



Final Status Survey Final Report Phase VI

**Appendix A3
Survey Unit Release Record
9504-0000, Bypass Road and Secondary
Parking Lot**

February 2007



CYAPCO
FINAL STATUS SURVEY RELEASE RECORD
BYPASS ROAD AND SECONDARY PARKING LOT
SURVEY UNIT 9504-0000

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Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

TABLE OF CONTENTS

1. SURVEY UNIT DESCRIPTION	3
2. CLASSIFICATION BASIS	3
3. DATA QUALITY OBJECTIVES (DQO)	5
4. SURVEY DESIGN	9
5. SURVEY IMPLEMENTATION	12
6. SURVEY RESULTS	13
7. QUALITY CONTROL	18
8. INVESTIGATIONS AND RESULTS	19
9. REMEDIATION AND RESULTS	19
10. CHANGES FROM THE FINAL STATUS SURVEY PLAN	19
11. DATA QUALITY ASSESSMENT (DQA)	19
12. ANOMALIES	20
13. CONCLUSION	20
14. ATTACHMENTS	21
14.1 Attachment 1 – Figures (11 pages including cover)	
14.2 Attachment 2 – Scan Results (5 pages including cover)	
14.3 Attachment 3 – Laboratory Data (113 pages including cover)	
14.4 Attachment 4 – DQA Results (17 pages including covers)	

TOTAL 167

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

1. SURVEY UNIT DESCRIPTION

Survey Unit 9504-0000 (Bypass Road and Secondary Parking Lot) is designated as Final Status Survey (FSS) Class 2 and consists of approximately five thousand six hundred forty five square meters (5645 m²) open land surface soil in an area located approximately six hundred forty (640 ft) from the reference coordinate system benchmark used at the Haddam Neck Plant (HNP) (see Attachment 1, Figure 1). The survey unit is bounded as follows: Survey Unit 9506-0000 is to the north and west; Survey Area 9508 is to the west, Survey Unit 9526-0000 is to the east and Survey Unit 9514-0000 is to the south.

Connecticut Yankee (CY) memorandum, CY-06-093, addresses the abandonment of buried pipes, culverts, concrete, and storm drains onsite that will remain in place at the completion of the decommissioning. The sidewalk and two (2) electric/telephone duct banks that traverse the site adjacent to the access road will be abandoned in place. Sufficient radiological assessment has been performed to confirm that the components or structures will meet all applicable unrestricted release criteria.

The reference coordinates associated with this survey unit are E010 through E014 by S042 through S054 (refer to "HNP License Termination Plan" (LTP) Section 5.4.4). The reference coordinates provide the maximum dimensions of a rectangle containing this survey unit. Some areas contained in this rectangle may not be part of this survey unit. The boundary of the survey unit was defined using a Global Positioning System (GPS) based on the Connecticut State Plane System North American Datum (NAD) 1927.

2. CLASSIFICATION BASIS

The survey unit was classified in accordance with Procedure RPM 5.1-10, "Survey Unit Classification." The historical information, scoping analyses and characterization results provided sufficient data to designate Survey Unit 9504-0000 as Class 2 in November 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 "walk down."
- e) Formal or informal interviews with cognizant personnel.

A review of the "Initial and Supplemental Characterization Reports" as well as the previous "Classification Basis Summaries" was performed. Survey

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

Unit 9504-0000 was initially designated as Class 3 during the development of the LTP. The source documents, the "*Connecticut Yankee Haddam Neck Characterization Report*" and "*Initial Classification for Survey Areas at Connecticut Yankee*", were incorporated by reference in LTP revision 0.

The second source document justified a Class 2 designation for those areas for which there was historical evidence of contamination above the Derived Concentration Guideline Levels (DCGL), but for which recent surveys had shown that decontamination efforts had occurred and that the radiological conditions were expected to be below the DCGLs. Additional justification for a Class 2 designation based on survey and sampling data was provided as another reference to the LTP by the "*Haddam Neck Plant Historical Site Assessment Supplement*".

A review of the 10CFR50.75 (g) (1) database report identified a few significant radiological events that may have impacted this survey unit.

Survey Area 9504 has historically been used to stockpile soils, spoils, snow and other materials. Packaged radioactive materials have also been stored here over the past few years.

In March 1980, Plant Incident Report (PIR) 80-37 reported the discovery of several areas of elevated activity throughout the site, including three (3) discrete sources of elevated activity on the North Parking Lot. The investigation into the incident concluded that the elevated activity was most likely ejected from the Primary Vent Stack as a result of operational events in 1979. In all cases, the areas of elevated activity were removed upon discovery.

In 1997, scoping surveys were performed of the parking lot. Radionuclide specific analysis of soil and some spoil material identified low-level concentrations of Cs-137 with a maximum observed concentration of $9.8\text{E-}02$ pCi/g. Scanning of the parking lot was conducted using a floor monitor. No additional areas of elevated activity were identified.

Flood control culverts have been installed under the roadway and parking area. These culverts conduct runoff water from the hillside to the east of the survey unit to the west bank of the adjacent pond.

A final characterization survey was performed in accordance with SSWP 06-07-005 in October 2006. This survey included biased samples at the outfalls of all culverts. Two of the soil samples were selected for additional analysis for Hard-to-Detect (HTD) radionuclides.

Cs-137 was positively identified at concentrations greater than MDA but far less than the Operational DCGL. In addition, Sr-90 and Tc-99 were also positively identified (i.e., a result greater than two (2) standard deviations uncertainty) at concentrations greater than 5% of their respective Operational DCGL. Section 5.4.7.2 of the LTP states that radionuclide screening or de-selection is a process where an individual radionuclide or aggregate may be

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

considered insignificant and eliminated from the FSS. The criteria for de-selection are concentrations less than 5% for individual radionuclides and less than 10% for aggregates. Subsequently, Sr-90 and Tc-99 were selected as radionuclides of concern in this survey unit. Statistical quantities (mean, median and standard deviation) from the 2006 characterization survey conducted under SSWP 06-07-005 are provided in Table 1.

Table 1 – Basic Statistical Quantities for Cs-137, Sr-90 and Tc-99 from the Characterization Survey

Parameter	Cs-137 (pCi/g)	Sr-90 (pCi/g)	Tc-99 (pCi/g)
Minimum Value:	-7.03E-03	0.00E+00	0.00E+00
Maximum Value:	6.84E-01	1.78E-01	1.20E+00
Mean:	1.12E-01	1.33E-02	1.05E-01
Median:	4.01E-02	0.00E+00	0.00E+00
Standard Deviation:	1.83E-01	4.48E-02	3.15E-01

The FSS Engineer performed a visual inspection and walk-down during October 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

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

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 9504-0000 did not exceed the release criteria specified in the LTP and that the potential dose from residual radioactivity is As Low As Reasonably Achievable (ALARA)

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

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

Equation 1:

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

The total dose under the LTP criteria is 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 19 mrem/yr TEDE. To satisfy both the LTP and 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 existing groundwater (reference CY memo ISC 06-024). Therefore, dose contribution from existing groundwater is 0 mrem/yr TEDE, based on field data.

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

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

Equation 2:

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

The allowable dose for soil in this survey unit is 19 mrem/yr TEDE as shown by Equation 2 above. The concentration of residual radioactivity resulting in 19 mrem/yr TEDE is designated as the Operational DCGL (DCGL_{op}), and has been established for the radionuclides of concern as provided in Table 2.

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

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

Radionuclide ⁽¹⁾	Base Case Soil DCGL (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.

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

Another important facet of the DQO process is to identify the radionuclides of concern and determine the concentration variability. Characterization was performed in October of 2006 as discussed in Section 2. The characterization survey identified Cs-137, Tc-99 and Sr-90 as the radionuclides of concern. The basic statistical quantities (i.e., mean, standard deviation, median) for Cs-137, Sr-90 and Tc-99 are provided in Table 1.

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

As part of the DQOs applied to laboratory processes, analysis results were reported as actual calculated results. Results reported as less than Minimum Detectable Concentration (MDC) were not accepted for FSS. Sample report summaries included unique sample identification, analytical method, radionuclide, result, and uncertainty to two (2) standard deviations, laboratory data qualifiers, units, and the required and observed MDC.

4. SURVEY DESIGN

The level of effort associated with planning a survey is based on the complexity of the survey and nature of the hazards. Guidance for preparing FSS plans is provided in Procedure RPM 5.1-11, "*Preparation of Final Status Survey Plans*". The FSS plan uses an integrated sample design that combines scanning surveys and sampling which can be either random or biased.

The 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, Sr-90 and Tc-99 would be the radionuclides of concern in Survey Unit 9504-0000 (refer to Section 3). Sr-90 and Tc-99 are classified as HTD radionuclides as specified in Table 2. As all soil samples would be subjected to direct analysis for these HTD radionuclides, surrogate DCGLs were not required as part of the survey design for this survey unit. Other radionuclides that were positively identified in concentrations greater than the screening criteria during the performance of this FSS would be evaluated to ensure adequate survey design.

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

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

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 0.85 to maintain the relative shift (Δ/σ) in the range of 1 and 3. The resulting relative shift was 2.0. A Prospective Power Curve was generated using COMPASS, a software package developed under the sponsorship of the United States Nuclear Regulatory Commission (USNRC) for implementation of MARSSIM in support of the decommissioning license termination rule (10 CFR 20, Subpart E). The result of the COMPASS computer run showed adequate power for the survey design. This indicates that the survey unit has a high probability of rejecting the null hypothesis, assuming that the characterization data are representative of the FSS results. Survey design specified fifteen (15) soil 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.

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
9504-0000-001F	237577.625	667481.803
9504-0000-002F	237517.152	667516.718
9504-0000-003F	237456.678	667551.632
9504-0000-004F	237456.678	667621.462

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

Table 3 - (continued)

Designation	Northing	Easting
9504-0000-005F	237396.204	667656.376
9504-0000-006F	237396.204	667796.034
9504-0000-007F	237396.204	667865.863
9504-0000-008F	237396.204	667935.692
9504-0000-009F	237396.204	668005.521
9504-0000-010F	237335.730	667900.778
9504-0000-011F	237335.730	667970.607
9504-0000-012F	237335.730	668040.436
9504-0000-013F	237275.257	667935.692
9504-0000-014F	237275.257	668005.521
9504-0000-015F	237275.257	668075.351

Procedure RPM 5.1-11 specifies that 5% of the samples are required to be selected for HTD analysis. Two (2) soil samples, or about 10% of the number of samples that would be used for non-parametric statistical testing were randomly selected for additional HTD radionuclide analysis using the Microsoft Excel "RANDBETWEEN" function. In addition to the analysis already performed for the quantification of Sr-90 and Tc-99, the two selected samples were sent off-site for a full suite analysis of all the HTD radionuclides specified in the LTP, Table 2-12, "*Radionuclides Potentially Present at Haddam Neck Plant*" and as provided in Table 2.

The implementation of 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 "RANDBETWEEN" function. The number of quality control samples exceeded the 5% requirement.

The LTP specifies a required scanning coverage of 10% to 100% for outdoor Class 2 areas. The fraction of scanning coverage was determined during the DQO process with the total amount and location(s) based on the likelihood of finding elevated activity during FSS. Based on the historical site assessment, the characterization data available, and the use of this survey unit, it was determined that scanning was required in five (5) separate areas. The total surface area to be scanned was approximately 35% of the survey unit. A map of the scan grid locations is provided in Attachment 1.

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

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

Table 4 – Synopsis of the Survey Design ⁽¹⁾

Feature	Design Criteria	Basis
Survey Unit Land Area	5,645 m ²	Based on AutoCAD-LT and Visual Sample Plan calculations
Number of Measurements	26 (15 systematic grid) (11 judgmental)	Type 1 and Type 2 errors were 0.05, sigma was .0772 and the LBGR was set to 0.85 to maintain Relative Shift in the range of 1 and 3, the resultant Relative Shift was 2.0
Grid Spacing	20.61 m	Based on triangular grid
Design DCGL	6.01 pCi/g Cs-137 1.18 pCi/g Sr-90 9.58 pCi/g Tc-99	To achieve nineteen (19) mrem/yr TEDE
Operational DCGL	6.01 pCi/g Cs-137 1.18 pCi/g Sr-90 9.58 pCi/g Tc-99	To achieve nineteen (19) mrem/yr TEDE ⁽¹⁾ to demonstrate compliance with Equation 2 of this Release Record
Scan Coverage	Approximately 35% of the area	The LTP requires >10% area coverage for Class 2 survey units
Scan Investigation Level	Detectable over background	Administratively set to achieve nineteen (19) mrem/yr TEDE (1)

(1) The allowable dose for soil in this survey unit is nineteen (19) mrem/yr TEDE as the total dose from existing and future groundwater has been established (reference CY memo ISC 06-024)

5. SURVEY IMPLEMENTATION

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

Five (5) scan areas were established that constituted approximately 35% of the surface area of Survey Unit 9504-0000. Grid lines, one meter wide, were painted on the ground of the scan areas. A background survey was performed around the survey unit.

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

The scan areas were established and scanned for elevated readings (see Attachment 2 for all scan results). Scanning was performed with an Eberline E-600 using a SPA-3 sodium iodide detector. The E-600 was operated in the rate-meter mode and used with audio response. The probe was positioned as close to the ground as possible and was moved at a scan speed of about 0.5 meters per second. Approximately 35% of the survey unit was scanned.

Measurement locations were identified in North American Datum (NAD) 1927 coordinates using GPS coordinates; sample locations were identified and marked with a surveyor's flag or paint for identification. At each sample location, a one (1) meter radius around the sample flag or paint mark was scanned for elevated radiation levels.

Fifteen (15) surface soil samples were collected and packaged in accordance with Haddam Neck Plant (HNP) Procedure RPM 5.1-3, "*Collection of Sample Media for Final Status Survey*" and FSS design. Samples were controlled, transported, stored, and transferred to the off-site laboratory using Chain-of-Custody (COC) protocol in accordance with Procedure RPM 5.1-5, "*Chain of Custody for Final Status Survey Samples*."

Two (2) samples, 9504-0000-004F and 9504-0000-006F, were randomly selected for additional HTD radionuclide analysis.

Eleven (11) biased samples, 9504-0000-016J through 9504-0000-026J were collected to be analyzed by the offsite laboratory for gamma spectroscopy. The judgmental samples were also processed for the HTD radionuclides Sr-90 and Tc-99.

The implementation of quality control measures included the collection of two (2) split samples at locations 9504-0000-011F and 9504-0000-015F for comparative analysis by the off-site laboratory.

6. SURVEY RESULTS

All field survey activities were conducted between November 15, 2006 and November 17, 2006.

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

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

Table 5 - Scan Results for Sample Measurement Locations

Sample Measurement Location	Highest Logged Reading (kcpm)	Action Level ⁽¹⁾ (kcpm)	> Action Level
1	8.40	9.36	NO
2	7.93	8.73	NO
3	7.85	8.47	NO
4	6.79	7.58	NO
5	8.52	9.02	NO
6	7.70	8.24	NO
7	4.79	6.20	NO
8	5.56	7.19	NO
9	7.73	9.14	NO
10	5.85	7.10	NO
11	4.60	5.59	NO
12	5.68	7.05	NO
13	4.04	7.30	NO
14	5.06	5.97	NO
15	4.96	6.11	NO

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

The scan areas, that comprised approximately 35% of the total surface area for the survey unit, were scanned for elevated radiation levels. The areas were scanned in accordance with the FSSP on November 15, 2006 through November 17, 2006. Table 6 provides an overview of the scan area survey. Complete scan results are provided in Attachment 2.

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

Table 6- Scan Area Results

Scan Area	Range of Logged Reading (kcpm)	Highest Logged Reading (kcpm)	Range of Action Level ⁽¹⁾ (kcpm)	>Action Level
1	6.80 - 8.38	8.38	7.92 - 9.49	NO
2	5.46 - 7.20	7.20	6.44 - 8.47	NO
3	4.31 - 5.98	5.98	5.20 - 7.39	NO
4	4.24 - 5.79	5.79	5.31 - 7.03	NO
5	5.14 - 7.81	7.81	6.03 - 8.75	NO

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

The off-site laboratory employed for the radiological analyses of samples was General Engineering Laboratories, LLC. The laboratory analyzed the fifteen (15) samples taken for non-parametric statistical testing, the associated duplicates and the eleven (11) biased samples using gamma spectroscopy. Gamma spectroscopy results identified some radionuclides meeting the accepted criteria for detection (i.e., a result greater than two (2) standard deviations uncertainty). However, Cs-137 was the only gamma-emitting radionuclide reported in concentrations exceeding the de-selection criteria.

The off-site laboratory also processed all fifteen (15) samples and the eleven (11) biased samples for Sr-90 and Tc-99 analyses as well as the two (2) samples for additional HTD analysis as required by the sample plan. The requested analyses included alpha spectroscopy, gas proportional counting, and liquid scintillation depending on the radionuclide and the measurement method. All analyses met the required MDC.

Cs-137 was positively identified (i.e., a result greater than two (2) standard deviations uncertainty) in three (3), Sr-90 was identified in one (1) and Tc-99 in six (6) of the fifteen (15) samples. The mean of the gamma spectroscopic analysis results for the sample population indicated that Cs-137 was present at levels lower than the concentrations of Cs-137 found in soil at off-site locations within the vicinity of the HNP as presented in the Health Physics TSD BCY-HP-0063.

In the two (2) samples analyzed for the full suite of HTD radionuclides as specified in the LTP, Table 2-12, "*Radionuclides Potentially Present at Haddam Neck Plant*" and as provided in Table 2, two (2) additional HTD radionuclides were positively detected (i.e., a result greater than two (2) standard deviations uncertainty) in more than one sample; however, each of the HTD radionuclides could be de-selected based on the 5% and 10% rules in accordance with LTP Section 5.4.7.2, "*Gross Activity DCGLs*".

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

**Table 7- Summary of Gamma Spectroscopy Results for Surface Soil
Samples Comprising the Statistical Sample Population**

Sample Number	Cs-137 pCi/g	Sr-90 pCi/g	Tc-99 pCi/g
9504-0000-001F	4.12E-02	-1.12E-02	2.66E-01
9504-0000-002F	5.17E-03	-1.63E-02	1.88E-02
9504-0000-003F	1.64E-02	5.94E-03	5.34E-02
9504-0000-004F	7.97E-02	-3.20E-02	2.04E-01
9504-0000-005F	3.37E-03	3.06E-01	4.33E-03
9504-0000-006F	4.69E-03	-8.40E-03	2.55E-03
9504-0000-007F	1.98E-02	-6.95E-03	3.11E-01
9504-0000-008F	0.00E+00	-1.35E-02	7.96E-02
9504-0000-009F	3.41E-03	-1.29E-02	3.82E-02
9504-0000-010F	0.00E+00	-9.28E-03	2.93E-01
9504-0000-011F	4.50E-03	-2.49E-02	-1.79E-02
9504-0000-012F	-6.18E-03	-3.44E-02	1.54E-01
9504-0000-013F	2.08E-02	-8.55E-03	9.79E-02
9504-0000-014F	2.29E-02	-3.91E-02	3.14E-01

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

Equation 3

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

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

None of the individual sample results exceeded the Operational DCGL of a radionuclide of concern or unity. A summary of the sample results and the results of the unity rule calculation for Survey Unit 9504-0000 are provided in Table 8 below.

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

**Table 8- Results of Unity Calculation for Surface Soil Samples
Comprising the Statistical Sample Population**

Sample Number	Fraction of the Operational DCGL			Unity
	Cs-137	Sr-90	Tc-99	
9504-0000-001F	0.00	-	.027	0.03
9504-0000-002F	0.00	-	0.00	0.00
9504-0000-003F	0.00	0.00	0.00	0.00
9504-0000-004F	0.01	-	0.02	0.03
9504-0000-005F	0.00	0.25	0.00	0.25
9504-0000-006F	0.00	-	0.00	0.00
9504-0000-007F	0.00	-	0.03	0.03
9504-0000-008F	0.00	-	0.00	0.00
9504-0000-009F	0.00	-	0.00	0.00
9504-0000-010F	0.00	-	0.03	0.03
9504-0000-011F	0.00	-	-	0.00
9504-0000-012F	-	-	0.02	0.02
9504-0000-013F	0.00	-	0.01	0.01
9504-0000-014F	0.00	-	0.03	0.00
9504-0000-015F	0.00	-	0.01	0.01

(1) The Operational DCGLs from Table 2 for Cs-137 is 6.01 pCi/g, 1.18 pCi/g for Sr-90 and 9.58 pCi/g for Tc-99; these are used in conjunction with the unity rule to achieve nineteen (19) mrem/yr TEDE

(2) - indicates that the radionuclide was not positively detected in the sample

Eleven (11) biased samples were collected at locations selected by FSS Supervision based on professional judgment and observation. Gamma spectroscopy analysis was performed by the off-site laboratory to the required MDC. The samples were also analyzed for Sr-90 and Tc-99. A summary of the biased sample results and the results of the unity rule calculation for Survey Unit 9504-0000 are provided in Table 9 below.

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

Table 9- Summary of Judgmental or Biased Soil Sample Results

Sample Number	Cs-137 pCi/g	Sr-90 pCi/g	Tc-99 pCi/g	Unity Fraction
9504-0000-016J	9.45E-02	-1.59E-02	2.05E-01	0.04
9504-0000-017J	3.06E-02	2.13E-03	-2.16E-01	0.00
9504-0000-018J	7.59E-02	5.92E-03	2.42E-01	0.04
9504-0000-019J	1.34E-01	-4.84E-03	5.23E-03	0.02
9504-0000-020J	3.55E-02	-1.69E-02	-2.33E-01	0.00
9504-0000-021J	1.32E-01	1.11E-03	4.03E-01	0.06
9504-0000-022J	6.67E-03	-2.09E-02	3.73E-01	0.04
9504-0000-023J	4.48E-01	2.36E-02	-1.50E-01	0.07
9504-0000-024J	-5.99E-03	-7.75E-04	2.42E-01	0.06
9504-0000-025J	4.85E-03	-2.08E-02	2.55E-01	0.05
9504-0000-026J	3.13E-02	-2.47E-02	2.08E-01	0.03

7. QUALITY CONTROL

The two (2) split samples taken for QC were analyzed by the off-site laboratory. The samples were 9504-0000-011F/FS and 9504-0000-015F/FS. The data was 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."* In consideration of the Cs-137, Co-60 and Sr-90 results, guidance for agreement ranges, obtained from USNRC Inspection Procedure 84750, does not address resolution ratios less than four (4); therefore, a determination of acceptability for such ratios cannot be made. The acceptance criteria for nuclide identification were not met in sample 9504-0000-011F/FS for the radionuclides of concern. Normally, in such situations, naturally occurring K-40 results are used to determine an acceptable level of agreement. Aggregate size or distribution of organics can account for such disagreement for K-40. CY Condition Report 06-0223 addresses this issue. The 9504-0000-015F sample set will be used for QC process validation. There was acceptable agreement between the fields split results at sample location 9504-0000-015F.

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

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

8. INVESTIGATIONS AND RESULTS

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

9. REMEDIATION AND RESULTS

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

10. CHANGES FROM THE FINAL STATUS SURVEY PLAN

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

11. DATA QUALITY ASSESSMENT (DQA)

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

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

The basic statistical quantities for the statistical sample population are provided below in Table 10.

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

Table 10 – Basic Statistical Quantities for Cs-137, Sr-90 and Tc-99 from the Final Status Survey

	Cs-137 pCi/g	Sr-90 pCi/g	Tc-99 pCi/g
DCGL _{op} :	6.01E+00	1.18E+00	9.58E+00
Minimum Value:	-6.18E-03	-3.91E-02	-1.79E-02
Maximum Value:	7.97E-02	3.06E-01	3.14E-01
Mean:	1.48E-02	5.97E-03	1.30E-01
Median:	5.17E-03	-1.12E-02	9.79E-02
Standard Deviation:	2.17E-02	8.39E-02	1.20E-01

The range of the data, about 3.84 standard deviations, was not unusually large. The difference between the mean and median was 37.5% of the standard deviation which indicates some skewness in the data. The data 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 3.55.

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

12. ANOMALIES

No anomalies were noted in the performance of this FSS.

13. CONCLUSION

Survey Unit 9504-0000 has met the final DQOs of the FSS plan. The ALARA criteria for soils as specified in Chapter 4 of the LTP were achieved. Elevated Measurement Comparison and remediation was not required.

All identified radionuclides of concern were used for statistical testing to determine the adequacy of the survey unit for FSS.

The sample data passed the Sign Test. The null hypothesis was rejected. The Retrospective Power Curve generated using COMPASS shows adequate power was achieved. The survey unit is properly designated as Class 2.

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

Survey Unit 9504-0000 has met the final DQOs of the FSS plan and has demonstrated compliance with the dose based, unrestricted release criterion. The sample data passed the Sign Test and the null hypothesis was rejected. The ALARA criteria for soils as specified in Chapter 4 of the LTP were achieved. The application of Elevated Measurement Comparison, reclassification or remediation of this survey unit was not required. All identified radionuclides of concern were used for statistical testing to determine the adequacy of the survey unit for FSS.

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

The dose contribution from soil in this survey unit is 0.40 mrem/yr TEDE based on the average concentration of the samples used for non-parametric statistical sampling.

This survey unit is not affected by existing groundwater (reference CY memo ISC 06-024).

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

The average total dose from residual radioactivity in this survey unit, including exposures from the three (3) components as described in Section 3, that is, residual radioactivity in soil, existing groundwater radioactivity, and future groundwater radioactivity from the burial of concrete foundations or footings from site buildings containing residual radioactivity, will not exceed 0.40 mrem/yr Total Effective Dose Equivalent (TEDE).

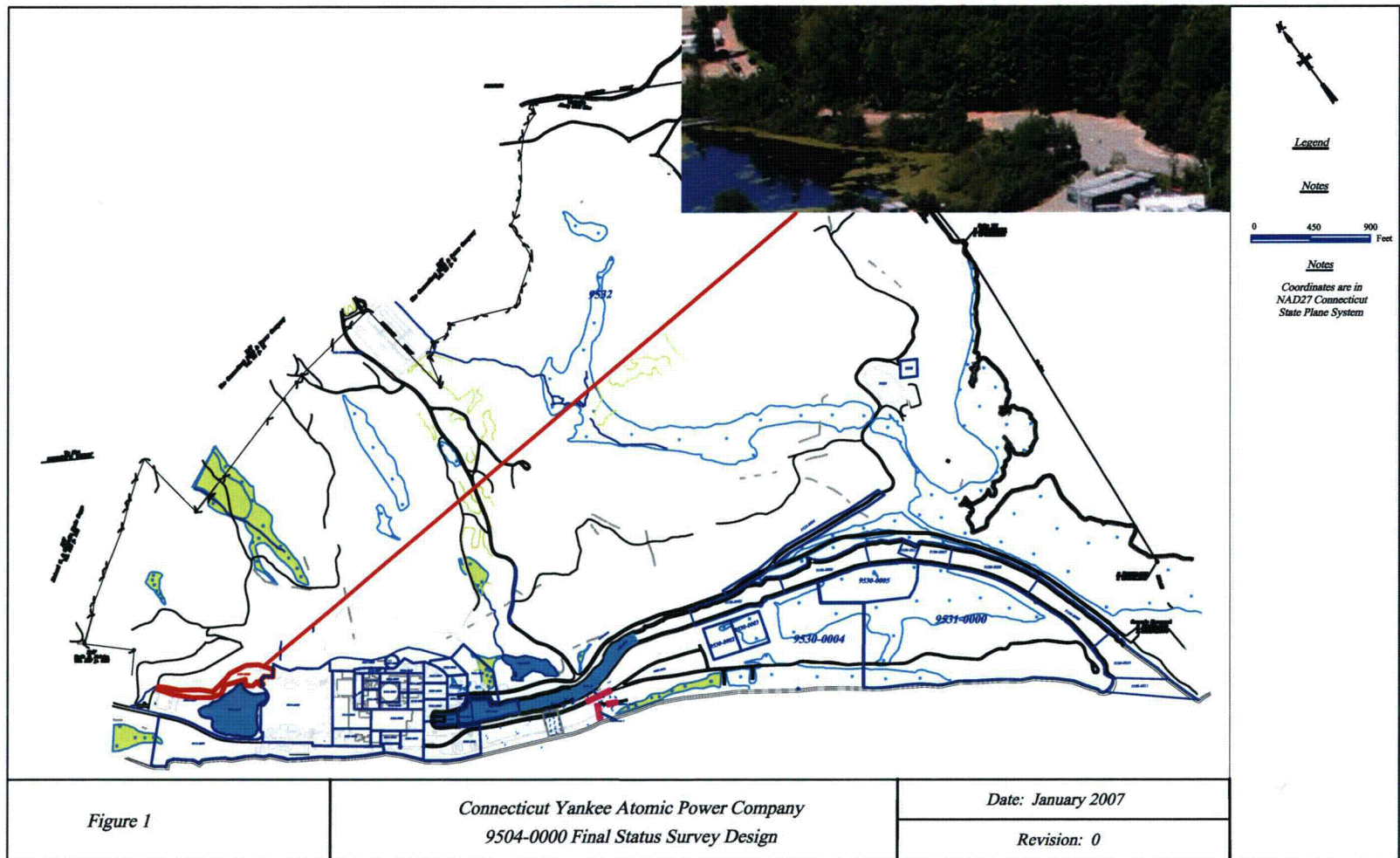
14. ATTACHMENTS

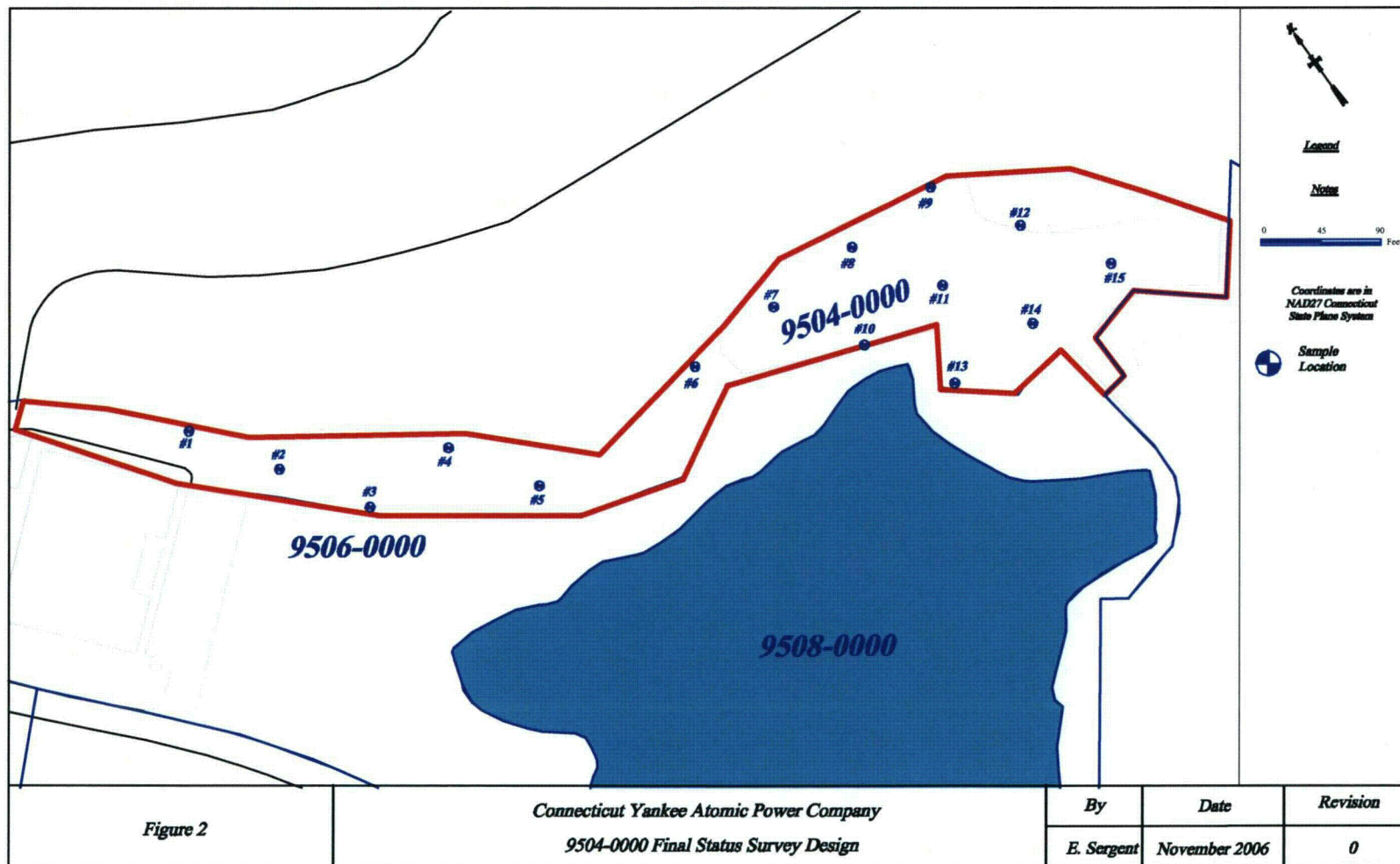
- 14.1 Attachment 1 – Figures
- 14.2 Attachment 2 – Scan Results
- 14.3 Attachment 3 – Laboratory Results
- 14.4 Attachment 4 – DQA Results

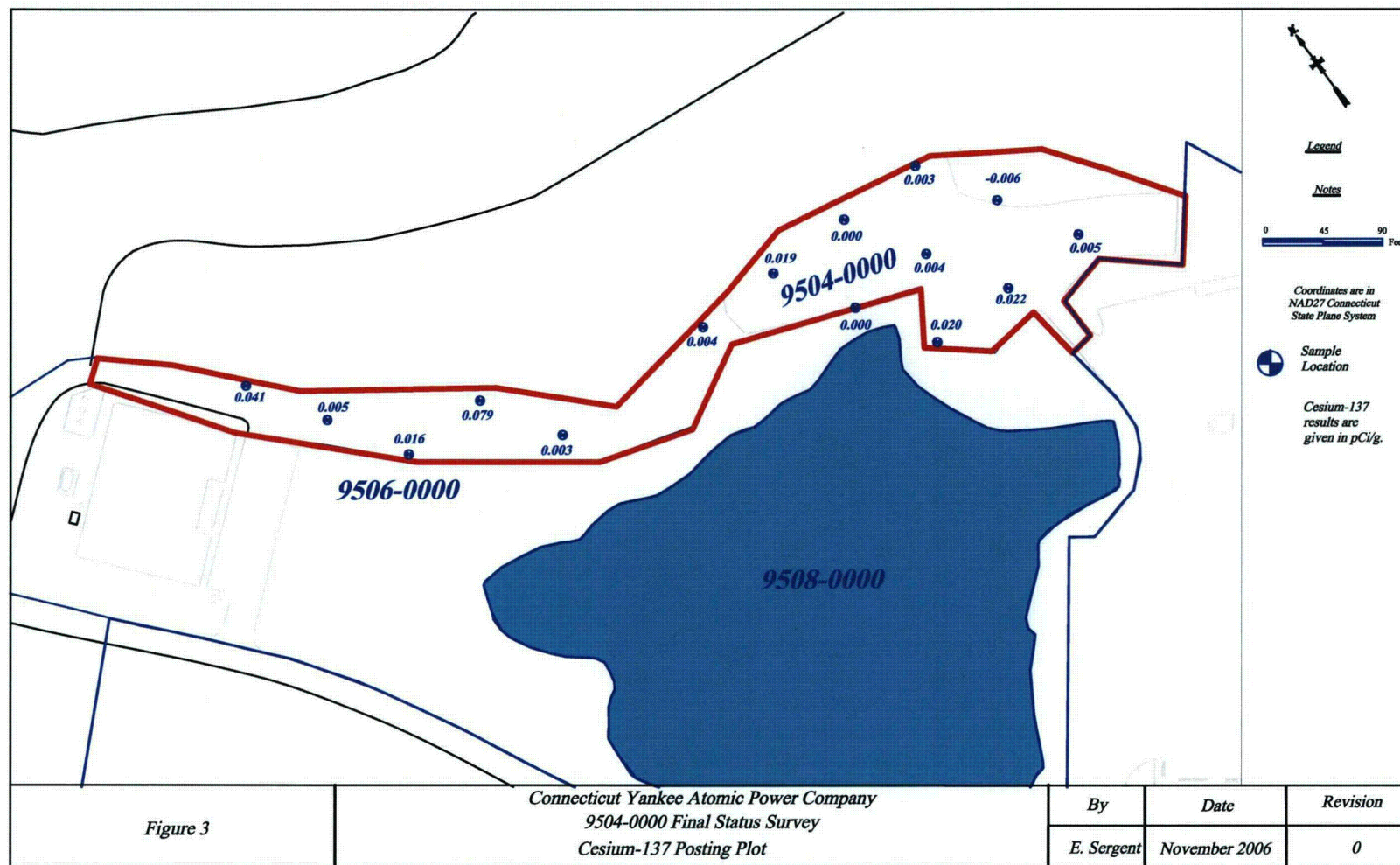
Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

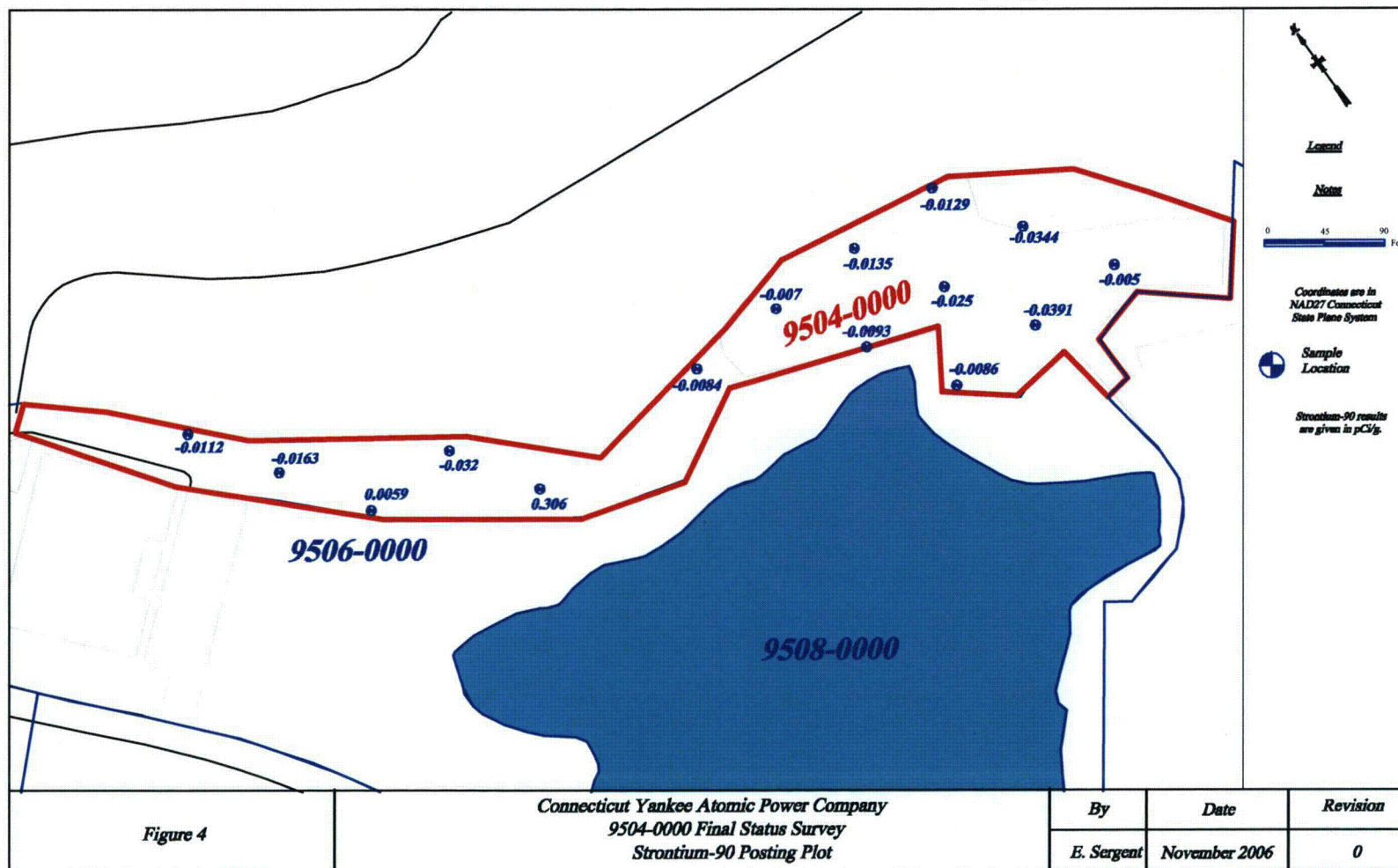
RELEASE RECORD

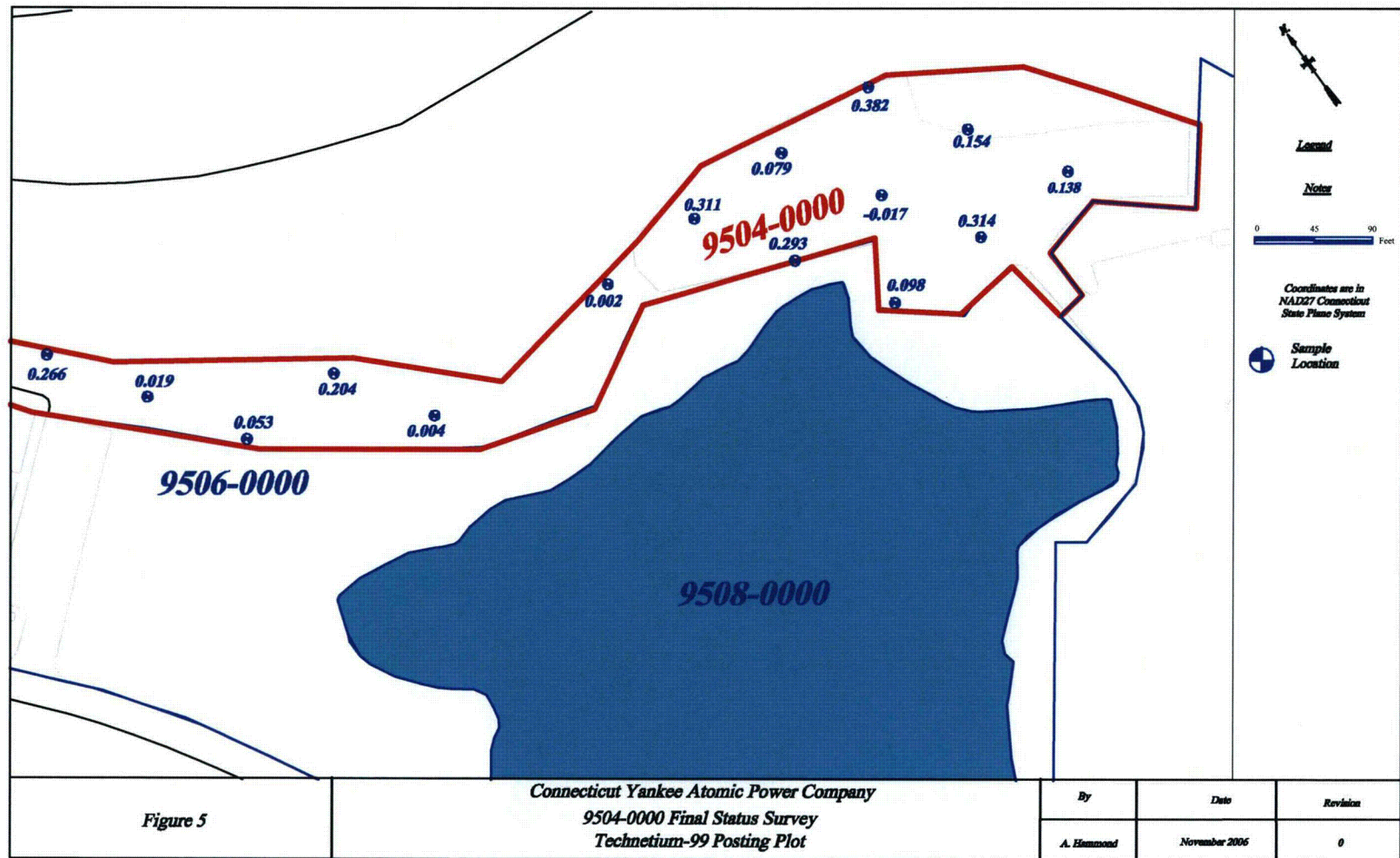
ATTACHMENT 1 (FIGURES)

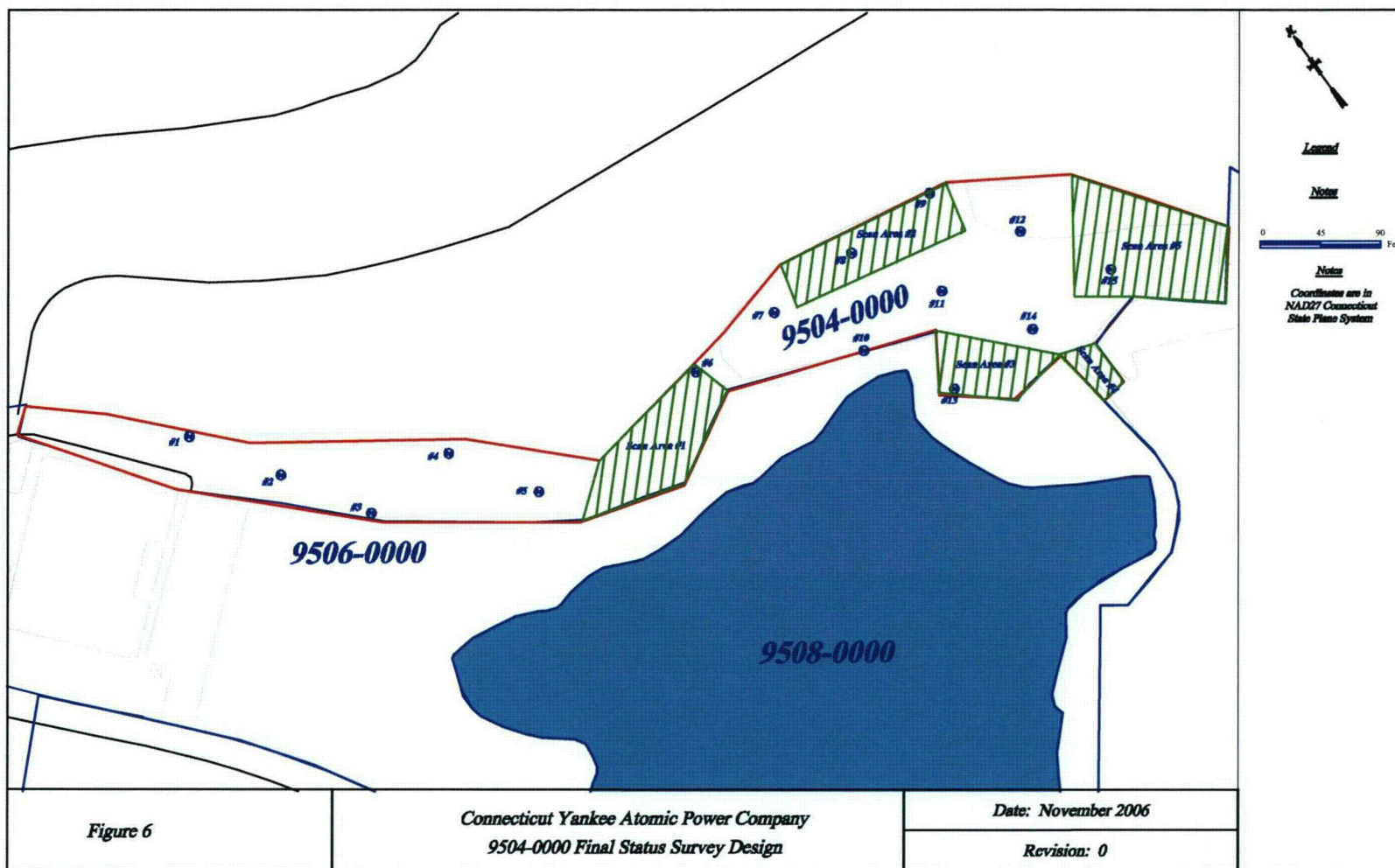


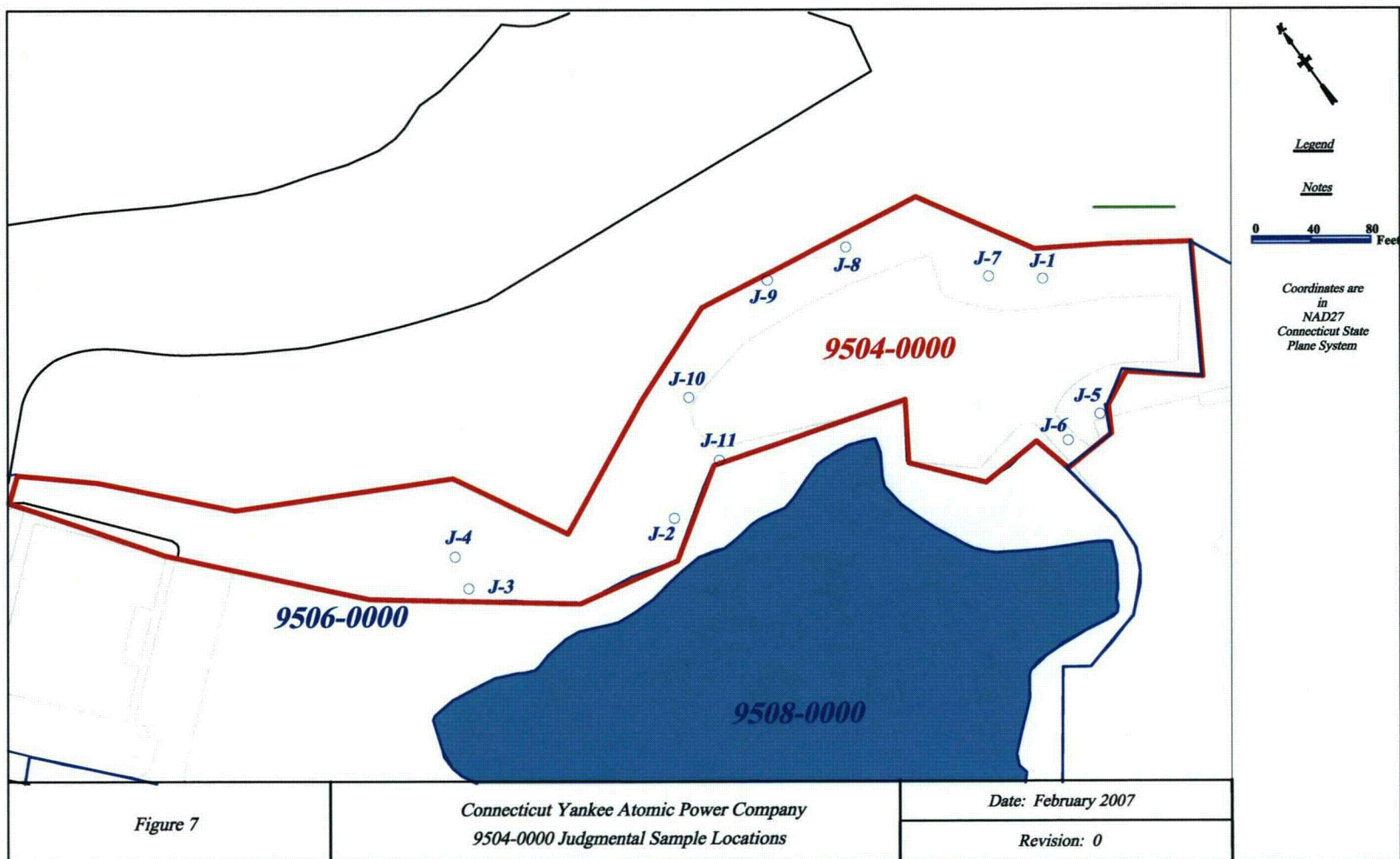


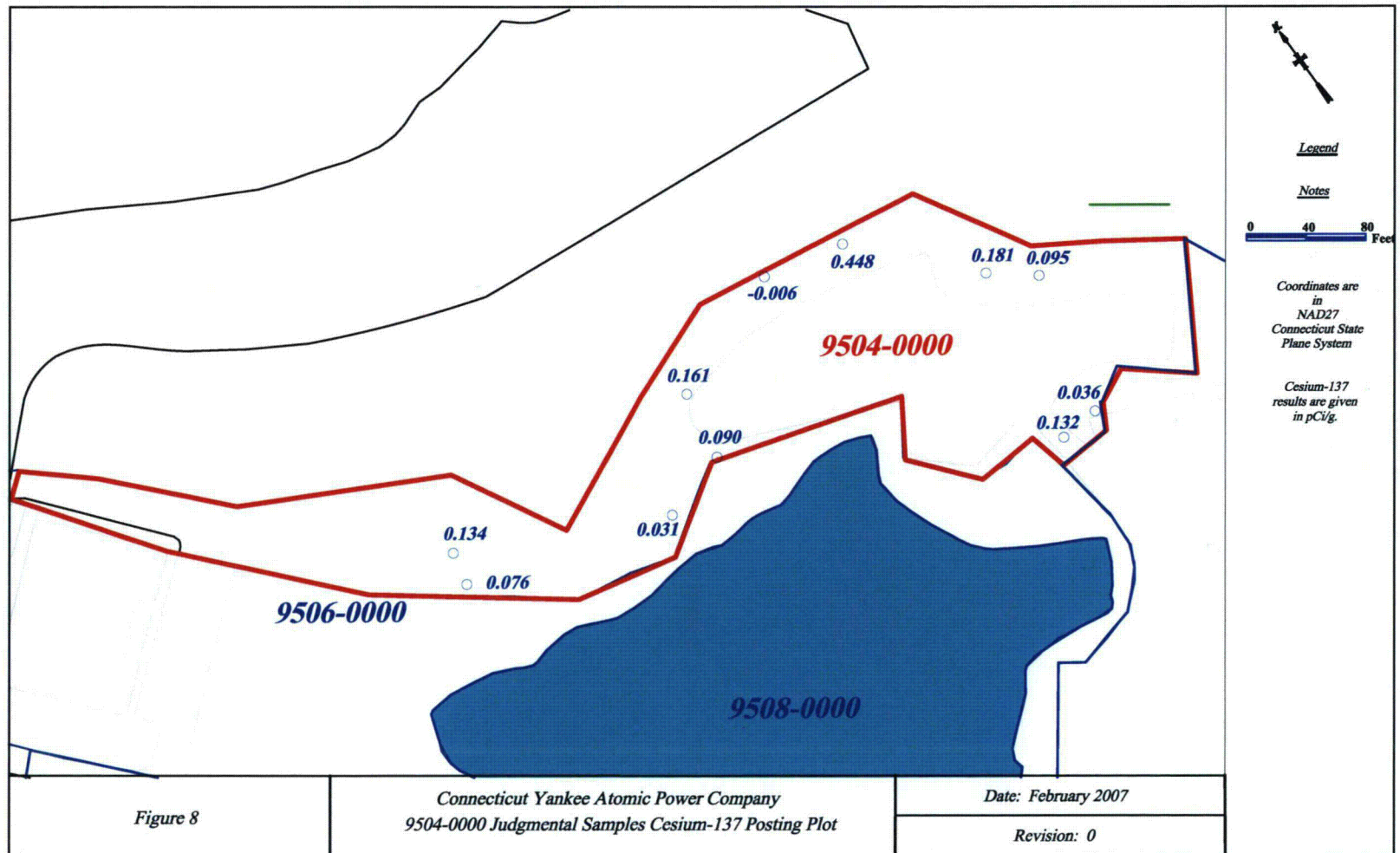


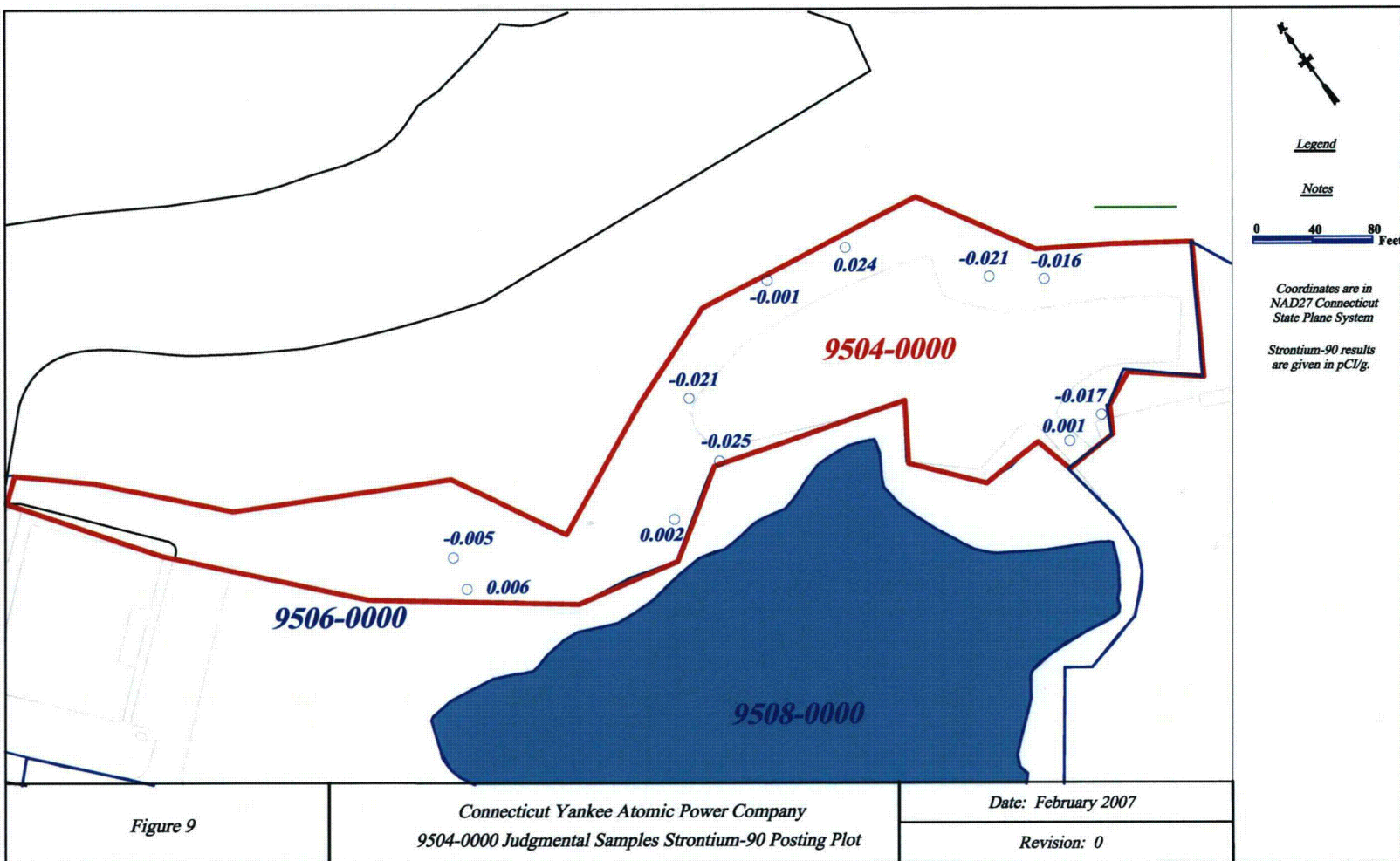


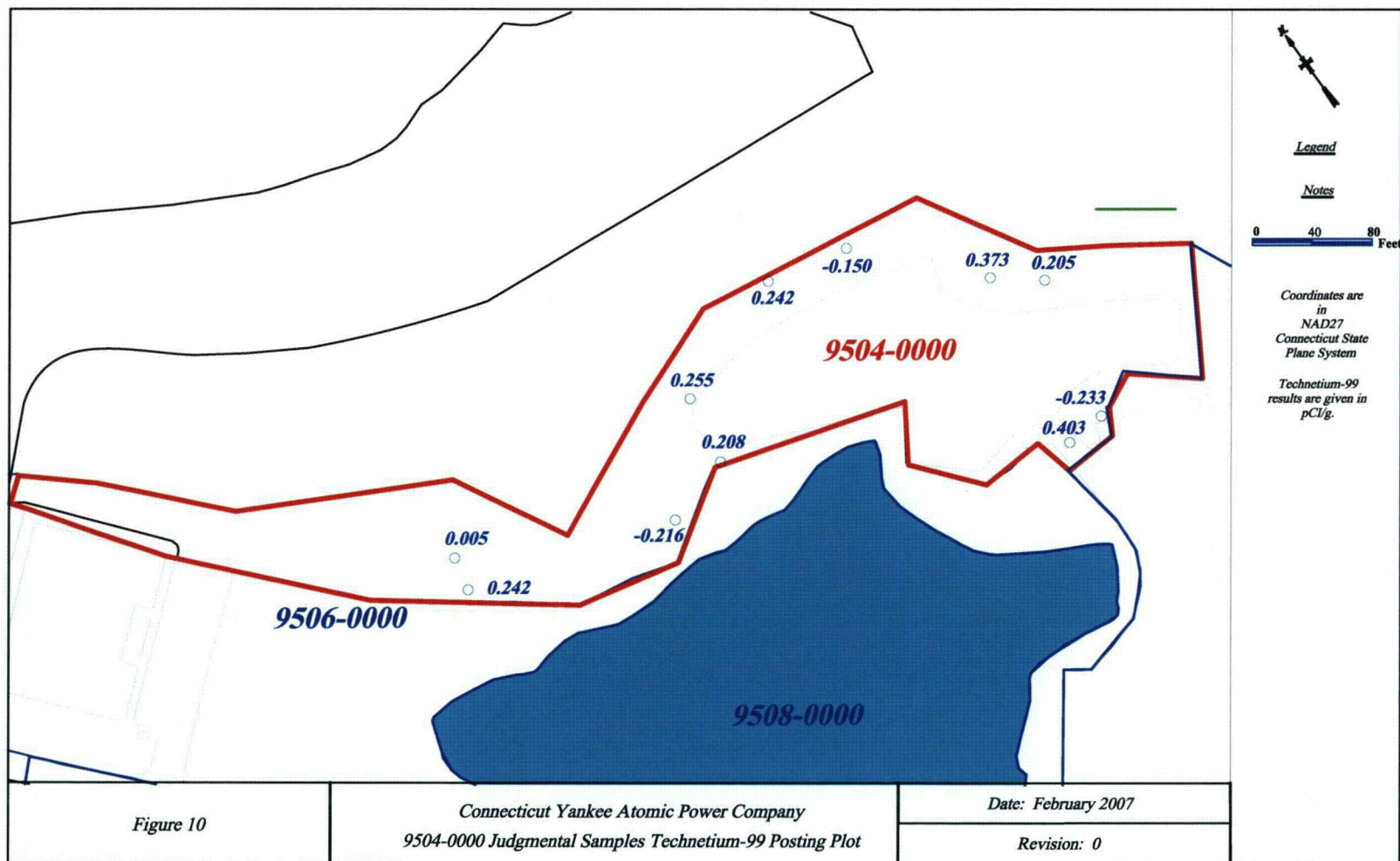












Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

ATTACHMENT 2 (SCAN RESULTS)

Survey Release Record Sample Location Scan Results

Survey Unit 9504-0000

<u>Sample Name</u>	<u>Background (cpm)</u>	<u>Action Level (cpm)</u>	<u>Results (cpm)</u>	<u>Above AL</u>	<u>Log Date</u>	<u>Log Time</u>	<u>E600 S/N</u>	<u>Probe S/N</u>
9504-0000-001F	8.08E+03	9.36E+03	8.40E+03		11/15/2006	7:41:00	1111	1004
9504-0000-002F	7.49E+03	8.73E+03	7.93E+03		11/15/2006	8:18:00	1111	1004
9504-0000-003F	7.25E+03	8.47E+03	7.85E+03		11/15/2006	8:08:00	1111	1004
9504-0000-004F	6.43E+03	7.58E+03	6.79E+03		11/15/2006	7:57:00	1111	1004
9504-0000-005F	7.76E+03	9.02E+03	8.52E+03		11/15/2006	9:33:00	1111	1004
9504-0000-006F	7.04E+03	8.24E+03	7.70E+03		11/15/2006	9:41:00	1111	1004
9504-0000-007F	5.17E+03	6.20E+03	4.79E+03		11/15/2006	9:55:00	1111	1004
9504-0000-008F	6.08E+03	7.19E+03	5.56E+03		11/15/2006	10:01:00	1111	1004
9504-0000-009F	7.87E+03	9.14E+03	7.73E+03		11/15/2006	10:13:00	1111	1004
9504-0000-010F	5.99E+03	7.10E+03	5.85E+03		11/15/2006	10:17:00	1111	1004
9504-0000-011F	4.62E+03	5.59E+03	4.60E+03		11/15/2006	12:47:00	1111	1004
9504-0000-012F	5.95E+03	7.05E+03	5.68E+03		11/15/2006	10:46:00	1111	1004
9504-0000-013F	6.18E+03	7.30E+03	4.04E+03		11/15/2006	10:34:00	1111	1004
9504-0000-014F	4.96E+03	5.97E+03	5.06E+03		11/15/2006	13:03:00	1111	1004
9504-0000-015F	5.09E+03	6.11E+03	4.96E+03		11/15/2006	13:16:00	1111	1004
9504-0000-016J	7.40E+03	8.63E+03	7.80E+03		11/15/2006	13:32:00	1111	1004
9504-0000-017J	5.86E+03	6.95E+03	6.63E+03		11/15/2006	13:41:00	1111	1004
9504-0000-018J	7.38E+03	8.61E+03	7.36E+03		11/15/2006	13:45:00	1111	1004
9504-0000-019J	6.34E+03	7.48E+03	6.48E+03		11/15/2006	13:56:00	1111	1004
9504-0000-020J	6.03E+03	7.14E+03	5.63E+03		11/15/2006	14:06:00	1111	1004
9504-0000-021J	5.08E+03	6.10E+03	4.15E+03		11/15/2006	14:17:00	1111	1004
9504-0000-022J	4.04E+03	4.95E+03	4.38E+03		11/15/2006	14:20:00	1111	1004
9504-0000-023J	6.97E+03	8.16E+03	6.97E+03		11/15/2006	14:33:00	1111	1004
9504-0000-024J	7.03E+03	8.23E+03	6.59E+03		11/15/2006	14:41:00	1111	1004
9504-0000-025J	6.25E+03	7.38E+03	6.15E+03		11/15/2006	15:04:00	1111	1004
9504-0000-026J	5.16E+03	6.19E+03	5.05E+03		11/15/2006	15:10:00	1111	1004

Survey Release Record Scan Area Results

Survey Unit 9504-0000

9504-0000 SCAN AREA 1

<u>Sample Name</u>	<u>Background (cpm)</u>	<u>Action Level (cpm)</u>	<u>Results (cpm)</u>	<u>Above AL</u>	<u>Log Date</u>	<u>Log Time</u>	<u>E600 S/N</u>	<u>Probe S/N</u>
9504-00-SC-01-01-0	7.91E+03	9.18E+03	6.92E+03		11/16/2006	7:44:00	1117	1008
9504-00-SC-01-02-0	7.10E+03	8.30E+03	7.91E+03		11/16/2006	7:46:00	1117	1008
9504-00-SC-01-03-0	7.58E+03	8.82E+03	7.59E+03		11/16/2006	7:49:00	1117	1008
9504-00-SC-01-04-0	7.72E+03	8.97E+03	7.06E+03		11/16/2006	7:50:00	1117	1008
9504-00-SC-01-05-0	8.20E+03	9.49E+03	8.01E+03		11/16/2006	7:52:00	1117	1008
9504-00-SC-01-06-0	8.15E+03	9.44E+03	7.83E+03		11/16/2006	7:54:00	1117	1008
9504-00-SC-01-07-0	7.40E+03	8.63E+03	6.80E+03		11/16/2006	7:56:00	1117	1008
9504-00-SC-01-08-0	8.04E+03	9.32E+03	7.92E+03		11/16/2006	7:57:00	1117	1008
9504-00-SC-01-09-0	7.40E+03	8.63E+03	8.38E+03		11/16/2006	8:01:00	1117	1008
9504-00-SC-01-10-0	7.81E+03	9.07E+03	7.22E+03		11/16/2006	8:03:00	1117	1008
9504-00-SC-01-11-0	6.75E+03	7.92E+03	7.58E+03		11/16/2006	8:05:00	1117	1008
9504-00-SC-01-12-0	8.00E+03	9.28E+03	7.36E+03		11/16/2006	8:06:00	1117	1008

9504-0000 SCAN AREA 2

9504-00-SC-02-01-0	5.39E+03	6.44E+03	5.46E+03		11/16/2006	9:48:00	1117	1008
9504-00-SC-02-02-0	5.87E+03	6.96E+03	6.74E+03		11/16/2006	9:51:00	1117	1008
9504-00-SC-02-03-0	7.06E+03	8.26E+03	6.75E+03		11/16/2006	9:53:00	1117	1008
9504-00-SC-02-04-0	6.56E+03	7.72E+03	6.42E+03		11/16/2006	9:56:00	1117	1008
9504-00-SC-02-05-0	6.39E+03	7.53E+03	6.08E+03		11/16/2006	9:59:00	1117	1008
9504-00-SC-02-06-0	6.20E+03	7.32E+03	5.81E+03		11/16/2006	10:02:00	1117	1008
9504-00-SC-02-07-0	7.02E+03	8.22E+03	5.66E+03		11/16/2006	10:05:00	1117	1008
9504-00-SC-02-08-0	5.73E+03	6.81E+03	6.09E+03		11/16/2006	10:07:00	1117	1008
9504-00-SC-02-09-0	7.17E+03	8.38E+03	6.23E+03		11/16/2006	10:11:00	1117	1008
9504-00-SC-02-10-0	6.65E+03	7.81E+03	7.15E+03		11/16/2006	10:16:00	1117	1008
9504-00-SC-02-11-0	7.25E+03	8.47E+03	6.36E+03		11/16/2006	10:19:00	1117	1008
9504-00-SC-02-12-0	6.50E+03	7.65E+03	7.20E+03		11/16/2006	10:22:00	1117	1008

Survey Release Record Scan Area Results

Survey Unit 9504-0000

9504-0000 SCAN AREA 3

<u>Sample Name</u>	<u>Background (cpm)</u>	<u>Action Level (cpm)</u>	<u>Results (cpm)</u>	<u>Above AL</u>	<u>Log Date</u>	<u>Log Time</u>	<u>E600 S/N</u>	<u>Probe S/N</u>
9504-00-SC-03-01-0	4.54E+03	5.50E+03	4.60E+03		11/16/2006	12:57:00	1117	1008
9504-00-SC-03-02-0	4.63E+03	5.60E+03	4.62E+03		11/16/2006	12:59:00	1117	1008
9504-00-SC-03-03-0	4.85E+03	5.84E+03	4.63E+03		11/16/2006	13:01:00	1117	1008
9504-00-SC-03-04-0	4.50E+03	5.46E+03	4.92E+03		11/16/2006	13:03:00	1117	1008
9504-00-SC-03-05-0	6.26E+03	7.39E+03	4.93E+03		11/16/2006	13:06:00	1117	1008
9504-00-SC-03-06-0	4.95E+03	5.95E+03	5.52E+03		11/16/2006	13:08:00	1117	1008
9504-00-SC-03-07-0	5.81E+03	6.90E+03	5.98E+03		11/16/2006	13:09:00	1117	1008
9504-00-SC-03-08-0	5.04E+03	6.05E+03	4.53E+03		11/16/2006	13:11:00	1117	1008
9504-00-SC-03-09-0	4.59E+03	5.56E+03	5.40E+03		11/16/2006	13:14:00	1117	1008
9504-00-SC-03-10-0	5.06E+03	6.08E+03	4.83E+03		11/16/2006	13:16:00	1117	1008
9504-00-SC-03-11-0	4.32E+03	5.26E+03	5.09E+03		11/16/2006	13:18:00	1117	1008
9504-00-SC-03-12-0	4.90E+03	5.90E+03	5.08E+03		11/16/2006	13:20:00	1117	1008
9504-00-SC-03-13-0	5.24E+03	6.27E+03	4.31E+03		11/16/2006	13:23:00	1117	1008
9504-00-SC-03-14-0	4.41E+03	5.36E+03	4.78E+03		11/16/2006	13:25:00	1117	1008
9504-00-SC-03-15-0	4.79E+03	5.78E+03	5.12E+03		11/16/2006	13:26:00	1117	1008

9504-0000 SCAN AREA 4

9504-00-SC-04-01-0	5.93E+03	7.03E+03	5.79E+03		11/16/2006	14:30:00	1117	1008
9504-00-SC-04-02-0	4.76E+03	5.75E+03	5.34E+03		11/16/2006	14:31:00	1117	1008
9504-00-SC-04-03-0	4.88E+03	5.88E+03	4.88E+03		11/16/2006	14:32:00	1117	1008
9504-00-SC-04-04-0	4.84E+03	5.83E+03	4.80E+03		11/16/2006	14:33:00	1117	1008
9504-00-SC-04-05-0	4.37E+03	5.31E+03	4.24E+03		11/16/2006	14:35:00	1117	1008
9504-00-SC-04-06-0	5.22E+03	6.25E+03	5.10E+03		11/16/2006	14:36:00	1117	1008
9504-00-SC-04-07-0	5.01E+03	6.02E+03	5.14E+03		11/16/2006	14:37:00	1117	1008

9504-0000 SCAN AREA 5

9504-00-SC-05-01-0	5.37E+03	6.42E+03	5.37E+03		1/25/2007	8:32:00	1107	1007
9504-00-SC-05-02-0	6.40E+03	7.54E+03	5.79E+03		11/16/2006	13:44:00	1117	1008
9504-00-SC-05-03-0	6.75E+03	7.92E+03	5.70E+03		1/25/2007	8:37:00	1107	1007
9504-00-SC-05-04-0	6.71E+03	7.88E+03	5.77E+03		11/16/2006	13:47:00	1117	1008

Survey Release Record Scan Area Results

Survey Unit 9504-0000

9504-00-SC-05-05-0	5.57E+03	6.64E+03	5.82E+03	11/16/2006	13:50:00	1117	1008
9504-00-SC-05-06-0	7.41E+03	8.64E+03	5.14E+03	11/16/2006	13:53:00	1117	1008
9504-00-SC-05-07-0	5.02E+03	6.03E+03	5.69E+03	11/16/2006	13:56:00	1117	1008
9504-00-SC-05-08-0	7.50E+03	8.74E+03	5.79E+03	11/16/2006	13:58:00	1117	1008
9504-00-SC-05-09-0	5.53E+03	6.59E+03	6.31E+03	11/16/2006	14:01:00	1117	1008
9504-00-SC-05-10-0	6.82E+03	8.00E+03	7.20E+03	11/16/2006	14:03:00	1117	1008
9504-00-SC-05-11-0	6.36E+03	7.50E+03	7.02E+03	11/16/2006	14:05:00	1117	1008
9504-00-SC-05-12-0	7.51E+03	8.75E+03	5.74E+03	11/16/2006	14:07:00	1117	1008
9504-00-SC-05-13-0	6.50E+03	7.65E+03	7.39E+03	11/16/2006	14:10:00	1117	1008
9504-00-SC-05-14-0	6.78E+03	7.96E+03	6.21E+03	11/16/2006	14:12:00	1117	1008
9504-00-SC-05-15-0	7.09E+03	8.29E+03	6.23E+03	11/16/2006	14:15:00	1117	1008

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

**ATTACHMENT 3
(LABORATORY DATA)**

General Narrative

**General Narrative
for
Connecticut Yankee Atomic Power Co.
Work Order: 176518
SDG: MSR#06-1491**

November 30, 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 November 21, 2006 for analysis. Shipping container temperatures were checked, documented, and within specifications. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage.

Sample Identification The laboratory received the following samples:

<u>Laboratory Identification</u>	<u>Sample Description</u>
176518001	9504-0000-001F
176518002	9504-0000-002F
176518003	9504-0000-003F
176518004	9504-0000-004F
176518005	9504-0000-005F
176518006	9504-0000-006F
176518007	9504-0000-007F
176518008	9504-0000-008F
176518009	9504-0000-009F
176518010	9504-0000-010F
176518011	9504-0000-011F
176518012	9504-0000-011FS
176518013	9504-0000-012F
176518014	9504-0000-013F
176518015	9504-0000-014F
176518016	9504-0000-015F
176518017	9504-0000-015FS
176518018	9504-0000-016J
176518019	9504-0000-017J
176518020	9504-0000-018J
176518021	9504-0000-019J
176518022	9504-0000-020J
176518023	9504-0000-021J
176518024	9504-0000-022J
176518025	9504-0000-023J

176518026	9504-0000-024J
176518027	9504-0000-025J
176518028	9504-0000-026J

Items of Note

There are no items to note.

Case Narrative

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

Analytical Request

Twenty-six soil samples were analyzed for FSSGAM, Strontium-90, and Technetium-99. Two soil samples were analyzed for FSSALL.

Data Package

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

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



Cheryl Jones
Project Manager

List of current GEL Certifications as of 27 November 2006

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

Chain of Custody and Supporting Documentation


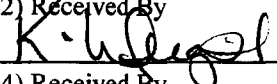
Connecticut Yankee Atomic Power Company

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

Chain of Custody Form

No. 2006-00672

Page 1 of 3

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size & Type Code	Analyses Requested					Lab Use Only		
Contact Name & Phone: Jack McCarthy 860-267-2556 Ext. 3924						FSSGAM	FSSALL	Sr-90	Tc-99			Comments: 1765781	
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road, Charleston SC, 29407 843 556 8171. Attn. Cheryl Jones													
Priority: <input type="checkbox"/> 30 D. <input checked="" type="checkbox"/> 14 D. <input type="checkbox"/> 7 D.													
Sample Designation	Date	Time									Comment, Preservation	Lab Sample ID	
9504-0000-001F	11/15/06	0745	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g		
9504-0000-002F	11/15/06	0830	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g		
9504-0000-003F	11/15/06	0818	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g		
9504-0000-004F	11/15/06	0800	TS	G	BP		X				RDL's: H-3: 3.0 pCi/g		
9504-0000-005F	11/15/06	0935	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g		
9504-0000-006F	11/15/06	0950	TS	G	BP		X				RDL's: H-3: 3.0 pCi/g		
9504-0000-007F	11/15/06	1000	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g		
9504-0000-008F	11/15/06	1012	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g		
9504-0000-009F	11/15/06	1015	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g		
9504-0000-010F	11/15/06	1025	TS	G	BP	X		X	X				
NOTES: PO #: 002332 MSR #: 06-1441 SSWP# NA <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA										Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other		Internal Container Temp.: 17 Deg. C 17.16 Custody Sealed? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Custody Seal Intact? Y <input type="checkbox"/> N <input type="checkbox"/>	
1) Relinquished By 			Date/Time 11/21/06 @ 1355			2) Received By 			Date/Time 11/21/06 0945			Bill of Lading #	
3) Relinquished By			Date/Time			4) Received By			Date/Time				

AIRBILL #'s 7990 4034 9810 ; 7990 4034 9821 ; 7990 4034 9832

Connecticut Yankee Atomic Power Company

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

Chain of Custody Form

No. 2006-00673

PAGE 2 OF 3

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size- & Type Code	Analyses Requested					Lab Use Only			
Contact Name & Phone: Jack McCarthy 860-267-2556 Ext. 3924						FSSGAM	FSSALL	Sr-90	Tc-99	Comments: 176518%				
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road, Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones														
Priority: <input type="checkbox"/> 30 D. <input checked="" type="checkbox"/> 14 D. <input type="checkbox"/> 7 D.														
Sample Designation	Date	Time									Comment, Preservation	Lab Sample ID		
9504-0000-011F	11/15/06	1313	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g			
9504-0000-011FS	11/15/06	1313	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g			
9504-0000-012F	11/15/06	1046	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g			
9504-0000-013F	11/15/06	1045	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g			
9504-0000-014F	11/15/06	1310	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g			
9504-0000-015F	11/15/06	1327	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g			
9504-0000-015FS	11/15/06	1327	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g			
9504-0000-016J	11/15/06	1340	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g			
9504-0000-017J	11/15/06	1345	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g			
9504-0000-018J	11/15/06	1356	TS	G	BP	X		X	X					
NOTES: PO #: 002332 MSR #: 06-1491 SSWP# NA <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA											Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other		Internal Container Temp.: 17 Deg. C 17/16 Custody Sealed? Y <input type="checkbox"/> N <input type="checkbox"/> Custody Seal Intact? Y <input type="checkbox"/> N <input type="checkbox"/>	
1) Relinquished By 			Date/Time 11/20/06 1355			2) Received By 			Date/Time 11/21/06 0945			Bill of Lading #		
3) Relinquished By			Date/Time			4) Received By			Date/Time					

Connecticut Yankee Atomic Power Company

362 Injun Hollow Road, East Hampton, CT 06424

860-267-2556

Chain of Custody Form

No. 2006-00674

Page 3 of 3

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size & Type Code	Analyses Requested					Lab Use Only			
Contact Name & Phone: Jack McCarthy 860-267-2556 Ext. 3924						FSSGAM	FSSALL	Sr-90	Tc-99	Comments: 1765787				
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road, Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones														
Priority: <input type="checkbox"/> 30 D. <input checked="" type="checkbox"/> 14 D. <input type="checkbox"/> 7 D.														
Sample Designation	Date	Time									Comment, Preservation	Lab Sample ID		
9504-0000-019J	11/15/06	1400	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g			
9504-0000-020J	11/15/06	1415	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g			
9504-0000-021J	11/15/06	1430	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g			
9504-0000-022J	11/15/06	1428	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g			
9504-0000-023J	11/15/06	1442	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g			
9504-0000-024J	11/15/06	1450	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g			
9504-0000-025J	11/15/06	1510	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g			
9504-0000-026J	11/15/06	1518	TS	G	BP	X		X	X		RDL's: H-3: 3.0 pCi/g			
											RDL's: H-3: 3.0 pCi/g			
											RDL's: H-3: 3.0 pCi/g			
											RDL's: H-3: 3.0 pCi/g			
NOTES: PO #: 002332 MSR #: 06-1421 SSWP# NA <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA											Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other		Internal Container Temp.: 17 Deg. C 17.76 Custody Sealed? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Custody Seal Intact? Y <input type="checkbox"/> N <input type="checkbox"/>	
1) Relinquished By 			Date/Time 11/20/06 1355			2) Received By 			Date/Time 11/21/06 0945			Bill of Lading #		
3) Relinquished By			Date/Time			4) Received By			Date/Time					

Figure 1. Sample Check-in List

Date/Time Received: 11/20/06 0945

SDG#: MSR#06-1491, MSR#06-1492

Work Order Number: 176518, 176517

Shipping Container ID: See Cont. Sheet Chain of Custody #: 2006-00672/73/74/82

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

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

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

4. Cooler temperature 16; 17; 17; 18

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

6. Number of samples in shipping container: 36 total

7. Sample holding times exceeded? Yes ☐ No ☒

8. Samples have:

☒ tape

☐ hazard labels

☒ custody seals

☒ appropriate sample labels

9. Samples are:

☒ in good condition

☐ leaking

☐ broken

☐ have air bubbles

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

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

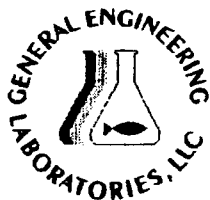
Sample Custodian/Laboratory: K. W. [Signature]

Date: 11/20/06

Telephoned to: _____

On _____

By _____



SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: <u>Conn. Bank</u>	SDG/ARCOC/Work Order: <u>176517, 176518</u>
Date Received: <u>11/20/06</u>	PM(A) Review (ensure non-conforming items are resolved prior to signing):
Received By: <u>(Signature)</u>	<u>(Signature)</u>

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.				Circle Coolant # ice bags blue ice dry ice none other describe)
3 Chain of custody documents included with shipment?				
4 Sample containers intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?				Sample ID's, containers affected and observed pH:
6 VOA vials free of headspace (defined as < 6mm bubble)?				Sample ID's and containers affected:
7 Are Encore containers present? (If yes, immediately deliver to VOA laboratory)				
8 Samples received within holding time?				ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?				Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?				Sample ID's affected:
11 Number of containers received match number indicated on COC?				Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?				
14 Air Bill, Tracking #'s, & Additional Comments				<u>7990 4034 9810; 9821; 9832; 8204</u>

Suspected Hazard Information	Non-Regulated	Regulated	High Level	RSO RAD Receipt #
A Radiological Classification?				*If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
B PCB Regulated?				Maximum Counts Observed*: <u>cpm 20</u>
C Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.				Hazard Class Shipped: UN#:
D Regulated as a Foreign Soil?				
PM (or PMA) review of Hazard classification: <u>✓</u>				Initials <u>CAJ</u> Date: <u>11/21/06</u>

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 176518**

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:	590578
Prep Batch Number:	590331
Dry Soil Prep GL-RAD-A-021 Batch Number:	590327

Sample ID	Client ID
176518004	9504-0000-004F
176518006	9504-0000-006F
1201234557	Method Blank (MB)
1201234558	176518004(9504-0000-004F) Sample Duplicate (DUP)
1201234559	176518004(9504-0000-004F) Matrix Spike (MS)
1201234560	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: 176518004 (9504-0000-004F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:**Holding Time**

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples 1201234560 (LCS) and 176518006 (9504-0000-006F) were recounted due to poor resolution.

Miscellaneous Information:**NCR Documentation**

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The blank result for is greater than the MDA but less than the detection limit.

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:	590579
Prep Batch Number:	590331
Dry Soil Prep GL-RAD-A-021 Batch Number:	590327

Sample ID	Client ID
176518004	9504-0000-004F
176518006	9504-0000-006F
1201234561	Method Blank (MB)
1201234562	176518004(9504-0000-004F) Sample Duplicate (DUP)
1201234563	176518004(9504-0000-004F) Matrix Spike (MS)
1201234564	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: 176518004 (9504-0000-004F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Sample 1201234564 (LCS) was recounted due to poor resolution.

Miscellaneous Information:

NCR Documentation

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The sample and the duplicate, 1201234562 (9504-0000-004F) and 176518004 (9504-0000-004F), did not meet the relative percent difference requirement for Pu-239/240, however they do meet the relative error ratio requirement with a value of 2.46.

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:	590580
Prep Batch Number:	590331
Dry Soil Prep GL-RAD-A-021 Batch Number:	590327

Sample ID	Client ID
176518004	9504-0000-004F
176518006	9504-0000-006F
1201234565	Method Blank (MB)
1201234566	176518004(9504-0000-004F) Sample Duplicate (DUP)
1201234567	176518004(9504-0000-004F) Matrix Spike (MS)
1201234568	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: 176518004 (9504-0000-004F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Sample 176518004 (9504-0000-004F) was recounted due to the quench number being outside the calibration range. Sample 1201234567 (9504-0000-004F) was recounted due to poor resolution.

Miscellaneous Information:

NCR Documentation

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived
Analytical Method:	EML HASL 300, 4.5.2.3
Prep Method:	Dry Soil Prep
Analytical Batch Number:	590849
Prep Batch Number:	590327

Sample ID	Client ID
176518001	9504-0000-001F
176518002	9504-0000-002F
176518003	9504-0000-003F
176518004	9504-0000-004F
176518005	9504-0000-005F
176518006	9504-0000-006F
176518007	9504-0000-007F
176518008	9504-0000-008F
176518009	9504-0000-009F
176518010	9504-0000-010F
176518011	9504-0000-011F
176518012	9504-0000-011FS
176518013	9504-0000-012F
176518014	9504-0000-013F
176518015	9504-0000-014F
176518016	9504-0000-015F
176518017	9504-0000-015FS
176518018	9504-0000-016J
176518019	9504-0000-017J
176518020	9504-0000-018J
1201235094	Method Blank (MB)
1201235095	176518001(9504-0000-001F) Sample Duplicate (DUP)
1201235096	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 13.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 176518001 (9504-0000-001F).

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

The sample and the duplicate, 1201235095 (9504-0000-001F) and 176518001 (9504-0000-001F), did not meet the relative percent difference requirement for Ac-228, Bi-214 and Ra-226, however they do meet the relative error ratio requirement with value of 1.56 for Ac-228 and 1.72 for Bi-214 and Ra-226.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to high counting uncertainty.	Bismuth-212	176518009
			176518020
UI	Data rejected due to high peak-width.	Cesium-137	176518013
			176518008
			176518010
			176518020
UI	Data rejected due to interference.	Cesium-134	176518006
		Europium-155	176518018
			176518019
UI	Data rejected due to low abundance.	Bismuth-212	176518012
		Bismuth-214	176518009
		Cesium-134	176518003
			176518005
			176518010
			176518011
			176518019

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: 590850
Prep Batch Number: 590328

Sample ID	Client ID
176518021	9504-0000-019J
176518022	9504-0000-020J
176518023	9504-0000-021J
176518024	9504-0000-022J
176518025	9504-0000-023J
176518026	9504-0000-024J
176518027	9504-0000-025J
176518028	9504-0000-026J
1201235097	Method Blank (MB)
1201235098	176517001(9106-0003-001SUR) Sample Duplicate (DUP)
1201235099	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 13.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 176517001 (9106-0003-001SUR).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:**NCR Documentation**

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to high peak-width.	Bismuth-212	1201235098
UI	Data rejected due to low abundance.	Bismuth-214	176518021
		Cesium-134	176518022
			176518023
			176518025

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:	590413
Prep Batch Number:	590331
Dry Soil Prep GL-RAD-A-021 Batch Number:	590327

Sample ID	Client ID
176518001	9504-0000-001F
176518002	9504-0000-002F
176518003	9504-0000-003F
176518004	9504-0000-004F
176518005	9504-0000-005F
176518006	9504-0000-006F
176518007	9504-0000-007F
176518008	9504-0000-008F
176518009	9504-0000-009F
176518010	9504-0000-010F
176518011	9504-0000-011F
176518012	9504-0000-011FS
176518013	9504-0000-012F
176518014	9504-0000-013F
1201234192	Method Blank (MB)
1201234193	176518002(9504-0000-002F) Sample Duplicate (DUP)
1201234194	176518002(9504-0000-002F) Matrix Spike (MS)
1201234195	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: 176518002 (9504-0000-002F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:**Holding Time**

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples 176518009 (9504-0000-009F), 176518010 (9504-0000-010F), 176518011 (9504-0000-011F) and 176518012 (9504-0000-011FS) were recounted due to missing count data.

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:	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:	590414
Prep Batch Number:	590332
Dry Soil Prep GL-RAD-A-021 Batch Number:	590328

Sample ID	Client ID
176518015	9504-0000-014F
176518016	9504-0000-015F
176518017	9504-0000-015FS
176518018	9504-0000-016J
176518019	9504-0000-017J
176518020	9504-0000-018J
176518021	9504-0000-019J
176518022	9504-0000-020J
176518023	9504-0000-021J
176518024	9504-0000-022J
176518025	9504-0000-023J
176518026	9504-0000-024J
176518027	9504-0000-025J
176518028	9504-0000-026J
1201234196	Method Blank (MB)
1201234197	176518015(9504-0000-014F) Sample Duplicate (DUP)
1201234198	176518015(9504-0000-014F) Matrix Spike (MS)
1201234199	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 volumes in this batch.

Designated QC

The following sample was used for QC: 176518015 (9504-0000-014F).

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 1201234196 (MB), 176518015 (9504-0000-014F), 176518016 (9504-0000-015F) and 176518019 (9504-0000-017J) were recounted due to a negative result greater than three times the error. The batch was reweighed due to low recoveries.

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:	590398

Sample ID	Client ID
176518001	9504-0000-001F
176518002	9504-0000-002F
176518003	9504-0000-003F
176518004	9504-0000-004F
176518005	9504-0000-005F
176518006	9504-0000-006F
176518007	9504-0000-007F
176518008	9504-0000-008F
176518009	9504-0000-009F
176518010	9504-0000-010F
176518011	9504-0000-011F
176518012	9504-0000-011FS
176518013	9504-0000-012F
176518014	9504-0000-013F
1201234142	Method Blank (MB)
1201234143	176518001(9504-0000-001F) Sample Duplicate (DUP)
1201234144	176518001(9504-0000-001F) Matrix Spike (MS)
1201234145	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: 176518001 (9504-0000-001F).

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

The blank result for 1201234142 (MB) is greater than the MDA but less than the detection limit.

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:	590400

Sample ID	Client ID
176518015	9504-0000-014F
176518016	9504-0000-015F
176518017	9504-0000-015FS
176518018	9504-0000-016J
176518019	9504-0000-017J
176518020	9504-0000-018J
176518021	9504-0000-019J
176518022	9504-0000-020J
176518023	9504-0000-021J
176518024	9504-0000-022J
176518025	9504-0000-023J
176518026	9504-0000-024J
176518027	9504-0000-025J
176518028	9504-0000-026J
1201234150	Method Blank (MB)
1201234151	176518015(9504-0000-014F) Sample Duplicate (DUP)
1201234152	176518015(9504-0000-014F) Matrix Spike (MS)
1201234153	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: 176518015 (9504-0000-014F).

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 176518019 (9504-0000-017J), 176518021 (9504-0000-019J), 176518022 (9504-0000-020J), 176518023 (9504-0000-021J), 176518024 (9504-0000-022J), 176518025 (9504-0000-023J), 176518027 (9504-0000-025J) and 176518028 (9504-0000-026J) were recounted due to a suspected blank false positive.

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:	592304
Prep Batch Number:	590331
Dry Soil Prep GL-RAD-A-021 Batch Number:	590327

Sample ID	Client ID
176518004	9504-0000-004F
176518006	9504-0000-006F
1201238526	Method Blank (MB)
1201238527	176518004(9504-0000-004F) Sample Duplicate (DUP)
1201238528	176518004(9504-0000-004F) Matrix Spike (MS)
1201238529	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: 176518004 (9504-0000-004F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples 176518004 (9504-0000-004F) and 176518006 (9504-0000-006F) were reprepared due to high blank activity.

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:	590402
Prep Batch Number:	590331
Dry Soil Prep GL-RAD-A-021 Batch Number:	590327

Sample ID	Client ID
176518004	9504-0000-004F
176518006	9504-0000-006F
1201234159	Method Blank (MB)
1201234160	176518004(9504-0000-004F) Sample Duplicate (DUP)
1201234161	176518004(9504-0000-004F) Matrix Spike (MS)
1201234162	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: 176518004 (9504-0000-004F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:**Holding Time**

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:**NCR Documentation**

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	LSC, Tritium Dist, Solid - 3 pCi/g
Analytical Method:	EPA 906.0 Modified
Analytical Batch Number:	590403

Sample ID	Client ID
176518004	9504-0000-004F
176518006	9504-0000-006F
1201234163	Method Blank (MB)
1201234164	176518006(9504-0000-006F) Sample Duplicate (DUP)
1201234165	176518006(9504-0000-006F) Matrix Spike (MS)
1201234166	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: 176518006 (9504-0000-006F).

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 176518004 (9504-0000-004F) and 176518006 (9504-0000-006F) were recounted due to high MDAs.

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product: Liquid Scint C14, Solid All,FSS

Analytical Method: EPA EERF C-01 Modified

Analytical Batch Number: 590404

Sample ID	Client ID
176518004	9504-0000-004F
176518006	9504-0000-006F
1201234167	Method Blank (MB)
1201234168	176518006(9504-0000-006F) Sample Duplicate (DUP)
1201234169	176518006(9504-0000-006F) Matrix Spike (MS)
1201234170	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: 176518006 (9504-0000-006F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:**Holding Time**

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:**NCR Documentation**

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer/Date: _____

 12/15/05

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#06-1491 GEL Work Order: 176518

The Qualifiers in this report are defined as follows:

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

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

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

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



Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-001F
Sample ID: 176518001
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 19.4%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.893	+/-0.205	0.080	+/-0.205	0.173	pCi/g		MJH1	11/25/06	1337	590849
Americium-241	U	0.0675	+/-0.159	0.0842	+/-0.159	0.175	pCi/g					
Bismuth-212	U	0.278	+/-0.408	0.167	+/-0.408	0.358	pCi/g					
Bismuth-214		0.588	+/-0.125	0.0448	+/-0.125	0.095	pCi/g					
Cesium-134	U	0.0475	+/-0.038	0.0315	+/-0.038	0.0667	pCi/g					
Cesium-137	U	0.0412	+/-0.0449	0.0267	+/-0.0449	0.0566	pCi/g					
Cobalt-60	U	0.0341	+/-0.0436	0.0255	+/-0.0436	0.0561	pCi/g					
Europium-152	U	0.0667	+/-0.076	0.0591	+/-0.076	0.124	pCi/g					
Europium-154	U	0.0285	+/-0.0804	0.0705	+/-0.0804	0.155	pCi/g					
Europium-155	U	0.0678	+/-0.0753	0.0651	+/-0.0753	0.135	pCi/g					
Lead-212		0.988	+/-0.0849	0.0339	+/-0.0849	0.0705	pCi/g					
Lead-214		0.831	+/-0.117	0.0419	+/-0.117	0.0882	pCi/g					
Manganese-54	U	-0.0223	+/-0.0281	0.0221	+/-0.0281	0.0476	pCi/g					
Niobium-94	U	0.0175	+/-0.0283	0.0243	+/-0.0283	0.0514	pCi/g					
Potassium-40		12.7	+/-1.11	0.212	+/-1.11	0.476	pCi/g					
Radium-226		0.588	+/-0.125	0.0448	+/-0.125	0.095	pCi/g					
Silver-108m	U	0.00967	+/-0.0237	0.0208	+/-0.0237	0.0439	pCi/g					
Thallium-208		0.248	+/-0.0791	0.0203	+/-0.0791	0.0435	pCi/g					
Rad Gas Flow Proportional Counting												
<i>GFPC, Sr90, solid-ALL FSS</i>												
Strontium-90	U	-0.0112	+/-0.019	0.0171	+/-0.019	0.0381	pCi/g		KSD1	11/28/06	1510	590413
Rad Liquid Scintillation Analysis												
<i>Liquid Scint Tc99, Solid-ALL FSS</i>												
Technetium-99	U	0.266	+/-0.172	0.139	+/-0.172	0.284	pCi/g		KXR1	11/26/06	1511	590398

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	11/21/06	1054	590327

The following Analytical Methods were performed

Method	Description
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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-001F
Sample ID: 176518001

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
1	EML HASL 300, 4.5.2.3												
2	EPA 905.0 Modified												
3	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	88	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	88	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	83	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	83	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-002F
Sample ID: 176518002
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 5.13%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.871	+/-0.212	0.0597	+/-0.212	0.131	pCi/g		MJH1	11/25/06	1338	590849
Americium-241	U	-0.00881	+/-0.101	0.0775	+/-0.101	0.161	pCi/g					
Bismuth-212		0.874	+/-0.314	0.150	+/-0.314	0.322	pCi/g					
Bismuth-214		0.657	+/-0.117	0.0354	+/-0.117	0.0755	pCi/g					
Cesium-134	U	0.0485	+/-0.0488	0.0281	+/-0.0488	0.0594	pCi/g					
Cesium-137	U	0.00517	+/-0.0189	0.0182	+/-0.0189	0.0391	pCi/g					
Cobalt-60	U	0.00816	+/-0.0223	0.0194	+/-0.0223	0.0432	pCi/g					
Europium-152	U	0.0594	+/-0.0886	0.0471	+/-0.0886	0.0995	pCi/g					
Europium-154	U	-0.0103	+/-0.0876	0.0617	+/-0.0876	0.135	pCi/g					
Europium-155	U	0.0809	+/-0.0608	0.0574	+/-0.0608	0.119	pCi/g					
Lead-212		0.846	+/-0.0913	0.0269	+/-0.0913	0.0562	pCi/g					
Lead-214		0.623	+/-0.104	0.0403	+/-0.104	0.0844	pCi/g					
Manganese-54	U	0.0196	+/-0.0233	0.0215	+/-0.0233	0.0459	pCi/g					
Niobium-94	U	0.0266	+/-0.0211	0.0194	+/-0.0211	0.0413	pCi/g					
Potassium-40		11.3	+/-1.26	0.163	+/-1.26	0.370	pCi/g					
Radium-226		0.657	+/-0.117	0.0354	+/-0.117	0.0755	pCi/g					
Silver-108m	U	-0.00388	+/-0.0179	0.0153	+/-0.0179	0.0327	pCi/g					
Thallium-208		0.288	+/-0.0537	0.0178	+/-0.0537	0.0382	pCi/g					
Rad Gas Flow Proportional Counting												
<i>GFPC, Sr90, solid-ALL FSS</i>												
Strontium-90	U	-0.0163	+/-0.0203	0.0183	+/-0.0203	0.0396	pCi/g		KSD1	11/28/06	1510	590413
Rad Liquid Scintillation Analysis												
<i>Liquid Scint Tc99, Solid-ALL FSS</i>												
Technetium-99	U	0.0188	+/-0.164	0.137	+/-0.164	0.280	pCi/g		KXR1	11/26/06	1542	590398

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	11/21/06	1054	590327

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-002F
Sample ID: 176518002

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	87	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	87	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	84	(15%-125%)
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.

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-003F
Sample ID: 176518003
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 8.07%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	M
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.723	+/-0.184	0.069	+/-0.184	0.148	pCi/g		MJH1	11/25/06	1338	590849	
Americium-241	U	-0.145	+/-0.080	0.0654	+/-0.080	0.134	pCi/g						
Bismuth-212		0.598	+/-0.257	0.144	+/-0.257	0.307	pCi/g						
Bismuth-214		0.576	+/-0.103	0.034	+/-0.103	0.0723	pCi/g						
Cesium-134	UI	0.00	+/-0.0465	0.0257	+/-0.0465	0.0543	pCi/g						
Cesium-137	U	0.0164	+/-0.0286	0.0212	+/-0.0286	0.0448	pCi/g						
Cobalt-60	U	0.00803	+/-0.0206	0.0183	+/-0.0206	0.0405	pCi/g						
Europium-152	U	0.00202	+/-0.0657	0.0499	+/-0.0657	0.105	pCi/g						
Europium-154	U	0.0499	+/-0.0724	0.0654	+/-0.0724	0.142	pCi/g						
Europium-155	U	0.0135	+/-0.0621	0.0541	+/-0.0621	0.112	pCi/g						
Lead-212		0.788	+/-0.0868	0.0317	+/-0.0868	0.0656	pCi/g						
Lead-214		0.700	+/-0.102	0.0377	+/-0.102	0.079	pCi/g						
Manganese-54	U	0.00324	+/-0.0228	0.0192	+/-0.0228	0.041	pCi/g						
Niobium-94	U	-0.00283	+/-0.0194	0.0161	+/-0.0194	0.0344	pCi/g						
Potassium-40		12.6	+/-1.14	0.148	+/-1.14	0.335	pCi/g						
Radium-226		0.576	+/-0.103	0.034	+/-0.103	0.0723	pCi/g						
Silver-108m	U	-0.00167	+/-0.0188	0.0161	+/-0.0188	0.034	pCi/g						
Thallium-208		0.265	+/-0.0556	0.0184	+/-0.0556	0.0391	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.00594	+/-0.022	0.0179	+/-0.022	0.0396	pCi/g		KSD1	11/28/06	1510	590413	
Rad Liquid Scintillation Analysis													
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.0534	+/-0.167	0.139	+/-0.167	0.285	pCi/g		KXR1	11/26/06	1614	590398	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	11/21/06	1054	590327

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-003F
Sample ID: 176518003

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	91	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	91	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	82	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	82	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-004F
Sample ID: 176518004
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 21.5%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	M
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	0.00656	+/-0.0562	0.0418	+/-0.0562	0.157	pCi/g		BXL1	11/28/06	1548	590578	
Curium-242	U	0.0502	+/-0.0802	0.0256	+/-0.0804	0.128	pCi/g						
Curium-243/244	U	-0.0453	+/-0.0335	0.064	+/-0.034	0.201	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	0.0358	+/-0.0671	0.0299	+/-0.0673	0.124	pCi/g		BXL1	11/28/06	1548	590579	
Plutonium-239/240	U	0.0179	+/-0.0475	0.0211	+/-0.0475	0.106	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	5.40	+/-7.57	6.11	+/-7.58	12.8	pCi/g		BXL1	12/05/06	1446	590580	
Rad Gamma Spec Analysis													
<i>Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.568	+/-0.125	0.0497	+/-0.125	0.106	pCi/g		MJH1	11/25/06	1338	590849	
Americium-241	U	0.00549	+/-0.0611	0.0502	+/-0.0611	0.104	pCi/g						
Bismuth-212		0.257	+/-0.233	0.107	+/-0.233	0.226	pCi/g						
Bismuth-214		0.371	+/-0.0594	0.0274	+/-0.0594	0.0577	pCi/g						
Cesium-134	U	0.0109	+/-0.0175	0.0158	+/-0.0175	0.0334	pCi/g						
Cesium-137		0.0797	+/-0.0368	0.0137	+/-0.0368	0.0289	pCi/g						
Cobalt-60	U	-0.0116	+/-0.0173	0.0137	+/-0.0173	0.0298	pCi/g						
Europium-152	U	0.0337	+/-0.044	0.039	+/-0.044	0.0814	pCi/g						
Europium-154	U	-0.0498	+/-0.0617	0.0404	+/-0.0617	0.0874	pCi/g						
Europium-155	U	-0.0326	+/-0.0494	0.042	+/-0.0494	0.0869	pCi/g						
Lead-212		0.564	+/-0.049	0.0218	+/-0.049	0.0452	pCi/g						
Lead-214		0.434	+/-0.0634	0.0264	+/-0.0634	0.0553	pCi/g						
Manganese-54	U	-0.0102	+/-0.0168	0.0139	+/-0.0168	0.0294	pCi/g						
Niobium-94	U	0.0151	+/-0.0147	0.0132	+/-0.0147	0.0279	pCi/g						
Potassium-40		9.13	+/-0.699	0.132	+/-0.699	0.288	pCi/g						
Radium-226		0.371	+/-0.0594	0.0274	+/-0.0594	0.0577	pCi/g						
Silver-108m	U	-0.00444	+/-0.0137	0.0118	+/-0.0137	0.0249	pCi/g						
Thallium-208		0.151	+/-0.0345	0.013	+/-0.0345	0.0276	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.032	+/-0.0182	0.018	+/-0.0182	0.0392	pCi/g		KSD1	11/28/06	1510	590413	
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid - 3 pCi/g</i>													
Tritium	U	-0.284	+/-1.38	1.17	+/-1.38	2.42	pCi/g		DFA1	11/25/06	0007	590403	

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-004F
Sample ID: 176518004

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
Rad Liquid Scintillation Analysis													
<i>Liquid Scint C14, Solid All, FSS</i>													
Carbon-14	U	-0.112	+/-0.111	0.0947	+/-0.111	0.193	pCi/g		AXD2	11/22/06	1713	590404	
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	-16.5	+/-39.7	31.6	+/-39.7	66.5	pCi/g		MXP1	12/02/06	1744	592304	
<i>Liquid Scint Ni63, Solid-ALL FSS</i>													
Nickel-63	U	7.84	+/-11.7	9.46	+/-11.7	19.9	pCi/g		MXP1	11/27/06	2239	590402	
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.204	+/-0.164	0.134	+/-0.164	0.273	pCi/g		KXR1	11/26/06	1645	590398	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	11/21/06	1054	590327

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	85	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	98	(15%-125%)
Plutonium-241	Liquid Scint Pu241, Solid-ALL FS	91	(25%-125%)
Strontium-90	GFPC, Sr90, solid-ALL FSS	89	(25%-125%)

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-004F
Sample ID: 176518004

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time Batch	N
Carrier/Tracer Recovery		GFPC, Sr90, solid-ALL FSS			89		(25%-125%)					
Iron-55		Liquid Scint Fe55, Solid-ALL FS			54		(15%-125%)					
Nickel-63		Liquid Scint Ni63, Solid-ALL FS			69		(25%-125%)					
Carrier/Tracer Recovery		Liquid Scint Ni63, Solid-ALL FS			69		(25%-125%)					
Technetium-99		Liquid Scint Tc99, Solid-ALL FS			86		(15%-125%)					
Carrier/Tracer Recovery		Liquid Scint Tc99, Solid-ALL FS			86		(15%-125%)					

Notes:

The Qualifiers in this report are defined as follows :

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

GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-005F
Sample ID: 176518005
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 4.95%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.627	+/-0.200	0.0643	+/-0.200	0.129	pCi/g		MJH1	11/25/06	1341	590849
Americium-241	U	-0.0224	+/-0.0783	0.0597	+/-0.0783	0.119	pCi/g					
Bismuth-212		0.418	+/-0.346	0.146	+/-0.346	0.292	pCi/g					
Bismuth-214		0.623	+/-0.0929	0.032	+/-0.0929	0.064	pCi/g					
Cesium-134	UI	0.00	+/-0.0302	0.024	+/-0.0302	0.048	pCi/g					
Cesium-137	U	0.00337	+/-0.026	0.0189	+/-0.026	0.0379	pCi/g					
Cobalt-60	U	0.00873	+/-0.0218	0.0191	+/-0.0218	0.0381	pCi/g					
Europium-152	U	0.00279	+/-0.0708	0.0505	+/-0.0708	0.101	pCi/g					
Europium-154	U	-0.0395	+/-0.0725	0.0569	+/-0.0725	0.114	pCi/g					
Europium-155	U	0.0444	+/-0.0598	0.0534	+/-0.0598	0.107	pCi/g					
Lead-212		0.684	+/-0.0841	0.0274	+/-0.0841	0.0548	pCi/g					
Lead-214		0.638	+/-0.108	0.0351	+/-0.108	0.0701	pCi/g					
Manganese-54	U	0.00825	+/-0.0211	0.0187	+/-0.0211	0.0375	pCi/g					
Niobium-94	U	-0.00721	+/-0.0186	0.0157	+/-0.0186	0.0315	pCi/g					
Potassium-40		11.4	+/-1.09	0.135	+/-1.09	0.269	pCi/g					
Radium-226		0.623	+/-0.0929	0.032	+/-0.0929	0.064	pCi/g					
Silver-108m	U	0.0145	+/-0.0181	0.0163	+/-0.0181	0.0326	pCi/g					
Thallium-208		0.195	+/-0.0412	0.0186	+/-0.0412	0.0373	pCi/g					
Rad Gas Flow Proportional Counting												
<i>GFPC, Sr90, solid-ALL FSS</i>												
Strontium-90		0.306	+/-0.044	0.0164	+/-0.0445	0.0367	pCi/g		KSD1	11/28/06	1510	590413
Rad Liquid Scintillation Analysis												
<i>Liquid Scint Tc99, Solid-ALL FSS</i>												
Technetium-99	U	0.00433	+/-0.162	0.135	+/-0.162	0.277	pCi/g		KXR1	11/26/06	1717	590398

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	11/21/06	1054	590327

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-005F
Sample ID: 176518005

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time Batch	N
2	EPA 905.0 Modified											
3	DOE EML HASL-300, Tc-02-RC Modified											

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	93	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	93	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	84	(15%-125%)
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.

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-006F
Sample ID: 176518006
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 6.33%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	0.0338	+/-0.127	0.0929	+/-0.127	0.267	pCi/g		BXL1	11/29/06	1826	590578	
Curium-242	U	-0.0216	+/-0.0739	0.0756	+/-0.0739	0.237	pCi/g						
Curium-243/244	U	-0.105	+/-0.107	0.129	+/-0.108	0.339	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	-0.0208	+/-0.0614	0.0449	+/-0.0614	0.168	pCi/g		BXL1	11/28/06	1548	590579	
Plutonium-239/240		0.567	+/-0.269	0.082	+/-0.277	0.242	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	0.00	+/-7.14	6.00	+/-7.14	12.6	pCi/g		BXL1	12/05/06	1246	590580	
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.953	+/-0.170	0.0684	+/-0.170	0.137	pCi/g		MJH1	11/25/06	1341	590849	
Americium-241	U	-0.0105	+/-0.0997	0.0778	+/-0.0997	0.156	pCi/g						
Bismuth-212		0.426	+/-0.313	0.138	+/-0.313	0.276	pCi/g						
Bismuth-214		0.653	+/-0.111	0.0307	+/-0.111	0.0614	pCi/g						
Cesium-134	UI	0.00	+/-0.0305	0.0195	+/-0.0305	0.039	pCi/g						
Cesium-137	U	0.00469	+/-0.024	0.0205	+/-0.024	0.0409	pCi/g						
Cobalt-60	U	-0.00225	+/-0.023	0.019	+/-0.023	0.0381	pCi/g						
Europium-152	U	0.038	+/-0.0777	0.0542	+/-0.0777	0.108	pCi/g						
Europium-154	U	0.0057	+/-0.0739	0.0627	+/-0.0739	0.125	pCi/g						
Europium-155	U	0.0716	+/-0.0669	0.0606	+/-0.0669	0.121	pCi/g						
Lead-212		0.852	+/-0.0966	0.0303	+/-0.0966	0.0606	pCi/g						
Lead-214		0.786	+/-0.119	0.0383	+/-0.119	0.0766	pCi/g						
Manganese-54	U	-0.0217	+/-0.0235	0.0189	+/-0.0235	0.0378	pCi/g						
Niobium-94	U	0.0135	+/-0.0226	0.0196	+/-0.0226	0.0392	pCi/g						
Potassium-40		11.6	+/-1.10	0.149	+/-1.10	0.297	pCi/g						
Radium-226		0.653	+/-0.111	0.0307	+/-0.111	0.0614	pCi/g						
Silver-108m	U	-0.00954	+/-0.0211	0.0177	+/-0.0211	0.0353	pCi/g						
Thallium-208		0.264	+/-0.051	0.0191	+/-0.051	0.0382	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.0084	+/-0.0207	0.018	+/-0.0207	0.0391	pCi/g		KSD1	11/28/06	1511	590413	
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid - 3 pCi/g</i>													
Tritium	U	0.372	+/-1.23	1.02	+/-1.23	2.11	pCi/g		DFA1	11/25/06	0109	590403	

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Certificate of Analysis

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-006F
Sample ID: 176518006

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch
Rad Liquid Scintillation Analysis												
<i>Liquid Scint C14, Solid All, FSS</i>												
Carbon-14	U	-0.0595	+/-0.115	0.0975	+/-0.115	0.199	pCi/g		AXD2	11/22/06	1815	590404
<i>Liquid Scint Fe55, Solid-ALL FSS</i>												
Iron-55	U	10.3	+/-32.9	24.6	+/-32.9	51.8	pCi/g		MXP1	12/02/06	1800	592304
<i>Liquid Scint Ni63, Solid-ALL FSS</i>												
Nickel-63	U	-0.291	+/-11.1	9.37	+/-11.1	19.7	pCi/g		MXP1	11/27/06	2255	590402
<i>Liquid Scint Tc99, Solid-ALL FSS</i>												
Technetium-99	U	0.00255	+/-0.166	0.140	+/-0.166	0.286	pCi/g		KXR1	11/26/06	1749	590398

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	11/21/06	1054	590327

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	93	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	87	(15%-125%)
Plutonium-241	Liquid Scint Pu241, Solid-ALL FSS	88	(25%-125%)
Strontium-90	GFPC, Sr90, solid-ALL FSS	87	(25%-125%)

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-006F
Sample ID: 176518006

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
Carrier/Tracer Recovery		GFPC, Sr90, solid-ALL FSS			87		(25%-125%)						
Iron-55		Liquid Scint Fe55, Solid-ALL FS			73		(15%-125%)						
Nickel-63		Liquid Scint Ni63, Solid-ALL FS			71		(25%-125%)						
Carrier/Tracer Recovery		Liquid Scint Ni63, Solid-ALL FS			71		(25%-125%)						
Technetium-99		Liquid Scint Tc99, Solid-ALL FS			82		(15%-125%)						
Carrier/Tracer Recovery		Liquid Scint Tc99, Solid-ALL FS			82		(15%-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

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Address : 362 Injun Hollow Rd

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

Report Date: December 5, 2006

Client Sample ID: 9504–0000–007F
Sample ID: 176518007
Matrix: TS
Collect Date: 15–NOV–06
Receive Date: 21–NOV–06
Collector: Client
Moisture: 8.06%

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

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

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

Actinium–228		0.547	+/-0.104	0.0337	+/-0.104	0.073	pCi/g		MJH1	11/25/06	1452	590849
Americium–241	U	-0.00776	+/-0.0819	0.0719	+/-0.0819	0.149	pCi/g					
Bismuth–212		0.389	+/-0.217	0.0892	+/-0.217	0.190	pCi/g					
Bismuth–214		0.319	+/-0.0593	0.0231	+/-0.0593	0.0487	pCi/g					
Cesium–134	U	0.0159	+/-0.0157	0.0147	+/-0.0157	0.0311	pCi/g					
Cesium–137	U	0.0198	+/-0.0208	0.0121	+/-0.0208	0.0256	pCi/g					
Cobalt–60	U	0.000331	+/-0.0135	0.0117	+/-0.0135	0.0256	pCi/g					
Europium–152	U	-0.0273	+/-0.0346	0.030	+/-0.0346	0.063	pCi/g					
Europium–154	U	0.0134	+/-0.0401	0.0359	+/-0.0401	0.0775	pCi/g					
Europium–155	U	0.0466	+/-0.0435	0.0425	+/-0.0435	0.0879	pCi/g					
Lead–212		0.466	+/-0.0409	0.0188	+/-0.0409	0.0391	pCi/g					
Lead–214		0.352	+/-0.0482	0.0224	+/-0.0482	0.047	pCi/g					
Manganese–54	U	-0.00236	+/-0.0139	0.012	+/-0.0139	0.0255	pCi/g					
Niobium–94	U	-0.0108	+/-0.012	0.010	+/-0.012	0.0213	pCi/g					
Potassium–40		12.0	+/-0.690	0.0951	+/-0.690	0.211	pCi/g					
Radium–226		0.319	+/-0.0593	0.0231	+/-0.0593	0.0487	pCi/g					
Silver–108m	U	0.00341	+/-0.0109	0.00989	+/-0.0109	0.0209	pCi/g					
Thallium–208		0.153	+/-0.0275	0.0112	+/-0.0275	0.0237	pCi/g					

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid–ALL FSS

Strontium–90	U	-0.00695	+/-0.0175	0.0155	+/-0.0175	0.0351	pCi/g		KSD1	11/28/06	1511	590413
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Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Solid–ALL FSS

Technetium–99		0.311	+/-0.167	0.134	+/-0.167	0.273	pCi/g		KXR1	11/26/06	1820	590398
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL–RAD–A–021	JMB1	11/21/06	1054	590327

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

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Certificate of Analysis

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-007F
Sample ID: 176518007

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	90	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	90	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	86	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	86	(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
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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: December 5, 2006

Client Sample ID: 9504-0000-008F
Sample ID: 176518008
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 4.84%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	A
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.460	+/-0.150	0.0576	+/-0.150	0.126	pCi/g		MJH1	11/26/06	1116	590849	
Americium-241	U	0.0327	+/-0.094	0.0776	+/-0.094	0.162	pCi/g						
Bismuth-212	U	0.073	+/-0.271	0.138	+/-0.271	0.295	pCi/g						
Bismuth-214		0.344	+/-0.0778	0.0287	+/-0.0778	0.0619	pCi/g						
Cesium-134	U	0.0365	+/-0.0283	0.017	+/-0.0283	0.037	pCi/g						
Cesium-137	UI	0.00	+/-0.0364	0.0149	+/-0.0364	0.0324	pCi/g						
Cobalt-60	U	-0.0158	+/-0.0203	0.015	+/-0.0203	0.0342	pCi/g						
Europium-152	U	-0.0218	+/-0.0466	0.0381	+/-0.0466	0.0811	pCi/g						
Europium-154	U	0.00925	+/-0.0632	0.0546	+/-0.0632	0.120	pCi/g						
Europium-155	U	0.0211	+/-0.0491	0.0466	+/-0.0491	0.0971	pCi/g						
Lead-212		0.475	+/-0.0592	0.0313	+/-0.0592	0.0649	pCi/g						
Lead-214		0.423	+/-0.0743	0.0291	+/-0.0743	0.0618	pCi/g						
Manganese-54	U	0.026	+/-0.0302	0.0153	+/-0.0302	0.0333	pCi/g						
Niobium-94	U	-0.004	+/-0.0171	0.0143	+/-0.0171	0.0309	pCi/g						
Potassium-40		11.1	+/-0.886	0.121	+/-0.886	0.283	pCi/g						
Radium-226		0.344	+/-0.0778	0.0287	+/-0.0778	0.0619	pCi/g						
Silver-108m	U	0.0175	+/-0.0185	0.0136	+/-0.0185	0.0292	pCi/g						
Thallium-208		0.139	+/-0.0363	0.0149	+/-0.0363	0.0322	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.0135	+/-0.0177	0.0166	+/-0.0177	0.0377	pCi/g		KSD1	11/28/06	1511	590413	
Rad Liquid Scintillation Analysis													
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.0796	+/-0.162	0.134	+/-0.162	0.274	pCi/g		KXR1	11/26/06	1852	590398	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	11/21/06	1054	590327

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-008F
Sample ID: 176518008

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	103	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	103	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	85	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	85	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-009F
Sample ID: 176518009
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 4.24%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	M
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.525	+/-0.120	0.0527	+/-0.120	0.114	pCi/g		MJH1	11/26/06	1116	590849	
Americium-241	U	-0.0245	+/-0.0718	0.0594	+/-0.0718	0.123	pCi/g						
Bismuth-212	UI	0.00	+/-0.249	0.114	+/-0.249	0.245	pCi/g						
Bismuth-214	UI	0.00	+/-0.0531	0.053	+/-0.0531	0.110	pCi/g						
Cesium-134	U	0.0151	+/-0.0294	0.0158	+/-0.0294	0.0342	pCi/g						
Cesium-137	U	0.00341	+/-0.0201	0.0174	+/-0.0201	0.037	pCi/g						
Cobalt-60	U	-0.00143	+/-0.0178	0.0151	+/-0.0178	0.0335	pCi/g						
Europium-152	U	0.0134	+/-0.0461	0.0408	+/-0.0461	0.0858	pCi/g						
Europium-154	U	-0.0606	+/-0.0538	0.0399	+/-0.0538	0.089	pCi/g						
Europium-155	U	0.0347	+/-0.0462	0.0431	+/-0.0462	0.0894	pCi/g						
Lead-212		0.518	+/-0.052	0.0223	+/-0.052	0.0466	pCi/g						
Lead-214		0.339	+/-0.0809	0.0277	+/-0.0809	0.0584	pCi/g						
Manganese-54	U	0.0136	+/-0.0229	0.0145	+/-0.0229	0.0312	pCi/g						
Niobium-94	U	0.00472	+/-0.0175	0.0152	+/-0.0175	0.0323	pCi/g						
Potassium-40		10.4	+/-0.876	0.167	+/-0.876	0.369	pCi/g						
Radium-226		0.262	+/-0.0531	0.0304	+/-0.0531	0.0645	pCi/g						
Silver-108m	U	-0.0102	+/-0.015	0.0128	+/-0.015	0.0273	pCi/g						
Thallium-208		0.127	+/-0.0383	0.0162	+/-0.0383	0.0343	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.0129	+/-0.0178	0.0161	+/-0.0178	0.0356	pCi/g		KSD1	11/29/06	1608	590413	
Rad Liquid Scintillation Analysis													
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99		0.382	+/-0.168	0.133	+/-0.168	0.272	pCi/g		KXR1	11/26/06	1924	590398	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	11/21/06	1054	590327

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-009F
Sample ID: 176518009

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	EPA 905.0 Modified												
4	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	98	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	98	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	87	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	87	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-010F
Sample ID: 176518010
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 4.57%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.535	+/-0.121	0.0509	+/-0.121	0.111	pCi/g		MJH1	11/26/06	1117	590849
Americium-241	U	-0.00614	+/-0.106	0.0858	+/-0.106	0.179	pCi/g					
Bismuth-212		0.417	+/-0.232	0.105	+/-0.232	0.228	pCi/g					
Bismuth-214		0.262	+/-0.0664	0.0273	+/-0.0664	0.0585	pCi/g					
Cesium-134	UI	0.00	+/-0.031	0.0185	+/-0.031	0.0396	pCi/g					
Cesium-137	UI	0.00	+/-0.0275	0.0116	+/-0.0275	0.0254	pCi/g					
Cobalt-60	U	-0.00355	+/-0.019	0.0133	+/-0.019	0.0302	pCi/g					
Europium-152	U	-0.00206	+/-0.0426	0.0363	+/-0.0426	0.0771	pCi/g					
Europium-154	U	0.0475	+/-0.0547	0.0514	+/-0.0547	0.113	pCi/g					
Europium-155	U	-0.0094	+/-0.0466	0.0437	+/-0.0466	0.0909	pCi/g					
Lead-212		0.484	+/-0.0466	0.0212	+/-0.0466	0.0444	pCi/g					
Lead-214		0.286	+/-0.0635	0.0278	+/-0.0635	0.0588	pCi/g					
Manganese-54	U	0.00264	+/-0.0165	0.0141	+/-0.0165	0.0307	pCi/g					
Niobium-94	U	0.00326	+/-0.0156	0.0137	+/-0.0156	0.0293	pCi/g					
Potassium-40		11.9	+/-0.824	0.103	+/-0.824	0.242	pCi/g					
Radium-226		0.262	+/-0.0664	0.0273	+/-0.0664	0.0585	pCi/g					
Silver-108m	U	-0.00334	+/-0.0137	0.0121	+/-0.0137	0.026	pCi/g					
Thallium-208		0.144	+/-0.0345	0.0128	+/-0.0345	0.0276	pCi/g					
Rad Gas Flow Proportional Counting												
<i>GFPC, Sr90, solid-ALL FSS</i>												
Strontium-90	U	-0.00928	+/-0.0166	0.0151	+/-0.0166	0.0343	pCi/g		KSD1	11/29/06	1608	590413
Rad Liquid Scintillation Analysis												
<i>Liquid Scint Tc99, Solid-ALL FSS</i>												
Technetium-99		0.293	+/-0.177	0.143	+/-0.178	0.292	pCi/g		KXR1	11/26/06	1955	590398

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	11/21/06	1054	590327

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-010F
Sample ID: 176518010

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	EPA 905.0 Modified												
4	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	96	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	96	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	81	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	81	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-011F
Sample ID: 176518011
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 4.51%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.345	+/-0.113	0.0623	+/-0.113	0.134	pCi/g		MJH1	11/26/06	1117	590849
Americium-241	U	-0.0217	+/-0.0213	0.0197	+/-0.0213	0.0409	pCi/g					
Bismuth-212		0.249	+/-0.219	0.106	+/-0.219	0.230	pCi/g					
Bismuth-214		0.275	+/-0.0676	0.0285	+/-0.0676	0.061	pCi/g					
Cesium-134	UI	0.00	+/-0.0295	0.0202	+/-0.0295	0.0433	pCi/g					
Cesium-137	U	0.0045	+/-0.0174	0.0155	+/-0.0174	0.0334	pCi/g					
Cobalt-60	U	0.00405	+/-0.0164	0.0146	+/-0.0164	0.0328	pCi/g					
Europium-152	U	-0.012	+/-0.0401	0.0362	+/-0.0401	0.0768	pCi/g					
Europium-154	U	-0.0293	+/-0.063	0.0429	+/-0.063	0.0958	pCi/g					
Europium-155	U	0.0371	+/-0.0382	0.0372	+/-0.0382	0.0772	pCi/g					
Lead-212		0.415	+/-0.0456	0.0211	+/-0.0456	0.0442	pCi/g					
Lead-214		0.331	+/-0.0747	0.0278	+/-0.0747	0.0587	pCi/g					
Manganese-54	U	-0.00163	+/-0.0195	0.0165	+/-0.0195	0.0355	pCi/g					
Niobium-94	U	-0.00332	+/-0.0159	0.0134	+/-0.0159	0.029	pCi/g					
Potassium-40		10.3	+/-0.820	0.133	+/-0.820	0.304	pCi/g					
Radium-226		0.275	+/-0.0676	0.0285	+/-0.0676	0.061	pCi/g					
Silver-108m	U	0.00586	+/-0.0138	0.0129	+/-0.0138	0.0274	pCi/g					
Thallium-208		0.0948	+/-0.041	0.0154	+/-0.041	0.0329	pCi/g					
Rad Gas Flow Proportional Counting												
<i>GFPC, Sr90, solid-ALL FSS</i>												
Strontium-90	U	-0.0249	+/-0.0157	0.016	+/-0.0157	0.0356	pCi/g		KSD1	11/29/06	1609	590413
Rad Liquid Scintillation Analysis												
<i>Liquid Scint Tc99, Solid-ALL FSS</i>												
Technetium-99	U	-0.0179	+/-0.156	0.131	+/-0.156	0.268	pCi/g		KXR1	11/26/06	2027	590398

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	11/21/06	1054	590327

The following Analytical Methods were performed

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

Certificate of Analysis

Company : Connecticut Yankee Atomic Power

Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424

Contact: Mr. Jack McCarthy

Project: Soils PO# 002332

Report Date: December 5, 2006

Client Sample ID: 9504-0000-011F
Sample ID: 176518011

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
1	EML HASL 300, 4.5.2.3												
2	EPA 905.0 Modified												
3	EPA 905.0 Modified												
4	EPA 905.0 Modified												
5	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	92	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	92	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	88	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	88	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-011FS
Sample ID: 176518012
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 4.8%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	M
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.334	+/-0.101	0.0421	+/-0.101	0.0924	pCi/g		MJH1	11/26/06	1117	590849	
Americium-241	U	-0.0452	+/-0.0616	0.0515	+/-0.0616	0.108	pCi/g						
Bismuth-212	UI	0.00	+/-0.125	0.132	+/-0.125	0.279	pCi/g						
Bismuth-214		0.205	+/-0.0607	0.0208	+/-0.0607	0.0451	pCi/g						
Cesium-134	U	0.0309	+/-0.0234	0.0159	+/-0.0234	0.0341	pCi/g						
Cesium-137	U	0.00134	+/-0.0139	0.0127	+/-0.0139	0.0274	pCi/g						
Cobalt-60	U	0.015	+/-0.0362	0.0121	+/-0.0362	0.0274	pCi/g						
Europium-152	U	0.00684	+/-0.0374	0.0345	+/-0.0374	0.0728	pCi/g						
Europium-154	U	-0.0273	+/-0.0453	0.0368	+/-0.0453	0.0822	pCi/g						
Europium-155	U	0.00493	+/-0.0356	0.0364	+/-0.0356	0.0758	pCi/g						
Lead-212		0.283	+/-0.0427	0.021	+/-0.0427	0.0439	pCi/g						
Lead-214		0.214	+/-0.0581	0.0229	+/-0.0581	0.0487	pCi/g						
Manganese-54	U	0.00821	+/-0.0132	0.0124	+/-0.0132	0.027	pCi/g						
Niobium-94	U	-0.0141	+/-0.013	0.0105	+/-0.013	0.0228	pCi/g						
Potassium-40		6.85	+/-0.773	0.110	+/-0.773	0.252	pCi/g						
Radium-226		0.205	+/-0.0607	0.0208	+/-0.0607	0.0451	pCi/g						
Silver-108m	U	-0.00265	+/-0.0131	0.0114	+/-0.0131	0.0243	pCi/g						
Thallium-208		0.0692	+/-0.0345	0.0131	+/-0.0345	0.0281	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.0115	+/-0.0164	0.0154	+/-0.0164	0.0355	pCi/g		KSD1	11/29/06	1609	590413	
Rad Liquid Scintillation Analysis													
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.0934	+/-0.172	0.142	+/-0.172	0.291	pCi/g		KXR1	11/26/06	2059	590398	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	11/21/06	1054	590327

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-011FS
Sample ID: 176518012

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	EPA 905.0 Modified												
4	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	93	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	93	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	81	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	81	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-012F
Sample ID: 176518013
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 4.86%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.325	+/-0.126	0.0562	+/-0.126	0.122	pCi/g		MJH1	11/26/06	1118	590849
Americium-241	U	0.0211	+/-0.0742	0.0611	+/-0.0742	0.128	pCi/g					
Bismuth-212	UI	0.00	+/-0.290	0.096	+/-0.290	0.210	pCi/g					
Bismuth-214		0.280	+/-0.0735	0.0266	+/-0.0735	0.0573	pCi/g					
Cesium-134	U	0.0267	+/-0.0187	0.0185	+/-0.0187	0.0397	pCi/g					
Cesium-137	U	-0.00618	+/-0.0184	0.0152	+/-0.0184	0.0327	pCi/g					
Cobalt-60	U	0.014	+/-0.018	0.0168	+/-0.018	0.0371	pCi/g					
Europium-152	U	-0.00437	+/-0.038	0.0344	+/-0.038	0.0731	pCi/g					
Europium-154	U	0.00296	+/-0.0588	0.0498	+/-0.0588	0.109	pCi/g					
Europium-155	U	0.0227	+/-0.0432	0.0414	+/-0.0432	0.0863	pCi/g					
Lead-212		0.354	+/-0.0507	0.020	+/-0.0507	0.042	pCi/g					
Lead-214		0.293	+/-0.0676	0.0256	+/-0.0676	0.0544	pCi/g					
Manganese-54	U	-0.00262	+/-0.015	0.013	+/-0.015	0.0285	pCi/g					
Niobium-94	U	0.00119	+/-0.0152	0.013	+/-0.0152	0.028	pCi/g					
Potassium-40		10.6	+/-1.01	0.138	+/-1.01	0.312	pCi/g					
Radium-226		0.280	+/-0.0735	0.0266	+/-0.0735	0.0573	pCi/g					
Silver-108m	U	-0.005	+/-0.0147	0.0127	+/-0.0147	0.0272	pCi/g					
Thallium-208		0.128	+/-0.0344	0.0143	+/-0.0344	0.0308	pCi/g					
Rad Gas Flow Proportional Counting												
<i>GFPC, Sr90, solid-ALL FSS</i>												
Strontium-90	U	-0.0344	+/-0.00957	0.00975	+/-0.00957	0.0205	pCi/g		KSD1	11/28/06	2252	590413
Rad Liquid Scintillation Analysis												
<i>Liquid Scint Tc99, Solid-ALL FSS</i>												
Technetium-99	U	0.154	+/-0.176	0.145	+/-0.176	0.296	pCi/g		KXR1	11/26/06	2130	590398

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	11/21/06	1054	590327

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power

Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424

Contact: Mr. Jack McCarthy

Project: Soils PO# 002332

Report Date: December 5, 2006

Client Sample ID: 9504-0000-012F
Sample ID: 176518013

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	EPA 905.0 Modified												
4	DOE EML HASL-300, Tc-02-RC Modified												
Surrogate/Tracer recovery	Test												
Strontium-90	GFPC, Sr90, solid-ALL FSS				97							(25%-125%)	
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS				97							(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
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-013F
Sample ID: 176518014
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 5.38%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	NA
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.275	+/-0.137	0.0464	+/-0.137	0.103	pCi/g		MJH1	11/26/06	1118	590849	
Americium-241	U	0.0286	+/-0.0687	0.0588	+/-0.0687	0.123	pCi/g						
Bismuth-212	U	0.102	+/-0.231	0.126	+/-0.231	0.270	pCi/g						
Bismuth-214		0.193	+/-0.0617	0.0289	+/-0.0617	0.0619	pCi/g						
Cesium-134	U	0.0162	+/-0.0191	0.0173	+/-0.0191	0.0373	pCi/g						
Cesium-137	U	0.0208	+/-0.0189	0.0175	+/-0.0189	0.0374	pCi/g						
Cobalt-60	U	0.00714	+/-0.0182	0.0161	+/-0.0182	0.0358	pCi/g						
Europium-152	U	0.0689	+/-0.0517	0.0356	+/-0.0517	0.0757	pCi/g						
Europium-154	U	-0.0127	+/-0.0508	0.0411	+/-0.0508	0.0923	pCi/g						
Europium-155	U	-0.0099	+/-0.043	0.0381	+/-0.043	0.0797	pCi/g						
Lead-212		0.288	+/-0.0493	0.0207	+/-0.0493	0.0435	pCi/g						
Lead-214		0.279	+/-0.0665	0.0266	+/-0.0665	0.0566	pCi/g						
Manganese-54	U	-0.000522	+/-0.0158	0.0138	+/-0.0158	0.0301	pCi/g						
Niobium-94	U	0.0134	+/-0.0153	0.014	+/-0.0153	0.0301	pCi/g						
Potassium-40		5.50	+/-0.711	0.0666	+/-0.711	0.171	pCi/g						
Radium-226		0.193	+/-0.0617	0.0289	+/-0.0617	0.0619	pCi/g						
Silver-108m	U	-0.00252	+/-0.013	0.0111	+/-0.013	0.0241	pCi/g						
Thallium-208		0.0759	+/-0.0376	0.0138	+/-0.0376	0.0297	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.00855	+/-0.00857	0.00769	+/-0.00857	0.0163	pCi/g		KSD1	11/28/06	2252	590413	
Rad Liquid Scintillation Analysis													
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.0979	+/-0.162	0.134	+/-0.162	0.274	pCi/g		KXR1	11/26/06	2202	590398	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	11/21/06	1054	590327

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-013F
Sample ID: 176518014

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	100	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	100	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	86	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	86	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-014F
Sample ID: 176518015
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 3.58%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.441	+/-0.137	0.0542	+/-0.137	0.117	pCi/g		MJH1	11/26/06	1118	590849
Americium-241	U	0.00542	+/-0.0971	0.0902	+/-0.0971	0.187	pCi/g					
Bismuth-212	U	0.178	+/-0.147	0.139	+/-0.147	0.295	pCi/g					
Bismuth-214		0.302	+/-0.0724	0.0279	+/-0.0724	0.0593	pCi/g					
Cesium-134	U	0.00628	+/-0.0188	0.0169	+/-0.0188	0.0362	pCi/g					
Cesium-137	U	0.0229	+/-0.0209	0.0154	+/-0.0209	0.0329	pCi/g					
Cobalt-60	U	0.00646	+/-0.0184	0.0166	+/-0.0184	0.0365	pCi/g					
Europium-152	U	-0.0163	+/-0.0412	0.0355	+/-0.0412	0.075	pCi/g					
Europium-154	U	0.0423	+/-0.0511	0.0484	+/-0.0511	0.106	pCi/g					
Europium-155	U	0.020	+/-0.0532	0.0484	+/-0.0532	0.100	pCi/g					
Lead-212		0.472	+/-0.0845	0.0208	+/-0.0845	0.0435	pCi/g					
Lead-214		0.430	+/-0.0747	0.0232	+/-0.0747	0.0493	pCi/g					
Manganese-54	U	-0.00799	+/-0.0156	0.0128	+/-0.0156	0.0279	pCi/g					
Niobium-94	U	0.00696	+/-0.0147	0.0134	+/-0.0147	0.0287	pCi/g					
Potassium-40		11.6	+/-1.08	0.120	+/-1.08	0.273	pCi/g					
Radium-226		0.302	+/-0.0724	0.0279	+/-0.0724	0.0593	pCi/g					
Silver-108m	U	0.0047	+/-0.0169	0.0132	+/-0.0169	0.028	pCi/g					
Thallium-208		0.126	+/-0.0333	0.015	+/-0.0333	0.0319	pCi/g					
Rad Gas Flow Proportional Counting												
<i>GFPC, Sr90, solid-ALL FSS</i>												
Strontium-90	U	-0.0391	+/-0.0148	0.0181	+/-0.0148	0.041	pCi/g		KSD1	11/29/06	1928	590414
Rad Liquid Scintillation Analysis												
<i>Liquid Scint Tc99, Solid-ALL FSS</i>												
Technetium-99	U	0.314	+/-0.201	0.162	+/-0.201	0.332	pCi/g		KXR1	12/03/06	0958	590400

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	11/21/06	1122	590328

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-014F
Sample ID: 176518015

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	EPA 905.0 Modified												
4	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	81	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	81	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	70	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	70	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-015F
Sample ID: 176518016
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 4%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.478	+/-0.133	0.0401	+/-0.133	0.0883	pCi/g		MJH1	11/26/06	1119	590849
Americium-241	U	0.0583	+/-0.0795	0.050	+/-0.0795	0.103	pCi/g					
Bismuth-212		0.433	+/-0.231	0.108	+/-0.231	0.232	pCi/g					
Bismuth-214		0.245	+/-0.0778	0.0275	+/-0.0778	0.0584	pCi/g					
Cesium-134	U	0.0351	+/-0.0242	0.0176	+/-0.0242	0.0375	pCi/g					
Cesium-137	U	0.00554	+/-0.0162	0.0144	+/-0.0162	0.0308	pCi/g					
Cobalt-60	U	0.00437	+/-0.0171	0.0151	+/-0.0171	0.0333	pCi/g					
Europium-152	U	-0.0103	+/-0.0485	0.0373	+/-0.0485	0.0784	pCi/g					
Europium-154	U	0.0069	+/-0.0544	0.0474	+/-0.0544	0.103	pCi/g					
Europium-155	U	-0.00176	+/-0.0446	0.0404	+/-0.0446	0.0835	pCi/g					
Lead-212		0.438	+/-0.0585	0.0216	+/-0.0585	0.0451	pCi/g					
Lead-214		0.328	+/-0.0728	0.0276	+/-0.0728	0.058	pCi/g					
Manganese-54	U	0.00557	+/-0.0173	0.0151	+/-0.0173	0.0323	pCi/g					
Niobium-94	U	0.00518	+/-0.016	0.0141	+/-0.016	0.030	pCi/g					
Potassium-40		11.0	+/-1.01	0.101	+/-1.01	0.233	pCi/g					
Radium-226		0.245	+/-0.0778	0.0275	+/-0.0778	0.0584	pCi/g					
Silver-108m	U	-0.0152	+/-0.0153	0.0127	+/-0.0153	0.0269	pCi/g					
Thallium-208		0.165	+/-0.0377	0.0132	+/-0.0377	0.0283	pCi/g					
Rad Gas Flow Proportional Counting												
<i>GFPC, Sr90, solid-ALL FSS</i>												
Strontium-90	U	-0.00496	+/-0.0172	0.0152	+/-0.0172	0.0354	pCi/g		KSD1	11/29/06	1928	590414
Rad Liquid Scintillation Analysis												
<i>Liquid Scint Tc99, Solid-ALL FSS</i>												
Technetium-99	U	0.138	+/-0.186	0.153	+/-0.186	0.313	pCi/g		KXR1	12/03/06	1029	590400

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	11/21/06	1122	590328

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis

Company : Connecticut Yankee Atomic Power

Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424

Contact: Mr. Jack McCarthy

Project: Soils PO# 002332

Report Date: December 5, 2006

Client Sample ID: 9504-0000-015F
Sample ID: 176518016

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	EPA 905.0 Modified												
4	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	85	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	85	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	74	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	74	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-015FS
Sample ID: 176518017
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 4.36%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.397	+/-0.120	0.052	+/-0.120	0.113	pCi/g		MJH1	11/26/06	1119	590849
Americium-241	U	-0.047	+/-0.072	0.0666	+/-0.072	0.138	pCi/g					
Bismuth-212		0.272	+/-0.192	0.122	+/-0.192	0.261	pCi/g					
Bismuth-214		0.186	+/-0.0617	0.0295	+/-0.0617	0.0628	pCi/g					
Cesium-134	U	0.0145	+/-0.0188	0.0182	+/-0.0188	0.039	pCi/g					
Cesium-137	U	0.0162	+/-0.0193	0.018	+/-0.0193	0.0382	pCi/g					
Cobalt-60	U	-0.0136	+/-0.0178	0.0129	+/-0.0178	0.0293	pCi/g					
Europium-152	U	-0.0492	+/-0.0499	0.0404	+/-0.0499	0.0851	pCi/g					
Europium-154	U	0.0221	+/-0.0563	0.0493	+/-0.0563	0.108	pCi/g					
Europium-155	U	0.0588	+/-0.0794	0.0464	+/-0.0794	0.0961	pCi/g					
Lead-212		0.424	+/-0.0421	0.0259	+/-0.0421	0.0538	pCi/g					
Lead-214		0.285	+/-0.0671	0.0304	+/-0.0671	0.0639	pCi/g					
Manganese-54	U	0.00766	+/-0.0189	0.0149	+/-0.0189	0.0322	pCi/g					
Niobium-94	U	-0.000475	+/-0.0168	0.0146	+/-0.0168	0.0312	pCi/g					
Potassium-40		10.9	+/-0.866	0.125	+/-0.866	0.285	pCi/g					
Radium-226		0.186	+/-0.0617	0.0295	+/-0.0617	0.0628	pCi/g					
Silver-108m	U	0.00202	+/-0.0158	0.0136	+/-0.0158	0.029	pCi/g					
Thallium-208		0.142	+/-0.0324	0.0148	+/-0.0324	0.0316	pCi/g					
Rad Gas Flow Proportional Counting												
<i>GFPC, Sr90, solid-ALL FSS</i>												
Strontium-90	U	-0.0101	+/-0.0115	0.0102	+/-0.0115	0.0216	pCi/g		KSD1	11/28/06	2254	590414
Rad Liquid Scintillation Analysis												
<i>Liquid Scint Tc99, Solid-ALL FSS</i>												
Technetium-99	U	0.172	+/-0.190	0.156	+/-0.190	0.319	pCi/g		KXR1	12/03/06	1101	590400

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	11/21/06	1122	590328

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

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Certificate of Analysis

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-015FS
Sample ID: 176518017

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Notes
2	EPA 905.0 Modified												
3	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	88	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	88	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	73	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	73	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-016J
Sample ID: 176518018
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 15.9%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.776	+/-0.262	0.113	+/-0.262	0.240	pCi/g		MJH1	11/26/06	1119	590849	
Americium-241	U	0.0128	+/-0.0439	0.0375	+/-0.0439	0.0772	pCi/g						
Bismuth-212		0.810	+/-0.646	0.203	+/-0.646	0.432	pCi/g						
Bismuth-214		0.855	+/-0.133	0.0443	+/-0.133	0.0943	pCi/g						
Cesium-134	U	0.0427	+/-0.0382	0.0342	+/-0.0382	0.0723	pCi/g						
Cesium-137		0.0945	+/-0.0492	0.0278	+/-0.0492	0.0589	pCi/g						
Cobalt-60	U	-0.00822	+/-0.0324	0.026	+/-0.0324	0.0571	pCi/g						
Europium-152	U	0.00325	+/-0.0781	0.0648	+/-0.0781	0.136	pCi/g						
Europium-154	U	-0.0321	+/-0.0973	0.0782	+/-0.0973	0.170	pCi/g						
Europium-155	UI	0.00	+/-0.110	0.0562	+/-0.110	0.116	pCi/g						
Lead-212		0.856	+/-0.0878	0.0545	+/-0.0878	0.112	pCi/g						
Lead-214		0.906	+/-0.137	0.0479	+/-0.137	0.100	pCi/g						
Manganese-54	U	-0.00192	+/-0.0346	0.0283	+/-0.0346	0.0602	pCi/g						
Niobium-94	U	0.0235	+/-0.0323	0.0283	+/-0.0323	0.0595	pCi/g						
Potassium-40		8.89	+/-1.07	0.236	+/-1.07	0.523	pCi/g						
Radium-226		0.855	+/-0.133	0.0443	+/-0.133	0.0943	pCi/g						
Silver-108m	U	-0.0165	+/-0.0261	0.0219	+/-0.0261	0.0462	pCi/g						
Thallium-208		0.250	+/-0.0663	0.0281	+/-0.0663	0.0593	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.0159	+/-0.0118	0.0106	+/-0.0118	0.0223	pCi/g		KSD1	11/28/06	2254	590414	
Rad Liquid Scintillation Analysis													
<i>Liquid Scint Te99, Solid-ALL FSS</i>													
Technetium-99	U	0.205	+/-0.207	0.169	+/-0.207	0.347	pCi/g		KXR1	12/03/06	1133	590400	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	11/21/06	1122	590328

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

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Certificate of Analysis

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-016J
Sample ID: 176518018

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	95	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	95	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	67	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	67	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-017J
Sample ID: 176518019
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 12%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	M
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.591	+/-0.139	0.0476	+/-0.139	0.103	pCi/g		MJH1	11/26/06	1120	590849	
Americium-241	U	0.0134	+/-0.0206	0.0184	+/-0.0206	0.0379	pCi/g						
Bismuth-212		0.434	+/-0.228	0.0901	+/-0.228	0.195	pCi/g						
Bismuth-214		0.407	+/-0.0766	0.0253	+/-0.0766	0.0537	pCi/g						
Cesium-134	UI	0.00	+/-0.0344	0.0159	+/-0.0344	0.034	pCi/g						
Cesium-137		0.0306	+/-0.0191	0.0133	+/-0.0191	0.0284	pCi/g						
Cobalt-60	U	0.00994	+/-0.0188	0.0169	+/-0.0188	0.0368	pCi/g						
Europium-152	U	-0.019	+/-0.0394	0.0336	+/-0.0394	0.0706	pCi/g						
Europium-154	U	0.0557	+/-0.0493	0.042	+/-0.0493	0.0921	pCi/g						
Europium-155	UI	0.00	+/-0.0593	0.0278	+/-0.0593	0.0577	pCi/g						
Lead-212		0.546	+/-0.0699	0.0194	+/-0.0699	0.0404	pCi/g						
Lead-214		0.490	+/-0.0744	0.0259	+/-0.0744	0.0544	pCi/g						
Manganese-54	U	-0.00357	+/-0.0168	0.014	+/-0.0168	0.0301	pCi/g						
Niobium-94	U	0.00733	+/-0.0156	0.0126	+/-0.0156	0.0268	pCi/g						
Potassium-40		11.3	+/-1.02	0.136	+/-1.02	0.303	pCi/g						
Radium-226		0.407	+/-0.0766	0.0253	+/-0.0766	0.0537	pCi/g						
Silver-108m	U	0.00492	+/-0.0137	0.0115	+/-0.0137	0.0244	pCi/g						
Thallium-208		0.156	+/-0.0337	0.0125	+/-0.0337	0.0267	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.00213	+/-0.0189	0.0156	+/-0.0189	0.0357	pCi/g		KSD1	11/29/06	1929	590414	
Rad Liquid Scintillation Analysis													
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	-0.216	+/-0.260	0.225	+/-0.260	0.464	pCi/g		KXR1	12/04/06	1532	590400	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	11/21/06	1122	590328

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

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Certificate of Analysis

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-017J
Sample ID: 176518019

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	EPA 905.0 Modified												
4	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	95	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	95	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	75	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	75	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-018J
Sample ID: 176518020
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 12.9%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.722	+/-0.149	0.040	+/-0.149	0.0869	pCi/g		MJH1	11/26/06	1120	590849	
Americium-241	U	0.0383	+/-0.0456	0.0443	+/-0.0456	0.0914	pCi/g						
Bismuth-212	UI	0.00	+/-0.291	0.0923	+/-0.291	0.198	pCi/g						
Bismuth-214		0.528	+/-0.0892	0.0215	+/-0.0892	0.046	pCi/g						
Cesium-134	U	0.0368	+/-0.0274	0.0186	+/-0.0274	0.0392	pCi/g						
Cesium-137		0.0759	+/-0.0234	0.0125	+/-0.0234	0.0268	pCi/g						
Cobalt-60	UI	0.00	+/-0.0315	0.00957	+/-0.0315	0.0218	pCi/g						
Europium-152	U	-0.0017	+/-0.0361	0.0322	+/-0.0361	0.0677	pCi/g						
Europium-154	U	-0.00637	+/-0.0462	0.0399	+/-0.0462	0.0868	pCi/g						
Europium-155	U	0.0401	+/-0.0398	0.0374	+/-0.0398	0.0772	pCi/g						
Lead-212		0.602	+/-0.0655	0.0187	+/-0.0655	0.0388	pCi/g						
Lead-214		0.555	+/-0.0849	0.0227	+/-0.0849	0.0477	pCi/g						
Manganese-54	U	-0.00323	+/-0.0168	0.0125	+/-0.0168	0.0268	pCi/g						
Niobium-94	U	0.000183	+/-0.0142	0.0111	+/-0.0142	0.0237	pCi/g						
Potassium-40		11.3	+/-0.978	0.105	+/-0.978	0.235	pCi/g						
Radium-226		0.528	+/-0.0892	0.0215	+/-0.0892	0.046	pCi/g						
Silver-108m	U	-0.00322	+/-0.012	0.0103	+/-0.012	0.0218	pCi/g						
Thallium-208		0.217	+/-0.0405	0.0122	+/-0.0405	0.026	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.00592	+/-0.0172	0.0136	+/-0.0172	0.0318	pCi/g		KSD1	11/29/06	0931	590414	
Rad Liquid Scintillation Analysis													
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.242	+/-0.175	0.142	+/-0.175	0.290	pCi/g		KXR1	12/03/06	1236	590400	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	11/21/06	1122	590328

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power

Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424

Contact: Mr. Jack McCarthy

Project: Soils PO# 002332

Report Date: December 5, 2006

Client Sample ID: 9504-0000-018J
Sample ID: 176518020

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	DOE EML HASL-300, Tc-02-RC Modified												
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium-90	GFPC, Sr90, solid-ALL FSS				103		(25%-125%)						
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS				103		(25%-125%)						
Technetium-99	Liquid Scint Tc99, Solid-ALL FS				80		(15%-125%)						
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS				80		(15%-125%)						

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504–0000–019J
Sample ID: 176518021
Matrix: TS
Collect Date: 15–NOV–06
Receive Date: 21–NOV–06
Collector: Client
Moisture: 24.4%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
Rad Gamma Spec Analysis													
<i>Gamma, Solid–FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium–228		0.432	+/-0.211	0.102	+/-0.211	0.221	pCi/g		MJH1	11/24/06	1652	590850	
Americium–241	U	0.0394	+/-0.045	0.0409	+/-0.045	0.0848	pCi/g						
Bismuth–212	U	0.454	+/-0.282	0.270	+/-0.282	0.575	pCi/g						
Bismuth–214	UI	0.347	+/-0.117	0.092	+/-0.117	0.192	pCi/g						
Cesium–134	U	0.0273	+/-0.0412	0.0365	+/-0.0412	0.0782	pCi/g						
Cesium–137		0.134	+/-0.0607	0.0308	+/-0.0607	0.0659	pCi/g						
Cobalt–60	U	0.0229	+/-0.0363	0.0328	+/-0.0363	0.0723	pCi/g						
Europium–152	U	-0.0508	+/-0.0799	0.0638	+/-0.0799	0.136	pCi/g						
Europium–154	U	0.0611	+/-0.094	0.0914	+/-0.094	0.201	pCi/g						
Europium–155	U	-0.0116	+/-0.0731	0.0607	+/-0.0731	0.127	pCi/g						
Lead–212		0.445	+/-0.110	0.0389	+/-0.110	0.0815	pCi/g						
Lead–214		0.452	+/-0.0985	0.0509	+/-0.0985	0.108	pCi/g						
Manganese–54	U	0.0408	+/-0.0376	0.0343	+/-0.0376	0.0733	pCi/g						
Niobium–94	U	0.0055	+/-0.0326	0.028	+/-0.0326	0.0599	pCi/g						
Potassium–40		10.6	+/-1.11	0.233	+/-1.11	0.533	pCi/g						
Radium–226		0.347	+/-0.117	0.0539	+/-0.117	0.115	pCi/g						
Silver–108m	U	-0.000416	+/-0.0287	0.0254	+/-0.0287	0.0539	pCi/g						
Thallium–208		0.174	+/-0.0615	0.0311	+/-0.0615	0.0663	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid–ALL FSS</i>													
Strontium–90	U	-0.00484	+/-0.017	0.0149	+/-0.017	0.0342	pCi/g		KSD1	11/29/06	0931	590414	
Rad Liquid Scintillation Analysis													
<i>Liquid Scint Tc99, Solid–ALL FSS</i>													
Technetium–99	U	0.00523	+/-0.279	0.234	+/-0.279	0.482	pCi/g		KXR1	12/04/06	1548	590400	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL–RAD–A–021	LXM2	11/21/06	1122	590328

The following Analytical Methods were performed

Method	Description
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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-019J
Sample ID: 176518021

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
1	EML HASL 300, 4.5.2.3												
2	EPA 905.0 Modified												
3	DOE EML HASL-300, Tc-02-RC Modified												
Surrogate/Tracer recovery	Test												
Strontium-90	GFPC, Sr90, solid-ALL FSS				98							(25%-125%)	
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS				98							(25%-125%)	
Technetium-99	Liquid Scint Tc99, Solid-ALL FS				72							(15%-125%)	
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS				72							(15%-125%)	

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-020J
Sample ID: 176518022
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 23.8%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	A
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.466	+/-0.0995	0.0391	+/-0.0995	0.0826	pCi/g		MJH1	11/24/06	1652	590850	
Americium-241	U	-0.0168	+/-0.0736	0.0628	+/-0.0736	0.130	pCi/g						
Bismuth-212		0.340	+/-0.167	0.0767	+/-0.167	0.162	pCi/g						
Bismuth-214		0.330	+/-0.0544	0.0201	+/-0.0544	0.0421	pCi/g						
Cesium-134	UI	0.00	+/-0.0177	0.0131	+/-0.0177	0.0275	pCi/g						
Cesium-137		0.0355	+/-0.0224	0.012	+/-0.0224	0.0251	pCi/g						
Cobalt-60	U	-0.0011	+/-0.0129	0.011	+/-0.0129	0.0237	pCi/g						
Europium-152	U	-0.015	+/-0.0296	0.0258	+/-0.0296	0.0539	pCi/g						
Europium-154	U	-0.00121	+/-0.0407	0.0351	+/-0.0407	0.0747	pCi/g						
Europium-155	U	0.0242	+/-0.039	0.0366	+/-0.039	0.0755	pCi/g						
Lead-212		0.511	+/-0.0379	0.0162	+/-0.0379	0.0336	pCi/g						
Lead-214		0.340	+/-0.0532	0.0211	+/-0.0532	0.0439	pCi/g						
Manganese-54	U	0.0163	+/-0.0122	0.0114	+/-0.0122	0.0241	pCi/g						
Niobium-94	U	-0.00469	+/-0.0109	0.00936	+/-0.0109	0.0197	pCi/g						
Potassium-40		10.4	+/-0.567	0.107	+/-0.567	0.230	pCi/g						
Radium-226		0.330	+/-0.0544	0.0201	+/-0.0544	0.0421	pCi/g						
Silver-108m	U	0.00186	+/-0.0111	0.00979	+/-0.0111	0.0205	pCi/g						
Thallium-208		0.164	+/-0.0291	0.0096	+/-0.0291	0.0202	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.0169	+/-0.0183	0.0177	+/-0.0183	0.0407	pCi/g		KSD1	11/29/06	0931	590414	
Rad Liquid Scintillation Analysis													
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	-0.233	+/-0.253	0.219	+/-0.253	0.452	pCi/g		KXR1	12/04/06	1604	590400	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	11/21/06	1122	590328

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-020J
Sample ID: 176518022

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	90	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	90	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	77	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	77	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-021J
Sample ID: 176518023
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 22.6%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.542	+/-0.148	0.0611	+/-0.148	0.133	pCi/g		MJH1	11/24/06	1652	590850
Americium-241	U	0.00241	+/-0.0934	0.0599	+/-0.0934	0.125	pCi/g					
Bismuth-212	U	0.115	+/-0.274	0.130	+/-0.274	0.281	pCi/g					
Bismuth-214		0.289	+/-0.0721	0.0355	+/-0.0721	0.0756	pCi/g					
Cesium-134	UI	0.00	+/-0.0373	0.0222	+/-0.0373	0.0475	pCi/g					
Cesium-137		0.132	+/-0.0508	0.0185	+/-0.0508	0.0398	pCi/g					
Cobalt-60	U	0.0178	+/-0.0243	0.0222	+/-0.0243	0.0483	pCi/g					
Europium-152	U	0.0605	+/-0.0614	0.0549	+/-0.0614	0.115	pCi/g					
Europium-154	U	0.0577	+/-0.0689	0.0636	+/-0.0689	0.138	pCi/g					
Europium-155	U	0.000833	+/-0.0631	0.0542	+/-0.0631	0.113	pCi/g					
Lead-212		0.389	+/-0.0648	0.0391	+/-0.0648	0.0807	pCi/g					
Lead-214		0.420	+/-0.083	0.0355	+/-0.083	0.075	pCi/g					
Manganese-54	U	0.0335	+/-0.0228	0.0158	+/-0.0228	0.0345	pCi/g					
Niobium-94	U	0.000241	+/-0.0199	0.0165	+/-0.0199	0.0354	pCi/g					
Potassium-40		11.4	+/-0.839	0.130	+/-0.839	0.299	pCi/g					
Radium-226		0.289	+/-0.0721	0.0355	+/-0.0721	0.0756	pCi/g					
Silver-108m	U	0.0178	+/-0.0195	0.018	+/-0.0195	0.038	pCi/g					
Thallium-208		0.156	+/-0.0427	0.019	+/-0.0427	0.0404	pCi/g					
Rad Gas Flow Proportional Counting												
<i>GFPC, Sr90, solid-ALL FSS</i>												
Strontium-90	U	0.00111	+/-0.0191	0.0159	+/-0.0191	0.0364	pCi/g		KSD1	11/29/06	0931	590414
Rad Liquid Scintillation Analysis												
<i>Liquid Scint Tc99, Solid-ALL FSS</i>												
Technetium-99	U	0.403	+/-0.284	0.227	+/-0.285	0.469	pCi/g		KXR1	12/04/06	1621	590400

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	11/21/06	1122	590328

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-021J
Sample ID: 176518023

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	99	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	99	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	74	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	74	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504–0000–022J
Sample ID: 176518024
Matrix: TS
Collect Date: 15–NOV–06
Receive Date: 21–NOV–06
Collector: Client
Moisture: 26.9%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
Rad Gamma Spec Analysis													
<i>Gamma, Solid–FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium–228		0.645	+/-0.164	0.0507	+/-0.164	0.101	pCi/g		MJH1	11/24/06	1655	590850	
Americium–241	U	-0.0229	+/-0.0726	0.0577	+/-0.0726	0.115	pCi/g						
Bismuth–212		0.663	+/-0.204	0.0993	+/-0.204	0.199	pCi/g						
Bismuth–214		0.514	+/-0.0835	0.0286	+/-0.0835	0.0572	pCi/g						
Cesium–134	U	0.00667	+/-0.0186	0.0161	+/-0.0186	0.0321	pCi/g						
Cesium–137		0.181	+/-0.0389	0.0148	+/-0.0389	0.0296	pCi/g						
Cobalt–60	U	0.00901	+/-0.0178	0.0158	+/-0.0178	0.0315	pCi/g						
Europium–152	U	-0.00694	+/-0.056	0.0404	+/-0.056	0.0808	pCi/g						
Europium–154	U	0.00602	+/-0.0558	0.0477	+/-0.0558	0.0953	pCi/g						
Europium–155	U	0.0172	+/-0.0527	0.0442	+/-0.0527	0.0884	pCi/g						
Lead–212		0.670	+/-0.0731	0.0219	+/-0.0731	0.0438	pCi/g						
Lead–214		0.566	+/-0.0819	0.0284	+/-0.0819	0.0567	pCi/g						
Manganese–54	U	0.00702	+/-0.0184	0.0144	+/-0.0184	0.0288	pCi/g						
Niobium–94	U	-0.00174	+/-0.0178	0.0148	+/-0.0178	0.0295	pCi/g						
Potassium–40		10.2	+/-0.887	0.133	+/-0.887	0.267	pCi/g						
Radium–226		0.514	+/-0.0835	0.0286	+/-0.0835	0.0572	pCi/g						
Silver–108m	U	0.00391	+/-0.0157	0.014	+/-0.0157	0.0279	pCi/g						
Thallium–208		0.236	+/-0.0452	0.0135	+/-0.0452	0.0271	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid–ALL FSS</i>													
Strontium–90	U	-0.0209	+/-0.0198	0.0194	+/-0.0198	0.0439	pCi/g		KSD1	11/29/06	0953	590414	
Rad Liquid Scintillation Analysis													
<i>Liquid Scint Tc99, Solid–ALL FSS</i>													
Technetium–99	U	0.373	+/-0.238	0.188	+/-0.238	0.390	pCi/g		KXR1	12/04/06	1042	590400	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL–RAD–A–021	LXM2	11/21/06	1122	590328

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-022J
Sample ID: 176518024

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	88	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	88	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	77	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	77	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-023J
Sample ID: 176518025
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 48.1%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.810	+/-0.157	0.0464	+/-0.157	0.097	pCi/g		MJH1	11/23/06	1451	590850	
Americium-241	U	0.032	+/-0.0673	0.050	+/-0.0673	0.102	pCi/g						
Bismuth-212		0.611	+/-0.270	0.109	+/-0.270	0.226	pCi/g						
Bismuth-214		0.663	+/-0.0926	0.0283	+/-0.0926	0.0585	pCi/g						
Cesium-134	UI	0.00	+/-0.0192	0.0179	+/-0.0192	0.0371	pCi/g						
Cesium-137		0.448	+/-0.0425	0.0139	+/-0.0425	0.0288	pCi/g						
Cobalt-60	U	0.00322	+/-0.0172	0.0145	+/-0.0172	0.0306	pCi/g						
Europium-152	U	-0.0193	+/-0.0474	0.0374	+/-0.0474	0.0769	pCi/g						
Europium-154	U	-0.0269	+/-0.0521	0.0422	+/-0.0521	0.0887	pCi/g						
Europium-155	U	0.0771	+/-0.0693	0.0381	+/-0.0693	0.0779	pCi/g						
Lead-212		0.860	+/-0.0542	0.021	+/-0.0542	0.043	pCi/g						
Lead-214		0.819	+/-0.0791	0.0264	+/-0.0791	0.0542	pCi/g						
Manganese-54	U	0.0253	+/-0.0273	0.0137	+/-0.0273	0.0285	pCi/g						
Niobium-94	U	0.00116	+/-0.0165	0.0134	+/-0.0165	0.0276	pCi/g						
Potassium-40		10.1	+/-0.637	0.127	+/-0.637	0.269	pCi/g						
Radium-226		0.663	+/-0.0926	0.0283	+/-0.0926	0.0585	pCi/g						
Silver-108m	U	-0.0141	+/-0.0154	0.0124	+/-0.0154	0.0257	pCi/g						
Thallium-208		0.237	+/-0.0381	0.0138	+/-0.0381	0.0285	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.0236	+/-0.0247	0.0178	+/-0.0247	0.041	pCi/g		KSD1	11/29/06	0953	590414	
Rad Liquid Scintillation Analysis													
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	-0.15	+/-0.265	0.227	+/-0.265	0.469	pCi/g		KXR1	12/04/06	1637	590400	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	11/21/06	1122	590328

The following Analytical Methods were performed

Method	Description
I	EML HASL 300, 4.5.2.3

GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-023J
Sample ID: 176518025

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	89	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	89	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	74	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	74	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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

Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-024J
Sample ID: 176518026
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 14.6%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.440	+/-0.159	0.0642	+/-0.159	0.128	pCi/g		MJH1	11/24/06	1655	590850
Americium-241	U	0.026	+/-0.0295	0.0242	+/-0.0295	0.0483	pCi/g					
Bismuth-212	U	0.216	+/-0.308	0.142	+/-0.308	0.284	pCi/g					
Bismuth-214		0.383	+/-0.0843	0.029	+/-0.0843	0.058	pCi/g					
Cesium-134	U	0.0182	+/-0.0238	0.0219	+/-0.0238	0.0438	pCi/g					
Cesium-137	U	-0.00599	+/-0.0211	0.0181	+/-0.0211	0.0362	pCi/g					
Cobalt-60	U	-0.00278	+/-0.0269	0.0222	+/-0.0269	0.0444	pCi/g					
Europium-152	U	-0.00762	+/-0.0545	0.0409	+/-0.0545	0.0817	pCi/g					
Europium-154	U	0.0133	+/-0.0725	0.0619	+/-0.0725	0.124	pCi/g					
Europium-155	U	0.0121	+/-0.0425	0.0378	+/-0.0425	0.0756	pCi/g					
Lead-212		0.463	+/-0.0629	0.0229	+/-0.0629	0.0458	pCi/g					
Lead-214		0.378	+/-0.0665	0.0296	+/-0.0665	0.0592	pCi/g					
Manganese-54	U	0.0121	+/-0.0175	0.0209	+/-0.0175	0.0418	pCi/g					
Niobium-94	U	-0.000485	+/-0.0234	0.0176	+/-0.0234	0.0353	pCi/g					
Potassium-40		10.2	+/-0.926	0.177	+/-0.926	0.354	pCi/g					
Radium-226		0.383	+/-0.0843	0.029	+/-0.0843	0.058	pCi/g					
Silver-108m	U	-0.00439	+/-0.0176	0.015	+/-0.0176	0.0299	pCi/g					
Thallium-208		0.147	+/-0.0374	0.0155	+/-0.0374	0.0309	pCi/g					
Rad Gas Flow Proportional Counting												
<i>GFPC, Sr90, solid-ALL FSS</i>												
Strontium-90	U	-0.000775	+/-0.0179	0.0151	+/-0.0179	0.0348	pCi/g		KSD1	11/29/06	0953	590414
Rad Liquid Scintillation Analysis												
<i>Liquid Scint Tc99, Solid-ALL FSS</i>												
Technetium-99	U	0.242	+/-0.182	0.148	+/-0.182	0.303	pCi/g		KXR1	12/03/06	1548	590400

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	11/21/06	1122	590328

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-024J
Sample ID: 176518026

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	103	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	103	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	77	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	77	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-025J
Sample ID: 176518027
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 10.2%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	M
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.537	+/-0.125	0.0502	+/-0.125	0.110	pCi/g		MJH1	11/24/06	2015	590850	
Americium-241	U	-0.0011	+/-0.0225	0.0219	+/-0.0225	0.0452	pCi/g						
Bismuth-212		0.381	+/-0.225	0.125	+/-0.225	0.268	pCi/g						
Bismuth-214		0.368	+/-0.0689	0.0264	+/-0.0689	0.0569	pCi/g						
Cesium-134	U	0.00485	+/-0.0189	0.0166	+/-0.0189	0.0359	pCi/g						
Cesium-137		0.161	+/-0.0424	0.017	+/-0.0424	0.0364	pCi/g						
Cobalt-60	U	-0.00784	+/-0.0194	0.0157	+/-0.0194	0.0351	pCi/g						
Europium-152	U	0.0134	+/-0.0435	0.0409	+/-0.0435	0.086	pCi/g						
Europium-154	U	-0.0435	+/-0.0645	0.0423	+/-0.0645	0.0943	pCi/g						
Europium-155	U	0.0175	+/-0.0407	0.039	+/-0.0407	0.0807	pCi/g						
Lead-212		0.476	+/-0.0486	0.0228	+/-0.0486	0.0474	pCi/g						
Lead-214		0.414	+/-0.0673	0.0292	+/-0.0673	0.0614	pCi/g						
Manganese-54	U	0.023	+/-0.0197	0.0152	+/-0.0197	0.0329	pCi/g						
Niobium-94	U	0.00704	+/-0.018	0.0161	+/-0.018	0.0344	pCi/g						
Potassium-40		10.0	+/-0.735	0.109	+/-0.735	0.254	pCi/g						
Radium-226		0.368	+/-0.0689	0.0264	+/-0.0689	0.0569	pCi/g						
Silver-108m	U	0.00318	+/-0.015	0.0138	+/-0.015	0.0294	pCi/g						
Thallium-208		0.140	+/-0.0338	0.014	+/-0.0338	0.0302	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.0208	+/-0.0213	0.0203	+/-0.0213	0.0454	pCi/g		KSD1	11/29/06	0955	590414	
Rad Liquid Scintillation Analysis													
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.255	+/-0.248	0.200	+/-0.248	0.414	pCi/g		KXR1	12/04/06	1115	590400	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	11/21/06	1122	590328

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

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Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-025J
Sample ID: 176518027

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	95	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	95	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	75	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	75	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-026J
Sample ID: 176518028
Matrix: TS
Collect Date: 15-NOV-06
Receive Date: 21-NOV-06
Collector: Client
Moisture: 12.7%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	M
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.662	+/-0.148	0.0571	+/-0.148	0.124	pCi/g		MJH1	11/24/06	2017	590850	
Americium-241	U	-0.02	+/-0.0986	0.0622	+/-0.0986	0.130	pCi/g						
Bismuth-212		0.650	+/-0.307	0.116	+/-0.307	0.253	pCi/g						
Bismuth-214		0.471	+/-0.0911	0.0359	+/-0.0911	0.0762	pCi/g						
Cesium-134	U	0.0313	+/-0.0227	0.0218	+/-0.0227	0.0465	pCi/g						
Cesium-137		0.0896	+/-0.0244	0.00714	+/-0.0244	0.0169	pCi/g						
Cobalt-60	U	0.0122	+/-0.0286	0.0205	+/-0.0286	0.0447	pCi/g						
Europium-152	U	-0.0255	+/-0.0584	0.0479	+/-0.0584	0.101	pCi/g						
Europium-154	U	-0.00946	+/-0.0656	0.0551	+/-0.0656	0.121	pCi/g						
Europium-155	U	0.00236	+/-0.0625	0.0542	+/-0.0625	0.113	pCi/g						
Lead-212		0.647	+/-0.0615	0.0273	+/-0.0615	0.0571	pCi/g						
Lead-214		0.608	+/-0.104	0.0336	+/-0.104	0.0711	pCi/g						
Manganese-54	U	0.0163	+/-0.0384	0.0167	+/-0.0384	0.0361	pCi/g						
Niobium-94	U	-0.0019	+/-0.0206	0.0171	+/-0.0206	0.0365	pCi/g						
Potassium-40		10.5	+/-0.853	0.157	+/-0.853	0.352	pCi/g						
Radium-226		0.471	+/-0.0911	0.0359	+/-0.0911	0.0762	pCi/g						
Silver-108m	U	0.00704	+/-0.0215	0.0169	+/-0.0215	0.0358	pCi/g						
Thallium-208		0.231	+/-0.0446	0.0178	+/-0.0446	0.038	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.0247	+/-0.0206	0.0207	+/-0.0206	0.0471	pCi/g		KSD1	11/29/06	0955	590414	
Rad Liquid Scintillation Analysis													
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.208	+/-0.243	0.197	+/-0.243	0.409	pCi/g		KXR1	12/04/06	1132	590400	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	11/21/06	1122	590328

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis

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

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

Report Date: December 5, 2006

Client Sample ID: 9504-0000-026J
Sample ID: 176518028

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
2	EPA 905.0 Modified												
3	DOE EML HASL-300, Tc-02-RC Modified												

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Strontium-90	GFPC, Sr90, solid-ALL FSS	83	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	83	(25%-125%)
Technetium-99	Liquid Scint Tc99, Solid-ALL FS	74	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	74	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

QUALITY CONTROL DATA

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Report Date: December 5, 2006

Page 1 of 13

Client : Connecticut Yankee Atomic Power
362 Injun Hollow Rd

Contact: East Hampton, Connecticut
Mr. Jack McCarthy

Workorder: 176518

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	590578										
QC1201234558	176518004	DUP									
Americium-241		U	0.00656	U	0.0689	pCi/g	165	(0% - 100%)	BXL1	11/28/06	15:48
		Uncert:	+/-0.0562		+/-0.0867						
		TPU:	+/-0.0562		+/-0.0871						
Curium-242		U	0.0502	U	0.0271	pCi/g	60	(0% - 100%)			
		Uncert:	+/-0.0802		+/-0.0531						
		TPU:	+/-0.0804		+/-0.0532						
Curium-243/244		U	-0.0453	U	0.0583	pCi/g	1590	(0% - 100%)			
		Uncert:	+/-0.0335		+/-0.0893						
		TPU:	+/-0.034		+/-0.0896						
QC1201234560	LCS										
Americium-241		12.5			13.1	pCi/g	105	(75%-125%)		11/29/06	18:26
		Uncert:			+/-1.37						
		TPU:			+/-2.16						
Curium-242				U	0.0701	pCi/g					
		Uncert:			+/-0.159						
		TPU:			+/-0.159						
Curium-243/244		15.0			15.8	pCi/g	105	(75%-125%)			
		Uncert:			+/-1.51						
		TPU:			+/-2.52						
QC1201234557	MB										
Americium-241					0.474	pCi/g				11/28/06	15:48
		Uncert:			+/-0.229						
		TPU:			+/-0.237						
Curium-242				U	0.0581	pCi/g					
		Uncert:			+/-0.0806						
		TPU:			+/-0.0809						
Curium-243/244				U	-0.0192	pCi/g					
		Uncert:			+/-0.0656						
		TPU:			+/-0.0657						
QC1201234559	176518004	MS									
Americium-241		13.1	U	0.00656	14.0	pCi/g	107	(75%-125%)		11/28/06	15:48
		Uncert:		+/-0.0562	+/-1.24						
		TPU:		+/-0.0562	+/-2.20						
Curium-242			U	0.0502	0.076	pCi/g					
		Uncert:		+/-0.0802	+/-0.104						
		TPU:		+/-0.0804	+/-0.105						
Curium-243/244		15.7	U	-0.0453	16.4	pCi/g	104	(75%-125%)			
		Uncert:		+/-0.0335	+/-1.34						
		TPU:		+/-0.034	+/-2.52						
Batch	590579										
QC1201234562	176518004	DUP									
Plutonium-238		U	0.0358	U	-0.0239	pCi/g	1000	(0% - 100%)	BXL1	11/28/06	15:49

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 176518

Page 2 of 13

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	590579										
Plutonium-239/240		Uncert:	+/-0.0671	+/-0.054							
		TPU:	+/-0.0673	+/-0.054							
		U	0.0179	0.225	pCi/g	171		(0% - 100%)			
		Uncert:	+/-0.0475	+/-0.156							
		TPU:	+/-0.0475	+/-0.158							
QC1201234564 LCS											
Plutonium-238			U	-0.00307	pCi/g			(75%-125%)		11/29/06	18:26
		Uncert:		+/-0.0971							
		TPU:		+/-0.0971							
Plutonium-239/240		11.5		9.86	pCi/g		86	(75%-125%)			
		Uncert:		+/-0.987							
		TPU:		+/-1.38							
QC1201234561 MB											
Plutonium-238			U	-0.0238	pCi/g					11/28/06	15:48
		Uncert:		+/-0.0538							
		TPU:		+/-0.0538							
Plutonium-239/240			U	-0.0238	pCi/g						
		Uncert:		+/-0.0538							
		TPU:		+/-0.0538							
QC1201234563 176518004 MS											
Plutonium-238		U	0.0358	0.148	pCi/g			(75%-125%)		11/28/06	15:49
		Uncert:	+/-0.0671	+/-0.123							
		TPU:	+/-0.0673	+/-0.124							
Plutonium-239/240		12.1	U	0.0179	pCi/g		88	(75%-125%)			
		Uncert:	+/-0.0475	+/-0.982							
		TPU:	+/-0.0475	+/-1.52							
Batch	590580										
QC1201234566 176518004 DUP											
Plutonium-241		U	5.40	U	-3.2	pCi/g	0	(0% - 100%) BXL1		12/05/06	13:18
		Uncert:	+/-7.57	+/-6.90							
		TPU:	+/-7.58	+/-6.90							
QC1201234568 LCS											
Plutonium-241		141		135	pCi/g		95	(75%-125%)		12/05/06	13:51
		Uncert:		+/-11.8							
		TPU:		+/-17.3							
QC1201234565 MB											
Plutonium-241			U	1.47	pCi/g					12/05/06	13:02
		Uncert:		+/-6.45							
		TPU:		+/-6.46							
QC1201234567 176518004 MS											
Plutonium-241		143	U	5.40	pCi/g		87	(75%-125%)		12/05/06	13:35
		Uncert:	+/-7.57	+/-21.9							
		TPU:	+/-7.58	+/-27.8							
Rad Gamma Spec											
Batch	590849										
QC1201235095 176518001 DUP											
Actinium-228			0.893	1.10	pCi/g	21		(0% - 100%) MJH1		11/26/06	11:21
		Uncert:	+/-0.205	+/-0.153							
				+/-0.153							

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

QC Summary

Workorder: 176518

Page 3 of 13

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	590849										
Americium-241		TPU:	+/-0.205								
	U	0.0675	U	0.00896	pCi/g	153		(0% - 100%)			
		Uncert:	+/-0.159	+/-0.121							
Bismuth-212		TPU:	+/-0.159	+/-0.121							
	U	0.278		0.799	pCi/g	97*		(0% - 100%)			
		Uncert:	+/-0.408	+/-0.266							
Bismuth-214		TPU:	+/-0.408	+/-0.266							
		0.588		0.720	pCi/g	20		(0% - 100%)			
		Uncert:	+/-0.125	+/-0.086							
Cesium-134		TPU:	+/-0.125	+/-0.086							
	U	0.0475	U	0.0244	pCi/g	64		(0% - 100%)			
		Uncert:	+/-0.038	+/-0.0279							
Cesium-137		TPU:	+/-0.038	+/-0.0279							
	U	0.0412		0.0443	pCi/g	7		(0% - 100%)			
		Uncert:	+/-0.0449	+/-0.0307							
Cobalt-60		TPU:	+/-0.0449	+/-0.0307							
	U	0.0341	U	0.0136	pCi/g	86		(0% - 100%)			
		Uncert:	+/-0.0436	+/-0.0189							
Europium-152		TPU:	+/-0.0436	+/-0.0189							
	U	0.0667	U	0.0362	pCi/g	59		(0% - 100%)			
		Uncert:	+/-0.076	+/-0.0469							
Europium-154		TPU:	+/-0.076	+/-0.0469							
	U	0.0285	U	-0.0155	pCi/g	673		(0% - 100%)			
		Uncert:	+/-0.0804	+/-0.0576							
Europium-155		TPU:	+/-0.0804	+/-0.0576							
	U	0.0678	U	0.0676	pCi/g	0		(0% - 100%)			
		Uncert:	+/-0.0753	+/-0.0595							
Lead-212		TPU:	+/-0.0753	+/-0.0595							
		0.988		0.939	pCi/g	5		(0% - 20%)			
		Uncert:	+/-0.0849	+/-0.0604							
Lead-214		TPU:	+/-0.0849	+/-0.0604							
		0.831		0.886	pCi/g	6		(0% - 20%)			
		Uncert:	+/-0.117	+/-0.0898							
Manganese-54		TPU:	+/-0.117	+/-0.0898							
	U	-0.0223	U	0.00527	pCi/g	323		(0% - 100%)			
		Uncert:	+/-0.0281	+/-0.0189							
Niobium-94		TPU:	+/-0.0281	+/-0.0189							
	U	0.0175	U	0.0166	pCi/g	5		(0% - 100%)			
		Uncert:	+/-0.0283	+/-0.017							
Potassium-40		TPU:	+/-0.0283	+/-0.017							
		12.7		13.9	pCi/g	9		(0% - 20%)			
		Uncert:	+/-1.11	+/-0.819							
Radium-226		TPU:	+/-1.11	+/-0.819							
		0.588		0.720	pCi/g	20		(0% - 100%)			
		Uncert:	+/-0.125	+/-0.086							
Silver-108m		TPU:	+/-0.125	+/-0.086							
	U	0.00967	U	-0.00315	pCi/g	394		(0% - 100%)			
		Uncert:	+/-0.0237	+/-0.016							

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 176518

Page 4 of 13

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	590849										
Thallium-208	TPU:	+/-0.0237		+/-0.016							
		0.248		0.301	pCi/g	19		(0% - 100%)			
	Uncert:	+/-0.0791		+/-0.0428							
	TPU:	+/-0.0791		+/-0.0428							
QC1201235096	LCS										
Actinium-228			U	0.192	pCi/g					11/25/06	14:52
	Uncert:			+/-0.626							
	TPU:			+/-0.626							
Americium-241	23.4			25.4	pCi/g		108	(75%-125%)			
	Uncert:			+/-0.543							
	TPU:			+/-0.543							
Bismuth-212			U	-0.426	pCi/g						
	Uncert:			+/-1.05							
	TPU:			+/-1.05							
Bismuth-214			U	-0.0996	pCi/g						
	Uncert:			+/-0.228							
	TPU:			+/-0.228							
Cesium-134			U	0.0536	pCi/g						
	Uncert:			+/-0.146							
	TPU:			+/-0.146							
Cesium-137	9.53			10.4	pCi/g		109	(75%-125%)			
	Uncert:			+/-0.485							
	TPU:			+/-0.485							
Cobalt-60	14.1			15.0	pCi/g		107	(75%-125%)			
	Uncert:			+/-0.687							
	TPU:			+/-0.687							
Europium-152			U	-0.0191	pCi/g						
	Uncert:			+/-0.249							
	TPU:			+/-0.249							
Europium-154			U	0.382	pCi/g						
	Uncert:			+/-0.303							
	TPU:			+/-0.303							
Europium-155			U	-0.0303	pCi/g						
	Uncert:			+/-0.231							
	TPU:			+/-0.231							
Lead-212			U	0.113	pCi/g						
	Uncert:			+/-0.148							
	TPU:			+/-0.148							
Lead-214			U	0.0886	pCi/g						
	Uncert:			+/-0.188							
	TPU:			+/-0.188							
Manganese-54			U	-0.0933	pCi/g						
	Uncert:			+/-0.137							
	TPU:			+/-0.137							
Niobium-94			U	-0.074	pCi/g						
	Uncert:			+/-0.116							
	TPU:			+/-0.116							
Potassium-40			U	0.356	pCi/g						

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 176518

Page 5 of 13

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	590849										
Radium-226	Uncert:			+/-0.915							
	TPU:			+/-0.915							
		U		-0.0996	pCi/g			(75%-125%)			
Silver-108m	Uncert:			+/-0.228							
	TPU:			+/-0.228							
		U		-0.086	pCi/g						
Thallium-208	Uncert:			+/-0.107							
	TPU:			+/-0.107							
		U		0.034	pCi/g						
Actinium-228	Uncert:			+/-0.121							
	TPU:			+/-0.121							
QC1201235094 MB											
		U		0.0392	pCi/g					11/26/06	11:20
Americium-241	Uncert:			+/-0.0861							
	TPU:			+/-0.0861							
		U		-0.00525	pCi/g						
Bismuth-212	Uncert:			+/-0.015							
	TPU:			+/-0.015							
		U		0.0624	pCi/g						
Bismuth-214	Uncert:			+/-0.106							
	TPU:			+/-0.106							
		U		0.0156	pCi/g						
Cesium-134	Uncert:			+/-0.045							
	TPU:			+/-0.045							
		U		0.000882	pCi/g						
Cesium-137	Uncert:			+/-0.0159							
	TPU:			+/-0.0159							
		U		0.00104	pCi/g						
Cobalt-60	Uncert:			+/-0.0139							
	TPU:			+/-0.0139							
		U		-0.0043	pCi/g						
Europium-152	Uncert:			+/-0.0168							
	TPU:			+/-0.0168							
		U		0.0183	pCi/g						
Europium-154	Uncert:			+/-0.0441							
	TPU:			+/-0.0441							
		U		0.0441	pCi/g						
Europium-155	Uncert:			+/-0.037							
	TPU:			+/-0.037							
		U		-0.00779	pCi/g						
Lead-212	Uncert:			+/-0.0254							
	TPU:			+/-0.0254							
		U		0.0195	pCi/g						
Lead-214	Uncert:			+/-0.0279							
	TPU:			+/-0.0279							
		U		0.00792	pCi/g						
	Uncert:			+/-0.0406							
	TPU:			+/-0.0406							

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 176518

Page 6 of 13

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	590849										
Manganese-54			U	-0.00416	pCi/g						
	Uncert:			+/-0.0127							
	TPU:			+/-0.0127							
Niobium-94			U	0.00716	pCi/g						
	Uncert:			+/-0.0129							
	TPU:			+/-0.0129							
Potassium-40			U	0.0756	pCi/g						
	Uncert:			+/-0.148							
	TPU:			+/-0.148							
Radium-226			U	0.0156	pCi/g						
	Uncert:			+/-0.045							
	TPU:			+/-0.045							
Silver-108m			U	0.00546	pCi/g						
	Uncert:			+/-0.0111							
	TPU:			+/-0.0111							
Thallium-208			U	0.008	pCi/g						
	Uncert:			+/-0.0158							
	TPU:			+/-0.0158							
Batch	590850										
QC1201235098 176517001 DUP											
Actinium-228		0.856		0.963	pCi/g	12		(0% - 100%)	MJH1	11/24/06	20:19
	Uncert:	+/-0.221		+/-0.317							
	TPU:	+/-0.221		+/-0.317							
Americium-241	UI	0.00	U	-0.000341	pCi/g	202		(0% - 100%)			
	Uncert:	+/-0.0443		+/-0.0546							
	TPU:	+/-0.0443		+/-0.0546							
Bismuth-212		0.619	UI	0.813	pCi/g	57		(0% - 100%)			
	Uncert:	+/-0.358		+/-0.504							
	TPU:	+/-0.358		+/-0.504							
Bismuth-214		0.757		0.761	pCi/g	1		(0% - 100%)			
	Uncert:	+/-0.134		+/-0.145							
	TPU:	+/-0.134		+/-0.145							
Cesium-134	U	0.0573	U	0.052	pCi/g	10		(0% - 100%)			
	Uncert:	+/-0.0541		+/-0.0626							
	TPU:	+/-0.0541		+/-0.0626							
Cesium-137		0.0853		0.0921	pCi/g	8		(0% - 100%)			
	Uncert:	+/-0.0562		+/-0.0741							
	TPU:	+/-0.0562		+/-0.0741							
Cobalt-60		0.0983		0.103	pCi/g	4		(0% - 100%)			
	Uncert:	+/-0.0601		+/-0.049							
	TPU:	+/-0.0601		+/-0.049							
Europium-152	U	0.0485	U	0.0196	pCi/g	85		(0% - 100%)			
	Uncert:	+/-0.0869		+/-0.0978							
	TPU:	+/-0.0869		+/-0.0978							
Europium-154	U	0.032	U	-0.0211	pCi/g	969		(0% - 100%)			
	Uncert:	+/-0.0933		+/-0.140							
	TPU:	+/-0.0933		+/-0.140							
Europium-155	U	0.0376	U	0.0485	pCi/g	25		(0% - 100%)			

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 176518

Page 7 of 13

Paramname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	590850										
Lead-212	Uncert:	±0.0638		±0.084							
	TPU:	±0.0638		±0.084							
		0.921		0.869	pCi/g	6		(0% - 20%)			
Lead-214	Uncert:	±0.104		±0.121							
	TPU:	±0.104		±0.121							
		0.908		0.862	pCi/g	5		(0% - 20%)			
Manganese-54	Uncert:	±0.133		±0.160							
	TPU:	±0.133		±0.160							
	U	-0.000983	U	-0.00651	pCi/g	148		(0% - 100%)			
Niobium-94	Uncert:	±0.0292		±0.0437							
	TPU:	±0.0292		±0.0437							
	U	-0.00777	U	0.00829	pCi/g	6180		(0% - 100%)			
Potassium-40	Uncert:	±0.0272		±0.0369							
	TPU:	±0.0272		±0.0369							
		10.8		13.0	pCi/g	18		(0% - 20%)			
Radium-226	Uncert:	+/-1.03		+/-1.30							
	TPU:	+/-1.03		+/-1.30							
		0.757		0.761	pCi/g	1		(0% - 100%)			
Silver-108m	Uncert:	±0.134		±0.145							
	TPU:	±0.134		±0.145							
	U	0.002	U	-0.00983	pCi/g	302		(0% - 100%)			
Thallium-208	Uncert:	±0.0271		±0.0327							
	TPU:	±0.0271		±0.0327							
		0.323		0.269	pCi/g	18		(0% - 100%)			
Actinium-228	Uncert:	±0.0719		±0.0784							
	TPU:	±0.0719		±0.0784							
	QC1201235099	LCS	U	0.525	pCi/g					11/25/06	13:45
Americium-241	Uncert:			±0.602							
	TPU:			±0.602							
	23.4			25.2	pCi/g		108	(75%-125%)			
Bismuth-212	Uncert:			±0.546							
	TPU:			±0.546							
			U	0.293	pCi/g						
Bismuth-214	Uncert:			±0.959							
	TPU:			±0.959							
			U	-0.0679	pCi/g						
Cesium-134	Uncert:			±0.219							
	TPU:			±0.219							
			U	0.0698	pCi/g						
Cesium-137	Uncert:			±0.139							
	TPU:			±0.139							
	9.53			10.5	pCi/g		110	(75%-125%)			
Cobalt-60	Uncert:			±0.467							
	TPU:			±0.467							
	14.1			14.7	pCi/g		105	(75%-125%)			
	Uncert:			±0.696							
	TPU:			±0.696							

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 176518

Page 8 of 13

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	590850									
Europium-152		U	0.0544	pCi/g						
	Uncert:		+/-0.260							
	TPU:		+/-0.260							
Europium-154		U	-0.0763	pCi/g						
	Uncert:		+/-0.284							
	TPU:		+/-0.284							
Europium-155		U	-0.0636	pCi/g						
	Uncert:		+/-0.231							
	TPU:		+/-0.231							
Lead-212		U	0.141	pCi/g						
	Uncert:		+/-0.180							
	TPU:		+/-0.180							
Lead-214		U	-0.0307	pCi/g						
	Uncert:		+/-0.203							
	TPU:		+/-0.203							
Manganese-54		U	0.0344	pCi/g						
	Uncert:		+/-0.139							
	TPU:		+/-0.139							
Niobium-94		U	0.00535	pCi/g						
	Uncert:		+/-0.110							
	TPU:		+/-0.110							
Potassium-40		U	0.354	pCi/g						
	Uncert:		+/-0.892							
	TPU:		+/-0.892							
Radium-226		U	-0.0679	pCi/g			(75%-125%)			
	Uncert:		+/-0.219							
	TPU:		+/-0.219							
Silver-108m		U	0.00468	pCi/g						
	Uncert:		+/-0.105							
	TPU:		+/-0.105							
Thallium-208		U	-0.0469	pCi/g						
	Uncert:		+/-0.113							
	TPU:		+/-0.113							
QC1201235097	MB									
Actinium-228		U	0.00155	pCi/g					11/25/06	13:45
	Uncert:		+/-0.125							
	TPU:		+/-0.125							
Americium-241		U	-0.0205	pCi/g						
	Uncert:		+/-0.0241							
	TPU:		+/-0.0241							
Bismuth-212		U	0.0691	pCi/g						
	Uncert:		+/-0.169							
	TPU:		+/-0.169							
Bismuth-214		U	0.0818	pCi/g						
	Uncert:		+/-0.0647							
	TPU:		+/-0.0647							
Cesium-134		U	0.00943	pCi/g						
	Uncert:		+/-0.0268							

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 176518

Page 9 of 13

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	590850										
Cesium-137	TPU:			+/-0.0268							
		U		-0.00217	pCi/g						
	Uncert:			+/-0.0253							
Cobalt-60	TPU:			+/-0.0253							
		U		-1.820E-05	pCi/g						
	Uncert:			+/-0.0261							
Europium-152	TPU:			+/-0.0261							
		U		-0.00427	pCi/g						
	Uncert:			+/-0.0509							
Europium-154	TPU:			+/-0.0509							
		U		-0.00522	pCi/g						
	Uncert:			+/-0.0638							
Europium-155	TPU:			+/-0.0638							
		U		0.031	pCi/g						
	Uncert:			+/-0.0431							
Lead-212	TPU:			+/-0.0431							
		U		0.0487	pCi/g						
	Uncert:			+/-0.056							
Lead-214	TPU:			+/-0.056							
		U		0.0221	pCi/g						
	Uncert:			+/-0.0401							
Manganese-54	TPU:			+/-0.0401							
		U		-0.00673	pCi/g						
	Uncert:			+/-0.0243							
Niobium-94	TPU:			+/-0.0243							
		U		0.0107	pCi/g						
	Uncert:			+/-0.0205							
Potassium-40	TPU:			+/-0.0205							
		U		-0.0357	pCi/g						
	Uncert:			+/-0.250							
Radium-226	TPU:			+/-0.250							
		U		0.0818	pCi/g						
	Uncert:			+/-0.0647							
Silver-108m	TPU:			+/-0.0647							
		U		-0.0124	pCi/g						
	Uncert:			+/-0.0178							
Thallium-208	TPU:			+/-0.0178							
		U		0.0126	pCi/g						
	Uncert:			+/-0.0389							
TPU:			+/-0.0389								
Rad Gas Flow											
Batch	590413										
QC1201234193	176518002	DUP									
Strontium-90		U	-0.0163	U	-0.018	pCi/g	0	(0% - 100%)	KSD1	11/28/06	22:52
		Uncert:	+/-0.0203		+/-0.0109						
		TPU:	+/-0.0203		+/-0.0109						
QC1201234195	LCS										
Strontium-90	1.60				1.38	pCi/g	86	(75%-125%)		11/29/06	09:26

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

QC Summary

Workorder: 176518

Page 10 of 13

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow											
Batch	590413										
				Uncert:							
				TPU:							
QC1201234192	MB										
Strontium-90			U	-0.0103	pCi/g					11/28/06	22:52
				Uncert:							
				TPU:							
QC1201234194	176518002	MS									
Strontium-90			1.68	U	-0.0163	1.42	pCi/g	84	(75%-125%)	11/29/06	09:26
				Uncert:	+/-0.0203	+/-0.0986					
				TPU:	+/-0.0203	+/-0.102					
Batch	590414										
QC1201234197	176518015	DUP									
Strontium-90				U	-0.0391	U	0.0029	pCi/g	0	(0% - 100%) KSD1	11/29/06 09:57
				Uncert:	+/-0.0148	+/-0.0216					
				TPU:	+/-0.0148	+/-0.0216					
QC1201234199	LCS										
Strontium-90			1.58			1.47	pCi/g	93	(75%-125%)	11/29/06	10:30
				Uncert:		+/-0.0935					
				TPU:		+/-0.0975					
QC1201234196	MB										
Strontium-90				U	0.00149	pCi/g				11/29/06	19:29
				Uncert:		+/-0.0162					
				TPU:		+/-0.0162					
QC1201234198	176518015	MS									
Strontium-90			4.21	U	-0.0391	3.29	pCi/g	78	(75%-125%)	11/29/06	10:30
				Uncert:	+/-0.0148	+/-0.264					
				TPU:	+/-0.0148	+/-0.279					
Rad Liquid Scintillation											
Batch	590398										
QC1201234143	176518001	DUP									
Technetium-99				U	0.266	U	0.241	pCi/g	0	(0% - 100%) KXR1	11/26/06 23:05
				Uncert:	+/-0.172	+/-0.179					
				TPU:	+/-0.172	+/-0.179					
QC1201234145	LCS										
Technetium-99			12.7			12.3	pCi/g	96	(75%-125%)	11/27/06	00:08
				Uncert:		+/-0.327					
				TPU:		+/-0.447					
QC1201234142	MB										
Technetium-99						0.340	pCi/g			11/26/06	22:34
				Uncert:		+/-0.152					
				TPU:		+/-0.152					
QC1201234144	176518001	MS									
Technetium-99			12.8	U	0.266	12.6	pCi/g	99	(75%-125%)	11/26/06	23:37
				Uncert:	+/-0.172	+/-0.367					
				TPU:	+/-0.172	+/-0.482					
Batch	590400										
QC1201234151	176518015	DUP									
Technetium-99				U	0.314	U	0.224	pCi/g	0	(0% - 100%) KXR1	12/03/06 17:55

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

QC Summary

Workorder: 176518

Page 11 of 13

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Liquid Scintillation											
Batch	590400										
				Uncert:	+/-0.201		+/-0.181				
				TPU:	+/-0.201		+/-0.181				
QC1201234153	LCS										
Technetium-99				12.9			12.4	pCi/g	97	(75%-125%)	12/03/06 18:58
				Uncert:			+/-0.344				
				TPU:			+/-0.461				
QC1201234150	MB										
Technetium-99			U		0.250		pCi/g			12/03/06 17:23	
				Uncert:	+/-0.164						
				TPU:	+/-0.164						
QC1201234152	176518015	MS									
Technetium-99				12.9	U	0.314	12.2	pCi/g	95	(75%-125%)	12/03/06 18:26
				Uncert:	+/-0.201		+/-0.368				
				TPU:	+/-0.201		+/-0.475				
Batch	590402										
QC1201234160	176518004	DUP									
Nickel-63			U	7.84	U	-6.07	pCi/g	0	(0% - 100%)	MXP1	11/27/06 23:28
				Uncert:	+/-11.7		+/-10.7				
				TPU:	+/-11.7		+/-10.7				
QC1201234162	LCS										
Nickel-63				551		457	pCi/g	83	(75%-125%)		11/28/06 00:01
				Uncert:		+/-24.6					
				TPU:		+/-29.5					
QC1201234159	MB										
Nickel-63			U		2.12		pCi/g			11/27/06 23:12	
				Uncert:	+/-10.5						
				TPU:	+/-10.5						
QC1201234161	176518004	MS									
Nickel-63			U	551	7.84	464	pCi/g	84	(75%-125%)		11/27/06 23:44
				Uncert:	+/-11.7		+/-25.3				
				TPU:	+/-11.7		+/-30.2				
Batch	590403										
QC1201234164	176518006	DUP									
Tritium			U	0.372	U	0.665	pCi/g	0	(0% - 100%)	DFA1	11/22/06 17:14
				Uncert:	+/-1.23		+/-1.64				
				TPU:	+/-1.23		+/-1.64				
QC1201234166	LCS										
Tritium				16.9		16.4	pCi/g	97	(75%-125%)		11/22/06 18:18
				Uncert:		+/-2.41					
				TPU:		+/-2.42					
QC1201234163	MB										
Tritium			U		0.148		pCi/g			11/22/06 16:43	
				Uncert:	+/-1.65						
				TPU:	+/-1.65						
QC1201234165	176518006	MS									
Tritium			U	8.46	0.372	8.16	pCi/g	97	(75%-125%)		11/22/06 17:46
				Uncert:	+/-1.23		+/-2.07				
				TPU:	+/-1.23		+/-2.08				
Batch	590404										

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

QC Summary

Workorder: 176518

Page 12 of 13

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Liquid Scintillation											
Batch	590404										
QC1201234168	176518006	DUP									
Carbon-14			U	-0.0595	U	-0.0436	pCi/g	0	(0% - 100%)	AXD2	11/22/06 20:20
			Uncert:	+/-0.115		+/-0.113					
			TPU:	+/-0.115		+/-0.113					
QC1201234170	LCS										
Carbon-14			7.11			6.98	pCi/g	98	(75%-125%)		11/22/06 22:25
			Uncert:			+/-0.211					
			TPU:			+/-0.237					
QC1201234167	MB										
Carbon-14				U	-0.0874	pCi/g					11/22/06 19:18
			Uncert:			+/-0.112					
			TPU:			+/-0.112					
QC1201234169	176518006	MS									
Carbon-14			7.17	U	-0.0595	7.01	pCi/g	98	(75%-125%)		11/22/06 21:23
			Uncert:		+/-0.115	+/-0.215					
			TPU:		+/-0.115	+/-0.241					
Batch	592304										
QC1201238527	176518004	DUP									
Iron-55			U	-16.5	U	-9.15	pCi/g	0	(0% - 100%)	MXPI	12/02/06 19:38
			Uncert:	+/-39.7		+/-36.9					
			TPU:	+/-39.7		+/-36.9					
QC1201238529	LCS										
Iron-55			797			803	pCi/g	101	(75%-125%)		12/02/06 20:11
			Uncert:			+/-60.4					
			TPU:			+/-107					
QC1201238526	MB										
Iron-55				U	-10.8	pCi/g					12/02/06 19:22
			Uncert:			+/-29.0					
			TPU:			+/-29.0					
QC1201238528	176518004	MS									
Iron-55			806	U	-16.5	789	pCi/g	98	(75%-125%)		12/02/06 19:54
			Uncert:		+/-39.7	+/-72.2					
			TPU:		+/-39.7	+/-126					

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

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 176518

Page 13 of 13

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
N/A	Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more									
R	Sample results are rejected									
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.									
UI	Gamma Spectroscopy--Uncertain identification									
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier									
Y	QC Samples were not spiked with this compound									
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL									
h	Preparation or preservation holding time was exceeded									

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

** Indicates analyte is a surrogate compound.

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

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

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

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

ATTACHMENT 4 (DQA RESULTS)

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

**ATTACHMENT 4A
(PRELIMINARY DATA REVIEW)**

Preliminary Data Review Form - Samples for the Sign Test

Survey Unit: 9504- 0000
 Survey Unit Name: Bypass Road and Secondary Parking Lot
 Classification: 2
 Survey Media: Soil
 Type of Survey: Final Status Survey
 Type of Measurement: Gross Measurement
 Number of Measurements: 15
 Operational DCGL: 1

BASIC STATISTICAL QUANTITIES

	Cs-137	Sr-90	Tc-99
Minimum Value:	-6.18E-03	-3.91E-02	-1.79E-02
Maximum Value:	7.97E-02	3.06E-01	3.14E-01
Mean:	1.48E-02	5.97E-03	1.30E-01
Median:	5.17E-03	-1.12E-02	9.79E-02
Standard Deviation:	2.17E-02	8.39E-02	1.20E-01

RADIONUCLIDE CONCENTRATION (pCi/g)

NUMBER	Cs-137	Sr-90	Tc-99	Identified?	Identified?	Identified?
9504-0000-001F	4.12E-02	-1.12E-02	2.66E-01	Y	N	Y
9504-0000-002F	5.17E-03	-1.63E-02	1.88E-02	Y	N	N
9504-0000-003F	1.64E-02	5.94E-03	5.34E-02	N	N	N
9504-0000-004F	7.97E-02	-3.20E-02	2.04E-01	N	N	Y
9504-0000-005F	3.37E-03	3.06E-01	4.33E-03	Y	Y	N
9504-0000-006F	4.69E-03	-8.40E-03	2.55E-03	Y	N	N
9504-0000-007F	1.98E-02	-6.95E-03	3.11E-01	Y	N	Y
9504-0000-008F	0.00E+00	-1.35E-02	7.96E-02	Y	N	N
9504-0000-009F	3.41E-03	-1.29E-02	3.82E-02	Y	N	Y
9504-0000-010F	0.00E+00	-9.28E-03	2.93E-01	N	N	Y
9504-0000-011F	4.50E-03	-2.49E-02	-1.79E-02	N	N	N
9504-0000-012F	-6.18E-03	-3.44E-02	1.54E-01	Y	N	N
9504-0000-013F	2.08E-02	-8.55E-03	9.79E-02	Y	N	N
9504-0000-014F	2.29E-02	-3.91E-02	3.14E-01	Y	N	Y
9504-0000-015F	5.54E-03	-4.96E-03	1.38E-01	Y	N	N

Performed By: Date: 2/1/07Independent Review:  J. WarkentinDate: 2/1/07

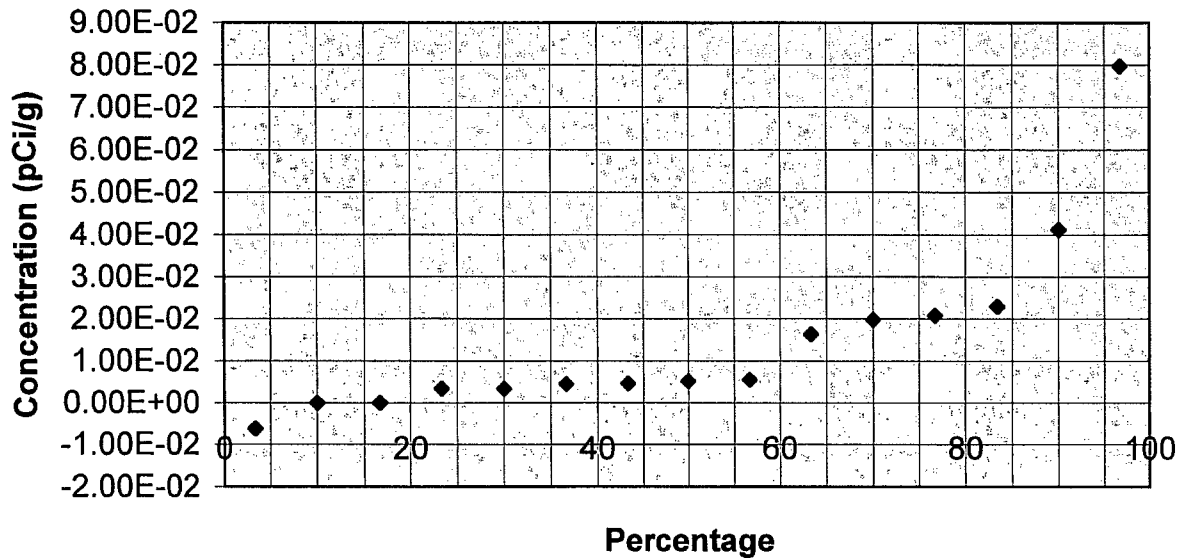
Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

**ATTACHMENT 4B
(GRAPHICAL REPRESENTATION OF
DATA)**

Quantile Plot For Cesium - 137

Survey Unit: 9504-0000
 Survey Unit Name: Bypass Road and Secondary Parking Lot
 Mean: 1.48E-02 pCi/g



Cs-137	Rank	Percentage
-0.0062	1	3 %
0.0000	2	10 %
0.0000	3	17 %
0.0034	4	23 %
0.0034	5	30 %
0.0045	6	37 %
0.0047	7	43 %
0.0052	8	50 %
0.0055	9	57 %
0.0164	10	63 %
0.0198	11	70 %
0.0208	12	77 %
0.0229	13	83 %
0.0412	14	90 %
0.0797	15	97 %

Prepared By: *Aditya*
 Reviewed By: *[Signature]* *DWIGHT K. K.*

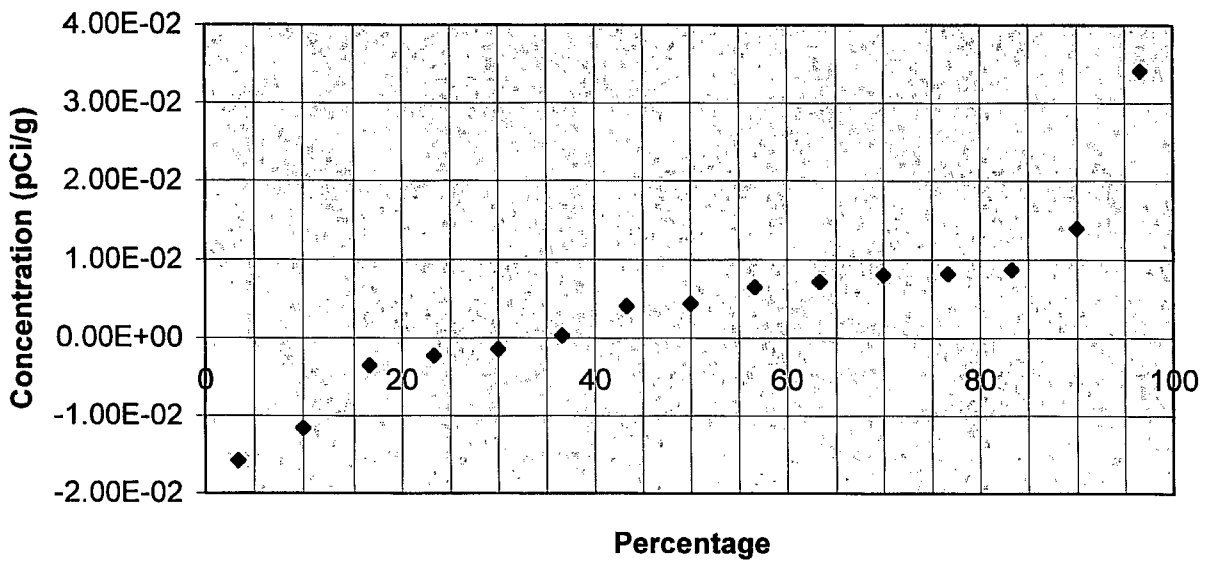
Date: *2/1/07*
 Date: *2/1/07*

Quantile Plot For Strontium-90

Survey Unit: 9504-0000

Survey Unit Name: North Parking Lot and Bypass Road

Mean: 5.97E-03 pCi/g



Sr-90	Rank	Percentage
-0.0158	1	3 %
-0.0116	2	10 %
-0.0036	3	17 %
-0.0023	4	23 %
-0.0014	5	30 %
0.0003	6	37 %
0.0041	7	43 %
0.0044	8	50 %
0.0065	9	57 %
0.0071	10	63 %
0.0080	11	70 %
0.0082	12	77 %
0.0087	13	83 %
0.0140	14	90 %
0.0341	15	97 %

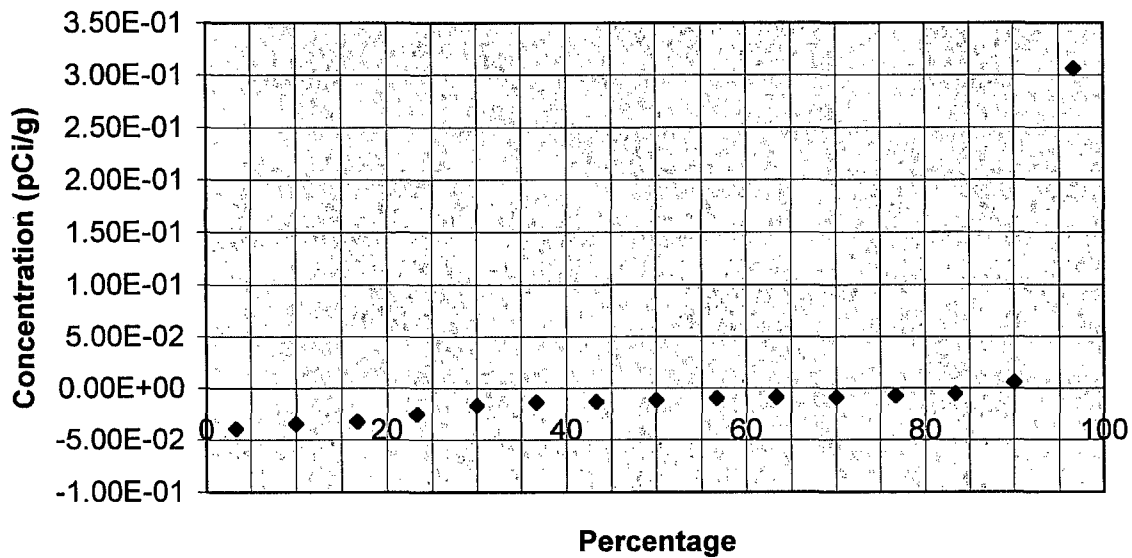
Prepared By: *[Signature]*Reviewed By: *[Signature]* D. WATKOWITZDate: 2/1/07Date: 2/1/07

Quantile Plot For Technetium-99

Survey Unit: 9504-0000

Survey Unit Name: North Parking Lot and Bypass Road

Mean: 1.30E-01 pCi/g



Tc-99	Rank	Percentage
-0.0391	1	3 %
-0.0344	2	10 %
-0.0320	3	17 %
-0.0249	4	23 %
-0.0163	5	30 %
-0.0135	6	37 %
-0.0129	7	43 %
-0.0112	8	50 %
-0.0093	9	57 %
-0.0086	10	63 %
-0.0084	11	70 %
-0.0070	12	77 %
-0.0050	13	83 %
0.0059	14	90 %
0.3060	15	97 %

Prepared By: Date: Reviewed By: Date:

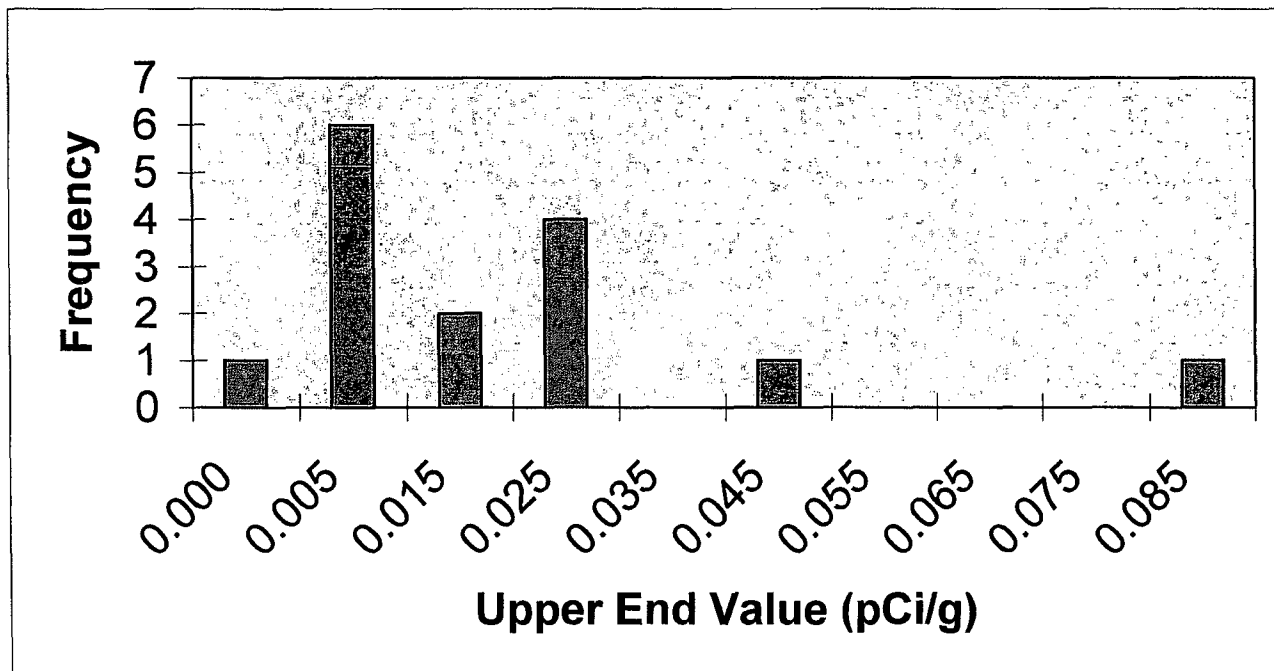
D WATKOWIAK

Frequency Plot For Cesium-137

Survey Unit: 9504-0000

Survey Unit Name: Bypass Road and Secondary Parking Lot

Mean: 0.015 pCi/g



Upper End Value	Observation Frequency	Observation % Frequency
0.000	1	7%
0.005	6	40%
0.015	2	13%
0.025	4	27%
0.035	0	0%
0.045	1	7%
0.055	0	0%
0.065	0	0%
0.075	0	0%
0.085	1	7%
Total	15	100%

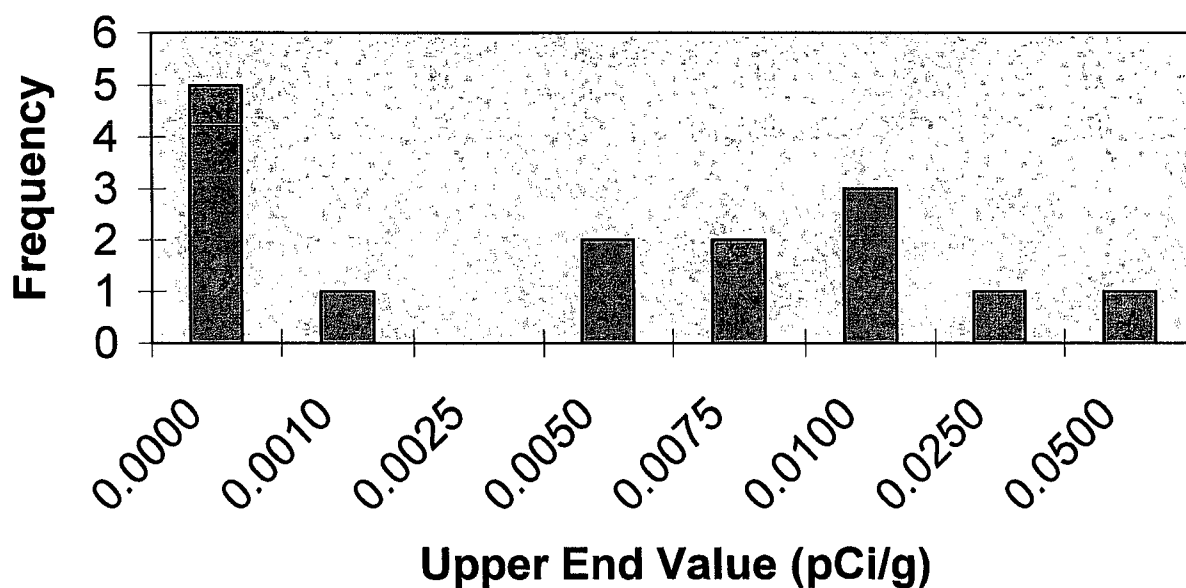
Prepared By: auto/ptDate: 2/1/07Reviewed By: D. WOJTKOWIAKDate: 2/1/07

Frequency Plot For Strontium-90

Survey Unit: 9504-0000

Survey Unit Name: Bypass Road and Secondary Parking Lot

Mean: 0.006 pCi/g



Upper End Value	Observation Frequency	Observation % Frequency
0.0000	5	33%
0.0010	1	7%
0.0025	0	0%
0.0050	2	13%
0.0075	2	13%
0.0100	3	20%
0.0250	1	7%
0.0500	1	7%
Total	15	100%

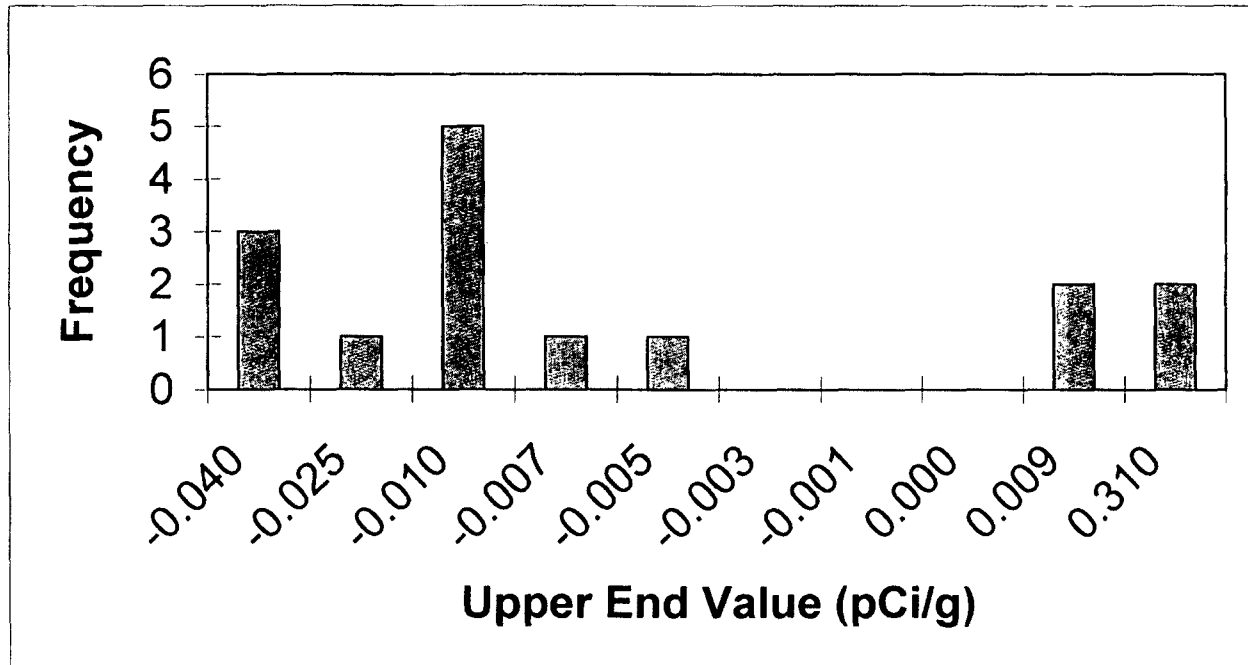
Prepared By: *ASB/pj*Date: 2/1/07Reviewed By: *D. Wajtkowiak*Date: 2/1/07

Frequency Plot For Technetium-99

Survey Unit: 9504-0000

Survey Unit Name: Bypass Road and Secondary Parking Lot

Mean: 0.130 pCi/g



Upper End Value	Observation Frequency	Observation % Frequency
-0.040	3	20%
-0.025	1	7%
-0.010	5	33%
-0.007	1	7%
-0.005	1	7%
-0.003	0	0%
-0.001	0	0%
0.000	0	0%
0.009	2	13%
0.310	2	13%
Total	15	100%

Prepared By: ADPDate: 2/1/07Reviewed By: [Signature]Date: 2/1/07

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

ATTACHMENT 4C (SIGN TEST)

Sign Test Calculation Sheet For Multiple Radionuclides

Survey Unit Number: 9504-0000

Survey Unit Name: Bypass Road and Secondary Parking Lot

WP&IR#: 2006-038

Classification : 2

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

Radionuclides:		Cs-137	Sr-90	Tc-99	
Survey Design DCGL (pCi/g):		6.01	1.18	9.58	
Results Cs-137	Results Sr-90	Results Tc-99	Weighted Sum (W _s)	DCGL-Result	Sign
4.12E-02	-1.12E-02	2.66E-01	2.35E-02	9.77E-01	1
5.17E-03	-1.63E-02	1.88E-02	-1.40E-02	1.01E+00	1
1.64E-02	5.94E-03	5.34E-02	1.17E-02	9.88E-01	1
7.97E-02	-3.20E-02	2.04E-01	5.80E-03	9.94E-01	1
3.37E-03	3.06E-01	4.33E-03	2.59E-01	7.41E-01	1
4.69E-03	-8.40E-03	2.55E-03	-7.71E-03	1.01E+00	1
1.98E-02	-6.95E-03	3.11E-01	2.82E-02	9.72E-01	1
0.00E+00	-1.35E-02	7.96E-02	-4.77E-03	1.00E+00	1
3.41E-03	-1.29E-02	3.82E-02	-8.02E-03	1.01E+00	1
0.00E+00	-9.28E-03	2.93E-01	1.91E-02	9.81E-01	1
4.50E-03	-2.49E-02	-1.79E-02	-2.39E-02	1.02E+00	1
-6.18E-03	-3.44E-02	1.54E-01	-1.41E-02	1.01E+00	1
2.08E-02	-8.55E-03	9.79E-02	4.80E-03	9.95E-01	1
2.29E-02	-3.91E-02	3.14E-01	1.81E-03	9.98E-01	1
5.54E-03	-4.96E-03	1.38E-01	1.11E-02	9.89E-01	1

Number of Positive Differences (S+): 15

Critical Value: 11

Survey Unit: Meets Acceptance Criterion

Performed By: ACTO?/H/Date: 2/1/07Independent Review: D. WATKOWIAKDate: 2/1/07



Note Weighted Sum values includes HTD components. See Compass run for more detail.

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

**ATTACHMENT 4D
(QC SPLIT RESULTS)**



Split Sample Assessment Form

Survey Area #: 9504	Survey Unit #: 0000	Survey Unit Name: Bypass Road and Secondary Parking Lot							
Sample Plan or WPIR#: 2006-038						SML #: 9504-0000-011FS			
Sample Description: Comparison of split samples collected from sample measurement location #11 and analyzed using gamma spectroscopy by an off-site vendor laboratory. The standard sample was 9504-0000-011F the comparison sample was 9504-0000-011FS.									
STANDARD					COMPARISON				
Radionuclide	Activity Value	Standard Error	Resolution	Agreement Range	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)	
Cs-137	4.50E-03	8.70E-03	1	0.6 1.66	1.34E-03	6.95E-03	0.30	N/A	
Co-60	4.05E-03	8.20E-03	0	NONE -	1.50E-02	1.81E-02	3.70	N/A	
Sr-90	-2.49E-02	7.85E-03	-3	N/A	-1.15E-02	8.20E-03	0.46	N/A	
K-40	1.03E+01	4.10E-01	25	0.75 1.33	6.85E+00	3.87E-01	0.67	N	
Cs-134	0.00E+00	1.48E-02	0	NONE	3.09E-02	1.17E-02	N/A	N/A	
Comments/Corrective Actions: In consideration of the Cs-137, Co-60 & Sr-90 results, guidance for agreement ranges, obtained from USNRC Inspection Procedure 84750, does not address resolution ratios less than 4, therefore, a determination of acceptability for such ratios cannot be made. The acceptance criteria for nuclide identification was not met in either sample for the radionuclides of concern. Normally, in such situations, K-40 results are used to determine an acceptable levels of agreement. Aggregate size or distribution of organics can account for such disagreement for K-40. CY Condition Report 06-0223 addresses this issue. The 9504-0000-015 sample set will be used for QC process validation.					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:	
			2/1/07					2/1/07	

WPIR – Work Plan and Inspection Record

SML – Sample Measurement Location designation

Split Sample Assessment Form

Survey Area#:	9504	Survey Unit #:	0000	Survey Unit Name: Bypass Road and Secondary Parking Lot				
Sample Plan or WPIR#: 2006-0038						SML #: 9504-0000-015FS		
<p>Sample Description: Comparison of split samples collected from sample measurement location #15 and analyzed using gamma spectroscopy by an off-site vendor laboratory. The standard sample was <u>9504-0000-015E</u>, the comparison sample was <u>9504-0000-015FS</u>.</p>								
STANDARD					COMPARISON			
Radionuclide	Activity Value	Standard Error	Resolution	Agreement Range	Activity Value	Standard Error	Comparison Ratio	
Cs-137	5.54E-03	8.10E-03	1	N/A	1.62E-02	8.10E-03	2.92	
Co-60	4.37E-03	8.55E-03	1	N/A	-1.36E-02	-6.80E-03	N/A	
Sr-90	-4.96E-03	8.60E-03	-1	N/A	-1.01E-02	5.75E-03	2.04	
K-40	1.10E+01	5.05E-01	22	0.75 1.33	1.09E+01	4.33E-01	0.99	
<p>Comments/Corrective Actions: In consideration of the Cs-137, Co-60 and Sr-90 results, guidance for agreement ranges, obtained from USNRC Inspection Procedure 84750, does not address resolution ratios less than 4, therefore, a determination of acceptability for such ratios cannot be made. Since K-40 was found to be present at an acceptable levels of agreement, no further action is warranted.</p>					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:	
				2/1/07			2/1/07	

WPIR – Work Plan and Inspection Record

SML – Sample Measurement Location designation

Bypass Road and Secondary Parking Lot
SURVEY UNIT 9504-0000

RELEASE RECORD

**ATTACHMENT 4E
(COMPASS POWER CURVE)**



DQA Surface Soil Report

Assessment Summary

Site:	9504-0000		
Planner(s):	E. Sergeant		
Survey Unit Name:	9504-0000		
Report Number:	1		
Survey Unit Samples:	15		
Reference Area Samples:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	<i>Reject Null Hypothesis (Survey Unit PASSES)</i>		

Retrospective Power Curve

