611	+/-0.0636							
				0.0708							
Americium-241	23.4	Uncert:		+/-0.402	pCi/g		106	(75%-125%)			
		TPU:		+/-0.402							
				24.9							
Bismuth-212		Uncert:		+/-1.12	pCi/g						
		TPU:		+/-1.12							
				0.240							
Bismuth-214	U	Uncert:		+/-0.672	pCi/g						
		TPU:		+/-0.672							
				0.177							
Cesium-134	U	Uncert:		+/-0.169	pCi/g						
		TPU:		+/-0.169							
				0.0153							
Cesium-137	9.55	Uncert:		+/-0.0995	pCi/g		106	(75%-125%)			
		TPU:		+/-0.0995							
				10.1							
Cobalt-60	14.3	Uncert:		+/-0.348	pCi/g		105	(75%-125%)			
		TPU:		+/-0.348							
				14.9							
		Uncert:		+/-0.526							
		TPU:		+/-0.526							

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 173789

Page 8 of 12

Parmname	NOM	Sample Qual	QC	Units	RPD %	REC %	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	578796									
Europium-152		U	0.0855	pCi/g						
	Uncert:		+/-0.215							
	TPU:		+/-0.215							
Europium-154		U	-0.137	pCi/g						
	Uncert:		+/-0.258							
	TPU:		+/-0.258							
Europium-155		U	0.0593	pCi/g						
	Uncert:		+/-0.260							
	TPU:		+/-0.260							
Lead-212		U	0.00643	pCi/g						
	Uncert:		+/-0.127							
	TPU:		+/-0.127							
Lead-214		U	-0.0687	pCi/g						
	Uncert:		+/-0.160							
	TPU:		+/-0.160							
Manganese-54		U	-0.0135	pCi/g						
	Uncert:		+/-0.0943							
	TPU:		+/-0.0943							
Niobium-94		U	-0.0669	pCi/g						
	Uncert:		+/-0.0773							
	TPU:		+/-0.0773							
Potassium-40		U	0.442	pCi/g						
	Uncert:		+/-0.723							
	TPU:		+/-0.723							
Radium-226		U	0.177	pCi/g			(75%-125%)			
	Uncert:		+/-0.169							
	TPU:		+/-0.169							
Silver-108m		U	-0.00897	pCi/g						
	Uncert:		+/-0.0847							
	TPU:		+/-0.0847							
Thallium-208		U	0.0848	pCi/g						
	Uncert:		+/-0.0868							
	TPU:		+/-0.0868							
QC1201206225 MB										
Actinium-228		U	0.0131	pCi/g					10/17/06	10:49
	Uncert:		+/-0.0441							
	TPU:		+/-0.0441							
Americium-241		U	0.0301	pCi/g						
	Uncert:		+/-0.0466							
	TPU:		+/-0.0466							
Bismuth-212		U	-0.00621	pCi/g						
	Uncert:		+/-0.0845							
	TPU:		+/-0.0845							
Bismuth-214		U	0.0218	pCi/g						
	Uncert:		+/-0.0234							
	TPU:		+/-0.0234							
Cesium-134		U	0.00461	pCi/g						
	Uncert:		+/-0.0131							

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 173789

Page 9 of 12

Parmname	NOM	Sample	Qual	QC	Units	RPD %	REC %	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	578796										
Cesium-137	TPU:			+/-0.0131							
			U	-0.000794	pCi/g						
	Uncert:			+/-0.0118							
	TPU:			+/-0.0118							
Cobalt-60			U	0.00816	pCi/g						
	Uncert:			+/-0.0136							
Europium-152	TPU:			+/-0.0136							
			U	-0.0148	pCi/g						
	Uncert:			+/-0.0311							
	TPU:			+/-0.0311							
Europium-154			U	0.0146	pCi/g						
	Uncert:			+/-0.0289							
Europium-155	TPU:			+/-0.0289							
			U	-0.00645	pCi/g						
	Uncert:			+/-0.0326							
	TPU:			+/-0.0326							
Lead-212			U	0.0118	pCi/g						
	Uncert:			+/-0.022							
Lead-214	TPU:			+/-0.022							
			U	0.0189	pCi/g						
	Uncert:			+/-0.0234							
	TPU:			+/-0.0234							
Manganese-54			U	0.00918	pCi/g						
	Uncert:			+/-0.0117							
Niobium-94	TPU:			+/-0.0117							
			U	-0.00351	pCi/g						
	Uncert:			+/-0.0113							
	TPU:			+/-0.0113							
Potassium-40			U	0.209	pCi/g						
	Uncert:			+/-0.162							
Radium-226	TPU:			+/-0.162							
			U	0.0218	pCi/g						
	Uncert:			+/-0.0234							
	TPU:			+/-0.0234							
Silver-108m			U	-0.00747	pCi/g						
	Uncert:			+/-0.0115							
Thallium-208	TPU:			+/-0.0115							
			U	0.0116	pCi/g						
	Uncert:			+/-0.0126							
	TPU:			+/-0.0126							
Rad Gas Flow											
Batch	578500										
QC1201205512 173770001 DUP											
Strontium-90		U	0.00433	U	0.0168	pCi/g	0	(0% - 100%)	TC1	10/17/06	07:43
		Uncert:	+/-0.0204		+/-0.0206						
		TPU:	+/-0.0204		+/-0.0206						
QC1201205514 LCS											
Strontium-90	7.81				7.63	pCi/g	98	(75%-125%)		10/17/06	07:44

GENERAL ENGINEERING LABORATORIES, LLC

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QC Summary

Workorder: 173789

Page 10 of 12

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow											
Batch	578500										
				Uncert:							
				TPU:							
QC1201205511	MB										
Strontium-90			U	-0.0145	pCi/g					10/17/06	07:43
				Uncert:							
				TPU:							
QC1201205513	173770001	MS									
Strontium-90				7.65	U	0.00433		7.33	pCi/g	96	(75%-125%)
				Uncert:		+/-0.0204		+/-0.225			10/17/06 07:43
				TPU:		+/-0.0204		+/-0.280			
Rad Liquid Scintillation											
Batch	578362										
QC1201205174	173435001	DUP									
Carbon-14			U	0.0477	U	-0.118	pCi/g	0	(0% - 100%)	AXD2	10/13/06 22:26
				Uncert:		+/-0.111		+/-0.110			
				TPU:		+/-0.111		+/-0.110			
QC1201205176	LCS										
Carbon-14				7.27			8.66	pCi/g		119	(75%-125%)
				Uncert:			+/-0.265				10/14/06 00:00
				TPU:			+/-0.297				
QC1201205173	MB										
Carbon-14			U	-0.0701	pCi/g						10/13/06 21:38
				Uncert:		+/-0.113					
				TPU:		+/-0.113					
QC1201205175	173435001	MS									
Carbon-14				7.10	U	0.0477		8.27	pCi/g		116 (75%-125%)
				Uncert:		+/-0.111		+/-0.257			10/13/06 23:13
				TPU:		+/-0.111		+/-0.287			
Batch	578363										
QC1201205178	173770001	DUP									
Technetium-99			U	0.222	U	0.373	pCi/g	0	(0% - 100%)	KXR1	10/18/06 06:00
				Uncert:		+/-0.296		+/-0.287			
				TPU:		+/-0.296		+/-0.287			
QC1201205180	LCS										
Technetium-99				13.0			12.6	pCi/g		97	(75%-125%)
				Uncert:			+/-0.542				10/18/06 06:32
				TPU:			+/-0.625				
QC1201205177	MB										
Technetium-99			U	0.179	pCi/g						10/18/06 05:44
				Uncert:		+/-0.238					
				TPU:		+/-0.238					
QC1201205179	173770001	MS									
Technetium-99				13.1	U	0.222		12.1	pCi/g		92 (75%-125%)
				Uncert:		+/-0.296		+/-0.569			10/18/06 06:16
				TPU:		+/-0.296		+/-0.642			
Batch	578364										
QC1201205182	173770001	DUP									
Tritium			U	1.60	U	-1.29	pCi/g	0	(0% - 100%)	DFA1	10/15/06 02:10

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QC Summary

Workorder: 173789

Page 11 of 12

Parmname		NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Liquid Scintillation												
Batch	578364											
		Uncert:		+/-5.76		+/-6.37						
		TPU:		+/-5.76		+/-6.37						
QC1201205184	LCS											
Tritium		10.4				9.95	pCi/g	96	(75%-125%)		10/15/06	02:42
		Uncert:				+/-1.86						
		TPU:				+/-1.86						
QC1201205181	MB											
Tritium				U		-0.187	pCi/g				10/15/06	01:53
		Uncert:				+/-1.17						
		TPU:				+/-1.17						
QC1201205183	173770001	MS										
Tritium		57.8	U	1.60		48.5	pCi/g	84	(75%-125%)		10/15/06	02:26
		Uncert:		+/-5.76		+/-9.94						
		TPU:		+/-5.76		+/-9.97						
Batch	578445											
QC1201205351	173770001	DUP										
Iron-55			U	-10.1	U	-8.61	pCi/g	0	(0% - 100%)	MXPI	10/18/06	01:11
		Uncert:		+/-21.2		+/-21.1						
		TPU:		+/-21.2		+/-21.1						
QC1201205353	LCS											
Iron-55		612				540	pCi/g	88	(75%-125%)		10/18/06	02:15
		Uncert:				+/-28.0						
		TPU:				+/-44.2						
QC1201205350	MB											
Iron-55				U		-2.86	pCi/g				10/18/06	00:40
		Uncert:				+/-17.3						
		TPU:				+/-17.3						
QC1201205352	173770001	MS										
Iron-55		650	U	-10.1		549	pCi/g	85	(75%-125%)		10/18/06	01:43
		Uncert:		+/-21.2		+/-31.4						
		TPU:		+/-21.2		+/-46.9						
Batch	578448											
QC1201205363	173770001	DUP										
Nickel-63			U	-2.53	U	-4.02	pCi/g	0	(0% - 100%)	MXPI	10/17/06	19:07
		Uncert:		+/-9.07		+/-8.95						
		TPU:		+/-9.07		+/-8.95						
QC1201205365	LCS											
Nickel-63		520				441	pCi/g	85	(75%-125%)		10/17/06	19:40
		Uncert:				+/-20.5						
		TPU:				+/-25.6						
QC1201205362	MB											
Nickel-63				U		-4.42	pCi/g				10/17/06	18:51
		Uncert:				+/-8.74						
		TPU:				+/-8.74						
QC1201205364	173770001	MS										
Nickel-63		563	U	-2.53		466	pCi/g	83	(75%-125%)		10/17/06	19:24
		Uncert:		+/-9.07		+/-22.8						
		TPU:		+/-9.07		+/-28.2						

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QC Summary

Workorder: 173789

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.

CENTRAL PENINSULA
SURVEY UNIT 9520-0001

RELEASE RECORD

ATTACHMENT 4 (DQA RESULTS)

CENTRAL PENINSULA
SURVEY UNIT 9520-0001

RELEASE RECORD

ATTACHMENT 4A (PRELIMINARY DATA REVIEW)

PRELIMINARY DATA REVIEW FORM

Survey Unit : 9520-0001
 Survey Unit Name : Southwest Site Storage area
 Classification : 2
 Survey Media : Soil
 Type of Survey : Final Status Survey
 Type of Measurement : Radionuclide Specific
 Number of Measurements : 15

BASIC STATISTICAL QUANTITIES

Cs-137
 Target Level (pCi/g) : 5.38E+00
 Minimum Value : 1.34E-02
 Maximum Value : 3.40E-01
 Mean : 9.07E-02
 Median : 6.06E-02
 Standard Deviation : 8.12E-02

Reported Results

Sample Identification	Cs-137 Concentration (pCi/g)	Detect?	Fraction of Target Level
9520-0001-002F	4.73E-02	+	0.009
9520-0001-003F	1.01E-01	+	0.019
9520-0001-004F	5.12E-02	+	0.010
9520-0001-005F	1.45E-01	+	0.027
9520-0001-006F	1.05E-01	+	0.020
9520-0001-007F	6.06E-02	+	0.011
9520-0001-008F	4.05E-02	+	0.008
9520-0001-009F	4.75E-02	+	0.009
9520-0001-010F	3.40E-01	+	0.063
9520-0001-011F	4.24E-02	+	0.008
9520-0001-012F	1.34E-02		0.002
9520-0001-013F	5.71E-02	+	0.011
9520-0001-014F	1.77E-01	+	0.033
9520-0001-015F	6.73E-02	+	0.013
9520-0001-020F	6.53E-02	+	0.012



Submitted by/Date
 Jack McGee 11/2/06

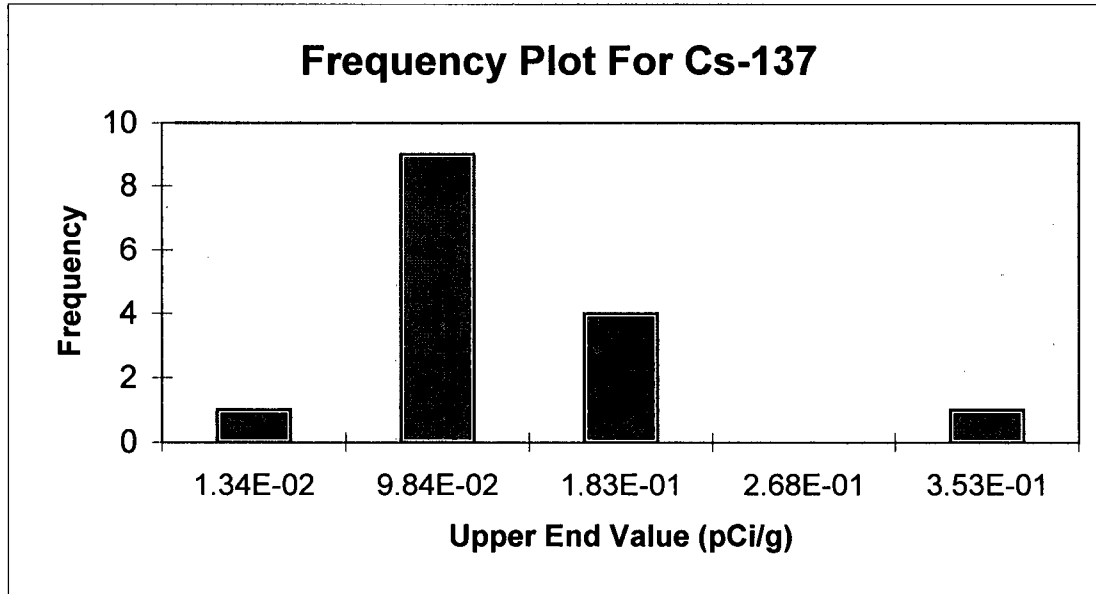
CENTRAL PENINSULA
SURVEY UNIT 9520-0001

RELEASE RECORD

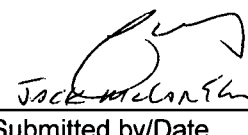
ATTACHMENT 4B (GRAPHICAL REPRESENTATION OF DATA)

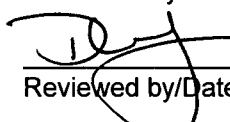
FREQUENCY PLOT FOR CESIUM-137

Survey Unit: 9520-0001
Survey Unit Name: Southwest Site Storage Area
Mean: 9.07E-02 pCi/g



Upper End Value	Observation Frequency	Observation Frequency
1.34E-02	1	7%
9.84E-02	9	60%
1.83E-01	4	27%
2.68E-01	0	0%
3.53E-01	1	7%
Total:	15	100%


Submitted by/Date 11/2/06

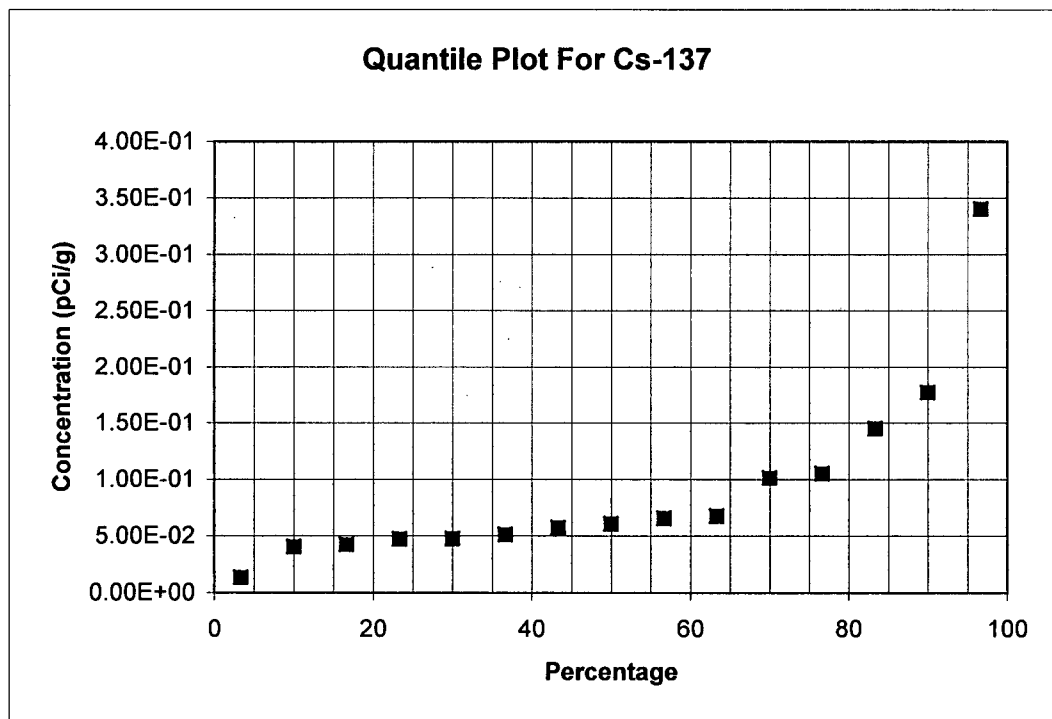

Reviewed by/Date 11/6/06

QUANTILE PLOT FOR CESIUM-137

Survey Unit: 9520-0001

Survey Unit Name: Southwest Site Storage Area

Mean: 9.07E-02 pCi/g



Cs-137	Rank	Percentage
1.34E-02	1	3%
4.05E-02	2	10%
4.24E-02	3	17%
4.73E-02	4	23%
4.75E-02	5	30%
5.12E-02	6	37%
5.71E-02	7	43%
6.06E-02	8	50%
6.53E-02	9	57%
6.73E-02	10	63%
1.01E-01	11	70%
1.05E-01	12	77%
1.45E-01	13	83%
1.77E-01	14	90%
3.40E-01	15	97%

Jack McCarthy
Submitted by/Date

11/2/06

[Signature]
Reviewed by/Date

11/6/06

CENTRAL PENINSULA
SURVEY UNIT 9520-0001

RELEASE RECORD

ATTACHMENT 4C (SIGN TEST)

Survey Area Number: 9520		
Survey Unit Number: 0001		
Survey Area Name: Southwest Site Storage Area		
WPIR#: 2006-0038		
Classification: 2	Type I (α error): 0.05	(N): 15
Radionuclide: Cs-137	DCGL: 5.38	
Results (pCi/g)	DCGL - Results	Sign
4.73E-02	5.33E+00	1
1.01E-01	5.28E+00	1
5.12E-02	5.33E+00	1
1.45E-01	5.24E+00	1
1.05E-01	5.28E+00	1
6.06E-02	5.32E+00	1
4.05E-02	5.34E+00	1
4.75E-02	5.33E+00	1
3.40E-01	5.04E+00	1
4.24E-02	5.34E+00	1
1.34E-02	5.37E+00	1
5.71E-02	5.32E+00	1
1.77E-01	5.20E+00	1
6.73E-02	5.31E+00	1
6.53E-02	5.31E+00	1
Number of positive differences (S+): 15		

Survey Unit Meets Acceptance Criterion

Date: 11/2/06

Date: 11/6/06

CENTRAL PENINSULA
SURVEY UNIT 9520-0001

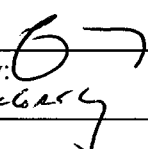
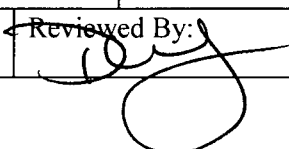
RELEASE RECORD

ATTACHMENT 4D (QC SPLIT RESULTS)

Split Sample Assessment Form

Survey Area#: 9520		Survey Unit #: 0001		Survey Unit name: Southwest Site Storage Area																
Sample Plan or WPIR#: 2005-0038						SML#: 9520-0001-004														
Sample Description: Comparison of split samples collected from sample measurement location #4 and analyzed using gamma spectroscopy by off-site Vendor Laboratory. The standard sample was 9520-0001-004F, the comparison sample was 9520-0001-004FS.																				
STANDARD					COMPARISON															
Radionuclide	Activity Value	Standard Error	Resolution	Agreement Range	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)												
Cs-137	5.12E-2	1.42E-2	4	0.5 - 2.0	7.19E-2	1.33E-2	1.4	Y												
Comments/Corrective Actions: N/A					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: <i>Jack McLanahan</i>					Date: 11/2/06		Reviewed By: <i>[Signature]</i>													
							Date: 11/6/06													

Split Sample Assessment Form

Survey Area#: 9520		Survey Unit #: 0001		Survey Unit name: Southwest Site Storage Area																
Sample Plan or WPIR#: 2005-0038						SML#: 9520-0001-012														
Sample Description: Comparison of split samples collected from sample measurement location #12 and analyzed using gamma spectroscopy by off-site Vendor Laboratory. The standard sample was 9520-0001-012F, the comparison sample was 9520-0001-012FS.																				
STANDARD					COMPARISON															
Radionuclide	Activity Value	Standard Error	Resolution	Agreement Range	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)												
K-40	12	3.98E-1	30	0.75 – 1.33	11.9	4.31E-1	0.99	Y												
Comments/Corrective Actions: Not enough Cs-137 to yield an acceptable Resolution					Table is provided to show acceptance criteria used to assess split samples. <table> <tr> <th><u>Resolution</u></th> <th><u>Agreement Range</u></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>				<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:  JACK MCGARRY					Date: 11/2/06															
Reviewed By: 					Date: 11/6/06															

CENTRAL PENINSULA
SURVEY UNIT 9520-0001

RELEASE RECORD

ATTACHMENT 4E (COMPASS DQA WITH POWER CURVE)



DQA Surface Soil Report

Assessment Summary

Site: 9520-0001

Planner(s): McCarthy *11/2/06*

Survey Unit Name: Southwest Site Storage Area

Report Number: 1

Survey Unit Samples: 15

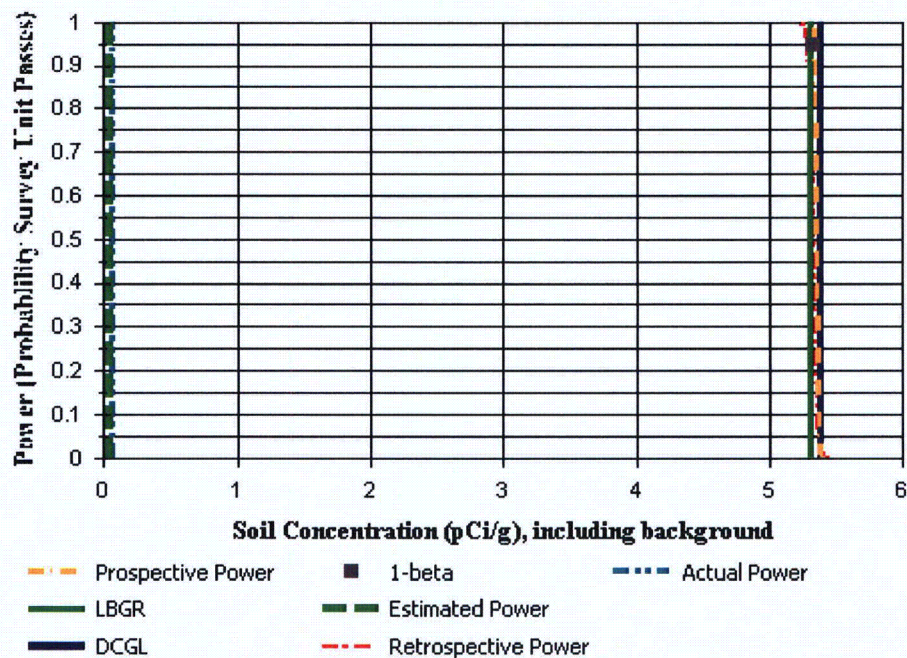
Reference Area Samples: 0

Test Performed: Sign Test Result: Not Performed

Judgmental Samples: 0 EMC Result: Not Performed

Assessment Conclusion: ***Reject Null Hypothesis (Survey Unit PASSES)***

Retrospective Power Curve





DQA Surface Soil Report

Survey Unit Data

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

Sample Number	Type	Cs-137 (pCi/g)
9520-0001-002F	S	0.05
9520-0001-003F	S	0.1
9520-0001-004F	S	0.05
9520-0001-005F	S	0.14
9520-0001-006F	S	0.1
9520-0001-007F	S	0.06
9520-0001-008F	S	0.04
9520-0001-009F	S	0.05
9520-0001-010F	S	0.34
9520-0001-011F	S	0.04
9520-0001-012F	S	0.01
9520-0001-013F	S	0.06
9520-0001-014F	S	0.18
9520-0001-015F	S	0.07
9520-0001-020F	S	0.07

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	15	N/A	N=15
Mean (pCi/g)	0.09	N/A	0.04
Median (pCi/g)	0.06	N/A	N/A
Std Dev (pCi/g)	0.08	N/A	0.0348
High Value (pCi/g)	0.34	N/A	N/A
Low Value (pCi/g)	0.01	N/A	N/A