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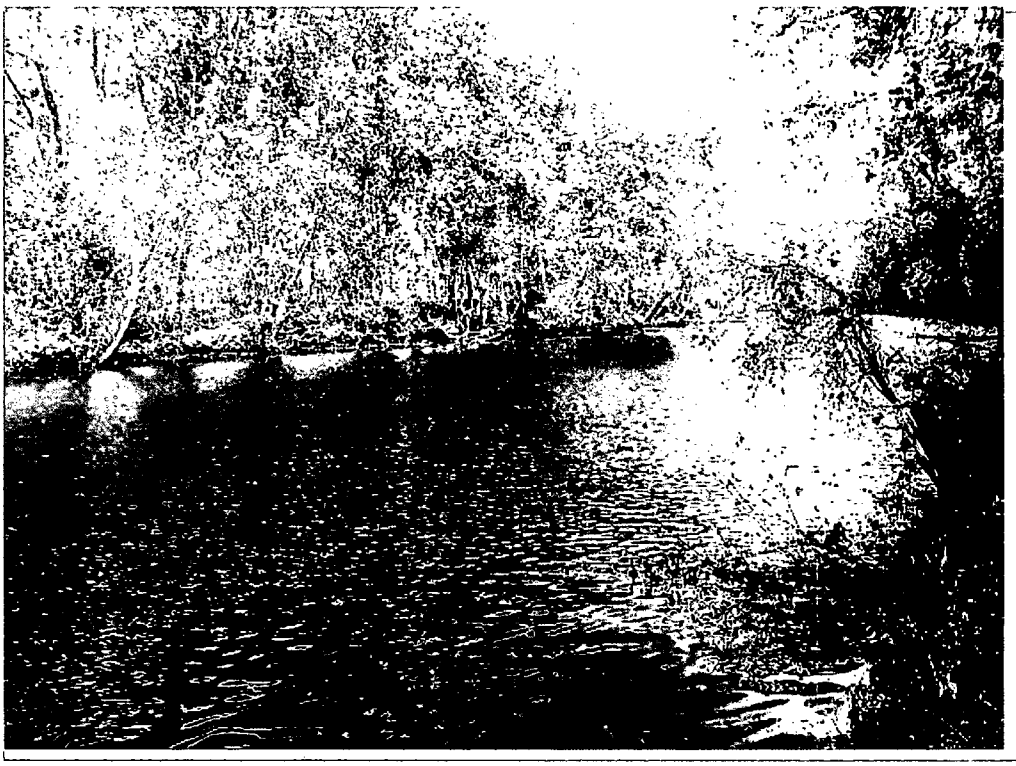

Final Status Survey
Final Report Phase IV

Appendix A7
Survey Unit Release Record
9106-0007, Discharge Canal

November 2006

CYAPCO
FINAL STATUS SURVEY RELEASE RECORD
DISCHARGE CANAL
SURVEY UNIT 9106-0007

Prepared By: _____ Date: 11-14-06
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Revision 0

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1. SURVEY UNIT DESCRIPTION

Survey Unit 9106-0007 (Discharge Canal) is designated as Final Status Survey (FSS) Class 2 and consists of approximately 8,692 m^2 (2.15 acres) of water covered sediment in an area located approximately 0.77 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 9106-0006 is to the north (called north as orientated with the north to south flow of the Connecticut River), survey area 9521 is to the east, Discharge Canal Survey Unit 9106-0008 is to the south and Discharge Canal Survey Unit 9106-0013 is to the west. The survey unit comprises the canal sediments to the deeper of three (3) feet or the original construction depth and it extends up the canal banks to the mean high water level.

A distinguishing feature of this Survey Unit is that it completely surrounds Class 1 survey unit 9106-0015. Survey Unit 9106-0015 was created in response to receiving a sample result (9106-0007-017F) which exceeded the design limits for a class 2 Survey Unit. The design changes made to accommodate the removal of this 1,170 m^2 area from the initial design for Survey Unit 9106-0007 is discussed in section 4.

This survey unit is bounded by reference coordinates E026 through E032 by S122 through S140 (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 9106-0007 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 of the 1979 dredge spoils area and canal sediment were taken. The sample analyses indicated that the concentrations of Cs-137, Co-60 and other radionuclides were a small fraction of the DCGL for those nuclides that could be identified by gamma spectroscopy. (refer to NE-86-RA-1142 dated 11-13-86). None the available information indicates that the residual activity present is likely to be above the DCGL for the area.

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 ρCi/g for Co-60, 0.024ρCi/g for Cs-134 and 0.722 ρCi/g for Cs-137.

An initial characterization survey was implemented during April and May of 2004. Six (6) samples from three (3) locations were obtained by biased sampling throughout the area. The samples were analyzed off-site by gamma spectroscopy and with radiochemical analyses for Sr-90 and Tritium. Hard-to-Detect analyses were also conducted on one (1) of the six (6) samples. The only plant-related dosimetrically significant radionuclides identified in the samples were Cs-137, Co-60 and Sr-90. No samples indicated radioactive material in quantities above the ten (10) mrem/yr design DCGL. Co-60 accounted for the majority of the dose in these samples with a maximum concentration of 0.44 pCi/g.

A final characterization was performed by Site Closure personnel in April of 2006. Six (6) sediment samples from six (6) locations were taken. All of the samples were analyzed by gamma spectroscopy. Based on the initial and final characterization results, the radionuclides of concern identified in the sample data for FSS planning purposes were Cs-137, Co-60 and Sr-90. Since HTD analyses were not performed for all radionuclides of interest during characterization, additional HTD analyses were performed as a part of the FSS. The statistics for each of the radionuclides of concern are listed in Table 1.

Table 1 – Basic Statistical Quantities for Cs-137, Co-60 and Sr-90 from the Characterization Survey			
Parameter	**Cs-137 (ρCi/g)**	**Co-60 (ρCi/g)**	**Sr-90 (ρCi/g)**
Minimum Value:	-8.61E-02	2.15E-03	2.44E-02
Maximum Value:	5.38E-01	4.36E-01	5.25E-02
Mean:	1.84E-01	1.35E-01	3.61E-02
Median:	1.79E-01	7.32E-02	3.55E-02
Standard Deviation:	2.27E-01	1.68E-01	1.10E-02
NOTE: The Operational DCGLs are 6.01 ρCi/g for Cs-137, 2.90 ρCi/g for Co-60 and 1.18 for Sr-90; these are used in conjunction with the unity rule to achieve 19 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 9106-0007 did not exceed the release criteria specified in the LTP and that the potential

dose from residual radioactivity is As Low As Reasonably Achievable (ALARA).

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

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

The total dose under the LTP criteria is twenty-five (25) mrem/yr TEDE from all three components. The allowable total dose under the Connecticut Department of Environmental Protection (CTDEP) radiological remediation standard for Connecticut Yankee (CY) is 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 not affected by either existing or future groundwater (reference CY memo ISC 06-024). Therefore, dose contribution from both groundwater components is zero (0) mrem/yr TEDE, based on field data.

Equation 2:

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

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 nineteen (19) 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.

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	3.13E+02	1.65E+01
C-14	5.66E+00	4.30E+00	2.26E-01
Mn-54	1.74E+01	1.32E+01	6.96E-01
Fe-55	2.74E+04	2.08E+04	1.10E+03
Co-60	3.81E+00	2.90E+00	1.52E-01
Ni-63	7.23E+02	5.49E+02	2.89E+01
Sr-90	1.55E+00	1.18E+00	6.20E-02
Nb-94	7.12E+00	5.41E+00	2.85E-01
Tc-99	1.26E+01	9.58E+00	5.04E-01
Ag-108m	7.14E+00	5.43E+00	2.86E-01
Cs-134	4.67E+00	3.55E+00	1.87E-01
Cs-137	7.91E+00	6.01E+00	3.16E-01
Eu-152	1.01E+01	7.68E+00	4.04E-01
Eu-154	9.29E+00	7.06E+00	3.72E-01
Eu-155	3.92E+02	2.98E+02	1.57E+01
Pu-238	2.96E+01	2.25E+01	1.18E+00
Pu-239/240	2.67E+01	2.03E+01	1.07E+00
Pu-241	8.70E+02	6.61E+02	3.48E+01
Am-241 (5)	2.58E+01	1.96E+01	1.03E+00
Cm-243/244	2.90E+01	2.20E+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 twenty-five (25) mrem/yr TEDE

(3) The Operational DCGL is equivalent to nineteen (19) mrem/yr TEDE

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

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

Another important facet of the DQO process is to identify the radionuclides of concern and determine the concentration variability. Initial characterization was performed in April of 2004 as discussed in Section 2. Cs-137, Co-60 and Sr-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 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 nineteen (19) 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.

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

The Sign Test was selected as the non-parametric statistical test 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 soil 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 accordance with Procedure RPM 5.1-11 to 0.735 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 the MARSSIM in support of the decommissioning license termination rule (10 CFR 20, Subpart E). The result of the COMPASS computer run showed adequate power for the survey design. 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.

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

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

Table 3 –Sample Measurement Locations with Associated GPS Coordinates		
Designation	**Northing**	**Easting**
9106-0007-001F	235298.00	672291.87
9106-0007-002F	235219.74	672246.68
9106-0007-003F	235219.74	672337.05
9106-0007-004F	235141.48	672291.87
9106-0007-005F	235141.48	672382.24
9106-0007-007F	235063.21	672427.42
9106-0007-011F	234984.95	672562.98
9106-0007-012F	234984.95	672653.35
9106-0007-013F	234906.69	672608.17
9106-0007-014F	234906.69	672698.54
9106-0007-015F	234828.42	672653.35
9106-0007-018F	235215.38	672389.46
9106-0007-019F	235001.08	672542.82
9106-0007-020F	234942.33	672625.39
9106-0007-021F	235106.22	672362.88

The sample location designations of Table 3 are not sequential due to changes made as a result of carving out Survey Unit 9106-0015 from the interior of this survey unit, and the relocation of samples due to accessibility of sample locations.

Samples locations 9106-0007-009F and 9106-0007-010F were found to be on dry land, consequently, they were randomly relocated using the VSP software to two (2) new locations designated as 9106-0007-016F and 9106-0007-017F. When the sample result for 9106-0007-017F was received from the off-site laboratory, it was determined that the sample exceeded the Operational DCGL of nineteen (19) mrem/yr (the sample's activity was equivalent to 22.4 mrem/yr). Since sample results cannot exceed the DCGL in a Class 2 area, an approximately square rectangle of 1,170 m^2 was removed from the footprint of the FSS design for Survey Unit 9106-0007.

A consequence of removing Survey Unit 9106-0015 from Survey Unit 9106-0007 was that four (4) sample locations were now located outside the boundary of Survey Unit 9106-0007, and needed to be relocated. The samples locations were relocated using randomly generated locations from the VSP software. The four locations removed from the FSS survey were locations 9106-0007-006F, 008F, 016F and 017F. These were replaced with sample locations 9106-0007-018F through 9106-0007-021F.

Four (4) sediment samples were analyzed for the full suite of radionuclides specified in Table 1, exceeding the requirement to analyze 5% of the sample population for HTD analysis specified in procedure RPM 5.1-11. Two (2) of the four (4) samples were randomly selected using the Microsoft Excel

"RAND" function. The two (2) samples exhibiting the highest observed radionuclide concentrations by gamma analyses were also selected.

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

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

Table 4 – Synopsis of the Survey Design (1)

Feature	Design Criteria	Basis
Survey Unit Land Area	8,692 m^2	Based on AutoCAD-LT and Visual Sample Plan calculations
Number of Measurements	15	Type 1 and Type 2 errors were 0.05, sigma was 0.133 the LBGR was set to 0.735 to maintain Relative Shift in the range of 1 and 3, Relative Shift was 2.0
Grid Spacing(2)	27.6 m	Based on triangular grid
Design DCGL	3.16 ρCi/g Cs-137 1.52 ρCi/g Co-60 0.62 ρCi/g Sr-90	To achieve ten (10) mrem/yr TEDE
Operational DCGL	6.01 ρCi/g Cs-137 2.90 ρCi/g Co-60 1.18 ρCi/g Sr-90	To achieve nineteen (19) mrem/yr TEDE (3) to demonstrate compliance with Equation 2 of this Release Record
Scan Coverage	N/A	The LTP exempts this area
Sediment Investigation Level	6.01 ρCi/g Cs-137 2.90 ρCi/g Co-60 1.18 ρCi/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) These values are based on the 9,862 m^2 size of the initial survey unit design. I.e. Survey Unit 9106-0015 was a part of Survey Unit 9106-0007 when the grid sizes were calculated.
(3) The allowable dose for soil in this survey unit is nineteen (19) mrem/yr TEDE as the bounding dose from existing and future groundwater has been established based on field data (reference CY memo ISC 06-024.)

5. SURVEY IMPLEMENTATION

Final Status Survey field activities were conducted under Work Plan and Inspection Record (WP&IR) 2006-0021. 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 (10) 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 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 (9106-0007-001F, 9106-0007-002F, 9106-0007-014F and 9106-0007-021F) were selected for HTD radionuclide analysis by the off-site laboratory.

The implementation of survey specific quality control measures included the collection of two (2) split samples at locations 9106-0007-004F and 9106-0007-013F for "split sample" 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 was identified in ten (10), Co-60 was identified in nine (9) and Sr-90 in two (2) of the fifteen (15) samples. The results reported for the remaining sample analyses indicated that activity was present at levels approaching or below the established detection limit in the remaining samples collected and analyzed for non-parametric testing.

Several other radionuclides which were positively identified (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. Some of the HTD radionuclides met the acceptance criteria for detection (i.e., a result greater than two (2) 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 ρCi/g	Co-60 ρCi/g	Sr-90 ρCi/g	Fraction of the Operational DCGL (1)
9106-0007-001F	3.20E-02	4.96E-02	5.58E-03	2.72E-02
9106-0007-002F	4.41E-01	2.79E-02	3.43E-03	8.59E-02
9106-0007-003F	1.98E-01	-1.89E-02	1.12E-02	3.59E-02
9106-0007-004F	9.66E-03	3.42E-02	-6.42E-03	7.97E-03
9106-0007-005F	5.38E-01	1.90E-01	4.04E-02	1.89E-01
9106-0007-007F	2.51E-01	4.31E-01	4.74E-03	1.95E-01
9106-0007-011F	2.26E-01	3.14E-01	8.57E-03	1.53E-01
9106-0007-012F	-1.62E-02	-1.46E-02	8.97E-03	-1.22E-04
9106-0007-013F	2.21E-02	1.86E-02	-9.81E-03	1.77E-03
9106-0007-014F	3.94E-01	1.10E+00	3.92E-03	4.49E-01
9106-0007-015F	2.32E-02	1.35E-02	7.39E-03	1.48E-02
9106-0007-018F	1.62E-02	8.10E-03	1.76E-02	2.04E-02
9106-0007-019F	1.82E-01	3.96E-01	-2.18E-03	1.65E-01
9106-0007-020F	4.82E-01	1.65E-01	2.15E-02	1.55E-01
9106-0007-021F	3.94E-01	5.43E-01	-2.21E-03	2.51E-01

(1) The Operational DCGLs from Table 2 are 6.01 ρCi/g for Cs-137, 2.90 ρCi/g for Co-60 and 1.18 for Sr-90; these are used in conjunction with the unity rule to achieve nineteen (19) mrem/yr TEDE

Biased samples were not specifically called for in the sample plan, and none were deemed necessary from field observations.

7. QUALITY CONTROL

The off-site laboratory processed the split samples and performed gamma spectroscopy analysis. Two (2) of the samples were selected for analysis, which exceeds the 5% minimum required by the LTP. The data were evaluated using USNRC acceptance criteria specified in Inspection Procedure 84750 and as detailed in HNP Procedure RPM 5.1-24, *"Split Sample Assessment for Final Status Survey."* Each of the comparisons met the acceptance criteria.

The sample analysis vendor, General Engineering Laboratories (GEL) – Charleston, South Carolina, 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

None of the sample results exceeded the operational DCGL, thus no investigations were required.

9. REMEDIATION AND RESULTS

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

10. CHANGES FROM THE FINAL STATUS SURVEY PLAN

The survey was designed to 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 nineteen (19) 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).

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 2f. 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 3.6 standard deviations, was not unusually large. The difference between the mean and median was 25% of the standard deviation which indicates some skewness in the data. The data was represented graphically through posting plots, a frequency plot, and a quantile plot. The frequency plot shows some positive skewness as confirmed by the calculated skew of 1.37.

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

12. ANOMALIES

The configuration of this survey unit was changed from its initial design to a smaller Class 2 Survey Unit and a new Class 1 Survey Unit (Survey Unit # 9106-0015) that had a surface area of approximately 1,170 m^2. The new survey unit became necessary when the sample result for 9106-0007-017F was received from the off-site laboratory, it was determined that the sample exceeded the Operational DCGL of nineteen (19) mrem/yr (the sample's activity was equivalent to 22.4 mrem/yr). Since sample results cannot exceed the DCGL in a Class 2 area, an approximately square rectangle of 1,170 m^2 was removed from the footprint of the FSS design for Survey Unit 9106-0007. Addendum 1 to the FSS plan was implemented to address the changes to the plan associated with the establishment of a new Class 1 Survey Unit and the relocation of four (4) sample points that would no longer reside within Survey Unit 9106-0007. In accordance with Addendum 1, four (4) new sample locations were identified and sampled within Survey Unit 9106-0007.

No other anomalies were noted within this survey unit.

13. CONCLUSION

Survey Unit 9106-0007 has met the final DQOs of the FSS. The ALARA criteria for soils as specified in Chapter 4 of the LTP were achieved. Elevated Measurement Comparison and remediation was not required.

The sample data passed the Sign Test. The null hypothesis was rejected. 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 Class 2.

The dose contribution from sediment is 2.2 mrem/yr TEDE based on the average concentration of the samples used for non-parametric statistical sampling.

This survey unit is unaffected by existing groundwater (reference CY memo ISC 06-024). It has been determined that the dose contribution from groundwater sources is zero (0) mrem/yr TEDE.

This survey unit is also 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, zero (0) mrem/yr TEDE.

The average total dose from residual radioactivity in this survey unit, including that from sediment, will not exceed 2.2 mrem/yr Total Effective Dose Equivalent (TEDE).

14. ATTACHMENTS

14.1 Attachment 1 – Figures

14.2 Attachment 2 – Sample and Statistical Data

Attachment 1
Figures
(5 pages)

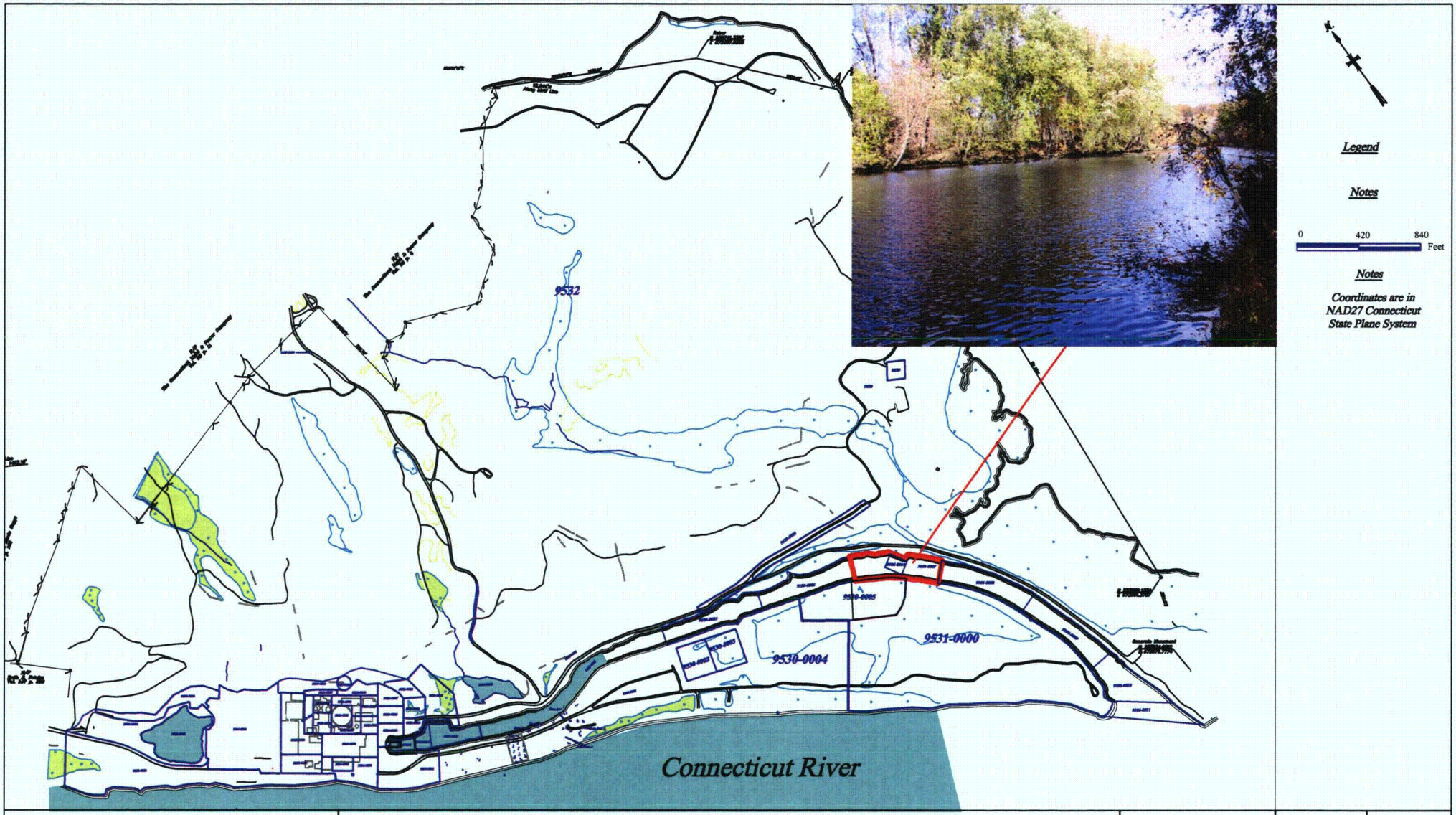

Figure 1	Connecticut Yankee Atomic Power Company Site MapWith Reference To Survey Unit 9106-0007	Date	By	Rev.
		October 2006	E. Sergent	0

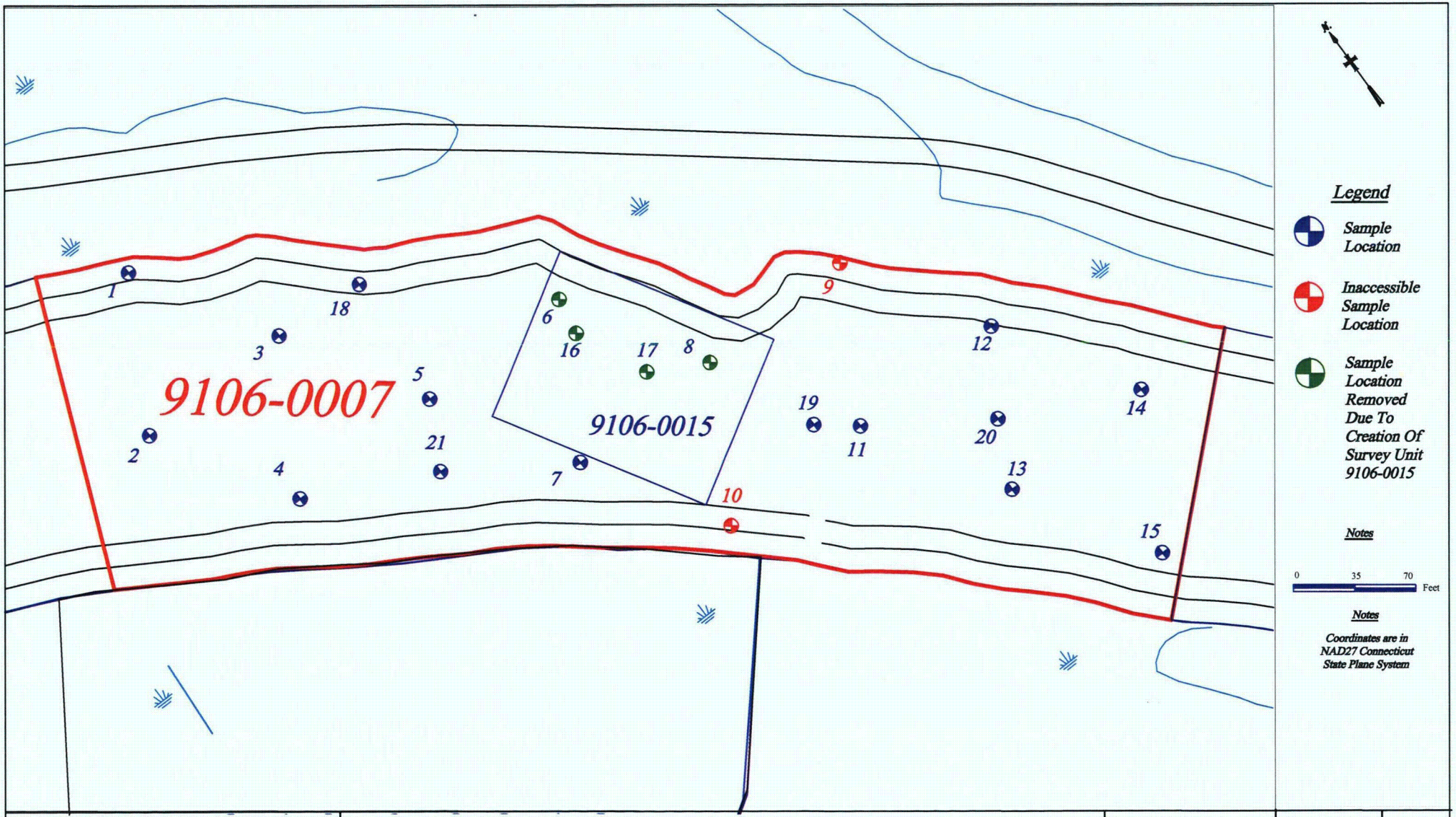

Figure 2	Connecticut Yankee Atomic Power Company 9106-0007 Final Status Survey Design	Date	By	Rev.
		October 2006	E. Sergent	0

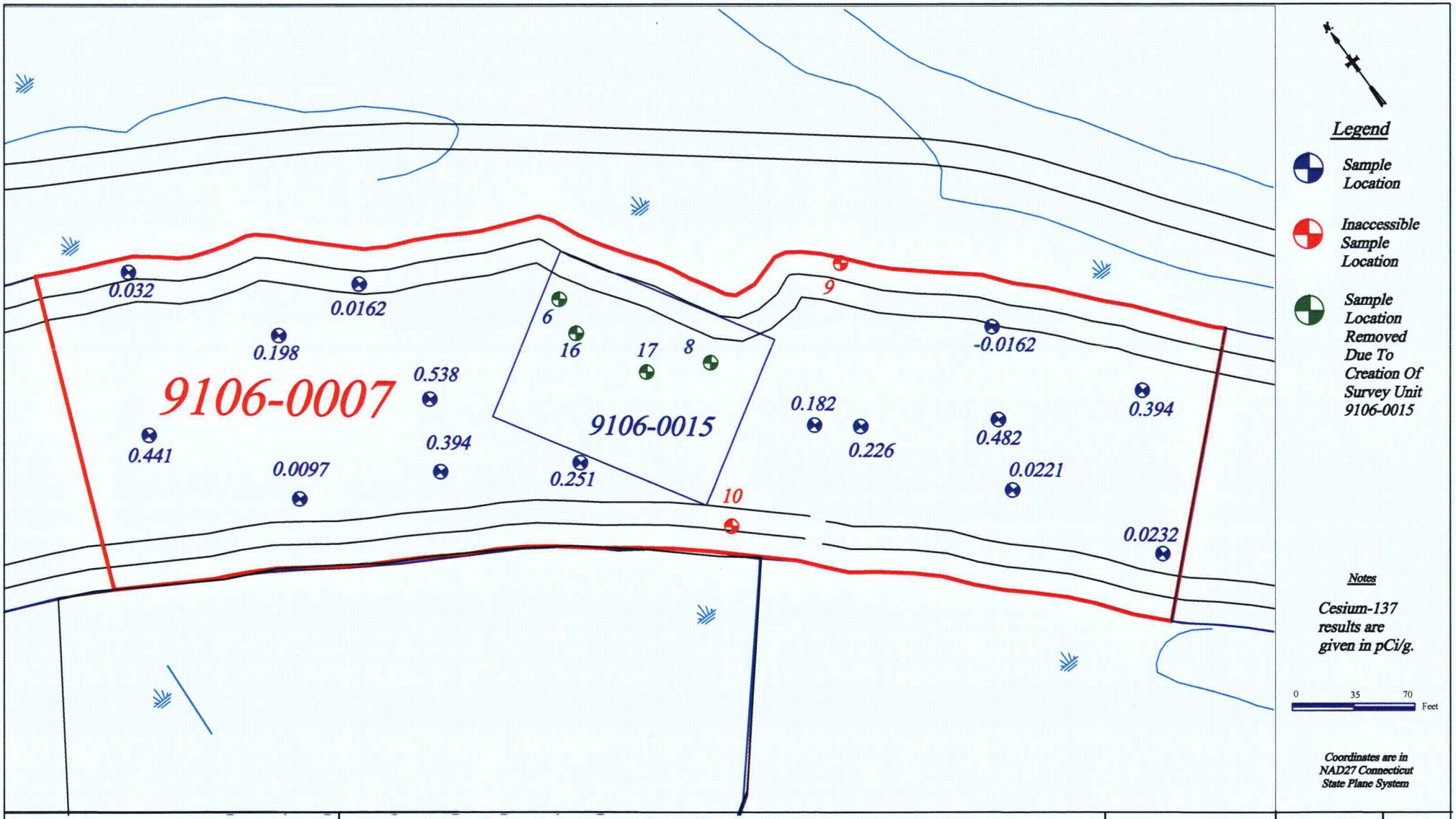

Figure 3	Connecticut Yankee Atomic Power Company 9106-0007 Final Status Survey Design Cesium-137 Posting Plot	Date	By	Rev.
		October 2006	E. Sergent	0

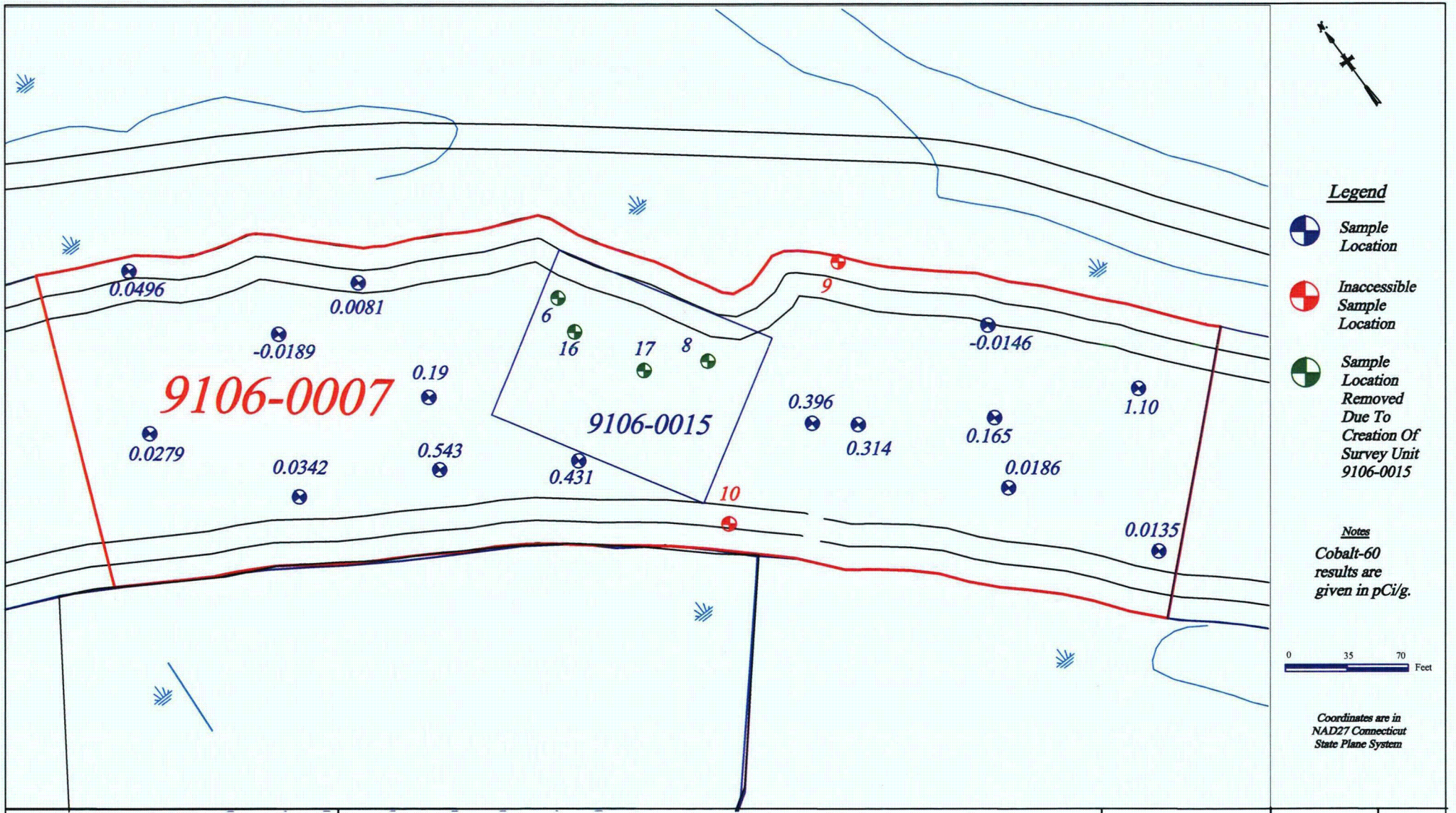

Figure 4	Connecticut Yankee Atomic Power Company 9106-0007 Final Status Survey Design Cobalt-60 Posting Plot	Date	By	Rev.
		October 2006	E. Sergent	0

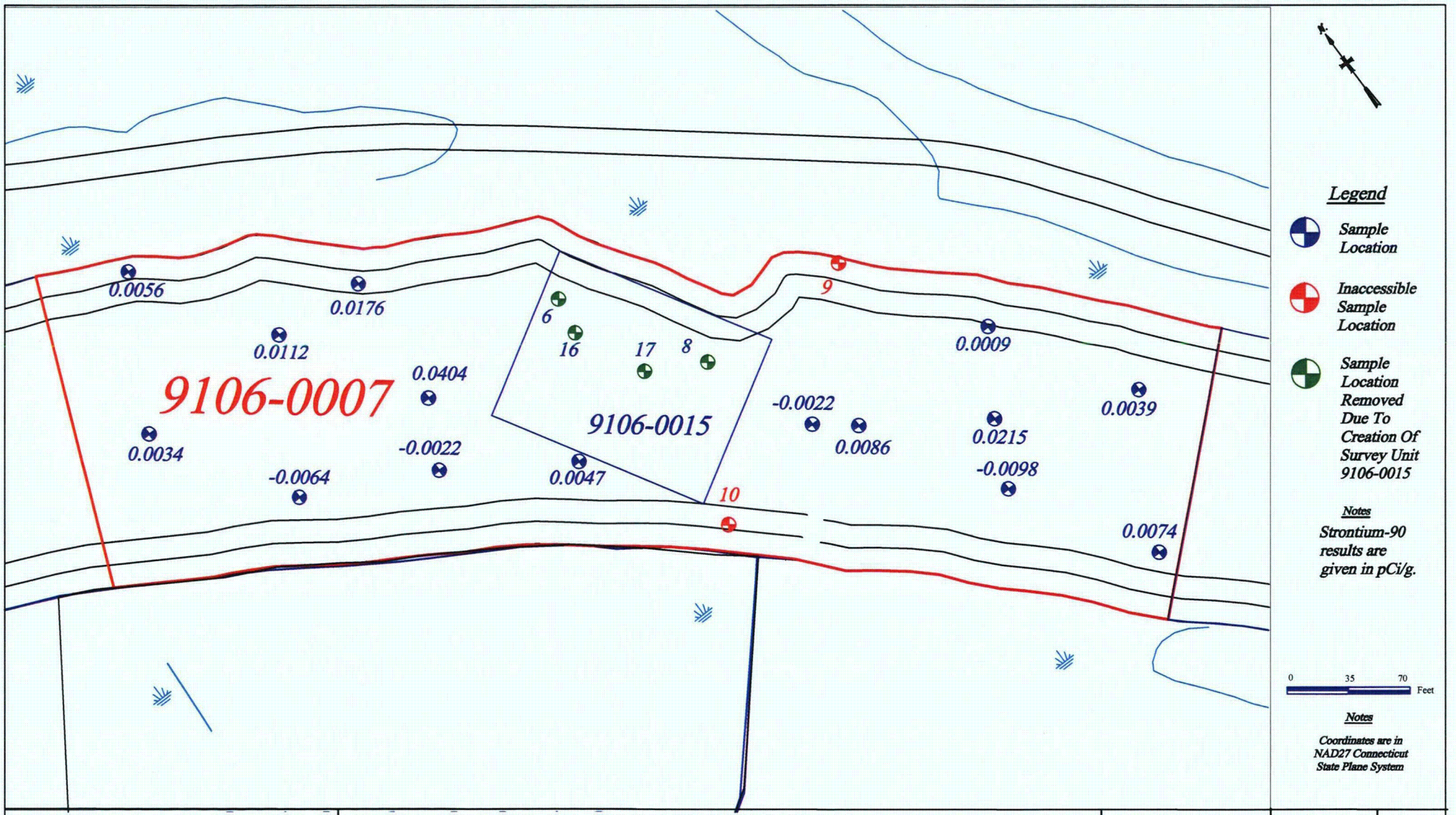

Figure 5	Connecticut Yankee Atomic Power Company 9106-0007 Final Status Survey Design Strontium-90 Posting Plot	Date	By	Rev.
		October 2006	E. Sergent	0

Attachment 2
Sample and Statistical Data

Attachment 2a
Sample Data
(172 Pages)

Table of Contents

General Narrative

CASE NARRATIVE
For
CONNECTICUT YANKEE
RE: Sediment
PO# 002332
Work Order: 163626
SDG: MSR #06-0730

June 19, 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 24, 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	Client Sample ID
163626001	9106-0007-016F
163626002	9106-0007-017F
163626003	9106-0007-003F
163626004	9106-0007-004F
163626005	9106-0007-004FS
163626006	9106-0007-005F
163626007	9106-0007-006F
163626008	9106-0007-007F

Sample ID	Client Sample ID
163626009	9106-0007-008F
163626010	9106-0007-011F
163626011	9106-0007-012F
163626012	9106-0007-013F
163626013	9106-0007-013FS
163626014	9106-0007-014F
163626015	9106-0007-015F
163626016	9106-0007-001F
163626017	9106-0007-002F

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:

Fifteen 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. 2006-00362

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

163626/.

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	Sample Type Code	Container Size-&Type Code	FSSGAM	FSSALL	Sr-90				Comment, Preservation	Lab Sample ID
9106-0007-016F	5/10/06	14:54	SE	C	BP	X		X				Transferred from COC 2006-00343	163626/001
9106-0007-017F	5/11/06	10:39	SE	C	BP	X		X				Transferred from COC 2006-00345	163626/002
9106-0007-001F	5/11/06	09:43	SE	C	BP		X					Transferred from COC 2006-00345	163626/016
9106-0007-002F	5/08/06	13:27	SE	C	BP		X					Transferred from COC 2006-00329	163626/017
9106-0007-003F	5/08/06	13:53	SE	C	BP	X		X				Transferred from COC 2006-00329	163626/003
9106-0007-004F	5/08/06	14:13	SE	C	BP	X		X				Transferred from COC 2006-00329	163626/004
9106-0007-004FS	5/08/06	14:13	SE	C	BP	X		X				Transferred from COC 2006-00329	163626/005
9106-0007-005F	5/08/06	14:32	SE	C	BP	X		X				Transferred from COC 2006-00329	163626/006
9106-0007-006F	5/08/06	14:52	SE	C	BP	X		X				Transferred from COC 2006-00329	163626/007

Analyses Requested

Lab Use Only
Comments:

NOTES: PO #: 002332 MSR #: 06-0736 SSWP# NA ☒ LTP QA ☐ Radwaste QA ☐ Non QA

Samples Shipped Via:
☒ Fed Ex
☐ UPS
☐ Hand
☐ Other

Bill of Lading #
7921057 35432

Internal Container Temp.: ____ Deg. C

Custody Sealed? Y ☐ N ☐

Custody Seal Intact? Y ☐ N ☐

1) Relinquished By	Date/Time	2) Received By	Date/Time
	5/23/06 0855		5/24/06 0930
3) Relinquished By	Date/Time	4) Received By	Date/Time

Chain of Custody Form

No. 2006-00363

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

163626/1.

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	Sample Type Code	Container Size-&Type Code	Analyses Requested: FSSGAM	FSSALL	Sr-90				Comment, Preservation	Lab Sample ID
9106-0007-007F	5/08/06	15:11	SE	C	BP	X		X				Transferred from COC 2006-00329	163626/008
9106-0007-008F	5/09/06	10:39	SE	C	BP	X		X				Transferred from COC 2006-00334	163626/009
9106-0007-011F	5/09/06	09:43	SE	C	BP	X		X				Transferred from COC 2006-00334	163626/010
9106-0007-012F	5/09/06	13:27	SE	C	BP	X		X				Transferred from COC 2006-00334	163626/011
9106-0007-013F	5/09/06	13:53	SE	C	BP	X		X				Transferred from COC 2006-00334	163626/012
9106-0007-013FS	5/09/06	14:13	SE	C	BP	X		X				Transferred from COC 2006-00334	163626/013
9106-0007-014F	5/09/06	14:13	SE	C	BP	X		X				Transferred from COC 2006-00334	163626/014
9106-0007-015F	5/16/06	07:56	SE	C	BP	X		X				Transferred from COC 2006-00353	163626/015

Lab Use Only

Comments:

NOTES: PO #: 002332 MSR #: 06-0730 SSWP# NA ☒ LTP QA ☐ Radwaste QA ☐ Non QA
CD 5/31/06

Samples Shipped Via:
☒ Fed Ex
☐ UPS
☐ Hand
☐ Other

Bill of Lading #
7921 0573 5443

Internal Container Temp: ____ Deg. C

Custody Sealed? Y☐ N☐

Custody Seal Intact? Y☐ N☐

1) Relinquished By	Date/Time	2) Received By	Date/Time
Lori Pullman	5-23-06 0815	K. Wright	5/24/06 0930
3) Relinquished By	Date/Time	4) Received By	Date/Time

SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: Conn Yankee	**SDG/ARCOC/Work Order:** 1103626
Date Received: 5/24/06	**PM(A) Review (ensure non-conforming items are resolved prior to signing):**
Received By: MW	

	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) 19°C
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	7921 0673 5432			

	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?	MK ✓	✓		Maximum Counts Observed*: cpm 60
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 _____ Date: 5/24/06

Figure 1. Sample Check-in List

Date/Time Received: 5/24/06 0930

SDG#: MSR#06-0730

Work Order Number: 163626

Shipping Container ID: 792105735432 Chain of Custody # 2006-00302

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: 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: [signature] Date: 5/24/06

Telephoned to: On By

RADIOLOGICAL ANALYSIS

Radiochemistry Case Narrative
Connecticut Yankee Atomic Power Co. (YANK)
Work Order 163626

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:	533456
Prep Batch Number:	533364
Dry Soil Prep GL-RAD-A-021 Batch Number:	533363

Sample ID	Client ID
163626016	9106-0007-001F
163626017	9106-0007-002F
1201101075	Method Blank (MB)
1201101076	163629001(9508-0000-003C) Sample Duplicate (DUP)
1201101077	163629001(9508-0000-003C) Matrix Spike (MS)
1201101078	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: 163629001 (9508-0000-003C).

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
Sample 1201101076 (9508-0000-003C) was recounted due to a negative result greater than three times the error.

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:	533457
Prep Batch Number:	533364
Dry Soil Prep GL-RAD-A-021 Batch Number:	533363

Sample ID	Client ID
163626016	9106-0007-001F
163626017	9106-0007-002F
1201101079	Method Blank (MB)
1201101080	163629001(9508-0000-003C) Sample Duplicate (DUP)
1201101081	163629001(9508-0000-003C) Matrix Spike (MS)
1201101082	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: 163629001 (9508-0000-003C).

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.

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:	537066
Prep Batch Number:	533364
Dry Soil Prep GL-RAD-A-021 Batch Number:	533363

Sample ID	Client ID
163626016	9106-0007-001F
163626017	9106-0007-002F
1201109335	Method Blank (MB)
1201109336	163626016(9106-0007-001F) Sample Duplicate (DUP)
1201109337	163626016(9106-0007-001F) Matrix Spike (MS)
1201109338	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: 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.

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:	533723
Prep Batch Number:	533363

Sample ID	Client ID
163626001	9106-0007-016F
163626002	9106-0007-017F
163626003	9106-0007-003F
163626004	9106-0007-004F
163626005	9106-0007-004FS
163626006	9106-0007-005F
163626007	9106-0007-006F
163626008	9106-0007-007F
163626009	9106-0007-008F
163626010	9106-0007-011F
163626011	9106-0007-012F
163626012	9106-0007-013F
163626013	9106-0007-013FS
163626014	9106-0007-014F
163626015	9106-0007-015F
163626016	9106-0007-001F
163626017	9106-0007-002F
1201101711	Method Blank (MB)
1201101712	163626001(9106-0007-016F) Sample Duplicate (DUP)
1201101713	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: 163626001 (9106-0007-016F).

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 1201101712 (9106-0007-016F) and 163626001 (9106-0007-016F) for Am-241 did not meet the duplication criteria. However, when a relative error ratio is calculated, precision is shown at 1.05293.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to high Full-Width Half-Maximum.	Manganese-54	163626007
			163626012
UI	Data rejected due to high counting uncertainty.	Bismuth-212	163626015
UI	Data rejected due to interference.	Europium-155	163626009
UI	Data rejected due to low abundance.	Cesium-134	163626001
			163626003
			163626005
			163626010
			163626012
			163626013
		Lead-212	1201101711
		Potassium-40	1201101711

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:	536335
Prep Batch Number:	533364
Dry Soil Prep GL-RAD-A-021 Batch Number:	533363

Sample ID	Client ID
163626001	9106-0007-016F
163626002	9106-0007-017F
163626003	9106-0007-003F
163626004	9106-0007-004F
163626005	9106-0007-004FS
163626006	9106-0007-005F
163626007	9106-0007-006F
163626008	9106-0007-007F
163626009	9106-0007-008F
163626010	9106-0007-011F
163626011	9106-0007-012F
163626012	9106-0007-013F
163626013	9106-0007-013FS
163626014	9106-0007-014F
163626015	9106-0007-015F
163626016	9106-0007-001F
163626017	9106-0007-002F
1201107674	Method Blank (MB)
1201107675	163105017(9106-0010-008F) Sample Duplicate (DUP)
1201107676	163105017(9106-0010-008F) Matrix Spike (MS)
1201107677	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: 163105017 (9106-0010-008F).

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

Technical Information:

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

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

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

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:	533813

Sample ID	Client ID
163626016	9106-0007-001F
163626017	9106-0007-002F
1201101894	Method Blank (MB)
1201101895	163629001(9508-0000-003C) Sample Duplicate (DUP)
1201101896	163629001(9508-0000-003C) Matrix Spike (MS)
1201101897	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: 163629001 (9508-0000-003C).

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:	533888
Prep Batch Number:	533364
Dry Soil Prep GL-RAD-A-021 Batch Number:	533363

Sample ID	Client ID
163626016	9106-0007-001F
163626017	9106-0007-002F
1201102097	Method Blank (MB)
1201102098	163629001(9508-0000-003C) Sample Duplicate (DUP)
1201102099	163629001(9508-0000-003C) Matrix Spike (MS)
1201102100	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: 163629001 (9508-0000-003C).

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:	533889
Prep Batch Number:	533364
Dry Soil Prep GL-RAD-A-021 Batch Number:	533363

Sample ID	Client ID
163626016	9106-0007-001F
163626017	9106-0007-002F
1201102101	Method Blank (MB)
1201102102	163629001(9508-0000-003C) Sample Duplicate (DUP)
1201102103	163629001(9508-0000-003C) Matrix Spike (MS)
1201102104	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: 163629001 (9508-0000-003C).

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:	535984

Sample ID	Client ID
163626016	9106-0007-001F
163626017	9106-0007-002F
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:	535068

Sample ID	Client ID
163626016	9106-0007-001F
163626017	9106-0007-002F
1201104921	Method Blank (MB)
1201104922	163629001(9508-0000-003C) Sample Duplicate (DUP)
1201104923	163629001(9508-0000-003C) Matrix Spike (MS)
1201104924	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: 163629001 (9508-0000-003C).

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
Samples were reprepped due to low/high recovery.

Miscellaneous Information:

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

Additional Comments
Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

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: _____ 6/22/06

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: MRS#06-0730 GEL Work Order: 163626

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 22, 2006

Client Sample ID:	9106-0007-016F	Project:	YANK01204
Sample ID:	163626001	Client ID:	YANK001
Matrix:	Soil	Vol. Recv.:	
Collect Date:	10-MAY-06		
Receive Date:	24-MAY-06		
Collector:	Client		
Moisture:	50.3%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS													
Actinium-228		0.835	+/-0.226	0.0845	+/-0.226	0.177	pCi/g		MJH1	06/13/06	1208	533723	1
Americium-241		0.0575	+/-0.039	0.0234	+/-0.039	0.048	pCi/g						
Bismuth-212		0.419	+/-0.398	0.173	+/-0.398	0.362	pCi/g						
Bismuth-214		0.508	+/-0.117	0.0402	+/-0.117	0.0838	pCi/g						
Cesium-134	UI	0.00	+/-0.0567	0.0287	+/-0.0567	0.0599	pCi/g						
Cesium-137		0.369	+/-0.0742	0.0229	+/-0.0742	0.0479	pCi/g						
Cobalt-60		0.841	+/-0.102	0.0233	+/-0.102	0.0497	pCi/g						
Europium-152	U	-0.0337	+/-0.0605	0.0488	+/-0.0605	0.101	pCi/g						
Europium-154	U	0.00645	+/-0.0752	0.0618	+/-0.0752	0.132	pCi/g						
Europium-155	U	0.0654	+/-0.0538	0.0443	+/-0.0538	0.0908	pCi/g						
Lead-212		0.788	+/-0.114	0.0262	+/-0.114	0.054	pCi/g						
Lead-214		0.631	+/-0.123	0.0356	+/-0.123	0.0738	pCi/g						
Manganese-54	U	0.0216	+/-0.0305	0.0203	+/-0.0305	0.0428	pCi/g						
Niobium-94	U	0.00105	+/-0.0268	0.0214	+/-0.0268	0.0446	pCi/g						
Potassium-40		12.7	+/-1.15	0.181	+/-1.15	0.395	pCi/g						
Radium-226		0.508	+/-0.117	0.0402	+/-0.117	0.0838	pCi/g						
Silver-108m	U	-0.000967	+/-0.0222	0.0181	+/-0.0222	0.0376	pCi/g						
Thallium-208		0.292	+/-0.0605	0.0201	+/-0.0605	0.0421	pCi/g						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid-ALL FSS													
Strontium-90	U	0.00944	+/-0.0187	0.0199	+/-0.0187	0.043	pCi/g		BXF1	06/10/06	1907	536335	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM1	05/25/06	1129	533363

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

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

Certificate of Analysis

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

East Hampton, Connecticut 06424 Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-016F Project: YANK01204
Sample ID: 163626001 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	69	(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
Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9106-0007-017F	Project:	YANK01204
Sample ID:	163626002	Client ID:	YANK001
Matrix:	Soil	Vol. Recv.:	
Collect Date:	11-MAY-06		
Receive Date:	24-MAY-06		
Collector:	Client		
Moisture:	42.3%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS													
Actinium-228		0.707	+/-0.240	0.108	+/-0.240	0.224	pCi/g		MJH1	06/13/06	1209	533723	1
Americium-241	U	0.118	+/-0.125	0.0872	+/-0.125	0.179	pCi/g						
Bismuth-212		0.599	+/-0.357	0.204	+/-0.357	0.426	pCi/g						
Bismuth-214		0.623	+/-0.101	0.0492	+/-0.101	0.102	pCi/g						
Cesium-134	U	0.0262	+/-0.0364	0.0316	+/-0.0364	0.0657	pCi/g						
Cesium-137		0.642	+/-0.0829	0.0246	+/-0.0829	0.0514	pCi/g						
Cobalt-60		3.09	+/-0.135	0.0239	+/-0.135	0.0514	pCi/g						
Europium-152	U	-0.0711	+/-0.0728	0.0577	+/-0.0728	0.120	pCi/g						
Europium-154	U	0.00147	+/-0.080	0.0681	+/-0.080	0.146	pCi/g						
Europium-155	U	0.0641	+/-0.0627	0.0572	+/-0.0627	0.117	pCi/g						
Lead-212		0.921	+/-0.0927	0.039	+/-0.0927	0.0799	pCi/g						
Lead-214		0.750	+/-0.110	0.0435	+/-0.110	0.090	pCi/g						
Manganese-54	U	0.00873	+/-0.033	0.0279	+/-0.033	0.0583	pCi/g						
Niobium-94	U	0.0207	+/-0.027	0.0237	+/-0.027	0.0493	pCi/g						
Potassium-40		14.9	+/-1.05	0.183	+/-1.05	0.401	pCi/g						
Radium-226		0.623	+/-0.101	0.0492	+/-0.101	0.102	pCi/g						
Silver-108m	U	-0.0164	+/-0.0269	0.0213	+/-0.0269	0.0441	pCi/g						
Thallium-208		0.311	+/-0.064	0.0233	+/-0.064	0.0486	pCi/g						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid-ALL FSS													
Strontium-90	U	0.00894	+/-0.0191	0.0203	+/-0.0191	0.0449	pCi/g		BXF1	06/10/06	1908	536335	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM1	05/25/06	1129	533363

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	67	(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 Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-017F Project: YANK01204
Sample ID: 163626002 Client ID: YANK001
Vol. Recv.:

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

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

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

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

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd
East Hampton, Connecticut 06424
Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9106-0007-003F	Project:	YANK01204
Sample ID:	163626003	Client ID:	YANK001
Matrix:	Soil	Vol. Recv.:	
Collect Date:	08-MAY-06		
Receive Date:	24-MAY-06		
Collector:	Client		
Moisture:	22.5%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS													
Actinium-228		2.64	+/-0.330	0.0998	+/-0.330	0.206	pCi/g		MJH1	06/13/06	1209	533723	1
Americium-241	U	-0.0716	+/-0.144	0.0961	+/-0.144	0.195	pCi/g						
Bismuth-212		1.51	+/-0.507	0.209	+/-0.507	0.430	pCi/g						
Bismuth-214		1.98	+/-0.159	0.048	+/-0.159	0.0985	pCi/g						
Cesium-134	UI	0.00	+/-0.0662	0.037	+/-0.0662	0.0759	pCi/g						
Cesium-137		0.198	+/-0.0554	0.0275	+/-0.0554	0.0566	pCi/g						
Cobalt-60	U	-0.0189	+/-0.0381	0.0301	+/-0.0381	0.0628	pCi/g						
Europium-152	U	-0.00194	+/-0.0861	0.0672	+/-0.0861	0.137	pCi/g						
Europium-154	U	-0.000908	+/-0.114	0.0924	+/-0.114	0.192	pCi/g						
Europium-155	U	0.108	+/-0.0935	0.0676	+/-0.0935	0.137	pCi/g						
Lead-212		2.59	+/-0.108	0.0369	+/-0.108	0.0751	pCi/g						
Lead-214		2.19	+/-0.158	0.0463	+/-0.158	0.0947	pCi/g						
Manganese-54	U	0.00325	+/-0.0385	0.0307	+/-0.0385	0.0632	pCi/g						
Niobium-94	U	0.0416	+/-0.0317	0.0265	+/-0.0317	0.0543	pCi/g						
Potassium-40		45.5	+/-1.55	0.268	+/-1.55	0.563	pCi/g						
Radium-226		1.98	+/-0.159	0.048	+/-0.159	0.0985	pCi/g						
Silver-108m	U	-0.0245	+/-0.029	0.0218	+/-0.029	0.0448	pCi/g						
Thallium-208		0.818	+/-0.0898	0.0257	+/-0.0898	0.0528	pCi/g						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid-ALL FSS													
Strontium-90	U	0.0112	+/-0.0204	0.0207	+/-0.0204	0.0472	pCi/g		BXF1	06/10/06	1908	536335	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM1	05/25/06	1129	533363

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	53	(25%-125%)

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd
East Hampton, Connecticut 06424
Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-003F
Sample ID: 163626003
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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C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
H Analytical holding time was exceeded
J Value is estimated
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd
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Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: June 22, 2006

Client Sample ID:	9106-0007-004F	Project:	YANK01204
Sample ID:	163626004	Client ID:	YANK001
Matrix:	Soil	Vol. Recv.:	
Collect Date:	08-MAY-06		
Receive Date:	24-MAY-06		
Collector:	Client		
Moisture:	34.5%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS													
Actinium-228		0.631	+/-0.196	0.0799	+/-0.196	0.171	pCi/g		MJH1	06/13/06	1209	533723	1
Americium-241	U	-0.0157	+/-0.105	0.0805	+/-0.105	0.167	pCi/g						
Bismuth-212		0.498	+/-0.396	0.139	+/-0.396	0.302	pCi/g						
Bismuth-214		0.612	+/-0.116	0.0378	+/-0.116	0.0805	pCi/g						
Cesium-134	U	0.0317	+/-0.0436	0.0248	+/-0.0436	0.0529	pCi/g						
Cesium-137	U	0.00966	+/-0.0263	0.0223	+/-0.0263	0.0475	pCi/g						
Cobalt-60	U	0.0342	+/-0.0299	0.0278	+/-0.0299	0.0602	pCi/g						
Europium-152	U	-0.0527	+/-0.0584	0.0473	+/-0.0584	0.100	pCi/g						
Europium-154	U	0.0021	+/-0.075	0.0628	+/-0.075	0.138	pCi/g						
Europium-155	U	0.0781	+/-0.0889	0.055	+/-0.0889	0.114	pCi/g						
Lead-212		0.932	+/-0.0755	0.0294	+/-0.0755	0.0614	pCi/g						
Lead-214		0.863	+/-0.106	0.0358	+/-0.106	0.0755	pCi/g						
Manganese-54	U	-0.00164	+/-0.0274	0.0222	+/-0.0274	0.0476	pCi/g						
Niobium-94	U	-0.0121	+/-0.0243	0.0192	+/-0.0243	0.041	pCi/g						
Potassium-40		14.1	+/-1.12	0.143	+/-1.12	0.332	pCi/g						
Radium-226		0.612	+/-0.116	0.0378	+/-0.116	0.0805	pCi/g						
Silver-108m	U	-0.00486	+/-0.0218	0.0182	+/-0.0218	0.0384	pCi/g						
Thallium-208		0.288	+/-0.0658	0.0185	+/-0.0658	0.0397	pCi/g						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid-ALL FSS													
Strontium-90	U	-0.00642	+/-0.0154	0.0193	+/-0.0154	0.0433	pCi/g		BXF1	06/10/06	1908	536335	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM1	05/25/06	1129	533363

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%)

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Certificate of Analysis

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Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-004F
Sample ID: 163626004
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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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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Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9106-0007-004FS	Project:	YANK01204
Sample ID:	163626005	Client ID:	YANK001
Matrix:	Soil	Vol. Recv.:	
Collect Date:	08-MAY-06		
Receive Date:	24-MAY-06		
Collector:	Client		
Moisture:	24.6%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS													
Actinium-228		0.618	+/-0.136	0.0549	+/-0.136	0.117	pCi/g		MJH1	06/13/06	1210	533723	1
Americium-241	U	0.0257	+/-0.0951	0.0642	+/-0.0951	0.132	pCi/g						
Bismuth-212		0.638	+/-0.217	0.113	+/-0.217	0.241	pCi/g						
Bismuth-214		0.641	+/-0.0891	0.0264	+/-0.0891	0.056	pCi/g						
Cesium-134	UI	0.00	+/-0.0336	0.0202	+/-0.0336	0.0426	pCi/g						
Cesium-137	U	0.00574	+/-0.0192	0.0165	+/-0.0192	0.0348	pCi/g						
Cobalt-60		0.0627	+/-0.0236	0.0125	+/-0.0236	0.0279	pCi/g						
Europium-152	U	-0.0257	+/-0.0403	0.0345	+/-0.0403	0.0725	pCi/g						
Europium-154	U	0.0282	+/-0.0537	0.0475	+/-0.0537	0.103	pCi/g						
Europium-155	U	0.0414	+/-0.048	0.0443	+/-0.048	0.0913	pCi/g						
Lead-212		0.735	+/-0.0525	0.0222	+/-0.0525	0.0459	pCi/g						
Lead-214		0.569	+/-0.0691	0.0261	+/-0.0691	0.0547	pCi/g						
Manganese-54	U	0.005	+/-0.0181	0.0161	+/-0.0181	0.0343	pCi/g						
Niobium-94	U	0.0128	+/-0.0164	0.0146	+/-0.0164	0.0307	pCi/g						
Potassium-40		11.3	+/-0.749	0.126	+/-0.749	0.281	pCi/g						
Radium-226		0.641	+/-0.0891	0.0264	+/-0.0891	0.056	pCi/g						
Silver-108m	U	-0.00953	+/-0.0142	0.0118	+/-0.0142	0.025	pCi/g						
Thallium-208		0.240	+/-0.0421	0.0151	+/-0.0421	0.0318	pCi/g						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid-ALL FSS													
Strontium-90	U	0.00585	+/-0.0179	0.0192	+/-0.0179	0.0433	pCi/g		BXF1	06/10/06	1908	536335	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM1	05/25/06	1129	533363

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	70	(25%-125%)

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Company : Connecticut Yankee Atomic Power
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East Hampton, Connecticut 06424 Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-004FS Project: YANK01204
Sample ID: 163626005 Client ID: YANK001
Vol. Recv.:

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

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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.

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Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9106-0007-005F	Project:	YANK01204
Sample ID:	163626006	Client ID:	YANK001
Matrix:	Soil	Vol. Recv.:	
Collect Date:	08-MAY-06		
Receive Date:	24-MAY-06		
Collector:	Client		
Moisture:	33.2%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS													
Actinium-228		0.590	+/-0.190	0.0606	+/-0.190	0.130	pCi/g		MJH1	06/13/06	1210	533723	1
Americium-241	U	-0.0361	+/-0.111	0.089	+/-0.111	0.184	pCi/g						
Bismuth-212		0.307	+/-0.250	0.124	+/-0.250	0.263	pCi/g						
Bismuth-214		0.518	+/-0.103	0.0317	+/-0.103	0.0668	pCi/g						
Cesium-134	U	0.0397	+/-0.0236	0.0224	+/-0.0236	0.0473	pCi/g						
Cesium-137		0.538	+/-0.0669	0.0179	+/-0.0669	0.0378	pCi/g						
Cobalt-60		0.190	+/-0.0523	0.0167	+/-0.0523	0.0366	pCi/g						
Europium-152	U	0.0162	+/-0.0505	0.045	+/-0.0505	0.0938	pCi/g						
Europium-154	U	0.0126	+/-0.0677	0.0572	+/-0.0677	0.123	pCi/g						
Europium-155	U	0.0553	+/-0.0657	0.0472	+/-0.0657	0.0974	pCi/g						
Lead-212		0.791	+/-0.0873	0.0253	+/-0.0873	0.0523	pCi/g						
Lead-214		0.577	+/-0.108	0.032	+/-0.108	0.0668	pCi/g						
Manganese-54	U	0.0244	+/-0.0226	0.0177	+/-0.0226	0.0377	pCi/g						
Niobium-94	U	0.00792	+/-0.0181	0.0155	+/-0.0181	0.0328	pCi/g						
Potassium-40		13.1	+/-1.18	0.133	+/-1.18	0.299	pCi/g						
Radium-226		0.518	+/-0.103	0.0317	+/-0.103	0.0668	pCi/g						
Silver-108m	U	-0.00923	+/-0.0176	0.0147	+/-0.0176	0.0308	pCi/g						
Thallium-208		0.242	+/-0.0436	0.0165	+/-0.0436	0.035	pCi/g						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid-ALL FSS													
Strontium-90		0.0404	+/-0.020	0.015	+/-0.020	0.0341	pCi/g		BXF1	06/10/06	1908	536335	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM1	05/25/06	1129	533363

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%)

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Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-005F
Sample ID: 163626006
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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D Results are reported from a diluted aliquot of the sample
H Analytical holding time was exceeded
J Value is estimated
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
h Preparation or preservation holding time was exceeded
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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
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Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9106-0007-006F	Project:	YANK01204
Sample ID:	163626007	Client ID:	YANK001
Matrix:	Soil	Vol. Recv.:	
Collect Date:	08-MAY-06		
Receive Date:	24-MAY-06		
Collector:	Client		
Moisture:	27.3%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS													
Actinium-228		0.767	+/-0.216	0.0568	+/-0.216	0.121	pCi/g		MJH1	06/13/06	1210	533723	1
Americium-241	U	-0.00364	+/-0.128	0.0745	+/-0.128	0.153	pCi/g						
Bismuth-212		0.570	+/-0.219	0.119	+/-0.219	0.253	pCi/g						
Bismuth-214		0.478	+/-0.0846	0.0293	+/-0.0846	0.0615	pCi/g						
Cesium-134	U	0.0325	+/-0.0365	0.0219	+/-0.0365	0.0459	pCi/g						
Cesium-137	U	0.00632	+/-0.0195	0.017	+/-0.0195	0.0357	pCi/g						
Cobalt-60	U	0.00524	+/-0.0188	0.0164	+/-0.0188	0.0358	pCi/g						
Europium-152	U	-0.0493	+/-0.0557	0.0406	+/-0.0557	0.0844	pCi/g						
Europium-154	U	-0.052	+/-0.0638	0.0502	+/-0.0638	0.108	pCi/g						
Europium-155	U	-0.00374	+/-0.051	0.0456	+/-0.051	0.0936	pCi/g						
Lead-212		0.784	+/-0.0867	0.0241	+/-0.0867	0.0497	pCi/g						
Lead-214		0.657	+/-0.101	0.0306	+/-0.101	0.0636	pCi/g						
Manganese-54	UI	0.00	+/-0.0469	0.0146	+/-0.0469	0.0311	pCi/g						
Niobium-94	U	0.0143	+/-0.0185	0.0164	+/-0.0185	0.0344	pCi/g						
Potassium-40		12.8	+/-1.21	0.143	+/-1.21	0.315	pCi/g						
Radium-226		0.478	+/-0.0846	0.0293	+/-0.0846	0.0615	pCi/g						
Silver-108m	U	-0.00174	+/-0.0158	0.0138	+/-0.0158	0.0289	pCi/g						
Thallium-208		0.257	+/-0.0487	0.0152	+/-0.0487	0.0321	pCi/g						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid-ALL FSS													
Strontium-90	U	0.00721	+/-0.0154	0.0161	+/-0.0154	0.0364	pCi/g		BXF1	06/10/06	1908	536335	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM1	05/25/06	1129	533363

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	80	(25%-125%)

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East Hampton, Connecticut 06424 Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-006F Project: YANK01204
Sample ID: 163626007 Client ID: YANK001
Vol. Recv.:

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

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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

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Address : 362 Injun Hollow Rd
East Hampton, Connecticut 06424
Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9106-0007-007F	Project:	YANK01204
Sample ID:	163626008	Client ID:	YANK001
Matrix:	Soil	Vol. Recv.:	
Collect Date:	08-MAY-06		
Receive Date:	24-MAY-06		
Collector:	Client		
Moisture:	43.8%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS													
Actinium-228		0.884	+/-0.194	0.0626	+/-0.194	0.135	pCi/g		MJH1	06/13/06	1210	533723	1
Americium-241	U	0.0703	+/-0.106	0.0841	+/-0.106	0.173	pCi/g						
Bismuth-212		0.466	+/-0.319	0.184	+/-0.319	0.388	pCi/g						
Bismuth-214		0.649	+/-0.092	0.0393	+/-0.092	0.0827	pCi/g						
Cesium-134	U	0.0372	+/-0.038	0.0245	+/-0.038	0.0518	pCi/g						
Cesium-137		0.251	+/-0.0464	0.0207	+/-0.0464	0.0437	pCi/g						
Cobalt-60		0.431	+/-0.0711	0.021	+/-0.0711	0.0458	pCi/g						
Europium-152	U	-0.0397	+/-0.0676	0.0541	+/-0.0676	0.113	pCi/g						
Europium-154	U	0.0367	+/-0.0754	0.0648	+/-0.0754	0.140	pCi/g						
Europium-155	U	0.0143	+/-0.0675	0.0586	+/-0.0675	0.121	pCi/g						
Lead-212		0.873	+/-0.067	0.0309	+/-0.067	0.064	pCi/g						
Lead-214		0.675	+/-0.108	0.0375	+/-0.108	0.0783	pCi/g						
Manganese-54	U	-0.00423	+/-0.0272	0.0226	+/-0.0272	0.0478	pCi/g						
Niobium-94	U	0.0143	+/-0.0229	0.0202	+/-0.0229	0.0424	pCi/g						
Potassium-40		12.7	+/-0.999	0.177	+/-0.999	0.391	pCi/g						
Radium-226		0.649	+/-0.092	0.0393	+/-0.092	0.0827	pCi/g						
Silver-108m	U	-0.0201	+/-0.0223	0.0171	+/-0.0223	0.036	pCi/g						
Thallium-208		0.279	+/-0.058	0.0192	+/-0.058	0.0407	pCi/g						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid-ALL FSS													
Strontium-90	U	0.00474	+/-0.0145	0.0156	+/-0.0145	0.0352	pCi/g		BXF1	06/10/06	1908	536335	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM1	05/25/06	1129	533363

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%)

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Certificate of Analysis

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

East Hampton, Connecticut 06424 Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-007F Project: YANK01204
Sample ID: 163626008 Client ID: YANK001
Vol. Recv.:

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

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

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd
East Hampton, Connecticut 06424
Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9106-0007-008F	Project:	YANK01204
Sample ID:	163626009	Client ID:	YANK001
Matrix:	Soil	Vol. Recv.:	
Collect Date:	09-MAY-06		
Receive Date:	24-MAY-06		
Collector:	Client		
Moisture:	55.7%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS													
Actinium-228		1.04	+/-0.303	0.131	+/-0.303	0.272	pCi/g		MJH1	06/13/06	1211	533723	1
Americium-241	U	0.0438	+/-0.0622	0.040	+/-0.0622	0.0815	pCi/g						
Bismuth-212		1.01	+/-0.559	0.272	+/-0.559	0.563	pCi/g						
Bismuth-214		1.01	+/-0.179	0.0642	+/-0.179	0.133	pCi/g						
Cesium-134	U	0.0785	+/-0.073	0.0403	+/-0.073	0.0834	pCi/g						
Cesium-137		0.221	+/-0.0726	0.0382	+/-0.0726	0.0789	pCi/g						
Cobalt-60		0.763	+/-0.112	0.0368	+/-0.112	0.0775	pCi/g						
Europium-152	U	-0.101	+/-0.104	0.0808	+/-0.104	0.166	pCi/g						
Europium-154	U	-0.0218	+/-0.125	0.103	+/-0.125	0.216	pCi/g						
Europium-155	UI	0.00	+/-0.117	0.0688	+/-0.117	0.140	pCi/g						
Lead-212		1.25	+/-0.100	0.0426	+/-0.100	0.0874	pCi/g						
Lead-214		1.10	+/-0.149	0.0579	+/-0.149	0.119	pCi/g						
Manganese-54	U	0.0494	+/-0.0479	0.0406	+/-0.0479	0.084	pCi/g						
Niobium-94	U	0.0301	+/-0.0395	0.0334	+/-0.0395	0.0689	pCi/g						
Potassium-40		16.8	+/-1.29	0.329	+/-1.29	0.695	pCi/g						
Radium-226		1.01	+/-0.179	0.0642	+/-0.179	0.133	pCi/g						
Silver-108m	U	-0.0405	+/-0.0358	0.0272	+/-0.0358	0.0562	pCi/g						
Thallium-208		0.309	+/-0.0928	0.0328	+/-0.0928	0.0679	pCi/g						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid-ALL FSS													
Strontium-90	U	0.0143	+/-0.0193	0.0193	+/-0.0193	0.0416	pCi/g		BXF1	06/11/06	0958	536335	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM1	05/25/06	1129	533363

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	70	(25%-125%)

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Certificate of Analysis

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

Report Date: June 22, 2006

Client Sample ID: 9106-0007-008F
Sample ID: 163626009

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

Report Date: June 22, 2006

Client Sample ID:	9106-0007-011F	Project:	YANK01204
Sample ID:	163626010	Client ID:	YANK001
Matrix:	Soil	Vol. Recv.:	
Collect Date:	09-MAY-06		
Receive Date:	24-MAY-06		
Collector:	Client		
Moisture:	64.1%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS													
Actinium-228		0.980	+/-0.238	0.0827	+/-0.238	0.174	pCi/g		MJH1	06/13/06	1211	533723	1
Americium-241	U	-0.0092	+/-0.0288	0.0218	+/-0.0288	0.0446	pCi/g						
Bismuth-212		0.897	+/-0.380	0.161	+/-0.380	0.338	pCi/g						
Bismuth-214		0.780	+/-0.130	0.0389	+/-0.130	0.0814	pCi/g						
Cesium-134	UI	0.00	+/-0.0444	0.0275	+/-0.0444	0.0575	pCi/g						
Cesium-137		0.226	+/-0.051	0.0229	+/-0.051	0.0479	pCi/g						
Cobalt-60		0.314	+/-0.0689	0.0215	+/-0.0689	0.0464	pCi/g						
Europium-152	U	-0.0396	+/-0.0648	0.0491	+/-0.0648	0.102	pCi/g						
Europium-154	U	0.0113	+/-0.0857	0.0702	+/-0.0857	0.150	pCi/g						
Europium-155	U	0.0384	+/-0.0644	0.038	+/-0.0644	0.0781	pCi/g						
Lead-212		1.05	+/-0.071	0.0262	+/-0.071	0.054	pCi/g						
Lead-214		0.771	+/-0.0946	0.0356	+/-0.0946	0.0739	pCi/g						
Manganese-54	U	0.0192	+/-0.0311	0.0256	+/-0.0311	0.0536	pCi/g						
Niobium-94	U	0.00809	+/-0.0265	0.0216	+/-0.0265	0.0451	pCi/g						
Potassium-40		16.3	+/-1.14	0.200	+/-1.14	0.435	pCi/g						
Radium-226		0.780	+/-0.130	0.0389	+/-0.130	0.0814	pCi/g						
Silver-108m	U	-0.0109	+/-0.0221	0.0178	+/-0.0221	0.0372	pCi/g						
Thallium-208		0.364	+/-0.0567	0.021	+/-0.0567	0.0439	pCi/g						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid-ALL FSS													
Strontium-90	U	0.00857	+/-0.0154	0.0155	+/-0.0154	0.034	pCi/g		BXF1	06/11/06	0958	536335	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM1	05/25/06	1129	533363

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	71	(25%-125%)

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Company : Connecticut Yankee Atomic Power
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East Hampton, Connecticut 06424 Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-011F Project: YANK01204
Sample ID: 163626010 Client ID: YANK001
Vol. Recv.:

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

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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.

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

Report Date: June 22, 2006

Client Sample ID:	9106-0007-012F	Project:	YANK01204
Sample ID:	163626011	Client ID:	YANK001
Matrix:	Soil	Vol. Recv.:	
Collect Date:	09-MAY-06		
Receive Date:	24-MAY-06		
Collector:	Client		
Moisture:	43.6%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS													
Actinium-228		1.02	+/-0.238	0.0813	+/-0.238	0.175	pCi/g		MJH1	06/13/06	1211	533723	1
Americium-241	U	0.00735	+/-0.0387	0.0312	+/-0.0387	0.0642	pCi/g						
Bismuth-212		0.863	+/-0.403	0.186	+/-0.403	0.396	pCi/g						
Bismuth-214		0.627	+/-0.100	0.0456	+/-0.100	0.0963	pCi/g						
Cesium-134	U	0.039	+/-0.0397	0.0277	+/-0.0397	0.059	pCi/g						
Cesium-137	U	-0.0162	+/-0.0291	0.0232	+/-0.0291	0.0494	pCi/g						
Cobalt-60	U	-0.0146	+/-0.0342	0.0273	+/-0.0342	0.0594	pCi/g						
Europium-152	U	0.0092	+/-0.0641	0.0564	+/-0.0641	0.118	pCi/g						
Europium-154	U	0.0494	+/-0.0895	0.0792	+/-0.0895	0.171	pCi/g						
Europium-155	U	0.0287	+/-0.0562	0.0478	+/-0.0562	0.0988	pCi/g						
Lead-212		0.939	+/-0.0708	0.0286	+/-0.0708	0.0596	pCi/g						
Lead-214		0.667	+/-0.104	0.043	+/-0.104	0.0899	pCi/g						
Manganese-54	U	0.0457	+/-0.0402	0.0245	+/-0.0402	0.0524	pCi/g						
Niobium-94	U	0.00394	+/-0.0268	0.0226	+/-0.0268	0.0478	pCi/g						
Potassium-40		13.0	+/-1.10	0.174	+/-1.10	0.396	pCi/g						
Radium-226		0.627	+/-0.100	0.0456	+/-0.100	0.0963	pCi/g						
Silver-108m	U	-0.00372	+/-0.0226	0.0193	+/-0.0226	0.0406	pCi/g						
Thallium-208		0.339	+/-0.0515	0.0214	+/-0.0515	0.0455	pCi/g						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid-ALL FSS													
Strontium-90	U	0.00897	+/-0.0155	0.0156	+/-0.0155	0.0341	pCi/g		BXF1	06/11/06	0958	536335	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM1	05/25/06	1129	533363

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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Company : Connecticut Yankee Atomic Power
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East Hampton, Connecticut 06424 Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-012F Project: YANK01204
Sample ID: 163626011 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	73	(25%-125%)

Notes:
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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.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd
East Hampton, Connecticut 06424
Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9106-0007-013F	Project:	YANK01204
Sample ID:	163626012	Client ID:	YANK001
Matrix:	Soil	Vol. Recv.:	
Collect Date:	09-MAY-06		
Receive Date:	24-MAY-06		
Collector:	Client		
Moisture:	51.6%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS													
Actinium-228		1.20	+/-0.154	0.0536	+/-0.154	0.112	pCi/g		MJH1	06/13/06	1212	533723	1
Americium-241	U	-0.104	+/-0.129	0.0864	+/-0.129	0.177	pCi/g						
Bismuth-212		0.635	+/-0.276	0.117	+/-0.276	0.245	pCi/g						
Bismuth-214		0.739	+/-0.0863	0.0295	+/-0.0863	0.0611	pCi/g						
Cesium-134	UI	0.00	+/-0.0504	0.0216	+/-0.0504	0.0448	pCi/g						
Cesium-137	U	0.0221	+/-0.025	0.0159	+/-0.025	0.0331	pCi/g						
Cobalt-60	U	0.0186	+/-0.0222	0.0188	+/-0.0222	0.0397	pCi/g						
Europium-152	U	0.0251	+/-0.051	0.0432	+/-0.051	0.0891	pCi/g						
Europium-154	U	-0.00197	+/-0.0604	0.0486	+/-0.0604	0.103	pCi/g						
Europium-155	U	0.0535	+/-0.0619	0.0519	+/-0.0619	0.106	pCi/g						
Lead-212		1.34	+/-0.0699	0.0239	+/-0.0699	0.0491	pCi/g						
Lead-214		0.886	+/-0.0877	0.0296	+/-0.0877	0.0612	pCi/g						
Manganese-54	UI	0.00	+/-0.0288	0.0148	+/-0.0288	0.031	pCi/g						
Niobium-94	U	0.00336	+/-0.019	0.0152	+/-0.019	0.0316	pCi/g						
Potassium-40		19.4	+/-0.858	0.138	+/-0.858	0.295	pCi/g						
Radium-226		0.739	+/-0.0863	0.0295	+/-0.0863	0.0611	pCi/g						
Silver-108m	U	0.00287	+/-0.0166	0.0138	+/-0.0166	0.0285	pCi/g						
Thallium-208		0.361	+/-0.0505	0.0149	+/-0.0505	0.0309	pCi/g						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid-ALL FSS													
Strontium-90	U	-0.00981	+/-0.0115	0.014	+/-0.0115	0.0302	pCi/g		BXF1	06/11/06	0958	536335	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM1	05/25/06	1129	533363

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	89	(25%-125%)

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Company : Connecticut Yankee Atomic Power
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Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-013F
Sample ID: 163626012
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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H Analytical holding time was exceeded
J Value is estimated
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd
East Hampton, Connecticut 06424
Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9106-0007-013FS	Project:	YANK01204
Sample ID:	163626013	Client ID:	YANK001
Matrix:	Soil	Vol. Recv.:	
Collect Date:	09-MAY-06		
Receive Date:	24-MAY-06		
Collector:	Client		
Moisture:	50%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS													
Actinium-228		1.27	+/-0.224	0.053	+/-0.224	0.111	pCi/g		MJH1	06/13/06	1212	533723	1
Americium-241	U	-0.0439	+/-0.0734	0.0575	+/-0.0734	0.117	pCi/g						
Bismuth-212		0.774	+/-0.308	0.134	+/-0.308	0.278	pCi/g						
Bismuth-214		0.879	+/-0.126	0.0318	+/-0.126	0.0656	pCi/g						
Cesium-134	UI	0.00	+/-0.038	0.0203	+/-0.038	0.0421	pCi/g						
Cesium-137	U	0.0201	+/-0.0235	0.0174	+/-0.0235	0.036	pCi/g						
Cobalt-60	U	0.0127	+/-0.0228	0.0189	+/-0.0228	0.0397	pCi/g						
Europium-152	U	0.0136	+/-0.0499	0.0411	+/-0.0499	0.0846	pCi/g						
Europium-154	U	-0.0126	+/-0.0608	0.0484	+/-0.0608	0.102	pCi/g						
Europium-155	U	0.0641	+/-0.0797	0.0477	+/-0.0797	0.0974	pCi/g						
Lead-212		1.24	+/-0.114	0.0245	+/-0.114	0.0503	pCi/g						
Lead-214		1.08	+/-0.127	0.0279	+/-0.127	0.0575	pCi/g						
Manganese-54	U	-0.00714	+/-0.0203	0.0165	+/-0.0203	0.0343	pCi/g						
Niobium-94	U	0.0106	+/-0.0178	0.0152	+/-0.0178	0.0314	pCi/g						
Potassium-40		20.6	+/-1.48	0.149	+/-1.48	0.316	pCi/g						
Radium-226		0.879	+/-0.126	0.0318	+/-0.126	0.0656	pCi/g						
Silver-108m	U	-0.0102	+/-0.0164	0.0129	+/-0.0164	0.0267	pCi/g						
Thallium-208		0.346	+/-0.0576	0.0146	+/-0.0576	0.0303	pCi/g						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid-ALL FSS													
Strontium-90	U	0.00291	+/-0.0102	0.0107	+/-0.0102	0.0235	pCi/g		BXF1	06/11/06	0958	536335	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM1	05/25/06	1129	533363

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	95	(25%-125%)

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Certificate of Analysis

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

East Hampton, Connecticut 06424 Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-013FS Project: YANK01204
Sample ID: 163626013 Client ID: YANK001
Vol. Recv.:

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

Notes:
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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.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd
East Hampton, Connecticut 06424
Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9106-0007-014F	Project:	YANK01204
Sample ID:	163626014	Client ID:	YANK001
Matrix:	Soil	Vol. Recv.:	
Collect Date:	09-MAY-06		
Receive Date:	24-MAY-06		
Collector:	Client		
Moisture:	28.1%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS													
Actinium-228		0.769	+/-0.266	0.0836	+/-0.266	0.178	pCi/g		MJH1	06/13/06	1635	533723	1
Americium-241	U	0.0479	+/-0.0995	0.083	+/-0.0995	0.171	pCi/g						
Bismuth-212		0.551	+/-0.290	0.179	+/-0.290	0.377	pCi/g						
Bismuth-214		0.586	+/-0.116	0.0412	+/-0.116	0.0867	pCi/g						
Cesium-134	U	0.0372	+/-0.0649	0.0299	+/-0.0649	0.0628	pCi/g						
Cesium-137		0.394	+/-0.065	0.0221	+/-0.065	0.0468	pCi/g						
Cobalt-60		1.10	+/-0.112	0.0206	+/-0.112	0.0452	pCi/g						
Europium-152	U	-0.00198	+/-0.0654	0.0565	+/-0.0654	0.118	pCi/g						
Europium-154	U	0.0221	+/-0.0777	0.0676	+/-0.0777	0.146	pCi/g						
Europium-155	U	0.000647	+/-0.0675	0.0593	+/-0.0675	0.122	pCi/g						
Lead-212		0.800	+/-0.0939	0.0316	+/-0.0939	0.0655	pCi/g						
Lead-214		0.628	+/-0.111	0.0391	+/-0.111	0.0817	pCi/g						
Manganese-54	U	0.0207	+/-0.0294	0.026	+/-0.0294	0.0548	pCi/g						
Niobium-94	U	0.00979	+/-0.0231	0.0204	+/-0.0231	0.043	pCi/g						
Potassium-40		12.8	+/-1.24	0.179	+/-1.24	0.399	pCi/g						
Radium-226		0.586	+/-0.116	0.0412	+/-0.116	0.0867	pCi/g						
Silver-108m	U	0.00804	+/-0.0223	0.0193	+/-0.0223	0.0406	pCi/g						
Thallium-208		0.281	+/-0.0503	0.0215	+/-0.0503	0.0454	pCi/g						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid-ALL FSS													
Strontium-90	U	0.00392	+/-0.0116	0.012	+/-0.0116	0.0264	pCi/g		BXF1	06/11/06	0958	536335	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM1	05/25/06	1129	533363

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%)

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Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-014F
Sample ID: 163626014
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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C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
H Analytical holding time was exceeded
J Value is estimated
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Company : Connecticut Yankee Atomic Power
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Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9106-0007-015F	Project:	YANK01204
Sample ID:	163626015	Client ID:	YANK001
Matrix:	Soil	Vol. Recv.:	
Collect Date:	16-MAY-06		
Receive Date:	24-MAY-06		
Collector:	Client		
Moisture:	36.5%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS													
Actinium-228		0.788	+/-0.176	0.0729	+/-0.176	0.157	pCi/g		MJH1	06/13/06	1636	533723	1
Americium-241	U	0.0523	+/-0.102	0.0866	+/-0.102	0.179	pCi/g						
Bismuth-212	UI	0.00	+/-0.479	0.152	+/-0.479	0.325	pCi/g						
Bismuth-214		0.653	+/-0.110	0.0365	+/-0.110	0.0775	pCi/g						
Cesium-134	U	0.047	+/-0.0502	0.0269	+/-0.0502	0.0569	pCi/g						
Cesium-137	U	0.0232	+/-0.0242	0.022	+/-0.0242	0.0467	pCi/g						
Cobalt-60	U	0.0135	+/-0.0248	0.0223	+/-0.0248	0.0488	pCi/g						
Europium-152	U	0.0495	+/-0.0675	0.0585	+/-0.0675	0.122	pCi/g						
Europium-154	U	-0.0173	+/-0.0752	0.0625	+/-0.0752	0.136	pCi/g						
Europium-155	U	0.0465	+/-0.0626	0.0574	+/-0.0626	0.118	pCi/g						
Lead-212		0.905	+/-0.0726	0.0323	+/-0.0726	0.0669	pCi/g						
Lead-214		0.710	+/-0.105	0.0382	+/-0.105	0.080	pCi/g						
Manganese-54	U	-0.0127	+/-0.025	0.020	+/-0.025	0.0428	pCi/g						
Niobium-94	U	0.0157	+/-0.0235	0.0208	+/-0.0235	0.044	pCi/g						
Potassium-40		14.1	+/-1.12	0.195	+/-1.12	0.433	pCi/g						
Radium-226		0.653	+/-0.110	0.0365	+/-0.110	0.0775	pCi/g						
Silver-108m	U	0.00538	+/-0.0222	0.0185	+/-0.0222	0.0389	pCi/g						
Thallium-208		0.263	+/-0.0567	0.0201	+/-0.0567	0.0427	pCi/g						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid-ALL FSS													
Strontium-90	U	0.00739	+/-0.0113	0.0112	+/-0.0113	0.0245	pCi/g		BXF1	06/11/06	0958	536335	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM1	05/25/06	1129	533363

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	99	(25%-125%)

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Certificate of Analysis

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Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-015F
Sample ID: 163626015
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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D Results are reported from a diluted aliquot of the sample
H Analytical holding time was exceeded
J Value is estimated
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd
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Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9106-0007-001F	Project:	YANK01204
Sample ID:	163626016	Client ID:	YANK001
Matrix:	Soil	Vol. Recv.:	
Collect Date:	11-MAY-06		
Receive Date:	24-MAY-06		
Collector:	Client		
Moisture:	18.4%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
Alphaspec Am241, Cm, Solid ALL FSS													
Americium-241	U	0.105	+/-0.222	0.205	+/-0.223	0.494	pCi/g		JAS1	05/30/06	1336	533456	1
Curium-242	U	-0.0407	+/-0.0357	0.0865	+/-0.0361	0.265	pCi/g						
Curium-243/244	U	-0.0163	+/-0.154	0.171	+/-0.154	0.427	pCi/g						
Alphaspec Pu, Solid-ALL FSS													
Plutonium-238	U	-0.0216	+/-0.107	0.128	+/-0.107	0.347	pCi/g		JAS1	05/30/06	1336	533457	2
Plutonium-239/240	U	-0.0054	+/-0.105	0.115	+/-0.105	0.322	pCi/g						
Liquid Scint Pu241, Solid-ALL FSS													
Plutonium-241	U	0.192	+/-7.77	6.51	+/-7.77	13.6	pCi/g		MXA 1	06/16/06	2348	537066	3
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS													
Actinium-228		0.766	+/-0.197	0.0601	+/-0.197	0.130	pCi/g		MJH1	06/13/06	1637	533723	4
Americium-241	U	0.087	+/-0.127	0.0939	+/-0.127	0.195	pCi/g						
Bismuth-212		0.445	+/-0.359	0.132	+/-0.359	0.283	pCi/g						
Bismuth-214		0.473	+/-0.0945	0.0325	+/-0.0945	0.069	pCi/g						
Cesium-134	U	0.0163	+/-0.0439	0.0219	+/-0.0439	0.0465	pCi/g						
Cesium-137	U	0.032	+/-0.0284	0.0168	+/-0.0284	0.0358	pCi/g						
Cobalt-60	U	0.0496	+/-0.0293	0.028	+/-0.0293	0.0596	pCi/g						
Europium-152	U	0.00115	+/-0.0488	0.0438	+/-0.0488	0.0921	pCi/g						
Europium-154	U	-0.0451	+/-0.0627	0.0477	+/-0.0627	0.105	pCi/g						
Europium-155	U	0.054	+/-0.0643	0.0457	+/-0.0643	0.095	pCi/g						
Lead-212		0.686	+/-0.080	0.027	+/-0.080	0.0561	pCi/g						
Lead-214		0.548	+/-0.0972	0.028	+/-0.0972	0.0591	pCi/g						
Manganese-54	U	0.0154	+/-0.0242	0.0197	+/-0.0242	0.042	pCi/g						
Niobium-94	U	0.0131	+/-0.0187	0.0149	+/-0.0187	0.0319	pCi/g						
Potassium-40		12.5	+/-1.18	0.142	+/-1.18	0.322	pCi/g						
Radium-226		0.473	+/-0.0945	0.0325	+/-0.0945	0.069	pCi/g						
Silver-108m	U	-0.00363	+/-0.0156	0.0135	+/-0.0156	0.0288	pCi/g						
Thallium-208		0.198	+/-0.0462	0.0171	+/-0.0462	0.0363	pCi/g						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid-ALL FSS													
Strontium-90	U	0.00558	+/-0.0136	0.0139	+/-0.0136	0.0308	pCi/g		BXF1	06/11/06	0959	536335	5
Rad Liquid Scintillation Analysis													
LSC, Tritium Dist, Solid-HTD2,ALL FSS													
Tritium	U	0.738	+/-6.97	5.81	+/-6.97	12.3	pCi/g		NXP1	06/17/06	1537	535984	6

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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 22, 2006

Client Sample ID: 9106-0007-001F
Sample ID: 163626016

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Liquid Scintillation Analysis													
Liquid Scint C14, Solid All,FSS													
Carbon-14	U	0.0265	+/-0.0805	0.0671	+/-0.0805	0.136	pCi/g		MXP1	06/04/06	1145	535068	7
Liquid Scint Fe55, Solid-ALL FSS													
Iron-55	U	2.53	+/-10.4	7.66	+/-10.4	16.1	pCi/g		SLN1	06/01/06	2111	533888	9
Liquid Scint Ni63, Solid-ALL FSS													
Nickel-63	U	-5.15	+/-7.12	6.09	+/-7.12	12.5	pCi/g		SLN1	06/01/06	1503	533889	10
Liquid Scint Tc99, Solid-ALL FSS													
Technetium-99	U	0.0747	+/-0.244	0.202	+/-0.244	0.418	pCi/g		SXE1	06/02/06	0833	533813	11

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM1	05/25/06	1129	533363

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	EPA EERF C-01 Modified
9	DOE RESL Fe-1, Modified
10	DOE RESL Ni-1, Modified
11	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	97	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	79	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	100	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	72	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	84	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	81	(25%-125%)

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Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-001F
Sample ID: 163626016
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 Tc99, Solid-ALL FS			80		(15%-125%)					

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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
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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd
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Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9106-0007-002F	Project:	YANK01204
Sample ID:	163626017	Client ID:	YANK001
Matrix:	Soil	Vol. Recv.:	
Collect Date:	08-MAY-06		
Receive Date:	24-MAY-06		
Collector:	Client		
Moisture:	27.3%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
Alphaspec Am241, Cm, Solid ALL FSS													
Americium-241	U	-0.0232	+/-0.151	0.170	+/-0.151	0.429	pCi/g		JAS1	05/30/06	1336	533456	1
Curium-242	U	-0.0517	+/-0.0414	0.100	+/-0.0419	0.298	pCi/g						
Curium-243/244	U	-0.00261	+/-0.143	0.154	+/-0.143	0.396	pCi/g						
Alphaspec Pu, Solid-ALL FSS													
Plutonium-238	U	0.0604	+/-0.120	0.0936	+/-0.120	0.266	pCi/g		JAS1	05/30/06	1336	533457	2
Plutonium-239/240	U	-0.0255	+/-0.0933	0.115	+/-0.0933	0.308	pCi/g						
Liquid Scint Pu241, Solid-ALL FSS													
Plutonium-241	U	3.02	+/-8.03	6.61	+/-8.04	13.8	pCi/g		MXA 1	06/17/06	0004	537066	3
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS													
Actinium-228		0.781	+/-0.196	0.0599	+/-0.196	0.130	pCi/g		MJH1	06/13/06	1637	533723	4
Americium-241	U	-0.0559	+/-0.102	0.0905	+/-0.102	0.186	pCi/g						
Bismuth-212		0.507	+/-0.264	0.150	+/-0.264	0.319	pCi/g						
Bismuth-214		0.497	+/-0.119	0.0349	+/-0.119	0.0739	pCi/g						
Cesium-134	U	0.0202	+/-0.0251	0.0224	+/-0.0251	0.0479	pCi/g						
Cesium-137		0.441	+/-0.0577	0.0211	+/-0.0577	0.0446	pCi/g						
Cobalt-60	U	0.0279	+/-0.0691	0.0214	+/-0.0691	0.047	pCi/g						
Europium-152	U	-0.0326	+/-0.0579	0.0495	+/-0.0579	0.104	pCi/g						
Europium-154	U	-0.0353	+/-0.0845	0.0573	+/-0.0845	0.126	pCi/g						
Europium-155	U	-0.0427	+/-0.0652	0.0562	+/-0.0652	0.116	pCi/g						
Lead-212		0.668	+/-0.0871	0.0303	+/-0.0871	0.0627	pCi/g						
Lead-214		0.578	+/-0.100	0.0352	+/-0.100	0.0737	pCi/g						
Manganese-54	U	0.00498	+/-0.0234	0.020	+/-0.0234	0.0427	pCi/g						
Niobium-94	U	0.000943	+/-0.0215	0.0183	+/-0.0215	0.0388	pCi/g						
Potassium-40		11.4	+/-1.21	0.176	+/-1.21	0.394	pCi/g						
Radium-226		0.497	+/-0.119	0.0349	+/-0.119	0.0739	pCi/g						
Silver-108m	U	-0.00345	+/-0.0196	0.0169	+/-0.0196	0.0356	pCi/g						
Thallium-208		0.196	+/-0.0492	0.0177	+/-0.0492	0.0377	pCi/g						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid-ALL FSS													
Strontium-90	U	0.00343	+/-0.0162	0.017	+/-0.0162	0.0379	pCi/g		BXF1	06/11/06	1048	536335	5
Rad Liquid Scintillation Analysis													
LSC, Tritium Dist, Solid-HTD2,ALL FSS													
Tritium	U	-1.68	+/-6.61	5.64	+/-6.61	11.9	pCi/g		NXP1	06/17/06	1553	535984	6

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 22, 2006

Client Sample ID: 9106-0007-002F
Sample ID: 163626017

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Liquid Scintillation Analysis													
Liquid Scint C14, Solid All,FSS													
Carbon-14	U	0.0916	+/-0.0825	0.0677	+/-0.0825	0.138	pCi/g		MXP1	06/04/06	1319	535068	7
Liquid Scint Fe55, Solid-ALL FSS													
Iron-55	U	-1.08	+/-9.72	7.31	+/-9.72	15.4	pCi/g		SLN1	06/01/06	2128	533888	9
Liquid Scint Ni63, Solid-ALL FSS													
Nickel-63	U	-0.355	+/-8.33	7.00	+/-8.33	14.3	pCi/g		SLN1	06/01/06	1535	533889	10
Liquid Scint Tc99, Solid-ALL FSS													
Technetium-99	U	-0.174	+/-0.222	0.192	+/-0.222	0.396	pCi/g		SXE1	06/02/06	0849	533813	11

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM1	05/25/06	1129	533363

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	EPA EERF C-01 Modified
9	DOE RESL Fe-1, Modified
10	DOE RESL Ni-1, Modified
11	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	98	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	96	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	99	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	52	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	86	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	78	(25%-125%)

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd
East Hampton, Connecticut 06424
Report Date: June 22, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-002F
Sample ID: 163626017
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 Tc99, Solid-ALL FS			84		(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.

QUALITY CONTROL DATA

QC Summary

Client : Connecticut Yankee Atomic Power
362 Injun Hollow Rd

East Hampton, Connecticut

Contact: Mr. Jack McCarthy

Workorder: 163626

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 533456										
QC1201101076 163629001 DUP										
Americium-241	U	0.157	U	-0.115	pCi/g	1300		(0% - 100%)	JAS1	06/01/06 07:40
	Uncert:	+/-0.195		+/-0.0601						
	TPU:	+/-0.196		+/-0.0618						
Curium-242	U	0.0192	U	-0.0484	pCi/g	463		(0% - 100%)		
	Uncert:	+/-0.0766		+/-0.074						
	TPU:	+/-0.0767		+/-0.0742						
Curium-243/244	U	-0.0548	U	-0.0779	pCi/g	35		(0% - 100%)		
	Uncert:	+/-0.139		+/-0.0968						
	TPU:	+/-0.139		+/-0.0973						
QC1201101078 LCS										
Americium-241	12.8			13.1	pCi/g		102	(75%-125%)		05/30/06 13:36
	Uncert:			+/-1.26						
	TPU:			+/-2.27						
Curium-242			U	-0.0903	pCi/g					
	Uncert:			+/-0.0864						
	TPU:			+/-0.0874						
Curium-243/244	15.6			15.3	pCi/g		98	(75%-125%)		
	Uncert:			+/-1.37						
	TPU:			+/-2.60						
QC1201101075 MB										
Americium-241			U	0.0762	pCi/g					05/30/06 13:36
	Uncert:			+/-0.149						
	TPU:			+/-0.150						
Curium-242			U	0.00978	pCi/g					
	Uncert:			+/-0.0741						
	TPU:			+/-0.0741						
Curium-243/244			U	-0.0358	pCi/g					
	Uncert:			+/-0.154						
	TPU:			+/-0.154						
QC1201101077 163629001 MS										
Americium-241	12.8 U	0.157		13.5	pCi/g		105	(75%-125%)		05/30/06 13:36
	Uncert:	+/-0.195		+/-1.23						
	TPU:	+/-0.196		+/-2.28						
Curium-242	U	0.0192	U	-0.0134	pCi/g					
	Uncert:	+/-0.0766		+/-0.0694						
	TPU:	+/-0.0767		+/-0.0694						
Curium-243/244	15.6 U	-0.0548		15.2	pCi/g		97	(75%-125%)		
	Uncert:	+/-0.139		+/-1.31						
	TPU:	+/-0.139		+/-2.52						
Batch 533457										
QC1201101080 163629001 DUP										
Plutonium-238	U	-0.0306	U	-0.00654	pCi/g	130		(0% - 100%)	JAS1	05/30/06 13:36

QC Summary

Workorder: 163626

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 533457										
	Uncert:	+/-0.0787		+/-0.0727						
	TPU:	+/-0.0788		+/-0.0727						
Plutonium-239/240	U	-0.00664	U	0.0366	pCi/g	289		(0% - 100%)		
	Uncert:	+/-0.0739		+/-0.139						
	TPU:	+/-0.0739		+/-0.139						
QC1201101082 LCS										
Plutonium-238			U	0.193	pCi/g			(75%-125%)		
	Uncert:			+/-0.184						
	TPU:			+/-0.185						
Plutonium-239/240	11.8			11.7	pCi/g		99	(75%-125%)		
	Uncert:			+/-1.17						
	TPU:			+/-1.68						
QC1201101079 MB										
Plutonium-238			U	-0.00254	pCi/g					05/30/06 13:36
	Uncert:			+/-0.139						
	TPU:			+/-0.139						
Plutonium-239/240			U	-0.0661	pCi/g					
	Uncert:			+/-0.107						
	TPU:			+/-0.108						
QC1201101081 163629001 MS										
Plutonium-238	U	-0.0306	U	0.0997	pCi/g			(75%-125%)		05/30/06 13:36
	Uncert:	+/-0.0787		+/-0.145						
	TPU:	+/-0.0788		+/-0.145						
Plutonium-239/240	11.8 U	-0.00664		12.3	pCi/g		104	(75%-125%)		
	Uncert:	+/-0.0739		+/-1.30						
	TPU:	+/-0.0739		+/-1.86						
Batch 537066										
QC1201109336 163626016 DUP										
Plutonium-241	U	0.192	U	3.37	pCi/g	0		(0% - 100%)	AXA1	06/17/06 00:37
	Uncert:	+/-7.77		+/-8.34						
	TPU:	+/-7.77		+/-8.35						
QC1201109338 LCS										
Plutonium-241	141			143	pCi/g		101	(75%-125%)		06/17/06 01:09
	Uncert:			+/-14.7						
	TPU:			+/-20.1						
QC1201109335 MB										
Plutonium-241			U	-0.477	pCi/g					06/17/06 00:20
	Uncert:			+/-8.24						
	TPU:			+/-8.24						
QC1201109337 163626016 MS										
Plutonium-241	143 U	0.192		133	pCi/g		93	(75%-125%)		06/17/06 00:53
	Uncert:	+/-7.77		+/-13.5						
	TPU:	+/-7.77		+/-18.8						
Rad Gamma Spec										
Batch 533723										
QC1201101712 163626001 DUP										
Actinium-228		0.835		0.800	pCi/g	4		(0% - 100%)	MJH1	06/13/06 20:19
	Uncert:	+/-0.226		+/-0.171						
				+/-0.171						

QC Summary

Workorder: 163626

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 533723											
	TPU:	+/-0.226									
Americium-241		0.0575	U	-0.00911	pCi/g	275		(0% - 100%)			
	Uncert:	+/-0.039		+/-0.118							
	TPU:	+/-0.039		+/-0.118							
Bismuth-212		0.419		0.461	pCi/g	9		(0% - 100%)			
	Uncert:	+/-0.398		+/-0.271							
	TPU:	+/-0.398		+/-0.271							
Bismuth-214		0.508		0.485	pCi/g	5		(0% - 100%)			
	Uncert:	+/-0.117		+/-0.099							
	TPU:	+/-0.117		+/-0.099							
Cesium-134	UI	0.00	U	0.0418	pCi/g	58		(0% - 100%)			
	Uncert:	+/-0.0567		+/-0.0241							
	TPU:	+/-0.0567		+/-0.0241							
Cesium-137		0.369		0.363	pCi/g	2		(0% - 100%)			
	Uncert:	+/-0.0742		+/-0.0442							
	TPU:	+/-0.0742		+/-0.0442							
Cobalt-60		0.841		0.855	pCi/g	2		(0% - 20%)			
	Uncert:	+/-0.102		+/-0.0728							
	TPU:	+/-0.102		+/-0.0728							
Europium-152	U	-0.0337	U	0.0532	pCi/g	890		(0% - 100%)			
	Uncert:	+/-0.0605		+/-0.0536							
	TPU:	+/-0.0605		+/-0.0536							
Europium-154	U	0.00645	U	-0.00621	pCi/g	10400		(0% - 100%)			
	Uncert:	+/-0.0752		+/-0.0663							
	TPU:	+/-0.0752		+/-0.0663							
Europium-155	U	0.0654	U	0.0635	pCi/g	3		(0% - 100%)			
	Uncert:	+/-0.0538		+/-0.096							
	TPU:	+/-0.0538		+/-0.096							
Lead-212		0.788		0.888	pCi/g	12		(0% - 20%)			
	Uncert:	+/-0.114		+/-0.0657							
	TPU:	+/-0.114		+/-0.0657							
Lead-214		0.631		0.680	pCi/g	7		(0% - 20%)			
	Uncert:	+/-0.123		+/-0.100							
	TPU:	+/-0.123		+/-0.100							
Manganese-54	U	0.0216	U	0.0236	pCi/g	9		(0% - 100%)			
	Uncert:	+/-0.0305		+/-0.0287							
	TPU:	+/-0.0305		+/-0.0287							
Niobium-94	U	0.00105	U	0.00844	pCi/g	156		(0% - 100%)			
	Uncert:	+/-0.0268		+/-0.0197							
	TPU:	+/-0.0268		+/-0.0197							
Potassium-40		12.7		13.6	pCi/g	7		(0% - 20%)			
	Uncert:	+/-1.15		+/-0.821							
	TPU:	+/-1.15		+/-0.821							
Radium-226		0.508		0.485	pCi/g	5		(0% - 100%)			
	Uncert:	+/-0.117		+/-0.099							
	TPU:	+/-0.117		+/-0.099							
Silver-108m	U	-0.000967	U	-0.0129	pCi/g	172		(0% - 100%)			
	Uncert:	+/-0.0222		+/-0.0181							

QC Summary

Workorder: 163626

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 533723										
	TPU:	+/-0.0222		+/-0.0181						
Thallium-208		0.292		0.285	pCi/g	2		(0% - 100%)		
	Uncert:	+/-0.0605		+/-0.050						
	TPU:	+/-0.0605		+/-0.050						
QC1201101713 LCS										
Actinium-228			U	-0.023	pCi/g					06/13/06 16:39
	Uncert:			+/-0.393						
	TPU:			+/-0.393						
Americium-241	23.4			21.1	pCi/g		90	(75%-125%)		
	Uncert:			+/-0.410						
	TPU:			+/-0.410						
Bismuth-212			U	0.483	pCi/g					
	Uncert:			+/-0.736						
	TPU:			+/-0.736						
Bismuth-214			U	0.183	pCi/g					
	Uncert:			+/-0.174						
	TPU:			+/-0.174						
Cesium-134			U	-0.0114	pCi/g					
	Uncert:			+/-0.111						
	TPU:			+/-0.111						
Cesium-137	9.63			9.96	pCi/g		103	(75%-125%)		
	Uncert:			+/-0.321						
	TPU:			+/-0.321						
Cobalt-60	15.0			14.8	pCi/g		99	(75%-125%)		
	Uncert:			+/-0.460						
	TPU:			+/-0.460						
Europium-152			U	0.055	pCi/g					
	Uncert:			+/-0.194						
	TPU:			+/-0.194						
Europium-154			U	-0.151	pCi/g					
	Uncert:			+/-0.249						
	TPU:			+/-0.249						
Europium-155			U	-0.0725	pCi/g					
	Uncert:			+/-0.184						
	TPU:			+/-0.184						
Lead-212			U	-0.0158	pCi/g					
	Uncert:			+/-0.111						
	TPU:			+/-0.111						
Lead-214			U	0.0652	pCi/g					
	Uncert:			+/-0.143						
	TPU:			+/-0.143						
Manganese-54			U	-0.00821	pCi/g					
	Uncert:			+/-0.102						
	TPU:			+/-0.102						
Niobium-94			U	0.0375	pCi/g					
	Uncert:			+/-0.0904						
	TPU:			+/-0.0904						
Potassium-40			U	0.0833	pCi/g					

QC Summary

Workorder: 163626

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 533723											
	Uncert:			+/-1.32							
	TPU:			+/-1.32							
Radium-226			U	0.183	pCi/g			(75%-125%)			
	Uncert:			+/-0.174							
	TPU:			+/-0.174							
Silver-108m			U	0.041	pCi/g						
	Uncert:			+/-0.0769							
	TPU:			+/-0.0769							
Thallium-208			U	0.0122	pCi/g						
	Uncert:			+/-0.0908							
	TPU:			+/-0.0908							
QC1201101711 MB											
Actinium-228			U	0.00373	pCi/g					06/13/06	16:38
	Uncert:			+/-0.0488							
	TPU:			+/-0.0488							
Americium-241			U	-0.0187	pCi/g						
	Uncert:			+/-0.0422							
	TPU:			+/-0.0422							
Bismuth-212			U	0.00218	pCi/g						
	Uncert:			+/-0.055							
	TPU:			+/-0.055							
Bismuth-214			U	0.0139	pCi/g						
	Uncert:			+/-0.0141							
	TPU:			+/-0.0141							
Cesium-134			U	0.00605	pCi/g						
	Uncert:			+/-0.00728							
	TPU:			+/-0.00728							
Cesium-137			U	0.000483	pCi/g						
	Uncert:			+/-0.0136							
	TPU:			+/-0.0136							
Cobalt-60			U	0.00563	pCi/g						
	Uncert:			+/-0.0149							
	TPU:			+/-0.0149							
Europium-152			U	-0.0118	pCi/g						
	Uncert:			+/-0.0187							
	TPU:			+/-0.0187							
Europium-154			U	-0.00733	pCi/g						
	Uncert:			+/-0.0202							
	TPU:			+/-0.0202							
Europium-155			U	-0.00191	pCi/g						
	Uncert:			+/-0.016							
	TPU:			+/-0.016							
Lead-212			UI	0.00	pCi/g						
	Uncert:			+/-0.0119							
	TPU:			+/-0.0119							
Lead-214			U	0.0045	pCi/g						
	Uncert:			+/-0.0243							
	TPU:			+/-0.0243							

QC Summary

Workorder: 163626

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 533723										
Manganese-54			U	-0.000719	pCi/g					
Uncert:				+/-0.00642						
TPU:				+/-0.00642						
Niobium-94			U	0.00252	pCi/g					
Uncert:				+/-0.00643						
TPU:				+/-0.00643						
Potassium-40			UI	0.00	pCi/g					
Uncert:				+/-0.0857						
TPU:				+/-0.0857						
Radium-226			U	0.0139	pCi/g					
Uncert:				+/-0.0141						
TPU:				+/-0.0141						
Silver-108m			U	-0.00171	pCi/g					
Uncert:				+/-0.00588						
TPU:				+/-0.00588						
Thallium-208			U	0.0103	pCi/g					
Uncert:				+/-0.00726						
TPU:				+/-0.00726						
Rad Gas Flow										
Batch 536335										
QC1201107675 163105017 DUP										
Strontium-90	U	-0.00194	U	-0.015	pCi/g	0		(0% - 100%)	BXF1	06/11/06 10:58
Uncert:		+/-0.0174		+/-0.0182						
TPU:		+/-0.0174		+/-0.0182						
QC1201107677 LCS										
Strontium-90	1.48			1.56	pCi/g		105	(75%-125%)		06/11/06 10:59
Uncert:				+/-0.0872						
TPU:				+/-0.099						
QC1201107674 MB										
Strontium-90			U	-0.00598	pCi/g					06/11/06 10:58
Uncert:				+/-0.0102						
TPU:				+/-0.0102						
QC1201107676 163105017 MS										
Strontium-90	1.57 U	-0.00194		1.62	pCi/g		104	(75%-125%)		06/11/06 10:59
Uncert:		+/-0.0174		+/-0.103						
TPU:		+/-0.0174		+/-0.114						
Rad Liquid Scintillation										
Batch 533813										
QC1201101895 163629001 DUP										
Technetium-99	U	-0.0294	U	0.0716	pCi/g	0		(0% - 100%)	SXE1	06/02/06 09:38
Uncert:		+/-0.213		+/-0.234						
TPU:		+/-0.213		+/-0.234						
QC1201101897 LCS										
Technetium-99	12.7			10.7	pCi/g		85	(75%-125%)		06/02/06 10:11
Uncert:				+/-0.440						
TPU:				+/-0.515						
QC1201101894 MB										
Technetium-99			U	0.0481	pCi/g					06/02/06 09:22

QC Summary

Workorder: 163626

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation										
Batch 533813										
	Uncert:			+/-0.208						
	TPU:			+/-0.208						
QC1201101896 163629001 MS										
Technetium-99	12.7 U	-0.0294		10.4	pCi/g		82	(75%-125%)		06/02/06 09:55
	Uncert:	+/-0.213		+/-0.494						
	TPU:	+/-0.213		+/-0.560						
Batch 533888										
QC1201102098 163629001 DUP										
Iron-55	U	9.50	U	-0.655	pCi/g	0		(0% - 100%)	SLN1	06/01/06 22:17
	Uncert:	+/-25.2		+/-10.3						
	TPU:	+/-25.2		+/-10.3						
QC1201102100 LCS										
Iron-55	360			406	pCi/g		113	(75%-125%)		06/01/06 22:49
	Uncert:			+/-33.4						
	TPU:			+/-59.1						
QC1201102097 MB										
Iron-55			U	7.50	pCi/g					06/01/06 22:00
	Uncert:			+/-15.0						
	TPU:			+/-15.0						
QC1201102099 163629001 MS										
Iron-55	605 U	9.50		569	pCi/g		94	(75%-125%)		06/01/06 22:33
	Uncert:	+/-25.2		+/-35.2						
	TPU:	+/-25.2		+/-66.9						
Batch 533889										
QC1201102102 163629001 DUP										
Nickel-63	U	-1.07	U	0.0835	pCi/g	0		(0% - 100%)	SLN1	06/01/06 17:10
	Uncert:	+/-6.29		+/-6.55						
	TPU:	+/-6.29		+/-6.55						
QC1201102104 LCS										
Nickel-63	491			386	pCi/g		79	(75%-125%)		06/01/06 18:13
	Uncert:			+/-13.2						
	TPU:			+/-17.7						
QC1201102101 MB										
Nickel-63			U	-3.82	pCi/g					06/01/06 16:38
	Uncert:			+/-6.46						
	TPU:			+/-6.46						
QC1201102103 163629001 MS										
Nickel-63	597 U	-1.07		477	pCi/g		80	(75%-125%)		06/01/06 17:42
	Uncert:	+/-6.29		+/-17.5						
	TPU:	+/-6.29		+/-23.8						
Batch 535068										
QC1201104922 163629001 DUP										
Carbon-14	U	0.0269	U	0.0256	pCi/g	0		(0% - 100%)	MXP1	06/04/06 20:43
	Uncert:	+/-0.0817		+/-0.0825						
	TPU:	+/-0.0817		+/-0.0825						
QC1201104924 LCS										
Carbon-14	6.92			7.04	pCi/g		102	(75%-125%)		06/04/06 22:32
	Uncert:			+/-0.393						
	TPU:			+/-0.408						

QC Summary

Workorder: 163626

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation										
Batch 535068										
QC1201104921 MB										
Carbon-14			U	-0.0434	pCi/g					06/04/06 19:10
	Uncert:			+/-0.0781						
	TPU:			+/-0.0781						
QC1201104923 163629001 MS										
Carbon-14	12.4 U	0.0269		12.9	pCi/g		104	(75%-125%)		06/04/06 22:15
	Uncert:	+/-0.0817		+/-0.703						
	TPU:	+/-0.0817		+/-0.731						
Batch 535984										
QC1201106886 163626016 DUP										
Tritium	U	0.738	U	-1.57	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	pCi/g		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
	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						

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

QC Summary

Workorder: 163626

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

^

h Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.
** Indicates analyte is a surrogate compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

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

Table of Contents

General Narrative

CASE NARRATIVE
For
CONNECTICUT YANKEE
RE: Soil
PO# 002332
Work Order: 167554
SDG: MSR #06-1035

August 2, 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 July 21, 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	Client Sample ID
167554001	9106-0007-018F
167554002	9106-0007-019F
167554003	9106-0007-020F
167554004	9106-0007-021F

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

Health Physics Procedure 1167554/. GPP-GGGR-R5104-003-Attachment B-CY-001 Major

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

Chain of Custody Form

No. 2006-00441

Project Name: Haddam Neck Decommissioning

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

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

Priority: ~~☒ 30~~ D. ☒ 14 D. ☐ 7 D.

	Sample Designation	Date	Time	Media Code	Sample Type Code	Container Size-&Type Code	FSSGAM	FSSALL	Sr-90	Ni-63			Comment, Preservation	Lab Sample ID
001	9106-0007-018F	6-27-06	11:15	SE	C	BP	X		X					
002	9106-0007-019F	6-27-06	13:31	SE	C	BP	X		X					
003	9106-0007-020F	6-27-06	13:48	SE	C	BP	X		X					
004	9106-0007-021F	6-27-06	13:08	SE	C	BP	X		X					

Analyses Requested

Lab Use Only
Comments:

NOTES: PO #: 002332 MSR #: 06-1035 SSWP# NA ☒ LTP QA ☐ Radwaste QA ☐ Non QA

Samples Shipped Via:
☒ Fed Ex
☐ UPS
☐ Hand
☐ Other

Bill of Lading #
7910 5711 1144

Internal Container Temp.: 21 Deg. C

Custody Sealed?
Y ☐ N ☐

Custody Seal Intact?
Y ☐ N ☐

1) Relinquished By	Date/Time	2) Received By	Date/Time
JCM	6/27/06 17:45	J. RICARTE	6-27-06 / 17:45
3) Relinquished By	Date/Time	4) Received By	Date/Time
JAIME RICARTE	7-20-06 / 1445	K. Wright	7/21/06 0930

SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: Conn. Yank.	SDG/ARCOC/Work Order: 167554, 167555, 16755
Date Received: 7/21/06	PM(A) Review (ensure non-conforming items are resolved prior to signing):
Received By: (CW)	

	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) See Cont. Sheet.
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: See Cont. Sheet.
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	See 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?	/			Maximum Counts Observed*: cpm 40
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 _____ Date: 7/21/06

SAMPLE RECEIPT & REVIEW FORM
CONTINUATION FORM

Fed ex #'s	# of Containers	COC #
7910 5711 1209 - 21°C	9	2006-00
1301 - 22°C	8	2006-0044
1194 - 21°C	10	2006-0044
1286 - 21°C	8	2006-0043
1220 - 23°C	9	2006-0044
(1264) 1 Cooler w/out Fedex # - 21°C	8	2006-00448/00

Chain # 2006-00444:

Sample # 9106-0013-004F Actually reads

9106-0013-004FS

Figure 1. Sample Check-in List

Date/Time Received: 7/21/06 0930

SDG#: MSR#06-1035, MSR#06-1036, MSR#06-1037

Work Order Number: 167554

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 [ ] N/A
3. Chain-of-Custody record present? Yes [/] No [ ]
4. Cooler temperature See Cont. Sheet
5. Vermiculite/packing materials is: Wet [ ] Dry [ ] N/A
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):

Sample Custodian/Laboratory: K. Wright Date: 7/21/06

Telephoned to: On By

RADIOLOGICAL ANALYSIS

Radiochemistry Case Narrative
Connecticut Yankee Atomic Power Co. (YANK)
Work Order 167554

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:	551072
Prep Batch Number:	550535

Sample ID	Client ID
167554001	9106-0007-018F
167554002	9106-0007-019F
167554003	9106-0007-020F
167554004	9106-0007-021F
1201142442	Method Blank (MB)
1201142443	167554001(9106-0007-018F) Sample Duplicate (DUP)
1201142444	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: 167554001 (9106-0007-018F).

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 1201142443 (9106-0007-018F) 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.

Additional Comments
The sample and the duplicate, 1201142443 (9106-0007-018F) and 167554001 (9106-0007-018F), did not meet the relative percent difference for Ac-228, however, they do meet the relative error ratio requirement with a value of 2.48.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to low abundance.	Bismuth-214	167554003
		Cesium-134	167554001
			1201142443
		Niobium-94	1201142442

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:	550821
Prep Batch Number:	550536
Dry Soil Prep GL-RAD-A-021 Batch Number:	550535

Sample ID	Client ID
167554001	9106-0007-018F
167554002	9106-0007-019F
167554003	9106-0007-020F
167554004	9106-0007-021F
1201141750	Method Blank (MB)
1201141751	167554004(9106-0007-021F) Sample Duplicate (DUP)
1201141752	167554004(9106-0007-021F) Matrix Spike (MS)
1201141753	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: 167554004 (9106-0007-021F).

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: _____ 8/4/16

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#06-1035 GEL Work Order: 167554

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: August 4, 2006

Client Sample ID:	9106-0007-018F	Project:	YANK01204
Sample ID:	167554001	Client ID:	YANK001
Matrix:	SE	Vol. Recv.:	
Collect Date:	27-JUN-06		
Receive Date:	21-JUL-06		
Collector:	Client		
Moisture:	20.8%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time	Batch	Mtd
Rad Gamma Spec Analysis												
Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived												
Actinium-228		0.607	+/-0.210	0.0785	+/-0.210	0.170	pCi/g		MJH1	08/02/06 1912	551072	1
Americium-241	U	-0.00546	+/-0.0943	0.0825	+/-0.0943	0.172	pCi/g					
Bismuth-212		0.406	+/-0.315	0.177	+/-0.315	0.380	pCi/g					
Bismuth-214		0.617	+/-0.117	0.039	+/-0.117	0.0834	pCi/g					
Cesium-134	UI	0.00	+/-0.0394	0.0284	+/-0.0394	0.0607	pCi/g					
Cesium-137	U	0.0162	+/-0.0282	0.025	+/-0.0282	0.0532	pCi/g					
Cobalt-60	U	0.0081	+/-0.0289	0.022	+/-0.0289	0.0492	pCi/g					
Europium-152	U	-0.0303	+/-0.0665	0.0545	+/-0.0665	0.115	pCi/g					
Europium-154	U	-0.0449	+/-0.0898	0.058	+/-0.0898	0.130	pCi/g					
Europium-155	U	-0.0285	+/-0.0685	0.0572	+/-0.0685	0.119	pCi/g					
Lead-212		0.806	+/-0.074	0.0312	+/-0.074	0.0652	pCi/g					
Lead-214		0.619	+/-0.102	0.0379	+/-0.102	0.0803	pCi/g					
Manganese-54	U	0.0258	+/-0.0293	0.0263	+/-0.0293	0.0562	pCi/g					
Niobium-94	U	0.0027	+/-0.0233	0.0199	+/-0.0233	0.0427	pCi/g					
Potassium-40		12.7	+/-1.05	0.218	+/-1.05	0.488	pCi/g					
Radium-226		0.617	+/-0.117	0.039	+/-0.117	0.0834	pCi/g					
Silver-108m	U	-0.0112	+/-0.0233	0.0187	+/-0.0233	0.0397	pCi/g					
Thallium-208		0.296	+/-0.0602	0.0196	+/-0.0602	0.0421	pCi/g					
Rad Gas Flow Proportional Counting												
GFPC, Sr90, solid-ALL FSS												
Strontium-90	U	0.0176	+/-0.0187	0.0178	+/-0.0187	0.0395	pCi/g		BXF1	07/30/06 1114	550821	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	07/21/06	1526	550535

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 Report Date: August 4, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-018F Project: YANK01204
Sample ID: 167554001 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	74	(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
Report Date: August 4, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9106-0007-019F	Project:	YANK01204
Sample ID:	167554002	Client ID:	YANK001
Matrix:	SE	Vol. Recv.:	
Collect Date:	27-JUN-06		
Receive Date:	21-JUL-06		
Collector:	Client		
Moisture:	58.2%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time	Batch	Mtd
Rad Gamma Spec Analysis												
Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived												
Actinium-228		0.941	+/-0.181	0.0678	+/-0.181	0.144	pCi/g		MJH1 08/02/06	1913	551072	1
Americium-241	U	-0.00939	+/-0.0865	0.0699	+/-0.0865	0.144	pCi/g					
Bismuth-212		0.757	+/-0.354	0.144	+/-0.354	0.303	pCi/g					
Bismuth-214		0.759	+/-0.0963	0.0335	+/-0.0963	0.0701	pCi/g					
Cesium-134	U	0.00776	+/-0.0351	0.024	+/-0.0351	0.0502	pCi/g					
Cesium-137		0.182	+/-0.0547	0.019	+/-0.0547	0.0398	pCi/g					
Cobalt-60		0.396	+/-0.0579	0.0188	+/-0.0579	0.0406	pCi/g					
Europium-152	U	0.0531	+/-0.0565	0.0488	+/-0.0565	0.101	pCi/g					
Europium-154	U	0.0674	+/-0.0738	0.0624	+/-0.0738	0.133	pCi/g					
Europium-155	U	0.0492	+/-0.094	0.0451	+/-0.094	0.0926	pCi/g					
Lead-212		0.950	+/-0.0874	0.0389	+/-0.0874	0.0795	pCi/g					
Lead-214		0.811	+/-0.108	0.0323	+/-0.108	0.0672	pCi/g					
Manganese-54	U	-0.00104	+/-0.0266	0.0212	+/-0.0266	0.0445	pCi/g					
Niobium-94	U	0.0047	+/-0.0213	0.0174	+/-0.0213	0.0364	pCi/g					
Potassium-40		15.3	+/-0.991	0.184	+/-0.991	0.399	pCi/g					
Radium-226		0.759	+/-0.0963	0.0335	+/-0.0963	0.0701	pCi/g					
Silver-108m	U	0.0134	+/-0.0205	0.0174	+/-0.0205	0.0362	pCi/g					
Thallium-208		0.327	+/-0.060	0.0174	+/-0.060	0.0366	pCi/g					
Rad Gas Flow Proportional Counting												
GFPC, Sr90, solid-ALL FSS												
Strontium-90	U	-0.00218	+/-0.0163	0.0188	+/-0.0163	0.0421	pCi/g		BXF1 07/30/06	1114	550821	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	07/21/06	1526	550535

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
Report Date: August 4, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-019F
Sample ID: 167554002
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					64	(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: August 4, 2006

Client Sample ID:	9106-0007-020F	Project:	YANK01204
Sample ID:	167554003	Client ID:	YANK001
Matrix:	SE	Vol. Recv.:	
Collect Date:	27-JUN-06		
Receive Date:	21-JUL-06		
Collector:	Client		
Moisture:	43.8%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived													
Actinium-228		0.665	+/-0.276	0.139	+/-0.276	0.305	pCi/g		MJH1	08/02/06	1913	551072	1
Americium-241	U	-0.0107	+/-0.0581	0.0452	+/-0.0581	0.0942	pCi/g						
Bismuth-212	U	0.675	+/-0.375	0.364	+/-0.375	0.780	pCi/g						
Bismuth-214	UI	0.00	+/-0.197	0.143	+/-0.197	0.297	pCi/g						
Cesium-134	U	0.0421	+/-0.0515	0.0461	+/-0.0515	0.100	pCi/g						
Cesium-137		0.482	+/-0.0856	0.0368	+/-0.0856	0.0801	pCi/g						
Cobalt-60		0.165	+/-0.0946	0.0298	+/-0.0946	0.0699	pCi/g						
Europium-152	U	-0.0512	+/-0.096	0.0685	+/-0.096	0.148	pCi/g						
Europium-154	U	-0.0675	+/-0.140	0.109	+/-0.140	0.246	pCi/g						
Europium-155	U	0.0633	+/-0.0856	0.0762	+/-0.0856	0.159	pCi/g						
Lead-212		0.887	+/-0.116	0.0428	+/-0.116	0.0907	pCi/g						
Lead-214		0.796	+/-0.170	0.0539	+/-0.170	0.116	pCi/g						
Manganese-54	U	0.0617	+/-0.0505	0.0414	+/-0.0505	0.0902	pCi/g						
Niobium-94	U	0.0119	+/-0.0401	0.0342	+/-0.0401	0.0742	pCi/g						
Potassium-40		13.0	+/-1.43	0.273	+/-1.43	0.650	pCi/g						
Radium-226		0.763	+/-0.197	0.0675	+/-0.197	0.146	pCi/g						
Silver-108m	U	-0.0182	+/-0.0344	0.028	+/-0.0344	0.0604	pCi/g						
Thallium-208		0.268	+/-0.0774	0.032	+/-0.0774	0.0701	pCi/g						
Rad Gas Flow Proportional Counting													
GFPC, Sr90, solid-ALL FSS													
Strontium-90	U	0.0215	+/-0.0202	0.0186	+/-0.0202	0.0416	pCi/g		BXF1	07/30/06	1114	550821	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	07/21/06	1526	550535

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: August 4, 2006

Client Sample ID: 9106-0007-020F
Sample ID: 167554003

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	66	(25%-125%)

Notes:
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< Result is less than value reported
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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 4, 2006

Client Sample ID:	9106-0007-021F	Project:	YANK01204
Sample ID:	167554004	Client ID:	YANK001
Matrix:	SE	Vol. Recv.:	
Collect Date:	27-JUN-06		
Receive Date:	21-JUL-06		
Collector:	Client		
Moisture:	44.4%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time	Batch	Mtd
Rad Gamma Spec Analysis												
Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived												
Actinium-228		0.860	+/-0.156	0.0595	+/-0.156	0.126	pCi/g		MJH1 08/02/06	1948	551072	1
Americium-241	U	0.00906	+/-0.0996	0.074	+/-0.0996	0.152	pCi/g					
Bismuth-212		0.466	+/-0.256	0.118	+/-0.256	0.250	pCi/g					
Bismuth-214		0.558	+/-0.0845	0.0308	+/-0.0845	0.0644	pCi/g					
Cesium-134	U	0.0199	+/-0.0236	0.0203	+/-0.0236	0.0426	pCi/g					
Cesium-137		0.394	+/-0.0523	0.0169	+/-0.0523	0.0353	pCi/g					
Cobalt-60		0.543	+/-0.0621	0.0163	+/-0.0621	0.0353	pCi/g					
Europium-152	U	-0.026	+/-0.0502	0.0396	+/-0.0502	0.0823	pCi/g					
Europium-154	U	0.00991	+/-0.0628	0.0529	+/-0.0628	0.113	pCi/g					
Europium-155	U	0.0754	+/-0.0791	0.0434	+/-0.0791	0.0891	pCi/g					
Lead-212		0.849	+/-0.0606	0.0235	+/-0.0606	0.0484	pCi/g					
Lead-214		0.751	+/-0.0888	0.0292	+/-0.0888	0.0606	pCi/g					
Manganese-54	U	0.00934	+/-0.0227	0.019	+/-0.0227	0.0398	pCi/g					
Niobium-94	U	-0.000717	+/-0.0178	0.0147	+/-0.0178	0.0308	pCi/g					
Potassium-40		13.8	+/-0.839	0.138	+/-0.839	0.303	pCi/g					
Radium-226		0.558	+/-0.0845	0.0308	+/-0.0845	0.0644	pCi/g					
Silver-108m	U	0.00431	+/-0.0169	0.0146	+/-0.0169	0.0304	pCi/g					
Thallium-208		0.236	+/-0.0458	0.0173	+/-0.0458	0.036	pCi/g					
Rad Gas Flow Proportional Counting												
GFPC, Sr90, solid-ALL FSS												
Strontium-90	U	-0.00221	+/-0.0165	0.019	+/-0.0165	0.0426	pCi/g		BXF1 07/30/06	1114	550821	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	07/21/06	1526	550535

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
Report Date: August 4, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-021F
Sample ID: 167554004
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					64	(25%-125%)						

Notes:
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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.

QUALITY CONTROL DATA

QC Summary

Report Date: August 4, 2006
Page 1 of 5

Client : Connecticut Yankee Atomic Power
362 Injun Hollow Rd

East Hampton, Connecticut
Contact: Mr. Jack McCarthy

Workorder: 167554

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 551072										
QC1201142443 167554001 DUP										
Actinium-228		0.607		0.942	pCi/g	43		(0% - 100%)	MJH1	08/03/06 16:47
	Uncert:	+/-0.210		+/-0.161						
	TPU:	+/-0.210		+/-0.161						
Americium-241	U	-0.00546	U	0.0409	pCi/g	262		(0% - 100%)		
	Uncert:	+/-0.0943		+/-0.0945						
	TPU:	+/-0.0943		+/-0.0945						
Bismuth-212		0.406		0.572	pCi/g	34		(0% - 100%)		
	Uncert:	+/-0.315		+/-0.247						
	TPU:	+/-0.315		+/-0.247						
Bismuth-214		0.617		0.511	pCi/g	19		(0% - 100%)		
	Uncert:	+/-0.117		+/-0.082						
	TPU:	+/-0.117		+/-0.082						
Cesium-134	UI	0.00	UI	0.00	pCi/g	54		(0% - 100%)		
	Uncert:	+/-0.0394		+/-0.0389						
	TPU:	+/-0.0394		+/-0.0389						
Cesium-137	U	0.0162	U	0.0108	pCi/g	40		(0% - 100%)		
	Uncert:	+/-0.0282		+/-0.0236						
	TPU:	+/-0.0282		+/-0.0236						
Cobalt-60	U	0.0081	U	-0.00596	pCi/g	1310		(0% - 100%)		
	Uncert:	+/-0.0289		+/-0.0256						
	TPU:	+/-0.0289		+/-0.0256						
Europium-152	U	-0.0303	U	0.0289	pCi/g	8110		(0% - 100%)		
	Uncert:	+/-0.0665		+/-0.0611						
	TPU:	+/-0.0665		+/-0.0611						
Europium-154	U	-0.0449	U	-0.0434	pCi/g	3		(0% - 100%)		
	Uncert:	+/-0.0898		+/-0.0712						
	TPU:	+/-0.0898		+/-0.0712						
Europium-155	U	-0.0285	U	0.0611	pCi/g	551		(0% - 100%)		
	Uncert:	+/-0.0685		+/-0.0611						
	TPU:	+/-0.0685		+/-0.0611						
Lead-212		0.806		0.769	pCi/g	5		(0% - 20%)		
	Uncert:	+/-0.074		+/-0.0747						
	TPU:	+/-0.074		+/-0.0747						
Lead-214		0.619		0.581	pCi/g	6		(0% - 20%)		
	Uncert:	+/-0.102		+/-0.104						
	TPU:	+/-0.102		+/-0.104						
Manganese-54	U	0.0258	U	0.00407	pCi/g	146		(0% - 100%)		
	Uncert:	+/-0.0293		+/-0.0264						
	TPU:	+/-0.0293		+/-0.0264						
Niobium-94	U	0.0027	U	0.0192	pCi/g	151		(0% - 100%)		
	Uncert:	+/-0.0233		+/-0.0223						
	TPU:	+/-0.0233		+/-0.0223						

QC Summary

Workorder: 167554

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 551072										
Potassium-40		12.7		13.6	pCi/g	7		(0% - 20%)		
	Uncert:	+/-1.05		+/-1.08						
	TPU:	+/-1.05		+/-1.08						
Radium-226		0.617		0.511	pCi/g	19		(0% - 100%)		
	Uncert:	+/-0.117		+/-0.082						
	TPU:	+/-0.117		+/-0.082						
Silver-108m	U	-0.0112	U	-0.0243	pCi/g	74		(0% - 100%)		
	Uncert:	+/-0.0233		+/-0.0202						
	TPU:	+/-0.0233		+/-0.0202						
Thallium-208		0.296		0.257	pCi/g	14		(0% - 100%)		
	Uncert:	+/-0.0602		+/-0.0534						
	TPU:	+/-0.0602		+/-0.0534						
QC1201142444 LCS										
Actinium-228			U	0.275	pCi/g					08/03/06 05:27
	Uncert:			+/-0.804						
	TPU:			+/-0.804						
Americium-241	23.4			26.8	pCi/g		115	(75%-125%)		
	Uncert:			+/-2.21						
	TPU:			+/-2.21						
Bismuth-212			U	0.389	pCi/g					
	Uncert:			+/-1.43						
	TPU:			+/-1.43						
Bismuth-214			U	-0.0491	pCi/g					
	Uncert:			+/-0.307						
	TPU:			+/-0.307						
Cesium-134			U	0.0646	pCi/g					
	Uncert:			+/-0.207						
	TPU:			+/-0.207						
Cesium-137	9.60			9.54	pCi/g		99	(75%-125%)		
	Uncert:			+/-1.06						
	TPU:			+/-1.06						
Cobalt-60	14.7			15.4	pCi/g		105	(75%-125%)		
	Uncert:			+/-0.830						
	TPU:			+/-0.830						
Europium-152			U	0.132	pCi/g					
	Uncert:			+/-0.389						
	TPU:			+/-0.389						
Europium-154			U	0.0318	pCi/g					
	Uncert:			+/-0.440						
	TPU:			+/-0.440						
Europium-155			U	0.221	pCi/g					
	Uncert:			+/-0.340						
	TPU:			+/-0.340						
Lead-212			U	-0.0774	pCi/g					
	Uncert:			+/-0.199						
	TPU:			+/-0.199						
Lead-214			U	-0.134	pCi/g					
	Uncert:			+/-0.267						

QC Summary

Workorder: 167554

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 551072										
	TPU:			+/-0.267						
Manganese-54			U	0.102	pCi/g					
	Uncert:			+/-0.193						
	TPU:			+/-0.193						
Niobium-94			U	0.091	pCi/g					
	Uncert:			+/-0.193						
	TPU:			+/-0.193						
Potassium-40			U	0.974	pCi/g					
	Uncert:			+/-1.40						
	TPU:			+/-1.40						
Radium-226			U	-0.0491	pCi/g			(75%-125%)		
	Uncert:			+/-0.307						
	TPU:			+/-0.307						
Silver-108m			U	-0.121	pCi/g					
	Uncert:			+/-0.153						
	TPU:			+/-0.153						
Thallium-208			U	-0.0415	pCi/g					
	Uncert:			+/-0.173						
	TPU:			+/-0.173						
QC1201142442 MB										
Actinium-228			U	0.0413	pCi/g					08/02/06 19:46
	Uncert:			+/-0.0698						
	TPU:			+/-0.0698						
Americium-241			U	0.0148	pCi/g					
	Uncert:			+/-0.0576						
	TPU:			+/-0.0576						
Bismuth-212			U	-0.0124	pCi/g					
	Uncert:			+/-0.132						
	TPU:			+/-0.132						
Bismuth-214			U	0.035	pCi/g					
	Uncert:			+/-0.0379						
	TPU:			+/-0.0379						
Cesium-134			U	0.0241	pCi/g					
	Uncert:			+/-0.0188						
	TPU:			+/-0.0188						
Cesium-137			U	0.00493	pCi/g					
	Uncert:			+/-0.0174						
	TPU:			+/-0.0174						
Cobalt-60			U	0.0076	pCi/g					
	Uncert:			+/-0.020						
	TPU:			+/-0.020						
Europium-152			U	-0.0255	pCi/g					
	Uncert:			+/-0.0444						
	TPU:			+/-0.0444						
Europium-154			U	-0.00476	pCi/g					
	Uncert:			+/-0.0509						
	TPU:			+/-0.0509						
Europium-155			U	0.037	pCi/g					

QC Summary

Workorder: 167554

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 551072											
	Uncert:			+/-0.0465							
	TPU:			+/-0.0465							
Lead-212			U	0.0216	pCi/g						
	Uncert:			+/-0.0576							
	TPU:			+/-0.0576							
Lead-214			U	0.00962	pCi/g						
	Uncert:			+/-0.0446							
	TPU:			+/-0.0446							
Manganese-54			U	0.00114	pCi/g						
	Uncert:			+/-0.016							
	TPU:			+/-0.016							
Niobium-94			UI	0.00	pCi/g						
	Uncert:			+/-0.0378							
	TPU:			+/-0.0378							
Potassium-40			U	0.275	pCi/g						
	Uncert:			+/-0.204							
	TPU:			+/-0.204							
Radium-226			U	0.035	pCi/g						
	Uncert:			+/-0.0379							
	TPU:			+/-0.0379							
Silver-108m			U	-0.016	pCi/g						
	Uncert:			+/-0.0153							
	TPU:			+/-0.0153							
Thallium-208			U	0.0252	pCi/g						
	Uncert:			+/-0.0459							
	TPU:			+/-0.0459							
Rad Gas Flow											
Batch 550821											
QC1201141751 167554004 DUP											
Strontium-90	U	-0.00221	U	-0.00355	pCi/g	0		(0% - 100%)	BXF1	07/30/06	12:41
	Uncert:	+/-0.0165		+/-0.0144							
	TPU:	+/-0.0165		+/-0.0144							
QC1201141753 LCS											
Strontium-90	1.53			1.55	pCi/g		102	(75%-125%)		07/30/06	17:23
	Uncert:			+/-0.101							
	TPU:			+/-0.111							
QC1201141750 MB											
Strontium-90			U	-0.00113	pCi/g					07/30/06	12:26
	Uncert:			+/-0.014							
	TPU:			+/-0.014							
QC1201141752 167554004 MS											
Strontium-90	1.54 U	-0.00221		1.43	pCi/g		93	(75%-125%)		07/30/06	12:41
	Uncert:	+/-0.0165		+/-0.136							
	TPU:	+/-0.0165		+/-0.142							

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

QC Summary

Workorder: 167554

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 acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

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

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

November 06, 2006

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

Re: Soils PO# 002332
Work Order: 175290
SDG: MSR#06-1310

Dear Mr. McCarthy:

General Engineering Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on July 21, 2006 and May 24, 2006. This data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

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

Sincerely,

Cheryl Jones
Project Manager

Purchase Order: 002332
Chain of Custody: 2006-00363 and 2006-00441
Enclosures

Connecticut Yankee Atomic Power Co.
Soils PO# 002332
Work Order: 175290
SDG: MSR#06-1310

Laboratory ID	Client ID
175290001	9106-0007-014F
175290002	9106-0007-021F

Table of Contents

General Narrative

General Narrative
for
Connecticut Yankee Atomic Power Co.
Work Order: 175290
SDG: MSR#06-1310

November 06, 2006

Laboratory Identification:

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

Summary

Sample receipt

The samples arrived at General Engineering Laboratories, LLC, Charleston, South Carolina on July 21, 2006 and May 24, 2006 for analysis. Shipping container temperatures were checked, documented, and within specifications. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage.

Sample Identification The laboratory received the following samples:

Laboratory Identification	Sample Description
175290001	9106-0007-014F
175290002	9106-0007-021F

Items of Note

At the request of Dale Randall via email on 10/31/06, the samples listed above we relogged for additional tests.

Case Narrative

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

Analytical Request

Two soil samples were reanalyzed for FSSALL excluding Strontium-90 and FSSGAM.

Data Package

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

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

Cheryl Jones
Project Manager

List of current GEL Certifications as of 01 November 2006

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

Chain of Custody and Supporting Documentation

relog 175290

Connecticut Yankee Atomic Power Company

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

Chain of Custody Form

No. 2006-00363

163626

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.

Lab Use Only
Comments:

Sample Designation	Date	Time	Media Code	Sample Type Code	Container Size- &Type Code	Analyses Requested: FSSGAM	FSSALL	Sr-90				Comment, Preservation	Lab Sample ID
9106-0007-007F	5/08/06	15:11	SE	C	BP	X		X				Transferred from COC 2006-00329	163626/008
9106-0007-008F	5/09/06	10:39	SE	C	BP	X		X				Transferred from COC 2006-00334	163626/009
9106-0007-011F	5/09/06	09:43	SE	C	BP	X		X				Transferred from COC 2006-00334	163626/010
9106-0007-012F	5/09/06	13:27	SE	C	BP	X		X				Transferred from COC 2006-00334	163626/011
9106-0007-013F	5/09/06	13:53	SE	C	BP	X		X				Transferred from COC 2006-00334	163626/012
9106-0007-013FS	5/09/06	14:13	SE	C	BP	X		X				Transferred from COC 2006-00334	163626/013
9106-0007-014F	5/09/06	14:13	SE	C	BP	X		X				Transferred from COC 2006-00334	163626/014
9106-0007-015F	5/16/06	07:56	SE	C	BP	X		X				Transferred from COC 2006-00353	163626/015

NOTES: PO #: 002332 MSR #: 06-0730 SSWP# NA CD 5/31/06

☒ LTP QA ☐ Radwaste QA ☐ Non QA

Samples Shipped Via:
☒ Fed Ex
☐ UPS
☐ Hand
☐ Other

Bill of Lading #
7921 0573 6443

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

1) Relinquished By	Date/Time	2) Received By	Date/Time
[signature]	5-23-06 0815	K. Wright	5/24/06 0930
3) Relinquished By	Date/Time	4) Received By	Date/Time

5

SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: Conn. Yankee	SDG/ARCOC/Work Order: 1103026
Date Received: 5/24/06	PM(A) Review (ensure non-conforming items are resolved prior to signing):
Received By:	

	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) 19°C
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	7921 0673 5432			

	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?	MKY	✓		Maximum Counts Observed*: cpm 60
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 _____ Date: 5/24/06

Figure 1. Sample Check-in List

Date/Time Received: 5/24/06 0930

SDG#: MSR#06-0730

Work Order Number: 163626

Shipping Container ID: 792105735432 Chain of Custody # 2006-00302

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: 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: [signature] Date: 5/24/06

Telephoned to: On By

relog 175290

Health Physics Procedure 1107554/.

GPP-GGGR-R5104-003-Attachment B-CY-001 Major

Connecticut Yankee Atomic Power Company

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

Chain of Custody Form

No. 2006-00441

Project Name: Haddam Neck Decommissioning

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

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

Priority: ~~30~~ D. ☒ 14 D. ☐ 7 D.

	Sample Designation	Date	Time	Media Code	Sample Type Code	Container Size-&Type Code	Analyses Requested: FSSGAM	FSSALL	Sr-90	Ni-63			Comment, Preservation	Lab Sample ID
001	9106-0007-018F	6-27-06	11:15	SE	C	BP	X		X					
002	9106-0007-019F	6-27-06	13:31	SE	C	BP	X		X					
003	9106-0007-020F	6-27-06	13:48	SE	C	BP	X		X					
004	9106-0007-021F	6-27-06	13:08	SE	C	BP	X		X					

Lab Use Only
Comments:

NOTES: PO #: 002332 MSR #: 06-1035 SSWP# NA ☒ LTP QA ☐ Radwaste QA ☐ Non QA

Samples Shipped Via:
☒ Fed Ex
☐ UPS
☐ Hand
☐ Other

Bill of Lading #
7910 5711 1199

Internal Container Temp.: 21 Deg. C

Custody Sealed?
Y ☐ N ☑

Custody Seal Intact?
Y ☐ N ☐

1) Relinquished By	Date/Time	2) Received By	Date/Time
JCM	6/27/06 17:45	J. RICARTE	6-27-06 / 1745
3) Relinquished By	Date/Time	4) Received By	Date/Time
JAIME RICARTE	7-20-06 / 1445	K. Knight	7/21/06 0930

SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: Conn. Yank.	SDG/ARCOC/Work Order: 167554, 167555, 167556
Date Received: 7/21/06	PM(A) Review (ensure non-conforming items are resolved prior to signing):
Received By: (CW)	

	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) See Cont. Sheet.
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: See Cont. Sheet
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	See 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?	/			Maximum Counts Observed*: cpm 40
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 _____ Date: 7/21/06

SAMPLE RECEIPT & REVIEW FORM
CONTINUATION FORM

Fed ex #'s	# of containers	COC #
7910 5711 1209 - 21°C	9	2006-00
1301 - 22°C	8	2006-0044
1194 - 21°C	10	2006-0044
1286 - 21°C	8	2006-00431
1220 - 23°C	9	2006-0044
(1264) 1 Cooler w/out Fedex # - 21°C	8	2006-00448/00

Chain # 2006-00444:

Sample # 9106-0013-004F Actually reads 9106-0013-004FS

Figure 1. Sample Check-in List

Date/Time Received: 7/21/06 0930

SDG#: MSR#06-1035, MSR#06-1036, MSR#06-1037

Work Order Number: 167554

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 [ ] N/A
3. Chain-of-Custody record present? Yes [✓] No [ ]
4. Cooler temperature See Cont Sheet
5. Vermiculite/packing materials is: Wet [ ] Dry [ ] N/A
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): _____

Sample Custodian/Laboratory: K. Lufkight Date: 7/21/06

Telephoned to: _____ On _____ By _____

Subject: HTD analyses
From: "Dale Randall" <randall@cyapco.com>
Date: Tue, 31 Oct 2006 09:07:23 -0500
To: "Cheryl Jones" <cj@gel.com>
CC: "Arthur L. Hammond" <Hammond@CYAPCO.com>, "Clyde Newson" <Newson@CYAPCO.com>

Cheryl:

Per our earlier discussion, please analyze samples 9106-0007-014F and 9106-0007-021F to the FSSALL protocol per MSR 06-1310, with a 7 day TAT. Each of these samples were previously tested for FSSGAM and Sr-90 under MSR 06-0730 and MSR 06-1035 respectively. Thank you for your assistance.

Thank You,

Dale

(860) 267-3133

Data Review Qualifier Definitions

Data Review Qualifier Definitions

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

RADIOLOGICAL ANALYSIS

Radiochemistry Case Narrative
Connecticut Yankee Atomic Power Co. (YANK)
Work Order 175290

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:	584736
Prep Batch Number:	584677
Dry Soil Prep GL-RAD-A-021 Batch Number:	584673

Sample ID	Client ID
175290001	9106-0007-014F
1201220181	Method Blank (MB)
1201220182	175290001(9106-0007-014F) Sample Duplicate (DUP)
1201220183	175290001(9106-0007-014F) Matrix Spike (MS)
1201220184	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 volumes in this batch.

Designated QC
The following sample was used for QC: 175290001 (9106-0007-014F).

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 1201220181 (MB) was recounted due to a negative result greater than three times the error.

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:	584744
Prep Batch Number:	584677
Dry Soil Prep GL-RAD-A-021 Batch Number:	584675

Sample ID	Client ID
175290002	9106-0007-021F
1201220201	Method Blank (MB)
1201220202	175290002(9106-0007-021F) Sample Duplicate (DUP)
1201220203	175290002(9106-0007-021F) Matrix Spike (MS)
1201220204	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: 175290002 (9106-0007-021F).

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:	584737
Prep Batch Number:	584677
Dry Soil Prep GL-RAD-A-021 Batch Number:	584673

Sample ID	Client ID
175290001	9106-0007-014F
1201220185	Method Blank (MB)
1201220186	175290001(9106-0007-014F) Sample Duplicate (DUP)
1201220187	175290001(9106-0007-014F) Matrix Spike (MS)
1201220188	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: 175290001 (9106-0007-014F).

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:	584743
Prep Batch Number:	584677
Dry Soil Prep GL-RAD-A-021 Batch Number:	584673

Sample ID	Client ID
175290001	9106-0007-014F
1201220197	Method Blank (MB)
1201220198	175290001(9106-0007-014F) Sample Duplicate (DUP)
1201220199	175290001(9106-0007-014F) Matrix Spike (MS)
1201220200	Laboratory Control Sample (LCS)

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

Calibration Information:

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

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

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

Quality Control (QC) Information:

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

Designated QC
The following sample was used for QC: 175290001 (9106-0007-014F).

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 1201220197 (MB), 1201220198 (9106-0007-014F), 1201220200 (LCS) and 175290001 (9106-0007-014F) were recounted due to quench being outside calibration.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. The following NCR was generated for this SDG:
NCR 380650 was generated due to Sample Analyzed out of Holding. 1. Sample 175290001 was analyzed out of holding. 1. Reporting results.

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:	584747
Prep Batch Number:	584677
Dry Soil Prep GL-RAD-A-021 Batch Number:	584675

Sample ID	Client ID
175290002	9106-0007-021F
1201220218	Method Blank (MB)
1201220219	175290002(9106-0007-021F) Sample Duplicate (DUP)
1201220220	175290002(9106-0007-021F) Matrix Spike (MS)
1201220221	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: 175290002 (9106-0007-021F).

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:	584751
Prep Batch Number:	584677
Dry Soil Prep GL-RAD-A-021 Batch Number:	584675

Sample ID	Client ID
175290002	9106-0007-021F
1201220222	Method Blank (MB)
1201220223	175290002(9106-0007-021F) Sample Duplicate (DUP)
1201220224	175290002(9106-0007-021F) Matrix Spike (MS)
1201220225	Laboratory Control Sample (LCS)

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

Calibration Information:

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

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

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

Quality Control (QC) Information:

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

Designated QC
The following sample was used for QC: 175290002 (9106-0007-021F).

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

Technical Information:

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

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

Sample Re-prep/Re-analysis
Samples were recounted due to quench number being outside calibration range.

Miscellaneous Information:

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

SDG.

Manual Integration
No manual integrations were performed on data in this batch.

Additional Comments
Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	**Liquid Scint Tc99, Solid-ALL FSS**
Analytical Method:	DOE EML HASL-300, Tc-02-RC Modified
Analytical Batch Number:	584644

Sample ID	Client ID
175290002	9106-0007-021F
1201219905	Method Blank (MB)
1201219906	175288015(9512-00-003F) Sample Duplicate (DUP)
1201219907	175288015(9512-00-003F) Matrix Spike (MS)
1201219908	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: 175288015 (9512-00-003F).

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 Tc99, Solid-ALL FSS**
Analytical Method:	DOE EML HASL-300, Tc-02-RC Modified
Analytical Batch Number:	584692

Sample ID	Client ID
175290001	9106-0007-014F
1201220020	Method Blank (MB)
1201220021	175290001(9106-0007-014F) Sample Duplicate (DUP)
1201220022	175290001(9106-0007-014F) Matrix Spike (MS)
1201220023	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 volumes in this batch.

Designated QC
The following sample was used for QC: 175290001 (9106-0007-014F).

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. The following NCR was generated for this SDG:
NCR 380217 was generated due to Sample Analyzed out of Holding. 1. Sample 175290001 is a relog of 163626014 causing the sample to be analyzed out of holding. 1. Reporting results.

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:	584650
Prep Batch Number:	584677
Dry Soil Prep GL-RAD-A-021 Batch Number:	584675

Sample ID	Client ID
175290002	9106-0007-021F
1201219928	Method Blank (MB)
1201219929	175288015(9512-00-003F) Sample Duplicate (DUP)
1201219930	175288015(9512-00-003F) Matrix Spike (MS)
1201219931	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: 175288015 (9512-00-003F).

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:	584687
Prep Batch Number:	584677
Dry Soil Prep GL-RAD-A-021 Batch Number:	584673

Sample ID	Client ID
175290001	9106-0007-014F
1201220008	Method Blank (MB)
1201220009	175290001(9106-0007-014F) Sample Duplicate (DUP)
1201220010	175290001(9106-0007-014F) Matrix Spike (MS)
1201220011	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: 175290001 (9106-0007-014F).

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:	584649
Prep Batch Number:	584677
Dry Soil Prep GL-RAD-A-021 Batch Number:	584675

Sample ID	Client ID
175290002	9106-0007-021F
1201219924	Method Blank (MB)
1201219925	175288015(9512-00-003F) Sample Duplicate (DUP)
1201219926	175288015(9512-00-003F) Matrix Spike (MS)
1201219927	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: 175288015 (9512-00-003F).

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:	584690
Prep Batch Number:	584677
Dry Soil Prep GL-RAD-A-021 Batch Number:	584673

Sample ID	Client ID
175290001	9106-0007-014F
1201220016	Method Blank (MB)
1201220017	175290001(9106-0007-014F) Sample Duplicate (DUP)
1201220018	175290001(9106-0007-014F) Matrix Spike (MS)
1201220019	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: 175290001 (9106-0007-014F).

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

Technical Information:

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

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

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

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. The following NCR was generated for this SDG:
NCR 380283 was generated due to Sample Analyzed out of Holding. 1. Sample 17529001 was a relog of 163626014 causing the recount of the sample to be out of holding. 1. Reporting results

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:	584693

Sample ID	Client ID
175290001	9106-0007-014F
1201220024	Method Blank (MB)
1201220025	175290001(9106-0007-014F) Sample Duplicate (DUP)
1201220026	175290001(9106-0007-014F) Matrix Spike (MS)
1201220027	Laboratory Control Sample (LCS)

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-002 REV# 13.

Calibration Information:

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

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

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

Quality Control (QC) Information:

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

Designated QC
The following sample was used for QC: 175290001 (9106-0007-014F).

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. The following NCR was generated for this SDG:
NCR 379311 was generated due to Container scanning event for custody missed. 1. The analyst did not scan the sample 175290 001 into the batch prior to analysis, however the samples did remain in their custody at all times. 1. The error has been corrected and the analyst has been instructed on the proper scanning procedures.

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:	585989

Sample ID	Client ID
175290002	9106-0007-021F
1201223381	Method Blank (MB)
1201223382	175288015(9512-00-003F) Sample Duplicate (DUP)
1201223383	175288015(9512-00-003F) Matrix Spike (MS)
1201223384	Laboratory Control Sample (LCS)

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-002 REV# 13.

Calibration Information:

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

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

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

Quality Control (QC) Information:

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

Designated QC
The following sample was used for QC: 175288015 (9512-00-003F).

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 1201223381 (MB) and 175290002 (9106-0007-021F) were reprepped due to high relative percent difference/relative error ratio.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from

referenced SOP or contractual documents. The following NCR was generated for this SDG: NCR 380628 was generated due to Container scanning event for custody missed. 1. The analyst did not scan the samples 175288 015,018, 175290 002 into the batch prior to analysis, however the samples did remain in their custody at all times. 1. The error has been corrected and the analyst has been instructed on the proper scanning procedures.

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:	584648

Sample ID	Client ID
175290002	9106-0007-021F
1201219920	Method Blank (MB)
1201219921	175288018(9512-00-007F) Sample Duplicate (DUP)
1201219922	175288018(9512-00-007F) Matrix Spike (MS)
1201219923	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 volumes in this batch.

Designated QC
The following sample was used for QC: 175288018 (9512-00-007F).

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
Sample 1201219920 (MB) was recounted due to the quench number being outside the calibration range. Samples 1201219922 (9512-00-007F) and 1201219923 (LCS) were recounted due to analyst error.

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:	584694

Sample ID	Client ID
175290001	9106-0007-014F
1201220028	Method Blank (MB)
1201220029	175290001(9106-0007-014F) Sample Duplicate (DUP)
1201220030	175290001(9106-0007-014F) Matrix Spike (MS)
1201220031	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: 175290001 (9106-0007-014F).

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.

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: 11/8/06

NCR Report No.: 379311
Revision No.:

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr.	Division:	Quality Criteria:	Type:
03-NOV-06	Radiochemistry	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
LSC	EPA 906.0 Modified	Solid	YANK
Batch ID:	**Sample Numbers:**		
584693	See Below		

Potentially affected work order(s)(SDG): 175290(MSR#06-1310)

Application Issues:

Container scanning event for custody missed

Specification and Requirements Nonconformance Description:	NRG Disposition:
1. The analyst did not scan the sample 175290 001 into the batch prior to analysis, however the samples did remain in their custody at all times.	1. The error has been corrected and the analyst has been instructed on the proper scanning procedures.

Originator's Name:
Amy Scott 03-NOV-06

Data Validator/Group Leader:
Heather Anderson 08-NOV-06

Quality Review:

Director:

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr.	Division:	Quality Criteria:	Type:
07-NOV-06	Radiochemistry	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
LSC	DOE EML HASL-300, Tc-02-RC Modified	Solid	YANK
Batch ID:	**Sample Numbers:**		
584692	See Below		

Potentially affected work order(s)(SDG): 175290(MSR#06-1310)

Application Issues:

Sample Analyzed out of Holding

Specification and Requirements Nonconformance Description:	NRG Disposition:
1. Sample 175290001 is a relog of 163626014 causing the sample to be analyzed out of holding.	1. Reporting results.

Originator's Name:
Amy Scott 07-NOV-06

Data Validator/Group Leader:
Heather Anderson 08-NOV-06

Quality Review:

Director:

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr.	Division:	Quality Criteria:	Type:
07-NOV-06	Radiochemistry	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
LSC	DOE RESL Ni-1, Modified	Solid	YANK
Batch ID:	**Sample Numbers:**		
584690	See Below		

Potentially affected work order(s)(SDG): 175290(MSR#06-1310)

Application Issues:

Sample Analyzed out of Holding

Specification and Requirements Nonconformance Description:	NRG Disposition:
1. Sample 17529001 was a relog of 163626014 causing the recount of the sample to be out of holding.	1. Reporting results

Originator's Name:
Kenshalla Oston 07-NOV-06

Data Validator/Group Leader:
Heather Anderson 08-NOV-06

Quality Review:

Director:

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr.	Division:	Quality Criteria:	Type:
08-NOV-06	Radiochemistry	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
LSC	EPA 906.0 Modified	Solid	YANK
Batch ID:	**Sample Numbers:**		
585989	See Below		

Potentially affected work order(s)(SDG): 175288(MSR#06-1425),175290(MSR#06-1310)

Application Issues:

Container scanning event for custody missed

Specification and Requirements Nonconformance Description:	NRG Disposition:
1. The analyst did not scan the samples 175288 015,018, 175290 002 into the batch prior to analysis, however the samples did remain in their custody at all times.	1. The error has been corrected and the analyst has been instructed on the proper scanning procedures.

Originator's Name:

Amy Scott 08-NOV-06

Data Validator/Group Leader:

Heather Anderson 08-NOV-06

Quality Review:

Director:

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr.	Division:	Quality Criteria:	Type:
08-NOV-06	Radiochemistry	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
LSC	DOE EML HASL-300, Pu-11-RC Modified	Solid	YANK
Batch ID:	**Sample Numbers:**		
584743	See Below		

Potentially affected work order(s)(SDG): 175290(MSR#06-1310)

Application Issues:

Sample Analyzed out of Holding

Specification and Requirements Nonconformance Description:	NRG Disposition:
1. Sample 175290001 was analyzed out of holding.	1. Reporting results.

Originator's Name:
Amy Scott 08-NOV-06

Data Validator/Group Leader:
Heather Anderson 08-NOV-06

Quality Review:

Director:

SAMPLE DATA SUMMARY

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

Certificate of Analysis Report
for

YANK001 Connecticut Yankee Atomic Power Co.

Client SDG: MSR#06-1310 GEL Work Order: 175290

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

H Analytical holding time was exceeded

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: November 8, 2006

Client Sample ID:	9106-0007-014F	Project:	YANK01204
Sample ID:	175290001	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	09-MAY-06		
Receive Date:	24-MAY-06		
Collector:	Client		
Moisture:	32.9%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time	Batch	Mtd
Rad Alpha Spec Analysis												
Alphaspec Am241, Cm, Solid ALL FSS												
Americium-241	U	0.114	+/-0.191	0.119	+/-0.191	0.339	pCi/g		BXL1	11/04/06 0951	584736	1
Curium-242	U	0.221	+/-0.321	0.159	+/-0.322	0.532	pCi/g					
Curium-243/244	U	-0.0195	+/-0.185	0.161	+/-0.185	0.425	pCi/g					
Alphaspec Pu, Solid-ALL FSS												
Plutonium-238	U	0.0828	+/-0.114	0.0417	+/-0.114	0.172	pCi/g		BXL1	11/04/06 0951	584737	2
Plutonium-239/240	U	-0.0236	+/-0.0267	0.0509	+/-0.0268	0.190	pCi/g					
Liquid Scint Pu241, Solid-ALL FSS												
Plutonium-241	HU	3.30	+/-8.21	6.75	+/-8.22	14.2	pCi/g		BXL1	11/07/06 1120	584743	3
Rad Liquid Scintillation Analysis												
LSC, Tritium Dist, Solid-HTD2,ALL FSS												
Tritium	U	5.01	+/-7.25	5.74	+/-7.25	12.4	pCi/g		DFA1	11/02/06 1021	584693	5
Liquid Scint C14, Solid All,FSS												
Carbon-14	U	0.136	+/-0.111	0.090	+/-0.111	0.185	pCi/g		AXD2	11/03/06 0310	584694	6
Liquid Scint Fe55, Solid-ALL FSS												
Iron-55	U	28.0	+/-69.7	52.9	+/-69.8	112	pCi/g		MXP1	11/03/06 1723	584687	7
Liquid Scint Ni63, Solid-ALL FSS												
Nickel-63	HU	-5.17	+/-8.15	7.07	+/-8.15	14.8	pCi/g		MXP1	11/06/06 1639	584690	8
Liquid Scint Tc99, Solid-ALL FSS												
Technetium-99	HU	0.290	+/-0.204	0.166	+/-0.204	0.339	pCi/g		KXR1	11/06/06 1345	584692	9

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM1	11/01/06	1035	584673

The following Analytical Methods were performed

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

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

Certificate of Analysis

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

East Hampton, Connecticut 06424 Report Date: November 8, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-014F Project: YANK01204
Sample ID: 175290001 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 RESL Ni-1, Modified												
9	DOE EML HASL-300, Tc-02-RC Modified												
10	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	71	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	87	(15%-125%)
Plutonium-241	Liquid Scint Pu241, Solid-ALL FS	88	(25%-125%)
Iron-55	Liquid Scint Fe55, Solid-ALL FS	26	(15%-125%)
Nickel-63	Liquid Scint Ni63, Solid-ALL FS	84	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	84	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	78	(15%-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

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Certificate of Analysis

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

East Hampton, Connecticut 06424 Report Date: November 8, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-014F Project: YANK01204
Sample ID: 175290001 Client ID: YANK001
Vol. Recv.:

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

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
Report Date: November 8, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID:	9106-0007-021F	Project:	YANK01204
Sample ID:	175290002	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	27-JUN-06		
Receive Date:	21-JUL-06		
Collector:	Client		
Moisture:	59.5%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
Alphaspec Am241, Cm, Solid ALL FSS													
Americium-241	U	0.0491	+/-0.185	0.136	+/-0.185	0.385	pCi/g		MXA1	11/03/06	0749	584744	1
Curium-242	U	0.134	+/-0.303	0.196	+/-0.303	0.588	pCi/g						
Curium-243/244	U	0.224	+/-0.307	0.202	+/-0.308	0.518	pCi/g						
Alphaspec Pu, Solid-ALL FSS													
Plutonium-238	U	0.00833	+/-0.0631	0.0462	+/-0.0631	0.173	pCi/g		MXA1	11/03/06	0749	584747	2
Plutonium-239/240	U	0.038	+/-0.0857	0.0461	+/-0.0857	0.173	pCi/g						
Liquid Scint Pu241, Solid-ALL FSS													
Plutonium-241	U	3.26	+/-8.75	7.20	+/-8.76	15.1	pCi/g		MXA1	11/07/06	1034	584751	3
Rad Liquid Scintillation Analysis													
LSC, Tritium Dist, Solid-HTD2,ALL FSS													
Tritium	U	2.02	+/-1.31	0.976	+/-1.31	2.09	pCi/g		DFA1	11/07/06	1923	585989	5
Liquid Scint C14, Solid All,FSS													
Carbon-14	U	-0.15	+/-0.123	0.106	+/-0.123	0.216	pCi/g		AXD2	11/03/06	0557	584648	8
Liquid Scint Fe55, Solid-ALL FSS													
Iron-55	U	-41.7	+/-38.2	29.7	+/-38.2	62.3	pCi/g		MXP1	11/03/06	1545	584650	9
Liquid Scint Ni63, Solid-ALL FSS													
Nickel-63	U	0.631	+/-10.2	8.58	+/-10.2	17.8	pCi/g		MXP1	11/06/06	1303	584649	10
Liquid Scint Tc99, Solid-ALL FSS													
Technetium-99	U	0.152	+/-0.261	0.215	+/-0.261	0.443	pCi/g		KXR1	11/06/06	0747	584644	11

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM1	11/01/06	1035	584675

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

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

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd
East Hampton, Connecticut 06424
Report Date: November 8, 2006
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Client Sample ID: 9106-0007-021F
Sample ID: 175290002
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	DOE EML HASL-300, Pu-11-RC Modified											
5	EPA 906.0 Modified											
6	EPA 906.0 Modified											
7	EPA 906.0 Modified											
8	EPA EERF C-01 Modified											
9	DOE RESL Fe-1, Modified											
10	DOE RESL Ni-1, Modified											
11	DOE EML HASL-300, Tc-02-RC Modified											

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	71	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	97	(15%-125%)
Plutonium-241	Liquid Scint Pu241, Solid-ALL FS	90	(25%-125%)
Iron-55	Liquid Scint Fe55, Solid-ALL FS	62	(15%-125%)
Nickel-63	Liquid Scint Ni63, Solid-ALL FS	84	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	84	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	79	(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

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Certificate of Analysis

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

Report Date: November 8, 2006

Client Sample ID: 9106-0007-021F
Sample ID: 175290002

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

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

Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

QUALITY CONTROL DATA

QC Summary

Client : Connecticut Yankee Atomic Power
362 Injun Hollow Rd

East Hampton, Connecticut
Contact: Mr. Jack McCarthy

Workorder: 175290

Report Date: November 8, 2006

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 584736										
QC1201220182 175290001 DUP										
Americium-241	U	0.114	U	0.109	pCi/g	4		(0% - 100%)	BXL1	11/04/06 09:51
	Uncert:	+/-0.191		+/-0.147						
	TPU:	+/-0.191		+/-0.147						
Curium-242	U	0.221	U	-0.0494	pCi/g	315		(0% - 100%)		
	Uncert:	+/-0.321		+/-0.0559						
	TPU:	+/-0.322		+/-0.0562						
Curium-243/244	U	-0.0195	U	-0.095	pCi/g	132		(0% - 100%)		
	Uncert:	+/-0.185		+/-0.168						
	TPU:	+/-0.185		+/-0.168						
QC1201220184 LCS										
Americium-241	13.1			13.5	pCi/g		103	(75%-125%)		11/04/06 09:51
	Uncert:			+/-1.30						
	TPU:			+/-2.10						
Curium-242			U	0.0171	pCi/g					
	Uncert:			+/-0.0681						
	TPU:			+/-0.0682						
Curium-243/244	15.8			17.8	pCi/g		113	(75%-125%)		
	Uncert:			+/-1.50						
	TPU:			+/-2.63						
QC1201220181 MB										
Americium-241			U	0.0263	pCi/g					11/06/06 23:13
	Uncert:			+/-0.188						
	TPU:			+/-0.188						
Curium-242			U	-0.0172	pCi/g					
	Uncert:			+/-0.089						
	TPU:			+/-0.089						
Curium-243/244			U	-0.0657	pCi/g					
	Uncert:			+/-0.192						
	TPU:			+/-0.193						
QC1201220183 175290001 MS										
Americium-241	13.5 U	0.114		13.2	pCi/g		98	(75%-125%)		11/04/06 09:51
	Uncert:	+/-0.191		+/-1.21						
	TPU:	+/-0.191		+/-1.97						
Curium-242	U	0.221	U	0.0515	pCi/g					
	Uncert:	+/-0.321		+/-0.226						
	TPU:	+/-0.322		+/-0.226						
Curium-243/244	16.6 U	-0.0195		15.1	pCi/g		91	(75%-125%)		
	Uncert:	+/-0.185		+/-1.31						
	TPU:	+/-0.185		+/-2.21						
Batch 584737										
QC1201220186 175290001 DUP										
Plutonium-238	U	0.0828	U	0.0173	pCi/g	131		(0% - 100%)	BXL1	11/04/06 09:51

QC Summary

Workorder: 175290

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 584737										
	Uncert:	+/-0.114		+/-0.0689						
	TPU:	+/-0.114		+/-0.0689						
Plutonium-239/240	U	-0.0236	U	0.0689	pCi/g	408		(0% - 100%)		
	Uncert:	+/-0.0267		+/-0.137						
	TPU:	+/-0.0268		+/-0.137						
QC1201220188 LCS										
Plutonium-238			U	0.0761	pCi/g			(75%-125%)		
	Uncert:			+/-0.117						
	TPU:			+/-0.117						
Plutonium-239/240	12.2			13.3	pCi/g		109	(75%-125%)		
	Uncert:			+/-1.31						
	TPU:			+/-2.08						
QC1201220185 MB										
Plutonium-238			U	0.0169	pCi/g					
	Uncert:			+/-0.0672						
	TPU:			+/-0.0672						
Plutonium-239/240			U	0.122	pCi/g					
	Uncert:			+/-0.128						
	TPU:			+/-0.129						
QC1201220187 175290001 MS										
Plutonium-238	U	0.0828	U	0.0756	pCi/g			(75%-125%)		
	Uncert:	+/-0.114		+/-0.116						
	TPU:	+/-0.114		+/-0.116						
Plutonium-239/240	12.5 U	-0.0236		12.6	pCi/g		101	(75%-125%)		
	Uncert:	+/-0.0267		+/-1.26						
	TPU:	+/-0.0268		+/-1.97						
Batch 584743										
QC1201220198 175290001 DUP										
Plutonium-241	HU	3.30	HU	-0.222	pCi/g	0		(0% - 100%)	BXL1	11/07/06 11:52
	Uncert:	+/-8.21		+/-7.72						
	TPU:	+/-8.22		+/-7.72						
QC1201220200 LCS										
Plutonium-241	141			124	pCi/g		88	(75%-125%)		11/07/06 12:25
	Uncert:			+/-12.8						
	TPU:			+/-17.5						
QC1201220197 MB										
Plutonium-241			U	-1.27	pCi/g					11/07/06 11:36
	Uncert:			+/-7.69						
	TPU:			+/-7.69						
QC1201220199 175290001 MS										
Plutonium-241	146 HU	3.30	H	131	pCi/g		90	(75%-125%)		11/07/06 12:08
	Uncert:	+/-8.21		+/-13.7						
	TPU:	+/-8.22		+/-18.5						
Batch 584744										
QC1201220202 175290002 DUP										
Americium-241	U	0.0491	U	-0.037	pCi/g	1420		(0% - 100%)	AXA1	11/03/06 07:49
	Uncert:	+/-0.185		+/-0.122						
	TPU:	+/-0.185		+/-0.122						
Curium-242	U	0.134	U	-0.0189	pCi/g	266		(0% - 100%)		

QC Summary

Workorder: 175290

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 584744										
	Uncert:	+/-0.303		+/-0.159						
	TPU:	+/-0.303		+/-0.159						
Curium-243/244	U	0.224	U	-0.0959	pCi/g	499		(0% - 100%)		
	Uncert:	+/-0.307		+/-0.292						
	TPU:	+/-0.308		+/-0.292						
QC1201220204 LCS										
Americium-241	13.5			14.2	pCi/g		105	(75%-125%)		
	Uncert:			+/-1.38						
	TPU:			+/-2.23						
Curium-242			U	-0.0168	pCi/g					
	Uncert:			+/-0.0725						
	TPU:			+/-0.0725						
Curium-243/244	16.3			17.1	pCi/g		105	(75%-125%)		
	Uncert:			+/-1.52						
	TPU:			+/-2.60						
QC1201220201 MB										
Americium-241			U	-0.0992	pCi/g					
	Uncert:			+/-0.126						
	TPU:			+/-0.127						
Curium-242			U	0.056	pCi/g					
	Uncert:			+/-0.126						
	TPU:			+/-0.127						
Curium-243/244			U	0.00871	pCi/g					
	Uncert:			+/-0.212						
	TPU:			+/-0.212						
QC1201220203 175290002 MS										
Americium-241	13.6 U	0.0491		12.8	pCi/g		94	(75%-125%)		
	Uncert:	+/-0.185		+/-1.38						
	TPU:	+/-0.185		+/-2.13						
Curium-242	U	0.134	U	0.0501	pCi/g					
	Uncert:	+/-0.303		+/-0.133						
	TPU:	+/-0.303		+/-0.133						
Curium-243/244	16.6 U	0.224		16.8	pCi/g		101	(75%-125%)		
	Uncert:	+/-0.307		+/-1.58						
	TPU:	+/-0.308		+/-2.65						
Batch 584747										
QC1201220219 175290002 DUP										
Plutonium-238	U	0.00833	U	0.00	pCi/g			(0% - 100%)	JXA1	11/03/06 07:49
	Uncert:	+/-0.0631		+/-0.0586						
	TPU:	+/-0.0631		+/-0.0586						
Plutonium-239/240	U	0.038	U	0.00955	pCi/g	120		(0% - 100%)		
	Uncert:	+/-0.0857		+/-0.0907						
	TPU:	+/-0.0857		+/-0.0907						
QC1201220221 LCS										
Plutonium-238			U	0.178	pCi/g			(75%-125%)		11/03/06 07:49
	Uncert:			+/-0.266						
	TPU:			+/-0.267						
Plutonium-239/240	12.5			13.7	pCi/g		110	(75%-125%)		
	Uncert:			+/-1.54						

QC Summary

Workorder: 175290

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 584747										
	TPU:			+/-2.21						
QC1201220218 MB										
Plutonium-238			U	-0.00987	pCi/g					11/03/06 07:49
	Uncert:			+/-0.0829						
	TPU:			+/-0.083						
Plutonium-239/240			U	-0.00987	pCi/g					
	Uncert:			+/-0.0829						
	TPU:			+/-0.083						
QC1201220220 175290002 MS										
Plutonium-238	U	0.00833		0.289	pCi/g			(75%-125%)		
	Uncert:	+/-0.0631		+/-0.200						
	TPU:	+/-0.0631		+/-0.203						
Plutonium-239/240	12.6 U	0.038		11.0	pCi/g		87	(75%-125%)		
	Uncert:	+/-0.0857		+/-1.20						
	TPU:	+/-0.0857		+/-1.66						
Batch 584751										
QC1201220223 175290002 DUP										
Plutonium-241	U	3.26	U	-2.83	pCi/g	0		(0% - 100%)	AXA1	11/07/06 11:06
	Uncert:	+/-8.75		+/-7.80						
	TPU:	+/-8.76		+/-7.80						
QC1201220225 LCS										
Plutonium-241	143			142	pCi/g		99	(75%-125%)		11/07/06 11:39
	Uncert:			+/-19.1						
	TPU:			+/-25.7						
QC1201220222 MB										
Plutonium-241			U	-4.48	pCi/g					11/07/06 10:50
	Uncert:			+/-8.90						
	TPU:			+/-8.90						
QC1201220224 175290002 MS										
Plutonium-241	146 U	3.26		128	pCi/g		88	(75%-125%)		11/07/06 11:22
	Uncert:	+/-8.75		+/-13.8						
	TPU:	+/-8.76		+/-19.2						
Rad Liquid Scintillation										
Batch 584644										
QC1201219906 175288015 DUP										
Technetium-99	U	0.0477	U	-0.0932	pCi/g	0		(0% - 100%)	KXR1	11/06/06 08:20
	Uncert:	+/-0.270		+/-0.255						
	TPU:	+/-0.270		+/-0.255						
QC1201219908 LCS										
Technetium-99	13.0			12.2	pCi/g		94	(75%-125%)		11/06/06 08:53
	Uncert:			+/-0.489						
	TPU:			+/-0.576						
QC1201219905 MB										
Technetium-99			U	-0.00874	pCi/g					11/06/06 08:03
	Uncert:			+/-0.231						
	TPU:			+/-0.231						
QC1201219907 175288015 MS										
Technetium-99	13.0 U	0.0477		12.2	pCi/g		93	(75%-125%)		11/06/06 08:36
	Uncert:	+/-0.270		+/-0.513						

QC Summary

Workorder: 175290

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation										
Batch 584644										
	TPU:	+/-0.270		+/-0.596						
Batch 584648										
QC1201219921 175288018 DUP										
Carbon-14	U	-0.013	U	-0.0381	pCi/g	0		(0% - 100%)	AXD2	11/03/06 08:12
	Uncert:	+/-0.127		+/-0.119						
	TPU:	+/-0.127		+/-0.119						
QC1201219923 LCS										
Carbon-14	6.74			6.38	pCi/g		95	(75%-125%)		11/03/06 09:27
	Uncert:			+/-0.376						
	TPU:			+/-0.389						
QC1201219920 MB										
Carbon-14			U	0.0531	pCi/g					11/06/06 10:43
	Uncert:			+/-0.108						
	TPU:			+/-0.108						
QC1201219922 175288018 MS										
Carbon-14	6.99 U	-0.013		6.34	pCi/g		91	(75%-125%)		11/03/06 09:03
	Uncert:	+/-0.127		+/-0.319						
	TPU:	+/-0.127		+/-0.334						
Batch 584649										
QC1201219925 175288015 DUP										
Nickel-63	U	-1.75	U	5.23	pCi/g	0		(0% - 100%)	MXP1	11/06/06 13:35
	Uncert:	+/-9.40		+/-9.62						
	TPU:	+/-9.40		+/-9.62						
QC1201219927 LCS										
Nickel-63	508			417	pCi/g		82	(75%-125%)		11/06/06 14:08
	Uncert:			+/-19.6						
	TPU:			+/-24.3						
QC1201219924 MB										
Nickel-63			U	3.97	pCi/g					11/06/06 13:19
	Uncert:			+/-9.36						
	TPU:			+/-9.36						
QC1201219926 175288015 MS										
Nickel-63	562 U	-1.75		432	pCi/g		77	(75%-125%)		11/06/06 13:51
	Uncert:	+/-9.40		+/-20.1						
	TPU:	+/-9.40		+/-25.4						
Batch 584650										
QC1201219929 175288015 DUP										
Iron-55	U	-20.5	U	-20	pCi/g	0		(0% - 100%)	MXP1	11/03/06 16:18
	Uncert:	+/-52.3		+/-32.0						
	TPU:	+/-52.3		+/-32.0						
QC1201219931 LCS										
Iron-55	587			573	pCi/g		98	(75%-125%)		11/03/06 16:51
	Uncert:			+/-46.4						
	TPU:			+/-64.1						
QC1201219928 MB										
Iron-55			U	-11.8	pCi/g					11/03/06 16:02
	Uncert:			+/-27.9						
	TPU:			+/-27.9						
QC1201219930 175288015 MS										

QC Summary

Workorder: 175290

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation										
Batch 584650										
Iron-55	632 U	-20.5		610	pCi/g		97	(75%-125%)		
	Uncert:	+/-52.3		+/-54.5						
	TPU:	+/-52.3		+/-74.9						
Batch 584687										
QC1201220009 175290001 DUP										
Iron-55	U	28.0	U	-8.23	pCi/g	0		(0% - 100%)	MXP1	11/03/06 17:56
	Uncert:	+/-69.7		+/-47.4						
	TPU:	+/-69.8		+/-47.4						
QC1201220011 LCS										
Iron-55	616			651	pCi/g		106	(75%-125%)		11/03/06 18:29
	Uncert:			+/-50.1						
	TPU:			+/-71.4						
QC1201220008 MB										
Iron-55			U	41.5	pCi/g					11/03/06 17:40
	Uncert:			+/-30.5						
	TPU:			+/-30.7						
QC1201220010 175290001 MS										
Iron-55	733 U	28.0		739	pCi/g		101	(75%-125%)		11/03/06 18:12
	Uncert:	+/-69.7		+/-75.3						
	TPU:	+/-69.8		+/-104						
Batch 584690										
QC1201220017 175290001 DUP										
Nickel-63	HU	-5.17	HU	-1.5	pCi/g	0		(0% - 100%)	MXP1	11/06/06 17:12
	Uncert:	+/-8.15		+/-8.89						
	TPU:	+/-8.15		+/-8.89						
QC1201220019 LCS										
Nickel-63	498			479	pCi/g		96	(75%-125%)		11/06/06 17:45
	Uncert:			+/-22.0						
	TPU:			+/-27.4						
QC1201220016 MB										
Nickel-63			U	-0.433	pCi/g					11/06/06 16:56
	Uncert:			+/-7.96						
	TPU:			+/-7.96						
QC1201220018 175290001 MS										
Nickel-63	528 HU	-5.17	H	418	pCi/g		79	(75%-125%)		11/06/06 17:28
	Uncert:	+/-8.15		+/-21.1						
	TPU:	+/-8.15		+/-25.6						
Batch 584692										
QC1201220021 175290001 DUP										
Technetium-99	HU	0.290	HU	0.396	pCi/g	0		(0% - 100%)	KXR1	11/06/06 14:48
	Uncert:	+/-0.204		+/-0.272						
	TPU:	+/-0.204		+/-0.272						
QC1201220023 LCS										
Technetium-99	13.1			12.4	pCi/g		95	(75%-125%)		11/06/06 15:51
	Uncert:			+/-0.376						
	TPU:			+/-0.487						
QC1201220020 MB										
Technetium-99			U	-0.114	pCi/g					11/06/06 14:16

QC Summary

Workorder: 175290

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation										
Batch 584692										
	Uncert:			+/-0.176						
	TPU:			+/-0.176						
QC1201220022 175290001 MS										
Technetium-99	13.1 HU	0.290	H	12.5	pCi/g		95	(75%-125%)		11/06/06 15:20
	Uncert:	+/-0.204		+/-0.415						
	TPU:	+/-0.204		+/-0.520						
Batch 584693										
QC1201220025 175290001 DUP										
Tritium	U	5.01	U	1.03	pCi/g	0		(0% - 100%)	DFA1	11/02/06 10:52
	Uncert:	+/-7.25		+/-5.25						
	TPU:	+/-7.25		+/-5.25						
QC1201220027 LCS										
Tritium	49.7			42.1	pCi/g		85	(75%-125%)		11/02/06 11:24
	Uncert:			+/-7.60						
	TPU:			+/-7.64						
QC1201220024 MB										
Tritium			U	6.93	pCi/g					11/02/06 10:37
	Uncert:			+/-5.52						
	TPU:			+/-5.52						
QC1201220026 175290001 MS										
Tritium	51.1 U	5.01		52.8	pCi/g		103	(75%-125%)		11/02/06 11:08
	Uncert:	+/-7.25		+/-8.42						
	TPU:	+/-7.25		+/-8.47						
Batch 584694										
QC1201220029 175290001 DUP										
Carbon-14	U	0.136	U	0.191	pCi/g	0		(0% - 100%)	AXD2	11/03/06 04:44
	Uncert:	+/-0.111		+/-0.119						
	TPU:	+/-0.111		+/-0.119						
QC1201220031 LCS										
Carbon-14	6.67			6.47	pCi/g		97	(75%-125%)		11/03/06 06:19
	Uncert:			+/-0.225						
	TPU:			+/-0.247						
QC1201220028 MB										
Carbon-14			U	-0.027	pCi/g					11/03/06 03:57
	Uncert:			+/-0.107						
	TPU:			+/-0.107						
QC1201220030 175290001 MS										
Carbon-14	7.22 U	0.136		7.04	pCi/g		98	(75%-125%)		11/03/06 05:32
	Uncert:	+/-0.111		+/-0.245						
	TPU:	+/-0.111		+/-0.268						
Batch 585989										
QC1201223382 175288015 DUP										
Tritium	U	0.178	U	-0.159	pCi/g	0		(0% - 100%)	DFA1	11/07/06 21:28
	Uncert:	+/-0.744		+/-0.801						
	TPU:	+/-0.744		+/-0.801						
QC1201223384 LCS										
Tritium	20.2			18.5	pCi/g		92	(75%-125%)		11/07/06 22:48
	Uncert:			+/-3.05						
	TPU:			+/-3.06						

QC Summary

Workorder: 175290

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation										
Batch 585989										
QC1201223381 MB										
Tritium			U	0.326	pCi/g					11/07/06 20:25
	Uncert:			+/-0.728						
	TPU:			+/-0.728						
QC1201223383 175288015 MS										
Tritium	21.2 U	0.178		17.3	pCi/g		82	(75%-125%)		11/07/06 22:30
	Uncert:	+/-0.744		+/-3.22						
	TPU:	+/-0.744		+/-3.23						

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

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

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.
** Indicates analyte is a surrogate compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

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

Attachment 2b
Split Sample Assessment Forms
(2 Pages)

Split Sample Assessment Form

Survey Area #: 9106	Survey Unit #: 0007	Survey Unit Name: Discharge Canal
Sample Plan or WPIR#: 2006-021		SML #: 9106-0007-004

Sample Description: Comparison of split samples collected from sample measurement location #04 and analyzed using gamma spectroscopy by an off-site vendor laboratory. The standard sample was 9106-0007-004F the comparison sample was 9106-0007-004FS.

	STANDARD				COMPARISON			
Radionuclide	Activity Value	Standard Error	Resolution	Agreement Range	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)
Cs-137	9.66E-03	1.32E-02	1	NONE -	5.74E-03	9.60E-03	0.59	N/A
Co-60	3.42E-02	1.50E-02	2	NONE -	6.27E-02	1.18E-02	1.83	N/A
Sr-90	-6.42E-03	7.70E-03	-1	NONE -	5.85E-03	8.95E-03	-0.91	N/A
K-40	1.41E+01	5.60E-01	25	0.75 1.33	1.13E+01	3.75E-01	0.80	Y

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 is not appropriate. Since K-40 was found to be present at an acceptable level of agreement, no further action is warranted.

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

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

Performed By:	Date:	Reviewed By:	Date:
Sal Randall	10-31-06	EE Ford	10/31/06

WPIR – Work Plan and Inspection Record

SML – Sample Measurement Location designation

Split Sample Assessment Form

Survey Area#: 9106	Survey Unit #: 0007	Survey Unit Name: Discharge Canal
Sample Plan or WPIR#: 2006-0021		SML #: 9106-0007-013

Sample Description: Comparison of split samples collected from sample measurement location #13 and analyzed using gamma spectroscopy by an off-site vendor laboratory. The standard sample was 9106-0007-013F, the comparison sample was 9106-0007-013FS.

	STANDARD				COMPARISON			
Radionuclide	Activity Value	Standard Error	Resolution	Agreement Range	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)
Cs-137	2.21E-02	1.25E-02	2	N/A	2.01E-02	1.18E-02	0.91	N/A
Co-60	1.86E-02	1.11E-02	2	N/A	1.27E-02	1.14E-02	0.68	N/A
Sr-90	-9.81E-03	5.75E-03	-2	N/A	2.91E-03	5.10E-03	-0.30	N/A
K-40	1.94E+01	4.29E-01	45	0.75 1.33	2.06E+01	7.40E-01	1.06	Y

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 is not appropriate. Since K-40 was found to be present at an acceptable level of agreement, no further action is warranted.

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

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

Performed By:	Date:	Reviewed By:	Date:
Dan Marshall	10-31-06		10/31/06

WPIR – Work Plan and Inspection Record

SML – Sample Measurement Location designation

Attachment 2c
Preliminary Data Forms
(1 Page)

Preliminary Data Review Form - Samples for the Sign Test

Survey Unit:	9106- 0007
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:	-1.62E-02	-1.89E-02	-9.81E-03
Maximum Value:	5.38E-01	1.10E+00	4.04E-02
Mean:	2.13E-01	2.17E-01	7.51E-03
Median:	1.98E-01	4.96E-02	5.58E-03
Standard Deviation:	1.96E-01	3.06E-01	1.23E-02

	RADIONUCLIDE CONCENTRATION (pCi/g)					
NUMBER	Cs-137	Co-60	Sr-90	Identified?	Identified?	Identified?
9106-0007-001F	3.20E-02	4.96E-02	5.58E-03	Y	Y	N
9106-0007-002F	4.41E-01	2.79E-02	3.43E-03	Y	N	N
9106-0007-003F	1.98E-01	-1.89E-02	1.12E-02	Y	N	N
9106-0007-004F	9.66E-03	3.42E-02	-6.42E-03	N	Y	N
9106-0007-005F	5.38E-01	1.90E-01	4.04E-02	Y	Y	Y
9106-0007-007F	2.51E-01	4.31E-01	4.74E-03	Y	Y	N
9106-0007-011F	2.26E-01	3.14E-01	8.57E-03	Y	Y	N
9106-0007-012F	-1.62E-02	-1.46E-02	8.97E-03	N	N	N
9106-0007-013F	2.21E-02	1.86E-02	-9.81E-03	N	N	N
9106-0007-014F	3.94E-01	1.10E+00	3.92E-03	Y	Y	N
9106-0007-015F	2.32E-02	1.35E-02	7.39E-03	N	N	N
9106-0007-018F	1.620E-02	8.100E-03	1.760E-02	N	N	N
9106-0007-019F	1.82E-01	3.96E-01	-2.18E-03	Y	Y	N
9106-0007-020F	4.82E-01	1.65E-01	2.15E-02	Y	Y	Y
9106-0007-021F	3.94E-01	5.43E-01	-2.21E-03	Y	Y	N

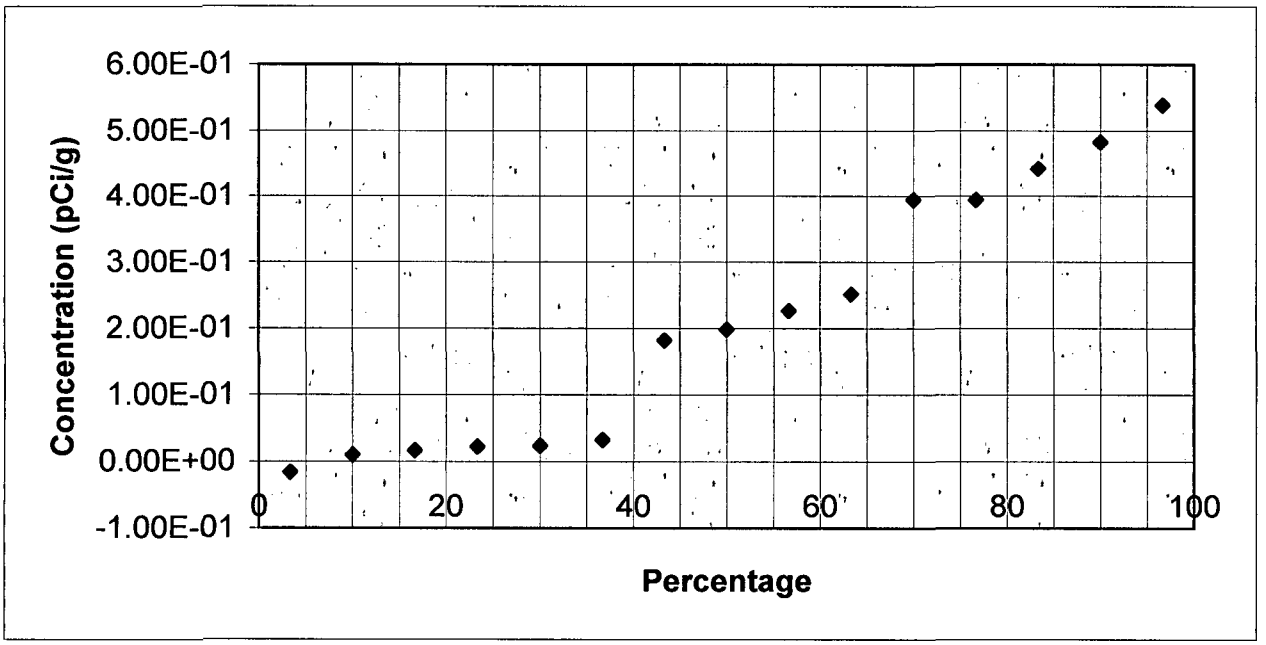
Performed By: [signature] Date: 10-31-06

Independent Review: [signature] Date: 10/31/06

Attachment 2d
Graphical Representation of Data
(6 Pages)

Quantile Plot For Cesium - 137

Survey Unit: 9106-0007
Survey Unit Name: Discharge Canal
Mean: 2.29E-01 pCi/g

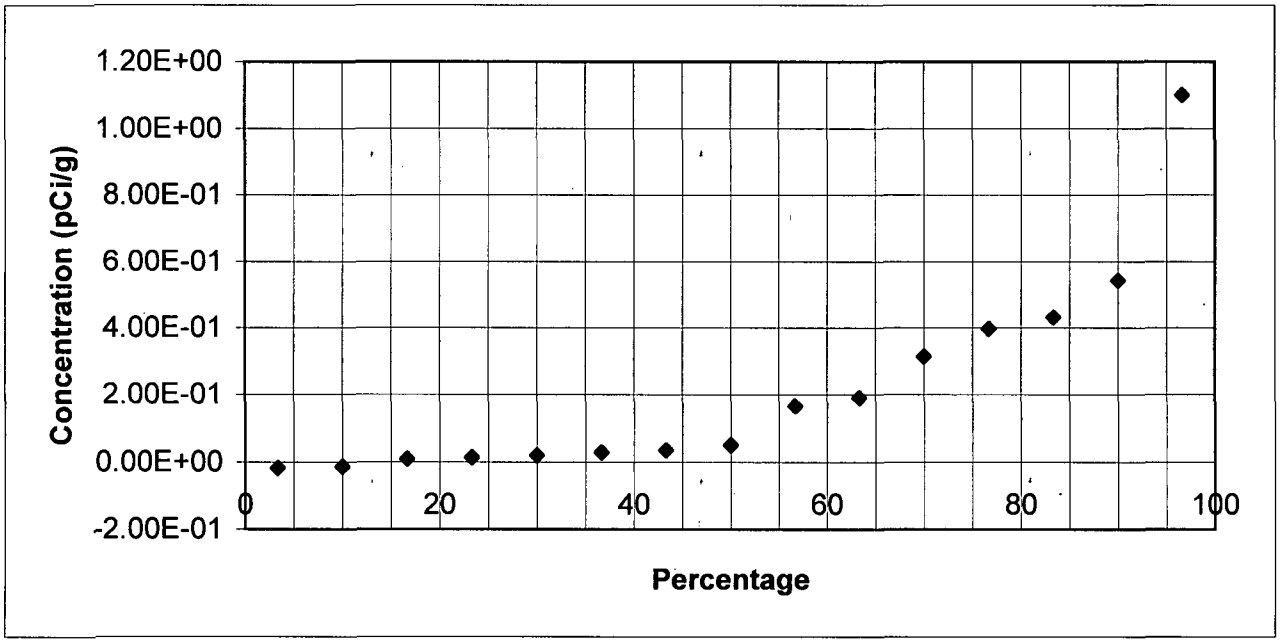


Cs-137	Rank	Percentage
-1.62E-02	1	3 %
9.66E-03	2	10 %
1.62E-02	3	17 %
2.21E-02	4	23 %
2.32E-02	5	30 %
3.20E-02	6	37 %
1.82E-01	7	43 %
1.98E-01	8	50 %
2.26E-01	9	57 %
2.51E-01	10	63 %
3.94E-01	11	70 %
3.94E-01	12	77 %
4.41E-01	13	83 %
4.82E-01	14	90 %
5.38E-01	15	97 %

Prepared By: Carl Randall Date: 10-31-06
Reviewed By: [signature] Date: 10/31/06

Quantile Plot For Cobalt - 60

Survey Unit: 9106-0007
Survey Unit Name: Discharge Canal
Mean: 2.45E-01 pCi/g

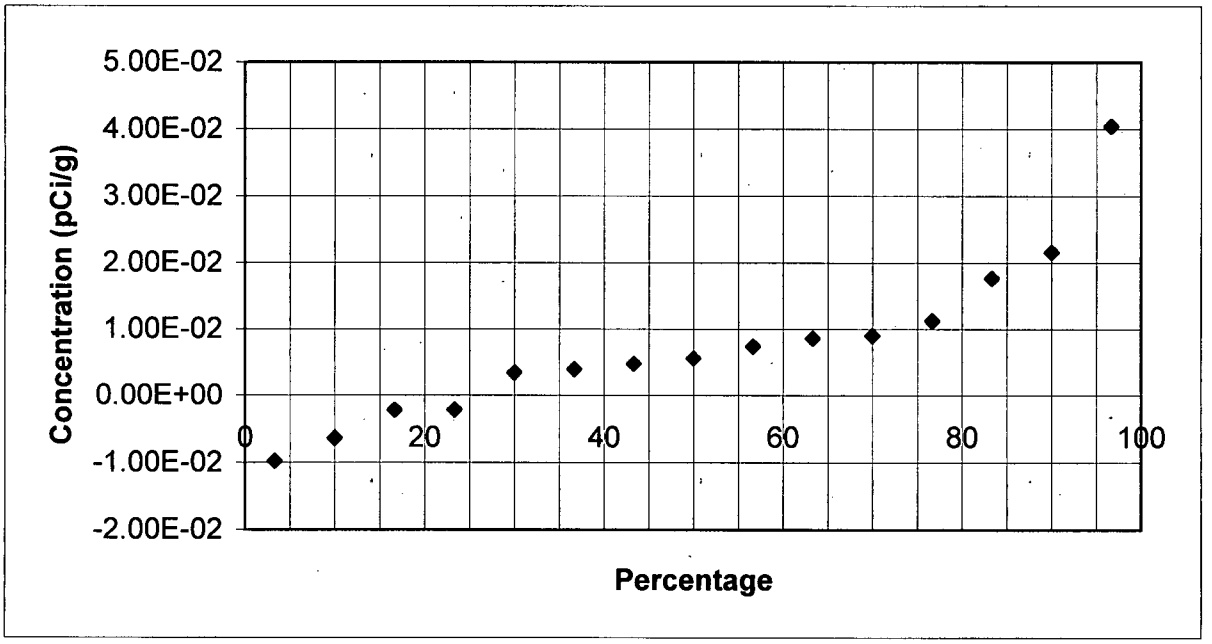


Co-60	Rank	Percentage
-1.89E-02	1	3 %
-1.46E-02	2	10 %
8.10E-03	3	17 %
1.35E-02	4	23 %
1.86E-02	5	30 %
2.79E-02	6	37 %
3.42E-02	7	43 %
4.96E-02	8	50 %
1.65E-01	9	57 %
1.90E-01	10	63 %
3.14E-01	11	70 %
3.96E-01	12	77 %
4.31E-01	13	83 %
5.43E-01	14	90 %
1.10E+00	15	97 %

Prepared By: Oak Randall Date: 10-31-06
Reviewed By: [signature] Date: 10/31/06

Quantile Plot For Strontium - 90

Survey Unit: 9106-0007
Survey Unit Name: Discharge Canal
Mean: 6.65E-03 pCi/g



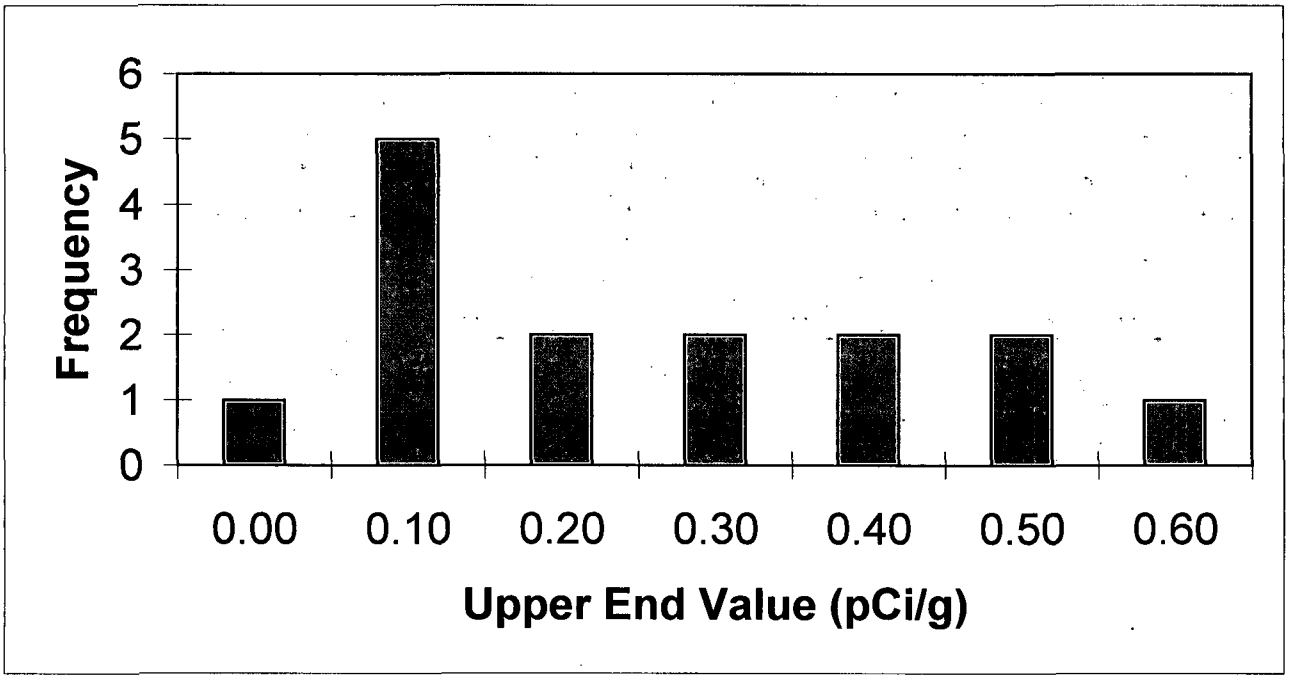
Sr-90	Rank	Percentage
-9.81E-03	1	3 %
-6.42E-03	2	10 %
-2.21E-03	3	17 %
-2.18E-03	4	23 %
3.43E-03	5	30 %
3.92E-03	6	37 %
4.74E-03	7	43 %
5.58E-03	8	50 %
7.39E-03	9	57 %
8.57E-03	10	63 %
8.97E-03	11	70 %
1.12E-02	12	77 %
1.76E-02	13	83 %
2.15E-02	14	90 %
4.04E-02	15	97 %

Prepared By: Oak Rundall Date: 10-31-06
Reviewed By: [signature] Date: 10/31/06

Frequency Plot For Cs - 137

Survey Unit: 9106-0007
Survey Unit Name: Discharge Canal

Mean: 0.229 pCi/g



Upper End Value	Observation Frequency	Observation % Frequency
0.00	1	7%
0.10	5	33%
0.20	2	13%
0.30	2	13%
0.40	2	13%
0.50	2	13%
0.60	1	7%
Total	15	100%

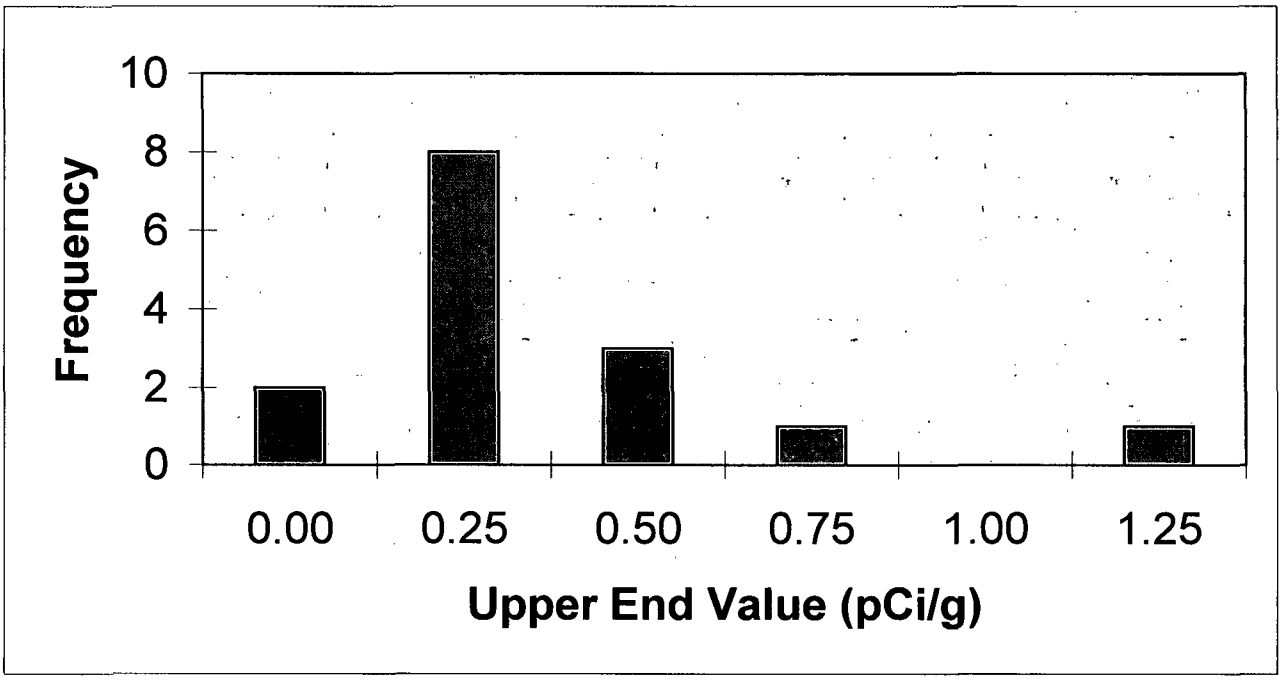
Prepared By: Orel Rondall Date: 10-31-06

Reviewed By: [signature] Date: 10/31/06

Frequency Plot For Co - 60

Survey Unit: 9106-0007
Survey Unit Name: Discharge Canal

Mean: 0.245 pCi/g



Upper End Value	Observation Frequency	Observation % Frequency
0.00	2	13%
0.25	8	53%
0.50	3	20%
0.75	1	7%
1.00	0	0%
1.25	1	7%
Total	15	100%

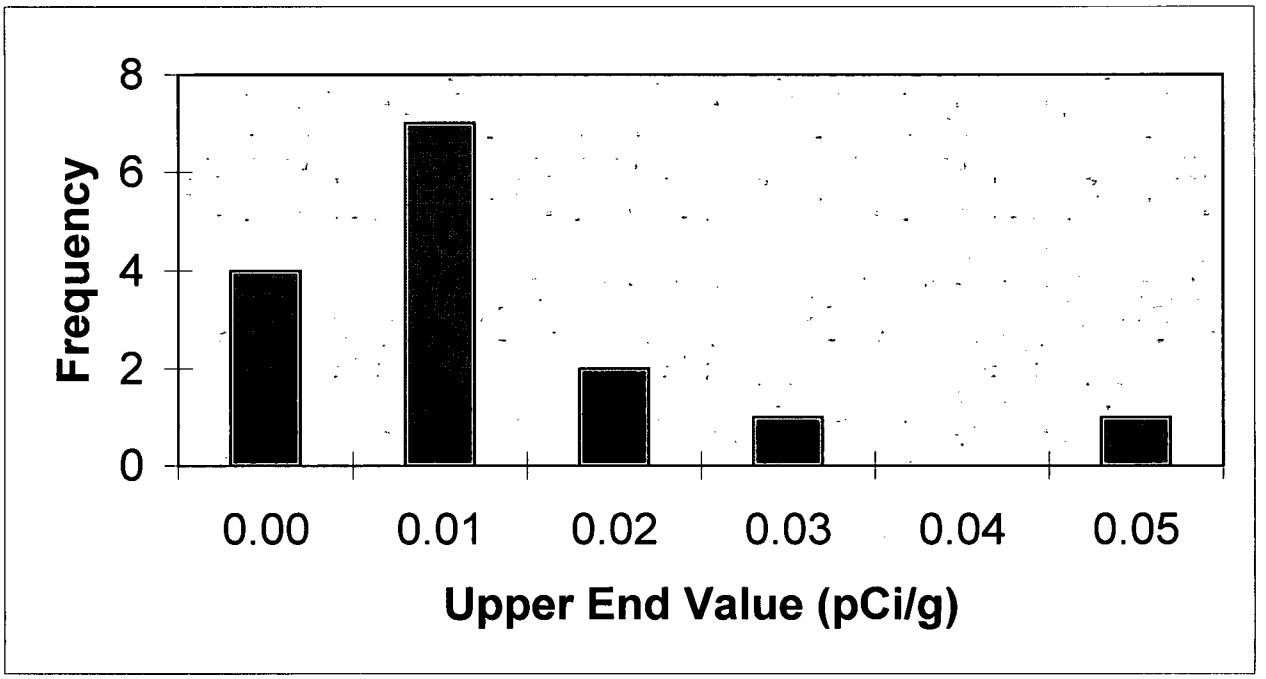
Prepared By: Carl Rumbell Date: 10-31-06

Reviewed By: [signature] Date: 10/31/06

Frequency Plot For Sr - 90

Survey Unit: 9106-0007
Survey Unit Name: Discharge Canal

Mean: 0.008 pCi/g



Upper End Value	Observation Frequency	Observation % Frequency
0.00	4	27%
0.01	7	47%
0.02	2	13%
0.03	1	7%
0.04	0	0%
0.05	1	7%
Total	15	100%

Prepared By: Date: 10-31-06

Reviewed By: Date: 10/31/06

Attachment 2e
Sign Test Calculation
(1 Page)

Sign Test Calculation Sheet For Multiple Radionuclisdes

Survey Unit Number: Survey Media:

Survey Unit Name: 9106-0007

WP&IR#: 2006-021

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):	6.01	2.90	1.18

Results Cs-137	Results Co-60	Results Sr-90	Weighted Sum (W_s)	DCGL-Result	Sign
3.20E-02	4.96E-02	5.58E-03	2.72E-02	9.73E-01	1
4.41E-01	2.79E-02	3.43E-03	8.59E-02	9.14E-01	1
1.98E-01	-1.89E-02	1.12E-02	3.59E-02	9.64E-01	1
9.66E-03	3.42E-02	-6.42E-03	7.97E-03	9.92E-01	1
5.38E-01	1.90E-01	4.04E-02	1.89E-01	8.11E-01	1
2.51E-01	4.31E-01	4.74E-03	1.95E-01	8.05E-01	1
2.26E-01	3.14E-01	8.57E-03	1.53E-01	8.47E-01	1
-1.62E-02	-1.46E-02	8.97E-03	-1.22E-04	1.00E+00	1
2.21E-02	1.86E-02	-9.81E-03	1.77E-03	9.98E-01	1
3.94E-01	1.10E+00	3.92E-03	4.49E-01	5.51E-01	1
2.32E-02	1.35E-02	7.39E-03	1.48E-02	9.85E-01	1
1.62E-02	8.10E-03	1.76E-02	2.04E-02	9.80E-01	1
1.82E-01	3.96E-01	-2.18E-03	1.65E-01	8.35E-01	1
4.82E-01	1.65E-01	2.15E-02	1.55E-01	8.45E-01	1
3.94E-01	5.43E-01	-2.21E-03	2.51E-01	7.49E-01	1

Number of Positive Differences (S+): 15

Critical Value: 11 Survey Unit: Meets Acceptance Criterion

Performed By: Date: 10-31-06

Independent Review: Date: 10/31/06

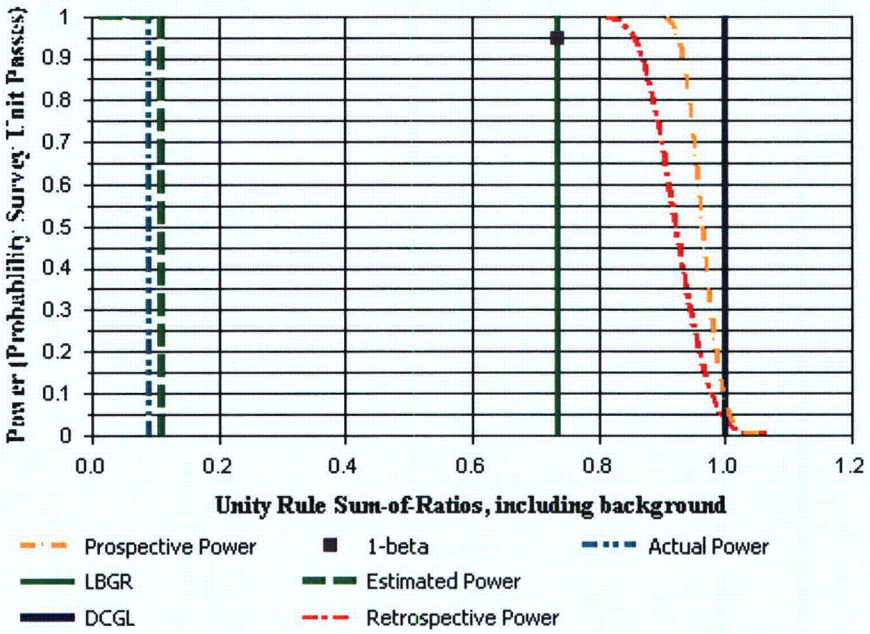
Attachment 2f
COMPASS DQA Surface Soil Report with Retrospective Power Curve
(3 Pages)

DQA Surface Soil Report

Assessment Summary

Site:	9106-0007 (19 mrem/yr)		
Planner(s):	Dale Randall		
Survey Unit Name:	9106-0007		
Report Number:	1		
Survey Unit Samples:	15		
Reference Area Samples:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

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

Sample Number	Type	Co-60 (pCi/g)	Cs-137 (pCi/g)	SrY-90 (pCi/g)
9106-0007-001F	S	0.05	0.03	0.01
9106-0007-002F	S	0.03	0.44	0
9106-0007-003F	S	-0.02	0.2	0.01
9106-0007-004F	S	0.03	0.01	-0.01
9106-0007-005F	S	0.19	0.54	0.04
9106-0007-007F	S	0.43	0.25	0
9106-0007-011F	S	0.31	0.23	0.01
9106-0007-012F	S	-0.01	-0.02	0.01
9106-0007-013F	S	0.02	0.02	-0.01
9106-0007-014F	S	1.1	0.39	0
9106-0007-015F	S	0.01	0.02	0.01
9106-0007-018F	S	0.01	0.02	0.02
9106-0007-019F	S	0.4	0.18	0
9106-0007-020F	S	0.16	0.48	0.02
9106-0007-021F	S	0.54	0.39	0

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)
9106-0007-001F	S	0.03
9106-0007-002F	S	0.09
9106-0007-003F	S	0.04
9106-0007-004F	S	0.01
9106-0007-005F	S	0.19
9106-0007-007F	S	0.19
9106-0007-011F	S	0.15
9106-0007-012F	S	0
9106-0007-013F	S	0
9106-0007-014F	S	0.45
9106-0007-015F	S	0.01
9106-0007-018F	S	0.02
9106-0007-019F	S	0.16
9106-0007-020F	S	0.16
9106-0007-021F	S	0.25

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	15	N/A	N=13
Mean (SOR)	0.12	N/A	0.11
Median (SOR)	0.09	N/A	N/A
Std Dev (SOR)	0.12	N/A	0.07
High Value (SOR)	0.45	N/A	N/A
Low Value (SOR)	0.00	N/A	N/A