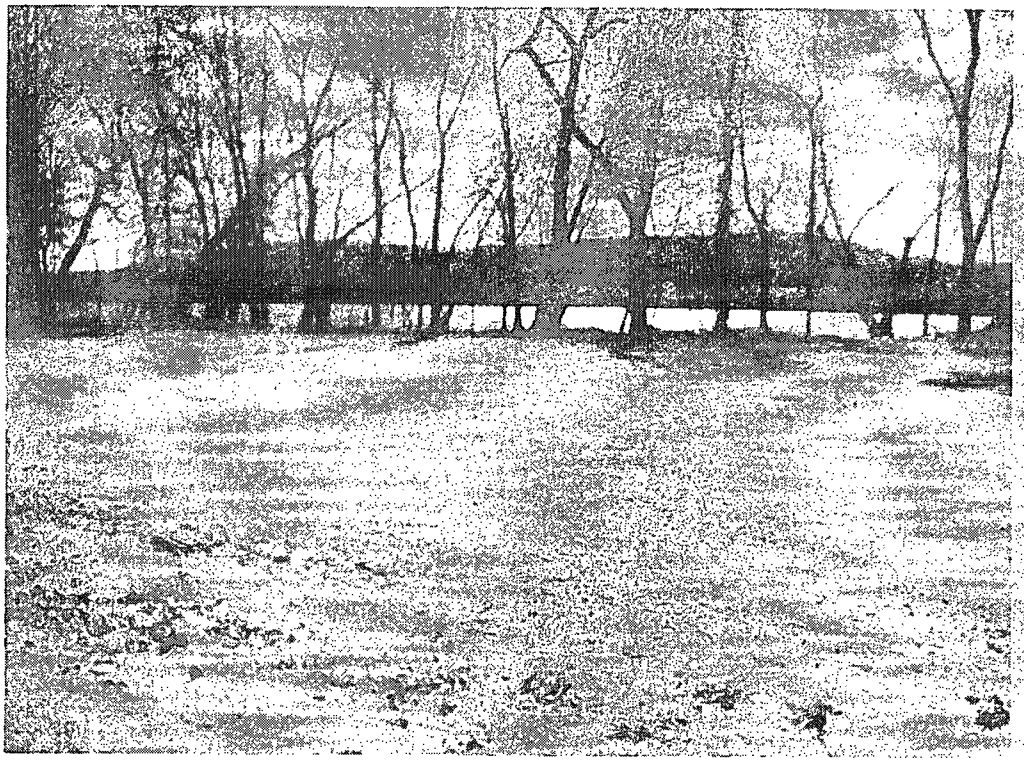

Final Status Survey Final Report Phase V

Appendix A10

Survey Unit Release Record 9805-0000, Subsurface Area Associated with the Peninsula (Excluding Survey Area 9531)

December 2006

CYAPCO
FINAL STATUS SURVEY RELEASE RECORD
SUBSURFACE AREA ASSOCIATED
WITH THE PENINSULA
(SURVEY UNIT 9805-0000)

Prepared By: Robert W. Massey II — Date: 11-27-06
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1. SURVEY UNIT DESCRIPTION

Survey Unit 9805-0000 (Peninsula) is designated as a Final Status Survey (FSS) subsurface Class C area. The survey area is located south of the industrial area approximately seven hundred fifty feet (750 ft) from the site benchmark based on the Connecticut State Plan System North American Datum (NAD) 1927 (Northing 236594.381, Easting 668136.136). The survey area has a total surface area of approximately one million four hundred and three thousand seven hundred and fifty square feet (1,403,750 ft^2) or one hundred thirty thousand three hundred and eighty square meters (130,380 m^2) or thirty-two (32) acres. The land area does not include the twenty one thousand three hundred and forty-seven square feet (21,347 ft^2) associated with the land area of Survey Area 9807, a separate subsurface area, which is located within Survey Area 9805 (see Attachment 1).

The surface land units that reside above this subsurface survey unit are relatively level open space of the peninsula. The restoration of the peninsula for FSS has removed most of the interferences in the survey unit.

The reference coordinates associated with this survey unit are E003 through E034 by S072 through S125 (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 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 9805-0000 consisted of:

a) A review of the 10CFR50.75 (g) (1) database,

b) A review of the *"Initial Characterization Report"* and the *"Historic Site Assessment Supplement,"*

c) Historic and current survey records review,

d) Visual inspections and a "walk-down."

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. Examples of some of the major events are provided below:

a) Plant Incident Report (PIR) 80-37 reported the discovery of two (2) discrete sources of elevated activity on the Upper Peninsula in March 1980, along with other areas around the site. According to Health Physics (HP) memo 80-213, which is an appendage of PIR 80-37, the ground level count rate over one (1) spot was fifteen thousand corrected counts above background (15,000 ccpm). After digging below about one and a half feet (1 ½ ft) of dirt, a piece of concrete was found with a contact dose rate reading at 500 mR/hr and a dose rate of 20 mR/hr at one foot (1 ft). The activity was found above a piece of uncontaminated construction rubble. 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 deposit could not be determined. Isotopic analysis of this discrete source identified Co-60 as the predominate isotope at an estimated 1.27 millicuries.

   Isotopic analysis of the other discrete source indicated that the short-lived fission products, such as Ce-144 and Ru-106, dominated the isotopic profile. According to PIR 80-37, the source of this elevated activity, as with other similar discrete sources found on the site, was most likely radioactive particulate ejected from the Primary Vent Stack as a result of operational events in 1979. Both elevated areas were removed upon detection according to the historical records.

b) In 1989, contaminated soil was found along the peninsula access road from both the upper and middle peninsula areas (Areas 9520 and 9530). The soil was subsequently removed, and was determined to have come from the area south of the 115 kV switchyard (refer to PIR 89-35).

c) In March of 2006, Co-60 and Cs-137 were identified in subsurface soils in sufficient concentrations to warrant radiological remediation. Radiological remediation was performed in July 2006. As a result, a Class B subsurface unit, Survey Unit 9807, was created in the Southeast Site Storage area and is contained within the boundaries of this survey area (9805).

d) In 2006, utilities were being removed as part of the decommissioning effort on the Upper Peninsula which included portions of this subsurface survey area. Construction debris including Asbestos Containing Material (ACM) was identified and remediated. In addition to the ACM, two (2) objects were also identified that had detectable radioactivity. The first was a piece of angle iron located in the water utility trench in Survey Area 9530, and the second was a weathered drum containing turbine blades in Survey Area 9520.

e) To further characterize the extent of buried metallic objects, and to identify if any additional drums were present, an Electromagnetic (EM) survey was performed. The survey was conducted in three phases from February 2006 through March 2006 and identified over ninety (90) locations which were then further characterized by test pitting the areas. A total of ninety-four (94) test pits were completed to characterize subsurface materials.

A review of the *"Initial and Supplemental Characterization Reports"* as well as the previous *"Classification Basis Summaries"* was performed. Survey Unit 9805-0000 was initially designated as Class C during the development of the LTP. The source documents, the "*Connecticut Yankee Haddam Neck Characterization Report*" and "*Initial Classification for Survey Areas at Connecticut Yankee*", were incorporated by reference in LTP revision 0 (references 2-2 and 2-7 respectively). Additional justification for a Class C 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 the 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).

A radiological assessment plan (SSWP-06-01-004) was developed and implemented in January 2006 to support commodity removal. Soil samples were collected over the next couple months, including July 2006, to establish the radiological condition of the subsurface area impacted by the commodity removal. A review of a representative subset of these sample data shows the only radionuclide of concern to be Cs-137, which was reported at fairly low concentrations, and in many cases, was not identified in concentrations above two standard deviations error. These data and statistical parameters were used for Final Status Survey (FSS) planning. Statistical quantities from the characterization survey are provided in Table 1.

Table 1 – Basic Statistical Quantities for Cs-137 from the 2006 Characterization Survey	
Minimum Observed Concentration (ρCi/g) :	-1.26E-02
Maximum Observed Concentration (ρCi/g) :	9.35E-02
Mean (ρCi/g):	3.05E-02
Median (ρCi/g):	2.18E-02
Standard Deviation (ρCi/g):	3.17E-02

A 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 (6) years of restoration and the 2006 characterization survey, it was concluded that there was a low probability for residual radioactivity to be present in concentrations greater than the DCGLs, justifying a final survey unit classification of Class C (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 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 Final Status Survey Plan (FSSP).

The primary objective of the FSSP was to demonstrate that the level of residual radioactivity in Survey Unit 9805-0000 did not exceed the release criteria specified in the LTP and that the potential dose from residual radioactivity is As Low As Reasonably Achievable (ALARA).

A fundamental precursor to survey design is to establish a relationship between the release criteria and some measurable quantity of radioactivity. 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

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

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.

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

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

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
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.

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

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

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

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

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 characterize the radiological condition of Survey Unit 9805-0000 and provide data for FSS plan development. Cs-137 was the only gamma emitting radionuclide reported in concentrations with the potential for exceeding the screening criteria. The characterization data was used for the survey design and are provided in Table 1 of this report.

As a component of the DQOs process that applies to laboratory analysis results, values were reported as actual calculated results and not as less than Minimum

Detectable Concentration (MDC). 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 was developed based on the guidance provided in this procedure.

The DQO process determined that Cs-137 was the only radionuclide of concern in Survey Unit 9805-0000 (refer to Section 3).

Surrogate DCGLs were not required for this survey unit based the characterization data results along with accepted screening parameters provided in Section 5.4.7.2 of the LTP, "*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 C 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. In accordance with LTP Section 5.7.3.2.2, fifteen (15) subsurface soil samples were required in a Class C subsurface soils survey unit for non-parametric statistical testing.

The 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 random sampling plan was selected for this survey unit, which is appropriate for a Class C survey unit.

Judgmental sampling was included as a feature of this survey design to account for any anomalies potentially identified in the field. Five (5) additional subsurface soil samples were taken in this survey unit at biased locations determined by the FSS Engineer with input from FSS Supervision.

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

Table 3 -Sample Measurement Locations with Associated GPS Coordinates

Designation	Northing	Easting
9805-0000-001F	234806.27	671163.24
9805-0000-001FS	234806.27	671163.24
9805-0000-002F	235522.58	670585.49
9805-0000-003F	235108.08	670761.98
9805-0000-004F	235264.58	670664.34
9805-0000-004FS	235264.58	670664.34
9805-0000-005F	235161.91	671492.53
9805-0000-006F	235686.45	669582.03
9805-0000-007F	234979.41	671527.80
9805-0000-008F	235598.86	669981.67
9805-0000-009F	235746.54	669349.33
9805-0000-010F	235199.79	671125.76
9805-0000-011F	235673.82	669616.49
9805-0000-012F	234814.33	671633.17
9805-0000-013F	235352.45	671415.67
9805-0000-014F	234911.61	671335.51
9805-0000-015F	236102.59	668877.77
9805-0000-016F	236057.35	668914.65
9805-0000-017F	235965.77	669081.53
9805-0000-018F	235948.06	669112.63
9805-0000-019F	235879.57	669241.74
9805-0000-020F	235235.37	670965.31

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 13% of the total number of samples that were 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*".

The implementation of quality control measures as referenced by Procedure RPM 5.1-24, "*Split Sample Assessment for Final Status Survey*," included the collection of 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 13% of the number of samples that were used for non-parametric statistical testing.

Since 9805-0000 is a subsurface survey unit, no scanning was required.

For this Class C survey unit, the "Investigation Level" for 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
Subsurface Survey Unit Land Area	130,380 m^2	Based on AutoCAD-LT
Number of Measurements	20 (15 random) (5 biased)	Type 1 and Type 2 errors were 0.05, sigma was 0.032 ρCi/g, LBGR was adjusted to 5.31 to maintain Relative Shift in the range of 1 and 3.
Grid Spacing	N/A	Random sampling for Class C in accordance with LTP.
Operational DCGL	5.38 ρCi/g Cs-137	Administratively set to achieve seventeen (17) mrem/yr TEDE (1)
Soil Investigation Level	5.38 ρCi/g Cs-137	The Operational DCGL meets the LTP criteria for a Class C survey unit

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

5. SURVEY IMPLEMENTATION

Final Status Survey field activities were conducted under Work Plan and Inspection Record (WP&IR) 2006-0007. The WP&IR package included a detailed FSS plan, job safety analysis, job planning checklist and related procedures for reference. Daily briefings were conducted to discuss the expectations for job performance and the safety aspects of the survey. The "Daily Survey Journal" was used to document field activities and other information pertaining to the FSS.

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

Twenty (20) subsurface soil samples were collected and packaged in accordance with Haddam Neck Plant (HNP) Procedure RPM 5.1-3, "*Collection of Sample Media for Final Status Survey*" and FSS design. Samples were 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 (9805-0000-008F and 9805-0000-013F) were randomly selected for HTD radionuclide analysis.

The implementation of survey specific quality control measures included the collection of two (2) samples (9805-0000-001F and 9805-0000-004F) for "split sample" analysis.

6. SURVEY RESULTS

All field survey activities were conducted between September 20, 2006 and September 26, 2006.

The off-site laboratory employed for the radiological analyses of samples was General Engineering Laboratories (GEL), LLC. The laboratory analyzed the fifteen (15) samples collected for non-parametric statistical testing, the associated field splits, and five (5) biased samples using gamma spectroscopy. Gamma spectroscopy analysis was performed to the required MDCs. Gamma spectroscopy results identified only Cs-137 as meeting the accepted criteria for detection (i.e., a result greater than two standard deviations uncertainty).

Cs-137 was positively identified in four (4) 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 approaching or 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 5. Refer to Attachment 2 for complete laboratory analysis results.

Table 5- Summary of Soil Sample Results for the Statistical Sample Population		
Sample Number (1)	Cs-137 (pCi/g)	Fraction of the Operational DCGL (1)
9805-0000-001F	1.31E-02	0.004
9805-0000-002F	1.64E-02	-0.001
9805-0000-003F	8.83E-02	0.024
9805-0000-004F	2.68E-02	0.006
9805-0000-005F	2.11E-02	0.007
9805-0000-006F	9.10E-03	-0.005
9805-0000-007F	-4.24E-03	0.001
9805-0000-008F	6.28E-02	0.013
9805-0000-009F	1.47E-02	0.004
9805-0000-010F	5.13E-02	0.016
9805-0000-011F	1.60E-02	0.006
9805-0000-012F	1.04E-02	0.001
9805-0000-013F	1.71E-03	0.001
9805-0000-014F	1.11E-02	0.002
9805-0000-015F	6.93E-02	0.015

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

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. The results of samples that were analyzed for HTD radionuclides, by the off-site laboratory, indicated that they were all less than the accepted criteria for detection (i.e., a result greater than two standard deviations uncertainty).

Five (5) biased samples were collected at locations selected by FSS Supervision based on professional judgment and observation. Gamma spectroscopy analysis was performed by the off-site laboratory to the required MDC. A summary of the five (5) biased sample results is provided in Table 6 of this report. Refer to Attachment 2 for complete laboratory analysis results.

Table 6 - Judgmental or Biased Sample Results

Sample Number	Cs-137 (pCi/g)	Fraction of the Operational DCGL(1)
9805-0000-016F	0.00E+00	0.000
9805-0000-017F	3.42E-02	0.006
9805-0000-018F	2.57E-02	0.005
9805-0000-019F	-4.79E-03	-0.001
9805-0000-020F	2.89E-02	0.005

(1) The Operational DCGL from Table 2 is 5.38 pCi/g for Cs-137 to achieve seventeen (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*".

Cs-137 was not detected in sufficient quantities in the field split results at locations 9805-0000-001 or 9805-0000-004 to evaluate in accordance with procedure. Evaluation using the reported results for K-40 resulted in acceptable agreement between the field-split results at these locations.

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

8. INVESTIGATIONS AND RESULTS

No investigations were conducted within this survey unit.

9. REMEDIATION AND RESULTS

A remediation was performed on the peninsula and subsurface survey unit 9807-0000 was created at the location of the remediation, see Section 1.

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

No changes were made to the FSS plan for this survey unit.

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. Sample collection was consistent with the DQOs and was sufficient to ensure that the survey unit was properly designated as Class C.

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 3.3 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 1.17.

All data, assessments, and graphical representations are provided in Attachment 3.

12. ANOMALIES

No anomalies were noted.

13. CONCLUSION

Survey Unit 9805-0000 has met the final DQOs of the FSS plan. The ALARA criteria for soils as specified in Chapter 4 of the LTP were achieved. Elevated Measurement Comparison and remediation was not required.

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 C.

The dose contribution from soil is less than 0.5 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 by 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 2.5 mrem/yr TEDE. Therefore, Survey Unit 9805-0000 is acceptable for unrestricted release.

14. ATTACHMENTS

14.1 Attachment 1 – Figures

14.2 Attachment 2 – Laboratory Data

14.3 Attachment 3 – DQA Results

ATTACHMENT 1 (FIGURES)

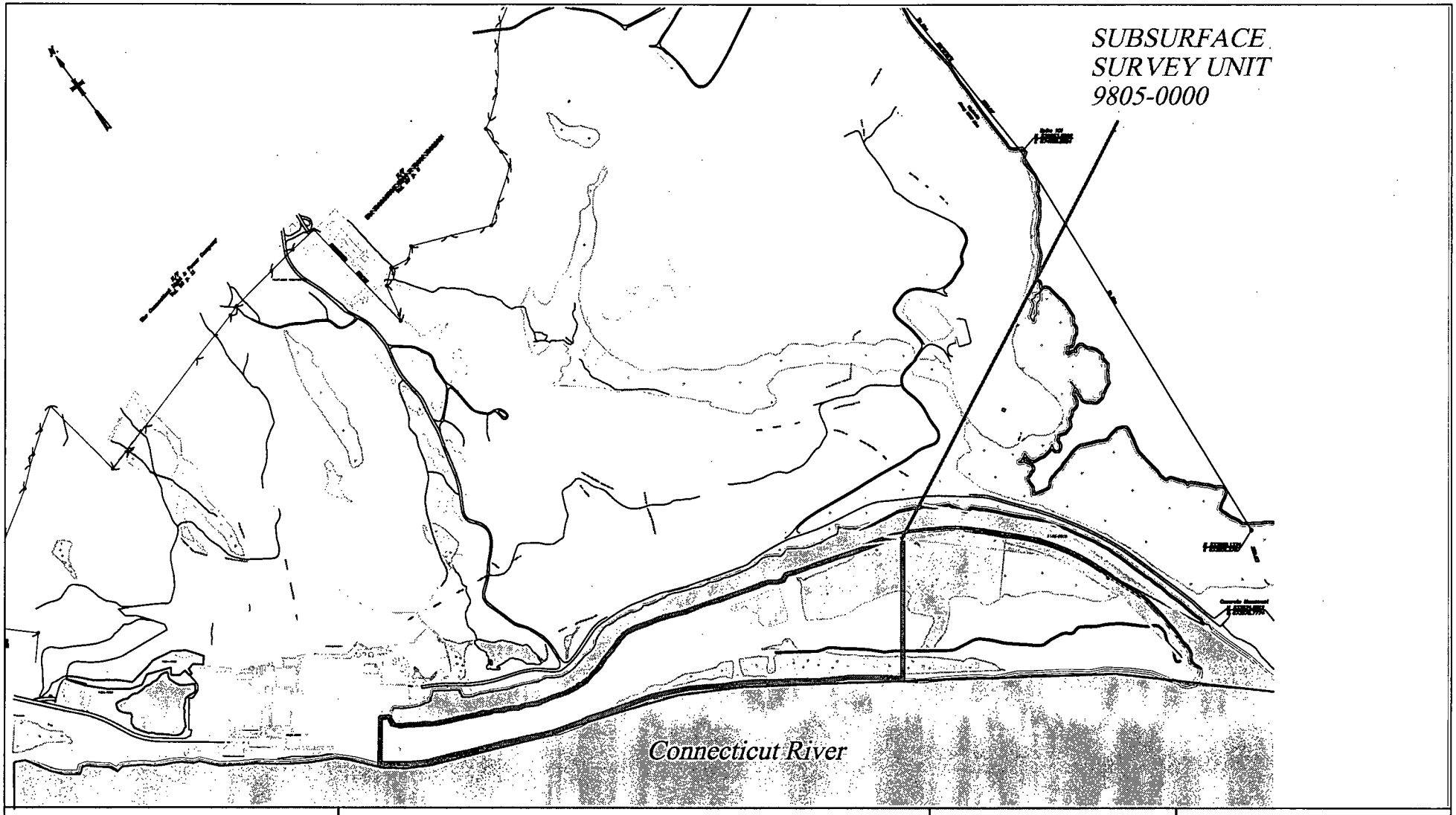

Figure 1	*Connecticut Yankee Atomic Power Company* *Final Status Survey Unit 9805*	*Date: November 2006* *Revision: 0*	*Created by: R. Massengill*

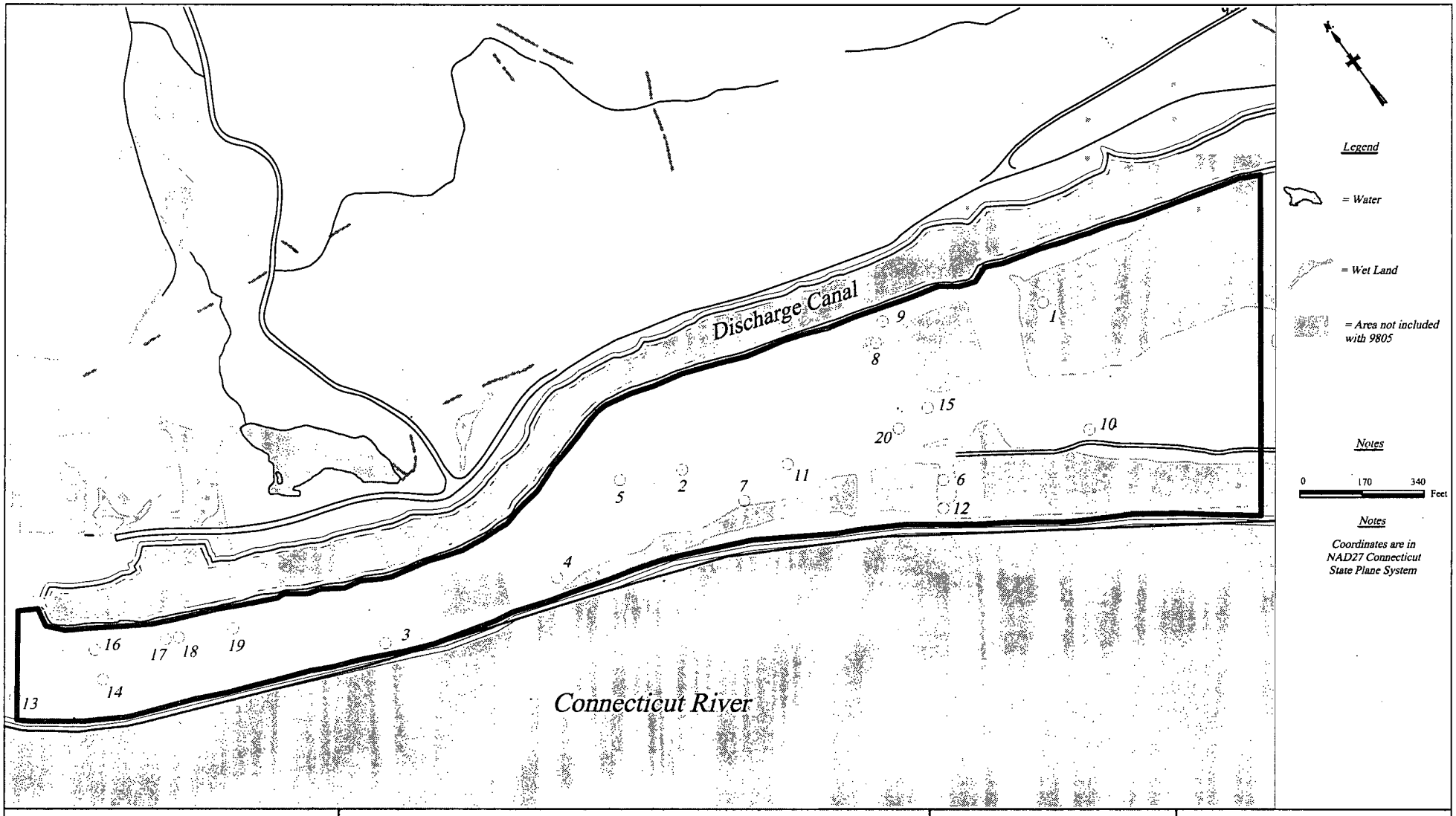

Figure 2	Connecticut Yankee Atomic Power Company Survey Unit 9805 Final Status Survey Plan Sample Locations	Date: November 2006 Revision: 0	Created by: R. Massengill

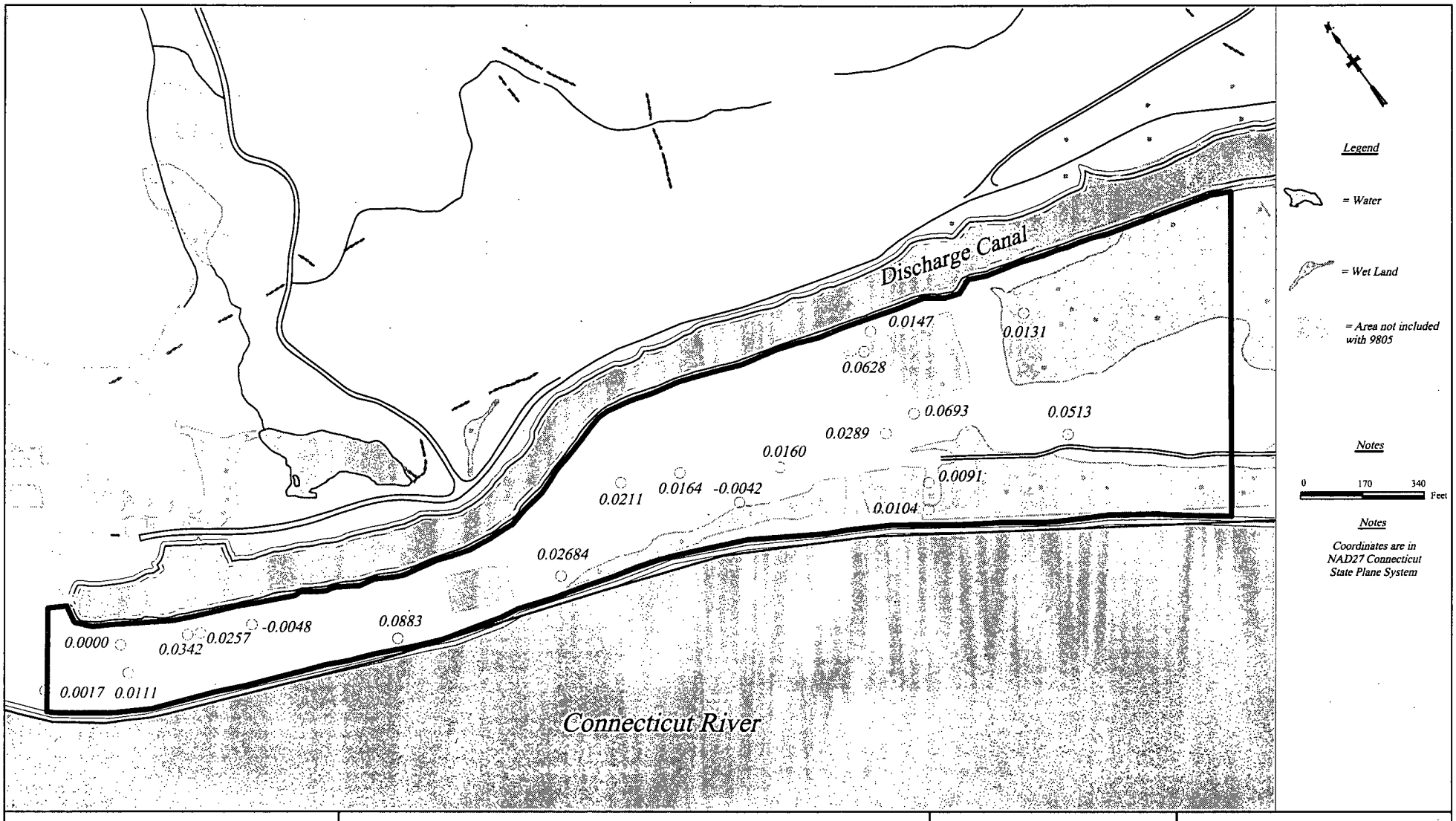

Figure 3	Connecticut Yankee Atomic Power Company Survey Unit 9805 Cesium-137 Posting Plot (ρCi/g)	Date: November 2006 Revision: 0	Created by: R. Massengill

ATTACHMENT 2 (LABORATORY DATA)

GENERAL ENGINEERING LABORATORIES, LLC
a Member of THE GEL GROUP, INC.
Meeting Today's Needs with a Vision for Tomorrow

October 12, 2006

Mr. Jack McCarthy
Connecticut Yankee Atomic Power
362 Injun Hollow Rd
East Hampton, Connecticut 06424

Re: Soils PO# 002332
Work Order: 172879
SDG: MSR#06-1311

Dear Mr. McCarthy:

General Engineering Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on September 29, 2006. This data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4243.

Sincerely,

Cheryl Jones
Project Manager

Purchase Order: 002332
Chain of Custody: 2006-577 and 2006-578
Enclosures

P.O. BOX 30712 Charleston, SC 29417 • 2040 Savage Road (29407)
Phone (843) 556-8171 • Fax (843) 766-1178 www.gel.com

Connecticut Yankee Atomic Power Co.
Soils PO# 002332
Work Order: 172879
SDG: MSR#06-1311

Laboratory ID	Client ID
172879001	9805-0000-008F
172879002	9805-0000-009F
172879003	9805-0000-015F
172879004	9805-0000-006F
172879005	9805-0000-019F
172879006	9805-0000-017F
172879007	9805-0000-013F
172879008	9805-0000-016F
172879009	9805-0000-014F
172879010	9805-0000-011F
172879011	9805-0000-005F
172879012	9805-0000-018F
172879013	9805-0000-020F
172879014	9805-0000-010F
172879015	9805-0000-001F
172879016	9805-0000-001FS
172879017	9805-0000-004F
172879018	9805-0000-004FS
172879019	9805-0000-002F
172879020	9805-0000-003F
172879021	9805-0000-012F
172879022	9805-0000-007F

Table of Contents

General Narrative

General Narrative
for
Connecticut Yankee Atomic Power Co.
Work Order: 172879
SDG: MSR#06-1311

October 12, 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 September 29, 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:

Laboratory Identification	Sample Description
172879001	9805-0000-008F
172879002	9805-0000-009F
172879003	9805-0000-015F
172879004	9805-0000-006F
172879005	9805-0000-019F
172879006	9805-0000-017F
172879007	9805-0000-013F
172879008	9805-0000-016F
172879009	9805-0000-014F
172879010	9805-0000-011F
172879011	9805-0000-005F
172879012	9805-0000-018F
172879013	9805-0000-020F
172879014	9805-0000-010F
172879015	9805-0000-001F
172879016	9805-0000-001FS
172879017	9805-0000-004F
172879018	9805-0000-004FS
172879019	9805-0000-002F
172879020	9805-0000-003F
172879021	9805-0000-012F
172879022	9805-0000-007F

Items of Note

There are no items to note.

Case Narrative

Sample analyses were conducted using methodology as outlined in General Engineering Laboratories (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Analytical Request

Twenty 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 12 October 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. 2006-577

Project Name: Haddam Neck Decommissioning

Contact Name & Phone:
Jack McCarthy 860-267-3924

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

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

Lab Use Only

Comments: 172879%

	Sample Designation	Date	Time	Media Code	Sample Type Code	Container Size- &Type Code	Analyses Requested: FSSGAM	FSSALL					Comment, Preservation	Lab Sample ID
✓	9805-0000-008-F	9/20/06	1450	TS	C	BP		X						
✓	9805-0000-009-F	9/20/06	1515	TS	C	BP	X							
✓	9805-0000-015-F	9/20/06	1330	TS	C	BP	X							
✓	9805-0000-006-F	9-22-06	1000	TS	C	BP	X							
✓	9805-0000-019-F	9-25-06	1305	TS	C	BP	X							
✓	9805-0000-017-F	9-25-06	1330	TS	C	BP	X							
✓	9805-0000-013-F	9-25-06	1505	TS	C	BP		X						
✓	9805-0000-016-F	9-25-06	1535	TS	C	BP	X							
✓	9805-0000-014-F	9-25-06	0900	TS	C	BP	X							
✓	9805-0000-011-F	9-25-06	1015	TS	C	BP	X							
✓	9805-0000-005-F	9-25-06	1035	TS	C	BP	X							

NOTES: PO #: 002332 MSR #:06-1311 ☒ LTP QA ☐ Radwaste QA ☐ Non QA

Samples Shipped Via:
☒ Fed Ex
☐ UPS
☐ Hand
☐ Other
Bill of Lading #

Internal Container Temp.: 21 Deg. C

Custody Sealed? Y X N

Custody Seal Intact? X Y N

1) Relinquished By	Date/Time	2) Received By	Date/Time
		[signature]	9/29/06 9:30
3) Relinquished By	Date/Time	4) Received By	Date/Time

Figure 1. Sample Check-in List

Date/Time Received: 9:30 9/29/06

SDG#: MSA# 06-1311

Work Order Number: 172879/

Shipping Container ID: 7980 0829 9618 Chain of Custody # 2006-577

1. Custody Seals on shipping container intact? Yes [X] No [ ]
2. Custody Seals dated and signed? Yes [X] No [ ]
3. Chain-of-Custody record present? Yes [X] No [ ]
4. Cooler temperature 21.0
5. Vermiculite/packing materials is: Wet [ ] Dry [X]
6. Number of samples in shipping container: 11
7. Sample holding times exceeded? Yes [ ] No [X]

8. Samples have:
   - [X] tape
   - [ ] hazard labels
   - [ ] custody seals
   - [ ] appropriate sample labels

9. Samples are:
   - [X] in good condition
   - [ ] leaking
   - [ ] broken
   - [ ] have air bubbles

10. Were any anomalies identified in sample receipt? Yes [X] No [ ]
11. Description of anomalies (include sample numbers): not signed

Sample Custodian/Laboratory: CO Jense Date: 9/29/09

Telephoned to: On By

Chain of Custody Form

No. 2006-578

Connecticut Yankee Atomic Power Company
362 Injun Hollow Road, East Hampton, CT 06424
860-267-2556

Project Name: Haddam Neck Decommissioning

Contact Name & Phone:
Jack McCarthy 860-267-3924

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

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

Lab Use Only

Comments: 172879-1,

Sample Designation	Date	Time	Media Code	Sample Type Code	Container Size- &Type Code	Analyses Requested: FSSGAM	FSSALL					Comment, Preservation	Lab Sample ID
9805-0000-018F	9-19-06	0915	TS	C	BP	X							
9805-0000-020F	9-19-06	1335	TS	C	BP	X							
9805-0000-010F	9-19-06	1424	TS	C	BP	X							
9805-0000-001-F	9-19-06	1510	TS	C	BP	X							
9805-0000-001-FS	9-19-06	1510	TS	C	BP	X							
9805-0000-004-F	9-22-06	1310	TS	C	BP	X							
9805-0000-004-FS	9-22-06	1310	TS	C	BP	X							
9805-0000-002-F	9-22-06	1250	TS	C	BP	X							
9805-0000-003-F	9-22-06	1335	TS	C	BP	X							
9805-0000-012-F	9-22-06	1020	TS	C	BP	X							
9805-0000-007-F	9-22-06	1120	TS	C	BP	X							

NOTES: PO #: 002332 MSR #:06-1311 ☒ LTP QA ☐ Radwaste QA ☐ Non QA

Samples Shipped Via:
☒ Fed Ex
☐ UPS
☐ Hand
☐ Other
Bill of Lading #

Internal Container Temp. 21 Deg. C
Custody Sealed? Y X N
Custody Seal Intact? Y X N

1) Relinquished By	Date/Time	2) Received By	Date/Time
		[signature]	9/29/06 9:30
3) Relinquished By	Date/Time	4) Received By	Date/Time

Figure 1. Sample Check-in List

Date/Time Received: 9/29/06 9:30

SDG#: MSR#06-1311

Work Order Number: 1728791

Shipping Container ID: 1900 0829 9629 Chain of Custody # 2006-578

1. Custody Seals on shipping container intact? Yes [X] No [ ]
2. Custody Seals dated and signed? Yes [X] No [ ]
3. Chain-of-Custody record present? Yes [X] No [ ]
4. Cooler temperature 21°
5. Vermiculite/packing materials is: Wet [ ] Dry [X]
6. Number of samples in shipping container: 11
7. Sample holding times exceeded? Yes [ ] No [X]

8. Samples have:
   - [X] tape
   - [ ] hazard labels
   - [ ] custody seals
   - [ ] appropriate sample labels

9. Samples are:
   - [X] in good condition
   - [ ] leaking
   - [ ] broken
   - [ ] have air bubbles

10. Were any anomalies identified in sample receipt? Yes [X] No [X] cd 9/29/06
11. Description of anomalies (include sample numbers): not signed

Sample Custodian/Laboratory: [signature] Date: 9/29/06

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 172879

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:	578044
Prep Batch Number:	574186
Dry Soil Prep GL-RAD-A-021 Batch Number:	574161

Sample ID	Client ID
172879001	9805-0000-008F
172879007	9805-0000-013F
1201204515	Method Blank (MB)
1201204516	172879001(9805-0000-008F) Sample Duplicate (DUP)
1201204517	172879001(9805-0000-008F) Matrix Spike (MS)
1201204518	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: 172879001 (9805-0000-008F).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

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

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
Samples were reprepped due to high relative percent difference/relative error ratio.

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:	574558
Prep Batch Number:	574186
Dry Soil Prep GL-RAD-A-021 Batch Number:	574161

Sample ID	Client ID
172879001	9805-0000-008F
172879007	9805-0000-013F
1201197066	Method Blank (MB)
1201197067	172879001(9805-0000-008F) Sample Duplicate (DUP)
1201197068	172879001(9805-0000-008F) Matrix Spike (MS)
1201197069	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 volumes in this batch.

Designated QC
The following sample was used for QC: 172879001 (9805-0000-008F).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

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

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
Samples were recounted due to low/high recovery.

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:	578046
Prep Batch Number:	574186
Dry Soil Prep GL-RAD-A-021 Batch Number:	574161

Sample ID	Client ID
172879001	9805-0000-008F
172879007	9805-0000-013F
1201204519	Method Blank (MB)
1201204520	172879001(9805-0000-008F) Sample Duplicate (DUP)
1201204521	172879001(9805-0000-008F) Matrix Spike (MS)
1201204522	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: 172879001 (9805-0000-008F).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

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

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
Samples 172879001 (9805-0000-008F) and 172879007 (9805-0000-013F) were reprepped due to high relative percent difference/relative error ratio.

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:	574336
Prep Batch Number:	574169

Sample ID	Client ID
172879021	9805-0000-012F
172879022	9805-0000-007F
1201196539	Method Blank (MB)
1201196540	172275028(9807-0000-025F) Sample Duplicate (DUP)
1201196541	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# 12.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

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

Sample Geometry

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

Quality Control (QC) Information:

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

Designated QC
The following sample was used for QC: 172275028 (9807-0000-025F).

QC Information
Refer to Non-Conformance Report.

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. The following NCR was generated for this SDG:
NCR 368031 was generated due to Failed RPD for DUP. 1. Failed RPD for DUP: The relative percent difference (172275028 and 120119654) for K-40 and Pb-212 did not meet the duplication criteria. 1. K-40 and Pb-212 are naturally occurring nuclides. All other nuclides meet within the duplication criteria. Reporting results.

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	1201196540

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:	574337
Prep Batch Number:	574161

Sample ID	Client ID
172879001	9805-0000-008F
172879002	9805-0000-009F
172879003	9805-0000-015F
172879004	9805-0000-006F
172879005	9805-0000-019F
172879006	9805-0000-017F
172879007	9805-0000-013F
172879008	9805-0000-016F
172879009	9805-0000-014F
172879010	9805-0000-011F
172879011	9805-0000-005F
172879012	9805-0000-018F
172879013	9805-0000-020F
172879014	9805-0000-010F
172879015	9805-0000-001F
172879016	9805-0000-001FS
172879017	9805-0000-004F
172879018	9805-0000-004FS
172879019	9805-0000-002F
172879020	9805-0000-003F
1201196542	Method Blank (MB)
1201196543	172879001(9805-0000-008F) Sample Duplicate (DUP)
1201196544	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: 172879001 (9805-0000-008F).

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 high counting uncertainty.	Bismuth-212	172879019
UI	Data rejected due to high peak-width.	Cesium-137	172879008
			1201196543
UI	Data rejected due to interference.	Cesium-134	1201196543
		Europium-155	172879013
			172879016
UI	Data rejected due to low abundance.	Cesium-134	172879004
			172879005
			172879006
			172879009
			172879011
			172879015
			172879018
			172879019
			172879020
		Lead-212	1201196542
		Silver-108m	172879007

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:	574221
Prep Batch Number:	574186
Dry Soil Prep GL-RAD-A-021 Batch Number:	574161

Sample ID	Client ID
172879001	9805-0000-008F
172879007	9805-0000-013F
1201196231	Method Blank (MB)
1201196232	172875011(9520-0003-010F) Sample Duplicate (DUP)
1201196233	172875011(9520-0003-010F) Matrix Spike (MS)
1201196234	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: 172875011 (9520-0003-010F).

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:	574010

Sample ID	Client ID
172879001	9805-0000-008F
172879007	9805-0000-013F
1201195648	Method Blank (MB)
1201195649	172879001(9805-0000-008F) Sample Duplicate (DUP)
1201195650	172879001(9805-0000-008F) Matrix Spike (MS)
1201195651	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: 172879001 (9805-0000-008F).

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 172879007 (9805-0000-013F) 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

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:	574527
Prep Batch Number:	574186
Dry Soil Prep GL-RAD-A-021 Batch Number:	574161

Sample ID	Client ID
172879001	9805-0000-008F
172879007	9805-0000-013F
1201196975	Method Blank (MB)
1201196976	172875001(9520-0003-002F) Sample Duplicate (DUP)
1201196977	172875001(9520-0003-002F) Matrix Spike (MS)
1201196978	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: 172875001 (9520-0003-002F).

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:	574530
Prep Batch Number:	574186
Dry Soil Prep GL-RAD-A-021 Batch Number:	574161

Sample ID	Client ID
172879001	9805-0000-008F
172879007	9805-0000-013F
1201196983	Method Blank (MB)
1201196984	172879007(9805-0000-013F) Sample Duplicate (DUP)
1201196985	172879007(9805-0000-013F) Matrix Spike (MS)
1201196986	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: 172879007 (9805-0000-013F).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

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

Preparation Information
All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

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

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:	579033

Sample ID	Client ID
172879001	9805-0000-008F
172879007	9805-0000-013F
1201206809	Method Blank (MB)
1201206810	172879001(9805-0000-008F) Sample Duplicate (DUP)
1201206811	172879001(9805-0000-008F) Matrix Spike (MS)
1201206812	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: 172879001 (9805-0000-008F).

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 172879001 (9805-0000-008F) was recounted due to high MDA. Samples were reprepped due to low/high recovery.

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:	574014

Sample ID	Client ID
172879001	9805-0000-008F
172879007	9805-0000-013F
1201195657	Method Blank (MB)
1201195658	172875001(9520-0003-002F) Sample Duplicate (DUP)
1201195659	172875001(9520-0003-002F) Matrix Spike (MS)
1201195660	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: 172875001 (9520-0003-002F).

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.

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: Pamela Williams 10/18/06

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr.	Division:	Quality Criteria:	Type:
05-OCT-06	Radiochemistry	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
GAMMA SPECTROMETER	EML HASL 300, 4.5.2.3	Solid	YANK
Batch ID:	**Sample Numbers:**		
574336	See Below		

Potentially affected work order(s)(SDG): 172275(MSR#06-1282),172873(MSR#06-1313),172875(MSR#06-1312),172879(MSR#06-1311)

Application Issues:

Failed RPD for DUP

Specification and Requirements Nonconformance Description:	NRG Disposition:
1. Failed RPD for DUP: The relative percent difference (172275028 and 120119654) for K-40 and Pb-212 did not meet the duplication criteria.	1. K-40 and Pb-212 are naturally occurring nuclides. All other nuclides meet within the duplication criteria. Reporting results.

Originator's Name:

Jimmy Hartley *05-OCT-06*

Data Validator/Group Leader:

Lesley Anderson *09-OCT-06*

Quality Review:

Director:

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#06-1311 GEL Work Order: 172879

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.

Pamela Williams

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: October 18, 2006

Client Sample ID: 9805-0000-008F
Sample ID: 172879001
Matrix: TS
Collect Date: 20-SEP-06
Receive Date: 29-SEP-06
Collector: Client
Moisture: 22.9%

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													
Alphaspec Am241, Cm, Solid ALL FSS													
Americium-241	U	-0.0902	+/-0.120	0.136	+/-0.121	0.364	pCi/g		JAS1	10/12/06	1617	578044	1
Curium-242	U	-0.143	+/-0.0702	0.134	+/-0.0724	0.369	pCi/g						
Curium-243/244	U	-0.0746	+/-0.172	0.167	+/-0.173	0.425	pCi/g						
Alphaspec Pu, Solid-ALL FSS													
Plutonium-238	U	-0.0161	+/-0.127	0.112	+/-0.127	0.302	pCi/g		JAS1	10/12/06	1204	578046	3
Plutonium-239/240	U	0.047	+/-0.135	0.0963	+/-0.135	0.270	pCi/g						
Liquid Scint Pu241, Solid-ALL FSS													
Plutonium-241	U	2.68	+/-7.20	5.92	+/-7.20	12.4	pCi/g		JAS1	10/10/06	1648	574558	5
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium-228		0.897	+/-0.244	0.0721	+/-0.244	0.159	pCi/g		MJH1	10/10/06	0811	574337	7
Americium-241	U	0.0267	+/-0.0306	0.0277	+/-0.0306	0.0576	pCi/g						
Bismuth-212		0.812	+/-0.347	0.146	+/-0.347	0.320	pCi/g						
Bismuth-214		0.605	+/-0.0985	0.0413	+/-0.0985	0.0884	pCi/g						
Cesium-134	U	0.0441	+/-0.0379	0.0305	+/-0.0379	0.0651	pCi/g						
Cesium-137		0.0628	+/-0.0298	0.0189	+/-0.0298	0.0412	pCi/g						
Cobalt-60	U	0.00292	+/-0.0266	0.0227	+/-0.0266	0.051	pCi/g						
Europium-152	U	0.0115	+/-0.0583	0.0504	+/-0.0583	0.107	pCi/g						
Europium-154	U	-0.0674	+/-0.0873	0.0661	+/-0.0873	0.147	pCi/g						
Europium-155	U	0.0406	+/-0.0597	0.0464	+/-0.0597	0.0967	pCi/g						
Lead-212		0.941	+/-0.0704	0.0284	+/-0.0704	0.0596	pCi/g						
Lead-214		0.743	+/-0.0907	0.0384	+/-0.0907	0.0813	pCi/g						
Manganese-54	U	0.00738	+/-0.0274	0.0235	+/-0.0274	0.0509	pCi/g						
Niobium-94	U	-0.000653	+/-0.0237	0.0202	+/-0.0237	0.0434	pCi/g						
Potassium-40		14.8	+/-1.20	0.188	+/-1.20	0.431	pCi/g						
Radium-226		0.605	+/-0.0985	0.0413	+/-0.0985	0.0884	pCi/g						
Silver-108m	U	-0.0179	+/-0.0198	0.0164	+/-0.0198	0.0354	pCi/g						
Thallium-208		0.323	+/-0.0621	0.0219	+/-0.0621	0.047	pCi/g						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid-ALL FSS													
Strontium-90	U	-0.0136	+/-0.00982	0.00955	+/-0.00982	0.021	pCi/g		KSD1	10/04/06	2326	574221	8
Rad Liquid Scintillation Analysis													
LSC, Tritium Dist, Solid-HTD2,ALL FSS													
Tritium	U	-3.35	+/-6.99	6.06	+/-6.99	12.9	pCi/g		MXP1	10/17/06	1654	579033	9

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: October 18, 2006

Client Sample ID: 9805–0000–008F
Sample ID: 172879001

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													
Liquid Scint C14, Solid All,FSS													
Carbon–14	U	–0.00713	+/–0.0754	0.0636	+/–0.0754	0.133	pCi/g		AXD2	10/03/06	2107	574014	13
Liquid Scint Fe55, Solid–ALL FSS													
Iron–55	U	–11.1	+/–36.9	26.6	+/–36.9	55.5	pCi/g		MXP1	10/04/06	2022	574527	14
Liquid Scint Ni63, Solid–ALL FSS													
Nickel–63	U	2.80	+/–5.46	4.47	+/–5.46	9.36	pCi/g		MXP1	10/06/06	1032	574530	15
Liquid Scint Tc99, Solid–ALL FSS													
Technetium–99	U	–0.0681	+/–0.263	0.223	+/–0.263	0.460	pCi/g		KXR1	10/09/06	0823	574010	17

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL–RAD–A–021	JMB1	09/29/06	1557	574161

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL–300, Am–05–RC Modified
2	DOE EML HASL–300, Am–05–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	DOE EML HASL–300, Pu–11–RC Modified
7	EML HASL 300, 4.5.2.3
8	EPA 905.0 Modified
9	EPA 906.0 Modified
10	EPA 906.0 Modified
11	EPA 906.0 Modified
12	EPA 906.0 Modified
13	EPA EERF C–01 Modified
14	DOE RESL Fe–1, Modified
15	DOE RESL Ni–1, Modified
16	DOE RESL Ni–1, Modified
17	DOE EML HASL–300, Tc–02–RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits

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: October 18, 2006

Client Sample ID: 9805-0000-008F
Sample ID: 172879001

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

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	82	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	97	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	96	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	92	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	68	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	81	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	78	(15%-125%)

Notes:
The Qualifiers in this report are defined as follows :

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

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9805-0000-009F	Project:	YANK01204
Sample ID:	172879002	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	20-SEP-06		
Receive Date:	29-SEP-06		
Collector:	Client		
Moisture:	25.5%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium-228		1.17	+/-0.255	0.114	+/-0.255	0.249	pCi/g		MJH1	10/10/06	0811	574337	1
Americium-241	U	0.0312	+/-0.048	0.045	+/-0.048	0.0932	pCi/g						
Bismuth-212		0.812	+/-0.458	0.267	+/-0.458	0.575	pCi/g						
Bismuth-214		0.763	+/-0.151	0.0644	+/-0.151	0.138	pCi/g						
Cesium-134	U	0.0688	+/-0.0507	0.0405	+/-0.0507	0.0874	pCi/g						
Cesium-137	U	0.0147	+/-0.0426	0.0371	+/-0.0426	0.0796	pCi/g						
Cobalt-60	U	0.00264	+/-0.0371	0.0316	+/-0.0371	0.0716	pCi/g						
Europium-152	U	-0.046	+/-0.0783	0.0664	+/-0.0783	0.142	pCi/g						
Europium-154	U	-0.135	+/-0.148	0.0886	+/-0.148	0.200	pCi/g						
Europium-155	U	-0.0469	+/-0.0775	0.0669	+/-0.0775	0.139	pCi/g						
Lead-212		1.29	+/-0.102	0.0411	+/-0.102	0.0863	pCi/g						
Lead-214		1.03	+/-0.143	0.0528	+/-0.143	0.112	pCi/g						
Manganese-54	U	-0.0197	+/-0.0423	0.0333	+/-0.0423	0.0724	pCi/g						
Niobium-94	U	0.0266	+/-0.0496	0.0289	+/-0.0496	0.0626	pCi/g						
Potassium-40		15.6	+/-1.52	0.317	+/-1.52	0.719	pCi/g						
Radium-226		0.763	+/-0.151	0.0644	+/-0.151	0.138	pCi/g						
Silver-108m	U	-0.00124	+/-0.0297	0.0258	+/-0.0297	0.0553	pCi/g						
Thallium-208		0.365	+/-0.0863	0.0282	+/-0.0863	0.0613	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	JMB1	09/29/06	1557	574161

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9805–0000–009F
Sample ID: 172879002
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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9805-0000-015F	Project:	YANK01204
Sample ID:	172879003	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	20-SEP-06		
Receive Date:	29-SEP-06		
Collector:	Client		
Moisture:	9.44%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium-228		0.425	+/-0.132	0.0485	+/-0.132	0.105	pCi/g		MJH1	10/10/06	0829	574337	1
Americium-241	U	-0.0228	+/-0.0622	0.0525	+/-0.0622	0.109	pCi/g						
Bismuth-212		0.373	+/-0.228	0.107	+/-0.228	0.229	pCi/g						
Bismuth-214		0.389	+/-0.0646	0.0263	+/-0.0646	0.0558	pCi/g						
Cesium-134	U	0.0277	+/-0.0155	0.0172	+/-0.0155	0.0366	pCi/g						
Cesium-137		0.0693	+/-0.0318	0.0131	+/-0.0318	0.0281	pCi/g						
Cobalt-60	U	0.00618	+/-0.0146	0.0129	+/-0.0146	0.0287	pCi/g						
Europium-152	U	0.00611	+/-0.0416	0.0337	+/-0.0416	0.0714	pCi/g						
Europium-154	U	0.0538	+/-0.0515	0.048	+/-0.0515	0.104	pCi/g						
Europium-155	U	0.00977	+/-0.0484	0.0453	+/-0.0484	0.0942	pCi/g						
Lead-212		0.462	+/-0.0497	0.0221	+/-0.0497	0.0461	pCi/g						
Lead-214		0.384	+/-0.0646	0.0264	+/-0.0646	0.0557	pCi/g						
Manganese-54	U	0.00535	+/-0.0155	0.0141	+/-0.0155	0.0302	pCi/g						
Niobium-94	U	0.00853	+/-0.0141	0.0132	+/-0.0141	0.0281	pCi/g						
Potassium-40		11.6	+/-0.743	0.115	+/-0.743	0.257	pCi/g						
Radium-226		0.389	+/-0.0646	0.0263	+/-0.0646	0.0558	pCi/g						
Silver-108m	U	0.0118	+/-0.0154	0.0121	+/-0.0154	0.0256	pCi/g						
Thallium-208		0.155	+/-0.0299	0.0141	+/-0.0299	0.030	pCi/g						

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	09/29/06	1557	574161

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9805-0000-015F
Sample ID: 172879003

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9805-0000-006F	Project:	YANK01204
Sample ID:	172879004	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	22-SEP-06		
Receive Date:	29-SEP-06		
Collector:	Client		
Moisture:	15.3%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium-228		0.659	+/-0.153	0.0501	+/-0.153	0.109	pCi/g		MJH1	10/10/06	0918	574337	1
Americium-241	U	0.00343	+/-0.0894	0.0812	+/-0.0894	0.168	pCi/g						
Bismuth-212		0.450	+/-0.236	0.111	+/-0.236	0.239	pCi/g						
Bismuth-214		0.443	+/-0.0698	0.0271	+/-0.0698	0.0581	pCi/g						
Cesium-134	UI	0.00	+/-0.0323	0.0211	+/-0.0323	0.0449	pCi/g						
Cesium-137	U	0.0091	+/-0.0227	0.0177	+/-0.0227	0.0376	pCi/g						
Cobalt-60	U	-0.0183	+/-0.0193	0.0142	+/-0.0193	0.032	pCi/g						
Europium-152	U	-0.0182	+/-0.0455	0.0383	+/-0.0455	0.081	pCi/g						
Europium-154	U	-0.00358	+/-0.0587	0.0499	+/-0.0587	0.109	pCi/g						
Europium-155	U	0.0136	+/-0.0477	0.0464	+/-0.0477	0.0961	pCi/g						
Lead-212		0.611	+/-0.0511	0.0223	+/-0.0511	0.0465	pCi/g						
Lead-214		0.479	+/-0.0675	0.0318	+/-0.0675	0.0666	pCi/g						
Manganese-54	U	0.033	+/-0.0185	0.0156	+/-0.0185	0.0337	pCi/g						
Niobium-94	U	0.0152	+/-0.0167	0.0156	+/-0.0167	0.0331	pCi/g						
Potassium-40		12.0	+/-0.885	0.141	+/-0.885	0.317	pCi/g						
Radium-226		0.443	+/-0.0698	0.0271	+/-0.0698	0.0581	pCi/g						
Silver-108m	U	0.000494	+/-0.0137	0.0125	+/-0.0137	0.0267	pCi/g						
Thallium-208		0.190	+/-0.0362	0.0146	+/-0.0362	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	JMB1	09/29/06	1557	574161

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9805-0000-006F
Sample ID: 172879004

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9805-0000-019F	Project:	YANK01204
Sample ID:	172879005	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	25-SEP-06		
Receive Date:	29-SEP-06		
Collector:	Client		
Moisture:	4.74%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium-228		0.678	+/-0.133	0.0455	+/-0.133	0.0962	pCi/g		MJH1	10/10/06	0918	574337	1
Americium-241	U	0.0404	+/-0.0963	0.0812	+/-0.0963	0.167	pCi/g						
Bismuth-212		0.475	+/-0.162	0.0882	+/-0.162	0.187	pCi/g						
Bismuth-214		0.704	+/-0.0724	0.025	+/-0.0724	0.0524	pCi/g						
Cesium-134	UI	0.00	+/-0.0246	0.015	+/-0.0246	0.0315	pCi/g						
Cesium-137	U	-0.00479	+/-0.0142	0.0118	+/-0.0142	0.025	pCi/g						
Cobalt-60	U	-0.00361	+/-0.014	0.0119	+/-0.014	0.0258	pCi/g						
Europium-152	U	-0.0378	+/-0.0372	0.0324	+/-0.0372	0.0676	pCi/g						
Europium-154	U	-0.0397	+/-0.0446	0.0361	+/-0.0446	0.0776	pCi/g						
Europium-155	U	0.0118	+/-0.0477	0.0458	+/-0.0477	0.0943	pCi/g						
Lead-212		0.648	+/-0.0463	0.022	+/-0.0463	0.0455	pCi/g						
Lead-214		0.819	+/-0.0648	0.0225	+/-0.0648	0.0471	pCi/g						
Manganese-54	U	-0.00151	+/-0.0158	0.0138	+/-0.0158	0.029	pCi/g						
Niobium-94	U	0.0104	+/-0.013	0.0121	+/-0.013	0.0254	pCi/g						
Potassium-40		12.6	+/-0.679	0.115	+/-0.679	0.250	pCi/g						
Radium-226		0.704	+/-0.0724	0.025	+/-0.0724	0.0524	pCi/g						
Silver-108m	U	-0.00444	+/-0.012	0.0105	+/-0.012	0.022	pCi/g						
Thallium-208		0.185	+/-0.0295	0.0131	+/-0.0295	0.0274	pCi/g						

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	09/29/06	1557	574161

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:
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< Result is less than value reported

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd
East Hampton, Connecticut 06424
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9805-0000-019F
Sample ID: 172879005
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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9805-0000-017F	Project:	YANK01204
Sample ID:	172879006	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	25-SEP-06		
Receive Date:	29-SEP-06		
Collector:	Client		
Moisture:	5.61%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium-228		0.821	+/-0.139	0.0439	+/-0.139	0.0947	pCi/g		MJH1	10/10/06	1123	574337	1
Americium-241	U	0.0625	+/-0.0805	0.0752	+/-0.0805	0.155	pCi/g						
Bismuth-212		0.425	+/-0.218	0.0982	+/-0.218	0.210	pCi/g						
Bismuth-214		0.711	+/-0.0743	0.026	+/-0.0743	0.055	pCi/g						
Cesium-134	UI	0.00	+/-0.0231	0.0181	+/-0.0231	0.0382	pCi/g						
Cesium-137		0.0342	+/-0.0212	0.0142	+/-0.0212	0.0301	pCi/g						
Cobalt-60	U	-0.0125	+/-0.0166	0.0128	+/-0.0166	0.0283	pCi/g						
Europium-152	U	-0.0203	+/-0.0414	0.0348	+/-0.0414	0.0729	pCi/g						
Europium-154	U	0.043	+/-0.0567	0.0517	+/-0.0567	0.111	pCi/g						
Europium-155	U	0.00668	+/-0.0442	0.0427	+/-0.0442	0.0879	pCi/g						
Lead-212		0.741	+/-0.0518	0.0216	+/-0.0518	0.0447	pCi/g						
Lead-214		0.749	+/-0.0768	0.0268	+/-0.0768	0.056	pCi/g						
Manganese-54	U	0.0101	+/-0.0197	0.0154	+/-0.0197	0.0327	pCi/g						
Niobium-94	U	0.00877	+/-0.0221	0.0123	+/-0.0221	0.0261	pCi/g						
Potassium-40		11.9	+/-0.698	0.130	+/-0.698	0.286	pCi/g						
Radium-226		0.711	+/-0.0743	0.026	+/-0.0743	0.055	pCi/g						
Silver-108m	U	-0.00256	+/-0.0129	0.0116	+/-0.0129	0.0245	pCi/g						
Thallium-208		0.240	+/-0.0366	0.0147	+/-0.0366	0.0309	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	JMB1	09/29/06	1557	574161

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:
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< Result is less than value reported

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd
East Hampton, Connecticut 06424
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9805-0000-017F
Sample ID: 172879006
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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9805-0000-013F	Project:	YANK01204
Sample ID:	172879007	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	25-SEP-06		
Receive Date:	29-SEP-06		
Collector:	Client		
Moisture:	4.42%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
Alphaspec Am241, Cm, Solid ALL FSS													
Americium-241	U	-0.0265	+/-0.0748	0.0785	+/-0.0748	0.241	pCi/g		JAS1	10/12/06	1617	578044	1
Curium-242	U	-0.016	+/-0.0222	0.0423	+/-0.0222	0.175	pCi/g						
Curium-243/244	U	-0.14	+/-0.0925	0.133	+/-0.094	0.350	pCi/g						
Alphaspec Pu, Solid-ALL FSS													
Plutonium-238	U	0.119	+/-0.151	0.0733	+/-0.152	0.237	pCi/g		JAS1	10/12/06	1204	578046	3
Plutonium-239/240	U	0.0347	+/-0.0976	0.0599	+/-0.0977	0.210	pCi/g						
Liquid Scint Pu241, Solid-ALL FSS													
Plutonium-241	U	4.78	+/-8.24	6.71	+/-8.27	14.1	pCi/g		JAS1	10/10/06	1704	574558	5
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium-228		0.676	+/-0.159	0.0611	+/-0.159	0.134	pCi/g		MJH1	10/10/06	1123	574337	7
Americium-241	U	0.0218	+/-0.0592	0.0553	+/-0.0592	0.115	pCi/g						
Bismuth-212		0.508	+/-0.241	0.123	+/-0.241	0.268	pCi/g						
Bismuth-214		0.531	+/-0.0926	0.029	+/-0.0926	0.0629	pCi/g						
Cesium-134	U	0.0219	+/-0.0285	0.0208	+/-0.0285	0.0449	pCi/g						
Cesium-137	U	0.00171	+/-0.0187	0.0167	+/-0.0187	0.0363	pCi/g						
Cobalt-60	U	0.00126	+/-0.028	0.0144	+/-0.028	0.0332	pCi/g						
Europium-152	U	0.0307	+/-0.0582	0.0395	+/-0.0582	0.0843	pCi/g						
Europium-154	U	0.0112	+/-0.0599	0.0533	+/-0.0599	0.118	pCi/g						
Europium-155	U	0.0549	+/-0.0527	0.0491	+/-0.0527	0.102	pCi/g						
Lead-212		0.643	+/-0.0753	0.0254	+/-0.0753	0.0533	pCi/g						
Lead-214		0.613	+/-0.0942	0.029	+/-0.0942	0.0619	pCi/g						
Manganese-54	U	0.0169	+/-0.0189	0.0179	+/-0.0189	0.0387	pCi/g						
Niobium-94	U	0.00931	+/-0.0164	0.0152	+/-0.0164	0.033	pCi/g						
Potassium-40		10.5	+/-1.08	0.133	+/-1.08	0.308	pCi/g						
Radium-226		0.531	+/-0.0926	0.029	+/-0.0926	0.0629	pCi/g						
Silver-108m	UI	0.00	+/-0.0254	0.0144	+/-0.0254	0.0309	pCi/g						
Thallium-208		0.206	+/-0.0458	0.0159	+/-0.0458	0.0344	pCi/g						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid-ALL FSS													
Strontium-90	U	-0.00219	+/-0.0162	0.0138	+/-0.0162	0.0297	pCi/g		KSD1	10/04/06	2326	574221	8
Rad Liquid Scintillation Analysis													
LSC, Tritium Dist, Solid-HTD2,ALL FSS													
Tritium	U	1.80	+/-7.41	6.10	+/-7.41	13.1	pCi/g		MXP1	10/16/06	1907	579033	9

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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: October 18, 2006

Client Sample ID: 9805-0000-013F
Sample ID: 172879007

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													
Liquid Scint C14, Solid All,FSS													
Carbon-14	U	-0.0255	+/-0.080	0.0682	+/-0.080	0.143	pCi/g		AXD2	10/03/06	2210	574014	12
Liquid Scint Fe55, Solid-ALL FSS													
Iron-55	U	-15.1	+/-30.9	22.3	+/-30.9	46.5	pCi/g		MXP1	10/04/06	2038	574527	13
Liquid Scint Ni63, Solid-ALL FSS													
Nickel-63	U	9.42	+/-6.03	4.67	+/-6.04	9.79	pCi/g		MXP1	10/06/06	1103	574530	14
Liquid Scint Tc99, Solid-ALL FSS													
Technetium-99	U	0.118	+/-0.255	0.210	+/-0.255	0.436	pCi/g		KXR1	10/10/06	1045	574010	16

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	09/29/06	1557	574161

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-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	DOE EML HASL-300, Pu-11-RC Modified
7	EML HASL 300, 4.5.2.3
8	EPA 905.0 Modified
9	EPA 906.0 Modified
10	EPA 906.0 Modified
11	EPA 906.0 Modified
12	EPA EERF C-01 Modified
13	DOE RESL Fe-1, Modified
14	DOE RESL Ni-1, Modified
15	DOE RESL Ni-1, Modified
16	DOE EML HASL-300, Tc-02-RC Modified
17	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits

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

Client Sample ID: 9805-0000-013F
Sample ID: 172879007
Project: YANK01204
Client ID: YANK001
Vol. Recv.:

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	96	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	89	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	72	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	82	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	73	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	79	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	71	(15%-125%)

Notes:
The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd
East Hampton, Connecticut 06424
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9805–0000–016F	Project:	YANK01204
Sample ID:	172879008	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	25–SEP–06		
Receive Date:	29–SEP–06		
Collector:	Client		
Moisture:	7.06%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid–FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium–228		0.820	+/–0.131	0.0527	+/–0.131	0.114	pCi/g		MJH1	10/10/06	1124	574337	1
Americium–241	U	–0.00717	+/–0.134	0.0951	+/–0.134	0.198	pCi/g						
Bismuth–212		0.643	+/–0.222	0.120	+/–0.222	0.256	pCi/g						
Bismuth–214		0.609	+/–0.0947	0.032	+/–0.0947	0.0676	pCi/g						
Cesium–134	U	0.0383	+/–0.0292	0.0183	+/–0.0292	0.039	pCi/g						
Cesium–137	UI	0.00	+/–0.042	0.0147	+/–0.042	0.0316	pCi/g						
Cobalt–60	U	0.0141	+/–0.0107	0.015	+/–0.0107	0.0332	pCi/g						
Europium–152	U	–0.0142	+/–0.0476	0.0426	+/–0.0476	0.0896	pCi/g						
Europium–154	U	–0.0633	+/–0.0555	0.0425	+/–0.0555	0.0934	pCi/g						
Europium–155	U	0.0238	+/–0.0607	0.0583	+/–0.0607	0.121	pCi/g						
Lead–212		0.816	+/–0.0603	0.0259	+/–0.0603	0.0539	pCi/g						
Lead–214		0.679	+/–0.0832	0.0312	+/–0.0832	0.0656	pCi/g						
Manganese–54	U	0.0149	+/–0.0188	0.014	+/–0.0188	0.0302	pCi/g						
Niobium–94	U	–0.00632	+/–0.0164	0.0142	+/–0.0164	0.0303	pCi/g						
Potassium–40		10.6	+/–0.722	0.128	+/–0.722	0.287	pCi/g						
Radium–226		0.609	+/–0.0947	0.032	+/–0.0947	0.0676	pCi/g						
Silver–108m	U	–0.00913	+/–0.0138	0.0116	+/–0.0138	0.0248	pCi/g						
Thallium–208		0.263	+/–0.0396	0.0157	+/–0.0396	0.0334	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	JMB1	09/29/06	1557	574161

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9805-0000-016F
Sample ID: 172879008

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
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Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9805–0000–014F	Project:	YANK01204
Sample ID:	172879009	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	25–SEP–06		
Receive Date:	29–SEP–06		
Collector:	Client		
Moisture:	4.55%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid–FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium–228		0.680	+/–0.133	0.0509	+/–0.133	0.109	pCi/g		MJH1	10/10/06	2057	574337	1
Americium–241	U	–0.00676	+/–0.024	0.0229	+/–0.024	0.0468	pCi/g						
Bismuth–212		0.410	+/–0.241	0.114	+/–0.241	0.242	pCi/g						
Bismuth–214		0.699	+/–0.0831	0.0265	+/–0.0831	0.0562	pCi/g						
Cesium–134	UI	0.00	+/–0.0293	0.0208	+/–0.0293	0.0438	pCi/g						
Cesium–137	U	0.0111	+/–0.0196	0.0157	+/–0.0196	0.0333	pCi/g						
Cobalt–60	U	0.00104	+/–0.0195	0.0167	+/–0.0195	0.0363	pCi/g						
Europium–152	U	–0.0225	+/–0.0421	0.0376	+/–0.0421	0.0786	pCi/g						
Europium–154	U	0.0544	+/–0.0622	0.0573	+/–0.0622	0.122	pCi/g						
Europium–155	U	0.0483	+/–0.0411	0.0396	+/–0.0411	0.0813	pCi/g						
Lead–212		0.793	+/–0.0517	0.0219	+/–0.0517	0.0452	pCi/g						
Lead–214		0.683	+/–0.0744	0.0274	+/–0.0744	0.0573	pCi/g						
Manganese–54	U	–0.00106	+/–0.019	0.016	+/–0.019	0.034	pCi/g						
Niobium–94	U	0.00614	+/–0.0179	0.0158	+/–0.0179	0.0332	pCi/g						
Potassium–40		13.4	+/–0.846	0.151	+/–0.846	0.331	pCi/g						
Radium–226		0.699	+/–0.0831	0.0265	+/–0.0831	0.0562	pCi/g						
Silver–108m	U	0.000646	+/–0.0139	0.0126	+/–0.0139	0.0264	pCi/g						
Thallium–208		0.255	+/–0.0419	0.0148	+/–0.0419	0.0313	pCi/g						

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL–RAD–A–021	JMB1	09/29/06	1557	574161

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9805–0000–014F
Sample ID: 172879009

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9805–0000–011F	Project:	YANK01204
Sample ID:	172879010	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	25–SEP–06		
Receive Date:	29–SEP–06		
Collector:	Client		
Moisture:	17.4%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid–FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium–228		0.764	+/–0.270	0.101	+/–0.270	0.201	pCi/g		MJH1	10/11/06	1006	574337	1
Americium–241	U	–0.00199	+/–0.0494	0.0393	+/–0.0494	0.0786	pCi/g						
Bismuth–212	U	0.441	+/–0.420	0.252	+/–0.420	0.503	pCi/g						
Bismuth–214		0.652	+/–0.148	0.0585	+/–0.148	0.117	pCi/g						
Cesium–134	U	0.0318	+/–0.0406	0.0379	+/–0.0406	0.0757	pCi/g						
Cesium–137	U	0.016	+/–0.0322	0.0297	+/–0.0322	0.0594	pCi/g						
Cobalt–60	U	0.0078	+/–0.036	0.0311	+/–0.036	0.0623	pCi/g						
Europium–152	U	0.0333	+/–0.094	0.0702	+/–0.094	0.140	pCi/g						
Europium–154	U	0.126	+/–0.127	0.119	+/–0.127	0.239	pCi/g						
Europium–155	U	0.0903	+/–0.0956	0.0599	+/–0.0956	0.120	pCi/g						
Lead–212		0.863	+/–0.113	0.0361	+/–0.113	0.0722	pCi/g						
Lead–214		0.599	+/–0.121	0.0492	+/–0.121	0.0983	pCi/g						
Manganese–54	U	–0.0261	+/–0.0364	0.0291	+/–0.0364	0.0582	pCi/g						
Niobium–94	U	0.00303	+/–0.0315	0.0279	+/–0.0315	0.0557	pCi/g						
Potassium–40		13.8	+/–1.41	0.296	+/–1.41	0.591	pCi/g						
Radium–226		0.652	+/–0.148	0.0585	+/–0.148	0.117	pCi/g						
Silver–108m	U	0.00997	+/–0.0285	0.0254	+/–0.0285	0.0508	pCi/g						
Thallium–208		0.282	+/–0.0756	0.0281	+/–0.0756	0.0562	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	JMB1	09/29/06	1557	574161

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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Company : Connecticut Yankee Atomic Power
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Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9805–0000–011F
Sample ID: 172879010

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: October 18, 2006

Client Sample ID:	9805-0000-005F	Project:	YANK01204
Sample ID:	172879011	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	25-SEP-06		
Receive Date:	29-SEP-06		
Collector:	Client		
Moisture:	19.2%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium-228		0.972	+/-0.187	0.0619	+/-0.187	0.133	pCi/g		MJH1	10/11/06	1333	574337	1
Americium-241	U	0.028	+/-0.0957	0.0806	+/-0.0957	0.166	pCi/g						
Bismuth-212		0.605	+/-0.277	0.140	+/-0.277	0.299	pCi/g						
Bismuth-214		0.634	+/-0.0959	0.0328	+/-0.0959	0.0697	pCi/g						
Cesium-134	UI	0.00	+/-0.043	0.0255	+/-0.043	0.0537	pCi/g						
Cesium-137	U	0.0211	+/-0.023	0.0183	+/-0.023	0.039	pCi/g						
Cobalt-60	U	0.00902	+/-0.0234	0.0206	+/-0.0234	0.045	pCi/g						
Europium-152	U	-0.00325	+/-0.0588	0.0449	+/-0.0588	0.0943	pCi/g						
Europium-154	U	0.0995	+/-0.0875	0.0658	+/-0.0875	0.142	pCi/g						
Europium-155	U	0.0465	+/-0.0604	0.0555	+/-0.0604	0.114	pCi/g						
Lead-212		0.880	+/-0.0678	0.0275	+/-0.0678	0.0571	pCi/g						
Lead-214		0.767	+/-0.0788	0.0331	+/-0.0788	0.0696	pCi/g						
Manganese-54	U	0.00518	+/-0.0268	0.0201	+/-0.0268	0.0428	pCi/g						
Niobium-94	U	0.0222	+/-0.0266	0.0181	+/-0.0266	0.0383	pCi/g						
Potassium-40		14.8	+/-1.00	0.159	+/-1.00	0.356	pCi/g						
Radium-226		0.634	+/-0.0959	0.0328	+/-0.0959	0.0697	pCi/g						
Silver-108m	U	-0.00273	+/-0.0189	0.016	+/-0.0189	0.0338	pCi/g						
Thallium-208		0.311	+/-0.0421	0.0173	+/-0.0421	0.0367	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	JMB1	09/29/06	1557	574161

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

Client Sample ID: 9805-0000-005F
Sample ID: 172879011

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9805-0000-018F	Project:	YANK01204
Sample ID:	172879012	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	19-SEP-06		
Receive Date:	29-SEP-06		
Collector:	Client		
Moisture:	5.27%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium-228		0.675	+/-0.161	0.0523	+/-0.161	0.114	pCi/g		MJH1	10/11/06	1333	574337	1
Americium-241	U	0.00915	+/-0.129	0.093	+/-0.129	0.193	pCi/g						
Bismuth-212		0.389	+/-0.257	0.141	+/-0.257	0.299	pCi/g						
Bismuth-214		0.608	+/-0.0793	0.0283	+/-0.0793	0.0603	pCi/g						
Cesium-134	U	0.0374	+/-0.0255	0.0204	+/-0.0255	0.0435	pCi/g						
Cesium-137	U	0.0257	+/-0.0249	0.0159	+/-0.0249	0.034	pCi/g						
Cobalt-60	U	-0.005	+/-0.0183	0.015	+/-0.0183	0.0334	pCi/g						
Europium-152	U	0.0349	+/-0.0485	0.0438	+/-0.0485	0.0918	pCi/g						
Europium-154	U	0.0137	+/-0.0569	0.0499	+/-0.0569	0.109	pCi/g						
Europium-155	U	0.00511	+/-0.0504	0.0482	+/-0.0504	0.0999	pCi/g						
Lead-212		0.691	+/-0.0551	0.0244	+/-0.0551	0.0508	pCi/g						
Lead-214		0.719	+/-0.0882	0.029	+/-0.0882	0.0611	pCi/g						
Manganese-54	U	-0.00268	+/-0.0196	0.0164	+/-0.0196	0.0352	pCi/g						
Niobium-94	U	-0.00705	+/-0.0168	0.014	+/-0.0168	0.0299	pCi/g						
Potassium-40		10.3	+/-0.785	0.141	+/-0.785	0.317	pCi/g						
Radium-226		0.608	+/-0.0793	0.0283	+/-0.0793	0.0603	pCi/g						
Silver-108m	U	0.00471	+/-0.0156	0.0144	+/-0.0156	0.0305	pCi/g						
Thallium-208		0.231	+/-0.0377	0.015	+/-0.0377	0.0321	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	JMB1	09/29/06	1602	574169

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9805–0000–018F
Sample ID: 172879012

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9805-0000-020F	Project:	YANK01204
Sample ID:	172879013	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	19-SEP-06		
Receive Date:	29-SEP-06		
Collector:	Client		
Moisture:	19.2%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium-228		0.927	+/-0.163	0.0598	+/-0.163	0.130	pCi/g		MJH1	10/11/06	1335	574337	1
Americium-241	U	0.00879	+/-0.094	0.0839	+/-0.094	0.173	pCi/g						
Bismuth-212		0.753	+/-0.282	0.133	+/-0.282	0.288	pCi/g						
Bismuth-214		0.605	+/-0.104	0.0347	+/-0.104	0.074	pCi/g						
Cesium-134	U	0.0521	+/-0.0484	0.0254	+/-0.0484	0.0538	pCi/g						
Cesium-137	U	0.0289	+/-0.0249	0.0167	+/-0.0249	0.0361	pCi/g						
Cobalt-60	U	0.00547	+/-0.0209	0.0186	+/-0.0209	0.0414	pCi/g						
Europium-152	U	-0.0225	+/-0.0558	0.0471	+/-0.0558	0.0992	pCi/g						
Europium-154	U	-0.0587	+/-0.065	0.0501	+/-0.065	0.112	pCi/g						
Europium-155	UI	0.00	+/-0.0995	0.0505	+/-0.0995	0.105	pCi/g						
Lead-212		0.846	+/-0.0702	0.0305	+/-0.0702	0.0633	pCi/g						
Lead-214		0.810	+/-0.109	0.0342	+/-0.109	0.072	pCi/g						
Manganese-54	U	0.0011	+/-0.0222	0.0191	+/-0.0222	0.041	pCi/g						
Niobium-94	U	0.0159	+/-0.0199	0.0184	+/-0.0199	0.0391	pCi/g						
Potassium-40		12.7	+/-0.982	0.160	+/-0.982	0.363	pCi/g						
Radium-226		0.605	+/-0.104	0.0347	+/-0.104	0.074	pCi/g						
Silver-108m	U	0.00352	+/-0.0187	0.0161	+/-0.0187	0.0342	pCi/g						
Thallium-208		0.254	+/-0.0476	0.018	+/-0.0476	0.0385	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	JMB1	09/29/06	1602	574169

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9805–0000–020F
Sample ID: 172879013

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
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Certificate of Analysis

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

East Hampton, Connecticut 06424 Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9805-0000-010F	Project:	YANK01204
Sample ID:	172879014	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	19-SEP-06		
Receive Date:	29-SEP-06		
Collector:	Client		
Moisture:	13.9%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium-228		0.675	+/-0.128	0.0562	+/-0.128	0.121	pCi/g		MJH1	10/11/06	1336	574337	1
Americium-241	U	-0.118	+/-0.0795	0.0725	+/-0.0795	0.149	pCi/g						
Bismuth-212		0.519	+/-0.173	0.118	+/-0.173	0.254	pCi/g						
Bismuth-214		0.421	+/-0.071	0.030	+/-0.071	0.0638	pCi/g						
Cesium-134	U	0.0313	+/-0.022	0.0212	+/-0.022	0.0449	pCi/g						
Cesium-137		0.0513	+/-0.0384	0.0151	+/-0.0384	0.0323	pCi/g						
Cobalt-60	U	0.0162	+/-0.0266	0.0197	+/-0.0266	0.0427	pCi/g						
Europium-152	U	-0.0172	+/-0.0606	0.0451	+/-0.0606	0.0943	pCi/g						
Europium-154	U	0.0504	+/-0.0443	0.0567	+/-0.0443	0.123	pCi/g						
Europium-155	U	0.087	+/-0.0697	0.0545	+/-0.0697	0.112	pCi/g						
Lead-212		0.594	+/-0.0528	0.0285	+/-0.0528	0.0589	pCi/g						
Lead-214		0.495	+/-0.0642	0.0312	+/-0.0642	0.0655	pCi/g						
Manganese-54	U	0.000893	+/-0.0192	0.0166	+/-0.0192	0.0356	pCi/g						
Niobium-94	U	-0.0186	+/-0.0161	0.0127	+/-0.0161	0.0274	pCi/g						
Potassium-40		12.3	+/-0.813	0.123	+/-0.813	0.281	pCi/g						
Radium-226		0.421	+/-0.071	0.030	+/-0.071	0.0638	pCi/g						
Silver-108m	U	0.00313	+/-0.0169	0.0147	+/-0.0169	0.031	pCi/g						
Thallium-208		0.224	+/-0.0356	0.0164	+/-0.0356	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	JMB1	09/29/06	1602	574169

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9805-0000-010F
Sample ID: 172879014
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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9805-0000-001F	Project:	YANK01204
Sample ID:	172879015	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	19-SEP-06		
Receive Date:	29-SEP-06		
Collector:	Client		
Moisture:	20.2%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium-228		0.692	+/-0.204	0.0744	+/-0.204	0.159	pCi/g		MJH1	10/11/06	1336	574337	1
Americium-241	U	0.0166	+/-0.032	0.0296	+/-0.032	0.0608	pCi/g						
Bismuth-212		0.502	+/-0.277	0.159	+/-0.277	0.338	pCi/g						
Bismuth-214		0.516	+/-0.103	0.0373	+/-0.103	0.0789	pCi/g						
Cesium-134	UI	0.00	+/-0.0626	0.0273	+/-0.0626	0.0575	pCi/g						
Cesium-137	U	0.0131	+/-0.0279	0.0221	+/-0.0279	0.0468	pCi/g						
Cobalt-60	U	0.00492	+/-0.0283	0.0242	+/-0.0283	0.0522	pCi/g						
Europium-152	U	0.0391	+/-0.0628	0.056	+/-0.0628	0.117	pCi/g						
Europium-154	U	-0.0141	+/-0.0847	0.0707	+/-0.0847	0.152	pCi/g						
Europium-155	U	0.0213	+/-0.0521	0.046	+/-0.0521	0.095	pCi/g						
Lead-212		0.633	+/-0.0699	0.0389	+/-0.0699	0.0799	pCi/g						
Lead-214		0.520	+/-0.0857	0.0383	+/-0.0857	0.0799	pCi/g						
Manganese-54	U	-0.0245	+/-0.0269	0.021	+/-0.0269	0.0447	pCi/g						
Niobium-94	U	-0.027	+/-0.0223	0.0174	+/-0.0223	0.0371	pCi/g						
Potassium-40		11.5	+/-0.917	0.168	+/-0.917	0.373	pCi/g						
Radium-226		0.516	+/-0.103	0.0373	+/-0.103	0.0789	pCi/g						
Silver-108m	U	0.00845	+/-0.020	0.0185	+/-0.020	0.0388	pCi/g						
Thallium-208		0.207	+/-0.053	0.0214	+/-0.053	0.0452	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	JMB1	09/29/06	1602	574169

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: October 18, 2006

Client Sample ID: 9805-0000-001F
Sample ID: 172879015

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9805-0000-001FS	Project:	YANK01204
Sample ID:	172879016	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	19-SEP-06		
Receive Date:	29-SEP-06		
Collector:	Client		
Moisture:	26.8%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium-228		0.802	+/-0.186	0.0656	+/-0.186	0.142	pCi/g		MJH1	10/11/06	1336	574337	1
Americium-241	U	-0.0082	+/-0.0284	0.0221	+/-0.0284	0.0458	pCi/g						
Bismuth-212		0.622	+/-0.233	0.128	+/-0.233	0.277	pCi/g						
Bismuth-214		0.530	+/-0.105	0.0328	+/-0.105	0.0701	pCi/g						
Cesium-134	U	0.0439	+/-0.0252	0.0242	+/-0.0252	0.0515	pCi/g						
Cesium-137	U	0.0148	+/-0.0215	0.0193	+/-0.0215	0.0412	pCi/g						
Cobalt-60	U	0.00173	+/-0.0283	0.0178	+/-0.0283	0.0399	pCi/g						
Europium-152	U	0.000274	+/-0.051	0.0426	+/-0.051	0.090	pCi/g						
Europium-154	U	-0.028	+/-0.0698	0.0555	+/-0.0698	0.123	pCi/g						
Europium-155	UI	0.00	+/-0.0539	0.0335	+/-0.0539	0.0699	pCi/g						
Lead-212		0.710	+/-0.0581	0.0245	+/-0.0581	0.0512	pCi/g						
Lead-214		0.584	+/-0.0833	0.0315	+/-0.0833	0.0665	pCi/g						
Manganese-54	U	0.00129	+/-0.0232	0.0193	+/-0.0232	0.0415	pCi/g						
Niobium-94	U	-0.0123	+/-0.0188	0.0148	+/-0.0188	0.032	pCi/g						
Potassium-40		12.2	+/-1.01	0.148	+/-1.01	0.339	pCi/g						
Radium-226		0.530	+/-0.105	0.0328	+/-0.105	0.0701	pCi/g						
Silver-108m	U	-0.00463	+/-0.0169	0.0146	+/-0.0169	0.0311	pCi/g						
Thallium-208		0.217	+/-0.0489	0.018	+/-0.0489	0.0384	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	JMB1	09/29/06	1602	574169

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9805–0000–001FS
Sample ID: 172879016
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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9805-0000-004F	Project:	YANK01204
Sample ID:	172879017	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	22-SEP-06		
Receive Date:	29-SEP-06		
Collector:	Client		
Moisture:	17.2%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium-228		0.668	+/-0.171	0.0769	+/-0.171	0.166	pCi/g		MJH1	10/11/06	1337	574337	1
Americium-241	U	0.00666	+/-0.0316	0.0305	+/-0.0316	0.0628	pCi/g						
Bismuth-212		0.397	+/-0.247	0.164	+/-0.247	0.351	pCi/g						
Bismuth-214		0.537	+/-0.0936	0.0393	+/-0.0936	0.0837	pCi/g						
Cesium-134	U	0.0309	+/-0.0272	0.0255	+/-0.0272	0.0544	pCi/g						
Cesium-137	U	0.0268	+/-0.0329	0.0218	+/-0.0329	0.0464	pCi/g						
Cobalt-60	U	0.00151	+/-0.0228	0.0196	+/-0.0228	0.0437	pCi/g						
Europium-152	U	0.0542	+/-0.0576	0.0552	+/-0.0576	0.116	pCi/g						
Europium-154	U	-0.0329	+/-0.0729	0.0587	+/-0.0729	0.130	pCi/g						
Europium-155	U	0.0641	+/-0.0785	0.0449	+/-0.0785	0.0931	pCi/g						
Lead-212		0.710	+/-0.0588	0.0266	+/-0.0588	0.0555	pCi/g						
Lead-214		0.514	+/-0.0902	0.0359	+/-0.0902	0.0755	pCi/g						
Manganese-54	U	0.00638	+/-0.0263	0.0226	+/-0.0263	0.0485	pCi/g						
Niobium-94	U	0.0167	+/-0.0216	0.0197	+/-0.0216	0.042	pCi/g						
Potassium-40		12.1	+/-0.943	0.182	+/-0.943	0.411	pCi/g						
Radium-226		0.537	+/-0.0936	0.0393	+/-0.0936	0.0837	pCi/g						
Silver-108m	U	0.00385	+/-0.0201	0.0162	+/-0.0201	0.0344	pCi/g						
Thallium-208		0.236	+/-0.0527	0.0204	+/-0.0527	0.0435	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	JMB1	09/29/06	1602	574169

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9805-0000-004F
Sample ID: 172879017

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9805–0000–004FS	Project:	YANK01204
Sample ID:	172879018	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	22–SEP–06		
Receive Date:	29–SEP–06		
Collector:	Client		
Moisture:	16.2%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid–FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium–228		0.661	+/–0.167	0.061	+/–0.167	0.122	pCi/g		MJH1	10/11/06	1352	574337	1
Americium–241	U	0.00826	+/–0.0821	0.0677	+/–0.0821	0.135	pCi/g						
Bismuth–212		0.474	+/–0.289	0.135	+/–0.289	0.271	pCi/g						
Bismuth–214		0.470	+/–0.0825	0.0312	+/–0.0825	0.0623	pCi/g						
Cesium–134	UI	0.00	+/–0.0294	0.0212	+/–0.0294	0.0424	pCi/g						
Cesium–137	U	0.00926	+/–0.0219	0.0193	+/–0.0219	0.0386	pCi/g						
Cobalt–60	U	0.0012	+/–0.0204	0.0174	+/–0.0204	0.0348	pCi/g						
Europium–152	U	–0.00386	+/–0.0614	0.045	+/–0.0614	0.090	pCi/g						
Europium–154	U	0.058	+/–0.0721	0.0653	+/–0.0721	0.131	pCi/g						
Europium–155	U	0.060	+/–0.0558	0.0527	+/–0.0558	0.105	pCi/g						
Lead–212		0.744	+/–0.0838	0.0254	+/–0.0838	0.0508	pCi/g						
Lead–214		0.503	+/–0.0831	0.0346	+/–0.0831	0.0692	pCi/g						
Manganese–54	U	–0.00841	+/–0.0191	0.0162	+/–0.0191	0.0325	pCi/g						
Niobium–94	U	–0.00327	+/–0.018	0.0151	+/–0.018	0.0303	pCi/g						
Potassium–40		12.2	+/–1.06	0.150	+/–1.06	0.301	pCi/g						
Radium–226		0.470	+/–0.0825	0.0312	+/–0.0825	0.0623	pCi/g						
Silver–108m	U	0.00155	+/–0.0164	0.0146	+/–0.0164	0.0292	pCi/g						
Thallium–208		0.241	+/–0.0458	0.0162	+/–0.0458	0.0324	pCi/g						

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL–RAD–A–021	JMB1	09/29/06	1602	574169

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9805–0000–004FS
Sample ID: 172879018

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9805-0000-002F	Project:	YANK01204
Sample ID:	172879019	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	22-SEP-06		
Receive Date:	29-SEP-06		
Collector:	Client		
Moisture:	19.4%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium-228		1.01	+/-0.269	0.0821	+/-0.269	0.164	pCi/g		MJH1	10/11/06	1353	574337	1
Americium-241	U	0.0107	+/-0.0408	0.0331	+/-0.0408	0.0661	pCi/g						
Bismuth-212	UI	0.00	+/-0.520	0.191	+/-0.520	0.382	pCi/g						
Bismuth-214		0.692	+/-0.133	0.0435	+/-0.133	0.0869	pCi/g						
Cesium-134	UI	0.00	+/-0.0574	0.0329	+/-0.0574	0.0658	pCi/g						
Cesium-137	U	0.0164	+/-0.0289	0.0265	+/-0.0289	0.0529	pCi/g						
Cobalt-60	U	-0.00935	+/-0.0298	0.0238	+/-0.0298	0.0476	pCi/g						
Europium-152	U	-0.0633	+/-0.116	0.054	+/-0.116	0.108	pCi/g						
Europium-154	U	-0.0142	+/-0.0988	0.0816	+/-0.0988	0.163	pCi/g						
Europium-155	U	0.0744	+/-0.0684	0.0524	+/-0.0684	0.105	pCi/g						
Lead-212		0.845	+/-0.0997	0.0321	+/-0.0997	0.0642	pCi/g						
Lead-214		0.747	+/-0.134	0.0402	+/-0.134	0.0803	pCi/g						
Manganese-54	U	0.00497	+/-0.0305	0.0268	+/-0.0305	0.0536	pCi/g						
Niobium-94	U	0.0118	+/-0.0263	0.0238	+/-0.0263	0.0476	pCi/g						
Potassium-40		13.7	+/-1.19	0.206	+/-1.19	0.412	pCi/g						
Radium-226		0.692	+/-0.133	0.0435	+/-0.133	0.0869	pCi/g						
Silver-108m	U	-0.00492	+/-0.0233	0.020	+/-0.0233	0.040	pCi/g						
Thallium-208		0.281	+/-0.055	0.0235	+/-0.055	0.0471	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	JMB1	09/29/06	1602	574169

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9805-0000-002F
Sample ID: 172879019

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9805–0000–003F	Project:	YANK01204
Sample ID:	172879020	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	22–SEP–06		
Receive Date:	29–SEP–06		
Collector:	Client		
Moisture:	11.6%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid–FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium–228		0.688	+/–0.157	0.0551	+/–0.157	0.118	pCi/g		MJH1	10/11/06	1649	574337	1
Americium–241	U	–0.044	+/–0.0512	0.0445	+/–0.0512	0.0921	pCi/g						
Bismuth–212		0.781	+/–0.239	0.105	+/–0.239	0.225	pCi/g						
Bismuth–214		0.569	+/–0.0879	0.0273	+/–0.0879	0.0579	pCi/g						
Cesium–134	UI	0.00	+/–0.0266	0.0183	+/–0.0266	0.039	pCi/g						
Cesium–137		0.0883	+/–0.0237	0.0147	+/–0.0237	0.0313	pCi/g						
Cobalt–60	U	0.0184	+/–0.032	0.0142	+/–0.032	0.0314	pCi/g						
Europium–152	U	–0.0081	+/–0.0415	0.0359	+/–0.0415	0.0755	pCi/g						
Europium–154	U	0.0687	+/–0.0855	0.0471	+/–0.0855	0.102	pCi/g						
Europium–155	U	0.0446	+/–0.0438	0.040	+/–0.0438	0.0827	pCi/g						
Lead–212		0.734	+/–0.0753	0.0207	+/–0.0753	0.0432	pCi/g						
Lead–214		0.626	+/–0.0908	0.0275	+/–0.0908	0.0577	pCi/g						
Manganese–54	U	0.020	+/–0.0166	0.0157	+/–0.0166	0.0334	pCi/g						
Niobium–94	U	0.00615	+/–0.0143	0.0129	+/–0.0143	0.0276	pCi/g						
Potassium–40		11.9	+/–1.05	0.135	+/–1.05	0.300	pCi/g						
Radium–226		0.569	+/–0.0879	0.0273	+/–0.0879	0.0579	pCi/g						
Silver–108m	U	0.00657	+/–0.0146	0.0129	+/–0.0146	0.0272	pCi/g						
Thallium–208		0.223	+/–0.0352	0.0148	+/–0.0352	0.0314	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	JMB1	09/29/06	1602	574169

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9805-0000-003F
Sample ID: 172879020

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: October 18, 2006

Client Sample ID:	9805–0000–012F	Project:	YANK01204
Sample ID:	172879021	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	22–SEP–06		
Receive Date:	29–SEP–06		
Collector:	Client		
Moisture:	17.3%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid–FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium–228		0.524	+/–0.120	0.0374	+/–0.120	0.080	pCi/g		MJH1	10/03/06	0521	574336	1
Americium–241	U	–0.0192	+/–0.0546	0.046	+/–0.0546	0.095	pCi/g						
Bismuth–212		0.373	+/–0.203	0.0837	+/–0.203	0.178	pCi/g						
Bismuth–214		0.370	+/–0.0507	0.021	+/–0.0507	0.0442	pCi/g						
Cesium–134	U	0.0307	+/–0.024	0.0147	+/–0.024	0.0309	pCi/g						
Cesium–137	U	0.0104	+/–0.0309	0.0122	+/–0.0309	0.0258	pCi/g						
Cobalt–60	U	–0.00272	+/–0.0167	0.0117	+/–0.0167	0.0254	pCi/g						
Europium–152	U	0.00769	+/–0.0367	0.0296	+/–0.0367	0.0619	pCi/g						
Europium–154	U	–0.0169	+/–0.0441	0.0357	+/–0.0441	0.0766	pCi/g						
Europium–155	U	0.0194	+/–0.0407	0.0381	+/–0.0407	0.0787	pCi/g						
Lead–212		0.520	+/–0.0418	0.0182	+/–0.0418	0.0377	pCi/g						
Lead–214		0.466	+/–0.0573	0.0216	+/–0.0573	0.0451	pCi/g						
Manganese–54	U	–0.00134	+/–0.0134	0.0117	+/–0.0134	0.0247	pCi/g						
Niobium–94	U	0.000852	+/–0.0121	0.0108	+/–0.0121	0.0228	pCi/g						
Potassium–40		11.6	+/–0.634	0.0975	+/–0.634	0.214	pCi/g						
Radium–226		0.370	+/–0.0507	0.021	+/–0.0507	0.0442	pCi/g						
Silver–108m	U	0.000312	+/–0.0114	0.0101	+/–0.0114	0.0212	pCi/g						
Thallium–208		0.159	+/–0.0291	0.0103	+/–0.0291	0.0218	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	JMB1	09/29/06	1602	574169

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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9805-0000-012F
Sample ID: 172879021
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
Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9805-0000-007F	Project:	YANK01204
Sample ID:	172879022	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	22-SEP-06		
Receive Date:	29-SEP-06		
Collector:	Client		
Moisture:	18.2%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium-228		0.691	+/-0.164	0.0461	+/-0.164	0.101	pCi/g		MJH1	10/03/06	0612	574336	1
Americium-241	U	-0.014	+/-0.117	0.095	+/-0.117	0.197	pCi/g						
Bismuth-212		0.664	+/-0.222	0.110	+/-0.222	0.237	pCi/g						
Bismuth-214		0.474	+/-0.0733	0.0258	+/-0.0733	0.0554	pCi/g						
Cesium-134	U	0.024	+/-0.0284	0.0201	+/-0.0284	0.0428	pCi/g						
Cesium-137	U	-0.00424	+/-0.0197	0.0145	+/-0.0197	0.0313	pCi/g						
Cobalt-60	U	0.00516	+/-0.0167	0.0148	+/-0.0167	0.0332	pCi/g						
Europium-152	U	-0.0196	+/-0.049	0.041	+/-0.049	0.0862	pCi/g						
Europium-154	U	0.0129	+/-0.0552	0.0484	+/-0.0552	0.106	pCi/g						
Europium-155	U	0.0461	+/-0.0501	0.0494	+/-0.0501	0.102	pCi/g						
Lead-212		0.568	+/-0.0534	0.024	+/-0.0534	0.050	pCi/g						
Lead-214		0.466	+/-0.0687	0.0298	+/-0.0687	0.0628	pCi/g						
Manganese-54	U	0.00691	+/-0.0181	0.0159	+/-0.0181	0.0342	pCi/g						
Niobium-94	U	-0.00744	+/-0.0158	0.0131	+/-0.0158	0.0281	pCi/g						
Potassium-40		11.8	+/-0.870	0.148	+/-0.870	0.332	pCi/g						
Radium-226		0.474	+/-0.0733	0.0258	+/-0.0733	0.0554	pCi/g						
Silver-108m	U	-0.0184	+/-0.0144	0.0118	+/-0.0144	0.0253	pCi/g						
Thallium-208		0.193	+/-0.0384	0.0146	+/-0.0384	0.0313	pCi/g						

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	09/29/06	1602	574169

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 Report Date: October 18, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9805–0000–007F Project: YANK01204
Sample ID: 172879022 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

QC Summary

Report Date: October 18, 2006
Page 1 of 12

Client : Connecticut Yankee Atomic Power
362 Injun Hollow Rd

East Hampton, Connecticut

Contact: Mr. Jack McCarthy

Workorder: 172879

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 574558										
QC1201197067 172879001 DUP										
Plutonium-241	U	2.68	U	3.67	pCi/g	0		(0% - 100%)	JAS1	10/10/06 17:36
	Uncert:	+/-7.20		+/-9.16						
	TPU:	+/-7.20		+/-9.17						
QC1201197069 LCS										
Plutonium-241	123			107	pCi/g		87	(75%-125%)		10/10/06 18:09
	Uncert:			+/-12.0						
	TPU:			+/-18.6						
QC1201197066 MB										
Plutonium-241			U	3.56	pCi/g					10/10/06 17:20
	Uncert:			+/-7.43						
	TPU:			+/-7.44						
QC1201197068 172879001 MS										
Plutonium-241	144 U	2.68		127	pCi/g		89	(75%-125%)		10/10/06 17:53
	Uncert:	+/-7.20		+/-16.3						
	TPU:	+/-7.20		+/-23.9						
Batch 578044										
QC1201204516 172879001 DUP										
Americium-241	U	-0.0902	U	-0.0331	pCi/g	93		(0% - 100%)	JAS1	10/12/06 16:17
	Uncert:	+/-0.120		+/-0.101						
	TPU:	+/-0.121		+/-0.101						
Curium-242	U	-0.143	U	-0.00812	pCi/g	179		(0% - 100%)		
	Uncert:	+/-0.0702		+/-0.0159						
	TPU:	+/-0.0724		+/-0.0159						
Curium-243/244	U	-0.0746	U	-0.163	pCi/g	74		(0% - 100%)		
	Uncert:	+/-0.172		+/-0.178						
	TPU:	+/-0.173		+/-0.179						
QC1201204518 LCS										
Americium-241	12.3			13.0	pCi/g		106	(75%-125%)		
	Uncert:			+/-1.24						
	TPU:			+/-2.01						
Curium-242			U	0.00	pCi/g					
	Uncert:			+/-0.0599						
	TPU:			+/-0.0599						
Curium-243/244	14.8			16.6	pCi/g		112	(75%-125%)		
	Uncert:			+/-1.40						
	TPU:			+/-2.46						
QC1201204515 MB										
Americium-241			U	0.00339	pCi/g					
	Uncert:			+/-0.118						
	TPU:			+/-0.118						
Curium-242			U	0.00	pCi/g					
	Uncert:			+/-0.0711						
	TPU:			+/-0.0711						

QC Summary

Workorder: 172879

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 578044										
Curium-243/244			U	-0.164	pCi/g					
	Uncert:			+/-0.0739						
	TPU:			+/-0.0767						
QC1201204517 172879001 MS										
Americium-241	13.5 U	-0.0902		12.8	pCi/g		95	(75%-125%)		
	Uncert:	+/-0.120		+/-1.31						
	TPU:	+/-0.121		+/-2.05						
Curium-242	U	-0.143	U	-0.0368	pCi/g					
	Uncert:	+/-0.0702		+/-0.0361						
	TPU:	+/-0.0724		+/-0.0364						
Curium-243/244	16.3 U	-0.0746		17.7	pCi/g		109	(75%-125%)		
	Uncert:	+/-0.172		+/-1.55						
	TPU:	+/-0.173		+/-2.68						
Batch 578046										
QC1201204520 172879001 DUP										
Plutonium-238	U	-0.0161	U	0.0223	pCi/g	1240		(0% - 100%)	JAS1	10/12/06 12:04
	Uncert:	+/-0.127		+/-0.150						
	TPU:	+/-0.127		+/-0.150						
Plutonium-239/240	U	0.047	U	0.00278	pCi/g	178		(0% - 100%)		
	Uncert:	+/-0.135		+/-0.107						
	TPU:	+/-0.135		+/-0.107						
QC1201204522 LCS										
Plutonium-238			U	0.0311	pCi/g			(75%-125%)		
	Uncert:			+/-0.128						
	TPU:			+/-0.128						
Plutonium-239/240	11.4			10.3	pCi/g		90	(75%-125%)		
	Uncert:			+/-1.03						
	TPU:			+/-1.46						
QC1201204519 MB										
Plutonium-238			U	-0.0384	pCi/g					
	Uncert:			+/-0.0799						
	TPU:			+/-0.080						
Plutonium-239/240			U	-0.0317	pCi/g					
	Uncert:			+/-0.0719						
	TPU:			+/-0.0719						
QC1201204521 172879001 MS										
Plutonium-238	U	-0.0161	U	-0.0462	pCi/g			(75%-125%)		
	Uncert:	+/-0.127		+/-0.0811						
	TPU:	+/-0.127		+/-0.0813						
Plutonium-239/240	12.5 U	0.047		11.6	pCi/g		93	(75%-125%)		
	Uncert:	+/-0.135		+/-1.21						
	TPU:	+/-0.135		+/-1.71						
Rad Gamma Spec										
Batch 574336										
QC1201196540 172275028 DUP										
Actinium-228		0.575		0.630	pCi/g	9		(0% - 100%)	MJH1	10/03/06 06:14
	Uncert:	+/-0.137		+/-0.144						
	TPU:	+/-0.137		+/-0.144						

QC Summary

Workorder: 172879

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 574336											
Americium-241	U	-0.000377	U	-0.000296	pCi/g	24		(0% - 100%)			
	Uncert:	+/-0.0553		+/-0.0229							
	TPU:	+/-0.0553		+/-0.0229							
Bismuth-212		0.487		0.548	pCi/g	12		(0% - 100%)			
	Uncert:	+/-0.229		+/-0.181							
	TPU:	+/-0.229		+/-0.181							
Bismuth-214		0.606		0.535	pCi/g	12		(0% - 100%)			
	Uncert:	+/-0.0922		+/-0.0773							
	TPU:	+/-0.0922		+/-0.0773							
Cesium-134	U	0.027	UI	0.00	pCi/g	72		(0% - 100%)			
	Uncert:	+/-0.0188		+/-0.0445							
	TPU:	+/-0.0188		+/-0.0445							
Cesium-137		3.50	U	0.0209	pCi/g	198*		(0%-20%)			
	Uncert:	+/-0.317		+/-0.0312							
	TPU:	+/-0.317		+/-0.0312							
Cobalt-60		0.089	U	0.00347	pCi/g	185		(0% - 100%)			
	Uncert:	+/-0.0294		+/-0.0186							
	TPU:	+/-0.0294		+/-0.0186							
Europium-152	U	-0.0197	U	-0.00689	pCi/g	96		(0% - 100%)			
	Uncert:	+/-0.049		+/-0.0417							
	TPU:	+/-0.049		+/-0.0417							
Europium-154	U	-0.0211	U	0.081	pCi/g	341		(0% - 100%)			
	Uncert:	+/-0.0462		+/-0.109							
	TPU:	+/-0.0462		+/-0.109							
Europium-155	U	0.0382	U	0.0429	pCi/g	12		(0% - 100%)			
	Uncert:	+/-0.0686		+/-0.047							
	TPU:	+/-0.0686		+/-0.047							
Lead-212		0.583		0.738	pCi/g	23*		(0% - 20%)			
	Uncert:	+/-0.066		+/-0.0492							
	TPU:	+/-0.066		+/-0.0492							
Lead-214		0.695		0.589	pCi/g	17		(0% - 20%)			
	Uncert:	+/-0.107		+/-0.0747							
	TPU:	+/-0.107		+/-0.0747							
Manganese-54	U	0.0169	U	0.0287	pCi/g	52		(0% - 100%)			
	Uncert:	+/-0.0161		+/-0.0174							
	TPU:	+/-0.0161		+/-0.0174							
Niobium-94	U	-0.00138	U	0.0073	pCi/g	293		(0% - 100%)			
	Uncert:	+/-0.0123		+/-0.0179							
	TPU:	+/-0.0123		+/-0.0179							
Potassium-40		9.02		12.2	pCi/g	30*		(0% - 20%)			
	Uncert:	+/-0.922		+/-0.876							
	TPU:	+/-0.922		+/-0.876							
Radium-226		0.606		0.535	pCi/g	12		(0% - 100%)			
	Uncert:	+/-0.0922		+/-0.0773							
	TPU:	+/-0.0922		+/-0.0773							
Silver-108m	U	-0.0159	U	0.0066	pCi/g	483		(0% - 100%)			
	Uncert:	+/-0.0205		+/-0.014							
	TPU:	+/-0.0205		+/-0.014							

QC Summary

Workorder: 172879

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 574336										
Thallium-208		0.186		0.254	pCi/g	31		(0% - 100%)		
	Uncert:	+/-0.0436		+/-0.0405						
	TPU:	+/-0.0436		+/-0.0405						
QC1201196541 LCS										
Actinium-228			U	-0.000391	pCi/g					10/03/06 07:26
	Uncert:			+/-0.575						
	TPU:			+/-0.575						
Americium-241	23.4			25.5	pCi/g		109	(75%-125%)		
	Uncert:			+/-2.52						
	TPU:			+/-2.52						
Bismuth-212			U	-0.528	pCi/g					
	Uncert:			+/-0.989						
	TPU:			+/-0.989						
Bismuth-214			U	0.0129	pCi/g					
	Uncert:			+/-0.236						
	TPU:			+/-0.236						
Cesium-134			U	-0.0169	pCi/g					
	Uncert:			+/-0.145						
	TPU:			+/-0.145						
Cesium-137	9.56			10.1	pCi/g		106	(75%-125%)		
	Uncert:			+/-0.768						
	TPU:			+/-0.768						
Cobalt-60	14.3			14.6	pCi/g		102	(75%-125%)		
	Uncert:			+/-1.01						
	TPU:			+/-1.01						
Europium-152			U	-0.00861	pCi/g					
	Uncert:			+/-0.305						
	TPU:			+/-0.305						
Europium-154			U	0.382	pCi/g					
	Uncert:			+/-0.275						
	TPU:			+/-0.275						
Europium-155			U	-0.0392	pCi/g					
	Uncert:			+/-0.332						
	TPU:			+/-0.332						
Lead-212			U	-0.11	pCi/g					
	Uncert:			+/-0.163						
	TPU:			+/-0.163						
Lead-214			U	0.185	pCi/g					
	Uncert:			+/-0.234						
	TPU:			+/-0.234						
Manganese-54			U	-0.00693	pCi/g					
	Uncert:			+/-0.128						
	TPU:			+/-0.128						
Niobium-94			U	-0.0972	pCi/g					
	Uncert:			+/-0.118						
	TPU:			+/-0.118						
Potassium-40			U	0.676	pCi/g					
	Uncert:			+/-1.06						

QC Summary

Workorder: 172879

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 574336											
	TPU:			+/-1.06							
Radium-226			U	0.0129	pCi/g			(75%-125%)			
	Uncert:			+/-0.236							
	TPU:			+/-0.236							
Silver-108m			U	-0.0142	pCi/g						
	Uncert:			+/-0.119							
	TPU:			+/-0.119							
Thallium-208			U	0.100	pCi/g						
	Uncert:			+/-0.123							
	TPU:			+/-0.123							
QC1201196539 MB											
Actinium-228			U	0.0435	pCi/g					10/03/06	06:13
	Uncert:			+/-0.091							
	TPU:			+/-0.091							
Americium-241			U	-0.0204	pCi/g						
	Uncert:			+/-0.055							
	TPU:			+/-0.055							
Bismuth-212			U	-0.00499	pCi/g						
	Uncert:			+/-0.109							
	TPU:			+/-0.109							
Bismuth-214			U	0.0577	pCi/g						
	Uncert:			+/-0.031							
	TPU:			+/-0.031							
Cesium-134			U	0.00937	pCi/g						
	Uncert:			+/-0.0158							
	TPU:			+/-0.0158							
Cesium-137			U	-0.00291	pCi/g						
	Uncert:			+/-0.0137							
	TPU:			+/-0.0137							
Cobalt-60			U	0.000491	pCi/g						
	Uncert:			+/-0.0155							
	TPU:			+/-0.0155							
Europium-152			U	-0.00472	pCi/g						
	Uncert:			+/-0.0376							
	TPU:			+/-0.0376							
Europium-154			U	0.00671	pCi/g						
	Uncert:			+/-0.0299							
	TPU:			+/-0.0299							
Europium-155			U	0.0139	pCi/g						
	Uncert:			+/-0.0336							
	TPU:			+/-0.0336							
Lead-212			U	0.0167	pCi/g						
	Uncert:			+/-0.0287							
	TPU:			+/-0.0287							
Lead-214			U	0.0536	pCi/g						
	Uncert:			+/-0.0433							
	TPU:			+/-0.0433							
Manganese-54			U	-0.00217	pCi/g						

QC Summary

Workorder: 172879

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 574336										
	Uncert:			+/-0.0116						
	TPU:			+/-0.0116						
Niobium-94			U	0.0106	pCi/g					
	Uncert:			+/-0.0136						
	TPU:			+/-0.0136						
Potassium-40			U	0.0767	pCi/g					
	Uncert:			+/-0.436						
	TPU:			+/-0.436						
Radium-226			U	0.0577	pCi/g					
	Uncert:			+/-0.031						
	TPU:			+/-0.031						
Silver-108m			U	0.0117	pCi/g					
	Uncert:			+/-0.0122						
	TPU:			+/-0.0122						
Thallium-208			U	0.0111	pCi/g					
	Uncert:			+/-0.0142						
	TPU:			+/-0.0142						
Batch 574337										
QC1201196543 172879001 DUP										
Actinium-228		0.897		0.839	pCi/g	7		(0% - 100%)	MJH1	10/11/06 15:17
	Uncert:	+/-0.244		+/-0.207						
	TPU:	+/-0.244		+/-0.207						
Americium-241	U	0.0267	U	5.420E-05	pCi/g	199		(0% - 100%)		
	Uncert:	+/-0.0306		+/-0.092						
	TPU:	+/-0.0306		+/-0.092						
Bismuth-212		0.812		0.486	pCi/g	50		(0% - 100%)		
	Uncert:	+/-0.347		+/-0.281						
	TPU:	+/-0.347		+/-0.281						
Bismuth-214		0.605		0.649	pCi/g	7		(0% - 100%)		
	Uncert:	+/-0.0985		+/-0.0929						
	TPU:	+/-0.0985		+/-0.0929						
Cesium-134	U	0.0441	UI	0.00	pCi/g	41		(0% - 100%)		
	Uncert:	+/-0.0379		+/-0.0381						
	TPU:	+/-0.0379		+/-0.0381						
Cesium-137		0.0628	UI	0.00	pCi/g	24		(0% - 100%)		
	Uncert:	+/-0.0298		+/-0.039						
	TPU:	+/-0.0298		+/-0.039						
Cobalt-60	U	0.00292	U	0.0132	pCi/g	128		(0% - 100%)		
	Uncert:	+/-0.0266		+/-0.0239						
	TPU:	+/-0.0266		+/-0.0239						
Europium-152	U	0.0115	U	0.000515	pCi/g	183		(0% - 100%)		
	Uncert:	+/-0.0583		+/-0.056						
	TPU:	+/-0.0583		+/-0.056						
Europium-154	U	-0.0674	U	0.00465	pCi/g	230		(0% - 100%)		
	Uncert:	+/-0.0873		+/-0.0696						
	TPU:	+/-0.0873		+/-0.0696						
Europium-155	U	0.0406	U	0.0599	pCi/g	38		(0% - 100%)		
	Uncert:	+/-0.0597		+/-0.0865						

QC Summary

Workorder: 172879

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 574337											
	TPU:	+/-0.0597		+/-0.0865							
Lead-212		0.941		0.923	pCi/g	2		(0% - 20%)			
	Uncert:	+/-0.0704		+/-0.0674							
	TPU:	+/-0.0704		+/-0.0674							
Lead-214		0.743		0.748	pCi/g	1		(0% - 20%)			
	Uncert:	+/-0.0907		+/-0.0972							
	TPU:	+/-0.0907		+/-0.0972							
Manganese-54	U	0.00738	U	0.000202	pCi/g	189		(0% - 100%)			
	Uncert:	+/-0.0274		+/-0.0231							
	TPU:	+/-0.0274		+/-0.0231							
Niobium-94	U	-0.000653	U	0.00339	pCi/g	296		(0% - 100%)			
	Uncert:	+/-0.0237		+/-0.0196							
	TPU:	+/-0.0237		+/-0.0196							
Potassium-40		14.8		14.4	pCi/g	3		(0% - 20%)			
	Uncert:	+/-1.20		+/-0.996							
	TPU:	+/-1.20		+/-0.996							
Radium-226		0.605		0.649	pCi/g	7		(0% - 100%)			
	Uncert:	+/-0.0985		+/-0.0929							
	TPU:	+/-0.0985		+/-0.0929							
Silver-108m	U	-0.0179	U	0.000414	pCi/g	209		(0% - 100%)			
	Uncert:	+/-0.0198		+/-0.0166							
	TPU:	+/-0.0198		+/-0.0166							
Thallium-208		0.323		0.274	pCi/g	17		(0% - 100%)			
	Uncert:	+/-0.0621		+/-0.045							
	TPU:	+/-0.0621		+/-0.045							
QC1201196544 LCS											
Actinium-228			U	-0.273	pCi/g					10/11/06	15:18
	Uncert:			+/-0.555							
	TPU:			+/-0.555							
Americium-241	23.4			23.7	pCi/g		102	(75%-125%)			
	Uncert:			+/-1.16							
	TPU:			+/-1.16							
Bismuth-212			U	-0.102	pCi/g						
	Uncert:			+/-0.906							
	TPU:			+/-0.906							
Bismuth-214			U	0.230	pCi/g						
	Uncert:			+/-0.209							
	TPU:			+/-0.209							
Cesium-134			U	0.023	pCi/g						
	Uncert:			+/-0.145							
	TPU:			+/-0.145							
Cesium-137	9.56			10.3	pCi/g		107	(75%-125%)			
	Uncert:			+/-0.499							
	TPU:			+/-0.499							
Cobalt-60	14.3			14.9	pCi/g		104	(75%-125%)			
	Uncert:			+/-0.654							
	TPU:			+/-0.654							
Europium-152			U	0.0647	pCi/g						

QC Summary

Workorder: 172879

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 574337											
	Uncert:			+/-0.293							
	TPU:			+/-0.293							
Europium-154			U	-0.11	pCi/g						
	Uncert:			+/-0.241							
	TPU:			+/-0.241							
Europium-155			U	0.0455	pCi/g						
	Uncert:			+/-0.295							
	TPU:			+/-0.295							
Lead-212			U	0.0606	pCi/g						
	Uncert:			+/-0.152							
	TPU:			+/-0.152							
Lead-214			U	0.0941	pCi/g						
	Uncert:			+/-0.213							
	TPU:			+/-0.213							
Manganese-54			U	-0.099	pCi/g						
	Uncert:			+/-0.131							
	TPU:			+/-0.131							
Niobium-94			U	-0.0874	pCi/g						
	Uncert:			+/-0.112							
	TPU:			+/-0.112							
Potassium-40			U	0.473	pCi/g						
	Uncert:			+/-1.01							
	TPU:			+/-1.01							
Radium-226			U	0.230	pCi/g			(75%-125%)			
	Uncert:			+/-0.209							
	TPU:			+/-0.209							
Silver-108m			U	0.0591	pCi/g						
	Uncert:			+/-0.101							
	TPU:			+/-0.101							
Thallium-208			U	0.0619	pCi/g						
	Uncert:			+/-0.117							
	TPU:			+/-0.117							
QC1201196542 MB											
Actinium-228			U	0.0106	pCi/g					10/11/06	16:50
	Uncert:			+/-0.0479							
	TPU:			+/-0.0479							
Americium-241			U	0.0265	pCi/g						
	Uncert:			+/-0.0588							
	TPU:			+/-0.0588							
Bismuth-212			U	0.00203	pCi/g						
	Uncert:			+/-0.0709							
	TPU:			+/-0.0709							
Bismuth-214			U	0.0367	pCi/g						
	Uncert:			+/-0.0235							
	TPU:			+/-0.0235							
Cesium-134			U	0.00883	pCi/g						
	Uncert:			+/-0.00962							
	TPU:			+/-0.00962							

QC Summary

Workorder: 172879

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 574337										
Cesium-137			U	0.00431	pCi/g					
	Uncert:			+/-0.00913						
	TPU:			+/-0.00913						
Cobalt-60			U	0.000774	pCi/g					
	Uncert:			+/-0.00909						
	TPU:			+/-0.00909						
Europium-152			U	-0.0167	pCi/g					
	Uncert:			+/-0.0221						
	TPU:			+/-0.0221						
Europium-154			U	0.00683	pCi/g					
	Uncert:			+/-0.0223						
	TPU:			+/-0.0223						
Europium-155			U	-0.00959	pCi/g					
	Uncert:			+/-0.0268						
	TPU:			+/-0.0268						
Lead-212			UI	0.00	pCi/g					
	Uncert:			+/-0.0167						
	TPU:			+/-0.0167						
Lead-214			U	0.0246	pCi/g					
	Uncert:			+/-0.019						
	TPU:			+/-0.019						
Manganese-54			U	0.00784	pCi/g					
	Uncert:			+/-0.0106						
	TPU:			+/-0.0106						
Niobium-94			U	0.00214	pCi/g					
	Uncert:			+/-0.009						
	TPU:			+/-0.009						
Potassium-40			U	0.134	pCi/g					
	Uncert:			+/-0.210						
	TPU:			+/-0.210						
Radium-226			U	0.0367	pCi/g					
	Uncert:			+/-0.0235						
	TPU:			+/-0.0235						
Silver-108m			U	0.00185	pCi/g					
	Uncert:			+/-0.00804						
	TPU:			+/-0.00804						
Thallium-208			U	0.00852	pCi/g					
	Uncert:			+/-0.0165						
	TPU:			+/-0.0165						
Rad Gas Flow										
Batch 574221										
QC1201196232 172875011 DUP										
Strontium-90	U	-0.0251	U	0.0221	pCi/g	0		(0% - 100%)	KSD1	10/04/06 23:26
	Uncert:	+/-0.0121		+/-0.0157						
	TPU:	+/-0.0121		+/-0.0157						
QC1201196234 LCS										
Strontium-90	1.74			1.83	pCi/g		105	(75%-125%)		10/04/06 23:26
	Uncert:			+/-0.121						

QC Summary

Workorder: 172879

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gas Flow										
Batch 574221										
	TPU:			+/-0.133						
QC1201196231 MB										
Strontium-90			U	0.0207	pCi/g					10/04/06 23:26
	Uncert:			+/-0.0142						
	TPU:			+/-0.0142						
QC1201196233 172875011 MS										
Strontium-90	3.72 U	-0.0251		3.25	pCi/g		87	(75%-125%)		10/04/06 23:26
	Uncert:	+/-0.0121		+/-0.225						
	TPU:	+/-0.0121		+/-0.244						
Rad Liquid Scintillation										
Batch 574010										
QC1201195649 172879001 DUP										
Technetium-99	U	-0.0681	U	0.099	pCi/g	0		(0% - 100%)	KXR1	10/09/06 09:12
	Uncert:	+/-0.263		+/-0.279						
	TPU:	+/-0.263		+/-0.279						
QC1201195651 LCS										
Technetium-99	13.0			12.2	pCi/g		94	(75%-125%)		10/09/06 09:44
	Uncert:			+/-0.488						
	TPU:			+/-0.562						
QC1201195648 MB										
Technetium-99			U	0.0765	pCi/g					10/09/06 08:55
	Uncert:			+/-0.239						
	TPU:			+/-0.239						
QC1201195650 172879001 MS										
Technetium-99	13.0 U	-0.0681		12.3	pCi/g		95	(75%-125%)		10/09/06 09:28
	Uncert:	+/-0.263		+/-0.562						
	TPU:	+/-0.263		+/-0.629						
Batch 574014										
QC1201195658 172875001 DUP										
Carbon-14	U	-0.018	U	-0.0777	pCi/g	0		(0% - 100%)	AXD2	10/04/06 00:15
	Uncert:	+/-0.0708		+/-0.0723						
	TPU:	+/-0.0708		+/-0.0723						
QC1201195660 LCS										
Carbon-14	6.74			7.75	pCi/g		115	(75%-125%)		10/04/06 01:35
	Uncert:			+/-0.496						
	TPU:			+/-0.510						
QC1201195657 MB										
Carbon-14			U	-0.0593	pCi/g					10/03/06 23:12
	Uncert:			+/-0.067						
	TPU:			+/-0.067						
QC1201195659 172875001 MS										
Carbon-14	7.18 U	-0.018		7.99	pCi/g		111	(75%-125%)		10/04/06 01:17
	Uncert:	+/-0.0708		+/-0.510						
	TPU:	+/-0.0708		+/-0.525						
Batch 574527										
QC1201196976 172875001 DUP										
Iron-55	U	1.82	U	-0.127	pCi/g	0		(0% - 100%)	MXP1	10/04/06 21:11
	Uncert:	+/-42.6		+/-39.5						
	TPU:	+/-42.6		+/-39.5						

QC Summary

Workorder: 172879

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation										
Batch 574527										
QC1201196978 LCS										
Iron-55	631			629	pCi/g		100	(75%-125%)		10/04/06 21:43
	Uncert:			+/-58.3						
	TPU:			+/-76.2						
QC1201196975 MB										
Iron-55			U	20.6	pCi/g					10/04/06 20:54
	Uncert:			+/-32.0						
	TPU:			+/-32.0						
QC1201196977 172875001 MS										
Iron-55	663 U	1.82		636	pCi/g		96	(75%-125%)		10/04/06 21:27
	Uncert:	+/-42.6		+/-59.5						
	TPU:	+/-42.6		+/-74.9						
Batch 574530										
QC1201196984 172879007 DUP										
Nickel-63	U	9.42		10.2	pCi/g	8		(0% - 100%)	MXP1	10/06/06 12:07
	Uncert:	+/-6.03		+/-6.13						
	TPU:	+/-6.04		+/-6.14						
QC1201196986 LCS										
Nickel-63	500			469	pCi/g		94	(75%-125%)		10/06/06 13:10
	Uncert:			+/-15.9						
	TPU:			+/-21.7						
QC1201196983 MB										
Nickel-63			U	6.26	pCi/g					10/06/06 11:35
	Uncert:			+/-7.08						
	TPU:			+/-7.08						
QC1201196985 172879007 MS										
Nickel-63	556 U	9.42		528	pCi/g		95	(75%-125%)		10/06/06 12:38
	Uncert:	+/-6.03		+/-17.4						
	TPU:	+/-6.04		+/-24.7						
Batch 579033										
QC1201206810 172879001 DUP										
Tritium	U	-3.35	U	0.248	pCi/g	0		(0% - 100%)	MXP1	10/16/06 19:40
	Uncert:	+/-6.99		+/-6.67						
	TPU:	+/-6.99		+/-6.67						
QC1201206812 LCS										
Tritium	67.6			72.3	pCi/g		107	(75%-125%)		10/16/06 20:12
	Uncert:			+/-12.3						
	TPU:			+/-12.3						
QC1201206809 MB										
Tritium			U	1.63	pCi/g					10/16/06 19:23
	Uncert:			+/-8.10						
	TPU:			+/-8.10						
QC1201206811 172879001 MS										
Tritium	58.5 U	-3.35		51.6	pCi/g		88	(75%-125%)		10/16/06 19:56
	Uncert:	+/-6.99		+/-10.2						
	TPU:	+/-6.99		+/-10.3						

QC Summary

Workorder: 172879

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

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 acceptence 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.

ATTACHMENT 3 (DQA RESULTS)

ATTACHMENT 3A (PRELIMINARY DATA REVIEW)

Preliminary Data Review Form - Samples for the Sign Test

Survey Unit:	9805- 0000
Survey Unit Name:	PENINSULA SUBSURFACE
Classification:	C
Survey Media:	Soil
Type of Survey:	Final Status Survey
Type of Measurement:	Gross Measurement
Number of Measurements:	15
Operational DCGL (pCi/g)	5.38E+00

BASIC STATISTICAL QUANTITIES

	Cs-137		
Minimum Value:	-4.24E-03		
Maximum Value:	8.83E-02		
Mean:	2.72E-02		
Median:	1.60E-02		
Standard Deviation:	2.74E-02		
Skew:	1.172		

	RADIONUCLIDE CONCENTRATION (pCi/g)				
NUMBER	Cs-137			Cs Identified?	
9805-0000-001F	1.31E-02			NO	
9805-0000-002F	1.64E-02			NO	
9805-0000-003F	8.83E-02			YES	
9805-0000-004F	2.68E-02			NO	
9805-0000-005F	2.11E-02			NO	
9805-0000-006F	9.10E-03			NO	
9805-0000-007F	-4.24E-03			NO	
9805-0000-008F	6.28E-02			YES	
9805-0000-009F	1.47E-02			NO	
9805-0000-010F	5.13E-02			YES	
9805-0000-011F	1.60E-02			NO	
9805-0000-012F	1.04E-02			NO	
9805-0000-013F	1.71E-03			NO	
9805-0000-014F	1.11E-02			NO	
9805-0000-015F	6.93E-02			YES	

Performed By: _____ Date: 11-15-06

Independent Review: _____ Date: 11/16/06

Preliminary Data Review Form - Judgemental Samples

Survey Unit:	9805- 0000
Survey Unit Name:	PENINSULA SUBSURFACE
Classification:	C
Survey Media:	Soil
Type oe Survey:	Final Status Survey
Type oe Measurement:	Gross Measurement
Number of Measurements:	5
Operational DCGL (pCi/g)	5.38E+00

BASIC STATISTICAL QUANTITIES

RANGE	Cs-137	
Minimum Value:	-4.79E-03	
Maximum Value:	3.42E-02	
Mean:	1.68E-02	
Median:	2.57E-02	
Standard Deviation:	1.79E-02	
Operational DCGL	5.38E+00	

NUMBER	RADIONUCLIDE CONCENTRATION (pCi/g) Cs-137	2σ	Cs ID'ed?	> DCGL
9805-0000-016F	0.00E+00	4.20E-02	NO	NO
9805-0000-017F	3.42E-02	2.12E-02	YES	NO
9805-0000-018F	2.57E-02	2.49E-02	YES	NO
9805-0000-019F	-4.79E-03	1.42E-02	NO	NO
9805-0000-020F	2.89E-02	2.49E-02	YES	NO

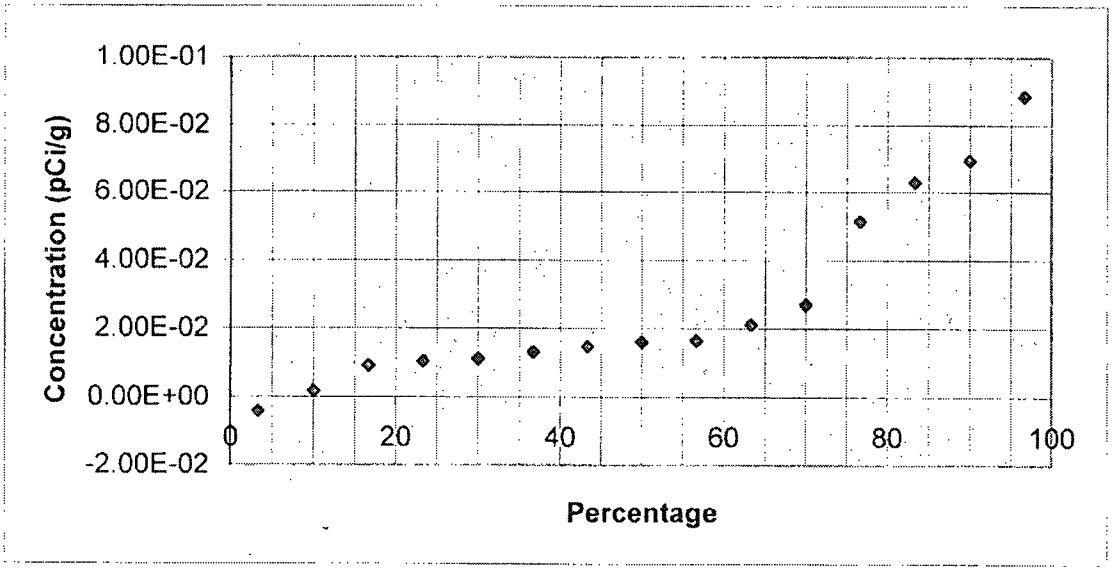
Performed By: _____ Date: 11-16-06

Independent Review: _____ Date: 11/16/06

ATTACHMENT 3B (GRAPHICAL REPRESENTATION OF DATA)

Quantile Plot For Cesium - 137

Survey Unit: 9805-0000
Survey Unit Name: PENINSULA SUBSURFACE
Mean: 2.72E-02 pCi/g



Cs-137	Rank	Percentage
-4.24E-03	1	3 %
1.71E-03	2	10 %
9.10E-03	3	17 %
1.04E-02	4	23 %
1.11E-02	5	30 %
1.31E-02	6	37 %
1.47E-02	7	43 %
1.60E-02	8	50 %
1.64E-02	9	57 %
2.11E-02	10	63 %
2.68E-02	11	70 %
5.13E-02	12	77 %
6.28E-02	13	83 %
6.93E-02	14	90 %
8.83E-02	15	97 %

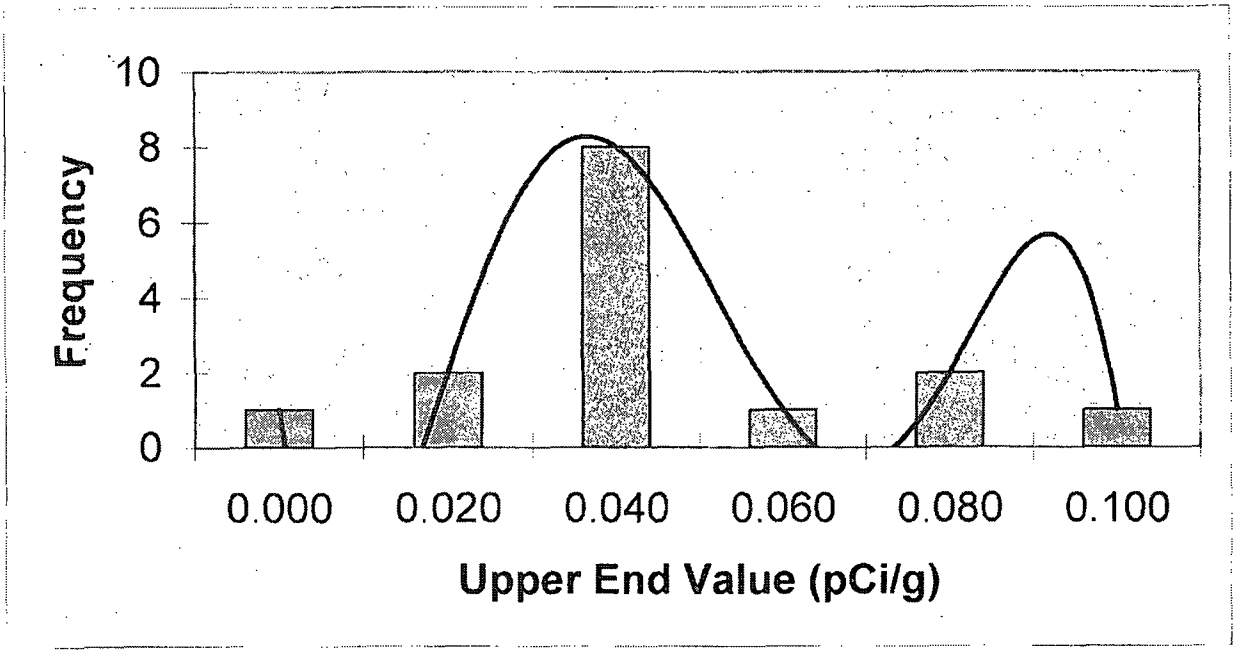
Prepared By: _____ Date: 11-15-06

Reviewed By: _____ Date: 11 | 16 | 06

Frequency Plot For Cesium-137

Survey Unit: 9805-0000
Survey Unit Name: PENINSULA SUBSURFACE

Mean: 0.027 pCi/g



Upper End Value	Observation Frequency	Observation % Frequency
0.000	1	7%
0.020	2	13%
0.040	8	53%
0.060	1	7%
0.080	2	13%
0.100	1	7%
Total	15	100%

Prepared By: _____ Date: 11-15-06

Reviewed By: _____ Date: 11/16/06

ATTACHMENT 3C (SIGN TEST)

Sign Test Calculation Sheet For Single Radionuclide

Survey Unit Number: 9805-0000

Survey Unit Name: PENINSULA SUBSURFACE

WP&IR#: 2006-0007

Classification : C	TYPE I (α error):0.05	TYPE I (β error):0.05	

Radionuclide: Cs-137

Operational DCGL (pCi/g): 5.38

Results Cs-137	DCGL-Result	Sign
1.31E-02	5.37E+00	1
1.64E-02	5.36E+00	1
8.83E-02	5.29E+00	1
2.68E-02	5.35E+00	1
2.11E-02	5.36E+00	1
9.10E-03	5.37E+00	1
-4.24E-03	5.38E+00	1
6.28E-02	5.32E+00	1
1.47E-02	5.37E+00	1
5.13E-02	5.33E+00	1
1.60E-02	5.36E+00	1
1.04E-02	5.37E+00	1
1.71E-03	5.38E+00	1
1.11E-02	5.37E+00	1
6.93E-02	5.31E+00	1

Number of Positive Differences (S+): 15

Critical Value: 11 Survey Unit: Meets Acceptance Criterion

Performed By: Robert [illegible] Date: 11-15-06

Independent Review: [illegible] Date: 11/16/06

ATTACHMENT 3D (QC SPLIT RESULTS)

Split Sample Assessment Form

Survey Area #:	9805	Survey Unit #:	0000	Survey Unit Name:	PENINSULA SUBSURFACE
Sample Plan or WPIR#:	2006-0007			SML #:	9805-0000-001FS

Sample Description: Comparison of split samples collected from sample measurement location #01 and analyzed using gamma spectroscopy by an off-site vendor laboratory. The standard sample was 9805-0000-001F the comparison sample was 9805-0000-001FS.

STANDARD					COMPARISON			
Radionuclide	Activity Value	Standard Error	Resolution	Agreement Range	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)
Cs-137	1.31E-02	1.40E-02	1	NONE	1.48E-02	1.08E-02	1.13	N/A
K-40	1.15E+01	4.59E-01	25	0.75 1.33	1.22E+01	5.05E-01	1.06	Y

Comments/Corrective Actions: Cs-137 is reported at levels approaching or below detection limits. A small variance in the reported activity for the samples could result in a low resolution and a corresponding unsatisfactory comparison ratio. Guidance for sample agreement was developed from USNRC Inspection Procedure 84750 which does not provide agreement ranges for resolutions less than 4. Therefore, a statement of acceptability in such cases is not appropriate. However, K-40 was found to be present at an acceptable level of agreement. Therefore, no further action is warranted.

Table is provided to show acceptance criteria used to assess split samples.

Resolution		Agreement Range	
4	7	0.50	2.00
8	15	0.60	1.66
16	50	0.75	1.33
51	200	0.80	1.25
> 200		0.85	1.18

Performed By:	Date:	Reviewed By:	Date:
[signature]	11-15-06	[signature]	11/16/06

WPIR – Work Plan and Inspection Record

SML – Sample Measurement Location designation

Split Sample Assessment Form

Survey Area#:	9805	Survey Unit #:	0000	Survey Unit Name:	PENINSULA SUBSURFACE
Sample Plan or WPIR#:	2006-0007			SML #:	9805-0000-004FS

Sample Description: Comparison of split samples collected from sample measurement location #04 and analyzed using gamma spectroscopy by an off-site vendor laboratory. The standard sample was 9805-0000-004F, the comparison sample was 9805-0000-004FS.

	STANDARD				COMPARISON			
Radionuclide	Activity Value	Standard Error	Resolution	Agreement Range	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)
Cs-137	2.68E-02	1.65E-02	2	NONE -	9.26E-03	1.10E-02	0.35	N/A
K-40	1.21E+01	4.72E-01	26	0.75 - 1.33	1.22E+01	5.30E-01	1.01	Y

Comments/Corrective Actions: Cs-137 is reported at levels approaching or below detection limits. A small variance in the reported activity for the samples could result in a low resolution and a corresponding unsatisfactory comparison ratio. Guidance for sample agreement was developed from USNRC Inspection Procedure 84750 which does not provide agreement ranges for resolutions less than 4. Therefore, a statement of acceptability in such cases is not appropriate. However, K-40 was found to be present at an acceptable level of agreement. Therefore, no further action is warranted.

Table is provided to show acceptance criteria used to assess split samples.

Resolution		Agreement Range	
4	7	0.50	2.00
8	15	0.60	1.66
16	50	0.75	1.33
51	200	0.80	1.25
> 200		0.85	1.18

Performed By:	Date:	Reviewed By:	Date:
Robert Gill	11-15-06	[signature]	11/16/06

WPIR – Work Plan and Inspection Record

SML – Sample Measurement Location designation

ATTACHMENT 3E (COMPASS DQA WITH POWER CURVE)

Surface Soil Survey Plan

Survey Plan Summary

Site:	subsurface 9805 (Peninsula)		
Planner(s):	rwm		
Survey Unit Name:	Peninsula Subsurface Soil (9805-0000)		
Comments:	Class C Subsurface Survey Unit		
Area (m²):	130,380	Classification:	3
Selected Test:	Sign	Estimated Sigma (pCi/g):	0.0274
DCGL (pCi/g):	5.38	Sample Size (N):	14
LBGR (pCi/g):	5.31	Estimated Conc. (pCi/g):	0
Alpha:	0.050	Estimated Power:	1
Beta:	0.050		

Prospective Power Curve