



Final Status Survey Final Report Phase IV

**Appendix A2
Survey Unit Release Record
9106-0002, Discharge Canal**

November 2006



CYAPCO
FINAL STATUS SURVEY RELEASE RECORD
DISCHARGE CANAL
SURVEY UNIT 9106-0002

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1. SURVEY UNIT DESCRIPTION

Survey Unit 9106-0002 (Discharge Canal) is designated as Final Status Survey (FSS) Class 2 and consists of approximately 5520 m² (1.36 acres) of water covered sediment in an area located approximately 0.20 miles from the reference coordinate system benchmark used at the Haddam Neck Plant (HNP) (see Attachment 1, Figure 1). The Discharge Canal is a man-made mile long waterway that runs parallel to, and ultimately communicates with the Connecticut River. The Discharge Canal is subdivided into fifteen (15) survey units including two (2) permanent wetland areas for FSS purposes. The survey unit is bounded as follows: Discharge Canal Survey Unit 9106-0014 is to the north, (called north as orientated with the north to south flow of the Connecticut River), survey unit 9521 is to the east, Discharge Canal Survey Unit 9106-0003 is to the south and Survey Area 9520 is to the west. The Survey Unit comprises the canal sediments to the depth of three (3) feet from the top of the sediment layer or the original construction depth and it extends up the canal banks to the mean high water level.

This survey unit is bounded by reference coordinates E006 through E010 by S077 through S081 (refer to License Termination Plan Section 5.4.4). The reference coordinates provide the maximum dimensions of a rectangle containing this survey unit. Some areas contained in this rectangle may not be part of this survey unit. The boundary of the survey unit was defined using a Global Positioning System (GPS) based on the Connecticut State Plane System North American Datum (NAD) 1927.

2. CLASSIFICATION BASIS

The survey unit was classified in accordance with Procedure RPM 5.1-10, "*Survey Unit Classification*." The historical information, scoping analyses and characterization results provided sufficient data to designate Survey Unit 9106-0002 as Class 2 in May 2006.

The "*Classification Basis Summary*" conducted for this survey unit consisted of:

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

A review of the 10CFR50.75(g)(1) database report identified a number of events that may have impacted this survey unit. In 1986, samples were taken from the legacy dredge spoils removed in 1979 dredged spoils area and from recently dredged canal sediment. The sample analyses indicated that the

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concentrations of Cs-137, Co-60 and other radionuclides were a small fraction of the DCGLs for those nuclides that could be identified by gamma spectroscopy. (refer to NE-86-RA-1142 dated 11-13-86). None the available historical information reviewed would support a conclusion that any residual activity in this survey unit is likely to be present at concentrations greater than the respective DCGLs.

Additional information was provided by several historical documents, including the "*Results of Scoping Survey*", (completed 9/1/98), the "*Historical Site Assessment*", and the HSA Supplement (dated 6-30-00). These documents presented the results of several sediment samples taken in 1997. These sample results indicated concentrations of 0.5 pCi/g for Co-60, 0.024pCi/g for Cs-134 and 0.722 pCi/g for Cs-137.

An initial characterization survey of the Discharge Canal was performed during April and May of 2004. However, none of these samples were taken from within the footprint of Survey Unit 9106-0002.

A final characterization was performed by Site Closure personnel in April of 2006 to obtain the necessary data of sufficient data quality for Final Status Survey (FSS) planning purposes. Seven (7) 3-foot core sediment samples were taken from seven (7) locations. All of the samples were analyzed by gamma spectroscopy. Hard-to-Detect analyses were also conducted on one (1) of the seven (7) samples. Sr-90 was found to be a nuclide of concern based on the analysis of the sample. Since a variance cannot be determined from one (1) sample result, the variance associated with the fifteen (15) characterization samples measured for Sr-90 in an adjacent Survey Unit (SU9106-0003) was applied. Although no additional HTD testing was performed for characterization; four (4) of the fifteen (15) samples taken to demonstrate compliance with the release criteria during FSS were tested for the full suite of HTD nuclides to provide additional assurance that all of the radionuclides of concern were appropriately addressed. As a result of characterization, the radionuclides of concern identified for FSS planning purposes were Cs-137, Co-60 and Sr-90 (refer to Table 1).

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Table 1 – Basic Statistical Quantities for Cs-137, Co-60 and Sr-90 from the Characterization Survey

Parameter	Cs-137 (pCi/g)	Co-60 (pCi/g)	Sr-90 (pCi/g)
Minimum Value:	4.58E-02	-4.90E-03	9.43E-04
Maximum Value:	3.93E-01	2.53E-01	3.77E-02
Mean:	1.64E-01	9.59E-02	1.45E-02
Median:	1.53E-01	8.72E-02	1.08E-02
Standard Deviation:	1.18E-01	7.94E-02	1.10E-02
NOTE: The Operational DCGLs are 5.38 pCi/g for Cs-137, 2.59 pCi/g for Co-60 and 1.05 for Sr-90; these are used in conjunction with the unity rule to achieve 17 mrem/yr TEDE			

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

Based upon the historical information and the results of radiological surveys performed during characterization, it was concluded that there was a low probability for residual radioactivity to be present in this survey unit in concentrations greater than the Operational DCGLs justifying a final survey unit classification of Class 2 (refer to Section 3).

3. DATA QUALITY OBJECTIVES (DQO)

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

The primary objective of the Final Status Survey Plan (FSSP) was to demonstrate that the level of residual radioactivity in Survey Unit 9106-0002 did not exceed the release criteria specified in the LTP and that the potential dose from residual radioactivity is As Low As Reasonably Achievable (ALARA).

A fundamental precursor to survey design is to establish a relationship between the release criteria and some measurable quantity. This is done through the

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development of Derived Concentration Guideline Levels (DCGLs). The DCGLs represent the concentration of radioactivity above background, equivalent to a dose-based release criterion and is 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), for existing groundwater radioactivity and for future groundwater radioactivity that will be contributed by building foundations and footings.

As described in detail in the LTP, the dose model applied to the discharge canal presumes that the canal sediments are dredged to a depth of three (3) feet below the top of the sediment layer and spread for the planting of crops per the Resident Farmer Scenario. Consequently, the soil DCGLs are directly applied to the canal sediment media.

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

Equation 1:

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

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 Connecticut Yankee (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 unit is affected by existing groundwater, but is unaffected by future groundwater (reference CY memo ISC 06-024). Therefore, dose contribution from existing groundwater is two (2) mrem/yr TEDE, based on field data.

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

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Equation 2:

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

The allowable dose for soil in this survey unit is nineteen (19)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.

Note: The survey design used a much smaller value for investigation than the Operational DCGL provided by Table 2 to conservatively account for the contribution to the total dose from existing and future groundwater which had not been established at the time of planning the FSS.

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**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 (HTD)

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

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

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

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

Another important facet of the DQO process is to identify the radionuclides of concern and determine the concentration variability. Characterization was performed in April and May of 2004 as discussed in Section 2. Cesium-137, Cobalt-60 and Strontium-90 were found to be the predominate radionuclides of concern. The basic statistical quantities (i.e., mean, standard deviation, median) for Cs-137, Co-60 and Sr-90 are provided in Table 1.

As part of the DQOs applied to laboratory processes, analysis results were reported as actual calculated results. Results reported as less than Minimum Detectable Concentration (<MDC) were not accepted for FSS. Sample report

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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"*.

This survey was initially designed to ten (10) mrem/yr TEDE. At the time when the survey was designed, the dose contribution for existing and future groundwater had not yet been determined. Subsequently, a conservative value was chosen for the Operational DCGL. This approach is no longer required as the total dose from existing and future groundwater has been established. The dose for soil used for this survey unit to demonstrate compliance with the LTP criteria is seventeen (17) mrem/yr TEDE, as discussed in Section 2 of this Release Record.

The DQO process determined that Cs-137, Co-60 and Sr-90 were the radionuclides of concern (refer to Section 3). The sum of fractions or unity rule was used with the individual Operational DCGLs because multiple radionuclides (Cs-137, Co-60 and Sr-90) were considered in the survey design.

Surrogate DCGLs were not required for this survey unit based on process knowledge from FSS of nearby adjacent areas and via screening process described in LTP Section 5.4.7.2, "Gross Activity DCGLs". Sr-90 concentrations in sediment and soil were ascertained by direct analysis.

Radionuclide screening or de-selection is a process where an individual radionuclide or aggregate may be considered insignificant and eliminated from the FSS. The criteria for de-selection are concentrations that are less than 5% for individual radionuclides and that are less than 10% for the aggregate of all radionuclides that are de-selected. This process was applied to analysis data for this survey unit.

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

The Sign Test was selected as the non-parametric statistical test to demonstrate that the null hypothesis was rejected. The use of the Sign Test did not require the selection or use of a background reference area, which simplified survey design and implementation. In addition, this approach is conservative since it includes background Cs-137 as part of the sample set.

The number of sediment samples for FSS was determined in accordance with Procedure RPM 5.1-12, *"Determination of the Number of Samples for Final Status Survey."* The Lower Bound of the Gray Region (LBGR) was set in

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accordance with Procedure RPM 5.1-11 to 0.867 to maintain the relative shift (Δ/σ) in the range of 1 and 3. The resulting 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 MARSSIM in support of the decommissioning license termination rule (10 CFR 20, Subpart E). The result of the COMPASS computer run showed adequate power for the survey design. This indicates that the survey unit has a high probability of rejecting the null hypothesis, assuming that the characterization data are representative of the FSS results. Survey design specified fifteen (15) sediment core samples for non-parametric statistical testing.

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

Subsequent to the initial design, the northern boundary of the survey unit was moved southward. The following are summary explanations of the design considerations and how these affected Survey Unit 9106-0002:

- An adjacent survey unit (SU 9106-0001) was reclassified to a Class 1 area.
- Since SU 9106-0001 exceeded the 2000 m² size limit for a Class 1 area, it was divided into a northern survey unit (SU 9106-0001) and a southern survey unit (SU 9106-0014).
- In order to maximize the area of the two (2) Class 1 Survey Units, the boundaries of Survey Units 9106-0002 and 9106-0014 were pushed southward.
- Changing the boundaries placed three (3) statistical sample locations (001F, 003F and 006F) and one (1) bias sample location (016F) outside of Survey Unit 9106-0002.
- The affected statistical sample locations were replaced with three (3) randomly generated sample locations (017F, 018F and 019F).
- The biased location was not relocated as it was placed to target an area of interest that was removed from the survey unit as a consequence of the boundary change.

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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
9106-0002-002F	236170.95	669239.34
9106-0002-004F	236106.91	669202.36
9106-0002-005F	236106.91	669276.31
9106-0002-007F	236042.86	669165.39
9106-0002-008F	236042.86	669239.34
9106-0002-009F	236042.86	669313.29
9106-0002-010F	235978.82	669202.36
9106-0002-011F	235978.82	669276.31
9106-0002-012F	235978.82	669350.26
9106-0002-013F	235978.82	669424.21
9106-0002-014F	235914.78	669313.29
9106-0002-015F	235914.78	669387.24
9106-0002-017F	236170.95	669165.39
9106-0002-018F	236170.95	669239.34
9106-0002-019F	236106.91	669128.41

Although Procedure RPM 5.1-11 specifies that only 5% of the samples need to be selected for HTD analysis, four (4) soil samples were analyzed for HTDs, exceeding the 5% procedural requirement. Two (2) samples were randomly selected for HTD radionuclide analysis using the Microsoft Excel "RAND" function. In addition, two (2) samples, which were determined to contribute the greatest dose based on gamma only analyses, were also selected for HTD analyses. Each sample would be sent off-site for a full suite analysis of the HTD radionuclides specified in Table 2.

The implementation of quality control measures as referenced by Procedure RPM 5.1-24, *"Split Sample Assessment for Final Status Survey,"* included the collection of two (2) soil samples for "split sample" analysis by the off-site laboratory. These locations were selected randomly using the Microsoft Excel "RAND" function. The number of quality control samples exceeded the LTP requirement of 5%.

The LTP specifies that scanning is not required for the FSS of the Discharge Canal. Table 4 provides a synopsis of the survey design.

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Table 4 - Synopsis of the Survey Design ⁽¹⁾		
Feature	Design Criteria	Basis
Survey Unit Land Area	5,520 m ²	Based on AutoCAD-LT and Visual Sample Plan calculations
Number of Measurements	15	Type 1 and Type 2 errors were 0.05, sigma was .0666, the LBGR was set to 0.867 to maintain Relative Shift in the range of 1 and 3, Relative Shift was 2.0
Grid Spacing	20.61 m	Based on triangular grid
Design DCGL	3.16 pCi/g Cs-137 1.52 pCi/g Co-60 0.62 pCi/g Sr-90	To achieve 10 mrem/yr TEDE
Operational DCGL	5.38 pCi/g Cs-137 2.59 pCi/g Co-60 1.05 pCi/g Sr-90	To achieve 17 mrem/yr TEDE ⁽²⁾ to demonstrate compliance with Equation 2 of this Release Record
Scan Coverage	N/A	The LTP exempts this area
Sediment Investigation Level	5.38 pCi/g Cs-137 2.59 pCi/g Co-60 1.05 pCi/g Sr-90	The Operational DCGL meets the LTP criteria for a Class 2 survey unit

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

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

5. SURVEY IMPLEMENTATION

Final status survey field activities were conducted under Work Plan and Inspection Record (WP&IR) 2006-0021. The WP&IR package included a detailed FSSP, job safety analysis, job planning checklist and related procedures for reference. Daily briefings were conducted to discuss the expectations for job performance and the safety aspects of the survey. The "Daily Survey Journal" was used to document field activities and other information pertaining to the FSS.

Measurement locations were identified in North American Datum (NAD) 1927 coordinates that were supplied to the sampling vendor, Ocean Survey, Inc. (OSI) of Old Saybrook, Connecticut. Discharge Canal sampling was accomplished using direct push technology to collect composite samples of bottom and mean high water mark sediments. Sediment cores from the Discharge Canal were obtained by OSI using a vibrating corer that is platform mounted on a sampling vessel. The core barrel was a three (3) inch diameter thin-walled aluminum tube which also served as a core liner (ten feet or less). A core catcher was available to prevent the sample from sliding out of the bottom of the tube. Vessel positioning and the determination of sample

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locations were accomplished using a GPS interfaced with a navigation and data logging system.

After extraction, water was drained from above the sample by drilling holes above the sediment. The liner was cut, capped, sealed, labeled and turned over to site personnel who processed and controlled the samples under Chain of Custody (COC) protocols in accordance with procedure RPM 5.1-5, "*Chain of Custody for Final Status Survey Samples*." Rinsing of the barrel and associated equipment was performed between sampling events. New aluminum tubes were used for each sample to prevent cross-contamination of subsequent samples.

The fifteen (15) sediment 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*". Samples were controlled, transported, stored, and transferred to the off-site laboratory using COC protocols.

Four (4) samples (9106-0002-004F, 9106-0002-007F, 9106-0003-0011 and 9106-0003-012F) were selected for HTD radionuclide analysis by the off-site laboratory.

The implementation of quality control measures included the collection of two (2) split samples at locations 9106-0002-014F and 9106-0002-018F for comparative analysis by the off-site laboratory.

6. SURVEY RESULTS

The off-site laboratory employed for the radiological analyses of samples was General Engineering Laboratories (GEL) – Charleston, South Carolina. The laboratory analyzed the fifteen (15) samples taken for non-parametric statistical testing and the associated duplicates using gamma spectroscopy. Sr-90 was analyzed by gas flow proportional counting. All analyses were performed to the required MDC.

Cesium-137 met the acceptance criteria for detection (i.e., a result greater than two (2) standard deviations uncertainty) in thirteen (13), Co-60 met the acceptance criteria for detection in fourteen (14) and Sr-90 met the acceptance criteria for detection in two (2) of the fifteen (15) samples.

Several other radionuclides that met the accepted criteria for detection (i.e., a result greater than two (2) standard deviations uncertainty) could be de-selected or excluded using the 5% and 10% rule described in Section 5.4.7.2 of the LTP.

The off-site laboratory also processed four (4) samples for full HTD analysis as required by the sample plan. The requested analyses included alpha spectroscopy and liquid scintillation depending upon the radionuclide and the measurement method. All analyses were performed to the required MDC. Four

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(4) of the HTD radionuclides met the accepted criteria for detection (i.e., a result greater than two standard deviations uncertainty) in more than one sample; however, each of the positive results for HTD radionuclides could be de-selected based on the 5% and 10% rules.

None of the sample results exceeded the Operational DCGL or required further investigation. A summary of the sample results is provided in Table 5.

Table 5- Summary of Soil Sample Results				
Sample Number	Cs-137 pCi/g	Co-60 pCi/g	Sr-90 pCi/g	Fraction of the Operational DCGL (1)
9106-0002-002F	2.64E-02	2.13E-02	9.83E-03	2.25E-02
9106-0002-004F	1.23E-01	1.19E-01	7.10E-03	7.56E-02
9106-0002-005F	1.98E-01	2.88E-01	7.01E-03	1.55E-01
9106-0002-007F	3.81E-01	6.39E-01	6.81E-02	3.82E-01
9106-0002-008F	1.63E-01	3.70E-01	7.85E-03	1.81E-01
9106-0002-009F	1.84E-01	2.31E-01	2.94E-03	1.26E-01
9106-0002-010F	6.61E-02	2.38E-01	-1.06E-02	9.41E-02
9106-0002-011F	2.47E-01	5.26E-01	1.95E-02	2.68E-01
9106-0002-012F	1.75E-01	1.18E-01	-4.47E-03	7.38E-02
9106-0002-013F	2.43E-02	1.51E-01	-4.97E-04	6.23E-02
9106-0002-014F	0.00E+00	1.46E-03	-2.35E-03	-1.67E-03
9106-0002-015F	1.16E-01	5.07E-02	4.55E-03	4.55E-02
9106-0005-017F	9.30E-02	8.07E-02	2.14E-02	6.88E-02
9106-0005-018F	8.09E-02	1.45E-01	7.58E-03	7.82E-02
9106-0005-019F	1.69E-01	1.21E-01	-1.31E-02	6.57E-02

(1) The Operational DCGLs from Table 2 are 5.38 pCi/g for Cs-137, 2.59 pCi/g for Co-60 and 1.05 for Sr-90; these are used in conjunction with the unity rule to achieve 17 mrem/yr TEDE

Biased sampling was not required to resolve anomalies or to account for survey unit irregularities.

7. QUALITY CONTROL

The two (2) split samples taken for QC were analyzed by the off-site laboratory. The data were evaluated using USNRC acceptance criteria specified in Inspection Procedure 84750 and as detailed in HNP Procedure RPM 5.1-24, "Split Sample Assessment for Final Status Survey." One (1) split-sample (9106-0002-018F/S) did not meet the comparison criterion for Co-60. A possible cause for this anomaly could be the presence of Co-60 in the form of discrete particles. Such a physical form does not lend itself to homogenous mixing in a sediment matrix and, therefore, is not necessarily an indicator of inadequate sampling or sample preparation methodology. In this sample, Cs-137 and K-40, a natural radioisotope, were both found to be present at acceptable levels of agreement, therefore, the comparison was determined to be

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acceptable. For the other QC split samples, there was an acceptable level of agreement between the samples for the radionuclides of concern.

The sample analysis vendor, GEL, maintained quality control and quality assurance plans as part of normal operation. Refer to Attachment 2 for data and data quality analysis results.

8. INVESTIGATIONS AND RESULTS

Sample investigation levels were not exceeded for this unit, consequently none were performed.

9. REMEDIATION AND RESULTS

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

10. CHANGES FROM THE FINAL STATUS SURVEY PLAN

The survey was designed to ten (10) mrem/yr TEDE, which was conservative and necessary at the time of FSS planning. It is no longer required as the total dose from existing and future groundwater has been established. The dose for soil used to demonstrate compliance with the LTP criteria is seventeen (17) mrem/yr TEDE as discussed in Section 2 of this Release Record.

11. DATA QUALITY ASSESSMENT (DQA)

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

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

The preliminary data review consisted of calculating basic statistical quantities (e.g., mean, median, standard deviation).

DISCHARGE CANAL
SURVEY UNIT 9106-0002

RELEASE RECORD

The sample standard deviation was slightly more than the value used for the survey design. This is represented by the shift in the retrospective power curve as shown in Attachment 2g. This would indicate a change to the original LBGR to maintain the number of samples at fifteen (15) to meet the Operational DCGL. However, the value of the LBGR is less of a critical issue as the survey unit has passed the statistical test, and the mean and median values are well below the Operational DCGL when used in conjunction with the unity rule. Also, the retrospective power curve shows that a sufficient number of samples were collected to achieve the desired power. Therefore, the survey unit meets the release criteria with adequate power as required by the DQOs.

The range of the data, about 3.84 standard deviations, was not unusually large. The difference between the mean and median was 37.5% of the standard deviation which indicates some skewness in the data. The data's represented graphically through posting plots, a frequency plot, and a quantile plot. The frequency plot shows some positive skewness as confirmed by the calculated skew of 1.69.

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

12. ANOMALIES

The anomaly associated with the disagreement between the field split number 9106-0002-018F/S has been discussed in Section 7. The source of the disagreement for Co-60, was likely due to Co-60 being present in the form of discrete particles. Such a physical form does not lend itself to homogenous mixing in a sediment matrix. However, comparisons of results for other radionuclides present in the sample were sufficient to demonstrate appropriate implementation of sampling Quality Controls.

13. CONCLUSION

Survey Unit 9106-0002 has demonstrated compliance with the dose based, unrestricted release criterion. The sample data passed the Sign Test and the null hypothesis was rejected. The ALARA criteria for soils as specified in Chapter 4 of the LTP were achieved. Reclassification and remediation of this survey unit was not required.

Graphical representation of data indicates some positive skewness that is probably due to localized differences in particulate deposition rates, hydraulic velocity and sedimentation rates. The Retrospective Power Curve generated using COMPASS shows adequate power was achieved. The survey unit was properly designated as a Class 2 survey unit.

The dose contribution from sediment in this survey unit is 1.9 mrem/yr TEDE based on the average concentration of the samples used for non-parametric statistical sampling.

DISCHARGE CANAL
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RELEASE RECORD

This survey unit is affected by existing groundwater (reference CY memo ISC 06-024). It has been determined that the dose contribution from groundwater sources is bounded by 2.0 mrem/yr TEDE.

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

The average total dose from residual radioactivity in this survey unit, including exposures from the three (3) components as described in Section 3, that is, residual radioactivity in soil, existing groundwater radioactivity, and future groundwater radioactivity from the burial of concrete foundations or footings from site buildings containing residual radioactivity, will not exceed 3.9 mrem/yr Total Effective Dose Equivalent (TEDE).

14. ATTACHMENTS

14.1 Attachment 1 – Figures

14.2 Attachment 2 – Sample and Statistical Data

DISCHARGE CANAL
SURVEY UNIT 9106-0002

RELEASE RECORD

Attachment 1
Figures
(4 pages)

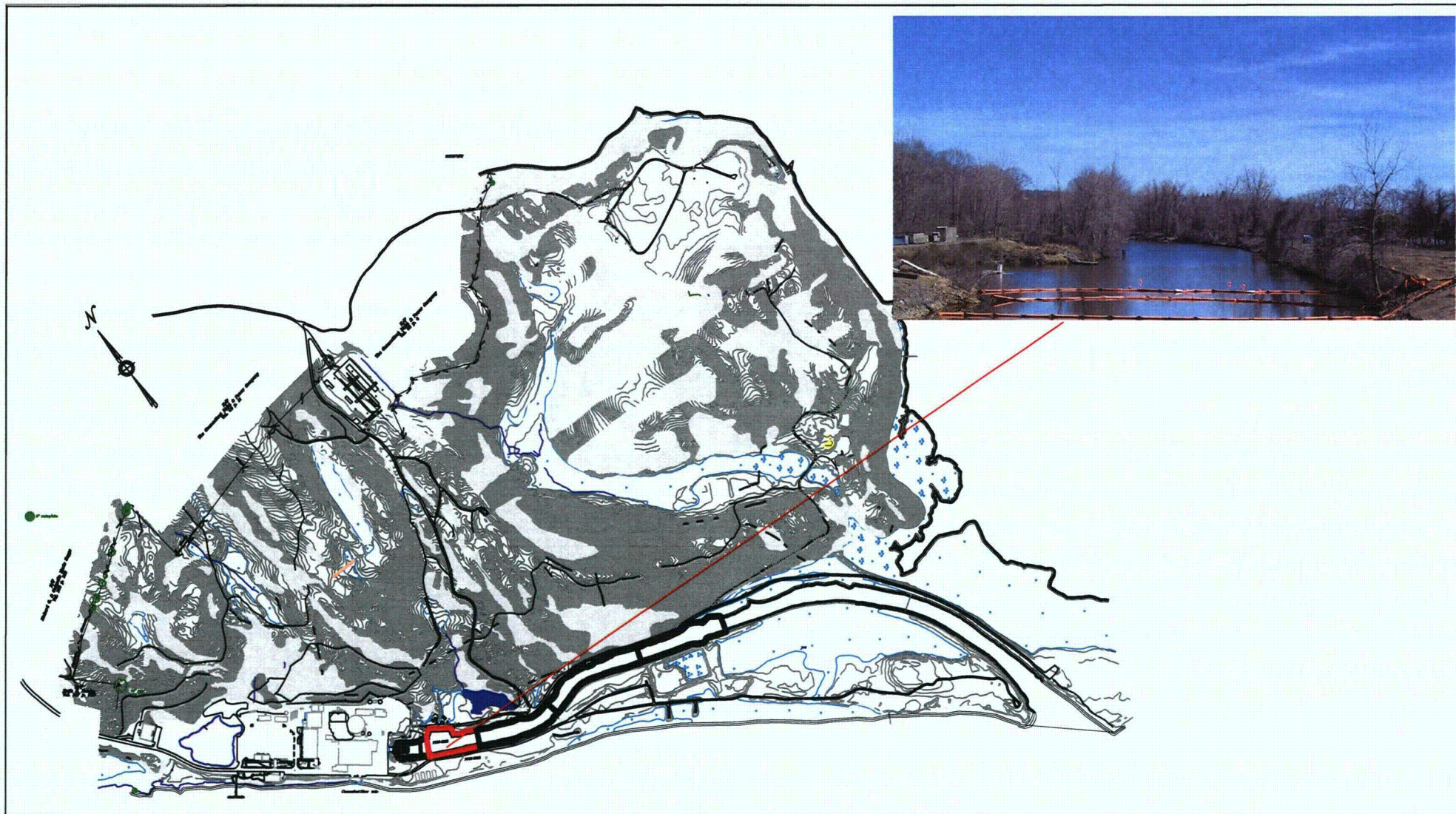


Figure 1

Connecticut Yankee Atomic Power Company
Site Map With Reference To Survey Unit 9106-0002

Date	By
October 2006	E. Sergeant

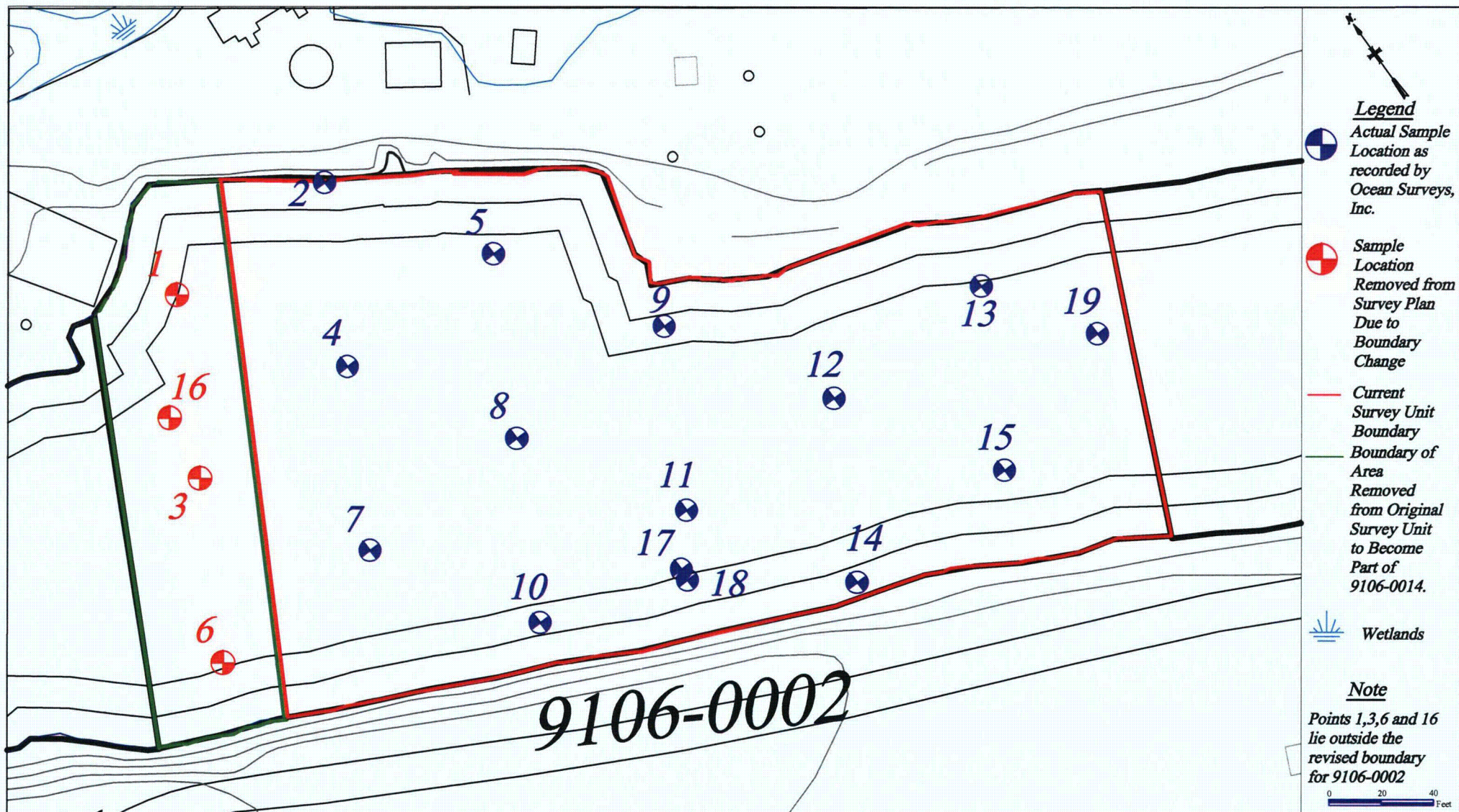
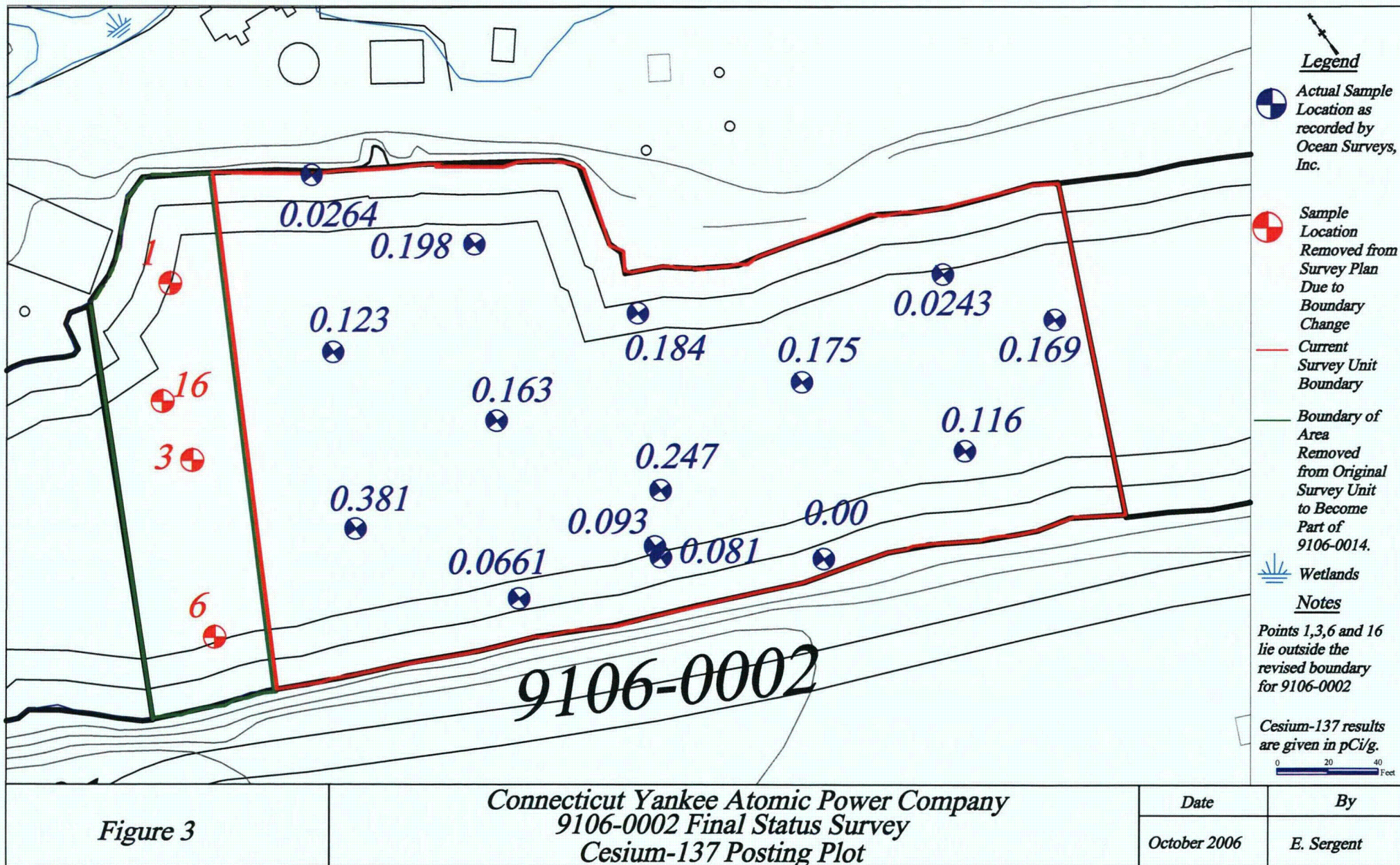


Figure 2

Connecticut Yankee Atomic Power Company
9106-0002 Final Status Survey Sample Locations

Date
October 2006

By
E. Sergent



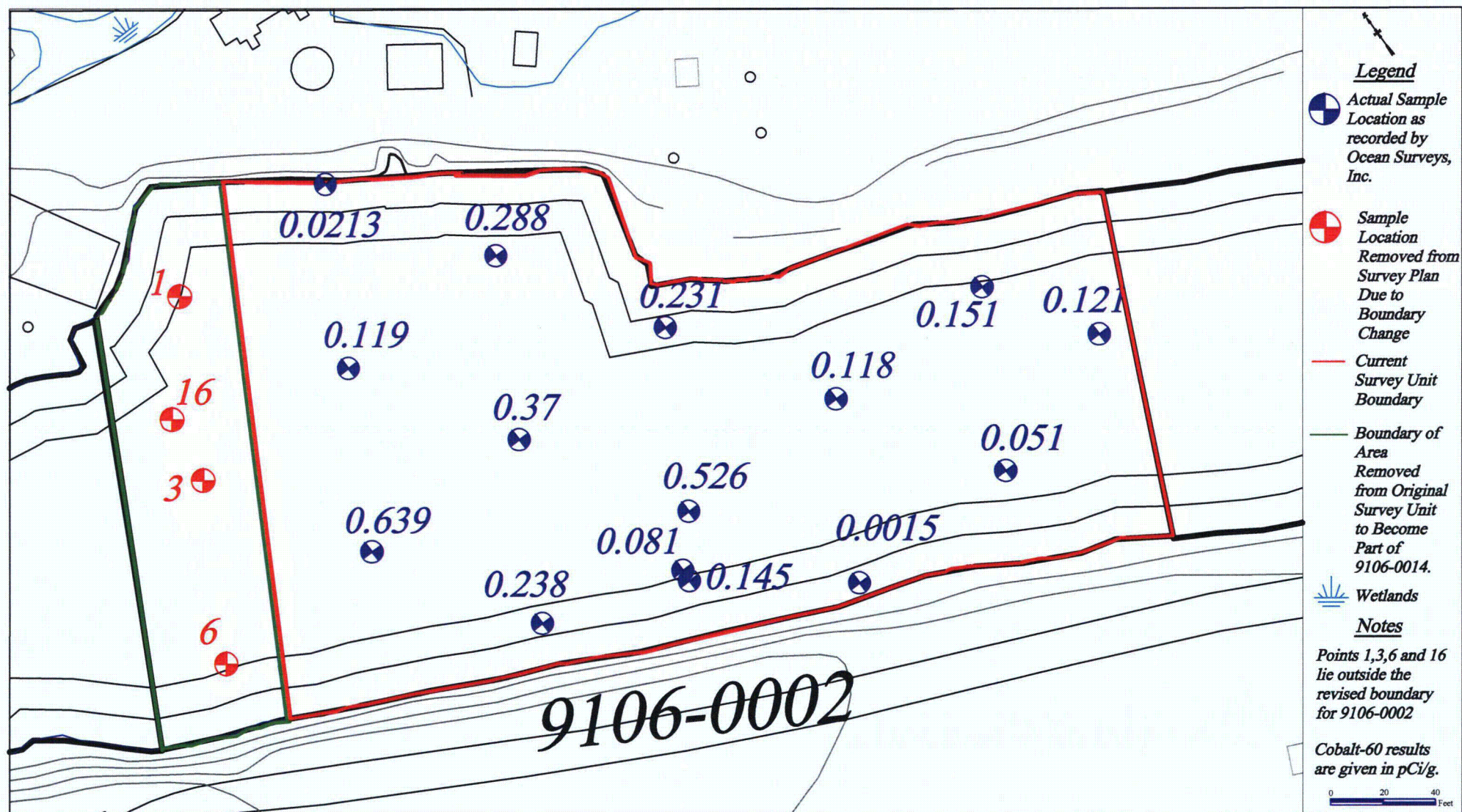


Figure 4

Connecticut Yankee Atomic Power Company
9106-0002 Final Status Survey Sample Locations
Cobalt-60 Posting Plot

Date	By
October 2006	E. Sergeant

DISCHARGE CANAL
SURVEY UNIT 9106-0002

RELEASE RECORD

Attachment 2
Sample and Statistical Data

DISCHARGE CANAL
SURVEY UNIT 9106-0002

RELEASE RECORD

Attachment 2a
Sample Data
(229 Pages)

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Chain of Custody and Supporting Documentation	4
Radiological Analysis	11
Sample Data Summary	30
Quality Control Data	62

General Narrative

**CASE NARRATIVE
For
CONNECTICUT YANKEE
RE: Sediment
PO# 002332
Work Order: 164220
SDG: MSR #06-0755**

June 30, 2006

Laboratory Identification:

General Engineering Laboratories, LLC

Mailing Address:

P.O. Box 30712
Charleston, South Carolina 29417

Express Mail Delivery and Shipping Address:

2040 Savage Road
Charleston, South Carolina 29407

Telephone Number:

(843) 556-8171

Summary:

Sample receipt

The sample(s) for this Project arrived at General Engineering Laboratories, LLC, (GEL) in Charleston, South Carolina on June 02, 2006. All sample containers arrived without any visible signs of tampering or breakage. The chain of custody contained the proper documentation and signatures.

The laboratory received the following sample(s):

<u>Sample ID</u>	<u>Client Sample ID</u>
164220001	9106-0002-001F
164220002	9106-0002-002F
164220003	9106-0002-003F
164220004	9106-0002-004F
164220005	9106-0002-005F
164220006	9106-0002-006F
164220007	9106-0002-006FS
164220008	9106-0002-007F
164220009	9106-0002-008F

164220010	9106-0002-009F
164220011	9106-0002-010F
164220012	9106-0002-011F
164220013	9106-0002-012F
164220014	9106-0002-013F
164220015	9106-0002-014F
164220016	9106-0002-014FS
164220017	9106-0002-015F
164220018	9106-0002-016F

Items of Note:

There are no items of note.

Case Narrative:

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

Analytical Request:

Sixteen sediment samples were analyzed for FSSGAM and Sr-90.
Two sediment samples were analyzed for FSSALL.

Internal Chain of Custody:

Custody was maintained for the sample(s).

Data Package:

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

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





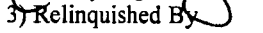
Cheryl Jones
Project Manager

Chain of Custody and Supporting Documentation

Chain of Custody Form

No. 2006-00371

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

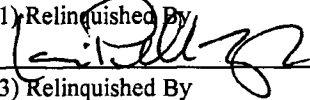
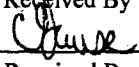
Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size- & Type Code	Analyses Requested						Lab Use Only		
Contact Name & Phone: Jack McCarthy 860-267-2556 Ext. 3024						FSSGAM	FSSALL	Sr-90					Comments: <div>164220%</div>	
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones														
Priority: <input checked="" type="checkbox"/> 30 D. <input type="checkbox"/> 14 D. <input type="checkbox"/> 7 D.														
Sample Designation	Date	Time										Comment, Preservation	Lab Sample ID	
9106-0002-001F*	5/17/06	10:42	SE	C	BP	X		X				Transferred from COC 2006-00357		
9106-0002-002F	5/18/06	09:43	SE	C	BP		X					Transferred from COC 2006-00361		
9106-0002-003F*	5/18/06	10:14	SE	C	BP	X		X				Transferred from COC 2006-00361		
9106-0002-004F	5/18/06	10:39	SE	C	BP	X		X				Transferred from COC 2006-00361		
9106-0002-005F	5/18/06	12:49	SE	C	BP	X		X				Transferred from COC 2006-00364		
9106-0002-006F*	5/18/06	13:14	SE	C	BP	X		X				Transferred from COC 2006-00364		
9106-0002-006FS	5/18/06	13:14	SE	C	BP	X		X				Transferred from COC 2006-00364		
9106-0002-007F	5/18/06	13:37	SE	C	BP	X		X				Transferred from COC 2006-00364		
9106-0002-008F	5/18/06	14:04	SE	C	BP	X		X				Transferred from COC 2006-00364		
NOTES: PO #: 002332 MSR #: 06- SSWP# NA <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA 0755 * Client requested analysis canceled CD 6/3/06 see email											Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other		Internal Container Temp.: _____ Deg. C Custody Sealed? Custody Seal Intact? Y <input type="checkbox"/> N <input type="checkbox"/>	
1) Relinquished By 			Date/Time 6-06-0815			2) Received By 			Date/Time 6-02-06 9:20			Bill of Lading # 7909 4145 5710		
3) Relinquished By 			Date/Time			4) Received By			Date/Time					
5) Relinquished By			Date/Time			6) Received By			Date/Time					

Connecticut Yankee Atomic Power Company

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

Chain of Custody Form

No. 2006-00372

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size & Type Code	Analyses Requested					Lab Use Only			
Contact Name & Phone: Jack McCarthy 860-267-2556 Ext. 3024						FSSGAM	FSSALL	Sr-90					Comments:	
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road, Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones														
Priority: <input checked="" type="checkbox"/> 30 D. <input type="checkbox"/> 14 D. <input type="checkbox"/> 7 D.														
Sample Designation	Date	Time									Comment, Preservation	Lab Sample ID		
9106-0002-009F	5/18/06	14:28	SE	C	BP		X				Transferred from COC 2006-00364			
9106-0002-010F	5/18/06	14:50	SE	C	BP	X		X			Transferred from COC 2006-00364			
9106-0002-011F	5/19/06	08:10	SE	C	BP	X		X			Transferred from COC 2006-00365			
9106-0002-012F	5/19/06	08:31	SE	C	BP	X		X			Transferred from COC 2006-00365			
9106-0002-013F	5/19/06	09:00	SE	C	BP	X		X			Transferred from COC 2006-00365			
9106-0002-014F	5/19/06	09:58	SE	C	BP	X		X			Transferred from COC 2006-00365			
9106-0002-014FS*	5/19/06	09:58	SE	C	BP	X		X			Transferred from COC 2006-00365			
9106-0002-015F	5/19/06	10:29	SE	C	BP	X		X			Transferred from COC 2006-00365			
9106-0002-016F	5/19/06	13:19	SE	C	BP	X		X			Transferred from COC 2006-00365			
NOTES: PO #: 002332 MSR #: 06- SSWP# NA <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA 0755 * Client requested analysis's canceled CD 6/5/06 see email										Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other		Internal Container Temp.: _____ Deg. C Custody Sealed? Custody Seal Intact? Y <input type="checkbox"/> N <input type="checkbox"/>		
1) Relinquished By 			Date/Time 6/06/06 15			2) Received By 			Date/Time 6-2-06 9:20				Bill of Lading # 7909 4145 5709	
3) Relinquished By			Date/Time			4) Received By			Date/Time					
5) Relinquished By			Date/Time			6) Received By			Date/Time					

Chem

Figure 1. Sample Check-in List

Date/Time Received: 6-2-06 9:20

SDG#: MSR# 06-0755

Work Order Number: 1642201

Shipping Container ID: 7909 41455710 Chain of Custody # 2006-00321

1. Custody Seals on shipping container intact? Yes ☒ No ☐
2. Custody Seals dated and signed? Yes ☒ No ☐
3. Chain-of-Custody record present? Yes ☒ No ☐
4. Cooler temperature 23°
5. Vermiculite/packing materials is: Wet ☐ Dry ☐ no packing Bot wet
6. Number of samples in shipping container: 9
7. Sample holding times exceeded? Yes ☐ No ☒

8. Samples have:

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

9. Samples are:

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

10. Were any anomalies identified in sample receipt? Yes ☐ No ☒
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: *Chase* Date: 6-2-06

Telephoned to: _____ On _____ By _____



SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: <u>Connecticut Yankee</u>	SDG/ARCOC/Work Order: <u>164220</u>
Date Received: <u>6-2-06</u>	PM(A) Review (ensure non-conforming items are resolved prior to signing):
Received By: <u>[Signature]</u>	<u>[Signature]</u>

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.				Circle Coolant # ice bags blue ice dry ice none other (describe)
3 Chain of custody documents included with shipment?				
4 Sample containers intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?				Sample ID's, containers affected and observed pH:
6 VOA vials free of headspace (defined as < 6mm bubble)?				Sample ID's and containers affected:
7 Are Encore containers present? (If yes, immediately deliver to VOA laboratory)				
8 Samples received within holding time?				ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?				Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?				Sample ID's affected:
11 Number of containers received match number indicated on COC?				Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?				<u>COC # 2006-00371</u>
14 Air Bill ,Tracking #'s, & Additional Comments				

Suspected Hazard Information	Non-Regulated	Regulated	High Level	RSO RAD Receipt #
A Radiological Classification?				*If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
B PCB Regulated?				Maximum Counts Observed*: <u>20CPM</u>
C Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.				Comments:
				Hazard Class Shipped:
				UN#:

PM (or PMA) review of Hazard classification:

Initials

Date: 6/2/06

Chem

Figure 1. Sample Check-in List

Date/Time Received: 6-2-06 9:20

SDG#: MSR#06-0755

Work Order Number: 1642201

Shipping Container ID: 1909 4145 5107 Chain of Custody #: 2006-00372

1. Custody Seals on shipping container intact? Yes ☒ No ☐
2. Custody Seals dated and signed? Yes ☒ No ☐
3. Chain-of-Custody record present? Yes ☒ No ☐
4. Cooler temperature 23°
5. Vermiculite/packing materials is: Wet ☐ Dry ☒ no packing bot wet
6. Number of samples in shipping container: 9
7. Sample holding times exceeded? Yes ☐ No ☒

8. Samples have:

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

9. Samples are:

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

10. Were any anomalies identified in sample receipt? Yes ☐ No ☒
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: Curtis Huns Date: 6-2-06

Telephoned to: _____ On _____ By _____



SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: <u>Connecticut Yankee</u>	SDG/ARCOC/Work Order: <u>164220</u>
Date Received: <u>6-2-06</u>	PM(A) Review (ensure non-conforming items are resolved prior to signing):
Received By: <u>CJ</u>	<i>[Signature]</i>

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.				Circle Coolant # ice bags blue ice dry ice none other (describe)
3 Chain of custody documents included with shipment?				
4 Sample containers intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?				Sample ID's, containers affected and observed pH:
6 VOA vials free of headspace (defined as < 6mm bubble)?				Sample ID's and containers affected:
7 Are Encore containers present? (If yes, immediately deliver to VOA laboratory)				
8 Samples received within holding time?				Id's and tests affected:
9 Sample ID's on COC match ID's on bottles?				Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?				Sample ID's affected:
11 Number of containers received match number indicated on COC?				Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?				COC # <u>2006-00372</u> <u>00371</u> <u>04/6/2/06</u>
14 Air Bill ,Tracking #'s, & Additional Comments				

Suspected Hazard Information	Non-Regulated	Regulated	High Level	RSO RAD Receipt # *If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
A Radiological Classification?		✓		Maximum Counts Observed*: <u>700 PM</u>
B PCB Regulated?	✓			Comments:
C Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.	✓			Hazard Class Shipped: UN#:
PM (or PMA) review of Hazard classification: _____ Initials <u>CJ</u> Date: <u>6/2/06</u>				

RADIOLOGICAL ANALYSIS

**Radiochemistry Case Narrative
Connecticut Yankee Atomic Power Co. (YANK)
Work Order 164220**

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:	540462
Prep Batch Number:	535702
Dry Soil Prep GL-RAD-A-021 Batch Number:	535666

Sample ID	Client ID
164220002	9106-0002-002F
164220010	9106-0002-009F
1201117597	Method Blank (MB)
1201117598	164220002(9106-0002-002F) Sample Duplicate (DUP)
1201117599	164220002(9106-0002-002F) Matrix Spike (MS)
1201117600	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: 164220002 (9106-0002-002F).

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

Sample 1201117598 (9106-0002-002F) was recounted due to a peak shift.

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:	540464
Prep Batch Number:	535702
Dry Soil Prep GL-RAD-A-021 Batch Number:	535666

Sample ID	Client ID
164220002	9106-0002-002F
164220010	9106-0002-009F
1201117601	Method Blank (MB)
1201117602	164220002(9106-0002-002F) Sample Duplicate (DUP)
1201117603	164220002(9106-0002-002F) Matrix Spike (MS)
1201117604	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: 164220002 (9106-0002-002F).

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.

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:	540465
Prep Batch Number:	535702
Dry Soil Prep GL-RAD-A-021 Batch Number:	535666

Sample ID	Client ID
164220002	9106-0002-002F
164220010	9106-0002-009F
1201117605	Method Blank (MB)
1201117606	164220002(9106-0002-002F) Sample Duplicate (DUP)
1201117607	164220002(9106-0002-002F) Matrix Spike (MS)
1201117608	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-035 REV# 8.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 164220002 (9106-0002-002F).

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

Sample 1201117605 (MB) 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.

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
Analytical Method:	EML HASL 300, 4.5.2.3
Prep Method:	Dry Soil Prep
Analytical Batch Number:	536186
Prep Batch Number:	535666

Sample ID	Client ID
164220002	9106-0002-002F
164220004	9106-0002-004F
164220005	9106-0002-005F
164220007	9106-0002-006FS
164220008	9106-0002-007F
164220009	9106-0002-008F
164220010	9106-0002-009F
164220011	9106-0002-010F
164220012	9106-0002-011F
164220013	9106-0002-012F
164220014	9106-0002-013F
164220015	9106-0002-014F
164220017	9106-0002-015F
164220018	9106-0002-016F
1201107352	Method Blank (MB)
1201107353	164220002(9106-0002-002F) Sample Duplicate (DUP)
1201107354	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# 11.

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: 164220002 (9106-0002-002F).

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

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to high full width half maximum.	Cesium-134	164220012
		Cesium-137	164220015
		Manganese-54	164220014
UI	Data rejected due to interference.	Europium-155	164220010
			164220012
			164220018
		Manganese-54	164220015
UI	Data rejected due to low abundance.	Cesium-134	164220005
			164220007
			164220017
			164220018

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:	539388
Prep Batch Number:	535702
Dry Soil Prep GL-RAD-A-021 Batch Number:	535666

Sample ID	Client ID
164220002	9106-0002-002F
164220004	9106-0002-004F
164220005	9106-0002-005F
164220007	9106-0002-006FS
164220008	9106-0002-007F
164220009	9106-0002-008F
164220010	9106-0002-009F
164220011	9106-0002-010F
164220012	9106-0002-011F
164220013	9106-0002-012F
164220014	9106-0002-013F
164220015	9106-0002-014F
164220017	9106-0002-015F
164220018	9106-0002-016F
1201114898	Method Blank (MB)
1201114899	164220002(9106-0002-002F) Sample Duplicate (DUP)
1201114900	164220002(9106-0002-002F) Matrix Spike (MS)
1201114901	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: 164220002 (9106-0002-002F).

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

Sample 164220014 (9106-0002-013F) was recounted due to being originally counted on a detector that did not meet daily background and efficiency checks. Sample 164220013 (9106-0002-012F) was recounted due to the activity of the sample being between two and three sigma TPU.

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: 536314

Sample ID	Client ID
164220002	9106-0002-002F
164220010	9106-0002-009F
1201107610	Method Blank (MB)
1201107611	163741008(9106-0008-007F) Sample Duplicate (DUP)
1201107612	163741008(9106-0008-007F) Matrix Spike (MS)
1201107613	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: 163741008 (9106-0008-007F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:**Holding Time**

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:**NCR Documentation**

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Liquid Scint Fe55, Solid-ALL FSS
Analytical Method:	DOE RESL Fe-1, Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	538969
Prep Batch Number:	535702
Dry Soil Prep GL-RAD-A-021 Batch Number:	535666

Sample ID	Client ID
164220002	9106-0002-002F
164220010	9106-0002-009F
1201113887	Method Blank (MB)
1201113888	163741008(9106-0008-007F) Sample Duplicate (DUP)
1201113889	163741008(9106-0008-007F) Matrix Spike (MS)
1201113890	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: 163741008 (9106-0008-007F).

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:	541000
Prep Batch Number:	535702
Dry Soil Prep GL-RAD-A-021 Batch Number:	535666

Sample ID	Client ID
164220002	9106-0002-002F
164220010	9106-0002-009F
1201118869	Method Blank (MB)
1201118870	164220002(9106-0002-002F) Sample Duplicate (DUP)
1201118871	164220002(9106-0002-002F) Matrix Spike (MS)
1201118872	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: 164220002 (9106-0002-002F).

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: LSC, Tritium Dist, Solid-HTD2,ALL FSS

Analytical Method: EPA 906.0 Modified

Analytical Batch Number: 535984

Sample ID	Client ID
164220002	9106-0002-002F
164220010	9106-0002-009F
1201106885	Method Blank (MB)
1201106886	163626016(9106-0007-001F) Sample Duplicate (DUP)
1201106887	163626016(9106-0007-001F) Matrix Spike (MS)
1201106888	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# 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: 163626016 (9106-0007-001F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:**Holding Time**

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:**NCR Documentation**

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product: Liquid Scint C14, Solid All,FSS

Analytical Method: EPA EERF C-01 Modified

Analytical Batch Number: 536336

Sample ID	Client ID
164220002	9106-0002-002F
164220010	9106-0002-009F
1201107670	Method Blank (MB)
1201107671	164220002(9106-0002-002F) Sample Duplicate (DUP)
1201107672	164220002(9106-0002-002F) Matrix Spike (MS)
1201107673	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: 164220002 (9106-0002-002F).

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: _____

 6/13/06

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#06-0755 GEL Work Order: 164220

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 reporting limit.

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

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

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



Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis

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

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

Report Date: June 29, 2006

Client Sample ID: 9106-0002-002F
Sample ID: 164220002
Matrix: SE
Collect Date: 18-MAY-06
Receive Date: 02-JUN-06
Collector: Client
Moisture: 14.5%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	-0.0378	+/-0.0665	0.0376	+/-0.0666	0.165	pCi/g	MXA	06/22/06	1119	540462	1	1
Curium-242	U	0.00	+/-0.0752	0.00	+/-0.0752	0.104	pCi/g						
Curium-243/244	U	0.0331	+/-0.0649	0.00	+/-0.065	0.0897	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	0.032	+/-0.0628	0.00	+/-0.0629	0.0868	pCi/g	MXA	06/22/06	1119	540464	2	1
Plutonium-239/240	U	-0.19	+/-0.124	0.210	+/-0.125	0.506	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	8.31	+/-9.79	7.84	+/-9.82	16.4	pCi/g	MXA	06/23/06	2100	540465	3	1
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS</i>													
Actinium-228		0.646	+/-0.123	0.0498	+/-0.123	0.107	pCi/g	MJH1	06/19/06	2034	536186	4	
Americium-241	U	0.0463	+/-0.0455	0.0844	+/-0.0455	0.174	pCi/g						
Bismuth-212		0.497	+/-0.194	0.113	+/-0.194	0.239	pCi/g						
Bismuth-214		0.534	+/-0.0856	0.025	+/-0.0856	0.053	pCi/g						
Cesium-134	U	0.0362	+/-0.0269	0.0185	+/-0.0269	0.0391	pCi/g						
Cesium-137	U	0.0264	+/-0.0177	0.0168	+/-0.0177	0.0353	pCi/g						
Cobalt-60	U	0.0213	+/-0.0149	0.016	+/-0.0149	0.0349	pCi/g						
Europium-152	U	0.00263	+/-0.0455	0.039	+/-0.0455	0.0813	pCi/g						
Europium-154	U	-0.00291	+/-0.0636	0.0464	+/-0.0636	0.100	pCi/g						
Europium-155	U	0.0554	+/-0.0468	0.0458	+/-0.0468	0.0943	pCi/g						
Lead-212		0.703	+/-0.0499	0.0233	+/-0.0499	0.0481	pCi/g						
Lead-214		0.602	+/-0.0664	0.0272	+/-0.0664	0.0569	pCi/g						
Manganese-54	U	0.00163	+/-0.0184	0.0156	+/-0.0184	0.0331	pCi/g						
Niobium-94	U	0.00959	+/-0.014	0.0127	+/-0.014	0.0269	pCi/g						
Potassium-40		9.42	+/-0.696	0.115	+/-0.696	0.257	pCi/g						
Radium-226		0.534	+/-0.0856	0.025	+/-0.0856	0.053	pCi/g						
Silver-108m	U	0.0101	+/-0.0162	0.0115	+/-0.0162	0.0244	pCi/g						
Thallium-208		0.227	+/-0.0424	0.014	+/-0.0424	0.0296	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.00983	+/-0.0153	0.015	+/-0.0153	0.0339	pCi/g	BXF1	06/25/06	1024	539388	5	
Rad Liquid Scintillation Analysis													

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: June 29, 2006

Client Sample ID: 9106-0002-002F
Sample ID: 164220002

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid-HTD2, ALL FSS</i>													
Tritium	U	3.84	+/-6.26	5.04	+/-6.26	10.6	pCi/g		NXP1	06/17/06	1642	535984	6
<i>Liquid Scint C14, Solid ALL FSS</i>													
Carbon-14	U	-0.0461	+/-0.0864	0.0732	+/-0.0864	0.148	pCi/g		ATH2	06/16/06	0624	536336	7
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	10.2	+/-17.9	13.1	+/-18.0	27.7	pCi/g		SLN1	06/21/06	0845	538969	8
<i>Liquid Scint Ni63, Solid-ALL FSS</i>													
Nickel-63	U	4.21	+/-5.83	4.77	+/-5.83	9.82	pCi/g		SLN1	06/28/06	0021	541000	9
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	-0.122	+/-0.211	0.182	+/-0.211	0.375	pCi/g		SXE1	06/14/06	1747	536314	10

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXP2	06/02/06	1919	535666

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	92	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	86	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	83	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	77	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	87	(15%-125%)

GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis

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

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

Report Date: June 29, 2006

Client Sample ID: 9106-0002-002F
Sample ID: 164220002

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time Batch	Mtd
Carrier/Tracer Recovery		Liquid Scint Ni63, Solid-ALL FS			74		(25%-125%)					
Carrier/Tracer Recovery		Liquid Scint Tc99, Solid-ALL FS			83		(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
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: June 29, 2006

Client Sample ID: 9106-0002-004F
Sample ID: 164220004
Matrix: SE
Collect Date: 18-MAY-06
Receive Date: 02-JUN-06
Collector: Client
Moisture: 17.9%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS</i>													
Actinium-228		0.601	+/-0.162	0.0507	+/-0.162	0.110	pCi/g		MJH1	06/20/06	0609	536186	1
Americium-241	U	0.0156	+/-0.0229	0.020	+/-0.0229	0.0411	pCi/g						
Bismuth-212		0.375	+/-0.210	0.114	+/-0.210	0.244	pCi/g						
Bismuth-214		0.387	+/-0.0828	0.0295	+/-0.0828	0.0624	pCi/g						
Cesium-134	U	0.0216	+/-0.0203	0.0192	+/-0.0203	0.0407	pCi/g						
Cesium-137		0.123	+/-0.0376	0.0158	+/-0.0376	0.0335	pCi/g						
Cobalt-60		0.119	+/-0.0405	0.0151	+/-0.0405	0.0333	pCi/g						
Europium-152	U	0.0142	+/-0.0433	0.0394	+/-0.0433	0.0824	pCi/g						
Europium-154	U	-0.0342	+/-0.0602	0.0476	+/-0.0602	0.104	pCi/g						
Europium-155	U	0.0127	+/-0.0398	0.0364	+/-0.0398	0.0751	pCi/g						
Lead-212		0.535	+/-0.0754	0.0224	+/-0.0754	0.0464	pCi/g						
Lead-214		0.435	+/-0.0879	0.0287	+/-0.0879	0.060	pCi/g						
Manganese-54	U	0.0193	+/-0.0241	0.0182	+/-0.0241	0.0386	pCi/g						
Niobium-94	U	-6.520E-05	+/-0.0183	0.0154	+/-0.0183	0.0327	pCi/g						
Potassium-40		9.32	+/-0.884	0.122	+/-0.884	0.274	pCi/g						
Radium-226		0.387	+/-0.0828	0.0295	+/-0.0828	0.0624	pCi/g						
Silver-108m	U	-0.00653	+/-0.0164	0.014	+/-0.0164	0.0295	pCi/g						
Thallium-208		0.165	+/-0.0417	0.0157	+/-0.0417	0.0332	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.0071	+/-0.0176	0.0183	+/-0.0176	0.0408	pCi/g		BXF1	06/25/06	1025	539388	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXP2	06/02/06	1919	535666

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3
2	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
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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: June 29, 2006

Client Sample ID: 9106-0002-004F
Sample ID: 164220004

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					
Carrier/Tracer Recovery		GFPC, Sr90, solid-ALL FSS			70		(25%-125%)					

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: June 29, 2006

Client Sample ID: 9106-0002-005F
Sample ID: 164220005
Matrix: SE
Collect Date: 18-MAY-06
Receive Date: 02-JUN-06
Collector: Client
Moisture: 18.4%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS</i>													
Actinium-228		0.796	+/-0.176	0.0562	+/-0.176	0.121	pCi/g		MJH1	06/19/06	2036	536186	1
Americium-241	U	0.064	+/-0.0949	0.0669	+/-0.0949	0.139	pCi/g						
Bismuth-212		0.621	+/-0.246	0.124	+/-0.246	0.265	pCi/g						
Bismuth-214		0.572	+/-0.107	0.0285	+/-0.107	0.0607	pCi/g						
Cesium-134	UI	0.00	+/-0.0246	0.0212	+/-0.0246	0.0449	pCi/g						
Cesium-137		0.198	+/-0.0401	0.0177	+/-0.0401	0.0375	pCi/g						
Cobalt-60		0.288	+/-0.0484	0.0149	+/-0.0484	0.0329	pCi/g						
Europium-152	U	-0.03	+/-0.0499	0.0428	+/-0.0499	0.090	pCi/g						
Europium-154	U	-0.0212	+/-0.0594	0.0475	+/-0.0594	0.104	pCi/g						
Europium-155	U	0.0189	+/-0.0589	0.0539	+/-0.0589	0.112	pCi/g						
Lead-212		0.765	+/-0.0851	0.0266	+/-0.0851	0.0555	pCi/g						
Lead-214		0.618	+/-0.0965	0.0303	+/-0.0965	0.0639	pCi/g						
Manganese-54	U	-0.0127	+/-0.0192	0.0157	+/-0.0192	0.0338	pCi/g						
Niobium-94	U	0.0223	+/-0.0189	0.0136	+/-0.0189	0.0291	pCi/g						
Potassium-40		10.2	+/-0.990	0.128	+/-0.990	0.287	pCi/g						
Radium-226		0.572	+/-0.107	0.0285	+/-0.107	0.0607	pCi/g						
Silver-108m	U7.020E-05		+/-0.0166	0.0145	+/-0.0166	0.0307	pCi/g						
Thallium-208		0.219	+/-0.0403	0.014	+/-0.0403	0.030	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.00701	+/-0.0155	0.0159	+/-0.0155	0.0356	pCi/g		BXF1	06/25/06	1025	539388	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXP2	06/02/06	1919	535666

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3
2	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	75	(25%-125%)

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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: June 29, 2006

Client Sample ID: 9106-0002-005F
Sample ID: 164220005

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

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

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
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- 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: June 29, 2006

Client Sample ID: 9106-0002-006FS
Sample ID: 164220007
Matrix: SE
Collect Date: 18-MAY-06
Receive Date: 02-JUN-06
Collector: Client
Moisture: 9.72%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS</i>													
Actinium-228		0.565	+/-0.182	0.074	+/-0.182	0.164	pCi/g		MJH1	06/19/06	2036	536186	1
Americium-241	U	0.0249	+/-0.0997	0.0944	+/-0.0997	0.197	pCi/g						
Bismuth-212	U	0.325	+/-0.322	0.178	+/-0.322	0.387	pCi/g						
Bismuth-214		0.508	+/-0.128	0.0387	+/-0.128	0.0839	pCi/g						
Cesium-134	UI	0.00	+/-0.0409	0.0272	+/-0.0409	0.059	pCi/g						
Cesium-137		0.0576	+/-0.0404	0.0227	+/-0.0404	0.0491	pCi/g						
Cobalt-60		0.128	+/-0.0573	0.0194	+/-0.0573	0.0448	pCi/g						
Europium-152	U	-0.00196	+/-0.0607	0.0546	+/-0.0607	0.117	pCi/g						
Europium-154	U	-0.0619	+/-0.0812	0.0613	+/-0.0812	0.139	pCi/g						
Europium-155	U	0.0375	+/-0.075	0.0631	+/-0.075	0.132	pCi/g						
Lead-212		0.680	+/-0.0717	0.0322	+/-0.0717	0.0677	pCi/g						
Lead-214		0.599	+/-0.110	0.0396	+/-0.110	0.0845	pCi/g						
Manganese-54	U	0.0149	+/-0.0283	0.0251	+/-0.0283	0.0543	pCi/g						
Niobium-94	U	-0.00622	+/-0.0219	0.018	+/-0.0219	0.0394	pCi/g						
Potassium-40		10.5	+/-1.02	0.173	+/-1.02	0.407	pCi/g						
Radium-226		0.508	+/-0.128	0.0387	+/-0.128	0.0839	pCi/g						
Silver-108m	U	-0.0207	+/-0.0197	0.0157	+/-0.0197	0.0342	pCi/g						
Thallium-208		0.239	+/-0.0474	0.0222	+/-0.0474	0.0479	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.00243	+/-0.0125	0.0135	+/-0.0125	0.0306	pCi/g		BXF1	06/25/06	1025	539388	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXP2	06/02/06	1920	535666

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3
2	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	81	(25%-125%)

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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: June 29, 2006

Client Sample ID: 9106-0002-006FS
Sample ID: 164220007

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

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

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: June 29, 2006

Client Sample ID: 9106-0002-007F
Sample ID: 164220008
Matrix: SE
Collect Date: 18-MAY-06
Receive Date: 02-JUN-06
Collector: Client
Moisture: 22.3%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS</i>													
Actinium-228		0.728	+/-0.174	0.0585	+/-0.174	0.123	pCi/g		MJH1	06/19/06	2036	536186	1
Americium-241	U	0.0662	+/-0.0842	0.0732	+/-0.0842	0.150	pCi/g						
Bismuth-212		0.503	+/-0.246	0.110	+/-0.246	0.231	pCi/g						
Bismuth-214		0.582	+/-0.0888	0.0274	+/-0.0888	0.0573	pCi/g						
Cesium-134	U	0.0324	+/-0.0315	0.0192	+/-0.0315	0.0401	pCi/g						
Cesium-137		0.381	+/-0.0456	0.0153	+/-0.0456	0.0321	pCi/g						
Cobalt-60		0.639	+/-0.0719	0.0156	+/-0.0719	0.0336	pCi/g						
Europium-152	U	-0.00433	+/-0.0445	0.037	+/-0.0445	0.0768	pCi/g						
Europium-154	U	-0.0143	+/-0.0575	0.0475	+/-0.0575	0.101	pCi/g						
Europium-155	U	0.0619	+/-0.0536	0.0408	+/-0.0536	0.0837	pCi/g						
Lead-212		0.809	+/-0.0817	0.0216	+/-0.0817	0.0445	pCi/g						
Lead-214		0.690	+/-0.0992	0.0263	+/-0.0992	0.0546	pCi/g						
Manganese-54	U	0.0152	+/-0.0203	0.0176	+/-0.0203	0.0368	pCi/g						
Niobium-94	U	-0.00868	+/-0.016	0.0131	+/-0.016	0.0275	pCi/g						
Potassium-40		12.9	+/-1.11	0.115	+/-1.11	0.253	pCi/g						
Radium-226		0.582	+/-0.0888	0.0274	+/-0.0888	0.0573	pCi/g						
Silver-108m	U	-0.0107	+/-0.0149	0.0127	+/-0.0149	0.0264	pCi/g						
Thallium-208		0.238	+/-0.041	0.0144	+/-0.041	0.0301	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.00681	+/-0.0131	0.0131	+/-0.0131	0.0298	pCi/g		BXF1	06/25/06	1025	539388	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXP2	06/02/06	1920	535666

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3
2	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	81	(25%-125%)

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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: June 29, 2006

Client Sample ID: 9106-0002-007F
Sample ID: 164220008

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

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

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: June 29, 2006

Client Sample ID: 9106-0002-008F
Sample ID: 164220009
Matrix: SE
Collect Date: 18-MAY-06
Receive Date: 02-JUN-06
Collector: Client
Moisture: 20.9%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS</i>													
Actinium-228		0.574	+/-0.132	0.0514	+/-0.132	0.109	pCi/g		MJH1	06/20/06	0610	536186	1
Americium-241	U	-0.0538	+/-0.107	0.0921	+/-0.107	0.191	pCi/g						
Bismuth-212		0.294	+/-0.232	0.109	+/-0.232	0.232	pCi/g						
Bismuth-214		0.388	+/-0.0771	0.0245	+/-0.0771	0.0518	pCi/g						
Cesium-134	U	0.0325	+/-0.040	0.0187	+/-0.040	0.0394	pCi/g						
Cesium-137		0.163	+/-0.0295	0.0127	+/-0.0295	0.0271	pCi/g						
Cobalt-60		0.370	+/-0.052	0.0129	+/-0.052	0.0283	pCi/g						
Europium-152	U	0.0234	+/-0.0428	0.0379	+/-0.0428	0.0792	pCi/g						
Europium-154	U	0.0429	+/-0.0592	0.0479	+/-0.0592	0.103	pCi/g						
Europium-155	U	0.0179	+/-0.0447	0.0428	+/-0.0447	0.0884	pCi/g						
Lead-212		0.584	+/-0.0721	0.0217	+/-0.0721	0.0451	pCi/g						
Lead-214		0.470	+/-0.0851	0.0247	+/-0.0851	0.0519	pCi/g						
Manganese-54	U	0.00381	+/-0.0184	0.0158	+/-0.0184	0.0334	pCi/g						
Niobium-94	U	-0.00332	+/-0.0142	0.012	+/-0.0142	0.0255	pCi/g						
Potassium-40		9.79	+/-0.887	0.112	+/-0.887	0.250	pCi/g						
Radium-226		0.388	+/-0.0771	0.0245	+/-0.0771	0.0518	pCi/g						
Silver-108m	U	-0.000506	+/-0.0146	0.0131	+/-0.0146	0.0275	pCi/g						
Thallium-208		0.207	+/-0.0334	0.012	+/-0.0334	0.0255	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.00785	+/-0.0154	0.0156	+/-0.0154	0.035	pCi/g		BXF1	06/25/06	1025	539388	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXP2	06/02/06	1920	535666

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3
2	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	75	(25%-125%)

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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: June 29, 2006

Client Sample ID: 9106-0002-008F
Sample ID: 164220009

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

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

The Qualifiers in this report are defined as follows :

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

The above sample is reported on a dry weight basis.

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Certificate of Analysis

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

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

Report Date: June 29, 2006

Client Sample ID: 9106-0002-009F
Sample ID: 164220010
Matrix: SE
Collect Date: 18-MAY-06
Receive Date: 02-JUN-06
Collector: Client
Moisture: 20.2%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	0.127	+/-0.168	0.110	+/-0.169	0.318	pCi/g	MXA	06/22/06	1119	540462	1	1
Curium-242	U	-0.0507	+/-0.0445	0.108	+/-0.0449	0.330	pCi/g						
Curium-243/244	U	0.0131	+/-0.136	0.138	+/-0.136	0.374	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	-0.0153	+/-0.0792	0.0972	+/-0.0792	0.289	pCi/g	MXA	06/22/06	1119	540464	2	1
Plutonium-239/240	U	-0.00835	+/-0.0164	0.0397	+/-0.0164	0.174	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	10.1	+/-12.6	10.1	+/-12.7	21.2	pCi/g	MXA	06/23/06	2116	540465	3	1
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS</i>													
Actinium-228		0.668	+/-0.149	0.0513	+/-0.149	0.110	pCi/g	MJH1	06/20/06	0917	536186	4	
Americium-241	U	-0.0183	+/-0.0763	0.0635	+/-0.0763	0.131	pCi/g						
Bismuth-212		0.708	+/-0.214	0.101	+/-0.214	0.216	pCi/g						
Bismuth-214		0.520	+/-0.0732	0.025	+/-0.0732	0.0529	pCi/g						
Cesium-134	U	0.0398	+/-0.035	0.021	+/-0.035	0.044	pCi/g						
Cesium-137		0.184	+/-0.045	0.0138	+/-0.045	0.0294	pCi/g						
Cobalt-60		0.231	+/-0.0461	0.0144	+/-0.0461	0.0316	pCi/g						
Europium-152	U	-0.0209	+/-0.0407	0.0355	+/-0.0407	0.0743	pCi/g						
Europium-154	U	0.00108	+/-0.048	0.0405	+/-0.048	0.0883	pCi/g						
Europium-155	UI	0.00	+/-0.0613	0.0374	+/-0.0613	0.0774	pCi/g						
Lead-212		0.664	+/-0.0487	0.0199	+/-0.0487	0.0413	pCi/g						
Lead-214		0.524	+/-0.0743	0.0252	+/-0.0743	0.0528	pCi/g						
Manganese-54	U	-0.00262	+/-0.0182	0.0158	+/-0.0182	0.0335	pCi/g						
Niobium-94	U	0.00538	+/-0.0155	0.0134	+/-0.0155	0.0283	pCi/g						
Potassium-40		10.2	+/-0.675	0.122	+/-0.675	0.271	pCi/g						
Radium-226		0.520	+/-0.0732	0.025	+/-0.0732	0.0529	pCi/g						
Silver-108m	U	0.0034	+/-0.0143	0.0128	+/-0.0143	0.0268	pCi/g						
Thallium-208		0.216	+/-0.0341	0.0145	+/-0.0341	0.0306	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.00294	+/-0.017	0.0184	+/-0.017	0.0412	pCi/g	BXF1	06/25/06	1025	539388	5	
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid-HTD2, ALL FSS</i>													

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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: June 29, 2006

Client Sample ID: 9106-0002-009F
Sample ID: 164220010

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid-HTD2, ALL FSS</i>													
Tritium	U	-2.65	+/-7.23	6.22	+/-7.23	13.1	pCi/g		NXP1	06/17/06	1658	535984	6
<i>Liquid Scint C14, Solid ALL FSS</i>													
Carbon-14	U	-0.0114	+/-0.0887	0.0746	+/-0.0887	0.151	pCi/g		ATH2	06/16/06	0757	536336	7
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	5.52	+/-16.7	12.3	+/-16.7	25.9	pCi/g		SLN1	06/21/06	0902	538969	8
<i>Liquid Scint Ni63, Solid-ALL FSS</i>													
Nickel-63	U	4.87	+/-6.73	5.51	+/-6.74	11.3	pCi/g		SLN1	06/28/06	0108	541000	9
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.0368	+/-0.224	0.187	+/-0.224	0.386	pCi/g		SXE1	06/14/06	1804	536314	10

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXP2	06/02/06	1920	535666

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	97	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	92	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	65	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	69	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	98	(15%-125%)

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Certificate of Analysis

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Address : 362 Injun Hollow Rd

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

Report Date: June 29, 2006

Client Sample ID: 9106-0002-009F
Sample ID: 164220010

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Carrier/Tracer Recovery		Liquid Scint Ni63, Solid-ALL FS			67		(25%-125%)						
Carrier/Tracer Recovery		Liquid Scint Tc99, Solid-ALL FS			80		(15%-125%)						

Notes:

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 - > Result is greater than value reported
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 - 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: June 29, 2006

Client Sample ID: 9106-0002-010F
Sample ID: 164220011
Matrix: SE
Collect Date: 18-MAY-06
Receive Date: 02-JUN-06
Collector: Client
Moisture: 13.5%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS</i>													
Actinium-228		0.817	+/-0.139	0.0579	+/-0.139	0.125	pCi/g		MJH1	06/20/06	1008	536186	1
Americium-241	U	0.0037	+/-0.0906	0.0728	+/-0.0906	0.150	pCi/g						
Bismuth-212		0.765	+/-0.247	0.131	+/-0.247	0.279	pCi/g						
Bismuth-214		0.647	+/-0.103	0.0322	+/-0.103	0.0681	pCi/g						
Cesium-134	U	0.0149	+/-0.0278	0.0208	+/-0.0278	0.0442	pCi/g						
Cesium-137		0.0661	+/-0.0378	0.0167	+/-0.0378	0.0356	pCi/g						
Cobalt-60		0.238	+/-0.0552	0.0158	+/-0.0552	0.0351	pCi/g						
Europium-152	U	-0.0245	+/-0.0532	0.0443	+/-0.0532	0.0928	pCi/g						
Europium-154	U	-0.0219	+/-0.0613	0.0508	+/-0.0613	0.111	pCi/g						
Europium-155	U	0.0559	+/-0.0498	0.0482	+/-0.0498	0.0993	pCi/g						
Lead-212		0.760	+/-0.0605	0.026	+/-0.0605	0.0539	pCi/g						
Lead-214		0.736	+/-0.093	0.0315	+/-0.093	0.066	pCi/g						
Manganese-54	U	-0.0136	+/-0.0204	0.0163	+/-0.0204	0.035	pCi/g						
Niobium-94	U	0.0204	+/-0.0198	0.0163	+/-0.0198	0.0345	pCi/g						
Potassium-40		10.5	+/-0.808	0.134	+/-0.808	0.302	pCi/g						
Radium-226		0.647	+/-0.103	0.0322	+/-0.103	0.0681	pCi/g						
Silver-108m	U	-0.00471	+/-0.018	0.0148	+/-0.018	0.0312	pCi/g						
Thallium-208		0.285	+/-0.048	0.017	+/-0.048	0.036	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.0106	+/-0.0136	0.0176	+/-0.0136	0.0392	pCi/g		BXF1	06/25/06	1025	539388	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXP2	06/02/06	1920	535666

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3
2	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	72	(25%-125%)

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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: June 29, 2006

Client Sample ID: 9106-0002-010F
Sample ID: 164220011

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

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

The Qualifiers in this report are defined as follows :

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

The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

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

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

Report Date: June 29, 2006

Client Sample ID: 9106-0002-011F
Sample ID: 164220012
Matrix: SE
Collect Date: 19-MAY-06
Receive Date: 02-JUN-06
Collector: Client
Moisture: 18%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS</i>													
Actinium-228		0.555	+/-0.154	0.0668	+/-0.154	0.142	pCi/g		MJH1	06/20/06	1009	536186	1
Americium-241	U	-0.0836	+/-0.106	0.0669	+/-0.106	0.138	pCi/g						
Bismuth-212		0.411	+/-0.209	0.114	+/-0.209	0.243	pCi/g						
Bismuth-214		0.547	+/-0.0669	0.0275	+/-0.0669	0.0584	pCi/g						
Cesium-134	UI	0.00	+/-0.0507	0.0177	+/-0.0507	0.0378	pCi/g						
Cesium-137		0.247	+/-0.0433	0.0191	+/-0.0433	0.0402	pCi/g						
Cobalt-60		0.526	+/-0.0598	0.014	+/-0.0598	0.0311	pCi/g						
Europium-152	U	0.0154	+/-0.0455	0.0415	+/-0.0455	0.0868	pCi/g						
Europium-154	U	0.0336	+/-0.0642	0.0509	+/-0.0642	0.110	pCi/g						
Europium-155	UI	0.00	+/-0.0713	0.0413	+/-0.0713	0.0853	pCi/g						
Lead-212		0.656	+/-0.0521	0.0235	+/-0.0521	0.0487	pCi/g						
Lead-214		0.634	+/-0.078	0.0282	+/-0.078	0.059	pCi/g						
Manganese-54	U	0.0135	+/-0.022	0.0192	+/-0.022	0.0406	pCi/g						
Niobium-94	U	0.0146	+/-0.0161	0.0146	+/-0.0161	0.031	pCi/g						
Potassium-40		11.1	+/-0.820	0.123	+/-0.820	0.276	pCi/g						
Radium-226		0.547	+/-0.0669	0.0275	+/-0.0669	0.0584	pCi/g						
Silver-108m	U	0.00368	+/-0.0156	0.014	+/-0.0156	0.0294	pCi/g						
Thallium-208		0.227	+/-0.0428	0.0153	+/-0.0428	0.0324	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.0195	+/-0.0167	0.0147	+/-0.0167	0.0333	pCi/g		BXF1	06/25/06	1025	539388	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXP2	06/02/06	1920	535666

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3
2	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	75	(25%-125%)

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

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

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

Report Date: June 29, 2006

Client Sample ID: 9106-0002-011F
Sample ID: 164220012

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

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

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: June 29, 2006

Client Sample ID: 9106-0002-012F
Sample ID: 164220013
Matrix: SE
Collect Date: 19-MAY-06
Receive Date: 02-JUN-06
Collector: Client
Moisture: 18.5%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS</i>													
Actinium-228		0.650	+/-0.151	0.0574	+/-0.151	0.122	pCi/g						
Americium-241	U	-0.126	+/-0.0935	0.0727	+/-0.0935	0.149	pCi/g		MJH1	06/20/06	1009	536186	1
Bismuth-212		0.513	+/-0.177	0.112	+/-0.177	0.238	pCi/g						
Bismuth-214		0.542	+/-0.0844	0.0265	+/-0.0844	0.0561	pCi/g						
Cesium-134	U	0.0281	+/-0.0349	0.0197	+/-0.0349	0.0416	pCi/g						
Cesium-137		0.175	+/-0.0364	0.0164	+/-0.0364	0.0346	pCi/g						
Cobalt-60		0.118	+/-0.0405	0.0174	+/-0.0405	0.0376	pCi/g						
Europium-152	U	0.0354	+/-0.0583	0.0455	+/-0.0583	0.0944	pCi/g						
Europium-154	U	-0.0546	+/-0.0598	0.0448	+/-0.0598	0.0974	pCi/g						
Europium-155	U	0.0313	+/-0.0553	0.0511	+/-0.0553	0.105	pCi/g						
Lead-212		0.757	+/-0.0554	0.0264	+/-0.0554	0.0545	pCi/g						
Lead-214		0.605	+/-0.0866	0.0296	+/-0.0866	0.0618	pCi/g						
Manganese-54	U	-0.0096	+/-0.021	0.0174	+/-0.021	0.0368	pCi/g						
Niobium-94	U	0.00277	+/-0.0174	0.0152	+/-0.0174	0.032	pCi/g						
Potassium-40		10.6	+/-0.817	0.140	+/-0.817	0.309	pCi/g						
Radium-226		0.542	+/-0.0844	0.0265	+/-0.0844	0.0561	pCi/g						
Silver-108m	U	0.00453	+/-0.0174	0.0149	+/-0.0174	0.0311	pCi/g						
Thallium-208		0.291	+/-0.0438	0.0152	+/-0.0438	0.0321	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.00447	+/-0.0108	0.0132	+/-0.0108	0.0297	pCi/g		BXF1	06/26/06	2133	539388	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXP2	06/02/06	1920	535666

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3
2	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	77	(25%-125%)

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

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

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

Report Date: June 29, 2006

Client Sample ID: 9106-0002-012F
Sample ID: 164220013

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

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

The Qualifiers in this report are defined as follows :

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

The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

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: June 29, 2006

Client Sample ID: 9106-0002-013F
Sample ID: 164220014
Matrix: SE
Collect Date: 19-MAY-06
Receive Date: 02-JUN-06
Collector: Client
Moisture: 24.2%

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

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

Gamma, Solid-FSS GAM & ALL FSS

Actinium-228		0.688	+/-0.198	0.0782	+/-0.198	0.167	pCi/g		MJH1	06/20/06	1010	536186	1
Americium-241	U	0.0271	+/-0.0326	0.0281	+/-0.0326	0.0577	pCi/g						
Bismuth-212		0.421	+/-0.302	0.135	+/-0.302	0.289	pCi/g						
Bismuth-214		0.662	+/-0.100	0.0365	+/-0.100	0.0772	pCi/g						
Cesium-134	U	0.0486	+/-0.0403	0.0255	+/-0.0403	0.054	pCi/g						
Cesium-137	U	0.0243	+/-0.052	0.0235	+/-0.052	0.0496	pCi/g						
Cobalt-60		0.151	+/-0.0486	0.0224	+/-0.0486	0.0488	pCi/g						
Europium-152	U	-0.02	+/-0.0504	0.044	+/-0.0504	0.0925	pCi/g						
Europium-154	U	0.00563	+/-0.0667	0.057	+/-0.0667	0.125	pCi/g						
Europium-155	U	0.0391	+/-0.051	0.0471	+/-0.051	0.0968	pCi/g						
Lead-212		0.723	+/-0.0651	0.0256	+/-0.0651	0.0532	pCi/g						
Lead-214		0.640	+/-0.0947	0.0361	+/-0.0947	0.0755	pCi/g						
Manganese-54	UI	0.00	+/-0.0774	0.0219	+/-0.0774	0.0467	pCi/g						
Niobium-94	U	0.00857	+/-0.0228	0.0198	+/-0.0228	0.0418	pCi/g						
Potassium-40		10.1	+/-0.836	0.190	+/-0.836	0.419	pCi/g						
Radium-226		0.662	+/-0.100	0.0365	+/-0.100	0.0772	pCi/g						
Silver-108m	U	0.00113	+/-0.0192	0.0169	+/-0.0192	0.0356	pCi/g						
Thallium-208		0.289	+/-0.054	0.0193	+/-0.054	0.0408	pCi/g						

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid-ALL FSS

Strontium-90	U-0.000497	+/-0.0108	0.0122	+/-0.0108	0.0276	pCi/g		BXF1	06/26/06	2133	539388	2
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXP2	06/02/06	1920	535666

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3
2	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
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GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

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

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

Report Date: June 29, 2006

Client Sample ID: 9106-0002-013F
Sample ID: 164220014

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						
Carrier/Tracer Recovery		GFPC, Sr90, solid-ALL FSS			81		(25%-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
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 - 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: June 29, 2006

Client Sample ID: 9106-0002-014F
Sample ID: 164220015
Matrix: SE
Collect Date: 19-MAY-06
Receive Date: 02-JUN-06
Collector: Client
Moisture: 10.5%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS</i>													
Actinium-228		0.636	+/-0.149	0.0475	+/-0.149	0.103	pCi/g		MJH1	06/20/06	1018	536186	1
Americium-241	U	0.0288	+/-0.0915	0.0757	+/-0.0915	0.156	pCi/g						
Bismuth-212		0.739	+/-0.253	0.101	+/-0.253	0.216	pCi/g						
Bismuth-214		0.644	+/-0.0996	0.0268	+/-0.0996	0.0567	pCi/g						
Cesium-134	U	0.0302	+/-0.0267	0.0188	+/-0.0267	0.0398	pCi/g						
Cesium-137	UI	0.00	+/-0.0443	0.0147	+/-0.0443	0.0312	pCi/g						
Cobalt-60	U	0.00146	+/-0.0214	0.0183	+/-0.0214	0.0395	pCi/g						
Europium-152	U	-0.00893	+/-0.0433	0.0366	+/-0.0433	0.0767	pCi/g						
Europium-154	U	-0.0447	+/-0.0542	0.0418	+/-0.0542	0.0916	pCi/g						
Europium-155	U	0.0758	+/-0.0609	0.0408	+/-0.0609	0.0843	pCi/g						
Lead-212		0.828	+/-0.0856	0.0225	+/-0.0856	0.0467	pCi/g						
Lead-214		0.740	+/-0.103	0.0245	+/-0.103	0.0515	pCi/g						
Manganese-54	UI	0.00	+/-0.0228	0.0149	+/-0.0228	0.0318	pCi/g						
Niobium-94	U	0.0196	+/-0.0261	0.0143	+/-0.0261	0.0303	pCi/g						
Potassium-40		10.4	+/-1.03	0.119	+/-1.03	0.268	pCi/g						
Radium-226		0.644	+/-0.0996	0.0268	+/-0.0996	0.0567	pCi/g						
Silver-108m	U	-0.0088	+/-0.0138	0.0119	+/-0.0138	0.0252	pCi/g						
Thallium-208		0.249	+/-0.0461	0.0144	+/-0.0461	0.0306	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.00235	+/-0.016	0.0184	+/-0.016	0.0406	pCi/g		BXF1	06/25/06	1026	539388	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXP2	06/02/06	1920	535666

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3
2	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	79	(25%-125%)

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

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

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

Report Date: June 29, 2006

Client Sample ID: 9106-0002-014F
Sample ID: 164220015

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

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

The Qualifiers in this report are defined as follows :

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

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

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

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

Report Date: June 29, 2006

Client Sample ID: 9106-0002-015F
Sample ID: 164220017
Matrix: SE
Collect Date: 19-MAY-06
Receive Date: 02-JUN-06
Collector: Client
Moisture: 13%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS</i>													
Actinium-228		0.820	+/-0.214	0.060	+/-0.214	0.129	pCi/g		MJH1	06/20/06	1019	536186	1
Americium-241	U	0.0169	+/-0.0299	0.0251	+/-0.0299	0.0514	pCi/g						
Bismuth-212		0.473	+/-0.305	0.131	+/-0.305	0.280	pCi/g						
Bismuth-214		0.791	+/-0.135	0.0338	+/-0.135	0.0713	pCi/g						
Cesium-134	UI	0.00	+/-0.0379	0.0247	+/-0.0379	0.0521	pCi/g						
Cesium-137		0.116	+/-0.0374	0.0202	+/-0.0374	0.0427	pCi/g						
Cobalt-60		0.0507	+/-0.0319	0.0175	+/-0.0319	0.0385	pCi/g						
Europium-152	U	-0.0307	+/-0.0547	0.047	+/-0.0547	0.0979	pCi/g						
Europium-154	U	0.075	+/-0.0721	0.0658	+/-0.0721	0.141	pCi/g						
Europium-155	U	0.0281	+/-0.0479	0.0433	+/-0.0479	0.089	pCi/g						
Lead-212		0.886	+/-0.115	0.0252	+/-0.115	0.0521	pCi/g						
Lead-214		0.771	+/-0.119	0.0334	+/-0.119	0.0697	pCi/g						
Manganese-54	U	0.0219	+/-0.0304	0.0173	+/-0.0304	0.0371	pCi/g						
Niobium-94	U	-0.0027	+/-0.0201	0.0166	+/-0.0201	0.0352	pCi/g						
Potassium-40		11.9	+/-1.11	0.154	+/-1.11	0.342	pCi/g						
Radium-226		0.791	+/-0.135	0.0338	+/-0.135	0.0713	pCi/g						
Silver-108m	U	0.00556	+/-0.0176	0.0155	+/-0.0176	0.0326	pCi/g						
Thallium-208		0.232	+/-0.056	0.0187	+/-0.056	0.0394	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.00455	+/-0.0169	0.0179	+/-0.0169	0.0405	pCi/g		BXF1	06/25/06	1120	539388	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXP2	06/02/06	1920	535666

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3
2	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	64	(25%-125%)

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

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

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

Report Date: June 29, 2006

Client Sample ID: 9106-0002-015F
Sample ID: 164220017

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

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

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- < Result is less than value reported
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- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy—Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis

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

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

Report Date: June 29, 2006

Client Sample ID: 9106-0002-016F
Sample ID: 164220018
Matrix: SE
Collect Date: 19-MAY-06
Receive Date: 02-JUN-06
Collector: Client
Moisture: 19.5%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS</i>													
Actinium-228		0.973	+/-0.156	0.0312	+/-0.156	0.0651	pCi/g		MJH1	06/20/06	1019	536186	1
Americium-241	U	0.0182	+/-0.0728	0.0685	+/-0.0728	0.140	pCi/g						
Bismuth-212		0.682	+/-0.202	0.0693	+/-0.202	0.144	pCi/g						
Bismuth-214		0.800	+/-0.0822	0.0174	+/-0.0822	0.036	pCi/g						
Cesium-134	UI	0.00	+/-0.0173	0.0121	+/-0.0173	0.0249	pCi/g						
Cesium-137		0.0731	+/-0.0225	0.00992	+/-0.0225	0.0205	pCi/g						
Cobalt-60		0.0983	+/-0.0254	0.0104	+/-0.0254	0.0218	pCi/g						
Europium-152	U	0.0105	+/-0.0316	0.0267	+/-0.0316	0.0546	pCi/g						
Europium-154	U	0.0338	+/-0.0361	0.0305	+/-0.0361	0.0637	pCi/g						
Europium-155	UI	0.00	+/-0.0463	0.0294	+/-0.0463	0.0598	pCi/g						
Lead-212		1.01	+/-0.102	0.0157	+/-0.102	0.0321	pCi/g						
Lead-214		0.929	+/-0.0992	0.0187	+/-0.0992	0.0383	pCi/g						
Manganese-54	U	0.00934	+/-0.0177	0.00934	+/-0.0177	0.0194	pCi/g						
Niobium-94	U	0.00509	+/-0.0109	0.00939	+/-0.0109	0.0194	pCi/g						
Potassium-40		10.5	+/-0.809	0.0876	+/-0.809	0.185	pCi/g						
Radium-226		0.800	+/-0.0822	0.0174	+/-0.0822	0.036	pCi/g						
Silver-108m	U	-0.00238	+/-0.00976	0.00854	+/-0.00976	0.0176	pCi/g						
Thallium-208		0.283	+/-0.0333	0.00953	+/-0.0333	0.0197	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.00915	+/-0.0171	0.0173	+/-0.0171	0.0389	pCi/g		BXF1	06/25/06	1053	539388	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXP2	06/02/06	1920	535666

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3
2	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	69	(25%-125%)

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

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

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

Report Date: June 29, 2006

Client Sample ID: 9106-0002-016F
Sample ID: 164220018

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

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

The Qualifiers in this report are defined as follows :

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

The above sample is reported on a dry weight basis.

QUALITY CONTROL DATA

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Client : Connecticut Yankee Atomic Power
362 Injun Hollow Rd

Report Date: June 29, 2006

Page 1 of 9

Contact: East Hampton, Connecticut
Mr. Jack McCarthy

Workorder: 164220

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	540462										
QC1201117598	164220002	DUP									
Americium-241	U	-0.0378	U	-0.106	pCi/g	95	(0% - 100%)	4XA1	06/24/06	08:10	
	Uncert:	+/-0.0665		+/-0.182							
	TPU:	+/-0.0666		+/-0.183							
Curium-242	U	0.00	U	0.0639	pCi/g	200	(0% - 100%)				
	Uncert:	+/-0.0752		+/-0.147							
	TPU:	+/-0.0752		+/-0.147							
Curium-243/244	U	0.0331	U	0.102	pCi/g	102	(0% - 100%)				
	Uncert:	+/-0.0649		+/-0.270							
	TPU:	+/-0.065		+/-0.270							
QC1201117600	LCS										
Americium-241		13.6		10.3	pCi/g		76	(75%-125%)		06/22/06	11:19
	Uncert:			+/-1.09							
	TPU:			+/-1.63							
Curium-242			U	0.0229	pCi/g						
	Uncert:			+/-0.0607							
	TPU:			+/-0.0608							
Curium-243/244		16.6		15.4	pCi/g		93	(75%-125%)			
	Uncert:			+/-1.33							
	TPU:			+/-2.26							
QC1201117597	MB										
Americium-241			U	0.054	pCi/g					06/22/06	11:19
	Uncert:			+/-0.148							
	TPU:			+/-0.149							
Curium-242			U	0.107	pCi/g						
	Uncert:			+/-0.164							
	TPU:			+/-0.165							
Curium-243/244			U	0.123	pCi/g						
	Uncert:			+/-0.238							
	TPU:			+/-0.238							
QC1201117599	164220002	MS									
Americium-241	U	-0.0378		10.3	pCi/g		75	(75%-125%)			
	Uncert:	+/-0.0665		+/-2.01							
	TPU:	+/-0.0666		+/-2.68							
Curium-242	U	0.00	U	-0.0497	pCi/g						
	Uncert:	+/-0.0752		+/-0.257							
	TPU:	+/-0.0752		+/-0.257							
Curium-243/244	U	0.0331		15.8	pCi/g		95	(75%-125%)			
	Uncert:	+/-0.0649		+/-2.52							
	TPU:	+/-0.065		+/-3.70							
Batch	540464										
QC1201117602	164220002	DUP									
Plutonium-238	U	0.032	U	0.018	pCi/g	56	(0% - 100%)	4XA1	06/22/06	11:19	

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Parmname		NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec												
Batch	540464											
Plutonium-239/240		Uncert:	+/-0.0628		+/-0.0717	pCi/g	242	(0% - 100%)				
		TPU:	+/-0.0629		+/-0.0717							
		U	-0.19	U	0.018							
		Uncert:	+/-0.124		+/-0.0716							
		TPU:	+/-0.125		+/-0.0716							
QC1201117604	LCS											
Plutonium-238				U	0.0504	pCi/g		(75%-125%)				
Plutonium-239/240		Uncert:			+/-0.0944	pCi/g	89	(75%-125%)				
		TPU:			+/-0.0946							
		12.6			11.2							
		Uncert:			+/-1.19							
		TPU:			+/-1.67							
QC1201117601	MB											
Plutonium-238				U	0.00	pCi/g						
Plutonium-239/240		Uncert:			+/-0.0707	pCi/g						
		TPU:			+/-0.0707							
				U	0.0462							
		Uncert:			+/-0.104							
		TPU:			+/-0.104							
QC1201117603	164220002	MS										
Plutonium-238			U	0.032	U	0.0403	pCi/g		(75%-125%)			
Plutonium-239/240		Uncert:	+/-0.0628		+/-0.091	pCi/g	89	(75%-125%)				
		TPU:	+/-0.0629		+/-0.0911							
		12.6	U	-0.19	11.2							
		Uncert:	+/-0.124		+/-1.17							
		TPU:	+/-0.125		+/-1.63							
Batch	540465											
QC1201117606	164220002	DUP										
Plutonium-241			U	8.31	U	2.27	pCi/g	0	(0% - 100%)	MXA1	06/23/06	21:49
Plutonium-241		Uncert:	+/-9.79		+/-8.87	pCi/g	83	(75%-125%)				
		TPU:	+/-9.82		+/-8.88							
		140			117							
		Uncert:			+/-14.6						06/23/06	22:22
		TPU:			+/-18.8							
QC1201117605	MB											
Plutonium-241				U	-3.1	pCi/g					06/29/06	00:04
Plutonium-241		Uncert:			+/-10.1	pCi/g	77	(75%-125%)				
		TPU:			+/-10.1							
		142	U	8.31	110							
		Uncert:	+/-9.79		+/-13.0							
		TPU:	+/-9.82		+/-16.6							
Rad Gamma Spec												
Batch	536186											
QC1201107353	164220002	DUP										
Actinium-228					0.606	pCi/g	6	(0% - 100%)	MJH1		06/20/06	10:19
		Uncert:	+/-0.123		+/-0.212							
					+/-0.212							

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 536186											
Americium-241		TPU:		+/-0.123							
	U		0.0463	U	-0.00516	pCi/g	250	(0% - 100%)			
		Uncert:		+/-0.0455							
Bismuth-212		TPU:		+/-0.0455							
			0.497		0.499	pCi/g	0	(0% - 100%)			
		Uncert:		+/-0.194							
Bismuth-214		TPU:		+/-0.194							
			0.534		0.624	pCi/g	16	(0% - 100%)			
		Uncert:		+/-0.0856							
Cesium-134		TPU:		+/-0.0856							
	U		0.0362	U	0.0393	pCi/g	8	(0% - 100%)			
		Uncert:		+/-0.0269							
Cesium-137		TPU:		+/-0.0269							
	U		0.0264	U	0.0144	pCi/g	59	(0% - 100%)			
		Uncert:		+/-0.0177							
Cobalt-60		TPU:		+/-0.0177							
	U		0.0213	U	0.0279	pCi/g	27	(0% - 100%)			
		Uncert:		+/-0.0149							
Europium-152		TPU:		+/-0.0149							
	U		0.00263	U	0.0158	pCi/g	143	(0% - 100%)			
		Uncert:		+/-0.0455							
Europium-154		TPU:		+/-0.0455							
	U		-0.00291	U	-0.0319	pCi/g	167	(0% - 100%)			
		Uncert:		+/-0.0636							
Europium-155		TPU:		+/-0.0636							
	U		0.0554	U	0.0481	pCi/g	14	(0% - 100%)			
		Uncert:		+/-0.0468							
Lead-212		TPU:		+/-0.0468							
			0.703		0.787	pCi/g	11	(0% - 20%)			
		Uncert:		+/-0.0499							
Lead-214		TPU:		+/-0.0499							
			0.602		0.659	pCi/g	9	(0% - 20%)			
		Uncert:		+/-0.0664							
Manganese-54		TPU:		+/-0.0664							
	U		0.00163	U	0.00979	pCi/g	143	(0% - 100%)			
		Uncert:		+/-0.0184							
Niobium-94		TPU:		+/-0.0184							
	U		0.00959	U	0.0335	pCi/g	111	(0% - 100%)			
		Uncert:		+/-0.014							
Potassium-40		TPU:		+/-0.014							
			9.42		9.25	pCi/g	2	(0% - 20%)			
		Uncert:		+/-0.696							
Radium-226		TPU:		+/-0.696							
			0.534		0.624	pCi/g	16	(0% - 100%)			
		Uncert:		+/-0.0856							
Silver-108m		TPU:		+/-0.0856							
	U		0.0101	U	-0.00367	pCi/g	429	(0% - 100%)			
		Uncert:		+/-0.0162							

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	536186										
Thallium-208	TPU:	+/-0.0162		+/-0.0229							
		0.227		0.278	pCi/g	20		(0% - 100%)			
	Uncert:	+/-0.0424		+/-0.0495							
	TPU:	+/-0.0424		+/-0.0495							
QC1201107354 LCS											
Actinium-228			U	-0.00213	pCi/g					06/20/06	10:20
	Uncert:			+/-0.430							
	TPU:			+/-0.430							
Americium-241	23.4			26.5	pCi/g			113 (75%-125%)			
	Uncert:			+/-1.24							
	TPU:			+/-1.24							
Bismuth-212			U	0.0167	pCi/g						
	Uncert:			+/-0.830							
	TPU:			+/-0.830							
Bismuth-214			U	0.110	pCi/g						
	Uncert:			+/-0.223							
	TPU:			+/-0.223							
Cesium-134			U	0.00152	pCi/g						
	Uncert:			+/-0.120							
	TPU:			+/-0.120							
Cesium-137	9.63			10.6	pCi/g			110 (75%-125%)			
	Uncert:			+/-0.401							
	TPU:			+/-0.401							
Cobalt-60	15.0			16.4	pCi/g			110 (75%-125%)			
	Uncert:			+/-0.584							
	TPU:			+/-0.584							
Europium-152			U	0.349	pCi/g						
	Uncert:			+/-0.247							
	TPU:			+/-0.247							
Europium-154			U	0.089	pCi/g						
	Uncert:			+/-0.277							
	TPU:			+/-0.277							
Europium-155			U	0.0129	pCi/g						
	Uncert:			+/-0.317							
	TPU:			+/-0.317							
Lead-212			U	0.0378	pCi/g						
	Uncert:			+/-0.159							
	TPU:			+/-0.159							
Lead-214			U	0.0858	pCi/g						
	Uncert:			+/-0.180							
	TPU:			+/-0.180							
Manganese-54			U	-0.0333	pCi/g						
	Uncert:			+/-0.104							
	TPU:			+/-0.104							
Niobium-94			U	0.0477	pCi/g						
	Uncert:			+/-0.104							
	TPU:			+/-0.104							
Potassium-40			U	0.103	pCi/g						

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	536186									
			Uncert:							
			TPU:							
Radium-226		U	0.110	pCi/g			(75%-125%)			
			Uncert:							
			TPU:							
Silver-108m		U	0.0477	pCi/g						
			Uncert:							
			TPU:							
Thallium-208		U	0.110	pCi/g						
			Uncert:							
			TPU:							
QC1201107352 MB										
Actinium-228		U	0.0667	pCi/g					06/19/06	20:38
			Uncert:							
			TPU:							
Americium-241		U	0.0113	pCi/g						
			Uncert:							
			TPU:							
Bismuth-212		U	-0.000464	pCi/g						
			Uncert:							
			TPU:							
Bismuth-214		U	0.010	pCi/g						
			Uncert:							
			TPU:							
Cesium-134		U	-0.00516	pCi/g						
			Uncert:							
			TPU:							
Cesium-137		U	0.00559	pCi/g						
			Uncert:							
			TPU:							
Cobalt-60		U	-0.00201	pCi/g						
			Uncert:							
			TPU:							
Europium-152		U	0.000846	pCi/g						
			Uncert:							
			TPU:							
Europium-154		U	-7.710E-05	pCi/g						
			Uncert:							
			TPU:							
Europium-155		U	0.00972	pCi/g						
			Uncert:							
			TPU:							
Lead-212		U	0.0227	pCi/g						
			Uncert:							
			TPU:							
Lead-214		U	0.0215	pCi/g						
			Uncert:							
			TPU:							

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	536186										
Manganese-54			U	-0.00138	pCi/g						
	Uncert:			+/-0.0176							
	TPU:			+/-0.0176							
Niobium-94			U	0.0168	pCi/g						
	Uncert:			+/-0.0156							
	TPU:			+/-0.0156							
Potassium-40			U	0.301	pCi/g						
	Uncert:			+/-0.208							
	TPU:			+/-0.208							
Radium-226			U	0.010	pCi/g						
	Uncert:			+/-0.0337							
	TPU:			+/-0.0337							
Silver-108m			U	-0.00382	pCi/g						
	Uncert:			+/-0.0128							
	TPU:			+/-0.0128							
Thallium-208			U	0.00659	pCi/g						
	Uncert:			+/-0.0142							
	TPU:			+/-0.0142							
Rad Gas Flow											
Batch	539388										
QC1201114899	164220002	DUP									
Strontium-90			U	0.00983	pCi/g	0		(0% - 100%)	BXF1	06/25/06	11:54
	Uncert:			+/-0.0153							
	TPU:			+/-0.0153							
QC1201114901	LCS										
Strontium-90			1.45		1.33			91	(75%-125%)	06/25/06	11:54
	Uncert:				+/-0.0832						
	TPU:				+/-0.0894						
QC1201114898	MB										
Strontium-90			U	-0.0105	pCi/g					06/25/06	10:53
	Uncert:			+/-0.0112							
	TPU:			+/-0.0112							
QC1201114900	164220002	MS									
Strontium-90			1.46	U	0.00983	1.37		94	(75%-125%)	06/25/06	10:54
	Uncert:				+/-0.0153	+/-0.095					
	TPU:				+/-0.0153	+/-0.103					
Rad Liquid Scintillation											
Batch	535984										
QC1201106886	163626016	DUP									
Tritium			U	0.738	pCi/g	0		(0% - 100%)	NXP1	06/17/06	17:31
	Uncert:			+/-6.97		+/-7.27					
	TPU:			+/-6.97		+/-7.27					
QC1201106888	LCS										
Tritium			52.7		55.2			105	(75%-125%)	06/17/06	18:04
	Uncert:				+/-9.22						
	TPU:				+/-9.27						
QC1201106885	MB										
Tritium			U	-0.845	pCi/g					06/17/06	17:15

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Parmname		NOM	Sample		Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Liquid Scintillation													
Batch	535984												
				Uncert:		+/-5.81							
				TPU:		+/-5.81							
QC1201106887	163626016	MS											
Tritium			53.0	U	0.738	44.6	pCi/g		84	(75%-125%)		06/17/06	17:47
				Uncert:	+/-6.97	+/-8.62							
				TPU:	+/-6.97	+/-8.66							
Batch	536314												
QC1201107611	163741008	DUP											
Technetium-99				U	0.196	U	0.273	pCi/g	0	(0% - 100%)	SXE1	06/14/06	18:37
				Uncert:	+/-0.227		+/-0.233						
				TPU:	+/-0.227		+/-0.233						
QC1201107613	LCS												
Technetium-99			13.1			11.5	pCi/g		87	(75%-125%)		06/14/06	19:11
				Uncert:		+/-0.471							
				TPU:		+/-0.540							
QC1201107610	MB												
Technetium-99					U	0.090	pCi/g					06/14/06	18:20
				Uncert:		+/-0.200							
				TPU:		+/-0.200							
QC1201107612	163741008	MS											
Technetium-99			12.7	U	0.196	11.2	pCi/g		88	(75%-125%)		06/14/06	18:54
				Uncert:	+/-0.227	+/-0.494							
				TPU:	+/-0.227	+/-0.557							
Batch	536336												
QC1201107671	164220002	DUP											
Carbon-14				U	-0.0461	U	-0.0626	pCi/g	0	(0% - 100%)	ATH2	06/16/06	11:05
				Uncert:	+/-0.0864		+/-0.0867						
				TPU:	+/-0.0864		+/-0.0867						
QC1201107673	LCS												
Carbon-14			6.98			7.01	pCi/g		100	(75%-125%)		06/16/06	14:06
				Uncert:		+/-0.173							
				TPU:		+/-0.205							
QC1201107670	MB												
Carbon-14					U	0.032	pCi/g					06/16/06	09:31
				Uncert:		+/-0.0872							
				TPU:		+/-0.0872							
QC1201107672	164220002	MS											
Carbon-14			7.03	U	-0.0461	7.10	pCi/g		101	(75%-125%)		06/16/06	12:38
				Uncert:	+/-0.0864	+/-0.174							
				TPU:	+/-0.0864	+/-0.206							
Batch	538969												
QC1201113888	163741008	DUP											
Iron-55				U	21.1	U	-1.03	pCi/g	0	(0% - 100%)	SLN1	06/21/06	10:23
				Uncert:	+/-18.3		+/-16.3						
				TPU:	+/-18.5		+/-16.3						
QC1201113890	LCS												
Iron-55			575			529	pCi/g		92	(75%-125%)		06/21/06	10:40
				Uncert:		+/-44.0							
				TPU:		+/-86.2							

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Liquid Scintillation											
Batch	538969										
QC1201113887	MB										
Iron-55			U	5.38	pCi/g					06/21/06	09:51
		Uncert:		+/-26.8							
		TPU:		+/-26.8							
QC1201113889	163741008	MS									
Iron-55		594	U	21.1	546	pCi/g	92	(75%-125%)		06/21/06	10:07
		Uncert:		+/-18.3	+/-33.8						
		TPU:		+/-18.5	+/-74.0						
Batch	541000										
QC1201118870	164220002	DUP									
Nickel-63			U	4.21	3.05	pCi/g	0	(0% - 100%)	SLN1	06/28/06	18:29
		Uncert:		+/-5.83	+/-5.16						
		TPU:		+/-5.83	+/-5.16						
QC1201118872	LCS										
Nickel-63		167		149	pCi/g		90	(75%-125%)		06/28/06	20:03
		Uncert:		+/-4.20							
		TPU:		+/-5.46							
QC1201118869	MB										
Nickel-63			U	1.39	pCi/g					06/28/06	17:42
		Uncert:		+/-1.55							
		TPU:		+/-1.55							
QC1201118871	164220002	MS									
Nickel-63		513	U	4.21	469	pCi/g	91	(75%-125%)		06/28/06	19:16
		Uncert:		+/-5.83	+/-13.2						
		TPU:		+/-5.83	+/-19.7						

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

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

h Preparation or preservation holding time was exceeded

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

** Indicates analyte is a surrogate compound.

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

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

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

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General Narrative

**CASE NARRATIVE
For
CONNECTICUT YANKEE
RE: Soils
PO# 002332
Work Order: 164551
SDG: MSR #06-0819**

June 6, 2006

Laboratory Identification:

General Engineering Laboratories, LLC

Mailing Address:

P.O. Box 30712
Charleston, South Carolina 29417

Express Mail Delivery and Shipping Address:

2040 Savage Road
Charleston, South Carolina 29407

Telephone Number:

(843) 556-8171

Summary:

Sample receipt

The sample(s) for this Project arrived at General Engineering Laboratories, LLC, (GEL) in Charleston, South Carolina on June 8, 2006. All sample containers arrived without any visible signs of tampering or breakage. The chain of custody contained the proper documentation and signatures.

The laboratory received the following sample(s):

<u>Sample ID</u>	<u>Client Sample ID</u>
164551001	9106-0002-017F
164551002	9106-0002-018F
164551003	9106-0002-018FS
164551004	9106-0002-019F

Items of Note:

There are no items of note.

Case Narrative:

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

Analytical Request:

Four soil samples were analyzed for FSSGAM and Sr-90.

Internal Chain of Custody:

Custody was maintained for the sample(s).

Data Package:

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

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



Cheryl Jones
Project Manager

Chain of Custody and Supporting Documentation

164551/.

Connecticut Yankee Atomic Power Company

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

Chain of Custody Form

No. 2006-00382

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size- & Type Code	Analyses Requested					Lab Use Only			
Contact Name & Phone: Jack McCarthy 860-267-2556 Ext. 3024						FSSGAM	FSSALL	Sr-90					Comments:	
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones														
Priority: <input checked="" type="checkbox"/> 30 D. <input type="checkbox"/> 14 D. <input type="checkbox"/> 7 D.														
Sample Designation	Date	Time									Comment, Preservation	Lab Sample ID		
9106-0002-017F	6/2/06	12:49	SE	C	BP	X		X			Transferred from COC 2006-00378			
9106-0002-018F	6/2/06	13:15	SE	C	BP	X		X			Transferred from COC 2006-00378			
9106-0002-018FS	6/2/06	13:15	SE	C	BP	X		X			Transferred from COC 2006-00378			
9106-0002-019F	6/2/06	13:45	SE	C	BP	X		X			Transferred from COC 2006-00378			
NOTES: PO #: 002332 MSR #: 06-0819SSWP# NA <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA											Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other		Internal Container Temp. _____ Deg. C Custody Sealed? Y <input type="checkbox"/> N <input type="checkbox"/> Custody Seal Intact? Y <input type="checkbox"/> N <input type="checkbox"/>	
1) Relinquished By JAMES REARSE			Date/Time 6-7-06/11:00			2) Received By Adley			Date/Time 6-8-06 9:00			Bill of Lading # 7919 6330 8756		
3) Relinquished By			Date/Time			4) Received By			Date/Time					
5) Relinquished By			Date/Time			6) Received By			Date/Time					

Cheryl 164542%
164551%

CRM 40

Connecticut Yankee
Statement of Work for Analytical Lab Services

CY-ISC-SOW-001

Figure 1. Sample Check-in List

Date/Time Received: 6-8-06 900

SDG#: MSR# 06-0819, 0818

Work Order Number: 7921-1715-2858

Shipping Container ID: 11-11-8786 Chain of Custody #: 2006-00382
2006-00380
2006-00381

1. Custody Seals on shipping container intact? Yes ☒ No ☐
2. Custody Seals dated and signed? Yes ☐ No ☒
3. Chain-of-Custody record present? Yes ☒ No ☐
4. Cooler temperature 20°C
5. Vermiculite/packing materials is: Wet ☐ Dry ☒
6. Number of samples in shipping container: _____
7. Sample holding times exceeded? Yes ☒ No ☐

8. Samples have:

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

9. Samples are:

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

10. Were any anomalies identified in sample receipt? Yes ☐ No ☒
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: Amaly Date: 6-8-06 900

Telephoned to: _____ On _____ By _____

RADIOLOGICAL ANALYSIS

**Radiochemistry Case Narrative
Connecticut Yankee Atomic Power Co. (YANK)
Work Order 164551**

Method/Analysis Information

Product: Gamma,Solid-FSS GAM & ALL FSS
Analytical Method: EML HASL 300, 4.5.2.3
Prep Method: Dry Soil Prep
Analytical Batch Number: 538669
Prep Batch Number: 537133

Sample ID	Client ID
164551001	9106-0002-017F
164551002	9106-0002-018F
164551003	9106-0002-018FS
164551004	9106-0002-019F
1201113174	Method Blank (MB)
1201113175	164551001(9106-0002-017F) Sample Duplicate (DUP)
1201113176	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# 11.

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: 164551001 (9106-0002-017F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:**Holding Time**

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:**NCR Documentation**

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

Additional Comments

The relative percent difference between samples 1201113175 (9106-0002-017F) and 164551001 (9106-0002-017F) for Bi-214, Ra-226 and Cs-137 did not meet the duplicate criteria. However, when a relative error ratio is calculated, precision is shown at 1.73 for Bi-214 and Ra-226 and 1.62 for Cs-137.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to interference.	Europium-155	1201113175
UI	Data rejected due to low abundance.	Lead-212	1201113174
		Potassium-40	1201113174

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:	541208
Prep Batch Number:	537134
Dry Soil Prep GL-RAD-A-021 Batch Number:	537133

Sample ID	Client ID
164551001	9106-0002-017F
164551002	9106-0002-018F
164551003	9106-0002-018FS
164551004	9106-0002-019F
1201119317	Method Blank (MB)
1201119318	164551004(9106-0002-019F) Sample Duplicate (DUP)
1201119319	164551004(9106-0002-019F) Matrix Spike (MS)
1201119320	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: 164551004 (9106-0002-019F).

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.

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: _____

 7/1/06

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#06-0819 GEL Work Order: 164551

The Qualifiers in this report are defined as follows:


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

ND The analyte concentration is not detected above the detection limit.

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

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

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



Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis

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

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

Report Date: July 6, 2006

Client Sample ID: 9106-0002-017F
Sample ID: 164551001
Matrix: SE
Collect Date: 02-JUN-06
Receive Date: 08-JUN-06
Collector: Client

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS</i>													
Actinium-228		0.706	+/-0.172	0.0626	+/-0.172	0.125	pCi/g						
Americium-241	U	0.083	+/-0.0774	0.067	+/-0.0774	0.134	pCi/g		MJH1	06/26/06	1940	538669	1
Bismuth-212		0.404	+/-0.291	0.147	+/-0.291	0.293	pCi/g						
Bismuth-214		0.570	+/-0.101	0.0369	+/-0.101	0.0737	pCi/g						
Cesium-134	U	0.0448	+/-0.0239	0.0232	+/-0.0239	0.0464	pCi/g						
Cesium-137		0.093	+/-0.0318	0.0208	+/-0.0318	0.0416	pCi/g						
Cobalt-60		0.0807	+/-0.0343	0.0197	+/-0.0343	0.0393	pCi/g						
Europium-152	U	-0.0343	+/-0.0775	0.0542	+/-0.0775	0.108	pCi/g						
Europium-154	U	0.00799	+/-0.107	0.0497	+/-0.107	0.0994	pCi/g						
Europium-155	U	-0.0483	+/-0.0626	0.0548	+/-0.0626	0.109	pCi/g						
Lead-212		0.623	+/-0.0817	0.0301	+/-0.0817	0.0602	pCi/g						
Lead-214		0.602	+/-0.103	0.0387	+/-0.103	0.0773	pCi/g						
Manganese-54	U	0.00262	+/-0.0217	0.0192	+/-0.0217	0.0384	pCi/g						
Niobium-94	U	0.0223	+/-0.0208	0.020	+/-0.0208	0.0399	pCi/g						
Potassium-40		9.46	+/-0.987	0.192	+/-0.987	0.385	pCi/g						
Radium-226		0.570	+/-0.101	0.0369	+/-0.101	0.0737	pCi/g						
Silver-108m	U	-0.00347	+/-0.020	0.0174	+/-0.020	0.0348	pCi/g						
Thallium-208		0.212	+/-0.0455	0.0195	+/-0.0455	0.0389	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.0214	+/-0.0159	0.0148	+/-0.0159	0.0323	pCi/g		BXF1	07/05/06	1218	541208	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Ash Soil Prep	Ash Soil Prep, GL-RAD-A-021B	LXM1	06/09/06	0758	537134
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	06/08/06	1520	537133

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3
2	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
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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: July 6, 2006

Client Sample ID: 9106-0002-017F
Sample ID: 164551001

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					
Carrier/Tracer Recovery		GFPC, Sr90, solid-ALL FSS			70		(25%-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
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: July 6, 2006

Client Sample ID: 9106-0002-018F
Sample ID: 164551002
Matrix: SE
Collect Date: 02-JUN-06
Receive Date: 08-JUN-06
Collector: Client

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS</i>													
Actinium-228		0.454	+/-0.144	0.0687	+/-0.144	0.137	pCi/g		MJH1	06/26/06	1941	538669	1
Americium-241	U	0.0221	+/-0.119	0.0727	+/-0.119	0.145	pCi/g						
Bismuth-212		0.467	+/-0.313	0.123	+/-0.313	0.247	pCi/g						
Bismuth-214		0.431	+/-0.0859	0.0773	+/-0.0859	0.155	pCi/g						
Cesium-134	U	0.0169	+/-0.0277	0.0237	+/-0.0277	0.0473	pCi/g						
Cesium-137		0.0809	+/-0.0308	0.0183	+/-0.0308	0.0366	pCi/g						
Cobalt-60		0.145	+/-0.0417	0.0226	+/-0.0417	0.0452	pCi/g						
Europium-152	U	-0.0334	+/-0.0666	0.0497	+/-0.0666	0.0994	pCi/g						
Europium-154	U	-0.0109	+/-0.0649	0.0541	+/-0.0649	0.108	pCi/g						
Europium-155	U	0.0361	+/-0.0603	0.057	+/-0.0603	0.114	pCi/g						
Lead-212		0.493	+/-0.0723	0.0299	+/-0.0723	0.0598	pCi/g						
Lead-214		0.456	+/-0.0951	0.0364	+/-0.0951	0.0727	pCi/g						
Manganese-54	U	0.00174	+/-0.0234	0.0208	+/-0.0234	0.0417	pCi/g						
Niobium-94	U	0.0174	+/-0.0216	0.0198	+/-0.0216	0.0396	pCi/g						
Potassium-40		7.48	+/-0.906	0.164	+/-0.906	0.327	pCi/g						
Radium-226		0.431	+/-0.0859	0.0351	+/-0.0859	0.0702	pCi/g						
Silver-108m	U	0.0126	+/-0.0201	0.0187	+/-0.0201	0.0375	pCi/g						
Thallium-208		0.135	+/-0.0457	0.0187	+/-0.0457	0.0374	pCi/g						

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid-ALL FSS

Strontium-90	U	0.00758	+/-0.0112	0.0114	+/-0.0112	0.0251	pCi/g	BXF1	07/05/06	1218	541208	2
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Ash Soil Prep	Ash Soil Prep, GL-RAD-A-021B	LXM1	06/09/06	0758	537134
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	06/08/06	1520	537133

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3
2	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	85	(25%-125%)

GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis

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

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

Report Date: July 6, 2006

Client Sample ID: 9106-0002-018F
Sample ID: 164551002

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

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

The Qualifiers in this report are defined as follows :

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

GENERAL ENGINEERING LABORATORIES, LLC

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: July 6, 2006

Client Sample ID: 9106-0002-018FS
Sample ID: 164551003
Matrix: SE
Collect Date: 02-JUN-06
Receive Date: 08-JUN-06
Collector: Client

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS</i>													
Actinium-228		0.634	+/-0.206	0.071	+/-0.206	0.142	pCi/g		MJH1	06/26/06	2143	538669	1
Americium-241	U	0.0957	+/-0.100	0.064	+/-0.100	0.128	pCi/g						
Bismuth-212		0.422	+/-0.344	0.163	+/-0.344	0.325	pCi/g						
Bismuth-214		0.547	+/-0.110	0.0358	+/-0.110	0.0715	pCi/g						
Cesium-134	U	0.0511	+/-0.0335	0.0264	+/-0.0335	0.0528	pCi/g						
Cesium-137		0.0955	+/-0.0577	0.0238	+/-0.0577	0.0475	pCi/g						
Cobalt-60		0.325	+/-0.0637	0.0243	+/-0.0637	0.0486	pCi/g						
Europium-152	U	0.0356	+/-0.0743	0.0529	+/-0.0743	0.106	pCi/g						
Europium-154	U	-0.00503	+/-0.0759	0.0633	+/-0.0759	0.127	pCi/g						
Europium-155	U	-0.00931	+/-0.0655	0.0583	+/-0.0655	0.116	pCi/g						
Lead-212		0.622	+/-0.0818	0.0315	+/-0.0818	0.063	pCi/g						
Lead-214		0.491	+/-0.112	0.0375	+/-0.112	0.0749	pCi/g						
Manganese-54	U	-0.00889	+/-0.0289	0.0208	+/-0.0289	0.0415	pCi/g						
Niobium-94	U	0.00212	+/-0.0219	0.0194	+/-0.0219	0.0388	pCi/g						
Potassium-40		9.08	+/-1.02	0.155	+/-1.02	0.310	pCi/g						
Radium-226		0.547	+/-0.110	0.0358	+/-0.110	0.0715	pCi/g						
Silver-108m	U	-0.00447	+/-0.0205	0.0176	+/-0.0205	0.0351	pCi/g						
Thallium-208		0.178	+/-0.0449	0.0192	+/-0.0449	0.0383	pCi/g						

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid-ALL FSS

Strontium-90	U	-0.00242	+/-0.0123	0.0144	+/-0.0123	0.032	pCi/g	BXF1	07/05/06	1218	541208	2
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Ash Soil Prep	Ash Soil Prep, GL-RAD-A-021B	LXM1	06/09/06	0758	537134
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	06/08/06	1520	537133

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3
2	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	63	(25%-125%)

GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis

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

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

Report Date: July 6, 2006

Client Sample ID: 9106-0002-018FS
Sample ID: 164551003

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

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

The Qualifiers in this report are defined as follows :

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

The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

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: July 6, 2006

Client Sample ID: 9106-0002-019F
Sample ID: 164551004
Matrix: SE
Collect Date: 02-JUN-06
Receive Date: 08-JUN-06
Collector: Client

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS</i>													
Actinium-228		0.578	+/-0.150	0.0742	+/-0.150	0.148	pCi/g		MJH1	06/26/06	2144	538669	1
Americium-241	U	0.0776	+/-0.101	0.0852	+/-0.101	0.170	pCi/g						
Bismuth-212		0.398	+/-0.359	0.182	+/-0.359	0.363	pCi/g						
Bismuth-214		0.505	+/-0.106	0.0377	+/-0.106	0.0754	pCi/g						
Cesium-134	U	0.0291	+/-0.0514	0.0293	+/-0.0514	0.0586	pCi/g						
Cesium-137		0.169	+/-0.051	0.0241	+/-0.051	0.0483	pCi/g						
Cobalt-60		0.121	+/-0.055	0.0149	+/-0.055	0.0297	pCi/g						
Europium-152	U	-0.0386	+/-0.0995	0.057	+/-0.0995	0.114	pCi/g						
Europium-154	U	0.0464	+/-0.0727	0.0668	+/-0.0727	0.134	pCi/g						
Europium-155	U	0.0138	+/-0.071	0.0642	+/-0.071	0.128	pCi/g						
Lead-212		0.678	+/-0.0907	0.0344	+/-0.0907	0.0687	pCi/g						
Lead-214		0.574	+/-0.134	0.041	+/-0.134	0.0819	pCi/g						
Manganese-54	U	0.0193	+/-0.0253	0.0237	+/-0.0253	0.0473	pCi/g						
Niobium-94	U	0.00219	+/-0.0249	0.0213	+/-0.0249	0.0426	pCi/g						
Potassium-40		9.48	+/-1.13	0.175	+/-1.13	0.350	pCi/g						
Radium-226		0.505	+/-0.106	0.0377	+/-0.106	0.0754	pCi/g						
Silver-108m	U	-0.0117	+/-0.0232	0.0196	+/-0.0232	0.0391	pCi/g						
Thallium-208		0.223	+/-0.0564	0.0193	+/-0.0564	0.0385	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.0131	+/-0.0146	0.0187	+/-0.0146	0.0406	pCi/g		BXF1	07/05/06	1218	541208	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Ash Soil Prep	Ash Soil Prep, GL-RAD-A-021B	LXM1	06/09/06	0758	537134
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	06/08/06	1520	537133

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3
2	EPA 905.0 Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	65	(25%-125%)

GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis

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

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

Report Date: July 6, 2006

Client Sample ID: 9106-0002-019F
Sample ID: 164551004

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

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

The Qualifiers in this report are defined as follows :

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

QUALITY CONTROL DATA

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

QC Summary

Client : Connecticut Yankee Atomic Power
362 Injun Hollow Rd

Report Date: July 6, 2006
Page 1 of 5

Contact: East Hampton, Connecticut
Mr. Jack McCarthy

Workorder: 164551

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 538669											
QC1201113175 164551001 DUP											
Actinium-228		0.706		0.584	pCi/g	19		(0% - 100%)	MJH1	06/28/06	07:02
		Uncert: +/-0.172		+/-0.130							
		TPU: +/-0.172		+/-0.130							
Americium-241	U	0.083	U	0.086	pCi/g	4		(0% - 100%)			
		Uncert: +/-0.0774		+/-0.0902							
		TPU: +/-0.0774		+/-0.0902							
Bismuth-212		0.404		0.381	pCi/g	6		(0% - 100%)			
		Uncert: +/-0.291		+/-0.154							
		TPU: +/-0.291		+/-0.154							
Bismuth-214		0.570		0.461	pCi/g	21		(0% - 100%)			
		Uncert: +/-0.101		+/-0.0707							
		TPU: +/-0.101		+/-0.0707							
Cesium-134	U	0.0448	U	0.0161	pCi/g	94		(0% - 100%)			
		Uncert: +/-0.0239		+/-0.0236							
		TPU: +/-0.0239		+/-0.0236							
Cesium-137		0.093		0.128	pCi/g	32		(0% - 100%)			
		Uncert: +/-0.0318		+/-0.0277							
		TPU: +/-0.0318		+/-0.0277							
Cobalt-60		0.0807		0.0557	pCi/g	37		(0% - 100%)			
		Uncert: +/-0.0343		+/-0.0288							
		TPU: +/-0.0343		+/-0.0288							
Europium-152	U	-0.0343	U	0.00453	pCi/g	261		(0% - 100%)			
		Uncert: +/-0.0775		+/-0.0324							
		TPU: +/-0.0775		+/-0.0324							
Europium-154	U	0.00799	U	-0.0244	pCi/g	395		(0% - 100%)			
		Uncert: +/-0.107		+/-0.0402							
		TPU: +/-0.107		+/-0.0402							
Europium-155	U	-0.0483	UI	0.00	pCi/g	752		(0% - 100%)			
		Uncert: +/-0.0626		+/-0.0492							
		TPU: +/-0.0626		+/-0.0492							
Lead-212		0.623		0.665	pCi/g	7		(0% - 20%)			
		Uncert: +/-0.0817		+/-0.073							
		TPU: +/-0.0817		+/-0.073							
Lead-214		0.602		0.566	pCi/g	6		(0% - 20%)			
		Uncert: +/-0.103		+/-0.0745							
		TPU: +/-0.103		+/-0.0745							
Manganese-54	U	0.00262	U	0.0196	pCi/g	153		(0% - 100%)			
		Uncert: +/-0.0217		+/-0.0144							
		TPU: +/-0.0217		+/-0.0144							
Niobium-94	U	0.0223	U	-0.00792	pCi/g	420		(0% - 100%)			
		Uncert: +/-0.0208		+/-0.0107							
		TPU: +/-0.0208		+/-0.0107							

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QC Summary

Workorder: 164551

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 538669											
Potassium-40		9.46		9.50	pCi/g	0		(0% - 20%)			
	Uncert:	+/-0.987		+/-0.796							
	TPU:	+/-0.987		+/-0.796							
Radium-226		0.570		0.461	pCi/g	21		(0% - 100%)			
	Uncert:	+/-0.101		+/-0.0707							
	TPU:	+/-0.101		+/-0.0707							
Silver-108m	U	-0.00347	U	-0.00382	pCi/g	10		(0% - 100%)			
	Uncert:	+/-0.020		+/-0.0103							
	TPU:	+/-0.020		+/-0.0103							
Thallium-208		0.212		0.206	pCi/g	3		(0% - 100%)			
	Uncert:	+/-0.0455		+/-0.0277							
	TPU:	+/-0.0455		+/-0.0277							
QC1201113176 LCS											
Actinium-228			U	0.302	pCi/g					06/26/06	21:55
	Uncert:			+/-0.550							
	TPU:			+/-0.550							
Americium-241	23.4			22.8	pCi/g		97	(75%-125%)			
	Uncert:			+/-3.61							
	TPU:			+/-3.61							
Bismuth-212			U	0.0874	pCi/g						
	Uncert:			+/-1.12							
	TPU:			+/-1.12							
Bismuth-214			U	0.180	pCi/g						
	Uncert:			+/-0.242							
	TPU:			+/-0.242							
Cesium-134			U	-0.0853	pCi/g						
	Uncert:			+/-0.152							
	TPU:			+/-0.152							
Cesium-137	9.63			9.60	pCi/g		100	(75%-125%)			
	Uncert:			+/-0.746							
	TPU:			+/-0.746							
Cobalt-60	14.9			15.7	pCi/g		105	(75%-125%)			
	Uncert:			+/-1.16							
	TPU:			+/-1.16							
Europium-152			U	-0.199	pCi/g						
	Uncert:			+/-0.337							
	TPU:			+/-0.337							
Europium-154			U	0.0423	pCi/g						
	Uncert:			+/-0.316							
	TPU:			+/-0.316							
Europium-155			U	-0.129	pCi/g						
	Uncert:			+/-0.358							
	TPU:			+/-0.358							
Lead-212			U	0.218	pCi/g						
	Uncert:			+/-0.190							
	TPU:			+/-0.190							
Lead-214			U	-0.0377	pCi/g						
	Uncert:			+/-0.226							

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QC Summary

Workorder: 164551

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	538669									
Manganese-54	TPU:		+/-0.226							
		U	0.0251	pCi/g						
	Uncert:		+/-0.143							
Niobium-94	TPU:		+/-0.143							
		U	0.0304	pCi/g						
	Uncert:		+/-0.109							
Potassium-40	TPU:		+/-0.109							
		U	0.367	pCi/g						
	Uncert:		+/-1.28							
Radium-226	TPU:		+/-1.28							
		U	0.180	pCi/g			(75%-125%)			
	Uncert:		+/-0.242							
Silver-108m	TPU:		+/-0.242							
		U	0.120	pCi/g						
	Uncert:		+/-0.123							
Thallium-208	TPU:		+/-0.123							
		U	0.0113	pCi/g						
	Uncert:		+/-0.129							
	TPU:		+/-0.129							
QC1201113174 MB										
Actinium-228		U	0.025	pCi/g					06/28/06	11:28
	Uncert:		+/-0.0202							
Americium-241	TPU:		+/-0.0202							
		U	0.0174	pCi/g						
	Uncert:		+/-0.0352							
Bismuth-212	TPU:		+/-0.0352							
		U	0.0342	pCi/g						
	Uncert:		+/-0.0458							
Bismuth-214	TPU:		+/-0.0458							
		U	0.00963	pCi/g						
	Uncert:		+/-0.0253							
Cesium-134	TPU:		+/-0.0253							
		U	-0.00174	pCi/g						
	Uncert:		+/-0.00653							
Cesium-137	TPU:		+/-0.00653							
		U	0.00514	pCi/g						
	Uncert:		+/-0.0129							
Cobalt-60	TPU:		+/-0.0129							
		U	0.000786	pCi/g						
	Uncert:		+/-0.00617							
Europium-152	TPU:		+/-0.00617							
		U	-0.00965	pCi/g						
	Uncert:		+/-0.0168							
Europium-154	TPU:		+/-0.0168							
		U	-0.00089	pCi/g						
	Uncert:		+/-0.017							
Europium-155	TPU:		+/-0.017							
		U	-0.00581	pCi/g						

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QC Summary

Workorder: 164551

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	538669										
Lead-212	Uncert:			+/-0.0148							
	TPU:			+/-0.0148							
		UI		0.00	pCi/g						
Lead-214	Uncert:			+/-0.0103							
	TPU:			+/-0.0103							
		U		0.0144	pCi/g						
Manganese-54	Uncert:			+/-0.0117							
	TPU:			+/-0.0117							
		U		-0.00313	pCi/g						
Niobium-94	Uncert:			+/-0.00578							
	TPU:			+/-0.00578							
		U		0.00179	pCi/g						
Potassium-40	Uncert:			+/-0.00587							
	TPU:			+/-0.00587							
		UI		0.00	pCi/g						
Radium-226	Uncert:			+/-0.0746							
	TPU:			+/-0.0746							
		U		0.00963	pCi/g						
Silver-108m	Uncert:			+/-0.0253							
	TPU:			+/-0.0253							
		U		0.00355	pCi/g						
Thallium-208	Uncert:			+/-0.00525							
	TPU:			+/-0.00525							
		U		0.00341	pCi/g						
	Uncert:			+/-0.0157							
	TPU:			+/-0.0157							
Rad Gas Flow											
Batch	541208										
QC1201119318	164551004	DUP									
Strontium-90		U	-0.0131	U	-0.0114	pCi/g	0	(0% - 100%)	BXF1	07/05/06	12:18
		Uncert:	+/-0.0146		+/-0.0131						
		TPU:	+/-0.0146		+/-0.0131						
QC1201119320	LCS										
Strontium-90		1.38			1.27	pCi/g	92	(75%-125%)		07/05/06	14:24
		Uncert:			+/-0.0859						
		TPU:			+/-0.0943						
QC1201119317	MB										
Strontium-90				U	0.00252	pCi/g				07/05/06	12:18
		Uncert:			+/-0.0114						
		TPU:			+/-0.0114						
QC1201119319	164551004	MS									
Strontium-90		2.55	U	-0.0131	2.38	pCi/g	93	(75%-125%)		07/05/06	14:25
		Uncert:		+/-0.0146	+/-0.153						
		TPU:		+/-0.0146	+/-0.169						

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

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 164551

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

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

** Indicates analyte is a surrogate compound.

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

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

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

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General Narrative

CASE NARRATIVE
For
CONNECTICUT YANKEE
RE: Sediment
PO# 002332
Work Order: 167358
SDG: MSR #06-0755

July 25, 2006

Laboratory Identification:

General Engineering Laboratories, LLC

Mailing Address:

P.O. Box 30712
Charleston, South Carolina 29417

Express Mail Delivery and Shipping Address:

2040 Savage Road
Charleston, South Carolina 29407

Telephone Number:

(843) 556-8171

Summary:

Sample receipt

The sample(s) for this Project arrived at General Engineering Laboratories, LLC, (GEL) in Charleston, South Carolina on June 02, 2006. All sample containers arrived without any visible signs of tampering or breakage. The chain of custody contained the proper documentation and signatures.

The laboratory received the following sample(s):

Sample ID

167358001

Client Sample ID

9106-0002-014FS

Items of Note:

Based on an email received on July 19, 2006, GEL mistakenly canceled the analyses requested for sample 9106-0002-014FS in the original work order 164220. Upon notification by CYAPCO and subsequent clarification emails, GEL relogged sample 9106-0002-014FS for the requested analyses under work order 167358.

Analytical Request:

One sediment samples was analyzed for FSSGAM and Sr-90.

Internal Chain of Custody:

Custody was maintained for the sample(s).

Data Package:

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

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



Cheryl Jones
Project Manager

Chain of Custody and Supporting Documentation

167358
 of 167538 relog of 164220

Connecticut Yankee Atomic Power Company

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

Chain of Custody Form

No. 2006-00372

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size- & Type Code	Analyses Requested						Lab Use Only		
Contact Name & Phone: Jack McCarthy 860-267-2556 Ext. 3024						FSSGAM	FSSALL	Sr-90					Comments:	
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road, Charleston SC. 29407 343 556 8171. Attn, Cheryl Jones														
Priority: <input checked="" type="checkbox"/> 30 D. <input type="checkbox"/> 14 D. <input type="checkbox"/> 7 D.														
Sample Designation	Date	Time										Comment, Preservation	Lab Sample ID	
9106-0002-009F	5/18/06	14:28	SE	C	BP		X					Transferred from COC 2006-00364		
9106-0002-010F	5/18/06	14:50	SE	C	BP	X		X				Transferred from COC 2006-00364		
9106-0002-011F	5/19/06	08:10	SE	C	BP	X		X				Transferred from COC 2006-00365		
9106-0002-012F	5/19/06	08:31	SE	C	BP	X		X				Transferred from COC 2006-00365		
9106-0002-013F	5/19/06	09:00	SE	C	BP	X		X				Transferred from COC 2006-00365		
9106-0002-014F	5/19/06	09:58	SE	C	BP	X		X				Transferred from COC 2006-00365		
9106-0002-014FS*	5/19/06	09:58	SE	C	BP	X		X				Transferred from COC 2006-00365		
9106-0002-015F	5/19/06	10:29	SE	C	BP	X		X				Transferred from COC 2006-00365		
9106-0002-016F	5/19/06	13:19	SE	C	BP	X		X				Transferred from COC 2006-00365		
NOTES: PO #: 002332 MSR #: 06- SSWP# NA <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA 0755 * Client requested analysis canceled CD 6/5/06 see email											Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other		Internal Container Temp.: _____ Deg. C Custody Sealed? Custody Seal Intact? Y <input type="checkbox"/> N <input type="checkbox"/>	
1) Relinquished By		Date/Time		2) Received By		Date/Time								
3) Relinquished By		Date/Time		4) Received By		Date/Time								
5) Relinquished By		Date/Time		6) Received By		Date/Time								
											Bill of Lading #			
											7909 4145 5709			

Connecticut Yankee
Statement of Work for Analytical Lab Services

CY-ISC-SOW-001

Figure 1. Sample Check-in List

Date/Time Received 6-2-06 9:20

SDG#: MSR#06-0755

Work Order Number: 1642201

Shipping Container ID: 1909 4145 5109 Chain of Custody # 2006-00372

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

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

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

4. Cooler temperature 23°

5. Vermiculite/packing materials is:

Wet ☐ Dry ☒ no packing
but wet

6. Number of samples in shipping container: 9

7. Sample holding times exceeded? Yes ☐ No ☒

8. Samples have:

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

9. Samples are:

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

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

11. Description of anomalies (include sample numbers):

Sample Custodian/Laboratory: Connecticut Yankee Date: 6-2-06

Telephoned to: _____ On _____ By _____



SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: <u>Connecticut Yankee</u>	SDG/ARCOC/Work Order: <u>164220 167358 relog</u>
Date Received: <u>6-2-06</u>	PM(A) Review (ensure non-conforming items are resolved prior to signing): <u>[Signature]</u>
Received By: <u>[Signature]</u>	

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.				Circle Coolant # ice-bags blue ice dry ice none other (describe)
3 Chain of custody documents included with shipment?				
4 Sample containers intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?				Sample ID's, containers affected and observed pH:
6 VOA vials free of headspace (defined as < 6mm bubble)?				Sample ID's and containers affected:
7 Are Encore containers present? (If yes, immediately deliver to VOA laboratory)				
8 Samples received within holding time?				Id's and tests affected:
9 Sample ID's on COC match ID's on bottles?				Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?				Sample ID's affected:
11 Number of containers received match number indicated on COC?				Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?				COC # <u>2006-00372</u> <u>00372</u> <u>06/2/06</u>
14 Air Bill ,Tracking #'s, & Additional Comments				
Suspected Hazard Information	Non-Regulated	Regulated	High Level	RSO RAD Receipt # _____ *If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
A Radiological Classification?		✓		Maximum Counts Observed*: <u>200 cpm</u>
B PCB Regulated?	✓			Comments:
C Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.	✓			Hazard Class Shipped: UN#:
PM (or PMA) review of Hazard classification:				Initials <u>[Signature]</u> Date: <u>6/2/06</u>

Subject: RE: Missing sample results from GEL (MSR #06-0755)

From: "Dale Randall" <randall@cyapco.com>

Date: Wed, 19 Jul 2006 09:22:51 -0400

To: "Cheryl Jones" <cj@gel.com>

CC: "Clyde Newson" <Newson@CYAPCO.com>, "John McCarthy" <McCarthy@CYAPCO.com>

Cheryl,

We would appreciate a short narrative of the corrections for 164220 and an expedited analysis of sample 9106-0002-014S. Thanks for your prompt attention in helping us resolve this issue.

Best Regards,
Dale

-----Original Message-----

From: Cheryl Jones [mailto:cj@gel.com]

Sent: Wednesday, July 19, 2006 9:07 AM

To: Dale Randall

Cc: Clyde Newson; John McCarthy

Subject: Re: Missing sample results from GEL (MSR #06-0755)

Dale,

It appears that the direction in Jack's original email was misunderstood. Talking this situation over with Cheryl Duffy, it's clear that we took his direction to 'withdraw and exclude samples 1, 3, 6, and 16 from analysis' to be our sample IDs and not the location IDs from the COC. In this case, we should have requested clarification and I apologize that we did not. We have the sample container for 9106-0002-014FS and will relog it today for the requested analyses. Do you need these results expedited?

Also, will you need the narrative for 164220 corrected to reflect the requested cancellation email?

Thanks,
Cheryl

Dale Randall wrote:

You are correct. My notes also indicate that due to a design change, we

intended to stop analysis for samples 9106-0002-001F, 9106-0002-003F, 9106-0002-006F, 9106-0002-006FS, and 9106-0002-016F. (Before seeing your notes I was a little confused as to why we have a result for 9106-0002-006FS but not 9106-0002-006F) In any case, that leaves the result for sample 9106-0002-014FS as missing. Could this sample result be provided?

-----Original Message-----

From: Cheryl Jones [mailto:cj@gel.com]

Sent: Wednesday, July 19, 2006 8:30 AM

To: John McCarthy

Cc: Dale Randall; Clyde Newson; Cheryl Duffy

Subject: Re: Missing sample results from GEL (MSR #06-0755)

Jack,

The documentation in the package is incomplete. The COC has a note

written on the bottom indicating that the analyses were canceled for several samples at the request of an email received on 6/5/06. The email should have also been included in the package to document the request and this information should have been listed in the Items of

Note section of the package general narrative. I've attached the email request for your use. Do you need me to correct the package narrative and resend it?
Thanks,
Cheryl

John McCarthy wrote:

Cheryl, could you follow up on this?

Thank you

Jack

From: Dale Randall
Sent: Wednesday, July 19, 2006 7:53 AM
To: John McCarthy; Clyde Newson
Subject: Missing sample results from GEL (MSR #06-0755)

Jack:

MSR #06-0755 does not contain results for samples 9106-0002-006F or 9106-0002-014FS. We have documentation indicating that the listed samples were received by GEL, but they were not included with results package (either in hardcopy or electronically). Please query the lab as to their status.

Thanks,

Dale

P.S. Each of these samples is one half of a split, which would be a problem except that we collected an additional split in the second round of sampling. We thus meet the 5% split-sample requirement. Bottom line: we comply with the FSS requirements, but less justification will be needed if we receive the two sample results that

are missing.

--
Cheryl A. Jones
Project Manager/PM Team Leader
General Engineering Laboratories, LLC
2040 Savage Road
Charleston, S.C. 29407
(843) 769-7388 Direct Line
(843) 556-8171 x 4243
(843) 766-1178 (fax)

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RADIOLOGICAL ANALYSIS

**Radiochemistry Case Narrative
Connecticut Yankee Atomic Power Co. (YANK)
Work Order 167358**

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: 549751
Prep Batch Number: 549528

Sample ID	Client ID
167358001	9106-0002-014FS
1201139316	Method Blank (MB)
1201139317	167358001(9106-0002-014FS) Sample Duplicate (DUP)
1201139318	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# 11.

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: 167358001 (9106-0002-014FS).

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 1201139317 (9106-0002-014FS) and 167358001 (9106-0002-014FS) were recounted 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.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to a high full-width, half maximum.	Bismuth-212	167358001
UI	Data rejected due to low abundance	Actinium-228	1201139316
		Bismuth-214	1201139316
		Lead-212	1201139316
		Lead-214	1201139316
		Potassium-40	1201139316
		Radium-226	1201139316

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:	549724
Prep Batch Number:	549529
Dry Soil Prep GL-RAD-A-021 Batch Number:	549528

Sample ID	Client ID
167358001	9106-0002-014FS
1201139231	Method Blank (MB)
1201139232	167358001(9106-0002-014FS) Sample Duplicate (DUP)
1201139233	167358001(9106-0002-014FS) Matrix Spike (MS)
1201139234	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: 167358001 (9106-0002-014FS).

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.

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: _____

A handwritten signature in black ink, appearing to read "K. A. Bell", is written over a horizontal line.

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#06-0755 GEL Work Order: 167358

The Qualifiers in this report are defined as follows:

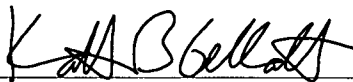
- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- ND The analyte concentration is not detected above the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

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

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

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

Reviewed by



GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis

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

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

Report Date: July 26, 2006

Client Sample ID: 9106-0002-014FS
Sample ID: 167358001
Matrix: SE
Collect Date: 19-MAY-06
Receive Date: 02-JUN-06
Collector: Client
Moisture: 10.6%

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

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

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

Actinium-228		0.681	+/-0.193	0.0749	+/-0.193	0.164	pCi/g						
Americium-241	U	-0.0046	+/-0.0284	0.0258	+/-0.0284	0.0536	pCi/g						
Bismuth-212	UI	0.00	+/-0.385	0.155	+/-0.385	0.339	pCi/g						
Bismuth-214		0.502	+/-0.102	0.0358	+/-0.102	0.0773	pCi/g						
Cesium-134	U	0.056	+/-0.041	0.0286	+/-0.041	0.0614	pCi/g						
Cesium-137	U	0.0113	+/-0.0248	0.0224	+/-0.0248	0.048	pCi/g						
Cobalt-60	U	-0.00841	+/-0.025	0.0198	+/-0.025	0.045	pCi/g						
Europium-152	U	-0.00306	+/-0.0528	0.0454	+/-0.0528	0.0969	pCi/g						
Europium-154	U	0.018	+/-0.0721	0.0629	+/-0.0721	0.140	pCi/g						
Europium-155	U	0.0395	+/-0.0502	0.0458	+/-0.0502	0.0954	pCi/g						
Lead-212		0.744	+/-0.0662	0.0285	+/-0.0662	0.0599	pCi/g						
Lead-214		0.570	+/-0.100	0.0325	+/-0.100	0.0695	pCi/g						
Manganese-54	U	0.00657	+/-0.0265	0.0229	+/-0.0265	0.0498	pCi/g						
Niobium-94	U	0.000605	+/-0.0206	0.0177	+/-0.0206	0.0383	pCi/g						
Potassium-40		10.9	+/-1.08	0.152	+/-1.08	0.358	pCi/g						
Radium-226		0.502	+/-0.102	0.0358	+/-0.102	0.0773	pCi/g						
Silver-108m	U	0.00362	+/-0.0184	0.0169	+/-0.0184	0.0362	pCi/g						
Thallium-208		0.241	+/-0.0493	0.0193	+/-0.0493	0.0418	pCi/g						

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid-ALL FSS

Strontium-90	U	-0.007	+/-0.0145	0.0143	+/-0.0145	0.0302	pCi/g						
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXP2	07/19/06	1817	549528

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3
2	EPA 905.0 Modified

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: July 26, 2006

Client Sample ID: 9106-0002-014FS
Sample ID: 167358001

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						
Carrier/Tracer Recovery		GFPC, Sr90, solid-ALL FSS			57		(25%-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.

QUALITY CONTROL DATA

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Client : Connecticut Yankee Atomic Power
362 Injun Hollow Rd

Report Date: July 26, 2006
Page 1 of 5

Contact: East Hampton, Connecticut
Mr. Jack McCarthy

Workorder: 167358

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 549751											
QC1201139317 167358001 DUP											
Actinium-228		0.681		0.688	pCi/g	1		(0% - 100%)	MJH1	07/25/06	16:57
	Uncert:	+/-0.193		+/-0.228							
	TPU:	+/-0.193		+/-0.228							
Americium-241	U	-0.0046	U	0.0036	pCi/g	1630		(0% - 100%)			
	Uncert:	+/-0.0284		+/-0.0415							
	TPU:	+/-0.0284		+/-0.0415							
Bismuth-212	UI	0.00	U	0.329	pCi/g	67		(0% - 100%)			
	Uncert:	+/-0.385		+/-0.419							
	TPU:	+/-0.385		+/-0.419							
Bismuth-214		0.502		0.494	pCi/g	2		(0% - 100%)			
	Uncert:	+/-0.102		+/-0.154							
	TPU:	+/-0.102		+/-0.154							
Cesium-134	U	0.056	U	-0.00194	pCi/g	214		(0% - 100%)			
	Uncert:	+/-0.041		+/-0.0372							
	TPU:	+/-0.041		+/-0.0372							
Cesium-137	U	0.0113	U	0.0259	pCi/g	78		(0% - 100%)			
	Uncert:	+/-0.0248		+/-0.0314							
	TPU:	+/-0.0248		+/-0.0314							
Cobalt-60	U	-0.00841	U	0.000847	pCi/g	245		(0% - 100%)			
	Uncert:	+/-0.025		+/-0.0418							
	TPU:	+/-0.025		+/-0.0418							
Europium-152	U	-0.00306	U	-0.04	pCi/g	172		(0% - 100%)			
	Uncert:	+/-0.0528		+/-0.0664							
	TPU:	+/-0.0528		+/-0.0664							
Europium-154	U	0.018	U	-0.00385	pCi/g	309		(0% - 100%)			
	Uncert:	+/-0.0721		+/-0.0955							
	TPU:	+/-0.0721		+/-0.0955							
Europium-155	U	0.0395	U	0.0162	pCi/g	84		(0% - 100%)			
	Uncert:	+/-0.0502		+/-0.0627							
	TPU:	+/-0.0502		+/-0.0627							
Lead-212		0.744		0.702	pCi/g	6		(0% - 20%)			
	Uncert:	+/-0.0662		+/-0.081							
	TPU:	+/-0.0662		+/-0.081							
Lead-214		0.570		0.625	pCi/g	9		(0% - 20%)			
	Uncert:	+/-0.100		+/-0.107							
	TPU:	+/-0.100		+/-0.107							
Manganese-54	U	0.00657	U	0.00559	pCi/g	16		(0% - 100%)			
	Uncert:	+/-0.0265		+/-0.032							
	TPU:	+/-0.0265		+/-0.032							
Niobium-94	U	0.000605	U	0.014	pCi/g	183		(0% - 100%)			
	Uncert:	+/-0.0206		+/-0.0266							
	TPU:	+/-0.0206		+/-0.0266							

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QC Summary

Workorder: 167358

Page 2 of 5

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	549751										
Potassium-40		10.9		9.58	pCi/g	13		(0% - 20%)			
	Uncert:	+/-1.08		+/-1.11							
	TPU:	+/-1.08		+/-1.11							
Radium-226		0.502		0.494	pCi/g	2		(0% - 100%)			
	Uncert:	+/-0.102		+/-0.154							
	TPU:	+/-0.102		+/-0.154							
Silver-108m	U	0.00362	U	0.00577	pCi/g	46		(0% - 100%)			
	Uncert:	+/-0.0184		+/-0.0235							
	TPU:	+/-0.0184		+/-0.0235							
Thallium-208		0.241		0.227	pCi/g	6		(0% - 100%)			
	Uncert:	+/-0.0493		+/-0.064							
	TPU:	+/-0.0493		+/-0.064							
QC1201139318	LCS										
Actinium-228			U	-0.0826	pCi/g					07/23/06	23:03
	Uncert:			+/-0.366							
	TPU:			+/-0.366							
Americium-241	23.4			25.8	pCi/g		110	(75%-125%)			
	Uncert:			+/-2.13							
	TPU:			+/-2.13							
Bismuth-212			U	-0.368	pCi/g						
	Uncert:			+/-0.777							
	TPU:			+/-0.777							
Bismuth-214			U	0.117	pCi/g						
	Uncert:			+/-0.178							
	TPU:			+/-0.178							
Cesium-134			U	-0.0432	pCi/g						
	Uncert:			+/-0.0954							
	TPU:			+/-0.0954							
Cesium-137	9.60			10.2	pCi/g		106	(75%-125%)			
	Uncert:			+/-0.911							
	TPU:			+/-0.911							
Cobalt-60	14.7			15.0	pCi/g		102	(75%-125%)			
	Uncert:			+/-0.935							
	TPU:			+/-0.935							
Europium-152			U	-0.0642	pCi/g						
	Uncert:			+/-0.217							
	TPU:			+/-0.217							
Europium-154			U	0.142	pCi/g						
	Uncert:			+/-0.202							
	TPU:			+/-0.202							
Europium-155			U	-0.0245	pCi/g						
	Uncert:			+/-0.304							
	TPU:			+/-0.304							
Lead-212			U	0.056	pCi/g						
	Uncert:			+/-0.136							
	TPU:			+/-0.136							
Lead-214			U	0.0714	pCi/g						
	Uncert:			+/-0.154							

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 167358

Page 3 of 5

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	549751										
Manganese-54	TPU:			+/-0.154							
			U	-0.0352	pCi/g						
	Uncert:			+/-0.0898							
Niobium-94	TPU:			+/-0.0898							
			U	0.0196	pCi/g						
	Uncert:			+/-0.0827							
Potassium-40	TPU:			+/-0.0827							
			U	-0.0266	pCi/g						
	Uncert:			+/-0.757							
Radium-226	TPU:			+/-0.757							
			U	0.117	pCi/g			(75%-125%)			
	Uncert:			+/-0.178							
Silver-108m	TPU:			+/-0.178							
			U	-0.0296	pCi/g						
	Uncert:			+/-0.0823							
Thallium-208	TPU:			+/-0.0823							
			U	0.0283	pCi/g						
	Uncert:			+/-0.0898							
	TPU:			+/-0.0898							
QC1201139316 MB											
Actinium-228			UI	0.00	pCi/g					07/23/06	23:02
	Uncert:			+/-0.0206							
Americium-241	TPU:			+/-0.0206							
			U	0.000573	pCi/g						
	Uncert:			+/-0.0291							
Bismuth-212	TPU:			+/-0.0291							
			U	0.0249	pCi/g						
	Uncert:			+/-0.0402							
Bismuth-214	TPU:			+/-0.0402							
			UI	0.00	pCi/g						
	Uncert:			+/-0.012							
Cesium-134	TPU:			+/-0.012							
			U	0.00736	pCi/g						
	Uncert:			+/-0.00599							
Cesium-137	TPU:			+/-0.00599							
			U	0.000658	pCi/g						
	Uncert:			+/-0.0128							
Cobalt-60	TPU:			+/-0.0128							
			U	0.00664	pCi/g						
	Uncert:			+/-0.00569							
Europium-152	TPU:			+/-0.00569							
			U	0.00871	pCi/g						
	Uncert:			+/-0.0124							
Europium-154	TPU:			+/-0.0124							
			U	0.00596	pCi/g						
	Uncert:			+/-0.0157							
Europium-155	TPU:			+/-0.0157							
			U	0.00413	pCi/g						

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QC Summary

Workorder: 167358

Page 4 of 5

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	549751										
		Uncert:		+/-0.0126							
		TPU:		+/-0.0126							
Lead-212			UI	0.00	pCi/g						
		Uncert:		+/-0.0091							
		TPU:		+/-0.0091							
Lead-214			UI	0.00	pCi/g						
		Uncert:		+/-0.0108							
		TPU:		+/-0.0108							
Manganese-54			U	-0.000149	pCi/g						
		Uncert:		+/-0.00597							
		TPU:		+/-0.00597							
Niobium-94			U	0.00445	pCi/g						
		Uncert:		+/-0.00562							
		TPU:		+/-0.00562							
Potassium-40			UI	0.00	pCi/g						
		Uncert:		+/-0.0645							
		TPU:		+/-0.0645							
Radium-226			UI	0.00	pCi/g						
		Uncert:		+/-0.012							
		TPU:		+/-0.012							
Silver-108m			U	0.00402	pCi/g						
		Uncert:		+/-0.00406							
		TPU:		+/-0.00406							
Thallium-208			U	0.00908	pCi/g						
		Uncert:		+/-0.0056							
		TPU:		+/-0.0056							
Rad Gas Flow											
Batch	549724										
QC1201139232	167358001	DUP									
Strontium-90			U	-0.007	U	0.00548	pCi/g	0	(0% - 100%)	BXF1	07/24/06 17:27
		Uncert:		+/-0.0145		+/-0.0205					
		TPU:		+/-0.0145		+/-0.0205					
QC1201139234	LCS										
Strontium-90			1.42			1.14	pCi/g	81	(75%-125%)		07/24/06 17:27
		Uncert:				+/-0.0482					
		TPU:				+/-0.0591					
QC1201139231	MB										
Strontium-90				U	0.0153	pCi/g					
		Uncert:				+/-0.0164					
		TPU:				+/-0.0165					
QC1201139233	167358001	MS									
Strontium-90			1.42	U	-0.007	1.37	pCi/g	96	(75%-125%)		07/24/06 17:27
		Uncert:			+/-0.0145	+/-0.0748					
		TPU:			+/-0.0145	+/-0.082					

Notes:

The Qualifiers in this report are defined as follows:

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

QC Summary

Workorder: 167358

Page 5 of 5

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

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

** Indicates analyte is a surrogate compound.

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

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

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

**CASE NARRATIVE
For
CONNECTICUT YANKEE
RE: Soil
PO# 002332**

Work Order: 168404

SDG: MSR #06-0652, 06-0675, 06-0687, 06-0688, 06-0707, 06-0743, 06-0755

August 15, 2006

Laboratory Identification:

General Engineering Laboratories, LLC

Mailing Address:

P.O. Box 30712
Charleston, South Carolina 29417

Express Mail Delivery and Shipping Address:

2040 Savage Road
Charleston, South Carolina 29407

Telephone Number:

(843) 556-8171

Summary:

Sample receipt

The sample(s) for this Project arrived at General Engineering Laboratories, LLC, (GEL) in Charleston, South Carolina on May 5, May 9, May 12, May 17, May 26, June 2, June 8, 2006. All sample containers arrived without any visible signs of tampering or breakage. The chain of custody contained the proper documentation and signatures.

The laboratory received the following sample(s):

<u>Sample ID</u>	<u>Client Sample ID</u>
168404001	9106-0002-007F
168404002	9106-0002-011F
168404003	9106-0003-004F
168404004	9106-0003-015F
168404005	9106-0004-005F
168404006	9106-0004-015F
168404007	9106-0005-010F
168404008	9106-0005-014F
168404009	9106-0006-005F

GENERAL ENGINEERING LABORATORIES, LLC

a Member of THE GEL GROUP, INC.

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

168404010	9106-0008-006F
168404011	9106-0008-008F
168404012	9106-0009-002F
168404013	9106-0009-017F
168404014	9106-0010-001F
168404015	9106-0010-012F

Items of Note:

At the request of Dale Randall on July 20, 2006, GEL analyzed the above samples according to the spreadsheet in the attached email.

Case Narrative:

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

Analytical Request:

Seven soil samples were reanalyzed for FSSALL, except gamma and Sr-90.
Four soil samples were reanalyzed for FSSALL, except gamma and Ni-63.
Two soil samples were reanalyzed for FSSALL, except gamma.
Two soil samples were reanalyzed for FSALL, except gamma, Sr-90 and Ni-63.

Internal Chain of Custody:

Custody was maintained for the sample(s).

Data Package:

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

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



Cheryl Jones
Project Manager

1684041

Subject: Additional HTD analyses

From: "Dale Randall" <randall@cyapco.com>

Date: Thu, 20 Jul 2006 11:04:54 -0400

To: "Cheryl Jones" <cj@gel.com>

CC: "Clyde Newson" <Newson@CYAPCO.com>, "John McCarthy" <McCarthy@CYAPCO.com>

Cheryl:

Per our earlier discussion, attached is a list of samples that we would like to have analyzed to the FSSALL protocol. I have included a list of test protocols performed on each sample to date. Once you have had an opportunity to determine our options for each sample please call or e-mail me at your convenience.

Thank You,

Dale

(860) 267-3133

GEL FSSALL analyses request.xls

Content-Description: GEL FSSALL analyses request.xls

Content-Type: application/vnd.ms-excel

Content-Encoding: base64

Page 3 of 103

Previous GEL ID	CY sample location IDs	Done			To be done								
		FSS Gam	Sr-90	Ni-63	Am	Pu	Sr90	Pu241	Fe55	Ni63	Tc99	H3	C14
164220008	9106-0002-007F	x	x		x	x		x	x	x	x	x	x
164220012	9106-0002-011F	x	x		x	x		x	x	x	x	x	x
162335004	9106-0003-004F	x			x	x	x	x	x	x	x	x	x
162335014	9106-0003-015F	x			x	x	x	x	x	x	x	x	x
162832015	9106-0004-005F	x	x		x	x		x	x	x	x	x	x
162832009	9106-0004-015F	x	x		x	x		x	x	x	x	x	x
162485008	9106-0005-010F	x	x		x	x		x	x	x	x	x	x
162485011	9106-0005-014F	x	x		x	x		x	x	x	x	x	x
162850014	9106-0006-005F	x	x		x	x		x	x	x	x	x	x
163741005	9106-0008-006F	x	x	x	x	x		x	x		x	x	x
163741009	9106-0008-008F	x	x	x	x	x		x	x		x	x	x
164542008	9106-0009-002F	x		x	x	x	x	x	x		x	x	x
164542003	9106-0009-017F	x		x	x	x	x	x	x		x	x	x
163105009	9106-0010-001F	x		x	x	x	x	x	x		x	x	x
163105016	9106-0010-012F	x		x	x	x	x	x	x		x	x	x

Chain of Custody and Supporting Documentation

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

No. 2006-00372

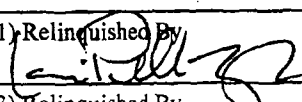
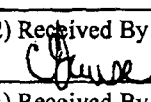
Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size- & Type Code	Analyses Requested						Lab Use Only		
Contact Name & Phone: Jack McCarthy 860-267-2556 Ext. 3024						FSSGAM	FSSALL	Sr-90					Comments:	
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road, Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones														
Priority: <input checked="" type="checkbox"/> 30 D. <input type="checkbox"/> 14 D. <input type="checkbox"/> 7 D.														
Sample Designation	Date	Time										Comment, Preservation	Lab Sample ID	
9106-0002-009F	5/18/06	14:28	SE	C	BP		X					Transferred from COC 2006-00364		
9106-0002-010F	5/18/06	14:50	SE	C	BP	X		X				Transferred from COC 2006-00364		
9106-0002-011F	5/19/06	08:10	SE	C	BP	X		X				Transferred from COC 2006-00365		
9106-0002-012F	5/19/06	08:31	SE	C	BP	X		X				Transferred from COC 2006-00365		
9106-0002-013F	5/19/06	09:00	SE	C	BP	X		X				Transferred from COC 2006-00365		
9106-0002-014F	5/19/06	09:58	SE	C	BP	X		X				Transferred from COC 2006-00365		
9106-0002-014FS	5/19/06	09:58	SE	C	BP	X		X				Transferred from COC 2006-00365		
9106-0002-015F	5/19/06	10:29	SE	C	BP	X		X				Transferred from COC 2006-00365		
9106-0002-016F	5/19/06	13:19	SE	C	BP	X		X				Transferred from COC 2006-00365		
NOTES: PO #: 002332 MSR #: 06- SSWP# NA <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA 0755											Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other		Internal Container Temp.: _____ Deg. C Custody Sealed? Custody Seal Intact? Y <input type="checkbox"/> N <input type="checkbox"/>	
1) Relinquished By 			Date/Time 6/06/08 15			2) Received By 			Date/Time 6-2-06 9:20					
3) Relinquished By			Date/Time			4) Received By			Date/Time			Bill of Lading # 7909 4145 5709		
5) Relinquished By			Date/Time			6) Received By			Date/Time					

Figure 1. Sample Check-in List

Date/Time Received: 6-2-06 9:20

SDG#: MSR# 06-0755

Work Order Number: 1642201

Shipping Container ID: 7909 41455110 Chain of Custody #: 2006-00371

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

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

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

4. Cooler temperature 23°

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

6. Number of samples in shipping container: 9

7. Sample holding times exceeded? Yes ☐ No ☒

8. Samples have:

☐ tape

☐ hazard labels

☒ custody seals

☐ appropriate sample labels

9. Samples are:

☒ in good condition

☐ leaking

☐ broken

☐ have air bubbles

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

11. Description of anomalies (include sample numbers):

Sample Custodian/Laboratory: Chance Date: 6-2-06

Telephoned to: _____ On _____ By _____

Figure 1. Sample Check-in List

Date/Time Received: 6-2-06 9:20
SDG#: MSR#06-0755
Work Order Number: 1642201
Shipping Container ID: 1909 4145 5109 Chain of Custody #: 2006-00312

1. Custody Seals on shipping container intact? Yes ☒ No ☐
2. Custody Seals dated and signed? Yes ☒ No ☐
3. Chain-of-Custody record present? Yes ☒ No ☐
4. Cooler temperature 23°
5. Vermiculite/packing materials is: Wet ☐ Dry ☒ no packing bot wet
6. Number of samples in shipping container: 9
7. Sample holding times exceeded? Yes ☐ No ☒

8. Samples have:

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

9. Samples are:

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

10. Were any anomalies identified in sample receipt? Yes ☐ No ☒
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: Custody Person Date: 6-2-06
Telephoned to: _____ On _____ By _____



SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: <u>Connecticut Yankee</u>	SDG/ARCO/Work Order: <u>164220</u>
Date Received: <u>6.2.06</u>	PM(A) Review (ensure non-conforming items are resolved prior to signing):
Received By: <u>[Signature]</u>	<u>[Signature]</u>

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.				Circle Coolant # ice bags blue ice dry ice none other (describe)
3 Chain of custody documents included with shipment?				
4 Sample containers intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?				Sample ID's, containers affected and observed pH:
6 VOA vials free of headspace (defined as < 6mm bubble)?				Sample ID's and containers affected:
7 Are Encore containers present? (If yes, immediately deliver to VOA laboratory)				
8 Samples received within holding time?				ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?				Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?				Sample ID's affected:
11 Number of containers received match number indicated on COC?				Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?				
14 Air Bill ,Tracking #'s, & Additional Comments				COC # 2006-00371

Suspected Hazard Information		Non-Regulated	Regulated	High Level	RSO RAD Receipt #
A	Radiological Classification?				*If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
B	PCB Regulated?				Maximum Counts Observed*: <u>20CPM</u>
C	Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.				Comments:
					Hazard Class Shipped:
					UN#:
PM (or PMA) review of Hazard classification:					Initials <u>[Signature]</u> Date: <u>6/2/06</u>



SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: <u>Connecticut Yankee</u>		SDG/ARCOC/Work Order: <u>164220</u>	
Date Received: <u>6-2-06</u>		PM(A) Review (ensure non-conforming items are resolved prior to signing): <u>[Signature]</u>	
Received By: <u>[Signature]</u>			

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.				Circle Coolant # ice bags blue ice dry ice none other (describe)
3 Chain of custody documents included with shipment?				
4 Sample containers intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?				Sample ID's, containers affected and observed pH:
6 VOA vials free of headspace (defined as < 6mm bubble)?				Sample ID's and containers affected:
7 Are Encore containers present? (If yes, immediately deliver to VOA laboratory)				
8 Samples received within holding time?				ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?				Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?				Sample ID's affected:
11 Number of containers received match number indicated on COC?				Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?				COC # <u>2006-00372</u> <u>00372</u> <u>adj 6/2/06</u>
14 Air Bill ,Tracking #'s, & Additional Comments				

Suspected Hazard Information	Non-Regulated	Regulated	High Level	RSO RAD Receipt #
A Radiological Classification?				*If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
B PCB Regulated?				Maximum Counts Observed*: <u>200 cpm</u>
C Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.				Comments:
				Hazard Class Shipped:
				UN#:

PM (or PMA) review of Hazard classification:	Initials: <u>[Signature]</u>	Date: <u>6/2/06</u>
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Connecticut Yankee Atomic Power Company362 Injun Hollow Road, East Hampton, CT 06424
860-267-2556**Chain of Custody Form**

No. 2006-00312

1623347 1623351 CD 5/8/06

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size- & Type Code	Analyses Requested					Lab Use Only			
Contact Name & Phone: Jack McCarthy 860-267-2556 Ext. 3024						FSSGAM	FSSALL	Sr-90					Comments:	
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road, Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones														
Priority: <input checked="" type="checkbox"/> 30 D. <input type="checkbox"/> 14 D. <input type="checkbox"/> 7 D.														
Sample Designation	Date	Time									Comment, Preservation	Lab Sample ID		
9106-0003-001F	4/24/06	14:13	SE	C	BP	X					Transferred from COC2006-00221			
9106-0003-002F	4/24/06	14:39	SE	C	BP	X					Transferred from COC2006-00221			
9106-0003-003F	4/24/06	15:01	SE	C	BP	X					Transferred from COC2006-00221			
9106-0003-004F	4/25/06	08:41	SE	C	BP	X					Transferred from COC2006-00223			
9106-0003-004FS	4/25/06	08:41	SE	C	BP	X					Transferred from COC2006-00223			
9106-0003-005F	4/25/06	09:21	SE	C	BP	X					Transferred from COC2006-00223			
9106-0003-006F	4/25/06	09:46	SE	C	BP	X					Transferred from COC2006-00223			
9106-0003-007F	4/25/06	10:28	SE	C	BP	X					Transferred from COC2006-00223			
9106-0003-008F	4/25/06	11:15	SE	C	BP		X				Transferred from COC2006-00223			
NOTES: PO #: 002332 MSR #: 06-0652 SSWP# NA <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA Combined samples 9106-0003-003F taken on 4/25/06 @08:19 and 9106-0003-003FB taken on 4/25/06 @ 08:19 in order to have sufficient sample for counting.											Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other		Internal Container Temp.: _____ Deg. C Custody Sealed? Y <input type="checkbox"/> N <input type="checkbox"/> Custody Seal Intact? Y <input type="checkbox"/> N <input type="checkbox"/>	
1) Relinquished By JAIME RICARTE			Date/Time 5-4-06/13:30			2) Received By C. Demicatto			Date/Time 5/5/06/1015			Bill of Lading # 7920-8920-0240		
3) Relinquished By			Date/Time			4) Received By			Date/Time					
5) Relinquished By			Date/Time			6) Received By			Date/Time					

Connecticut Yankee Atomic Power Company

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

Chain of Custody Form

No. 2006-00313

162334/ 162335/

Project Name: Haddam Neck Decommissioning

Contact Name & Phone:

Jack McCarthy 860-267-2556 Ext. 3024

Analytical Lab (Name, City, State)

General Engineering Laboratories
2040 Savage Road. Charleston SC. 29407
843 556 8171. Attn. Cheryl JonesPriority: ☒ 30 D. ☐ 14 D. ☐ 7 D.

Analyses Requested

Lab Use Only

Comments:

FSSGAM

FSSALL

Sr-90

Container
Size-
& Type
CodeSample
Type
CodeMedia
Code

Comment, Preservation

Lab Sample ID

Sample Designation	Date	Time	Media Code	Sample Type Code	Container Size- & Type Code	FSSGAM	FSSALL	Sr-90	Comment, Preservation	Lab Sample ID
9106-0003-009F	4/25/06	13:00	SE	C	BP	X			Transferred from COC 2006-00236	
9106-0003-010F	4/25/06	13:23	SE	C	BP	X			Transferred from COC 2006-00236	
9106-0003-010FS	4/25/06	13:23	SE	C	BP	X			Transferred from COC 2006-00236	
9106-0003-012F	4/25/06	15:12	SE	C	BP	X			Transferred from COC 2006-00236	
9106-0003-013F	4/25/06	14:21	SE	C	BP	X			Transferred from COC 2006-00236	
9106-0003-014F	4/25/06	14:48	SE	C	BP		X		Transferred from COC 2006-00236	
9106-0003-015F	4/26/06	08:16	SE	C	BP	X			Transferred from COC 2006-00237	
9106-0003-016F	4/26/06	09:41	SE	C	BP	X			Transferred from COC 2006-00237	
9106-0003-017F	4/26/06	09:18	SE	C	BP	X			Transferred from COC 2006-00237	
9106-0003-018F	4/26/06	08:59	SE	C	BP	X			Transferred from COC 2006-00237	

NOTES: PO #: 002332 MSR #: 06-0652 SSWP# NA ☒ LTP QA ☐ Radwaste QA ☐ Non QA

Samples Shipped Via:

☒ Fed Ex
☐ UPS
☐ Hand☐ Other

Bill of Lading #

7920-8920-0261

1) Relinquished By

JAMES RUCARTE

Date/Time

5-1-06 / 1330

2) Received By

C. Derricott

Date/Time

5/5/06 / 1015

3) Relinquished By

Date/Time

4) Received By

Date/Time

Internal Container
Temp: _____ Deg C

Custody Sealed?

Y ☒ N ☐

Custody Seal Intact?

Y ☐ N ☒

Cherry

162335

Connecticut Yankee
Statement of Work for Analytical Lab Services

CY-ISC-SOW-001

Figure 1. Sample Check-in List

Date/Time Received: 5/5/06 1015.

SDG#: MSR#06-0652

Work Order Number: 162335

Shipping Container ID: 7920 8920 0240 Chain of Custody #: 2006-00312
0240 2006-00313

1. Custody Seals on shipping container intact? Yes ☐ No ☒
2. Custody Seals dated and signed? Yes ☐ No ☒
3. Chain-of-Custody record present? Yes ☒ No ☐
4. Cooler temperature 19°C
5. Vermiculite/packing materials is: Wet ☐ Dry ☐ n/a
6. Number of samples in shipping container: [10] ten / [9] nine
7. Sample holding times exceeded? Yes ☐ No ☒

<p>8. Samples have:</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><input checked="" type="checkbox"/> tape</p> <p><input checked="" type="checkbox"/> custody seals</p> </div> <div style="width: 45%;"> <p><input type="checkbox"/> hazard labels</p> <p><input type="checkbox"/> appropriate sample labels</p> </div> </div>	
<p>9. Samples are:</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><input checked="" type="checkbox"/> in good condition</p> <p><input type="checkbox"/> broken</p> </div> <div style="width: 45%;"> <p><input checked="" type="checkbox"/> leaking</p> <p><input type="checkbox"/> have air bubbles</p> </div> </div>	

10. Were any anomalies identified in sample receipt? Yes ☐ No ☒
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: C. Derricotte Date: 5/5/06

Telephoned to: _____ On _____ By _____



SAMPLE RECEIPT & REVIEW FORM

PM use only 162335

Client: <u>Yankel</u>		SDG/ARCO/Work Order:	
Date Received: <u>05/5/06</u>		PM(A) Review (ensure non-conforming items are resolved prior to signing):	
Received By: <u>C. Derrick</u>		<u>Clyde</u>	

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.		<input checked="" type="checkbox"/>		Circle Coolant # ice bags blue ice dry ice none <u>other describe</u> <u>1900</u> <u>Peanutts</u>
3 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>			
4 Sample containers intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?		<input checked="" type="checkbox"/>		Sample ID's, containers affected and observed pH:
6 VOA vials free of headspace (defined as < 6mm bubble)?		<input checked="" type="checkbox"/>		Sample ID's and containers affected:
7 Are Encore containers present? (If yes, immediately deliver to VOA laboratory)			<input checked="" type="checkbox"/>	
8 Samples received within holding time?	<input checked="" type="checkbox"/>			Id's and tests affected:
9 Sample ID's on COC match ID's on bottles?				Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>			Sample ID's affected:
11 Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>			Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>			
14 Air Bill ,Tracking #'s, & Additional Comments	FedEx # <u>7920 8920 0261</u> <u>0240</u>			

Suspected Hazard Information	Non-Regulated	Regulated	High Level	RSO RAD Receipt #
A Radiological Classification?		<input checked="" type="checkbox"/>		*If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
B PCB Regulated?	<input checked="" type="checkbox"/>			Maximum Counts Observed*: <u>30 CPM</u>
C Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.	<input checked="" type="checkbox"/>			Comments: Hazard Class Shipped: UN#:

PM (or PMA) review of Hazard classification: Initials DAJ Date: 5/5/06

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Chain of Custody Form

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

No. 2006-00336

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size & Type Code	Analyses Requested					Lab Use Only			
Contact Name & Phone: Jack McCarthy 860-267-2556 Ext. 3024						FSSGAM	FSSALL	Sr-90					Comments	
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones														
Priority: <input checked="" type="checkbox"/> 30 D. <input type="checkbox"/> 14 D. <input type="checkbox"/> 7 D.														
Sample Designation	Date	Time									Comment, Preservation	Lab Sample ID		
9106-0004-001F	05/3/06	09:37	SE	C	BP		X	X			Transferred from COC 2006-00316			
9106-0004-002F	05/3/06	09:56	SE	C	BP	X		X			Transferred from COC 2006-00316			
9106-0004-003F	05/3/06	10:28	SE	C	BP	X		X			Transferred from COC 2006-00316			
9106-0004-004F	05/3/06	10:48	SE	C	BP	X		X			Transferred from COC 2006-00316			
9106-0004-004FS	05/3/06	10:48	SE	C	BP	X		X			Transferred from COC 2006-00316			
9106-0004-005F	05/3/06	11:07	SE	C	BP	X		X			Transferred from COC 2006-00316			
9106-0004-006F	05/3/06	12:46	SE	C	BP	X		X			Transferred from COC 2006-00317			
9106-0004-007F	05/4/06	07:55	SE	C	BP	X		X			Transferred from COC 2006-00320			
9106-0004-017F	05/4/06	09:27	SE	C	BP	X		X			Transferred from COC 2006-00320			
NOTES: PO #: 002332 MSR #: 06-0688 SSWP# NA <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA												Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other	Internal Container Temp: 72 Deg C Custody Sealed? Custody Seal Intact?	
1) Relinquished By			Date/Time		2) Received By			Date/Time						
					C. Demicoto			5/12/06 0920						
3) Relinquished By			Date/Time		4) Received By			Date/Time						
Bill of Lading #														
7919-3895-8881														

Chain of Custody Form

No. 2006-00337

Connecticut Yankee Atomic Power Company

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

Project Name: Haddam Neck Decommissioning

Contact Name & Phone:

Jack McCarthy 860-267-2556 Ext. 3024

Analytical Lab (Name, City, State)

General Engineering Laboratories

2040 Savage Road, Charleston SC, 29407

843 556 8171. Attn. Cheryl Jones

Priority: ☒ 30 D. ☐ 14 D. ☐ 7 D.

Sample Designation	Date	Time	Media Code	Type Code	&Type Code								Comment, Preservation	Lab Sample ID
9106-0004-008F✓	5/04/06	08:58	SE	C	BP	X		X					Transferred from COC 2006-00320	
9106-0004-009F✓	5/04/06	08:23	SE	C	BP	X		X					Transferred from COC 2006-00320	
9106-0004-010F✓	5/03/06	15:11	SE	C	BP	X		X					Transferred from COC 2006-00317	
9106-0004-010FS✓	5/03/06	15:11	SE	C	BP	X		X					Transferred from COC 2006-00317	
9106-0004-011F✓	5/03/06	13:08	SE	C	BP	X		X					Transferred from COC 2006-00317	
9106-0004-012F✓	5/03/06	13:33	SE	C	BP	X		X					Transferred from COC 2006-00317	
9106-0004-013F✓	5/03/06	13:54	SE	C	BP	X		X					Transferred from COC 2006-00317	
9106-0004-014F✓	5/03/06	14:43	SE	C	BP		X	X					Transferred from COC 2006-00317	
9106-0004-015F✓	5/03/06	14:18	SE	C	BP	X		X					Transferred from COC 2006-00317	

NOTES: PO #: 002332 MSR #: 06-0688 SSWP# NA ☒ LTP QA ☐ Radwaste QA ☐ Non QA

Samples Shipped Via:

☒ Fed Ex☐ UPS☐ Hand☐ Other

Bill of Lading #

7919 3875 8872

Internal Container Temp: 77 Deg. C

Custody Sealed? ☒ N/ACustody Seal Intact? ☒ N/AY/N ☒ N/A

1) Relinquished By

Date/Time

2) Received By

Date/Time

3) Relinquished By

Date/Time

4) Received By

Date/Time

Figure 1. Sample Check-in List

Date/Time Received: 5.12.06 09:20

SDG#: MSR#06-0688

Work Order Number: 1628321

Shipping Container ID: 7919 3895 8892 Chain of Custody # 2006-00337

1. Custody Seals on shipping container intact? Yes ☒ No ☐
2. Custody Seals dated and signed? Yes ☒ No ☐
3. Chain-of-Custody record present? Yes ☒ No ☐
4. Cooler temperature N/A
5. Vermiculite/packing materials is: Wet ☒ Dry ☐
6. Number of samples in shipping container: 9
7. Sample holding times exceeded? Yes ☐ No ☒

8. Samples have:

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

9. Samples are:

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

10. Were any anomalies identified in sample receipt? Yes ☒ No ☐
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: Emily Martin Date: 5.12.06 09:20

Telephoned to: _____ On _____ By _____

Figure 1. Sample Check-in List

Date/Time Received: 5/12/06 @ 0920

SDG#: NSR #06-0688

Work Order Number: 1628321

Shipping Container ID: 7919 3895 8892 Chain of Custody # 2006-00337

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

2. Custody Seals dated and signed? Yes [] No ☒

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

4. Cooler temperature 17°C

5. Vermiculite/packing materials is: Wet ☒ Dry []

6. Number of samples in shipping container: _____

7. Sample holding times exceeded? Yes [] No ☒

8. Samples have:

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

9. Samples are:

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

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

11. Description of anomalies (include sample numbers): soil was busting out
of container bag

Sample Custodian/Laboratory: C. Demicheli Date: 5/12/06

Telephoned to: _____ On _____ By _____

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SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: <u>CT Yankee</u>	SDG/ARCOC/Work Order: <u>162832</u>
Date Received: <u>5.12.06</u>	PM(A) Review (ensure non-conforming items are resolved prior to signing):
Received By: <u>E. Martin</u>	<u>[Signature]</u>

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	X			Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.		X		Circle Coolant # ice bags blue ice dry ice none other describe
3 Chain of custody documents included with shipment?	X			
4 Sample containers intact and sealed?			X	Circle Applicable: seals broken damaged container <u>leaking container</u> other (describe) <u>SN: 9106-0004-014F</u>
5 Samples requiring chemical preservation at proper pH?		X		Sample ID's, containers affected and observed pH:
6 VOA vials free of headspace (defined as < 6mm bubble)?		X		Sample ID's and containers affected:
7 Are Encore containers present? (If yes, immediately deliver to VOA laboratory)			X	
8 Samples received within holding time?	X			Id's and tests affected:
9 Sample ID's on COC match ID's on bottles?	X			Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?	X			Sample ID's affected:
11 Number of containers received match number indicated on COC?	X			Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?			X	<u>Coc Not Relinquished</u>
14 Air Bill ,Tracking #'s, & Additional Comments				<u>7919 3895 8892</u>

Suspected Hazard Information	Non-Regulated	Regulated	High Level	RSO RAD Receipt #
A Radiological Classification?		X		*If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
B PCB Regulated?	X			Maximum Counts Observed*: <u>< Bkgd.</u>
C Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.	X			Comments: <u>Bkgd = 40 cpm</u> Hazard Class Shipped: <u>N/A</u> UN#: <u>N/A</u>
PM (or PM A) review of Hazard classification:				Initials <u>[Signature]</u> Date: <u>5/12/06</u>



SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: <u>Yankel</u>	SDG/ARCOC/Work Order: <u>162832</u>
Date Received: <u>5/12/06</u>	PM(A) Review (ensure non-conforming items are resolved prior to signing):
Received By: <u>C. Derricotte</u>	<u>[Signature]</u>

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.		<input checked="" type="checkbox"/>		Circle Coolant # ice bags blue ice dry ice <u>none</u> other (describe) <u>170C</u>
3 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>			<u>COCs are wet</u>
4 Sample containers intact and sealed?			<input checked="" type="checkbox"/>	Circle Applicable: seals broken damaged container leaking container other (describe) <u>busted bag w/ RSOs</u> <u>cooler 7970 9480 6038</u> <u>8892</u>
5 Samples requiring chemical preservation at proper pH?		<input checked="" type="checkbox"/>		Sample ID's, containers affected and observed pH:
6 VOA vials free of headspace (defined as < 6mm bubble)?		<input checked="" type="checkbox"/>		Sample ID's and containers affected:
7 Are Encore containers present? (If yes, immediately deliver to VOA laboratory)			<input checked="" type="checkbox"/>	
8 Samples received within holding time?	<input checked="" type="checkbox"/>			Id's and tests affected:
9 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>			Sample ID's affected:
11 Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>			Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?			<input checked="" type="checkbox"/>	<u>no COCs are relinquished</u>

14 Air Bill ,Tracking #'s, & Additional Comments FedEx #'s
see continuation sheet

Suspected Hazard Information	Non-Regulated	Regulated	High Level	RSO RAD Receipt # *If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
A Radiological Classification?		<input checked="" type="checkbox"/>		Maximum Counts Observed*: <u>1000</u> <u>40 cpm</u>
B PCB Regulated?	<input checked="" type="checkbox"/>			Comments:
C Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.	<input checked="" type="checkbox"/>			Hazard Class Shipped: UN#:

PM (or PMA) review of Hazard classification: Initials [Signature] Date: 5/12/06

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

No. 2006-00319

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size & Type Code	Analyses Requested					Lab Use Only Comments		
Contact Name & Phone: Jack McCarthy 860-267-2556 Ext. 3024						FSSGAM	FSSALL	Sr-90					
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road, Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones													
Priority: <input checked="" type="checkbox"/> 30 D. <input type="checkbox"/> 14 D. <input type="checkbox"/> 7 D.													
Sample Designation	Date	Time									Comment, Preservation	Lab Sample ID	
9106-0005-010F	5/02/06	13:16	SE	C	BP	X		X			Transferred from COC 2006-00314		
9106-0005-011F	5/02/06	13:39	SE	C	BP	X		X			Transferred from COC 2006-00314		
9106-0005-013F	5/02/06	14:35	SE	C	BP	X		X			Transferred from COC 2006-00314		
9106-0005-014F	5/02/06	15:04	SE	C	BP	X		X			Transferred from COC 2006-00314		
9106-0005-016F	5/02/06	13:59	SE	C	BP	X		X			Transferred from COC 2006-00314		
9106-0005-015F	5/03/06	08:03	SE	C	BP	X		X			Transferred from COC 2006-00316		
9106-0005-017F	5/03/06	08:13	SE	C	BP	X		X			Transferred from COC 2006-00316		
9106-0005-018F	5/03/06	09:09	SE	C	BP	X		X			Transferred from COC 2006-00316		
9106-0005-018FS	5/03/06	09:09	SE	C	BP	X		X			Transferred from COC 2006-00316		
NOTES: PO #: 002332 MSR #: 06-0675 SSWP# NA <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA												Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other	Internal Container Temp. _____ Deg. C Custody Sealed? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Custody Seal Intact? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
1) Relinquished By <i>[Signature]</i> Date/Time 5-8-06 1440			2) Received By <i>[Signature]</i> Date/Time 5/9/06 0930										
3) Relinquished By _____ Date/Time _____			4) Received By _____ Date/Time _____										
Bill of Lading # 7920 9195 4352													

1.1.1.

Figure 1. Sample Check-in List

Date/Time Received: 5/9/06 0930
SDG#: MSR# 06-0675
Work Order Number: 1624851
Shipping Container ID: 7920 9195 4352, 4363 Chain of Custody #: 2006-00318/00319

1. Custody Seals on shipping container intact? Yes ☒ No ☐
2. Custody Seals dated and signed? Yes ☒ No ☐
3. Chain-of-Custody record present? Yes ☒ No ☐
4. Cooler temperature 18°C, 19°C
5. Vermiculite/packing materials is: Wet ☒ Dry ☐
6. Number of samples in shipping container: 18
7. Sample holding times exceeded? Yes ☐ No ☒

8. Samples have:

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

9. Samples are:

☐ in good condition ☒ leaking (some bags)
☐ broken ☐ have air bubbles

10. Were any anomalies identified in sample receipt? Yes ☐ No ☒
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: Perle Date: 5/9/06 0930
Telephoned to: _____ On _____ By _____



SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: <u>ATMC</u>	SDG/ARCOC/Work Order: <u>162485</u>
Date Received: <u>5/9/06</u>	PM(A) Review (ensure non-conforming items are resolved prior to signing):
Received By: <u>BHC</u>	<u>[Signature]</u>

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.				Circle Coolant # ice bags blue ice dry ice none other (describe)
3 Chain of custody documents included with shipment?				
4 Sample containers intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?				Sample ID's, containers affected and observed pH:
6 VOA vials free of headspace (defined as < 6mm bubble)?				Sample ID's and containers affected:
7 Are Encore containers present? (If yes, immediately deliver to VOA laboratory)				<u>BHC 5/9/06</u>
8 Samples received within holding time?				ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?				Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?				Sample ID's affected:
11 Number of containers received match number indicated on COC?				Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?				
14 Air Bill ,Tracking #'s, & Additional Comments				<u>Fed 7920 9195 4352 → 19°C</u> <u>Ex 4363 → 18°C</u>

Suspected Hazard Information	Non-Regulated	Regulated	High Level	RSO RAD Receipt # _____ *If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
A Radiological Classification?				Maximum Counts Observed*: <u>80 cpm</u>
B PCB Regulated?				Comments:
C Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.				Hazard Class Shipped: UN#:

PM (or PMA) review of Hazard classification:

Initials CJ

Date:

5/9/06

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Chain of Custody Form

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

No. 2006-00332

Project Name: Haddam Neck Decommissioning Contact Name & Phone: Jack McCarthy 860-267-2556 Ext. 3024 Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road, Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones Priority: <input checked="" type="checkbox"/> 30 D. <input type="checkbox"/> 14 D. <input type="checkbox"/> 7 D.			Media Code	Sample Type Code	Container Size- & Type Code	Analyses Requested					Lab Use Only	
FSSGAM	FSSALL	Sr-90							Comments			
Sample Designation	Date	Time									Comment, Preservation	Lab Sample ID
9106-0006-004F	4/28/06	12:46	SE	C	BP	X		X			Transferred from COC 2006-00317	
9106-0006-005F	4/28/06	13:03	SE	C	BP	X		X			Transferred from COC 2006-00317	
9106-0006-006F	4/28/06	13:22	SE	C	BP	X		X			Transferred from COC 2006-00317	
9106-0006-007F	4/28/06	13:41	SE	C	BP	X		X			Transferred from COC 2006-00317	
9106-0006-007FS	4/28/06	13:41	SE	C	BP	X		X			Transferred from COC 2006-00317	
9106-0006-012F	5/01/06	13:40	SE	C	BP	X		X			Transferred from COC 2006-00317	
9106-0006-017F	5/01/06	14:03	SE	C	BP	X		X			Transferred from COC 2006-00317	

NOTES: PO #: 002332 MSR #: 06-0687 SSWP# NA ☒ LTP QA ☐ Radwaste QA ☐ Non QA

1) Relinquished By	Date/Time	2) Received By	Date/Time
		<i>C. DeWitt</i>	5/12/06 0920
3) Relinquished By	Date/Time	4) Received By	Date/Time

Samples Shipped Via:

☒ Fed Ex

☐ UPS

☐ Hand

☐ Other

Bill of Lading #

7920-9480-6688

Internal Container

Temp: 120 Deg. C

Custody Sealed?

Y ☒ N ☐

Custody Seal Intact?

Y ☒ N ☐

Figure 1. Sample Check-in List

Date/Time Received: 5/12/06 @ 0920
SDG#: MSR#06-0687
Work Order Number: 1628501

Shipping Container ID: See cont sheet Chain of Custody #: See cont sheet

1. Custody Seals on shipping container intact? Yes ☐ No ☒
2. Custody Seals dated and signed? Yes ☐ No ☒
3. Chain-of-Custody record present? Yes ☒ No ☐
4. Cooler temperature 1700
5. Vermiculite/packing materials is: Wet ☒ Dry ☐
6. Number of samples in shipping container: See: cont sheet
7. Sample holding times exceeded? Yes ☐ No ☒

8. Samples have:

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

9. Samples are:

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

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

11. Description of anomalies (include sample numbers): N/A

Sample Custodian/Laboratory: C. D. Sullivan Date: 5/12/06

Telephoned to: _____ On _____ By _____



SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: <u>Yankel</u>	SDG/ARCO/Work Order: <u>162832, 162850</u>
Date Received: <u>5/12/06</u>	PM(A) Review (ensure non-conforming items are resolved prior to signing):
Received By: <u>C. Derricotte</u>	<u>[Signature]</u>

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.		<input checked="" type="checkbox"/>		Circle Coolant # ice bags blue ice dry ice <u>none</u> other (describe) <u>17°C</u>
3 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>			<u>COCs are wet</u>
4 Sample containers intact and sealed?		<input checked="" type="checkbox"/>		Circle Applicable: seals broken damaged container leaking container other (describe) <u>busted bag w/ RSDs cooler 7920 9480 6038 (C)</u>
5 Samples requiring chemical preservation at proper pH?		<input checked="" type="checkbox"/>		Sample ID's, containers affected and observed pH: <u>8.92</u>
6 VOA vials free of headspace (defined as < 6mm bubble)?		<input checked="" type="checkbox"/>		Sample ID's and containers affected:
7 Are Encore containers present? (If yes, immediately deliver to VOA laboratory)			<input checked="" type="checkbox"/>	
8 Samples received within holding time?	<input checked="" type="checkbox"/>			ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>			Sample ID's affected:
11 Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>			Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?			<input checked="" type="checkbox"/>	<u>no COCs are relinquished</u>

14 Air Bill ,Tracking #'s, & Additional Comments	<u>FedEx #'s</u> <u>see continuation sheet</u>		
Suspected Hazard Information	Non-Regulated	Regulated	High Level
A Radiological Classification?		<input checked="" type="checkbox"/>	
B PCB Regulated?	<input checked="" type="checkbox"/>		
C Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.	<input checked="" type="checkbox"/>		
RSO RAD Receipt # _____ *If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation. Maximum Counts Observed*: <u>100 @ 40 cpm</u> Comments: Hazard Class Shipped: UN#:			

PM (or PMA) review of Hazard classification: _____ Initials [Signature] Date: 5/12/06



<u>Fed Ex Trk #</u>	<u>COG #</u>	<u># of containers</u>
7920 9480 6688	2006-00332	(7) Seven
- - 6611	2006-00331	(6) Six
- - 6655	2006-00330	(6) Six
7919 3895 8881	2006-00336	(9) nine
- - 8892	2006-00337	(9) nine
<p>(this cooler had a busted sample cooler & COG is w/ RSO Emily Martin)</p>		

Connecticut Yankee Atomic Power Company

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

Chain of Custody Form

No. 2006-00367

163741%

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size & Type Code	Analyses Requested					Lab Use Only			
Contact Name & Phone: Jack McCarthy 860-267-2556 Ext. 3024						FSSGAM	FSSALL	Sr-90	Ni-63	Comments:				
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road, Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones														
Priority: <input checked="" type="checkbox"/> 30 D. <input type="checkbox"/> 14 D. <input type="checkbox"/> 7 D.														
Sample Designation	Date	Time									Comment, Preservation	Lab Sample ID		
9106-0008-001F	5/05/06	11:13	SE	C	BP	X		X	X		Transferred from COC # 2006-00324			
9106-0008-003F	5/5/06	13:35	SE	C	BP	X		X	X		Transferred from COC # 2006-00325			
9106-0008-004F	5/5/06	13:51	SE	C	BP	X		X	X		Transferred from COC # 2006-00325			
9106-0008-005F	5/5/06	14:17	SE	C	BP	X		X	X		Transferred from COC # 2006-00325			
9106-0008-006F	5/5/06	14:36	SE	C	BP	X		X	X		Transferred from COC # 2006-00325			
9106-0008-006FS	5/5/06	14:36	SE	C	BP	X		X	X		Transferred from COC # 2006-00325			
9106-0008-007F	5/5/06	15:03	SE	C	BP		X				Transferred from COC # 2006-00325			
9106-0008-002F	5/5/06	13:10	SE	C	BP	X		X	X		Transferred from COC # 2006-00325			
NOTES: PO #: 002332 MSR #: 06-0743 SSWP#NA <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA												Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other	Internal Container Temp.: ____ Deg. C Custody Sealed? Y <input type="checkbox"/> N <input type="checkbox"/> Custody Seal Intact? Y <input type="checkbox"/> N <input type="checkbox"/>	
1) Relinquished By		Date/Time		2) Received By		Date/Time		Bill of Lading # R275154 1162						
3) Relinquished By		Date/Time		4) Received By		Date/Time								

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

No. 2006-00366

16374171

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size & Type Code	Analyses Requested					Lab Use Only			
Contact Name & Phone: Jack McCarthy 860-267-2556 Ext. 3024						FSSGAM	FSSALL	Sr-90	Ni-63	Comments:				
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road, Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones														
Priority: <input checked="" type="checkbox"/> 30 D. <input type="checkbox"/> 14 D. <input type="checkbox"/> 7 D.														
Sample Designation	Date	Time									Comment, Preservation	Lab Sample ID		
9106-0008-008F	5/08/06	08:01	SE	C	BP	X		X	X		Transferred from COC # 2006-00327			
9106-0008-009F	5/08/06	08:32	SE	C	BP	X		X	X		Transferred from COC # 2006-00327			
9106-0008-010F	5/08/06	09:09	SE	C	BP	X		X	X		Transferred from COC # 2006-00327			
9106-0008-010FS	5/08/06	09:09	SE	C	BP	X		X	X		Transferred from COC # 2006-00327			
9106-0008-011F	5/08/06	09:30	SE	C	BP	X		X	X		Transferred from COC # 2006-00327			
9106-0008-012F	5/08/06	09:53	SE	C	BP		X				Transferred from COC # 2006-00327			
9106-0008-013F	5/08/06	10:16	SE	C	BP	X		X	X		Transferred from COC # 2006-00327			
9106-0008-014F	5/08/06	10:47	SE	C	BP	X		X	X		Transferred from COC # 2006-00327			
NOTES: PO #: 002332 MSR #: 06-0743 SSWP#NA <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA												Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other	Internal Container Temp.: <u>21</u> Deg. C Custody Sealed? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Custody Seal Intact? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
1) Relinquished By			Date/Time			2) Received By			Date/Time			Bill of Lading #		
3) Relinquished By			Date/Time			4) Received By			Date/Time					

163741%

Figure 1. Sample Check-in List

Date/Time Received: 5/24/06 0930

SDG#: _____

Work Order Number: _____

Shipping Container ID: 7927564 1102 Chain of Custody # 2006-00367

1. Custody Seals on shipping container intact? Yes ☒ No ☐
2. Custody Seals dated and signed? Yes ☐ No ☒
3. Chain-of-Custody record present? Yes ☒ No ☐
4. Cooler temperature 19°C
5. Vermiculite/packing materials is: Wet ☐ Dry ☐ NA
6. Number of samples in shipping container: 8
7. Sample holding times exceeded? Yes ☐ No ☒

8. Samples have:

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

9. Samples are:

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

10. Were any anomalies identified in sample receipt? Yes ☐ No ☒
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: K. Lipton Date: 5/24/06
Telephoned to: _____ On _____ By _____



SAMPLE RECEIPT & REVIEW FORM

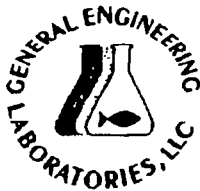
PM use only

Client: <u>Conn. Yankee</u>		SDG/ARCOC/Work Order: <u>1637417</u>	
Date Received: <u>5/26/06</u>		PM(A) Review (ensure non-conforming items are resolved prior to signing): <u>[Signature]</u>	
Received By: <u>[Signature]</u>			

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	/			Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.		/		Circle Coolant # ice bags blue ice dry ice <u>none</u> other describe <u>19°C</u>
3 Chain of custody documents included with shipment?	/			
4 Sample containers intact and sealed?	/			Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?		/		Sample ID's, containers affected and observed pH:
6 VOA vials free of headspace (defined as < 6mm bubble)?		/		Sample ID's and containers affected:
7 Are Encore containers present? (If yes, immediately deliver to VOA laboratory)			/	
8 Samples received within holding time?	/			ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?	/			Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?	/			Sample ID's affected:
11 Number of containers received match number indicated on COC?	/			Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?	/			
14 Air Bill ,Tracking #'s, & Additional Comments	<u>7927 SF54 1162</u>			

Suspected Hazard Information	Non-Regulated	Regulated	High Level	RSO RAD Receipt #
A Radiological Classification? <u>Yes</u>	X	/		*If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
B PCB Regulated?	/			Maximum Counts Observed*: <u>apm 20</u> <u>Per R50</u>
C Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.	/			Comments: Hazard Class Shipped: UN#:

PM (or PMA) review of Hazard classification: [Signature] Initials 5/26/06 Date:



SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: <u>Yankee</u>	SDG/ARCOC/Work Order: <u>1637417</u>
Date Received: <u>5/26/06</u>	PM(A) Review (ensure non-conforming items are resolved prior to signing): <u>OK</u>
Received By: <u>C. Duricich</u>	

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.		<input checked="" type="checkbox"/>		Circle Coolant # ice bags blue ice dry ice <u>none</u> other (describe) <u>21°C</u>
3 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>			
4 Sample containers intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?		<input checked="" type="checkbox"/>		Sample ID's, containers affected and observed pH:
6 VOA vials free of headspace (defined as < 6mm bubble)?		<input checked="" type="checkbox"/>		Sample ID's and containers affected:
7 Are Encore containers present? (If yes, immediately deliver to VOA laboratory)			<input checked="" type="checkbox"/>	
8 Samples received within holding time?	<input checked="" type="checkbox"/>			Id's and tests affected:
9 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>			Sample ID's affected:
11 Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>			Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<u>not relinquished</u>
14 Air Bill ,Tracking #'s, & Additional Comments	<u>7927 5154 1173</u> <u>COC # 2604 - 00364</u>			

Suspected Hazard Information	Non-Regulated	Regulated	High Level	RSO RAD Receipt #
A Radiological Classification?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		*If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
B PCB Regulated?	<input checked="" type="checkbox"/>			Maximum Counts Observed*: <u>40 cpm</u>
C Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.	<input checked="" type="checkbox"/>			Comments: Hazard Class Shipped: UN#:
PM (or PMA) review of Hazard classification: <u>OK</u> Initials <u>5/26/06</u> Date:				

1637417

Figure 1. Sample Check-in List

Date/Time Received: 5/26/06 @ 0930

SDG#: _____

Work Order Number: _____

Shipping Container ID: 79215541173 Chain of Custody #: 2006-08366

1. Custody Seals on shipping container intact? Yes ☒ No ☐
2. Custody Seals dated and signed? Yes ☒ No ☐
3. Chain-of-Custody record present? Yes ☒ No ☐
4. Cooler temperature 21°
5. Vermiculite/packing materials is: Wet ☒ Dry ☐
6. Number of samples in shipping container: (8) eight
7. Sample holding times exceeded? Yes ☐ No ☒

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

10. Were any anomalies identified in sample receipt? Yes ☐ No ☒
11. Description of anomalies (include sample numbers): N/A

Sample Custodian/Laboratory: C. Quicla Date: 5/26/06

Telephoned to: _____ On _____ By _____

164542-1.

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Connecticut Yankee Atomic Power Company

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

Chain of Custody Form

No. 2006-00380

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size & Type Code	Analyses Requested					Lab Use Only			
Contact Name & Phone: Jack McCarthy 860-267-2556 Ext. 3024						FSSGAM	FSSALL	Ni-63					Comments:	
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones														
Priority: <input checked="" type="checkbox"/> 30 D. <input type="checkbox"/> 14 D. <input type="checkbox"/> 7 D.														
Sample Designation	Date	Time									Comment, Preservation	Lab Sample ID		
9106-0009-016F	5/15/06	13:28	SE	C	BP	X		X			Transferred from COC 2006-00352			
9106-0009-016FS	5/15/06	13:28	SE	C	BP	X		X			Transferred from COC 2006-00352			
9106-0009-017F	5/15/06	14:03	SE	C	BP	X		X			Transferred from COC 2006-00352			
9106-0009-011F	5/15/06	08:05	SE	C	BP		X				Transferred from COC 2006-00351			
9106-0009-013F	5/15/06	08:35	SE	C	BP	X		X			Transferred from COC 2006-00351			
9106-0009-013FS	5/15/06	08:35	SE	C	BP	X		X			Transferred from COC 2006-00351			
9106-0009-014F	5/15/06	08:59	SE	C	BP		X				Transferred from COC 2006-00351			
9106-0009-015F	5/15/06	09:36	SE	C	BP	X		X			Transferred from COC 2006-00351			
NOTES: PO #: 002332 MSR #: 06-0818 SSWP# NA <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA												Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other	Internal Container Temp.: ____ Deg. C Custody Sealed? Y <input type="checkbox"/> N <input type="checkbox"/> Custody Seal Intact? Y <input type="checkbox"/> N <input type="checkbox"/>	
1) Relinquished By JANE RICARTS			Date/Time 6-7-06/1100			2) Received By [Signature]			Date/Time 6-8-06 900			Bill of Lading # 7921-1915 2868		
3) Relinquished By			Date/Time			4) Received By			Date/Time					

164542-1.

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Connecticut Yankee Atomic Power Company

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

Chain of Custody Form

No. 2006-00381

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size- & Type Code	Analyses Requested					Lab Use Only			
Contact Name & Phone: Jack McCarthy 860-267-2556 Ext. 3024						FSSGAM	FSSALL	NI-63					Comments:	
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones														
Priority: <input checked="" type="checkbox"/> 30 D. <input type="checkbox"/> 14 D. <input type="checkbox"/> 7 D.														
Sample Designation	Date	Time									Comment, Preservation	Lab Sample ID		
9106-0009-001F	5/11/06	13:22	SE	C	BP	X		X			Transferred from COC 2006-00347			
9106-0009-002F	5/11/06	13:46	SE	C	BP	X		X			Transferred from COC 2006-00347			
9106-0009-003F	5/11/06	14:06	SE	C	BP	X		X			Transferred from COC 2006-00347			
9106-0009-004F	5/11/06	14:30	SE	C	BP	X		X			Transferred from COC 2006-00347			
9106-0009-005F	5/11/06	14:55	SE	C	BP	X		X			Transferred from COC 2006-00347			
9106-0009-007F	5/12/06	07:44	SE	C	BP	X		X			Transferred from COC 2006-00348			
9106-0009-008F	5/12/06	08:16	SE	C	BP	X		X			Transferred from COC 2006-00348			
9106-0009-009F	5/12/06	08:35	SE	C	BP	X		X			Transferred from COC 2006-00348			
9106-0009-010F	5/12/06	09:07	SE	C	BP	X		X			Transferred from COC 2006-00348			
NOTES: PO #: 002332 MSR #: 06- SSWP# NA <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA												Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other	Internal Container Temp.: ____ Deg. C Custody Sealed? Y <input type="checkbox"/> N <input type="checkbox"/> Custody Seal Intact? Y <input type="checkbox"/> N <input type="checkbox"/>	
1) Relinquished By JIMMIE RICHARTE			Date/Time 6-7-06/11:00			2) Received By A. Maly			Date/Time 6/8/06 900			Bill of Lading # 7921 1915 2858		
3) Relinquished By			Date/Time			4) Received By			Date/Time					

Cheryl 164551%

CPM 40

Connecticut Yankee
Statement of Work for Analytical Lab Services

CY-ISC-SOW-001

Figure 1. Sample Check-in List

Date/Time Received: 6-8-06 900

SDG#: MSR# 06-0819, 0818

Work Order Number: 7921-1915-2858

Shipping Container ID: 11-11-8186 Chain of Custody #: 2006-00382
2006-00380
2006-00381

1. Custody Seals on shipping container intact? Yes ☒ No ☐
2. Custody Seals dated and signed? Yes ☐ No ☒
3. Chain-of-Custody record present? Yes ☒ No ☐
4. Cooler temperature 20°C
5. Vermiculite/packing materials is: Wet ☐ Dry ☒
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? Yes ☒ No ☐

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

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

11. Description of anomalies (include sample numbers):

Sample Custodian/Laboratory: A. Maly Date: 6-8-06 900

Telephoned to: On By:

Connecticut Yankee Atomic Power Company

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

Chain of Custody Form

No. 2006-00349

Project Name: Haddam Neck Decommissioning

Contact Name & Phone:
Jack McCarthy 860-267-2556 Ext. 3024

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

Priority: ☒ 30 D. ☐ 14 D. ☐ 7 D.

Analyses Requested

Lab Use Only

Comments:

163105%

Sample Designation	Date	Time	Media Code	Sample Type Code	Container Size- & Type Code	FSSGAM	FSSALL	Ni-63				Comment, Preservation	Lab Sample ID
9106-0010-001F	5/04/06	10:49	SE	C	BP	X		X				Transferred from COC 2006-00321	
9106-0010-002F	5/04/06	11:12	SE	C	BP	X		X				Transferred from COC 2006-00321	
9106-0010-004F	5/04/06	12:48	SE	C	BP	X		X				Transferred from COC 2006-00321	
9106-0010-006F	5/04/06	13:34	SE	C	BP	X		X				Transferred from COC 2006-00321	
9106-0010-007F	5/04/06	13:21	SE	C	BP	X		X				Transferred from COC 2006-00321	
9106-0010-009F	5/04/06	14:01	SE	C	BP	X		X				Transferred from COC 2006-00321	
9106-0010-010F	5/04/06	14:21	SE	C	BP	X		X				Transferred from COC 2006-00321	
9106-0010-012F	5/04/06	14:44	SE	C	BP	X		X				Transferred from COC 2006-00321	
9106-0010-013F	5/04/06	15:06	SE	C	BP		X					Transferred from COC 2006-00321	

NOTES: PO #: 002332 MSR #: 06-0707 SSWP#NA ☒ LTP QA ☐ Radwaste QA ☐ Non QA

Samples Shipped Via:

☒ Fed Ex
☐ UPS
☐ Hand

☐ Other

Internal Container Temp.: 17 Deg. C

Custody Sealed?
Y ☒ N ☐
Custody Seal Intact?

Y ☒ N ☐

Bill of Lading #

7904-3 113-8541

1) Relinquished By JAMIE REARTE Date/Time 5-16-06 / 1150

2) Received By AMMOLY Date/Time 5/17/06 945

3) Relinquished By _____ Date/Time _____

4) Received By _____ Date/Time _____

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09
010
011
012
013
014
015
016
018

Figure 1. Sample Check-in List

Date/Time Received: 945 5/17/06

SDG#: MARK 06-0707

Work Order Number: 1631051

Shipping Container ID: 7904 3113 8541 Chain of Custody #: 2006-00349

1. Custody Seals on shipping container intact? Yes ☒ No ☐
2. Custody Seals dated and signed? Yes ☒ No ☐
3. Chain-of-Custody record present? Yes ☒ No ☐
4. Cooler temperature 17°C
5. Vermiculite/packing materials is: Wet ☒ Dry ☐
6. Number of samples in shipping container: 9
7. Sample holding times exceeded? Yes ☐ No ☒

8. Samples have:

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

9. Samples are:

☒ in good condition ☒ ~~leaking~~ ^{AM}
☐ broken ☐ have air bubbles

10. Were any anomalies identified in sample receipt? Yes ☐ No ☒
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: AMaly Date: 5-17-06

Telephoned to: _____ On _____ By _____



SAMPLE RECEIPT & REVIEW FORM

CHERYL

PM use only

Client: <u>CONN. YANKEE</u>		SDG/ARCOC/Work Order:	
Date Received: <u>5-17-06</u>		PM(A) Review (ensure non-conforming items are resolved prior to signing):	
Received By: <u>ALM</u>			

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.		✓		Circle Coolant # ice bags blue ice dry ice <u>none</u> other (describe)
3 Chain of custody documents included with shipment?	✓			
4 Sample containers intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?		✓		Sample ID's, containers affected and observed pH:
6 VOA vials free of headspace (defined as < 6mm bubble)?		✓		Sample ID's and containers affected:
7 Are Encore containers present? (If yes, immediately deliver to VOA laboratory)			✓	
8 Samples received within holding time?	✓			ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
11 Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?	✓			
14 Air Bill ,Tracking #'s, & Additional Comments	<u>7904 3113 8541</u>			

Suspected Hazard Information	Non-Regulated	Regulated	High Level	RSO RAD Receipt #
A Radiological Classification?	✓	✓		*If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
B PCB Regulated?	✓			Maximum Counts Observed*: <u>CPM 60</u>
C Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.	✓			Comments: Hazard Class Shipped: UN#:

PM (or PMA) review of Hazard classification:	Initials <u>CD</u>	Date: <u>5/17/06</u>
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List of current GEL Certifications as of 15 August 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)
Idaho	N/A
Illinois	200029
Indiana	C-SC-01
Kansas	E-10332
Kentucky	90129
Maryland	270
Massachusetts	M-SC012
Michigan	9903
Nevada	SC12
New Jersey	SC002
New York	11501
North Carolina	233
North Carolina Drinking W	45709
North Dakota	R-158
Oklahoma	9904
Pennsylvania	68-485
South Carolina	10120001/10585001/10120002
Tennessee	02934
Texas	TX213-2006A
U.S. Dept. of Agriculture	S-52597
US Army Corps of Engineer	N/A
Utah	8037697376 GEL
Vermont	N/A
Virginia	00151
Washington	C223

RADIOLOGICAL ANALYSIS

**Radiochemistry Case Narrative
Connecticut Yankee Atomic Power Co. (YANK)
Work Order 168404**

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:	555696
Prep Batch Number:	554650
Dry Soil Prep GL-RAD-A-021 Batch Number:	554649

Sample ID	Client ID
168404001	9106-0002-007F
168404002	9106-0002-011F
168404003	9106-0003-004F
168404004	9106-0003-015F
168404005	9106-0004-005F
168404006	9106-0004-015F
168404007	9106-0005-010F
168404008	9106-0005-014F
168404011	9106-0008-008F
168404012	9106-0009-002F
168404013	9106-0009-017F
168404014	9106-0010-001F
168404015	9106-0010-012F
1201153129	Method Blank (MB)
1201153130	168340011(9304-01-005C) Sample Duplicate (DUP)
1201153131	168340011(9304-01-005C) Matrix Spike (MS)
1201153132	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: 168340011 (9304-01-005C).

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 168404003 (9106-0003-004F) 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.

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 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:	557837
Prep Batch Number:	554650
Dry Soil Prep GL-RAD-A-021 Batch Number:	554649

Sample ID	Client ID
168404009	9106-0006-005F
168404010	9106-0008-006F
1201158316	Method Blank (MB)
1201158317	168404009(9106-0006-005F) Sample Duplicate (DUP)
1201158318	168404009(9106-0006-005F) Matrix Spike (MS)
1201158319	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: 168404009 (9106-0006-005F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Alphaspec Pu, Solid-ALL FSS
Analytical Method:	DOE EML HASL-300, Pu-11-RC Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	555697
Prep Batch Number:	554650
Dry Soil Prep GL-RAD-A-021 Batch Number:	554649

Sample ID	Client ID
168404001	9106-0002-007F
168404002	9106-0002-011F
168404003	9106-0003-004F
168404004	9106-0003-015F
168404005	9106-0004-005F
168404006	9106-0004-015F
168404007	9106-0005-010F
168404008	9106-0005-014F
168404009	9106-0006-005F
168404010	9106-0008-006F
168404011	9106-0008-008F
168404012	9106-0009-002F
168404013	9106-0009-017F
168404014	9106-0010-001F
168404015	9106-0010-012F
1201153133	Method Blank (MB)
1201153134	168340011(9304-01-005C) Sample Duplicate (DUP)
1201153135	168340011(9304-01-005C) Matrix Spike (MS)
1201153136	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: 168340011 (9304-01-005C).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:**Holding Time**

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:**NCR Documentation**

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Liquid Scint Pu241, Solid-ALL FSS
Analytical Method:	DOE EML HASL-300, Pu-11-RC Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	555698
Prep Batch Number:	554650
Dry Soil Prep GL-RAD-A-021 Batch Number:	554649

Sample ID	Client ID
168404001	9106-0002-007F
168404002	9106-0002-011F
168404003	9106-0003-004F
168404004	9106-0003-015F
168404005	9106-0004-005F
168404006	9106-0004-015F
168404007	9106-0005-010F
168404008	9106-0005-014F
168404009	9106-0006-005F
168404010	9106-0008-006F
168404011	9106-0008-008F
168404012	9106-0009-002F
168404013	9106-0009-017F
168404014	9106-0010-001F
168404015	9106-0010-012F
1201153137	Method Blank (MB)
1201153138	168340011(9304-01-005C) Sample Duplicate (DUP)
1201153139	168340011(9304-01-005C) Matrix Spike (MS)
1201153140	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-035 REV# 8.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 168340011 (9304-01-005C).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:**Holding Time**

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:**NCR Documentation**

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	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:	556350
Prep Batch Number:	554650
Dry Soil Prep GL-RAD-A-021 Batch Number:	554649

Sample ID	Client ID
168404003	9106-0003-004F
168404004	9106-0003-015F
168404012	9106-0009-002F
168404013	9106-0009-017F
168404014	9106-0010-001F
168404015	9106-0010-012F
1201154644	Method Blank (MB)
1201154645	168404003(9106-0003-004F) Sample Duplicate (DUP)
1201154646	168404003(9106-0003-004F) Matrix Spike (MS)
1201154647	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: 168404003 (9106-0003-004F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

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

Samples 1201154644 (MB), 1201154645 (9106-0003-004F), 1201154646 (9106-0003-004F), 1201154647 (LCS), 168404003 (9106-0003-004F), 168404004 (9106-0003-015F), 168404012 (9106-0009-002F), 168404013 (9106-0009-017F), 168404014 (9106-0010-001F) and 168404015 (9106-0010-012F) were dried and reweighed due to low matrix spike/laboratory control sample recovery.

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:	554580

Sample ID	Client ID
168404001	9106-0002-007F
168404002	9106-0002-011F
168404003	9106-0003-004F
168404004	9106-0003-015F
168404005	9106-0004-005F
168404006	9106-0004-015F
168404007	9106-0005-010F
168404008	9106-0005-014F
168404009	9106-0006-005F
168404010	9106-0008-006F
168404011	9106-0008-008F
168404012	9106-0009-002F
168404013	9106-0009-017F
168404014	9106-0010-001F
168404015	9106-0010-012F
1201150561	Method Blank (MB)
1201150562	168340012(9304-02-003C) Sample Duplicate (DUP)
1201150563	168340012(9304-02-003C) Matrix Spike (MS)
1201150564	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: 168340012 (9304-02-003C).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Liquid Scint Fe55, Solid-ALL FSS
Analytical Method:	DOE RESL Fe-1, Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	555722
Prep Batch Number:	554650
Dry Soil Prep GL-RAD-A-021 Batch Number:	554649

Sample ID	Client ID
168404001	9106-0002-007F
168404002	9106-0002-011F
168404003	9106-0003-004F
168404004	9106-0003-015F
168404005	9106-0004-005F
168404006	9106-0004-015F
168404007	9106-0005-010F
168404008	9106-0005-014F
168404009	9106-0006-005F
168404010	9106-0008-006F
168404011	9106-0008-008F
168404012	9106-0009-002F
168404013	9106-0009-017F
168404014	9106-0010-001F
168404015	9106-0010-012F
1201153222	Method Blank (MB)
1201153223	168340012(9304-02-003C) Sample Duplicate (DUP)
1201153224	168340012(9304-02-003C) Matrix Spike (MS)
1201153225	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: 168340012 (9304-02-003C).

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:	555723
Prep Batch Number:	554650
Dry Soil Prep GL-RAD-A-021 Batch Number:	554649

Sample ID	Client ID
168404001	9106-0002-007F
168404002	9106-0002-011F
168404003	9106-0003-004F
168404004	9106-0003-015F
168404005	9106-0004-005F
168404006	9106-0004-015F
168404007	9106-0005-010F
168404008	9106-0005-014F
168404009	9106-0006-005F
1201153226	Method Blank (MB)
1201153227	168340012(9304-02-003C) Sample Duplicate (DUP)
1201153228	168340012(9304-02-003C) Matrix Spike (MS)
1201153229	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: 168340012 (9304-02-003C).

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: 554582

Sample ID	Client ID
168404001	9106-0002-007F
168404002	9106-0002-011F
168404003	9106-0003-004F
168404004	9106-0003-015F
168404005	9106-0004-005F
168404006	9106-0004-015F
168404007	9106-0005-010F
168404008	9106-0005-014F
168404009	9106-0006-005F
168404010	9106-0008-006F
168404011	9106-0008-008F
168404012	9106-0009-002F
168404013	9106-0009-017F
168404014	9106-0010-001F
168404015	9106-0010-012F
1201150569	Method Blank (MB)
1201150570	168340011(9304-01-005C) Sample Duplicate (DUP)
1201150571	168340011(9304-01-005C) Matrix Spike (MS)
1201150572	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# 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: 168340011 (9304-01-005C).

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 168404010 (9106-0008-006F) 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 C14, Solid All,FSS
Analytical Method: EPA EERF C-01 Modified
Analytical Batch Number: 554583

Sample ID	Client ID
168404001	9106-0002-007F
168404002	9106-0002-011F
168404003	9106-0003-004F
168404004	9106-0003-015F
168404005	9106-0004-005F
168404006	9106-0004-015F
168404007	9106-0005-010F
168404008	9106-0005-014F
168404009	9106-0006-005F
168404010	9106-0008-006F
168404011	9106-0008-008F
168404012	9106-0009-002F
168404013	9106-0009-017F
168404014	9106-0010-001F
168404015	9106-0010-012F
1201150573	Method Blank (MB)
1201150574	168404003(9106-0003-004F) Sample Duplicate (DUP)
1201150575	168404003(9106-0003-004F) Matrix Spike (MS)
1201150576	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: 168404003 (9106-0003-004F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:**Holding Time**

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:**NCR Documentation**

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. 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:

Kath Bellatt 8/22/66

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: 168404 GEL Work Order: 168404

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.
- ND The analyte concentration is not detected above the detection limit.

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

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

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



Reviewed by _____

GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis

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

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

Report Date: August 21, 2006

Client Sample ID: 9106-0002-007F
Sample ID: 168404001
Matrix: SE
Collect Date: 18-MAY-06
Receive Date: 02-JUN-06
Collector: Client
Moisture: 20.9%

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													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	0.0762	+/-0.102	0.00	+/-0.102	0.0956	pCi/g	BXL1	08/11/06	1336	555696	1	
Curium-242	U	0.00	+/-0.0995	0.00	+/-0.0995	0.138	pCi/g						
Curium-243/244	U	-0.00853	+/-0.0717	0.0405	+/-0.0717	0.177	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	0.199	+/-0.228	0.181	+/-0.229	0.444	pCi/g	BXL1	08/11/06	1633	555697	2	
Plutonium-239/240	U	0.0341	+/-0.129	0.120	+/-0.129	0.323	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	10.0	+/-6.64	5.08	+/-6.72	10.7	pCi/g	BXL1	08/16/06	1220	555698	3	
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid-HTD2,ALL FSS</i>													
Tritium	U	4.17	+/-6.67	5.28	+/-6.67	11.4	pCi/g	DFA1	08/09/06	1128	554582	4	
<i>Liquid Scint C14, Solid All,FSS</i>													
Carbon-14	U	0.0813	+/-0.0797	0.0634	+/-0.0797	0.132	pCi/g	ATH2	08/09/06	0324	554583	5	
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	9.90	+/-48.1	32.0	+/-48.1	65.9	pCi/g	MXP1	08/12/06	1633	555722	6	
<i>Liquid Scint Ni63, Solid-ALL FSS</i>													
Nickel-63	U	7.02	+/-6.39	5.18	+/-6.40	10.6	pCi/g	MXP1	08/11/06	0738	555723	7	
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.139	+/-0.213	0.173	+/-0.213	0.360	pCi/g	EGD1	08/11/06	2027	554580	8	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	EPA 906.0 Modified

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

Report Date: August 21, 2006

Client Sample ID: 9106-0002-007F
Sample ID: 168404001

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
5	EPA EERF C-01 Modified												
6	DOE RESL Fe-1, Modified												
7	DOE RESL Ni-1, Modified												
8	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	80	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	100	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	98	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	75	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	76	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	74	(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
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East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: August 21, 2006

Client Sample ID: 9106-0002-011F
Sample ID: 168404002
Matrix: SE
Collect Date: 19-MAY-06
Receive Date: 02-JUN-06
Collector: Client
Moisture: 17.4%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	0.120	+/-0.154	0.0683	+/-0.155	0.251	pCi/g		BXL1	08/11/06	1336	555696	1
Curium-242	U	-0.0146	+/-0.122	0.0692	+/-0.123	0.303	pCi/g						
Curium-243/244	U	-0.0103	+/-0.0861	0.0487	+/-0.0862	0.213	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	0.0121	+/-0.125	0.127	+/-0.125	0.344	pCi/g		BXL1	08/11/06	1633	555697	2
Plutonium-239/240	U	0.0254	+/-0.0675	0.0381	+/-0.0675	0.167	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	6.72	+/-7.02	5.56	+/-7.05	11.7	pCi/g		BXL1	08/16/06	1237	555698	3
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid-HTD2,ALL FSS</i>													
Tritium	U	-0.521	+/-7.03	5.94	+/-7.03	12.8	pCi/g		DFA1	08/09/06	1143	554582	4
<i>Liquid Scint C14, Solid All,FSS</i>													
Carbon-14	U	0.023	+/-0.0828	0.0685	+/-0.0828	0.143	pCi/g		ATH2	08/09/06	0426	554583	5
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	3.93	+/-47.7	31.9	+/-47.7	65.7	pCi/g		MXP1	08/12/06	1649	555722	6
<i>Liquid Scint Ni63, Solid-ALL FSS</i>													
Nickel-63	U	7.52	+/-5.81	4.68	+/-5.81	9.60	pCi/g		MXP1	08/11/06	0825	555723	7
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.173	+/-0.203	0.164	+/-0.203	0.341	pCi/g		EGD1	08/11/06	2043	554580	8

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	EPA 906.0 Modified
5	EPA EERF C-01 Modified

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Certificate of Analysis

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Address : 362 Injun Hollow Rd

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

Report Date: August 21, 2006

Client Sample ID: 9106-0002-011F
Sample ID: 168404002

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
6	DOE RESL Fe-1, Modified												
7	DOE RESL Ni-1, Modified												
8	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	76	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	100	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	88	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	72	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	76	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	79	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: August 21, 2006

Client Sample ID: 9106-0003-004F
Sample ID: 168404003
Matrix: SE
Collect Date: 25-APR-06
Receive Date: 05-MAY-06
Collector: Client
Moisture: 23.5%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	-0.027	+/-0.117	0.153	+/-0.117	0.488	pCi/g	BXL1	08/13/06	0819	555696	1	
Curium-242	U	0.112	+/-0.315	0.245	+/-0.315	0.781	pCi/g						
Curium-243/244	U	0.0217	+/-0.206	0.205	+/-0.206	0.594	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	0.061	+/-0.189	0.176	+/-0.189	0.449	pCi/g	BXL1	08/11/06	1633	555697	2	
Plutonium-239/240	U	0.0551	+/-0.103	0.0584	+/-0.103	0.215	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	8.31	+/-5.73	4.40	+/-5.78	9.25	pCi/g	BXL1	08/16/06	1253	555698	3	
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.00343	+/-0.0203	0.0172	+/-0.0203	0.036	pCi/g	BXF1	08/14/06	0834	556350	4	
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid-HTD2,ALL FSS</i>													
Tritium	U	0.603	+/-8.25	6.87	+/-8.25	14.8	pCi/g	DFA1	08/09/06	1159	554582	5	
<i>Liquid Scint C14, Solid All,FSS</i>													
Carbon-14	U	0.0937	+/-0.0813	0.0642	+/-0.0813	0.134	pCi/g	ATH2	08/09/06	0529	554583	6	
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	7.68	+/-51.2	34.2	+/-51.2	70.4	pCi/g	MXP1	08/12/06	1706	555722	7	
<i>Liquid Scint Ni63, Solid-ALL FSS</i>													
Nickel-63	U	5.74	+/-7.12	6.58	+/-7.13	13.6	pCi/g	MXP1	08/11/06	0912	555723	8	
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	-0.0643	+/-0.198	0.169	+/-0.198	0.351	pCi/g	EGD1	08/11/06	2059	554580	9	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified

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

Report Date: August 21, 2006

Client Sample ID: 9106-0003-004F
Sample ID: 168404003

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
3		DOE EML HASL-300, Pu-11-RC Modified											
4		EPA 905.0 Modified											
5		EPA 906.0 Modified											
6		EPA EERF C-01 Modified											
7		DOE RESL Fe-1, Modified											
8		DOE RESL Ni-1, Modified											
9		DOE EML HASL-300, Tc-02-RC Modified											

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	42	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	92	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	113	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	59	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	71	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	83	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	76	(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

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Client Sample ID: 9106-0003-004F
Sample ID: 168404003

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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The above sample is reported on a dry weight basis.

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

Report Date: August 21, 2006

Client Sample ID: 9106-0003-015F
Sample ID: 168404004
Matrix: SE
Collect Date: 25-APR-06
Receive Date: 05-MAY-06
Collector: Client
Moisture: 22.5%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	0.0456	+/-0.155	0.139	+/-0.155	0.387	pCi/g		BXL1	08/11/06	1434	555696	1
Curium-242	U	0.113	+/-0.181	0.0733	+/-0.182	0.321	pCi/g						
Curium-243/244	U	0.180	+/-0.239	0.181	+/-0.240	0.472	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	0.0196	+/-0.121	0.118	+/-0.121	0.324	pCi/g		BXL1	08/11/06	1633	555697	2
Plutonium-239/240	U	0.0326	+/-0.0639	0.00	+/-0.064	0.0884	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	6.63	+/-6.19	4.86	+/-6.22	10.2	pCi/g		BXL1	08/16/06	1309	555698	3
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.00477	+/-0.0216	0.0179	+/-0.0216	0.0375	pCi/g		BXF1	08/14/06	0834	556350	4
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid-HTD2, ALL FSS</i>													
Tritium	U	1.03	+/-7.06	5.85	+/-7.06	12.6	pCi/g		DFA1	08/09/06	1215	554582	5
<i>Liquid Scint C14, Solid All, FSS</i>													
Carbon-14		0.156	+/-0.0912	0.0699	+/-0.0913	0.146	pCi/g		ATH2	08/09/06	0632	554583	6
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	-9.99	+/-42.7	28.7	+/-42.7	59.2	pCi/g		MXP1	08/12/06	1722	555722	7
<i>Liquid Scint Ni63, Solid-ALL FSS</i>													
Nickel-63	U	0.939	+/-10.1	10.3	+/-10.1	21.6	pCi/g		MXP1	08/11/06	1001	555723	8
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.237	+/-0.213	0.170	+/-0.213	0.353	pCi/g		EGD1	08/11/06	2115	554580	9

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified

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

Report Date: August 21, 2006

Client Sample ID: 9106-0003-015F
Sample ID: 168404004

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
3		DOE EML HASL-300, Pu-11-RC Modified											
4		EPA 905.0 Modified											
5		EPA 906.0 Modified											
6		EPA EERF C-01 Modified											
7		DOE RESL Fe-1, Modified											
8		DOE RESL Ni-1, Modified											
9		DOE EML HASL-300, Tc-02-RC Modified											

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	78	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	94	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	101	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	58	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	75	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	62	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	75	(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

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

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

Report Date: August 21, 2006

Client Sample ID: 9106-0003-015F
Sample ID: 168404004

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
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The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis

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

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

Report Date: August 21, 2006

Client Sample ID: 9106-0004-005F
Sample ID: 168404005
Matrix: SE
Collect Date: 03-MAY-06
Receive Date: 12-MAY-06
Collector: Client
Moisture: 15.4%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	-0.036	+/-0.123	0.157	+/-0.123	0.437	pCi/g	BXL1	08/11/06	1434	555696	1	
Curium-242	U	-0.0169	+/-0.033	0.080	+/-0.0331	0.350	pCi/g						
Curium-243/244	U	-0.0129	+/-0.227	0.247	+/-0.227	0.619	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	-0.0217	+/-0.163	0.181	+/-0.163	0.444	pCi/g	BXL1	08/11/06	1633	555697	2	
Plutonium-239/240	U	-0.0708	+/-0.0791	0.128	+/-0.0795	0.337	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	9.52	+/-6.00	4.57	+/-6.07	9.61	pCi/g	BXL1	08/16/06	1326	555698	3	
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid-HTD2,ALL FSS</i>													
Tritium	U	0.854	+/-5.88	4.87	+/-5.88	10.5	pCi/g	DFA1	08/09/06	1231	554582	4	
<i>Liquid Scint C14, Solid All,FSS</i>													
Carbon-14		0.347	+/-0.097	0.0674	+/-0.0972	0.141	pCi/g	ATH2	08/09/06	0734	554583	5	
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	-1.57	+/-46.0	30.7	+/-46.0	63.2	pCi/g	MXP1	08/12/06	1738	555722	6	
<i>Liquid Scint Ni63, Solid-ALL FSS</i>													
Nickel-63	U	6.39	+/-7.62	7.40	+/-7.62	15.5	pCi/g	MXP1	08/11/06	1017	555723	7	
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.0198	+/-0.187	0.156	+/-0.187	0.324	pCi/g	EGD1	08/11/06	2131	554580	8	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	EPA 906.0 Modified
5	EPA EERF C-01 Modified

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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: August 21, 2006

Client Sample ID: 9106-0004-005F
Sample ID: 168404005

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
6	DOE RESL Fe-1, Modified												
7	DOE RESL Ni-1, Modified												
8	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	65	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	95	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	105	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	78	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	80	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	80	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: August 21, 2006

Client Sample ID: 9106-0004-015F
Sample ID: 168404006
Matrix: SE
Collect Date: 03-MAY-06
Receive Date: 12-MAY-06
Collector: Client
Moisture: 26.5%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	0.0823	+/-0.203	0.178	+/-0.203	0.469	pCi/g		BXL1	08/11/06	1434	555696	1
Curium-242	U	-0.0154	+/-0.0301	0.0729	+/-0.0302	0.319	pCi/g						
Curium-243/244	U	-0.0994	+/-0.251	0.300	+/-0.251	0.713	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	0.0466	+/-0.213	0.210	+/-0.213	0.521	pCi/g		BXL1	08/11/06	1633	555697	2
Plutonium-239/240	U	-0.142	+/-0.108	0.191	+/-0.109	0.483	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	6.64	+/-6.53	5.16	+/-6.57	10.8	pCi/g		BXL1	08/16/06	1342	555698	3
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid-HTD2,ALL FSS</i>													
Tritium	U	-2.9	+/-7.59	6.60	+/-7.59	14.2	pCi/g		DFA1	08/09/06	1247	554582	4
<i>Liquid Scint C14, Solid All,FSS</i>													
Carbon-14	U	0.0352	+/-0.0868	0.0713	+/-0.0868	0.149	pCi/g		ATH2	08/09/06	0837	554583	5
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	1.88	+/-46.8	31.3	+/-46.8	64.4	pCi/g		MXP1	08/12/06	1754	555722	6
<i>Liquid Scint Ni63, Solid-ALL FSS</i>													
Nickel-63	U	3.88	+/-7.46	7.40	+/-7.46	15.5	pCi/g		MXP1	08/11/06	1033	555723	7
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.0894	+/-0.198	0.163	+/-0.198	0.338	pCi/g		EGD1	08/11/06	2147	554580	8

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	EPA 906.0 Modified
5	EPA EERF C-01 Modified

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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: August 21, 2006

Client Sample ID: 9106-0004-015F
Sample ID: 168404006

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
6	DOE RESL Fe-1, Modified												
7	DOE RESL Ni-1, Modified												
8	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	72	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	72	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	94	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	73	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	80	(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.

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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: August 21, 2006

Client Sample ID: 9106-0005-010F
Sample ID: 168404007
Matrix: SE
Collect Date: 02-MAY-06
Receive Date: 09-MAY-06
Collector: Client
Moisture: 56.2%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	-0.128	+/-0.0939	0.142	+/-0.0942	0.385	pCi/g	BXL1	08/11/06	1434	555696	1	
Curium-242	U	-0.0115	+/-0.128	0.147	+/-0.128	0.450	pCi/g						
Curium-243/244	U	-0.0333	+/-0.122	0.149	+/-0.122	0.401	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	0.0548	+/-0.169	0.158	+/-0.170	0.403	pCi/g	BXL1	08/11/06	1633	555697	2	
Plutonium-239/240	U	0.0195	+/-0.121	0.117	+/-0.121	0.322	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	10.4	+/-6.89	5.27	+/-6.97	11.1	pCi/g	BXL1	08/16/06	1358	555698	3	
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid-HTD2,ALL FSS</i>													
Tritium	U	0.00	+/-6.86	5.76	+/-6.86	12.4	pCi/g	DFA1	08/09/06	1303	554582	4	
<i>Liquid Scint C14, Solid All,FSS</i>													
Carbon-14	U	0.0636	+/-0.0801	0.0644	+/-0.0801	0.135	pCi/g	ATH2	08/09/06	1017	554583	5	
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	36.1	+/-44.1	28.7	+/-44.1	59.0	pCi/g	MXP1	08/12/06	1811	555722	6	
<i>Liquid Scint Ni63, Solid-ALL FSS</i>													
Nickel-63	U	7.26	+/-10.2	10.0	+/-10.2	20.9	pCi/g	MXP1	08/11/06	1049	555723	7	
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	-0.05	+/-0.199	0.169	+/-0.199	0.351	pCi/g	EGD1	08/11/06	2203	554580	8	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	EPA 906.0 Modified
5	EPA EERF C-01 Modified

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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: August 21, 2006

Client Sample ID: 9106-0005-010F
Sample ID: 168404007

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
6		DOE RESL Fe-1, Modified											
7		DOE RESL Ni-1, Modified											
8		DOE EML HASL-300, Tc-02-RC Modified											

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	85	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	91	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	92	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	81	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	64	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	77	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: August 21, 2006

Client Sample ID: 9106-0005-014F
Sample ID: 168404008
Matrix: SE
Collect Date: 02-MAY-06
Receive Date: 09-MAY-06
Collector: Client
Moisture: 32.3%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	0.00591	+/-0.219	0.231	+/-0.219	0.608	pCi/g		BXL1	08/11/06	1434	555696	1
Curium-242	U	-0.04	+/-0.0554	0.134	+/-0.0557	0.494	pCi/g						
Curium-243/244	U	0.0634	+/-0.261	0.249	+/-0.261	0.646	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	-0.0694	+/-0.106	0.160	+/-0.106	0.434	pCi/g		BXL1	08/11/06	1633	555697	2
Plutonium-239/240	U	-0.0287	+/-0.098	0.127	+/-0.0981	0.369	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	4.68	+/-8.01	6.48	+/-8.02	13.6	pCi/g		BXL1	08/16/06	1415	555698	3
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid-HTD2,ALL FSS</i>													
Tritium	U	6.02	+/-6.38	4.90	+/-6.38	10.6	pCi/g		DFA1	08/09/06	1319	554582	4
<i>Liquid Scint C14, Solid All,FSS</i>													
Carbon-14	U	0.0892	+/-0.0827	0.0655	+/-0.0827	0.137	pCi/g		ATH2	08/09/06	1424	554583	5
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	19.8	+/-46.3	30.6	+/-46.3	62.9	pCi/g		MXP1	08/12/06	1827	555722	6
<i>Liquid Scint Ni63, Solid-ALL FSS</i>													
Nickel-63	U	5.41	+/-7.91	7.77	+/-7.91	16.2	pCi/g		MXP1	08/11/06	1106	555723	7
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	-0.134	+/-0.192	0.167	+/-0.192	0.346	pCi/g		EGD1	08/11/06	2218	554580	8

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	EPA 906.0 Modified
5	EPA EERF C-01 Modified

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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: August 21, 2006

Client Sample ID: 9106-0005-014F
Sample ID: 168404008

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
6		DOE RESL Fe-1, Modified											
7		DOE RESL Ni-1, Modified											
8		DOE EML HASL-300, Tc-02-RC Modified											

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	50	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	61	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	74	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	76	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	76	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	75	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: August 21, 2006

Client Sample ID: 9106-0006-005F
Sample ID: 168404009
Matrix: SE
Collect Date: 28-APR-06
Receive Date: 12-MAY-06
Collector: Client
Moisture: 16.5%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	-0.0851	+/-0.136	0.106	+/-0.136	0.390	pCi/g		BXL1	08/16/06	0949	557837	1
Curium-242	U	-0.0253	+/-0.0495	0.120	+/-0.0496	0.525	pCi/g						
Curium-243/244	U	-0.0479	+/-0.0542	0.131	+/-0.0545	0.443	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	0.0183	+/-0.113	0.110	+/-0.113	0.303	pCi/g		BXL1	08/11/06	1633	555697	3
Plutonium-239/240	U	0.00122	+/-0.0662	0.0694	+/-0.0662	0.221	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	4.43	+/-5.83	4.67	+/-5.85	9.82	pCi/g		BXL1	08/16/06	1431	555698	4
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid-HTD2,ALL FSS</i>													
Tritium	U	-2.02	+/-6.67	5.76	+/-6.67	12.4	pCi/g		DFA1	08/09/06	1335	554582	5
<i>Liquid Scint C14, Solid All,FSS</i>													
Carbon-14		0.142	+/-0.0798	0.061	+/-0.0799	0.127	pCi/g		ATH2	08/09/06	1719	554583	6
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	12.6	+/-47.6	31.7	+/-47.6	65.3	pCi/g		MXP1	08/12/06	1843	555722	7
<i>Liquid Scint Ni63, Solid-ALL FSS</i>													
Nickel-63	U	7.70	+/-9.56	9.31	+/-9.56	19.5	pCi/g		MXP1	08/11/06	1122	555723	8
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	-0.00659	+/-0.185	0.156	+/-0.185	0.323	pCi/g		EGD1	08/11/06	2234	554580	9

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

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	EPA 906.0 Modified

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: August 21, 2006

Client Sample ID: 9106-0006-005F
Sample ID: 168404009

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
6	EPA EERF C-01 Modified												
7	DOE RESL Fe-I, Modified												
8	DOE RESL Ni-I, Modified												
9	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	76	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	93	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	105	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	72	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	64	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	81	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: August 21, 2006

Client Sample ID: 9106-0008-006F
Sample ID: 168404010
Matrix: SE
Collect Date: 05-MAY-06
Receive Date: 26-MAY-06
Collector: Client
Moisture: 34.8%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	0.129	+/-0.195	0.0758	+/-0.196	0.332	pCi/g		BXL1	08/16/06	0949	557837	1
Curium-242	U	0.103	+/-0.202	0.00	+/-0.203	0.280	pCi/g						
Curium-243/244	U	-0.0161	+/-0.0316	0.0766	+/-0.0317	0.335	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	-0.0276	+/-0.0711	0.0967	+/-0.0712	0.275	pCi/g		BXL1	08/11/06	1633	555697	3
Plutonium-239/240	U	0.00359	+/-0.113	0.118	+/-0.113	0.317	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241		14.9	+/-6.37	4.64	+/-6.51	9.75	pCi/g		BXL1	08/16/06	1447	555698	4
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid-HTD2,ALL FSS</i>													
Tritium	U	0.00	+/-6.06	5.09	+/-6.06	10.7	pCi/g		DFA1	08/10/06	2150	554582	5
<i>Liquid Scint C14, Solid All,FSS</i>													
Carbon-14	U	0.107	+/-0.0846	0.0664	+/-0.0846	0.139	pCi/g		ATH2	08/09/06	1822	554583	6
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	15.1	+/-41.4	27.5	+/-41.4	56.6	pCi/g		MXP1	08/12/06	1900	555722	7
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.258	+/-0.225	0.179	+/-0.225	0.373	pCi/g		EGD1	08/11/06	2251	554580	8

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

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	EPA 906.0 Modified
6	EPA EERF C-01 Modified
7	DOE RESL Fe-1, Modified

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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: August 21, 2006

Client Sample ID: 9106-0008-006F
Sample ID: 168404010

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
8		DOE EML HASL-300, Tc-02-RC Modified											
Surrogate/Tracer recovery	Test		Recovery%		Acceptable Limits								
Americium-243	Alphaspec Am241, Cm, Solid ALL		77		(15%-125%)								
Plutonium-242	Alphaspec Pu, Solid-ALL FSS		94		(15%-125%)								
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS		103		(25%-125%)								
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS		72		(15%-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
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: August 21, 2006

Client Sample ID: 9106-0008-008F
Sample ID: 168404011
Matrix: SE
Collect Date: 08-MAY-06
Receive Date: 26-MAY-06
Collector: Client
Moisture: 35.7%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	0.0969	+/-0.192	0.152	+/-0.193	0.426	pCi/g	BXL1	08/11/06	1434	555696	1	
Curium-242	U	-0.0482	+/-0.142	0.132	+/-0.142	0.446	pCi/g						
Curium-243/244	U	-0.0576	+/-0.202	0.240	+/-0.203	0.603	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	-0.0397	+/-0.096	0.125	+/-0.096	0.328	pCi/g	BXL1	08/11/06	1633	555697	2	
Plutonium-239/240	U	-0.0315	+/-0.114	0.137	+/-0.114	0.353	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241		11.5	+/-6.72	5.08	+/-6.80	10.7	pCi/g	BXL1	08/16/06	1504	555698	3	
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid-HTD2,ALL FSS</i>													
Tritium	U	0.00	+/-5.92	4.97	+/-5.92	10.7	pCi/g	DFA1	08/09/06	1407	554582	4	
<i>Liquid Scint C14, Solid All,FSS</i>													
Carbon-14	U	-0.0238	+/-0.0745	0.0636	+/-0.0745	0.133	pCi/g	ATH2	08/09/06	1924	554583	5	
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	-10.7	+/-40.9	27.5	+/-40.9	56.8	pCi/g	MXPI	08/12/06	1916	555722	6	
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.0956	+/-0.211	0.174	+/-0.211	0.361	pCi/g	EGD1	08/11/06	2307	554580	7	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	EPA 906.0 Modified
5	EPA EERF C-01 Modified
6	DOE RESL Fe-1, Modified

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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: August 21, 2006

Client Sample ID: 9106-0008-008F
Sample ID: 168404011

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
7		DOE EML HASL-300, Tc-02-RC Modified											
Surrogate/Tracer recovery	Test	Recovery%		Acceptable Limits									
Americium-243	Alphaspec Am241, Cm, Solid ALL	65		(15%-125%)									
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	98		(15%-125%)									
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	96		(25%-125%)									
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	76		(15%-125%)									
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	74		(15%-125%)									

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: August 21, 2006

Client Sample ID: 9106-0009-002F
Sample ID: 168404012
Matrix: SE
Collect Date: 11-MAY-06
Receive Date: 08-JUN-06
Collector: Client
Moisture: 33%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	-0.00144	+/-0.155	0.166	+/-0.155	0.458	pCi/g		BXL1	08/11/06	1434	555696	1
Curium-242	U	0.0192	+/-0.145	0.135	+/-0.145	0.455	pCi/g						
Curium-243/244	U	0.013	+/-0.268	0.281	+/-0.268	0.687	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	-0.00587	+/-0.0493	0.0279	+/-0.0494	0.122	pCi/g		BXL1	08/11/06	1632	555697	2
Plutonium-239/240	U	0.0186	+/-0.0492	0.0278	+/-0.0493	0.122	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241		13.6	+/-6.90	5.13	+/-7.01	10.8	pCi/g		BXL1	08/16/06	1520	555698	3
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.0151	+/-0.0146	0.0114	+/-0.0146	0.0242	pCi/g		BXF1	08/14/06	0834	556350	4
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid-HTD2, ALL FSS</i>													
Tritium	U	4.12	+/-8.36	6.70	+/-8.36	14.5	pCi/g		DFA1	08/09/06	1422	554582	5
<i>Liquid Scint C14, Solid All, FSS</i>													
Carbon-14	U	0.046	+/-0.0755	0.0613	+/-0.0755	0.128	pCi/g		ATH2	08/09/06	2027	554583	6
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	12.9	+/-40.6	26.8	+/-40.6	55.2	pCi/g		MXPI	08/12/06	1932	555722	7
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.078	+/-0.203	0.168	+/-0.203	0.348	pCi/g		EGD1	08/11/06	2323	554580	8

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	EPA 905.0 Modified

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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: August 21, 2006

Client Sample ID: 9106-0009-002F
Sample ID: 168404012

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
5	EPA 906.0 Modified												
6	EPA EERF C-01 Modified												
7	DOE RESL Fe-1, Modified												
8	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	61	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	98	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	94	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	69	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	81	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	75	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: August 21, 2006

Client Sample ID: 9106-0009-017F
Sample ID: 168404013
Matrix: SE
Collect Date: 15-MAY-06
Receive Date: 08-JUN-06
Collector: Client
Moisture: 28.4%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	0.0755	+/-0.242	0.230	+/-0.243	0.574	pCi/g	BXL1	08/11/06	1434	555696	1	
Curium-242	U	0.0957	+/-0.220	0.171	+/-0.220	0.509	pCi/g						
Curium-243/244	U	-0.073	+/-0.214	0.256	+/-0.214	0.627	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	-0.00629	+/-0.0529	0.0299	+/-0.0529	0.131	pCi/g	BXL1	08/11/06	1632	555697	2	
Plutonium-239/240	U	0.0262	+/-0.0513	0.00	+/-0.0514	0.0709	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241		13.3	+/-6.66	4.95	+/-6.77	10.4	pCi/g	BXL1	08/16/06	1536	555698	3	
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.0205	+/-0.0151	0.0116	+/-0.0151	0.0246	pCi/g	BXF1	08/14/06	0833	556350	4	
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid-HTD2, ALL FSS</i>													
Tritium	U	0.583	+/-7.98	6.65	+/-7.98	14.4	pCi/g	DFA1	08/09/06	1438	554582	5	
<i>Liquid Scint C14, Solid All, FSS</i>													
Carbon-14	U	0.0271	+/-0.0759	0.0625	+/-0.0759	0.131	pCi/g	ATH2	08/09/06	2129	554583	6	
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	-61.9	+/-150	102	+/-150	210	pCi/g	MXP1	08/12/06	1949	555722	7	
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.0628	+/-0.200	0.165	+/-0.200	0.343	pCi/g	EGD1	08/11/06	2338	554580	8	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	EPA 905.0 Modified

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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: August 21, 2006

Client Sample ID: 9106-0009-017F
Sample ID: 168404013

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
5	EPA 906.0 Modified												
6	EPA EERF C-01 Modified												
7	DOE RESL Fe-I, Modified												
8	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	64	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	91	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	96	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	72	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	73	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	79	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: August 21, 2006

Client Sample ID: 9106-0010-001F
Sample ID: 168404014
Matrix: SE
Collect Date: 04-MAY-06
Receive Date: 17-MAY-06
Collector: Client
Moisture: 27.3%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	0.00677	+/-0.227	0.238	+/-0.227	0.628	pCi/g	BXL1	08/11/06	1434	555696	1	
Curium-242	U	0.0854	+/-0.167	0.00	+/-0.168	0.231	pCi/g						
Curium-243/244	U	0.0361	+/-0.242	0.241	+/-0.242	0.634	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	0.173	+/-0.181	0.143	+/-0.182	0.331	pCi/g	BXL1	08/11/06	2250	555697	2	
Plutonium-239/240	U	-0.0342	+/-0.0865	0.0951	+/-0.0866	0.235	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241		13.0	+/-6.44	4.78	+/-6.54	10.0	pCi/g	BXL1	08/16/06	1553	555698	3	
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.0128	+/-0.0141	0.0125	+/-0.0141	0.0262	pCi/g	BXF1	08/14/06	0833	556350	4	
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid-HTD2,ALL FSS</i>													
Tritium	U	0.548	+/-7.50	6.25	+/-7.50	13.5	pCi/g	DFA1	08/09/06	1454	554582	5	
<i>Liquid Scint C14, Solid All,FSS</i>													
Carbon-14	U	0.0555	+/-0.0809	0.0655	+/-0.0809	0.137	pCi/g	ATH2	08/09/06	2232	554583	6	
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	-18.1	+/-47.6	32.3	+/-47.6	66.6	pCi/g	MXP1	08/12/06	2005	555722	7	
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.134	+/-0.205	0.167	+/-0.205	0.347	pCi/g	EGD1	08/11/06	2354	554580	8	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	EPA 905.0 Modified

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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: August 21, 2006

Client Sample ID: 9106-0010-001F
Sample ID: 168404014

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
5	EPA 906.0 Modified												
6	EPA EERF C-01 Modified												
7	DOE RESL Fe-1, Modified												
8	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	50	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	85	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	99	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	74	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	70	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	75	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: August 21, 2006

Client Sample ID: 9106-0010-012F
Sample ID: 168404015
Matrix: SE
Collect Date: 04-MAY-06
Receive Date: 17-MAY-06
Collector: Client
Moisture: 28.1%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	0.110	+/-0.184	0.140	+/-0.184	0.386	pCi/g	BXL1	08/11/06	1434	555696	1	
Curium-242	U	-0.0547	+/-0.141	0.192	+/-0.141	0.544	pCi/g						
Curium-243/244	U	-0.126	+/-0.184	0.245	+/-0.185	0.597	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	-0.00157	+/-0.126	0.122	+/-0.126	0.291	pCi/g	BXL1	08/11/06	2250	555697	2	
Plutonium-239/240	U	0.0867	+/-0.0869	0.0406	+/-0.0872	0.128	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	8.31	+/-6.16	4.77	+/-6.21	10.0	pCi/g	BXL1	08/16/06	1609	555698	3	
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.00771	+/-0.0144	0.0124	+/-0.0144	0.0263	pCi/g	BXF1	08/14/06	0833	556350	4	
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid-HTD2, ALL FSS</i>													
Tritium	U	0.896	+/-6.17	5.11	+/-6.17	11.0	pCi/g	DFA1	08/09/06	1510	554582	5	
<i>Liquid Scint C14, Solid All, FSS</i>													
Carbon-14	U	0.0162	+/-0.0763	0.0633	+/-0.0763	0.132	pCi/g	ATH2	08/09/06	2334	554583	6	
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	23.3	+/-49.3	32.5	+/-49.3	67.0	pCi/g	MXP1	08/12/06	2021	555722	7	
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.0577	+/-0.206	0.171	+/-0.206	0.354	pCi/g	EGD1	08/12/06	0010	554580	8	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	EPA 905.0 Modified

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: August 21, 2006

Client Sample ID: 9106-0010-012F
Sample ID: 168404015

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
5	EPA 906.0 Modified												
6	EPA EERF C-01 Modified												
7	DOE RESL Fe-1, Modified												
8	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	81	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	91	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	99	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	68	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	74	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	75	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

QUALITY CONTROL DATA

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Report Date: August 21, 2006

Page 1 of 6

Client : Connecticut Yankee Atomic Power
362 Injun Hollow Rd

Contact: East Hampton, Connecticut
Mr. Jack McCarthy

Workorder: 168404

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch 555696											
QC1201153130 168340011 DUP											
Americium-241	U	-0.000522	U	0.0578	pCi/g	204		(0% - 100%)	BXL1	08/11/06	14:34
	Uncert:	+/-0.0385		+/-0.278							
	TPU:	+/-0.0385		+/-0.279							
Curium-242	U	0.00	U	-0.0405	pCi/g	200		(0% - 100%)			
	Uncert:	+/-0.0756		+/-0.0562							
	TPU:	+/-0.0756		+/-0.0565							
Curium-243/244	U	-0.0177	U	-0.0517	pCi/g	98		(0% - 100%)			
	Uncert:	+/-0.0764		+/-0.257							
	TPU:	+/-0.0765		+/-0.257							
QC1201153132 LCS											
Americium-241	12.8			12.8	pCi/g		100	(75%-125%)			
	Uncert:			+/-1.84							
	TPU:			+/-2.70							
Curium-242			U	-0.0328	pCi/g						
	Uncert:			+/-0.0454							
	TPU:			+/-0.0457							
Curium-243/244	15.5			14.3	pCi/g		92	(75%-125%)			
	Uncert:			+/-1.94							
	TPU:			+/-2.92							
QC1201153129 MB											
Americium-241			U	0.0471	pCi/g						
	Uncert:			+/-0.157							
	TPU:			+/-0.157							
Curium-242			U	-0.0469	pCi/g						
	Uncert:			+/-0.0459							
	TPU:			+/-0.0464							
Curium-243/244			U	-0.00385	pCi/g						
	Uncert:			+/-0.210							
	TPU:			+/-0.210							
QC1201153131 168340011 MS											
Americium-241	13.3 U	-0.000522		12.0	pCi/g		91	(75%-125%)			
	Uncert:	+/-0.0385		+/-1.38							
	TPU:	+/-0.0385		+/-2.08							
Curium-242	U	0.00	U	0.0427	pCi/g						
	Uncert:	+/-0.0756		+/-0.0837							
	TPU:	+/-0.0756		+/-0.0839							
Curium-243/244	16.1 U	-0.0177		15.9	pCi/g		99	(75%-125%)			
	Uncert:	+/-0.0764		+/-1.58							
	TPU:	+/-0.0765		+/-2.61							
Batch 555697											
QC1201153134 168340011 DUP											
Plutonium-238	U	-0.0155	U	0.0237	pCi/g	956		(0% - 100%)	BXL1	08/11/06	22:51

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QC Summary

Workorder: 168404

Page 2 of 6

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	555697										
		Uncert:	+/-0.0215	+/-0.0465							
		TPU:	+/-0.0216	+/-0.0466							
Plutonium-239/240		U	0.0414	U	-0.0489	pCi/g	2410	(0% - 100%)			
		Uncert:	+/-0.0934	+/-0.124							
		TPU:	+/-0.0935	+/-0.124							
QC1201153136	LCS										
Plutonium-238				U	0.155	pCi/g		(75%-125%)			
		Uncert:			+/-0.141						
		TPU:			+/-0.142						
Plutonium-239/240		11.8			11.5	pCi/g	98	(75%-125%)			
		Uncert:			+/-0.856						
		TPU:			+/-1.32						
QC1201153133	MB										
Plutonium-238				U	0.0552	pCi/g				08/11/06	22:50
		Uncert:			+/-0.186						
		TPU:			+/-0.186						
Plutonium-239/240				U	-0.0978	pCi/g					
		Uncert:			+/-0.0892						
		TPU:			+/-0.0899						
QC1201153135	168340011	MS									
Plutonium-238		U	-0.0155	U	0.0539	pCi/g		(75%-125%)		08/11/06	22:51
		Uncert:	+/-0.0215		+/-0.112						
		TPU:	+/-0.0216		+/-0.112						
Plutonium-239/240		12.3	U	0.0414	10.3	pCi/g	84	(75%-125%)			
		Uncert:	+/-0.0934		+/-0.796						
		TPU:	+/-0.0935		+/-1.19						
Batch	555698										
QC1201153138	168340011	DUP									
Plutonium-241		U	7.28	U	10.1	pCi/g	0	(0% - 100%)	BXL1	08/16/06	16:41
		Uncert:	+/-6.30		+/-6.39						
		TPU:	+/-6.35		+/-6.46						
QC1201153140	LCS										
Plutonium-241		137			145	pCi/g	106	(75%-125%)		08/16/06	17:14
		Uncert:			+/-12.5						
		TPU:			+/-19.9						
QC1201153137	MB										
Plutonium-241				U	8.57	pCi/g				08/16/06	16:25
		Uncert:			+/-6.93						
		TPU:			+/-6.98						
QC1201153139	168340011	MS									
Plutonium-241		138	U	7.28	142	pCi/g	103	(75%-125%)		08/16/06	16:58
		Uncert:	+/-6.30		+/-12.4						
		TPU:	+/-6.35		+/-19.7						
Batch	557837										
QC1201158317	168404009	DUP									
Americium-241		U	-0.0851	U	0.167	pCi/g	616	(0% - 100%)	BXL1	08/16/06	09:49
		Uncert:	+/-0.136		+/-0.220						
		TPU:	+/-0.136		+/-0.221						
Curium-242		U	-0.0253	U	0.241	pCi/g	247	(0% - 100%)			

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QC Summary

Workorder: 168404

Page 3 of 6

Parmname		NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec													
Batch	557837												

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QC Summary

Workorder: 168404

Page 4 of 6

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow											
Batch	556350										
QC1201154646	168404003	MS									
Strontium-90	1.58	U	-0.00343	1.29	pCi/g		82	(75%-125%)			
	Uncert:		+/-0.0203	+/-0.0535							
	TPU:		+/-0.0203	+/-0.0813							
Rad Liquid Scintillation											
Batch	554580										
QC1201150562	168340012	DUP									
Technetium-99		U	0.0338	U 0.266	pCi/g	0		(0% - 100%) EGD1		08/12/06	00:42
	Uncert:		+/-0.192	+/-0.226							
	TPU:		+/-0.192	+/-0.226							
QC1201150564	LCS										
Technetium-99	13.1			13.6	pCi/g		103	(75%-125%)		08/12/06	01:14
	Uncert:			+/-0.496							
	TPU:			+/-0.599							
QC1201150561	MB										
Technetium-99				U 0.0311	pCi/g					08/12/06	00:26
	Uncert:			+/-0.177							
	TPU:			+/-0.177							
QC1201150563	168340012	MS									
Technetium-99	13.0	U	0.0338	12.0	pCi/g		92	(75%-125%)		08/12/06	00:58
	Uncert:		+/-0.192	+/-0.523							
	TPU:		+/-0.192	+/-0.602							
Batch	554582										
QC1201150570	168340011	DUP									
Tritium		U	1.77	U 1.62	pCi/g	0		(0% - 100%) DFA1		08/09/06	15:42
	Uncert:		+/-8.20	+/-7.47							
	TPU:		+/-8.20	+/-7.47							
QC1201150572	LCS										
Tritium	68.3			76.2	pCi/g		111	(75%-125%)		08/09/06	16:14
	Uncert:			+/-14.0							
	TPU:			+/-14.1							
QC1201150569	MB										
Tritium				U 0.586	pCi/g					08/09/06	15:26
	Uncert:			+/-8.01							
	TPU:			+/-8.01							
QC1201150571	168340011	MS									
Tritium	61.3	U	1.77	61.8	pCi/g		101	(75%-125%)		08/09/06	15:58
	Uncert:		+/-8.20	+/-12.2							
	TPU:		+/-8.20	+/-12.3							
Batch	554583										
QC1201150574	168404003	DUP									
Carbon-14		U	0.0937	U 0.0422	pCi/g	0		(0% - 100%) ATH2		08/10/06	01:39
	Uncert:		+/-0.0813	+/-0.075							
	TPU:		+/-0.0813	+/-0.0751							
QC1201150576	LCS										
Carbon-14	7.27			7.14	pCi/g		98	(75%-125%)		08/10/06	03:00
	Uncert:			+/-0.508							
	TPU:			+/-0.520							
QC1201150573	MB										

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

QC Summary

Workorder: 168404

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Liquid Scintillation											
Batch	554583										
Carbon-14			U	-0.0315	pCi/g						
				+/-0.0776							
				TPU:							
QC1201150575	168404003	MS									
Carbon-14		15.1	U	0.0937	13.8	pCi/g	92	(75%-125%)		08/10/06	02:43
				Uncert:	+/-0.0813						
				TPU:	+/-0.0813						
Batch	555722										
QC1201153223	168340012	DUP									
Iron-55			U	-26.5	U	5.83	pCi/g	0	(0% - 100%)	MXPI	08/12/06 20:54
				Uncert:	+/-65.1						
				TPU:	+/-65.1						
QC1201153225	LCS										
Iron-55		641			660	pCi/g	103	(75%-125%)		08/12/06	21:27
				Uncert:	+/-56.2						
				TPU:	+/-67.2						
QC1201153222	MB										
Iron-55			U	18.2	pCi/g					08/12/06	20:38
				Uncert:	+/-39.6						
				TPU:	+/-39.6						
QC1201153224	168340012	MS									
Iron-55		717	U	-26.5	688	pCi/g	96	(75%-125%)		08/12/06	21:11
				Uncert:	+/-65.1						
				TPU:	+/-65.1						
Batch	555723										
QC1201153227	168340012	DUP									
Nickel-63			U	3.79	U	6.68	pCi/g	0	(0% - 100%)	MXPI	08/11/06 11:55
				Uncert:	+/-5.39						
				TPU:	+/-5.40						
QC1201153229	LCS										
Nickel-63		512			479	pCi/g	94	(75%-125%)		08/11/06	12:27
				Uncert:	+/-22.4						
				TPU:	+/-27.1						
QC1201153226	MB										
Nickel-63			U	15.7	pCi/g					08/11/06	11:38
				Uncert:	+/-9.92						
				TPU:	+/-9.93						
QC1201153228	168340012	MS									
Nickel-63		530	U	3.79	511	pCi/g	96	(75%-125%)		08/11/06	12:11
				Uncert:	+/-5.39						
				TPU:	+/-5.40						

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

GENERAL ENGINEERING LABORATORIES, LLC

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QC Summary

Workorder: 168404

Page 6 of 6

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
>										
A										
B										
BD										
C										
D										
H										
J										
N/A										
R										
U										
UI										
X										
Y										
^										
h										

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

** Indicates analyte is a surrogate compound.

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

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

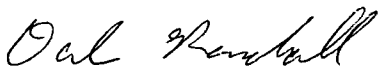
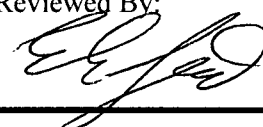
Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

DISCHARGE CANAL
SURVEY UNIT 9106-0002

RELEASE RECORD

Attachment 2b
Split Sample Assessment Forms
(2 Pages)

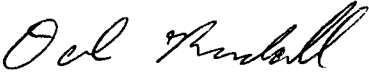
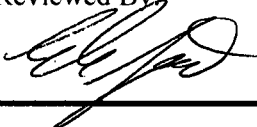
Split Sample Assessment Form

Survey Area #: 9106	Survey Unit #: 0002	Survey Unit Name: Discharge Canal																														
Sample Plan or WPIR#: 2006-021		SML #: 9106-0002-014																														
<p>Sample Description: Comparison of split samples collected from sample measurement location #014 and analyzed using gamma spectroscopy by an off-site vendor laboratory. The standard sample was <u>9106-0002-014F</u> the comparison sample was <u>9106-0002-014FS</u>.</p>																																
STANDARD					COMPARISON																											
Radionuclide	Activity Value	Standard Error	Resolution	Agreement Range	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)																								
Cs-137	0.00E+00	2.22E-02	0	NONE -	1.13E-02	1.24E-02	N/A	N/A																								
Co-60	1.46E-03	1.07E-02	0	NONE -	-8.41E-03	1.25E-02	-5.76	N/A																								
Sr-90	-2.35E-03	8.00E-03	0	NONE -	-7.00E-03	7.25E-03	2.98	N/A																								
K-40	1.04E+01	5.15E-01	20	0.75 1.33	1.09E+01	5.40E-01	1.05	Y																								
<p>Comments/Corrective Actions: In consideration of Cs-137, Co-60 & Sr-90 results, guidance for agreement ranges, obtained from USNRC Inspection Procedure 84750, does not address resolution ratios less than 4, therefore, a determination of acceptability for such ratios cannot be made. Since none of the radionuclides of concern were in a comparable range, K-40 was used to make the comparison and was found to be present at an acceptable level of agreement, therefore, no further action is warranted.</p>					<p>Table is provided to show acceptance criteria used to assess split samples.</p>																											
									<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Resolution</th> <th colspan="2">Agreement Range</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>7</td> <td>0.50</td> <td>2.00</td> </tr> <tr> <td>8</td> <td>15</td> <td>0.60</td> <td>1.66</td> </tr> <tr> <td>16</td> <td>50</td> <td>0.75</td> <td>1.33</td> </tr> <tr> <td>51</td> <td>200</td> <td>0.80</td> <td>1.25</td> </tr> <tr> <td colspan="2">> 200</td> <td>0.85</td> <td>1.18</td> </tr> </tbody> </table>				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
					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: 10-23-06	Reviewed By: 		Date: 10/23/06																										

WPIR – Work Plan and Inspection Record

SML – Sample Measurement Location designation

Split Sample Assessment Form

Survey Area#:	9106	Survey Unit #:	0002	Survey Unit Name:	Discharge Canal							
Sample Plan or WPIR#:					2006-0021							
					SML #: 9106-0002-018							
<p>Sample Description: Comparison of split samples collected from sample measurement location #18 and analyzed using gamma spectroscopy by an off-site vendor laboratory. The standard sample was <u>9106-0002-018E</u>, the comparison sample was <u>9106-0002-018FS</u>.</p>												
STANDARD					COMPARISON							
Radionuclide	Activity Value	Standard Error	Resolution	Agreement Range	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)				
Cs-137	8.09E-02	1.54E-02	5	0.5 - 2	9.55E-02	2.89E-02	1.18	Y				
Co-60	1.45E-01	2.09E-02	7	0.5 - 2	3.25E-01	3.19E-02	2.24	N				
Sr-90	7.58E-03	5.60E-03	1	0.75 - 1.33	-2.42E-03	6.15E-03	-0.32	N/A				
K-40	1.04E+01	5.15E-01	20	0.75 - 1.33	1.09E+01	5.40E-01	1.05	Y				
<p>Comments/Corrective Actions: Since Co-60 has a likelihood to be present in the sample matrix in particulate form, one would not necessarily expect it to be homogeneously mixed from processing of the sample-split aliquot. In consideration of Sr-90 results, guidance for agreement ranges, obtained from USNRC Inspection Procedure 84750, does not address resolution ratios less than 4, therefore, a determination of acceptability for such ratios cannot be made. Since both Cs-137 and K-40 were also found to be present at an acceptable level of agreement, no further action is warranted.</p>					<p>Table is provided to show acceptance criteria used to assess split samples.</p>							
					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:					
					19-23-06							
							Date: 10/23/06					

WPIR – Work Plan and Inspection Record

SML – Sample Measurement Location designation

DISCHARGE CANAL
SURVEY UNIT 9106-0002

RELEASE RECORD

Attachment 2c
Preliminary Data Forms
(1 Page)

Preliminary Data Review Form - Samples for the Sign Test

Survey Unit: 9106- 0002
 Survey Unit Name: Discharge Canal

Classification: 2
 Survey Media: Soil
 Type of Survey: Final Status Survey
 Type of Measurement: Radionuclide Specific
 Number of Measurements: 15
 Operational DCGL: 1

BASIC STATISTICAL QUANTITIES

	Cs-137	Co-60	Sr-90
Minimum Value:	0.00E+00	1.46E-03	-1.31E-02
Maximum Value:	3.81E-01	6.39E-01	2.14E-02
Mean:	1.36E-01	2.07E-01	4.24E-03
Median:	1.23E-01	1.45E-01	6.81E-03
Standard Deviation:	9.83E-02	1.83E-01	9.52E-03

RADIONUCLIDE CONCENTRATION (pCi/g)

NUMBER	Cs-137	Co-60	Sr-90	Identified?	Identified?	Identified?
9106-0002-002F	2.64E-02	2.13E-02	9.83E-03	Y	Y	N
9106-0002-004F	1.23E-01	1.19E-01	7.10E-03	Y	Y	N
9106-0002-005F	1.98E-01	2.88E-01	7.01E-03	Y	Y	N
9106-0002-007F	3.81E-01	6.39E-01	6.81E-03	Y	Y	N
9106-0002-008F	1.63E-01	3.70E-01	7.85E-03	Y	Y	N
9106-0002-009F	1.84E-01	2.31E-01	2.94E-03	Y	Y	N
9106-0002-010F	6.61E-02	2.38E-01	-1.06E-02	Y	Y	N
9106-0002-011F	2.47E-01	5.26E-01	1.95E-02	Y	Y	Y
9106-0002-012F	1.75E-01	1.18E-01	-4.47E-03	Y	Y	N
9106-0002-013F	2.43E-02	1.51E-01	-4.97E-04	N	Y	N
9106-0002-014F	0.00E+00	1.46E-03	-2.35E-03	N	N	N
9106-0002-015F	1.16E-01	5.07E-02	4.55E-03	Y	Y	N
9106-0002-017F	9.30E-02	8.07E-02	2.14E-02	Y	Y	Y
9106-0002-018F	8.09E-02	1.45E-01	7.58E-03	Y	Y	N
9106-0002-019F	1.69E-01	1.21E-01	-1.31E-02	Y	Y	N

Performed By:

Dal Russell

Date:

10-23-06

Independent Review:

Elmer E. Sargent

Date:

10/23/06

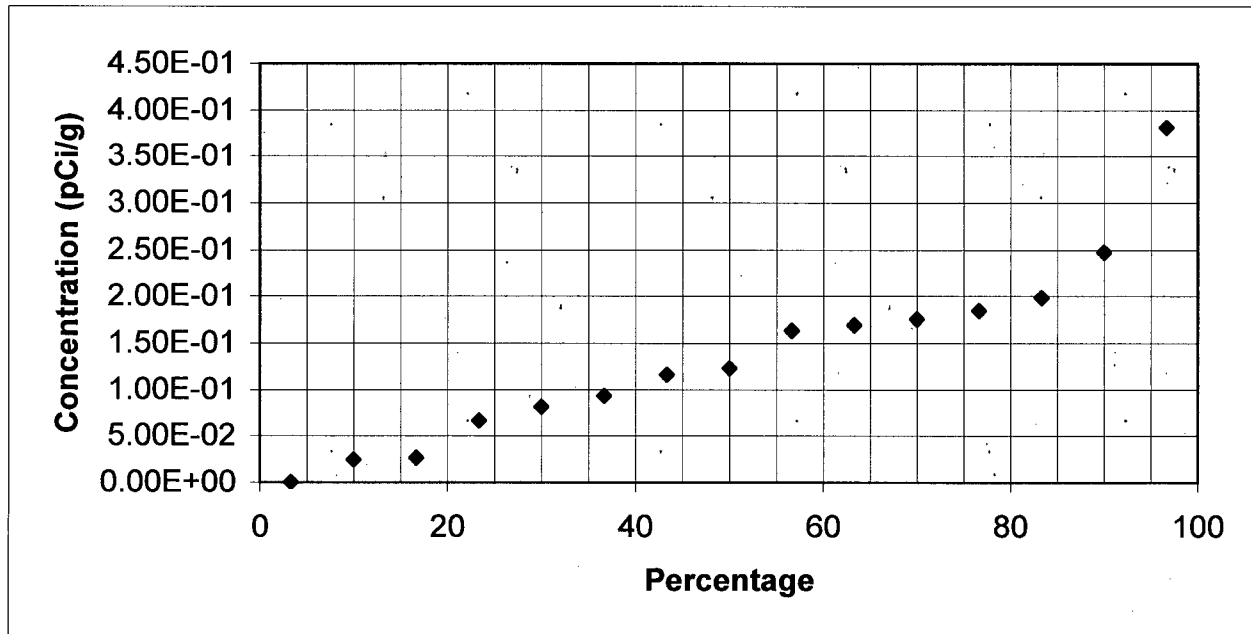
DISCHARGE CANAL
SURVEY UNIT 9106-0002

RELEASE RECORD

Attachment 2d
Graphical Representation of Data
(6 Pages)

Quantile Plot For Cesium - 137

Survey Unit: 9106-0002
Survey Unit Name: Discharge Canal
Mean: 1.36E-01 pCi/g



Cs-137	Rank	Percentage
0.00E+00	1	3 %
2.43E-02	2	10 %
2.64E-02	3	17 %
6.61E-02	4	23 %
8.09E-02	5	30 %
9.30E-02	6	37 %
1.16E-01	7	43 %
1.23E-01	8	50 %
1.63E-01	9	57 %
1.69E-01	10	63 %
1.75E-01	11	70 %
1.84E-01	12	77 %
1.98E-01	13	83 %
2.47E-01	14	90 %
3.81E-01	15	97 %

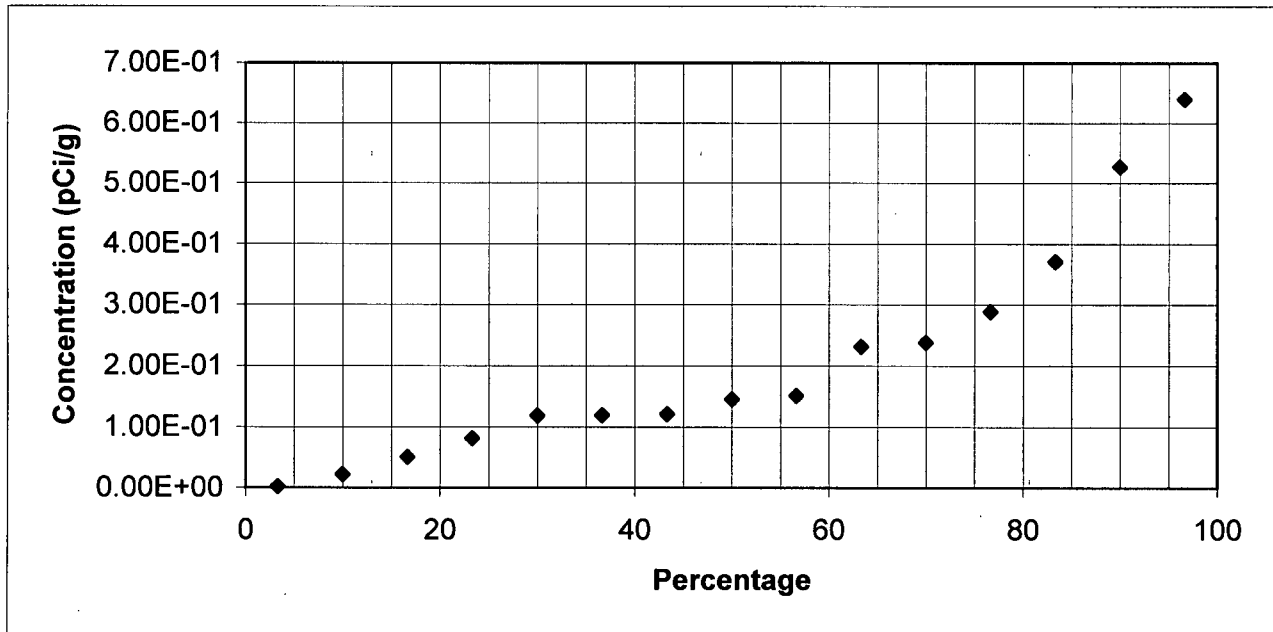
Prepared By: Carl Randall
Reviewed By: Clifford E. E. Sargent

Date: 10-23-06

Date: 10/23/06

Quantile Plot For Cobalt - 60

Survey Unit: 9106-0002
Survey Unit Name: Discharge Canal
Mean: 2.07E-01 pCi/g



Co-60	Rank	Percentage
1.46E-03	1	3 %
2.13E-02	2	10 %
5.07E-02	3	17 %
8.07E-02	4	23 %
1.18E-01	5	30 %
1.19E-01	6	37 %
1.21E-01	7	43 %
1.45E-01	8	50 %
1.51E-01	9	57 %
2.31E-01	10	63 %
2.38E-01	11	70 %
2.88E-01	12	77 %
3.70E-01	13	83 %
5.26E-01	14	90 %
6.39E-01	15	97 %

Prepared By: *Carol M. Marshall*
Reviewed By: *Edward E. E. Sergeant*

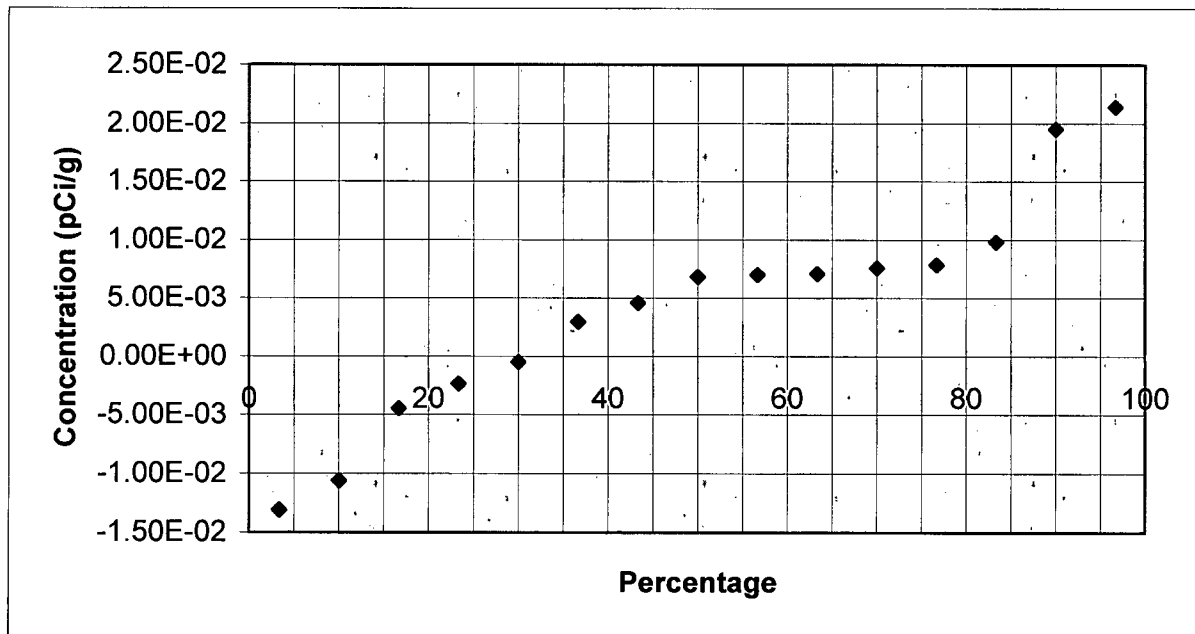
Date: *10-23-06*
Date: *10/23/06*

Quantile Plot For Strontium - 90

Survey Unit: 9106-0002

Survey Unit Name: Discharge Canal

Mean: 4.24E-03 pCi/g



Sr-90	Rank	Percentage
-1.31E-02	1	3 %
-1.06E-02	2	10 %
-4.47E-03	3	17 %
-2.35E-03	4	23 %
-4.97E-04	5	30 %
2.94E-03	6	37 %
4.55E-03	7	43 %
6.81E-03	8	50 %
7.01E-03	9	57 %
7.10E-03	10	63 %
7.58E-03	11	70 %
7.85E-03	12	77 %
9.83E-03	13	83 %
1.95E-02	14	90 %
2.14E-02	15	97 %

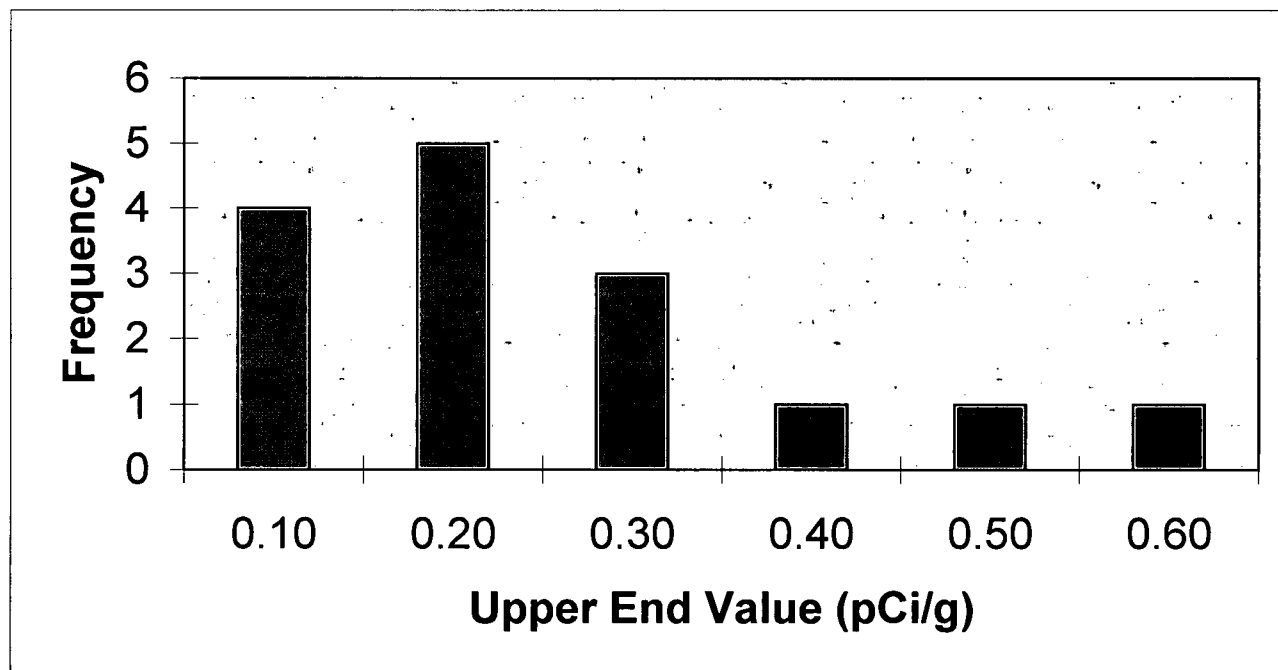
Prepared By: Ode RunkellDate: 10-23-06Reviewed By: ELPDate: 10/23/06

Frequency Plot For Cobalt-60

Survey Unit: 9106-0002

Survey Unit Name: Discharge Canal

Mean: 0.207 pCi/g



Upper End Value	Observation Frequency	Observation % Frequency
0.10	4	27%
0.20	5	33%
0.30	3	20%
0.40	1	7%
0.50	1	7%
0.60	1	7%
Total	15	87%

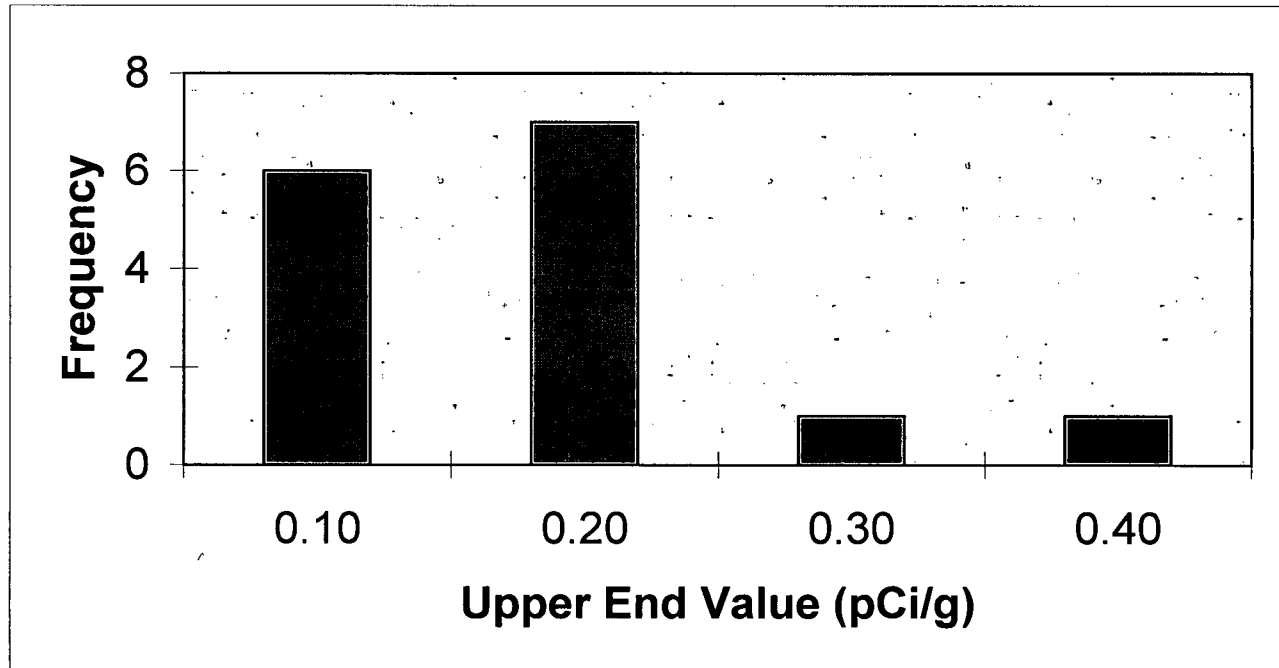
Prepared By: Orel RandallDate: 10-23-06Reviewed By: ElferDate: 10/23/06

Frequency Plot For Cs - 137

Survey Unit: 9106-0002

Survey Unit Name: Discharge Canal

Mean: 0.136 pCi/g



Upper End Value	Observation Frequency	Observation % Frequency
0.10	6	40%
0.20	7	47%
0.30	1	7%
0.40	1	7%
Total	15	100%

Prepared By:

Paul Marshall

Date:

10-23-06

Reviewed By:

ELP

Date:

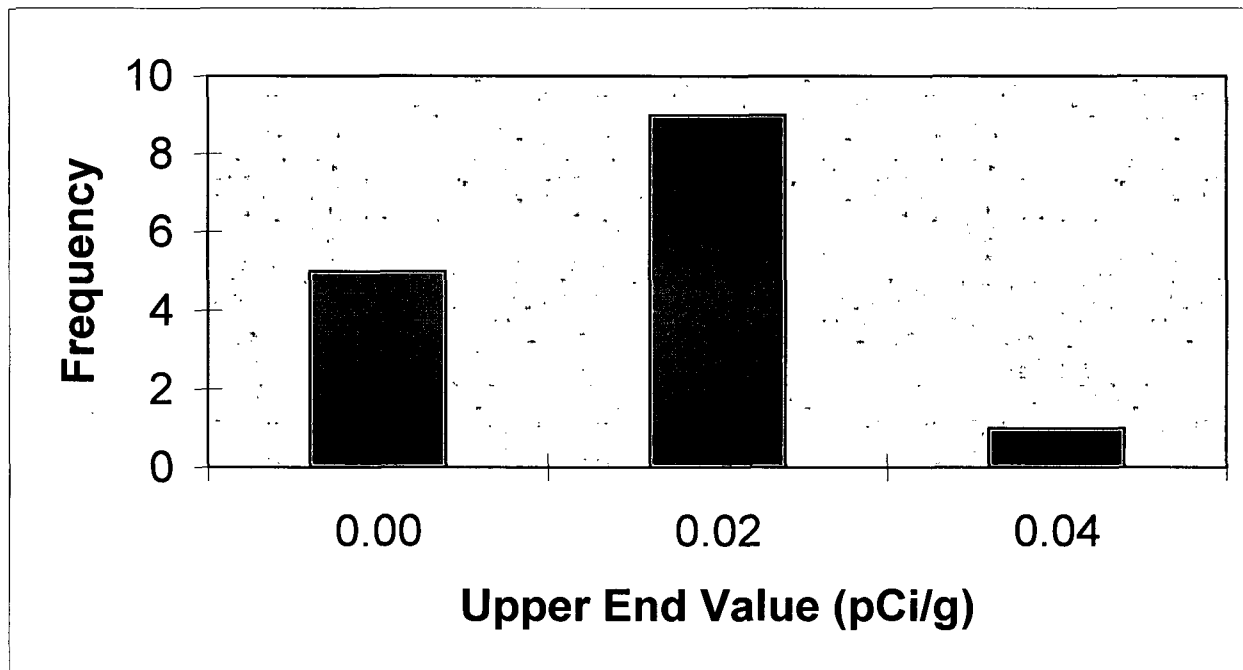
10/23/06

Frequency Plot For Sr - 90

Survey Unit: 9106-0002

Survey Unit Name: Discharge Canal

Mean: 0.004 pCi/g



Upper End Value	Observation Frequency	Observation % Frequency
0.00	5	33%
0.02	9	60%
0.04	1	7%
Total	15	100%

Prepared By: _____

Oral Brubaker

Date: _____

10-23-06

Reviewed By: _____

ELJ

Date: _____

10/23/06

DISCHARGE CANAL
SURVEY UNIT 9106-0002
RELEASE RECORD

Attachment 2e
Sign Test Calculation
(1 Page)

Sign Test Calculation Sheet For Multiple Radionuclides

Survey Unit Number: 9106-0002

Survey Unit Name:

WP&IR#: Discharge Canal

Classification : 2

TYPE I (α error):0.05

TYPE I (b error):0.05

Radionuclides: Cs-137

Co-60

Sr-90

Survey Design DCGL (pCi/g): 5.38

2.59

0.62

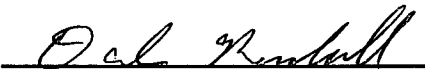
Results Cs-137	Results Co-60	Results Sr-90	Weighted Sum (W_s)	DCGL-Result	Sign
2.64E-02	2.13E-02	2.13E-02	2.25E-02	9.78E-01	1
1.23E-01	1.19E-01	1.19E-01	7.56E-02	9.24E-01	1
1.98E-01	2.88E-01	2.88E-01	1.55E-01	8.45E-01	1
3.81E-01	6.39E-01	6.39E-01	3.24E-01	6.76E-01	1
1.63E-01	3.70E-01	3.70E-01	1.81E-01	8.19E-01	1
1.84E-01	2.31E-01	2.31E-01	1.26E-01	8.74E-01	1
6.61E-02	2.38E-01	2.38E-01	9.41E-02	9.06E-01	1
2.47E-01	5.26E-01	5.26E-01	2.68E-01	7.32E-01	1
1.75E-01	1.18E-01	1.18E-01	7.38E-02	9.26E-01	1
2.43E-02	1.51E-01	1.51E-01	6.23E-02	9.38E-01	1
0.00E+00	1.46E-03	1.46E-03	-1.67E-03	1.00E+00	1
1.16E-01	5.07E-02	5.07E-02	4.55E-02	9.55E-01	1
9.30E-02	8.07E-02	8.07E-02	6.88E-02	9.31E-01	1
8.09E-02	1.45E-01	1.45E-01	7.82E-02	9.22E-01	1
1.69E-01	1.21E-01	1.21E-01	6.57E-02	9.34E-01	1

Number of Positive Differences (S+): 15

Critical Value: 11

Survey Unit: Meets Acceptance Criterion

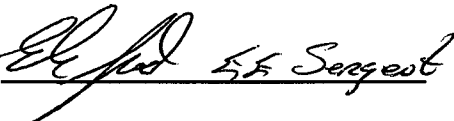
Performed By:



Date:

10-23-06

Independent Review:



Date:

10/23/06

DISCHARGE CANAL
SURVEY UNIT 9106-0002

RELEASE RECORD

Attachment 2f
COMPASS DQA Surface Soil Report with
Retrospective Power Curve
(3 Pages)

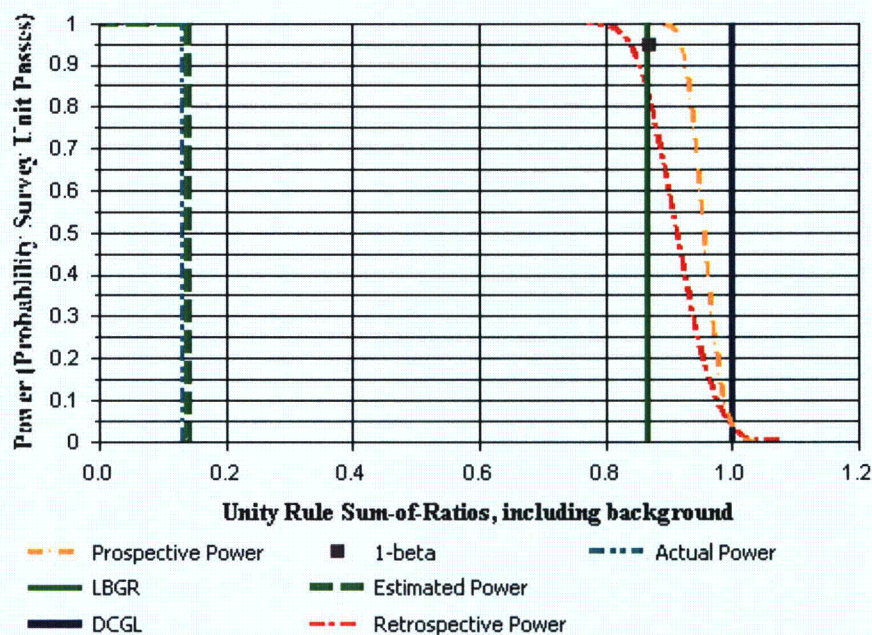


DQA Surface Soil Report

Assessment Summary

Site:	9106-0002		
Planner(s):	Dale Randall		
Survey Unit Name:	Discharge Canal		
Report Number:	1		
Survey Unit Samples:	15		
Reference Area Samples:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	<i>Reject Null Hypothesis (Survey Unit PASSES)</i>		

Retrospective Power Curve





DQA Surface Soil Report

Survey Unit Data

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

Sample Number	Type	Co-60 (pCi/g)	Cs-137 (pCi/g)	SrY-90 (pCi/g)
9106-0002-002F	S	0.03	0.02	0.01
9106-0002-004F	S	0.12	0.12	0.01
9106-0002-005F	S	0.2	0.29	0.01
9106-0002-007F	S	0.38	0.64	0.07
9106-0002-008F	S	0.16	0.37	0.01
9106-0002-009F	S	0.18	0.23	0
9106-0002-010F	S	0.07	0.24	-0.01
9106-0002-011F	S	0.25	0.53	0.02
9106-0002-012F	S	0.18	0.12	0
9106-0002-013F	S	0.02	0.15	0
9106-0002-014F	S	0	0	0
9106-0002-015F	S	0.12	0.05	0
9106-0002-017F	S	0.09	0.08	0.02
9106-0002-018F	S	0.08	0.14	0.01
9106-0002-019F	S	0.17	0.12	-0.01

Modified Data (Unity Rule SOR)

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

Sample Number	Type	Sum-of-Ratios (SOR)
9106-0002-002F	S	0.04
9106-0002-004F	S	0.13
9106-0002-005F	S	0.23
9106-0002-007F	S	0.56
9106-0002-008F	S	0.24
9106-0002-009F	S	0.2
9106-0002-010F	S	0.1
9106-0002-011F	S	0.36
9106-0002-012F	S	0.15
9106-0002-013F	S	0.06
9106-0002-014F	S	0
9106-0002-015F	S	0.1
9106-0002-017F	S	0.12
9106-0002-018F	S	0.11
9106-0002-019F	S	0.13



DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	15	N/A	N=15
Mean (SOR)	0.17	N/A	0.14
Median (SOR)	0.13	N/A	N/A
Std Dev (SOR)	0.14	N/A	0.07
High Value (SOR)	0.56	N/A	N/A
Low Value (SOR)	0.00	N/A	N/A