



Final Status Survey Final Report Phase VII

**Appendix A11
Survey Unit Release Record
9312-0009, Former Radiologically
Controlled Area East Trench North**

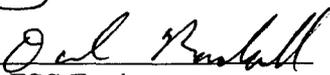
May 2007



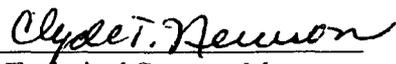
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FINAL STATUS SURVEY RELEASE RECORD
CONTAINMENT
(FORMER RADIOLOGICALLY CONTROLLED AREA)
SURVEY UNIT 9312-0001

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Revision 0

FORMER RADIOLOGICALLY CONTROLLED AREA
EAST TRENCH NORTH
SURVEY UNIT 9312-0009
RELEASE RECORD

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1. SURVEY UNIT DESCRIPTION

Survey Unit 9312-0009 (part of the former Radiologically Controlled Area (RCA)) is designated as Final Status Survey (FSS) Class 1 and has an area of approximately one thousand five hundred eleven (1,511) square meters of open land and is located approximately one thousand three hundred twenty six feet (1,326 ft) to the southeast of the site benchmark (Northing: 237370.20, Easting: 667394.57) used at Haddam Neck Plant (HNP) (see Attachment 1). The survey unit is bounded as follows: land Survey Unit 9313-0000 to the north (called north as oriented with the north to south flow of the Connecticut River), land Survey Unit 9312-0004, land Survey Unit 9312-0005, land Survey Unit 9312-0002 and land Survey Unit 9312-0010 to the west, land Survey Unit 9312-0010 to the south and land Survey Unit 9527-0005 to the east. Survey Unit 9312-0009 includes all portions of the RCA that have the steep topography of the rock face and hillside. A smaller flat level gravel covered area is also located within the survey unit at the northwest boundary.

The reference coordinates associated with this survey unit are E013 through E015 by S064 through S071 (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 "*Classification Basis Summary*" conducted for Survey Unit 9312-0009 consisted of:

- a) A review of the 10CFR50.75 (g) (1) database,
- b) A review of the "*Initial Characterization Report*" and the "*Historical Site Assessment Supplement*,"
- c) Historic and current survey records review,
- d) Visual inspections and a "walkdown."

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

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During plant operation, Survey Area 9312 was the location of significantly radiologically contaminated structures and systems, namely the reactor, the reactor systems and the Containment structure. Various radiologically contaminated structures that resided within or adjacent to Survey Unit 9312-0009 included the Yard Crane, the "Hot Tool Crib" and the Seavan Storage Shed. However a majority of the survey unit is comprised of a steep vertical rock face that runs north to south in the approximate center of the survey unit, roughly twenty (20) to twenty-five (25) feet high, with a depressed drainage trench along its base and a steep, grass-covered hillside along the summit, sloping from east to west.

A review of the historical documentation indicated a significant number of operational events that may have impacted Survey Unit 9312-0009. Operational events were considered to be spills and leakage from contaminated systems. These events would have had the most impact on the radiological condition of the underlying soil and bedrock prior to system and structural decontamination and demolition. Some of the major events are summarized as follows;

- In 1972, contamination was found on personnel that were breaking up rock on the east hillside for the relocation of a fire main. Contamination was discovered in the trench adjacent to the ion exchange cubicle. The area was decontaminated.
- Atmospheric releases from the stack have impacted the east hillside area, particularly a series of events that occurred in 1979. Stack discharges involving particulate activity occurred in February and December of 1979 as a result of the failure of the letdown degassifier and the actuation of the degassifier rupture disk. The discharge line from the rupture disk was routed directly to the main discharge stack. Surveys performed following these events identified several areas of discrete contamination within the RCA, in the parking lot and along the east hillside.
- A resin overflow from a liner occurred in the vicinity of the resin pit that affected the east trench. Resin was removed from the pit and the sump and the affected areas were decontaminated.
- Recent radiological surveys resulted in the identification of contamination on the hillside east and southeast of the industrial area. It is not known if this contamination was the result of chronic releases or one or more episodic events. Given the area where the contamination was found, potential sources include both plant main stack discharges and outdoor resin handling activities.

Major demolition and remediation activities began in 2002. All systems and components located inside this survey unit were removed and building structural surfaces were decontaminated to ensure contamination levels were acceptable for controlled demolition. Confirmatory radiological surveys were performed throughout the demolition process. All above grade structures were then demolished to grade.

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Outside of the Containment shell, extensive soil remediation was performed in Survey Area 9312. A large excavation was created to the north of the Containment that was designated as Excavation #2. This excavation included the area in the vicinity of the Refueling Water Storage tank (RWST) and the Primary Auxiliary Building (PAB) corridor. A second large excavation, designated as Excavation #1 was located over the PAB footprint. A third excavation, designated as Excavation #3 was located in the area between the Containment Building and Spent Fuel Building (SFB). Soil was excavated and removed as adjacent structures were demolished. This process continued until bedrock was exposed.

Subsurface structures and footings that remained following demolition and excavation include the Containment Mat, the Cable Vault wall, the Service Building east wall, a remnant of the PAB northwest wall, the Waste Disposal Building footing, the "B" Switchgear Building footing and miscellaneous fragments of footings and slabs on the bedrock. As with the Containment basement shell, all excavations were backfilled following the performance of a radiological assessment. No above grade structures currently reside within Survey Unit 9312-0009.

In Survey Area 9312, post-remediation soil samples were taken from the as-left surface soils under two (2) Survey and Sampling Work Plans, SSWP-06-08-000 and SSWP-06-12-001. Thirty-five (35) post remediation surface soil samples were collected from the various locations within Survey Area 9312. All samples were collected and analyzed by gamma spectroscopy by an approved off-site laboratory. Ten (10) of the thirty-five (35) post remediation samples collected were analyzed for the full suite of "Hard-to-Detect" (HTD) radionuclides specified in the LTP, Table 2-12, "*Radionuclides Potentially Present at Haddam Neck Plant*" and as provided in Table 3. Statistical quantities (mean, median and standard deviation) from the 2006 post-remediation survey conducted under SSWP-06-08-000 and SSWP-06-12-001 are provided in Table 1.

Table 1 – Basic Statistical Quantities for Cs-137 and Co-60 from the 2006 Post Remediation Survey

	Cs-137 (pCi/g)	Co-60 (pCi/g)
Minimum Value :	1.32E-02	-5.00E-02
Maximum Value :	1.70E+00	1.43E+00
Mean :	2.38E-01	1.08E-01
Median :	1.65E-01	1.46E-02
Standard Deviation :	3.10E-01	2.76E-01

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A review of this sample data showed Cs-137 and Co-60 to be the primary radionuclides of concern. Cs-137 was the predominant radionuclide over Co-60. No HTD radionuclides were positively identified in concentrations meeting the accepted criteria for detection (i.e., a result greater than two (2) standard deviations uncertainty).

While Sr-90 was not identified in the soil characterization results, it was decided to include Sr-90 as a radionuclide of concern for this survey unit as Sr-90 was prevalent in the soils prior to remediation. Therefore, all volumetric soil samples taken as part of the survey design for this survey unit were subjected to direct analysis for Sr-90.

In January of 2007, a FSS was designed and performed in this survey unit. Systematic soil samples were taken in a triangular grid pattern from a random start location. This was combined with a scan survey of all accessible surfaces and investigative soil samples at locations exceeding the scan alarm set-point. Fifteen (15) systematic and thirty-three (33) investigative surface soil samples were taken in Survey Unit 9312-0009. Of the forty-eight (48) total samples taken, Cs-137 was positively identified (i.e. a result greater than two (2) standard deviations) in forty-five (45) soil samples, Co-60 was positively identified in twenty-seven (27) soil samples and Sr-90 was positively identified in twenty-six (26) soil samples. Other radionuclides were also positively identified by gamma spectroscopy and HTD analysis but at concentrations less than the screening criteria. Radionuclide screening or de-selection is a process where an individual radionuclide or aggregates may be considered insignificant and eliminated from the FSS. The criteria for de-selection are concentrations less than 5% for individual radionuclides and less than 10% for aggregates. In four (4) investigative soil samples, the concentration of Cs-137 exceeded the Operational DCGL of 4.75 $\mu\text{Ci/g}$. A summary of the sample results are provided in Table 2.

Table 2 – Sample Analysis Results from Initial FSS Soil Sample Population

	Cs-137 ($\mu\text{Ci/g}$)	Co-60 ($\mu\text{Ci/g}$)	Sr-90 ($\mu\text{Ci/g}$)
Minimum Value :	-6.20E-03	-5.43E-03	-1.18E-02
Maximum Value :	6.72E+00	4.40E-01	1.14E-01
Mean :	1.59E+00	8.03E-02	4.54E-02
Median :	7.73E-01	4.78E-02	4.33E-02
Standard Deviation :	1.83E+00	9.64E-02	2.78E-02

Based upon the result of the FSS, the area was subjected to additional spot remediation. Soil was removed from the four (4) identified locations that exhibited elevated activity greater than the Operational DCGL.

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Following remediation, twelve (12) post remediation surface soil samples were collected from the subject areas as well as the base of the rock-face. Soil samples were collected and analyzed by gamma spectroscopy by the on-site laboratory. No activity in excess of the Operational DCGL for Cs-137 and Co-60 was identified. Based upon the sample results, the subject areas were considered to be successfully remediated.

The FSS Engineer performed a visual inspection and walk-down during March 2007 to assess the physical condition of the survey unit, evaluate access points, travel paths and identify potentially hazardous conditions.

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

Based upon the identification of radioactive material above the Derived Concentration Guideline Levels (DCGLs), and the need for radiological remediation, it was concluded that there was some probability for residual radioactivity in concentrations greater than the DCGLs, justifying a final survey unit classification of Class 1 (refer to Section 3).

3. DATA QUALITY OBJECTIVES (DQO)

FSS design and planning used the Data Quality Objective (DQO) process as described by the LTP, Procedure RPM 5.1-11, "*Preparation of Final Status Survey Plan,*" and the "*Multi-Agency Radiation Survey and Site Investigation Manual*" (MARSSIM). A summary of the main features of the DQO process are provided herein.

The DQO process incorporated hypothesis testing and probabilistic sampling distributions to control decision errors during data analysis. Hypothesis testing is a process based on the scientific method that compares a baseline condition to an alternate condition. The baseline condition is technically known as the null hypothesis.

Hypothesis testing rests on the premise that the null hypothesis is true and that sufficient evidence must be provided for rejection. In designing the survey plan, the underlying assumption, or null hypothesis was that residual activity in the survey unit exceeded the release criteria. Rejection of the null hypothesis would indicate that residual activity within the survey unit does not exceed the release criteria.

The primary objective of the FSS plan was to demonstrate that the level of residual radioactivity in Survey Unit 9312-0009 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).

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A fundamental precursor to survey design is to establish a relationship between the release criteria and some measurable quantity. This is done through the development of DCGLs. The DCGLs represent average levels of radioactivity above background levels and are presented in terms of surface or mass activity concentrations. Chapter 6 of the LTP describes in detail the modeling used to develop the DCGLs for soil (called Base Case Soil DCGL), existing groundwater radioactivity and future groundwater radioactivity that will be contributed by building basements and footings.

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

Equation 1

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

The total dose under the LTP criteria is twenty-five (25) mrem/yr Total Effective Dose Equivalent (TEDE) from all three (3) components. The allowable total dose under the Connecticut Department of Environmental Protection (CTDEP) radiological remediation standard for CY is nineteen (19) mrem/yr TEDE. To satisfy both the LTP and CY CTDEP criteria, the dose from soil must be reduced when using the existing and future groundwater dose values discussed above.

This survey area is affected by existing groundwater (reference CY memo ISC 06-024). Therefore, the dose contribution from existing groundwater is bounded by two (2) mrem/yr TEDE.

This survey unit is considered impacted by future groundwater radioactive contamination, as there are underground foundations 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 bounded by two (2) mrem/yr TEDE.

Equation 2

$$19 \text{ mrem/yr}_{\text{Total}} = 15 \text{ mrem/yr}_{\text{Soil}} + 2 \text{ mrem/yr}_{\text{Existing GW}} + 2 \text{ mrem/yr}_{\text{FutureGW}}$$

The allowable dose for soil in this survey unit is fifteen (15) mrem/yr TEDE as shown by Equation 2 above. The concentration of residual radioactivity resulting in fifteen (15) mrem/yr TEDE is designated as the Operational DCGL (DCGL_{op}), and has been established for the radionuclides of concern as provided in Table 3.

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Table 3 – Radionuclide Specific Base Case Soil DCGLs, Operational DCGLs and Required Minimum Detectable Concentrations (MDCs)			
Radionuclide ⁽¹⁾	Base Case Soil DCGL (pC/g) ⁽²⁾	Operational DCGL (pC/g) ⁽³⁾	Required MDC (pC/g) ⁽⁴⁾
H-3	4.12E+02	2.47E+02	1.65E+01
C-14	5.66E+00	3.40E+00	2.26E-01
Mn-54	1.74E+01	1.04E+01	6.96E-01
Fe-55	2.74E+04	1.64E+04	1.10E+03
Co-60	3.81E+00	2.29E+00	1.52E-01
Ni-63	7.23E+02	4.34E+02	2.89E+01
Sr-90	1.55E+00	9.30E-01	6.20E-02
Nb-94	7.12E+00	4.27E+00	2.85E-01
Tc-99	1.26E+01	7.56E+00	5.04E-01
Ag-108m	7.14E+00	4.28E+00	2.86E-01
Cs-134	4.67E+00	2.80E+00	1.87E-01
Cs-137	7.91E+00	4.75E+00	3.16E-01
Eu-152	1.01E+01	6.06E+00	4.04E-01
Eu-154	9.29E+00	5.57E+00	3.72E-01
Eu-155	3.92E+02	2.35E+02	1.57E+01
Pu-238	2.96E+01	1.78E+01	1.18E+00
Pu-239/240	2.67E+01	1.60E+01	1.07E+00
Am-241 ⁽⁵⁾	2.58E+01	1.55E+01	1.03E+00
Pu-241	8.70E+02	5.22E+02	3.48E+01
Cm-243/244	2.90E+01	1.74E+01	1.16E+00

- (1) Bold indicates those radionuclides considered Hard to Detect (HTD)
- (2) The Base Case Soil DCGL(s) 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 achieving fifteen (15) mrem/yr TEDE
- (4) The required MDC is equivalent to achieving 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

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Another important facet of the DQO process is to identify the radionuclides of concern and determine the concentration variability. Soil samples were collected as part of the previous FSS attempt in Survey Unit 9312-0009 for FSS. Cs-137, Co-60 and Sr-90 were the three (3) radionuclides reported in concentrations with the potential for exceeding the release criteria. The data from the previous FSS attempt was used for the design of FSS and are provided in Table 2.

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

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

4. SURVEY DESIGN

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

The DQO process determined that Cs-137, Co-60 and Sr-90 would be the radionuclides of concern in Survey Unit 9312-0009 (refer to Section 3). Both the characterization survey and the previous FSS did not identify any other additional HTD radionuclides of concern for this survey unit. As Sr-90 concentrations were determined by direct analysis, surrogate DCGLs were not required as part of the survey design for this survey unit via screening under LTP Section 5.4.7.2, "*Gross Activity DCGLs*". 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.

As the survey unit is classified as a Class 1 surface soils area, and discrete, elevated areas of contamination was possible, the application of the Elevated Measurement Comparison (EMC) remained an option.

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

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The number of soil samples for FSS was determined in accordance with Procedure RPM 5.1-12, "*Determination of the Number of Surface Samples for Final Status Survey.*" The Lower Bound of the Gray Region (LBGR) was set in accordance with Procedure RPM 5.1-11 to 0.73 to achieve a relative shift (Δ/σ) in the range of 1 and 3. The resulting calculated relative shift was 1.29. A Prospective Power Curve was generated using COMPASS, a software package developed under the sponsorship of the United States Nuclear Regulatory Commission (USNRC) for implementation of the MARSSIM in support of the decommissioning license termination rule (10CFR20, Subpart E). The result of the COMPASS computer run showed adequate power for the survey design. The survey design specified twenty-one (21) surface soil samples for non-parametric statistical testing. Based upon a review of the historical information, the Characterization Survey data, the previous FSS data and the results of post-remediation sampling, the acquisition of additional judgmental surface soil samples from within this survey unit was deemed unnecessary.

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 1 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 4.

Table 4 - Sample Measurement Locations with Associated GPS Coordinates

Designation ⁽¹⁾	Northing	Easting
9312-0009-101F	236868.51	668625.63
9312-0009-102F	236868.51	668654.58
9312-0009-103F	236843.44	668669.06
9312-0009-104F	236843.44	668698.01
9312-0009-105F	236818.37	668683.53
9312-0009-106F	236818.37	668712.49
9312-0009-107F	236818.37	668741.44
9312-0009-108F	236793.29	668726.96

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Table 4 - (continued)

Designation ⁽¹⁾	Northing	Easting
9312-0009-109F	236793.29	668755.91
9312-0009-110F	236768.22	668770.39
9312-0009-111F	236768.22	668799.34
9312-0009-112F	236743.15	668784.86
9312-0009-113F	236743.15	668813.81
9312-0009-114F	236718.08	668857.24
9312-0009-115F	236718.08	668973.04
9312-0009-116F	236693.01	668871.71
9312-0009-117F	236693.01	668900.66
9312-0009-119F	236693.01	668958.56
9312-0009-120F	236693.01	668987.51
9312-0009-121F	236667.93	669001.99
9312-0009-126F ⁽²⁾	236769.70	668772.25

- (1) The numerical sequence for the sample numbers for this survey begins with sample number 101 in order to differentiate the sample population from previous survey samples
- (2) A soil sample from location 9312-0009-118F was unobtainable due to the presence of a rock within a three (3) meter radius of the sample location; sample location 9312-0009-126F was added under an FSS plan addendum (refer to Section 10) as a replacement sample location.

Procedure RPM 5.1-11 specifies that 5% of the samples are required to be selected for HTD analysis. Three (3) soil samples, or about 20% of the number of samples that would be used for non-parametric statistical testing were randomly selected for HTD radionuclide analysis using the Microsoft Excel "RANDBETWEEN" function. Each sample was sent off-site for a full suite analysis of the HTD radionuclides specified in the LTP, Table 2-12, "*Radionuclides Potentially Present at Haddam Neck Plant*" and as provided in Table 3.

The LTP requires a minimum of 5% of the samples taken for non-parametric statistical testing be selected for QC evaluation. The implementation of quality control measures as referenced by Procedure RPM 5.1-24, "*Split Sample Assessment for Final Status Survey*," included the collection of two (2) soil samples for "split sample" analysis by the off-site laboratory. These locations were selected randomly using the Microsoft Excel "RANDBETWEEN" function.

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The LTP specifies a required scanning coverage of 100% for outdoor Class 1 areas. For this Class 1 survey unit, the "Investigation Level" for area scanning and soil sample measurement results are those levels specified in LTP, Table 5-8. Table 5 provides a synopsis of the survey design.

Table 5 – Synopsis of the Survey Design		
Feature	Design Criteria	Basis
Survey Unit Land Area	1,511 m ²	Based on AutoCAD-LT
Number of Measurements	21 systematic grid	Type 1 and Type 2 errors were 0.05, sigma was 0.39 pCi/g, the LBGR was set at 0.5 to achieve a Relative Shift in the range of 1 and 3
Grid Spacing	8.78 m	Based on triangular grid
Operational DCGL	4.75 pCi/g Cs-137 2.29 pCi/g Co-60 0.93 pCi/g Sr-90	Administratively set to achieve fifteen (15) mrem/yr TEDE ⁽¹⁾
Soil Investigation Level	4.75 pCi/g Cs-137 2.29 pCi/g Co-60 0.93 pCi/g Sr-90	The Operational DCGL meets the LTP criteria for a Class 1 survey unit
Scan Survey Area Coverage	Approximately 100% of the area	The LTP requires 100% area coverage for Class 1 survey units
Scan Investigation Level	An instrument response greater than the Scan MDC(DCGL _{EMC}) of 2000 cpm plus ambient background	Per BCY-HP-0239 Revision #0

(1) The allowable dose for soil in this survey unit is fifteen (15) mrem/yr TEDE as the bounding dose from existing and future groundwater has been established based on field data (reference CY memo ISC 06-024)

5. SURVEY IMPLEMENTATION

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

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A single scan area was established that constituted approximately 100% of the surface area of Survey Unit 9312-0009. Grid lines, one (1) meter wide, were painted on the ground of the scan area. A background survey was performed around the survey unit and it was determined that, using an Eberline E-600 with a SPA-3 sodium iodide detector, background ranged from 5,450 counts per minute (cpm) up to 17,900 cpm. The large variance in background is caused by the presence of large deposits of exposed natural rock surfaces in the survey unit.

The scan area was 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 100% 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 circle was established around the sample flag or paint mark and was scanned for elevated radiation levels.

Twenty-one (21) 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*."

Three (3) samples (9312-0009-104F, 9312-0009-110F and 9312-0009-118F) were randomly selected for HTD radionuclide analysis.

The implementation of survey specific quality control measures included the collection of two (2) samples (9312-0009-103F and 9312-0009-120) for "split sample" analysis.

6. SURVEY RESULTS

All field survey activities were conducted between March 15, 2007 and April 23, 2007.

The sample locations identified in the FSS plan were scanned over approximately a one (1) meter radius for elevated radiation levels. Table 6 provides an overview of the scan results for sample measurement locations. Scan results are provided in Attachment 2.

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Table 6 - Scan Results for Sample Measurement Locations

Sample Measurement Location	Highest Logged Reading (kcpm)	Action Level ⁽¹⁾ (kcpm)	> Action Level
1	11.70	10.44	YES ⁽³⁾
2	9.19	10.97	NO
3	9.06	10.90	NO
4	9.94	11.61	NO
5	10.60	12.20	NO
6	6.02	7.45	NO
7	9.12	11.54	NO
8	10.60	12.80	NO
9	8.60	8.89	NO
10	18.10	16.10	YES ⁽³⁾
11	9.52	11.97	NO
12	10.90	12.10	NO
13	17.70	19.90	NO
14	13.30	14.90	NO
15	10.80	11.26	NO
16	13.10	13.40	NO
17	11.80	12.20	NO
19	13.50	14.30	NO
20	10.50	12.30	NO
21	10.90	12.70	NO
26 ⁽²⁾	15.70	16.90	NO

- (1) The action level is based on a measurement in accordance with the FSS plan (MDC(DCGL_{EMC}) of 2,000 cpm plus ambient background)
- (2) A soil sample from location 9312-0009-118F was unobtainable due to the presence of rock within a three (3) meter radius of the sample location; sample location 9312-0009-126F was added under an FSS plan addendum (refer to Section 10) as a replacement sample location.
- (3) The FSS plan requires movement of the sample measurement location to the area within the 1 meter radius yielding the response above the action level. Sample locations 9312-0009-101F and 9312-0009-110F were moved accordingly.

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The scan area, that comprised approximately 100% of the total surface area for the survey unit, was scanned for elevated radiation levels. The area was scanned in accordance with the FSS plan between March 19, 2007 and March 23, 2007.

Fifty-eight (58) scan strips were established in this survey unit. Several elevated measurement locations were identified during scanning. Table 7 provides an overview of the scan area survey. Scan results are provided in Attachment 2.

Table 7 - Scan Area Results				
Scan Strips	Highest Logged Reading (kcpm)	Action Level ⁽¹⁾ (kcpm)	Elevated Reading Identification	Investigation Sample
1 thru 10	15.60	13.20	9312-09-ER-00-02-1	9312-0009-122-I
			9312-09-ER-00-04-1	9312-0009-123-I
			9312-09-ER-00-08-1	9312-0009-124-I
			9312-09-ER-00-09-1	9312-0009-125-I
11 thru 20	12.00	15.60	None	None
21 thru 30	18.80	7.58	9312-09-ER-00-30-1	9312-0009-127-I
31 thru 40	21.90	13.00	9312-09-ER-00-33-1	9312-0009-128-I
			9312-09-ER-00-34-1	9312-0009-129-I
			9312-09-ER-00-35-1	9312-0009-130-I
			9312-09-ER-00-35-2	9312-0009-131-I
			9312-09-ER-00-39-1	9312-0009-132-I
			9312-09-ER-00-39-2	9312-0009-133-I
41 thru 50	16.20	12.40	9312-09-ER-00-42-1	9312-0009-134-I
			9312-09-ER-00-42-2	9312-0009-135-I
			9312-09-ER-00-43-1	9312-0009-136-I
51 thru 58	12.10	9.92	9312-09-ER-00-54-1	9312-0009-137-I

(1) The action level is based on a measurement in accordance with the FSS plan (MDC(DCGL_{EMC}) of 2,000 cpm plus ambient background)

The off-site laboratory employed for the radiological analyses of samples was General Engineering Laboratories, LLC. The laboratory analyzed the twenty one (21) samples collected for non-parametric statistical testing, the associated field splits and the fifteen (15) investigative samples using gamma spectroscopy. Gamma spectroscopy analysis was performed to the required MDCs.

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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 and Co-60 were the only two gamma-emitting radionuclides reported in any appreciable concentration.

Cs-137 was positively identified in nineteen (19) and Co-60 was identified in eight (8) of the twenty-one (21) samples collected for non-parametric statistical testing. In sample 9312-0009-106F, Cs-137 was present at a concentration exceeding the Operational DCGL of 4.75 $\mu\text{Ci/g}$. In sample number 9312-0009-119F, the sum of the concentrations for the radionuclides of concern exceeded the unity value of one (1). A summary of the twenty-one (21) samples collected for non-parametric statistical testing results is provided in Table 8.

Table 8 - Summary of Gamma Spectroscopy Results for Surface Soil Samples Comprising the Statistical Sample Population

Sample Number	Cs-137 $\mu\text{Ci/g}$	Co-60 $\mu\text{Ci/g}$
9312-0009-101F	5.58E-02	8.33E-03
9312-0009-102F	1.57E-01	-3.46E-03
9312-0009-103F	5.17E-01	3.23E-02
9312-0009-104F	1.65E-02	-1.13E-02
9312-0009-105F	8.02E-02	2.72E-03
9312-0009-106F	5.55E+00	4.43E-01
9312-0009-107F	8.38E-02	1.09E-02
9312-0009-108F	6.10E-03	7.42E-03
9312-0009-109F	1.13E+00	6.07E-02
9312-0009-110F	1.02E-01	9.91E-03
9312-0009-111F	5.57E-01	2.12E-02
9312-0009-112F	2.99E-02	4.04E-03
9312-0009-113F	1.55E+00	8.40E-02
9312-0009-114F	1.86E+00	1.07E-01
9312-0009-115F	9.01E-01	0.00E+00
9312-0009-116F	5.88E-01	2.49E-02
9312-0009-117F	1.71E+00	5.92E-02

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Table 8 - (continued)

Sample Number	Cs-137 pCi/g	Co-60 pCi/g
9312-0009-119F	4.58E+00	1.59E-01
9312-0009-120F	8.97E-02	7.81E-03
9312-0009-121F	9.52E-02	0.00E+00
9312-0009-126F ⁽¹⁾	1.37E-01	-1.00E-02

(1) A soil sample from location 9312-0009-118F was unobtainable due to the presence of rock within a three (3) meter radius of the sample location; sample location 9312-0009-126F was added under an FSS plan addendum (refer to Section 10) as a replacement sample location.

In addition to Cs-137 and Co-60, Sr-90 was also identified during the DQO process as a radionuclide of concern. Subsequently, all samples were subjected to analysis by gas proportional counting for Sr-90. All analyses met the required minimum MDC.

Sr-90 was positively identified (i.e., a result greater than two (2) standard deviations uncertainty) in five (5) of the twenty-one (21) samples collected for non-parametric statistical testing. The results of the Sr-90 analysis for the statistical sample population are provided below in Table 9.

Table 9 - Summary of Sr-90 Analysis Results for Surface Soil Samples Comprising the Statistical Sample Population

Sample Number	Sr-90 pCi/g
9312-0009-101F	1.60E-02
9312-0009-102F	-1.41E-02
9312-0009-103F	2.43E-02
9312-0009-104F	2.33E-02
9312-0009-105F	1.97E-02
9312-0009-106F	4.51E-02
9312-0009-107F	-7.19E-04
9312-0009-108F	1.63E-02
9312-0009-109F	-4.68E-03
9312-0009-110F	-2.68E-03
9312-0009-111F	-2.07E-02
9312-0009-112F	-1.32E-02

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Table 9 - (continued)

Sample Number	Sr-90 pCi/g
9312-0009-013F	3.30E-02
9312-0009-114F	-1.55E-02
9312-0009-115F	9.05E-03
9312-0009-116F	1.92E-02
9312-0009-117F	5.42E-03
9312-0009-119F	-2.44E-03
9312-0009-120F	-1.38E-02
9312-0009-121F	-4.70E-03
9312-0009-126F ⁽¹⁾	4.38E-02

(1) A soil sample from location 9312-0009-118F was unobtainable due to the presence of rock within a three (3) meter radius of the sample location; sample location 9312-0009-126F was added under an FSS plan addendum (refer to Section 10) as a replacement sample location.

In addition to Sr-90, the off-site laboratory also processed, as required by the sample plan, three (3) samples for the full suite of HTD radionuclides as specified in LTP, Table 2-12, "*Radionuclides Potentially Present at Haddam Neck Plant*" and as provided in Table 3. The requested analyses included alpha spectroscopy, gas proportional counting, and liquid scintillation depending on the radionuclide and the measurement method. All analyses performed met the required minimum MDC. No additional HTD radionuclides were positively identified (i.e., a result greater than two (2) standard deviations uncertainty).

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 combination of the fractions of each detected radionuclide against their respective Operational DCGL must be less than or equal to one (1).

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 .

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The results of the unity rule calculation for the radionuclides of concern in the statistical sample population are provided in Table 10 below.

Table 10 – Results of Unity Calculation for Surface Soil Samples Comprising the Statistical Sample Population⁽¹⁾⁽²⁾

Sample Number	Fraction of the Operational DCGL			Unity
	Cs-137	Co-60	Sr-90	
9312-0009-101F	0.012	-	-	0.012
9312-0009-102F	0.033	-	-	0.033
9312-0009-103F	0.109	0.014	-	0.123
9312-0009-104F	0.003	-	0.025	0.029
9312-0009-105F	0.017	-	0.021	0.038
9312-0009-106F	1.168	0.193	0.048	1.410
9312-0009-107F	0.018	-	-	0.018
9312-0009-108F	-	-	-	-
9312-0009-109F	0.238	0.027	-	0.264
9312-0009-110F	0.021	-	-	0.021
9312-0009-111F	0.117	0.009	-	0.127
9312-0009-112F	0.006	-	-	0.006
9312-0009-113F	0.326	0.037	0.035	0.398
9312-0009-114F	0.392	0.047	-	0.438
9312-0009-115F	0.190	-	-	0.190
9312-0009-116F	0.124	-	-	0.124
9312-0009-117F	0.360	0.026	-	0.386
9312-0009-119F	0.964	0.069	-	1.034
9312-0009-120F	0.019	-	-	0.019
9312-0009-121F	0.020	-	-	0.020
9312-0009-126F ⁽³⁾	-	-	0.047	0.047

(1) "--" indicate that the radionuclide was not positively detected in the sample

(2) The Operational DCGL from Table 3 is 4.75 pCi/g for Cs-137, 2.29 pCi/g for Co-60 and 0.93 pCi/g for Sr-90 to achieve fifteen (15) mrem/yr TEDE respectively

(3) A soil sample from location 9312-0009-118F was unobtainable due to the presence of rock within a three (3) meter radius; sample location 9312-0009-126F was added under an FSS plan addendum (refer to Section 10) as a replacement sample location.

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The analytical results for the soil sample taken from location 9312-0009-106F indicate residual radioactive material present in concentrations exceeding the individual Operational DCGL for Cs-137 and the analytical results for the soil sample taken from location 9312-0009-119F indicate residual radioactive material present in concentrations exceeding the unity value of one (1). Sufficient investigative samples were taken to adequately bound the two (2) areas of elevated activity. The results of the Elevated Measurement Comparison (EMC) are presented in Section 8 of this report.

7. QUALITY CONTROL

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

Evaluation using the reported results for Cs-137 resulted in acceptable agreement between the field-split results at both of these locations. The sample analysis vendor, General Engineering Laboratories, LLC, maintains quality control and quality assurance plans as part of normal operation. Refer to Attachments 3 and 4 for data and data quality analysis results

8. INVESTIGATIONS AND RESULTS

Fifteen (15) investigative surface soil samples were collected from several areas exhibiting elevated scan readings. These soil samples were analyzed for Cs-137, Co-60 and Sr-90 in accordance with the DQOs used during the survey design. The Investigative Sample designations are listed with the GPS coordinates in Table 11.

Table 11 - Investigative Sample Designation with Associated GPS Coordinates

Designation	Northing	Easting
9312-0009-122-I	236770.62	668766.63
9312-0009-123-I	236736.94	668812.24
9312-0009-124-I	236737.53	668796.11
9312-0009-125-I	236731.69	668799.67
9312-0009-127-I	236677.66	668900.48
9312-0009-128-I	236700.47	668950.50
9312-0009-129-I	236700.58	668961.15
9312-0009-130-I	236708.06	668968.32
9312-0009-131-I	236708.91	668977.03

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Designation	Northing	Easting
9312-0009-132-I	236695.77	668925.98
9312-0009-133-I	236698.06	668912.96
9312-0009-134-I	236702.71	668881.03
9312-0009-135-I	236701.41	668873.83
9312-0009-136-I	236708.18	668866.71
9312-0009-137-I	236857.93	668695.60

The investigative sample results and the results of the unity rule calculation for the radionuclides of concern for the investigative samples are provided in Table 12 below.

Sample Number	Cs-137 pCi/g	Co-60 pCi/g	Sr-90 pCi/g	Unity Fraction ⁽¹⁾
9312-0009-122-I	2.04E+00	9.21E-02	6.89E-03	0.470
9312-0009-123-I	1.29E-01	-3.26E-03	4.34E-02	0.074
9312-0009-124-I	7.08E-01	4.65E-02	3.85E-02	0.211
9312-0009-125-I	1.35E-01	0.00E+00	4.01E-02	0.072
9312-0009-127-I	2.55E+01	1.43E+00	1.89E-01	6.196
9312-0009-128-I	2.40E+00	9.13E-02	3.28E-02	0.580
9312-0009-129-I	3.50E+00	1.70E-01	1.96E-02	0.832
9312-0009-130-I	3.46E+00	8.62E-02	3.07E-03	0.766
9312-0009-131-I	3.26E+00	2.09E-01	8.55E-02	0.870
9312-0009-132-I	9.38E+00	3.56E-01	4.03E-02	2.174
9312-0009-133-I	5.36E+00	3.06E-01	2.87E-02	1.293
9312-0009-134-I	2.60E+00	1.06E-01	1.47E-02	0.609
9312-0009-135-I	5.76E+00	1.83E-01	2.02E-02	1.314
9312-0009-136-I	4.98E+00	1.78E-01	6.72E-04	1.126
9312-0009-137-I	4.33E+00	3.37E-01	-3.58E-03	1.059

(1) The Operational DCGL from Table 2 is 4.75 pCi/g for Cs-137, 2.29 pCi/g for Co-60 and 0.93 pCi/g for Sr-90 to achieve fifteen (15) mrem/yr TEDE respectively.

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Cs-137, Co-60 and Sr-90 were all positively identified. The investigative samples taken from sample locations 9312-0009-127-I, 9312-0009-132-I, 9312-0009-133-I, 9312-0009-135-I and 9312-0009-136-I exceeded the Operational DCGL of 4.75 pCi/g for Cs-137 and the investigative sample taken from sample location 9312-0009-137-I contained sufficient concentrations of Cs-137, Co-60 and Sr-90 to exceed the "unity rule" parameter of one (1). The results of the investigative samples were displayed on a posting plot (see Attachment 1) to illustrate the relative size and orientation of the areas exhibiting elevated activity.

At sample location 9312-0009-127-I, the surface is predominantly composed of natural rock outcroppings at the base of the vertical rock face. Surface scanning indicated elevated activity in a crack in the rock face at this location in excess of the action level. Subsequently, a surface soil sample was collected from the crack that was composed of essentially all the soil that was present in the crack. The soil at the base of the rock face under the crack was scanned as well and no measurements in excess of the action level were observed. The analysis of the soil sample taken from the rock crack indicated the presence of Cs-137 at a concentration of 25.5 pCi/g or five (5) times the Operational DCGL for Cs-137. The action for the identification of residual radioactivity concentrations of this magnitude would normally prompt additional remediation. However, as the investigative soil sample that was taken had removed all of the soil, there was no volumetric material remaining inside the rock crack to remediate. Additional surface scans were performed to confirm that no additional elevated scan measurements in excess of the action level remained. Subsequently, the sample result for survey location 9312-0009-127-I was not included in the EMC calculation.

Following a review of the posting plot, it was subsequently determined that three (3) distinct areas of elevated activity were present. In addition, only one of the areas was adequately bounded by the statistical grid and investigation soil samples. It was subsequently determined that eight (8) additional surface soil samples would be necessary to adequately bound the two (2) remaining areas of elevated activity identified at sample locations 9312-0009-106F and 9312-0009-137-I.

Additional bounding sample locations were identified in Addendum 2 to the Final Status Survey Plan. Four (4) additional samples were taken at a distance of one-half ($\frac{1}{2}$) meter from each of the designated sample locations, oriented relative to the compass points of north, east, south and west. The sample results and the results of the unity rule calculation for the radionuclides of concern in the bounding sample population are provided in Table 13.

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Table 13 - Bounding Sample Results

Sample Number	Cs-137 pCi/g	Co-60 pCi/g	Sr-90 pCi/g	Unity Fraction ⁽¹⁾
9312-0009-138-I	2.86E+00	1.30E-01	4.62E-02	0.709
9312-0009-139-I	3.02E+00	3.61E-01	1.02E-02	0.793
9312-0009-140-I	2.35E+00	1.85E-01	7.29E-03	0.576
9312-0009-141-I	3.76E+00	3.43E-01	2.46E+00	3.587
9312-0009-142-I	4.53E-02	2.21E-02	1.56E-02	0.010
9312-0009-143-I	1.66E-01	2.60E-02	-2.90E-03	0.035
9312-0009-144-I	7.54E-03	0.00E+00	5.40E-03	0.000
9312-0009-145-I	1.68E-03	-4.36E-03	-1.86E-02	0.000

(1) The Operational DCGL from Table 2 is 4.75 pCi/g for Cs-137, 2.29 pCi/g for Co-60 and 0.93 pCi/g for Sr-90 to achieve fifteen (15) mrem/yr TEDE respectively.

Cs-137 was positively identified in six (6), Co-60 was positively identified in four (4) and Sr-90 was positively identified in two (2) of the eight (8) additional samples taken for area bounding. One (1) of the bounding surface soil samples contained sufficient concentration of Sr-90 to exceed the Operational DCGL of 0.93 pCi/g for Sr-90 by a factor of three (3). The results of the additional bounding samples were displayed on the posting plot to further refine the relative size and orientation of the areas exhibiting elevated activity.

Following a review of the posting plot, it was determined that one (1) additional surface soil sample would be necessary to further define the boundary of one of the previously identified areas of elevated activity. The sample location was identified in Addendum 3 to the Final Status Survey Plan. One (1) additional sample was taken at a distance of one-half (½) meter to the west of sample location 9312-0009-141-I, where the elevated Sr-90 concentration was observed. The sample results and the results of the unity rule calculation for the radionuclides of concern in the additional bounding sample are provided in Table 14.

Table 14 - Bounding Sample Results

Sample Number	Cs-137 pCi/g	Co-60 pCi/g	Sr-90 pCi/g	Unity Fraction ⁽¹⁾
9312-0009-146-I	2.92E+00	2.17E-01	1.22E-02	0.709

(1) The Operational DCGL from Table 2 is 4.75 pCi/g for Cs-137, 2.29 pCi/g for Co-60 and 0.93 pCi/g for Sr-90 to achieve fifteen (15) mrem/yr TEDE respectively.

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Cs-137 and Co-60 was positively identified at concentrations less than their respective Operational DCGL. Sr-90 was not positively identified in this sample. The results of the additional bounding sample was displayed on the posting plot to further refine the relative size and orientation of the one remaining unbounded area. It was concluded that the area of elevated activity was adequately bounded and no additional bounding sample were deemed necessary.

The Elevated Measurement Comparison (EMC) protocol was applied to the three (3) identified areas of elevated activity in accordance with LTP Section 5.8.3 and 5.4.7.4. The values used for the area factor for each area was determined from the area bounded by the adjacent samples or by the area bounded by additional samples at or below the DCGL_{op}.

Two (2) of the three (3) elevated areas are located along the top of the twenty (20) foot high vertical rock face. The other area, identified at sample location 9312-0009-106F, is located in the drainage trench at the base of the vertical rock face in the northern portion of the survey unit. This area is designated as Elevated Area #1. The second area, designated as Elevated Area #2, is located at the summit of the rock face, toward the north end of the survey unit, approximately adjacent to land Survey Unit 9312-0005 and the former location of the Ion Exchange structure. Elevated Area #1 and Elevated Area #2 were bounded by the additional nine (9) surface samples taken around each identified area at a distance of one (1) and one-half (½) meters respectively. The approximate area of Elevated Area #1 is four (4) square meters and the approximate area of Elevated Area #2 is one (1) square meter. The third area, designated as Elevated Area #3 is located toward the south end of the rock face along a notch in the hillside adjacent to where the Primary Water Storage Tank was located. The "inquiry" function included with the AutoCAD-LT computer program was used to establish the size of the larger elevated area in the southern portion of the survey in square meters. The approximate area of elevated activity is seventy six (76) square meters.

Area Factors for each radionuclide corresponding to the size of the elevated area was selected from Table 5-5, *Area Factor for the Resident Farmer Scenario*, in Section 5.4.7.4 of the LTP. The Area Factors selected are provided in Table 15.

Table 15 - Selected Area Factors			
	Area Factors for Elevated Area #1	Area Factors for Elevated Area #2	Area Factors for Elevated Area #3
	Area Size: 4 m ²	Area Size: 1 m ²	Area Size: 76 m ²
	Area Factor Size: 4 m ²	Area Factor Size: 2 m ²	Area Factor Size: 100 m ²
Co-60	4.22	6.67	1.41
Sr-90	314	616	13.20
Cs-137	8.98	14.10	2.93

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Using the Area Factors presented in Table 15 and the results of the soil samples, the following EMC calculation was deduced;

Equation 4

$$\frac{\delta}{DCGL_{op}} + \frac{C_{elevated1} - \delta}{(AreaFactor)_1 \times DCGL_{op}} + \frac{C_{elevatedi} - \delta}{(AreaFactor)_i \times DCGL_{op}} \leq 1$$

where:

δ = average concentration outside of the elevated area

$C_{elevated 1,2, i}$ = average concentration inside elevated area "i"

The average concentration of the area within the survey unit outside of the elevated areas (δ) was conservatively calculated by taking the average radionuclide concentration from all surface soil samples and subtracting the radionuclide concentration average from the elevated area. This information is presented in Table 16.

Table 16 - Average Concentration of Radionuclides for Balance of Survey Unit			
	Cs-137	Co-60	Sr-90
DCGL _{op} (pCi/g)	4.75E+00	2.29E+00	9.30E-01
Average Concentration (δ) (pCi/g)	1.09E+00	5.97E-02	1.33E-02
Avg. Fraction of the DCGL	0.230	0.026	0.014
Avg. Unity for Balance of Survey Unit	0.270		

The average concentration of the first elevated area is presented in Table 17.

Table 17 - Average Concentration of Radionuclides for Elevated Area #1			
	Cs-137	Co-60	Sr-90
Area Factor	8.98	4.22	314.00
DCGL _{EMC} (pCi/g):	4.27E+01	9.66E+00	2.92E+02
Avg. Concentration in Elevated Area:	4.66E+00	3.93E-01	1.25E+00
Avg. Concentration - δ :	3.56E+00	3.33E-01	1.24E+00
Avg. Fraction of DCGL:	0.084	0.034	0.004
Avg. Unity for Elevated Area #1:	0.122		

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The average concentration of the second elevated area is presented in Table 18.

Table 18 - Average Concentration of Radionuclides for Elevated Area #2			
	Cs-137	Co-60	Sr-90
Area Factor	14.10	6.67	616.00
DCGL _{EMC} (pCi/g):	6.70E+01	1.53E+01	5.73E+02
Avg. Concentration in Elevated Area:	4.33E+00	3.37E-01	-3.58E-03
Avg. Concentration - δ :	3.24E+00	2.77E-01	-1.69E-02
Avg. Fraction of DCGL:	0.048	0.018	0.000
Avg. Unity for Elevated Area #2:	0.066		

The average concentration of the third elevated area is presented in Table 19.

Table 19 - Average Concentration of Radionuclides for Elevated Area #3			
	Cs-137	Co-60	Sr-90
Area Factor	2.93	1.41	13.20
DCGL _{EMC} (pCi/g):	1.39E+01	3.23E+00	1.23E+01
Avg. Concentration in Elevated Area:	6.01E+00	2.36E-01	1.75E-02
Avg. Concentration - δ :	4.92E+00	1.77E-01	4.15E-03
Avg. Fraction of DCGL:	0.354	0.055	0.000
Avg. Unity for Elevated Area #2:	0.409		

The sum of the average unity result for the elevated areas and the balance of the survey unit equates to 0.867. As this value is less than one (1), this survey unit passes the unity EMC test.

9. REMEDIATION AND RESULTS

Radiological remedial action as described by MARSSIM Section 5.4 was performed in this survey unit. Soils exhibiting residual radioactivity in excess of Operational DCGLs were removed along the base of the vertical rock face, from ledges on the rock face and from four (4) different locations along the summit of the rock face. Excavations along the base of the rock face were characterized and backfilled prior to performing FSS. Areas subjected to remediation that were located on or on top of the rock face were remediated to bedrock. The results of post remediation samples taken in each of these areas following remediation were below the Operational DCGL for Cs-137 provided in Table 3.

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Health Physics TSD BCY-HP-0078, "ALARA Evaluation of Soil Remediation in Support of Final Status Survey," determined that remediation beyond that required to meet the release criteria is unnecessary and that the remaining residual radioactivity in soil was ALARA.

10. CHANGES FROM THE FINAL STATUS SURVEY PLAN

A soil sample from location 9312-0009-118F was unobtainable due to the presence of rock and lack of volumetric soil within a three (3) meter radius of the sample location. Sample location 9312-0009-126F was added under an addendum to the FSS plan as a replacement sample location. Sample location 9312-0009-126F was determined randomly using VSP.

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. 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 1.

The preliminary data review consisted of calculating basic statistical quantities (e.g., mean, median, standard deviation). The mean and median values are well below the Operational DCGL. Therefore, the survey unit meets the unrestricted release criteria with adequate power as required by the DQOs. The basic statistical quantities for the statistical sample population are provided below in Table 17.

Table 17 – Basic Statistical Quantities for Cs-137, Co-60, and Sr-90 from the Final Status Survey

	Cs-137 pCi/g	Co-60 pCi/g	Sr-90 pCi/g
DCGL _{op} :	4.75E+00	2.29E+00	9.30E-01
Minimum Value:	6.10E-03	-1.13E-02	-2.07E-02
Maximum Value:	5.55E+00	4.43E-01	4.51E-02
Mean:	9.43E-01	4.85E-02	7.75E-03
Median:	1.57E-01	9.91E-03	5.42E-03
Standard Deviation:	1.50E+00	1.00E-01	1.95E-02

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The range of the data, approximately three (3) to four (4) standard deviations for all three (3) radionuclides, was not a particularly large variation. The two (2) identified areas of elevated activity caused the data set to skew positively as represented by a calculated skew of 2.29 for Cs-137 and 3.39 for Co-60. The calculated skew for Sr-90 is 0.42. The data was represented graphically through posting plots, a frequency plot, and a quantile plot. All data, assessments, and graphical representations are provided in Attachment 4.

12. ANOMALIES

An investigative soil sample taken from a crack in the vertical rock face indicated a Cs-137 concentration of 25.5 $\mu\text{Ci/g}$. The process of taking the investigative soil sample removed all volumetric soil from the crack, essentially performing remediation. Due to the fact that the soil exhibiting the elevated activity was removed and is no longer present in the survey unit, the results of the elevated measurement observed at investigative sample location 9312-0009-127-I was not included as part of the EMC calculation.

13. CONCLUSION

Survey Unit 9312-0009 has met the final DQOs of the FSS plan. The ALARA criteria for soils as specified in Chapter 4 of the LTP were achieved.

An EMC calculation was performed for three (3) identified areas of elevated activity in accordance with LTP Section 5.8.3 and Equation 4 of this report. The results indicated that the area was less than unity. No further action is warranted. See Tables 13 through 16 of this report for specific information with regard to the EMC calculation.

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 with adequate power. The survey unit is properly designated as Class 1.

The dose contribution from soil is 3.42 mrem/yr TEDE based on the average concentration of the samples used for non-parametric statistical sampling.

This survey area is affected by existing groundwater (reference CY memo ISC 06-024); therefore the dose contribution from existing groundwater is bounded at two (2) mrem/yr TEDE.

This survey unit is considered impacted by future groundwater radioactive contamination, as there are underground foundations 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 bounded by two (2) mrem/yr TEDE.

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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 7.42 mrem/yr TEDE. Therefore, Survey Unit 9312-0009 is acceptable for unrestricted release.

14. ATTACHMENTS

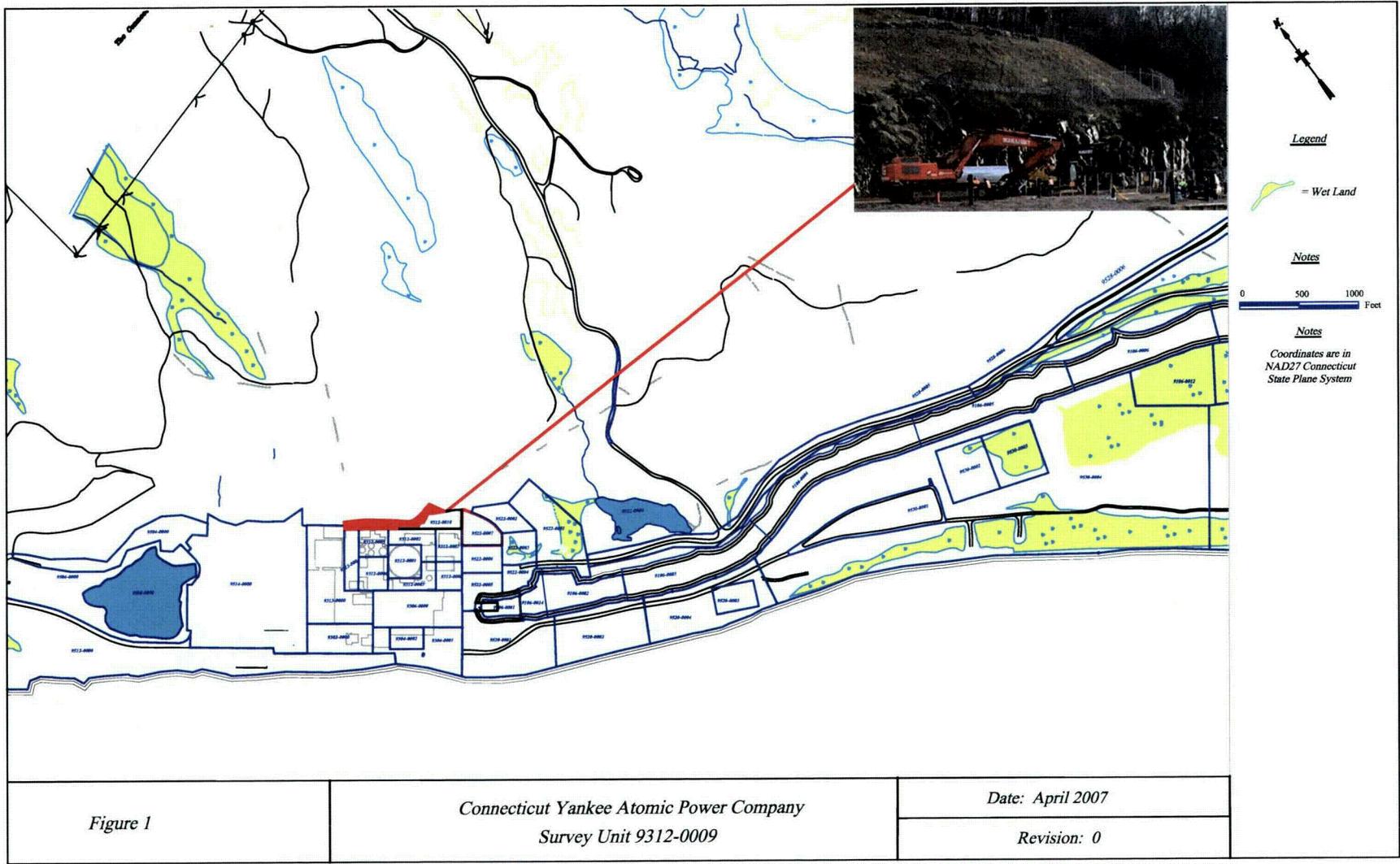
- 14.1 Attachment 1 – Figures
- 14.2 Attachment 2 – Scan Results
- 14.3 Attachment 3 – Laboratory Results
- 14.4 Attachment 4 – DQA Results

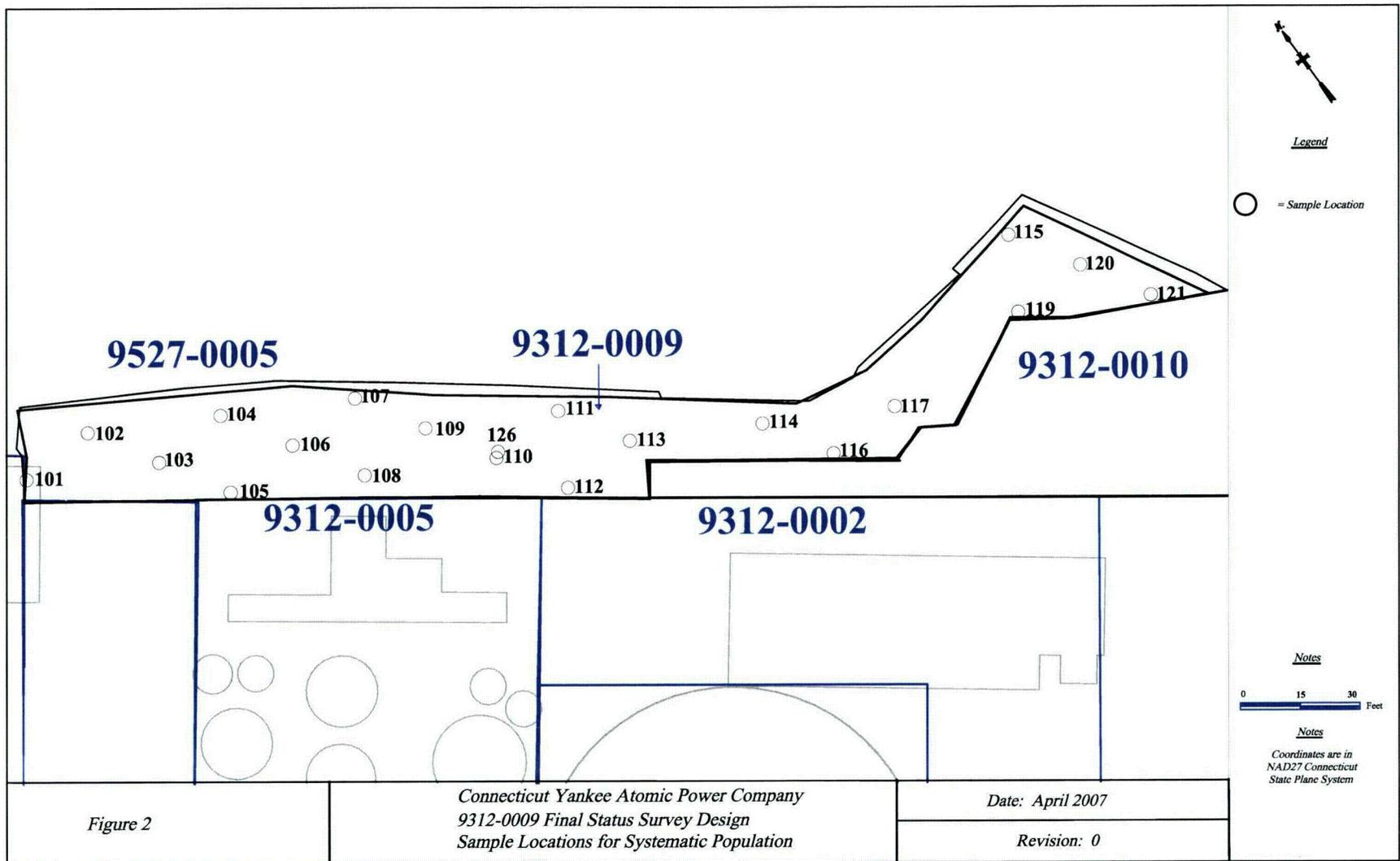
FORMER RADIOLOGICALLY CONTROLLED AREA
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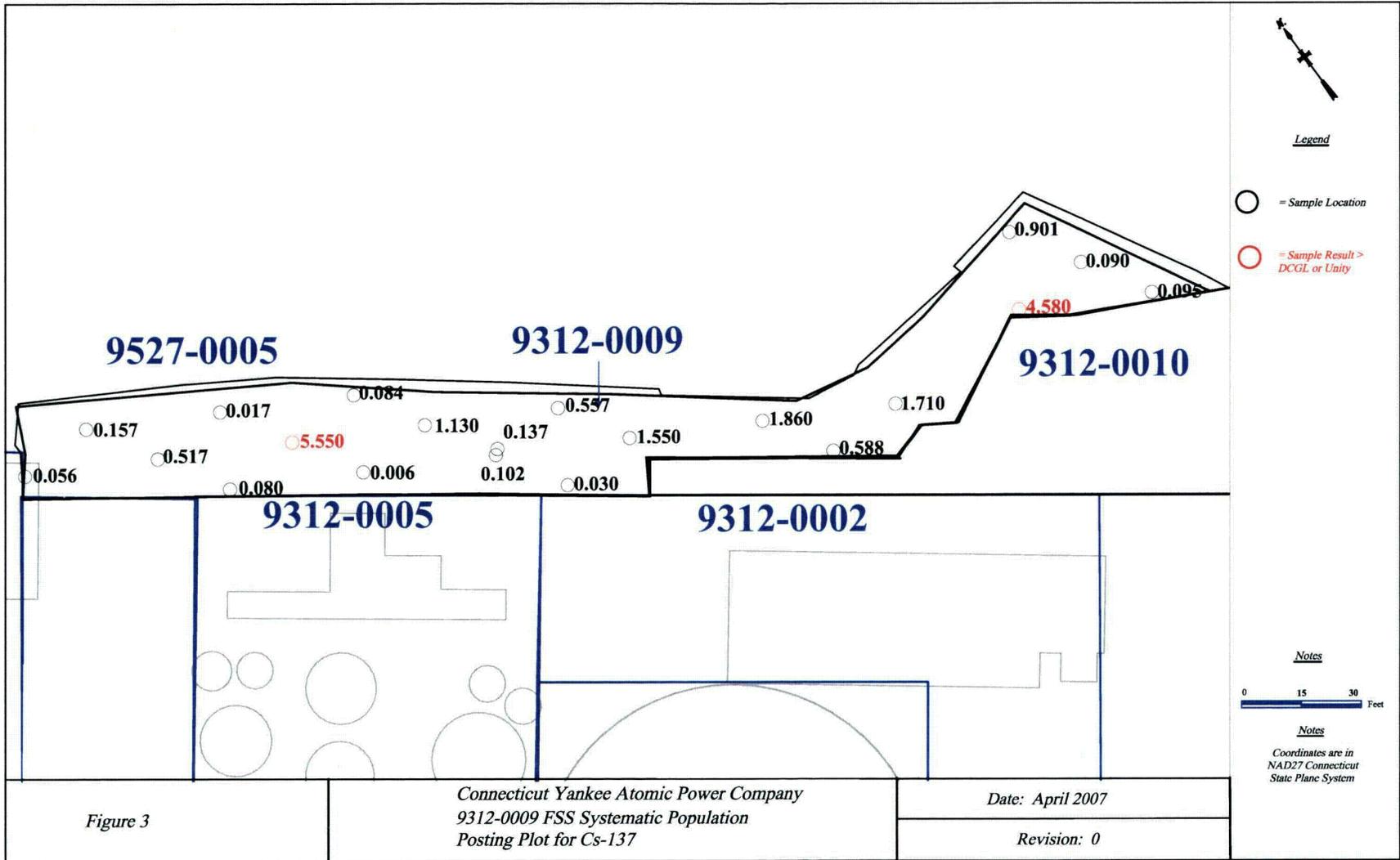
RELEASE RECORD

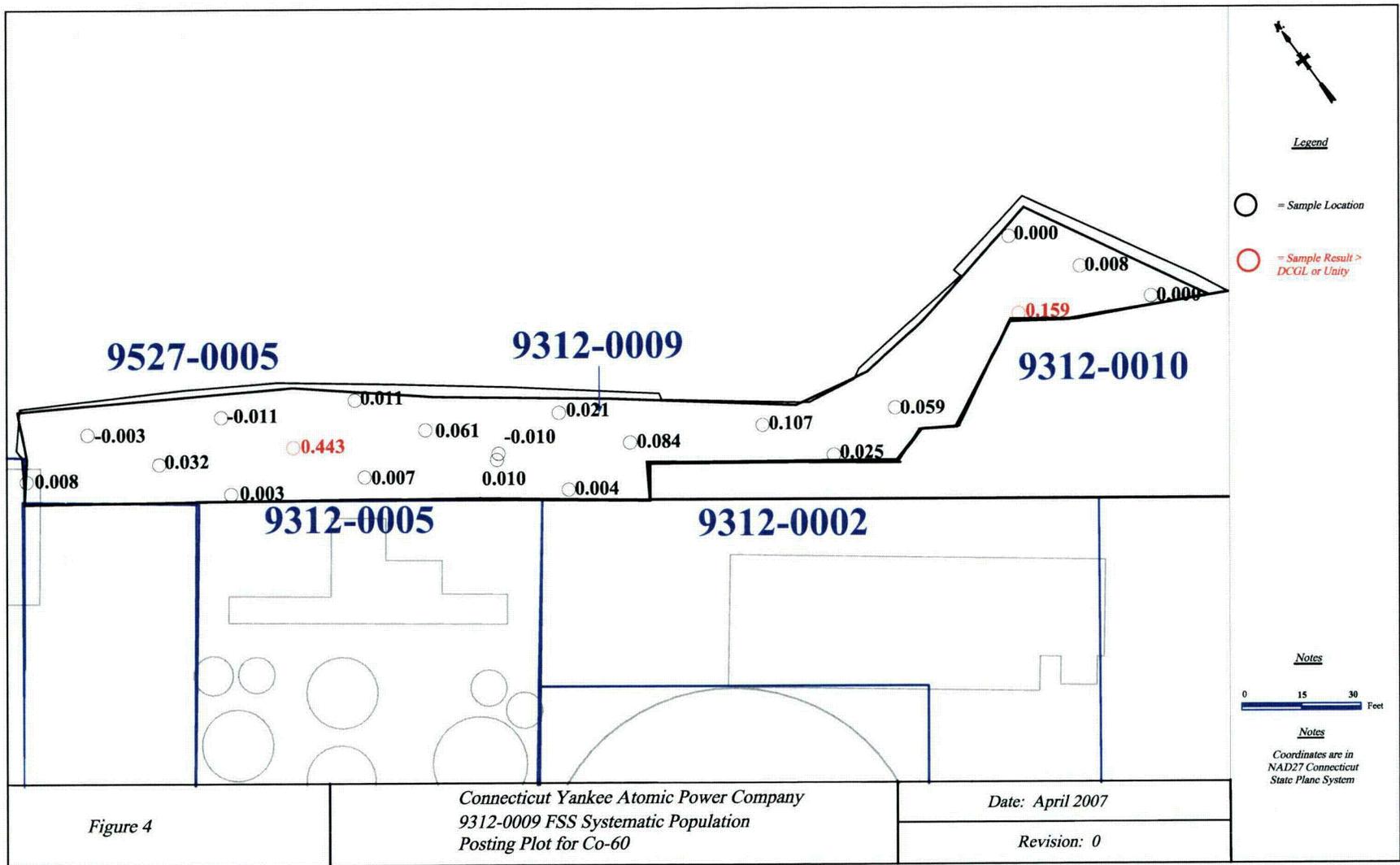
ATTACHMENT 1 (FIGURES)

Revision 0









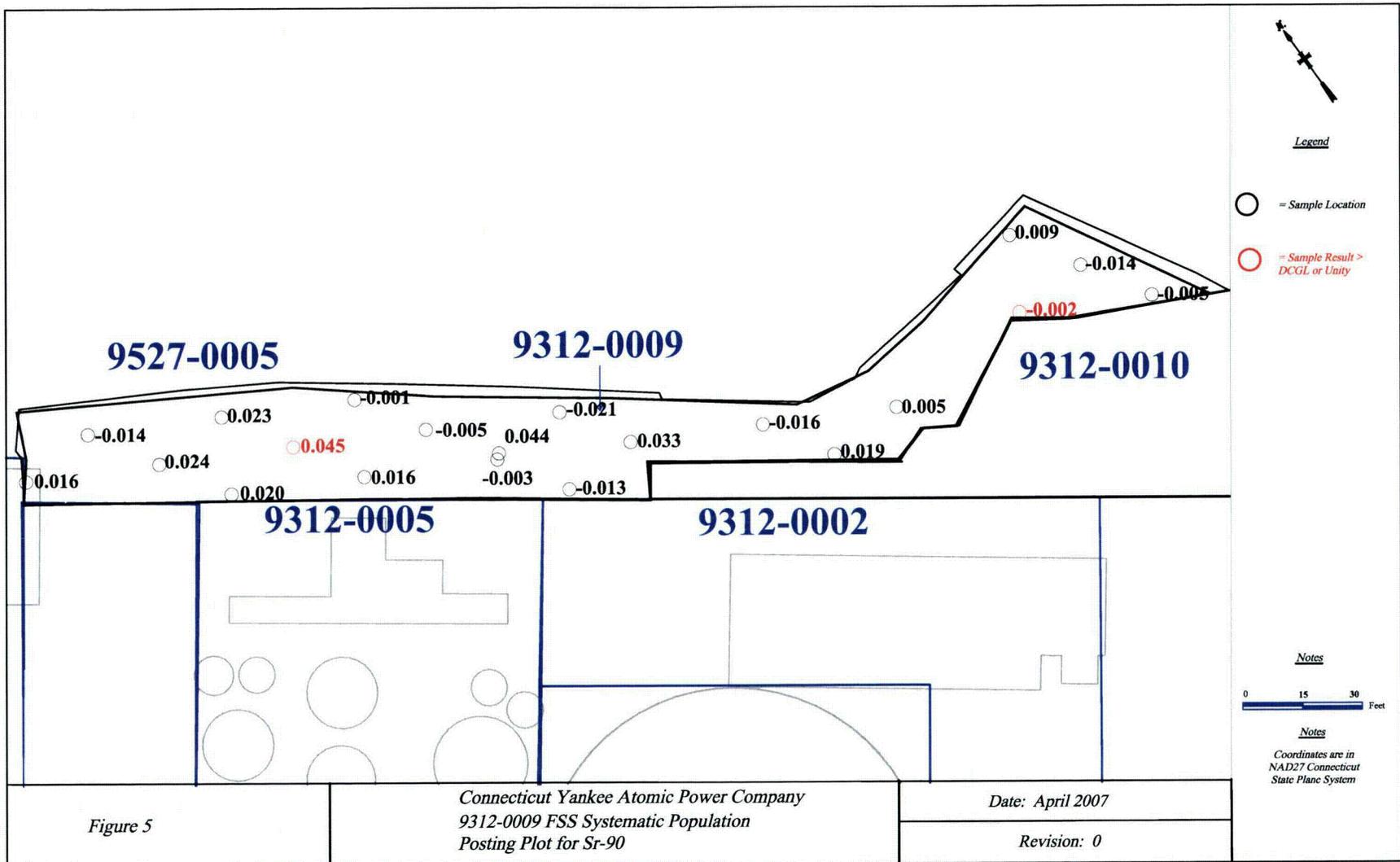


Figure 5

Connecticut Yankee Atomic Power Company
 9312-0009 FSS Systematic Population
 Posting Plot for Sr-90

Date: April 2007

Revision: 0

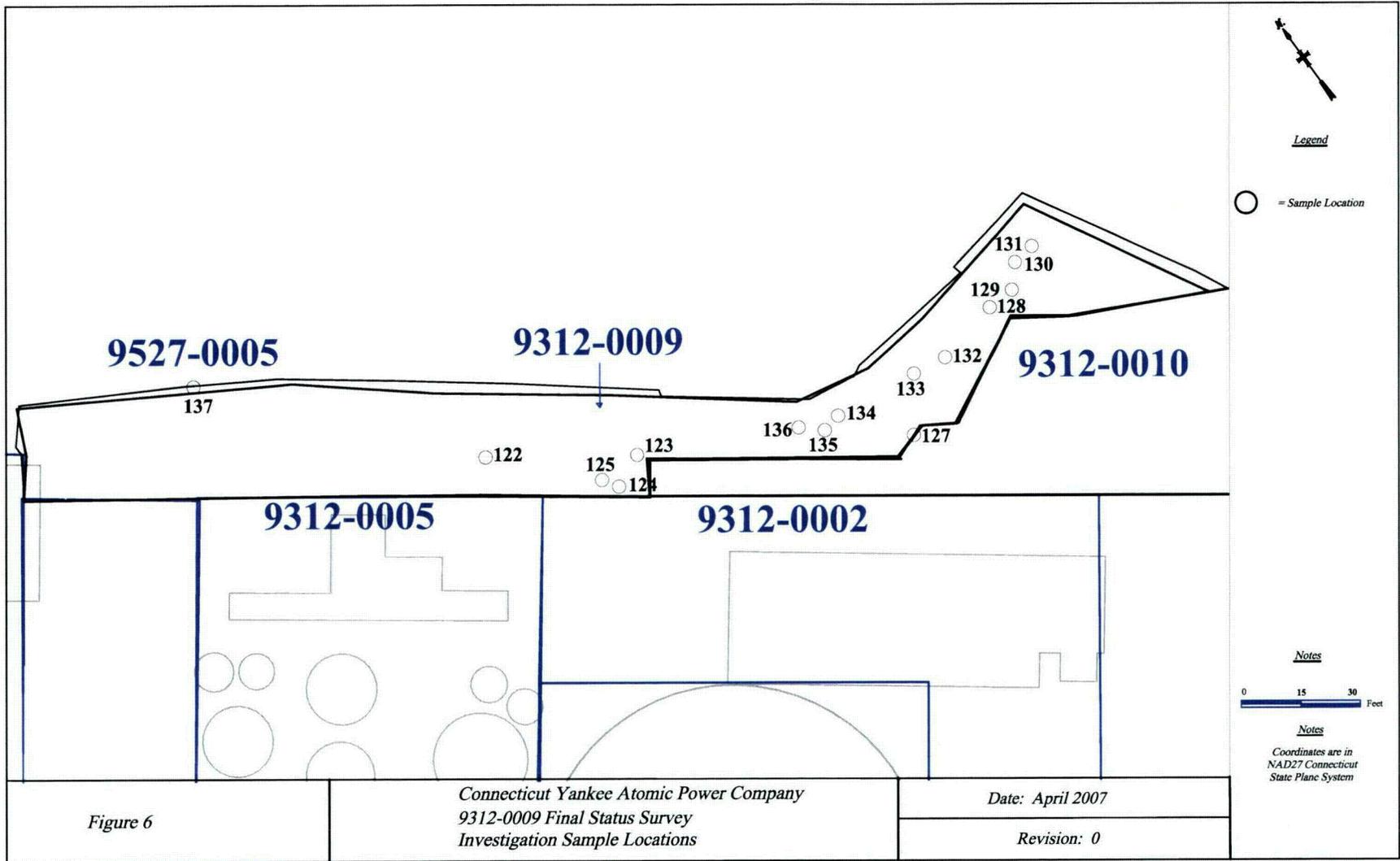


Figure 6

Connecticut Yankee Atomic Power Company
 9312-0009 Final Status Survey
 Investigation Sample Locations

Date: April 2007

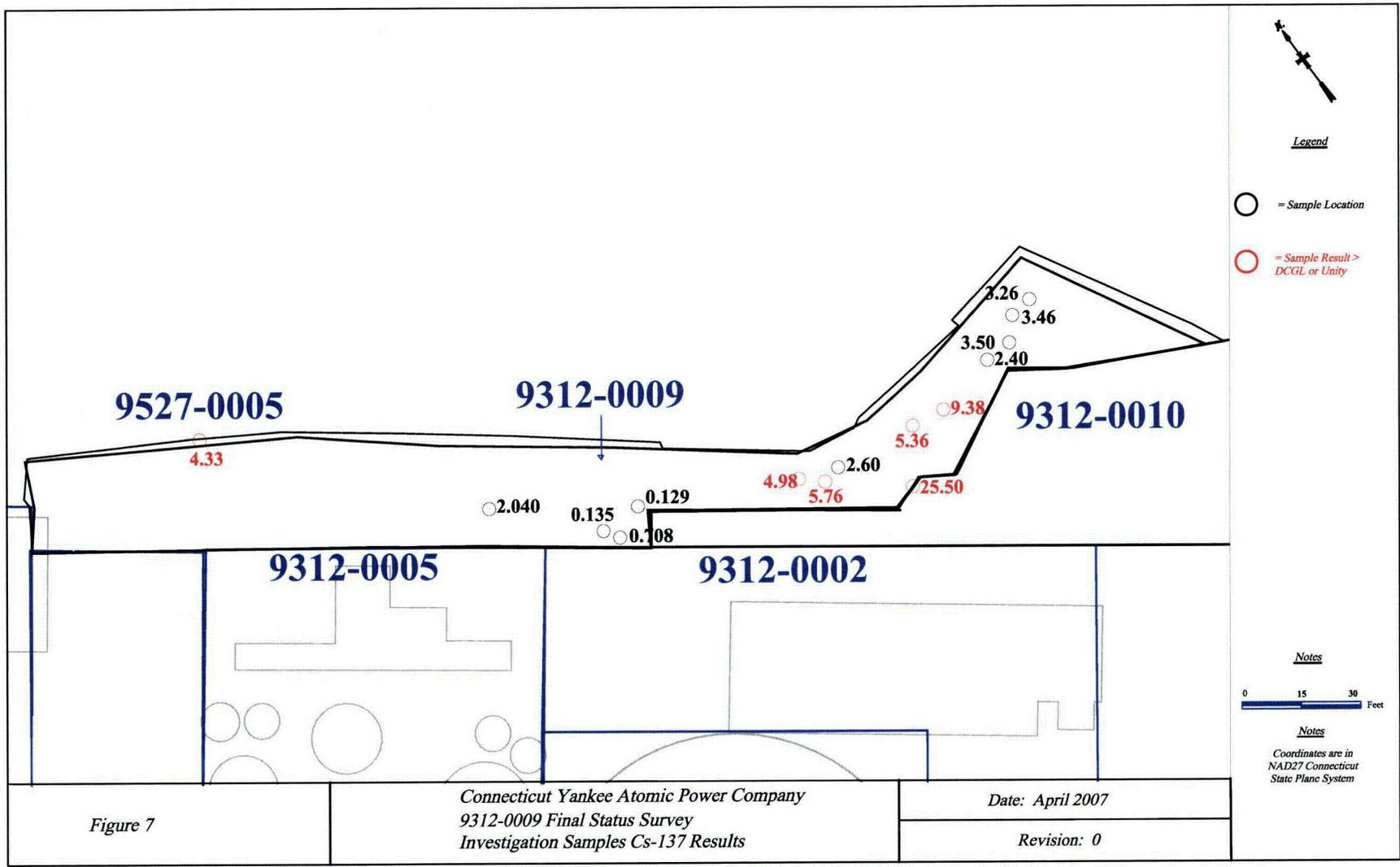
Revision: 0

Notes



Notes

Coordinates are in
 NAD27 Connecticut
 State Plane System



9527-0005

9312-0009

9312-0010

9312-0005

9312-0002

4.33

○2.040

○0.135

○0.129

○0.108

○4.98

○5.76

○2.60

○25.50

○5.36

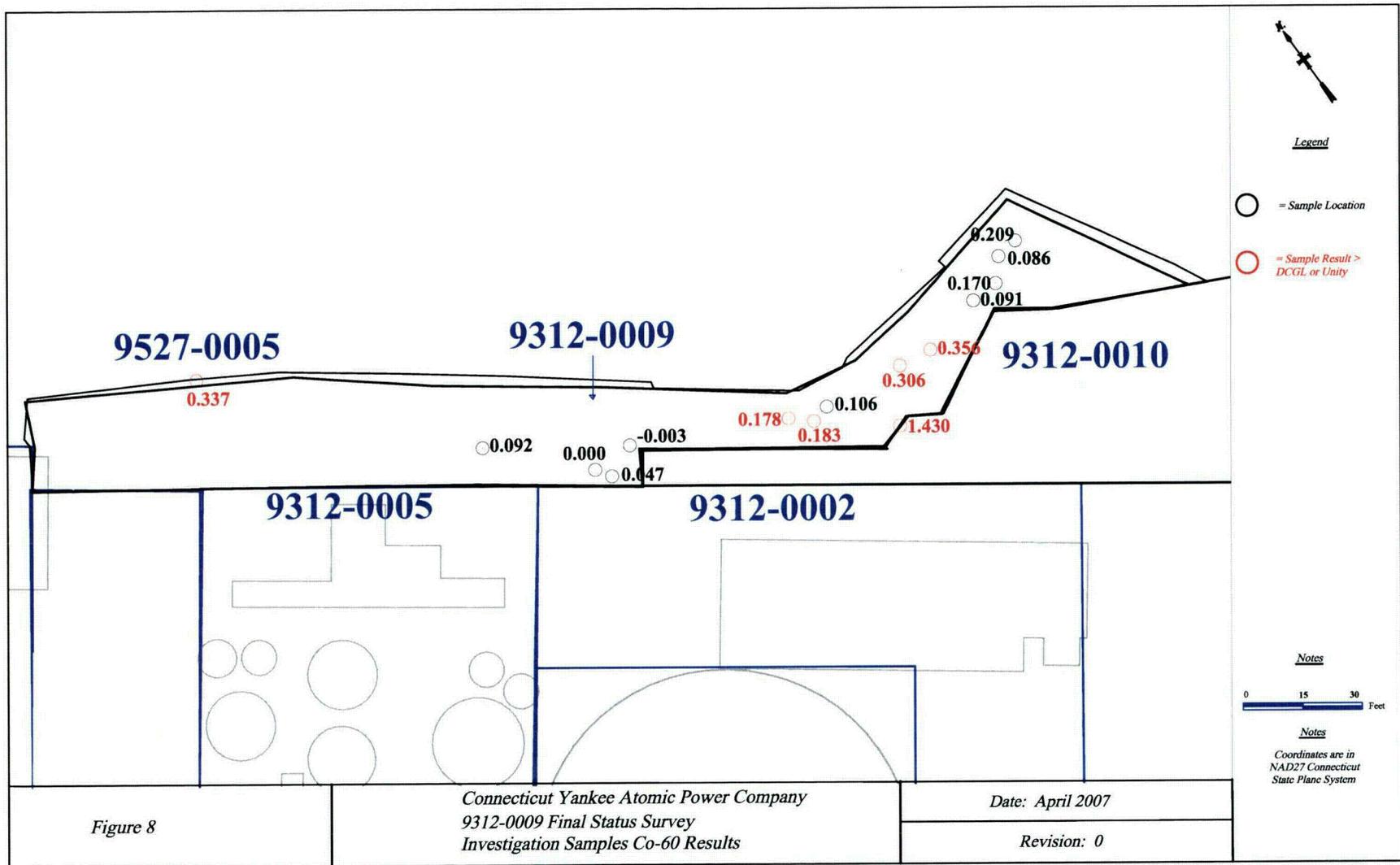
○9.38

○3.26

○3.46

○3.50

○2.40



9527-0005

9312-0009

9312-0010

9312-0005

9312-0002

0.337

0.092

0.000

0.047

-0.003

0.178

0.183

0.106

0.306

0.356

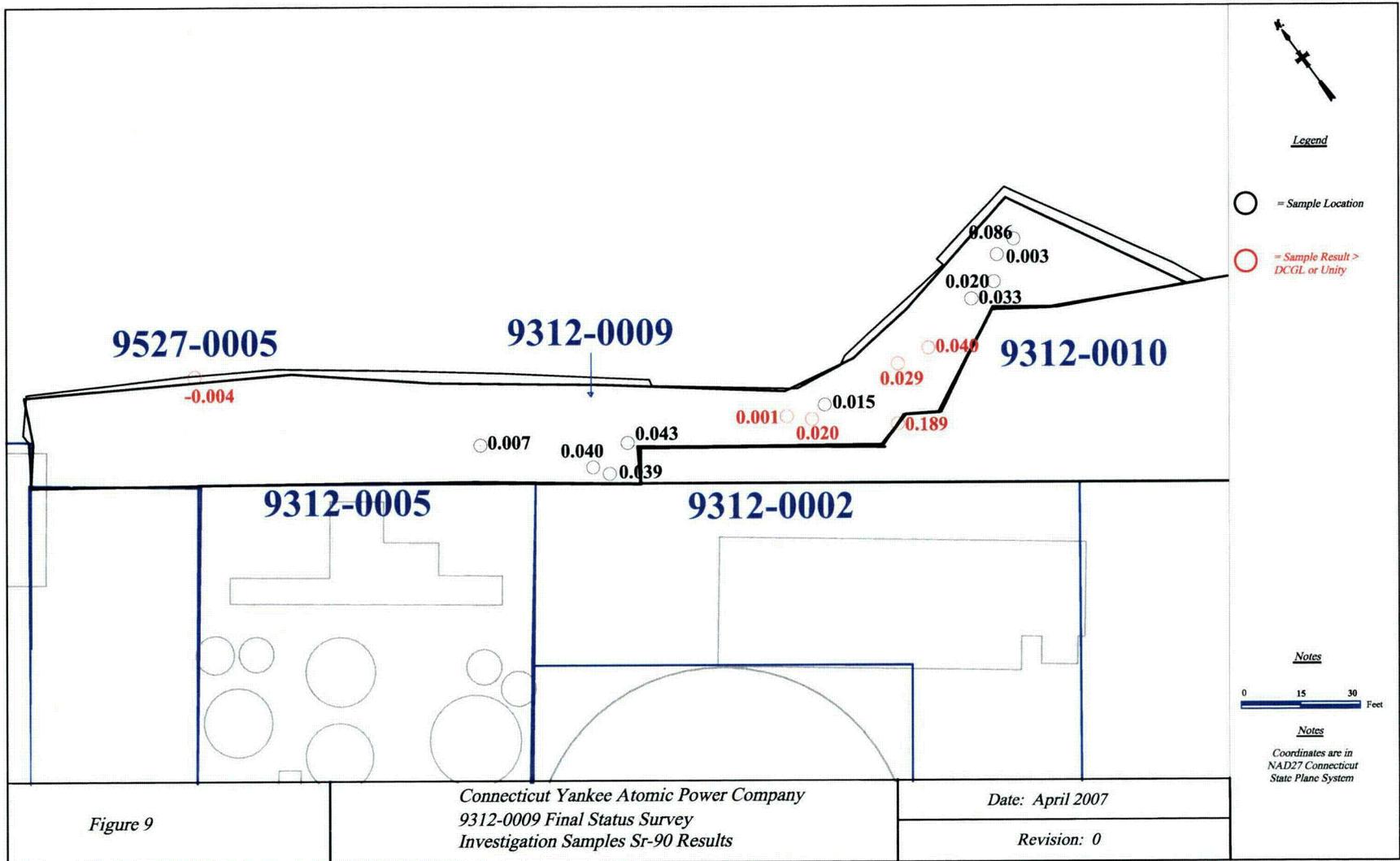
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0.091

0.209

0.086

1.430



9527-0005

9312-0009

9312-0010

9312-0005

9312-0002

-0.004

0.007

0.040

0.043

0.039

0.001

0.015

0.020

0.029

0.189

0.086

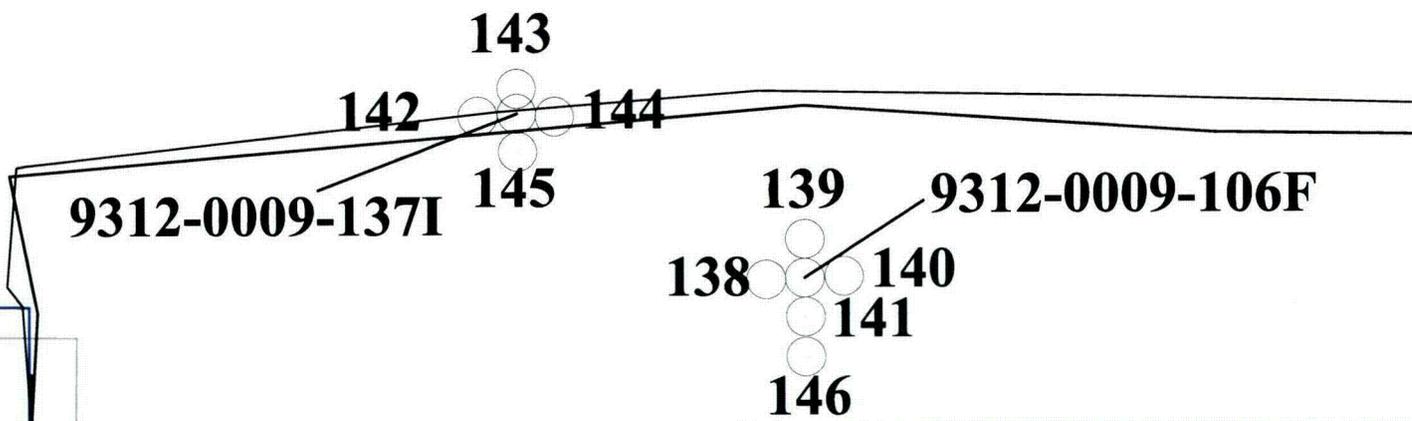
0.003

0.020

0.033

0.046

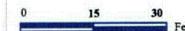
9527-0005



Legend

○ = Sample Location

Notes



Notes

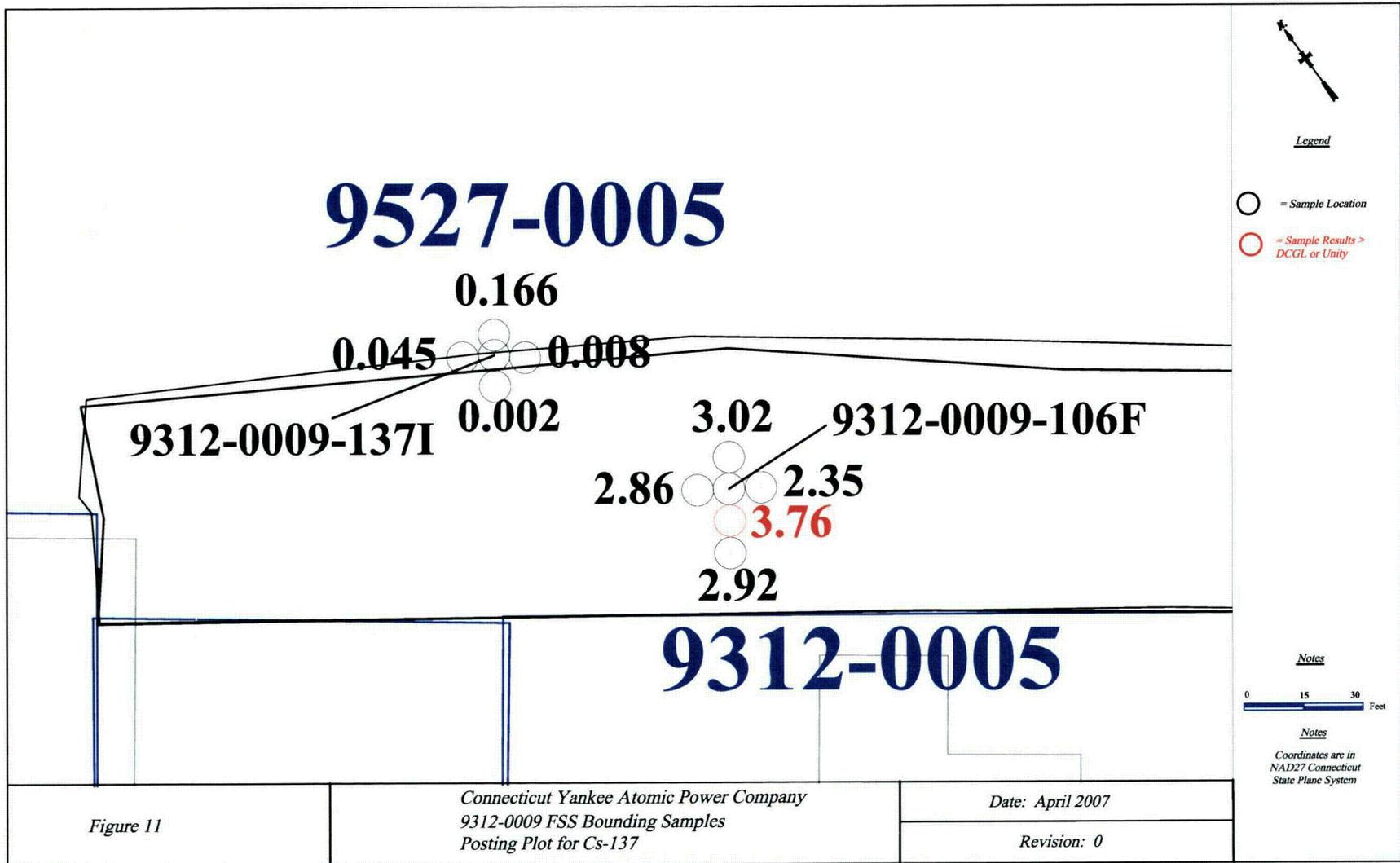
Coordinates are in
NAD27 Connecticut
State Plane System

Figure 10

Connecticut Yankee Atomic Power Company
9312-0009 Final Status Survey
Bounding Sample Locations

Date: April 2007

Revision: 0



9527-0005

0.026

0.022 0.000

9312-0009-137I

-0.004

0.361

9312-0009-106F

0.130

0.185

0.343

0.217

9312-0005



Legend

- = Sample Location
- = Sample Results > DCGI or Unity

Notes



Notes

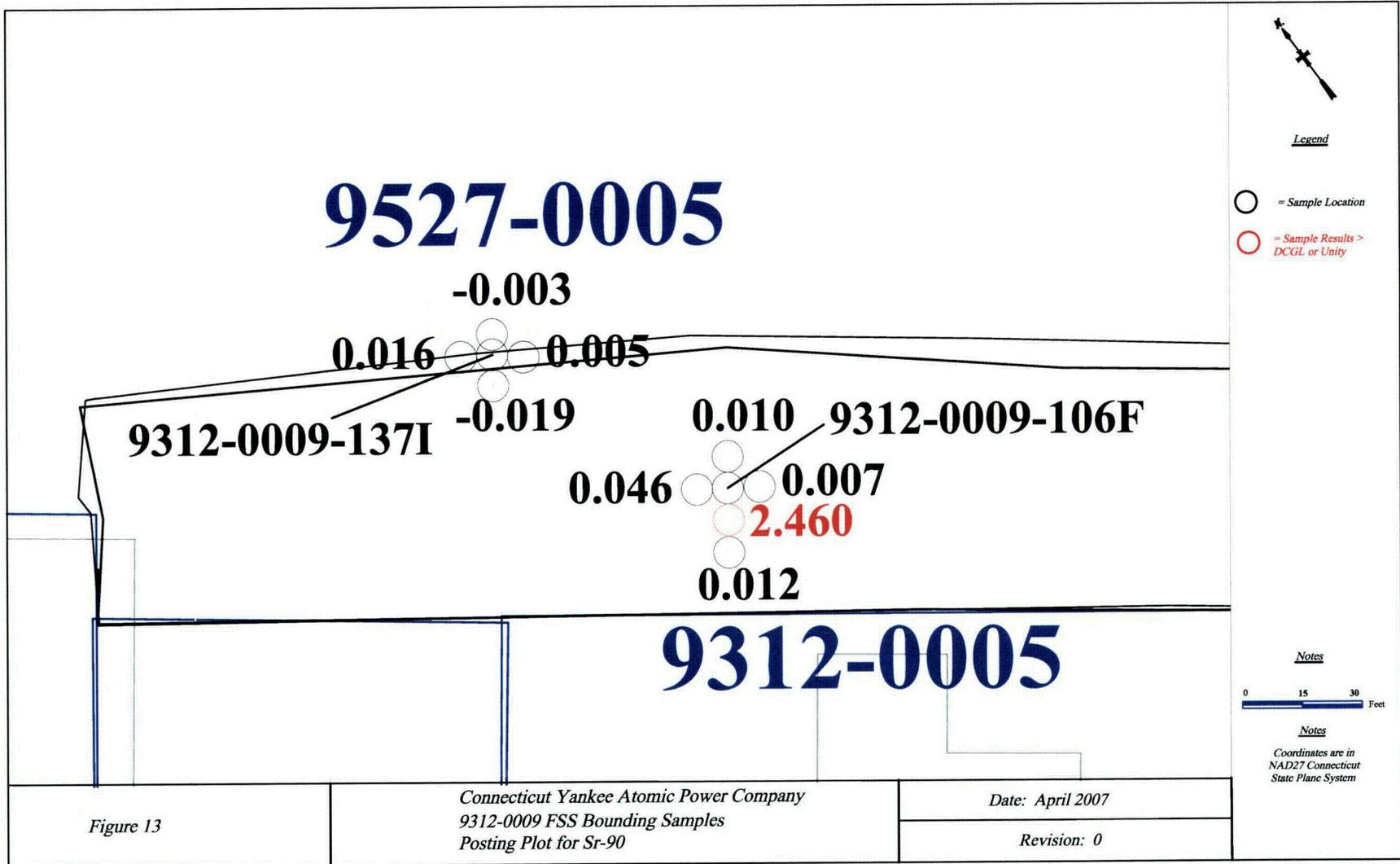
Coordinates are in
NAD27 Connecticut
State Plane System

Figure 12

Connecticut Yankee Atomic Power Company
9312-0009 FSS Bounding Samples
Posting Plot for Co-60

Date: April 2007

Revision: 0



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ATTACHMENT 2 (SCAN RESULTS)

Survey Unit 9312-0009

**Scan Survey Results
Sample Location Scans**

Survey Location	Log Date	Log Time	Reading	Alarm Level	>Alarm Level	E-600 S/N	Probe S/N
9312-09-BL-00-01-0	3/19/2007	14:51:00	8.44E+03			1107	1007
9312-09-SL-00-01-0	3/19/2007	14:52:00	1.17E+04	1.04E+04	+	1107	1007
9312-06-BL-00-02-0	3/15/2007	13:11:00	8.97E+03			1107	1007
9312-06-SL-00-02-0	3/15/2007	13:12:00	9.19E+03	1.10E+04		1107	1007
9312-09-BL-00-03-0	3/19/2007	14:53:00	8.90E+03			1107	1007
9312-09-SL-00-03-0	3/19/2007	14:54:00	9.06E+03	1.09E+04		1107	1007
9312-06-BL-00-04-0	3/15/2007	13:27:00	9.61E+03			1107	1007
9312-06-SL-00-04-0	3/15/2007	13:27:00	9.94E+03	1.16E+04		1107	1007
9312-09-BL-00-05-0	3/19/2007	14:55:00	1.02E+04			1107	1007
9312-09-SL-00-05-0	3/19/2007	14:55:00	1.06E+04	1.22E+04		1107	1007
9312-06-BL-00-06-0	3/15/2007	13:37:00	5.45E+03			1107	1007
9312-06-SL-00-06-0	3/15/2007	13:38:00	6.02E+03	7.45E+03		1107	1007
9312-06-BL-00-07-0	3/15/2007	13:43:00	9.54E+03			1107	1007
9312-06-SL-00-07-0	3/15/2007	13:44:00	9.12E+03	1.15E+04		1107	1007
9312-09-BL-00-08-0	3/19/2007	14:56:00	1.08E+04			1107	1007
9312-09-SL-00-08-0	3/19/2007	14:57:00	1.06E+04	1.28E+04		1107	1007
9312-06-BL-00-09-0	3/15/2007	13:52:00	6.89E+03			1107	1007
9312-06-SL-00-09-0	3/15/2007	13:52:00	8.60E+03	8.89E+03		1107	1007
9312-09-BL-00-10-0	3/19/2007	14:58:00	1.41E+04			1107	1007
9312-09-SL-00-10-0	3/19/2007	14:59:00	1.81E+04	1.61E+04	+	1107	1007
9312-06-BL-00-11-0	3/15/2007	14:01:00	9.97E+03			1107	1007
9312-06-SL-00-11-0	3/15/2007	14:02:00	9.52E+03	1.20E+04		1107	1007
9312-09-BL-00-12-0	3/19/2007	15:00:00	1.01E+04			1107	1007
9312-09-SL-00-12-0	3/19/2007	15:01:00	1.09E+04	1.21E+04		1107	1007
9312-09-BL-00-13-0	3/19/2007	15:02:00	1.79E+04			1107	1007
9312-09-SL-00-13-0	3/19/2007	15:02:00	1.77E+04	1.99E+04		1107	1007
9312-09-BL-00-14-0	3/19/2007	15:03:00	1.29E+04			1107	1007
9312-09-SL-00-14-0	3/19/2007	15:04:00	1.33E+04	1.49E+04		1107	1007
9312-06-BL-00-15-0	3/15/2007	14:37:00	9.26E+03			1107	1007
9312-06-SL-00-15-0	3/15/2007	14:37:00	1.08E+04	1.13E+04		1107	1007
9312-09-BL-00-16-0	3/19/2007	15:05:00	1.14E+04			1107	1007
9312-09-SL-00-16-0	3/19/2007	15:05:00	1.31E+04	1.34E+04		1107	1007
9312-06-BL-00-17-0	3/15/2007	14:20:00	1.02E+04			1107	1007
9312-06-SL-00-17-0	3/15/2007	14:21:00	1.18E+04	1.22E+04		1107	1007
9312-09-BL-00-19-0	3/19/2007	15:07:00	1.23E+04			1107	1007
9312-09-SL-00-19-0	3/19/2007	15:07:00	1.35E+04	1.43E+04		1107	1007
9312-09-BL-00-20-0	3/19/2007	15:08:00	1.03E+04			1107	1007
9312-09-SL-00-20-0	3/19/2007	15:09:00	1.05E+04	1.23E+04		1107	1007
9312-09-BL-00-21-0	3/19/2007	15:11:00	1.07E+04			1107	1007
9312-09-SL-00-21-0	3/19/2007	15:11:00	1.09E+04	1.27E+04		1107	1007
9312-09-BL-00-26-0	3/20/2007	11:03:00	1.49E+04			1111	1004
9312-09-SL-00-26-0	3/20/2007	11:05:00	1.57E+04	1.69E+04		1111	1004

Survey Unit 9312-0009

**Scan Survey Results
Scan Strip Scans**

Survey Location	Log Date	Log Time	Reading	Alarm Level	>Alarm Level	E-600 S/N	Probe S/N
9312-09-BC-00-01-0	3/19/2007	13:58:00	8.43E+03			1111	1004
9312-09-SC-00-01-0	3/19/2007	14:05:00	9.22E+03	1.04E+04		1111	1004
9312-09-BC-00-02-0	3/19/2007	14:05:00	1.02E+04			1111	1004
9312-09-SC-00-02-0	3/19/2007	14:18:00	1.02E+04	1.22E+04		1111	1004
9312-09-ER-00-02-1	3/20/2007	7:20:00	1.45E+04	1.22E+04	+	1111	1004
9312-09-BC-00-03-0	3/19/2007	14:20:00	1.21E+04			1111	1004
9312-09-SC-00-03-0	3/19/2007	14:21:00	1.22E+04	1.41E+04		1111	1004
9312-09-BC-00-04-0	3/19/2007	14:22:00	1.12E+04			1111	1004
9312-09-SC-00-04-0	3/19/2007	14:28:00	1.23E+04	1.32E+04		1111	1004
9312-09-ER-00-04-1	3/20/2007	7:21:00	1.55E+04	1.32E+04	+	1111	1004
9312-09-BC-00-05-0	3/19/2007	14:32:00	1.35E+04			1111	1004
9312-09-SC-00-05-0	3/19/2007	14:35:00	1.14E+04	1.55E+04		1111	1004
9312-09-BC-00-06-0	3/19/2007	14:37:00	9.78E+03			1111	1004
9312-09-SC-00-06-0	3/19/2007	14:43:00	1.05E+04	1.18E+04		1111	1004
9312-09-BC-00-07-0	3/19/2007	14:46:00	9.84E+03			1111	1004
9312-09-SC-00-07-0	3/19/2007	14:55:00	8.67E+03	1.18E+04		1111	1004
9312-09-BC-00-08-0	3/19/2007	14:56:00	9.48E+03			1111	1004
9312-09-SC-00-08-0	3/19/2007	15:07:00	1.07E+04	1.15E+04		1111	1004
9312-09-ER-00-08-1	3/20/2007	7:22:00	1.56E+04	1.15E+04	+	1111	1004
9312-09-BC-00-09-0	3/19/2007	15:11:00	1.08E+04			1111	1004
9312-09-SC-00-09-0	3/19/2007	15:23:00	1.08E+04	1.28E+04		1111	1004
9312-09-ER-00-09-1	3/20/2007	7:22:00	1.42E+04	1.28E+04	+	1111	1004
9312-09-BC-00-10-0	3/20/2007	9:58:00	6.28E+03			1111	1004
9312-09-SC-00-10-0	3/20/2007	10:03:00	6.28E+03	8.28E+03		1111	1004
9312-09-BC-00-11-0	3/20/2007	10:04:00	6.00E+03			1111	1004
9312-09-SC-00-11-0	3/20/2007	10:07:00	6.52E+03	8.00E+03		1111	1004
9312-09-BC-00-12-0	3/20/2007	10:08:00	6.32E+03			1111	1004
9312-09-SC-00-12-0	3/20/2007	10:11:00	6.38E+03	8.32E+03		1111	1004
9312-09-BC-00-13-0	3/20/2007	10:15:00	6.97E+03			1111	1004
9312-09-SC-00-13-0	3/20/2007	10:18:00	7.01E+03	8.97E+03		1111	1004
9312-09-BC-00-14-0	3/20/2007	10:19:00	7.29E+03			1111	1004
9312-09-SC-00-14-0	3/20/2007	10:21:00	6.47E+03	9.29E+03		1111	1004
9312-09-BC-00-15-0	3/20/2007	10:21:00	7.27E+03			1111	1004
9312-09-SC-00-15-0	3/20/2007	10:23:00	6.66E+03	9.27E+03		1111	1004
9312-09-BC-00-16-0	3/20/2007	10:28:00	6.00E+03			1111	1004
9312-09-SC-00-16-0	3/20/2007	10:30:00	6.84E+03	8.00E+03		1111	1004
9312-09-BC-00-17-0	3/20/2007	10:31:00	1.36E+04			1111	1004
9312-09-SC-00-17-0	3/20/2007	10:37:00	1.20E+04	1.56E+04		1111	1004
9312-09-BC-00-18-0	3/20/2007	10:42:00	1.10E+04			1111	1004
9312-09-SC-00-18-0	3/20/2007	10:46:00	9.26E+03	1.30E+04		1111	1004
9312-09-BC-00-19-0	3/20/2007	10:51:00	1.03E+04			1111	1004
9312-09-SC-00-19-0	3/20/2007	10:55:00	1.00E+04	1.23E+04		1111	1004
9312-09-BC-00-20-0	3/20/2007	10:57:00	8.49E+03			1111	1004
9312-09-SC-00-20-0	3/20/2007	11:02:00	8.47E+03	1.05E+04		1111	1004

Survey Unit 9312-0009

**Scan Survey Results
Scan Strip Scans**

Survey Location	Log Date	Log Time	Reading	Alarm Level	>Alarm Level	E-600 S/N	Probe S/N
9312-09-BC-00-21-0	3/20/2007	13:25:00	1.18E+04			1110	1010
9312-09-SC-00-21-0	3/20/2007	13:29:00	1.10E+04	1.38E+04		1110	1010
9312-09-BC-00-22-0	3/20/2007	13:30:00	8.92E+03			1110	1010
9312-09-SC-00-22-0	3/20/2007	13:34:00	7.18E+03	1.09E+04		1110	1010
9312-09-BC-00-23-0	3/20/2007	13:36:00	1.10E+04			1110	1010
9312-09-SC-00-23-0	3/20/2007	13:40:00	1.25E+04	1.30E+04		1110	1010
9312-09-BC-00-24-0	3/21/2007	7:39:00	1.34E+04			1117	1008
9312-09-SC-00-24-0	3/21/2007	7:41:00	1.31E+04	1.54E+04		1117	1008
9312-09-BC-00-25-0	3/20/2007	13:45:00	1.11E+04			1110	1010
9312-09-SC-00-25-0	3/20/2007	13:48:00	1.19E+04	1.31E+04		1110	1010
9312-09-BC-00-26-0	3/20/2007	13:49:00	9.29E+03			1110	1010
9312-09-SC-00-26-0	3/20/2007	13:51:00	1.05E+04	1.13E+04		1110	1010
9312-09-BC-00-27-0	3/20/2007	13:54:00	1.01E+04			1110	1010
9312-09-SC-00-27-0	3/20/2007	13:56:00	9.49E+03	1.21E+04		1110	1010
9312-09-BC-00-28-0	3/20/2007	13:58:00	9.09E+03			1110	1010
9312-09-SC-00-28-0	3/20/2007	14:00:00	1.08E+04	1.11E+04		1110	1010
9312-09-BC-00-29-0	3/20/2007	14:01:00	9.26E+03			1110	1010
9312-09-SC-00-29-0	3/20/2007	14:03:00	8.39E+03	1.13E+04		1110	1010
9312-09-BC-00-30-0	3/20/2007	14:04:00	5.58E+03			1110	1010
9312-09-SC-00-30-0	3/20/2007	14:08:00	7.04E+03	7.58E+03		1110	1010
9312-09-ER-00-30-1	3/21/2007	7:44:00	1.88E+04	7.58E+03	+	1117	1008
9312-09-BC-00-31-0	3/20/2007	14:48:00	1.24E+04			1110	1010
9312-09-SC-00-31-0	3/20/2007	14:51:00	1.26E+04	1.44E+04		1110	1010
9312-09-BC-00-32-0	3/20/2007	14:52:00	1.27E+04			1110	1010
9312-09-SC-00-32-0	3/20/2007	14:56:00	1.21E+04	1.47E+04		1110	1010
9312-09-BC-00-33-0	3/20/2007	14:57:00	1.07E+04			1110	1010
9312-09-SC-00-33-0	3/20/2007	15:02:00	1.11E+04	1.27E+04		1110	1010
9312-09-ER-00-33-1	3/21/2007	7:55:00	1.76E+04	1.27E+04	+	1117	1008
9312-09-BC-00-34-0	3/20/2007	15:02:00	1.22E+04			1110	1010
9312-09-SC-00-34-0	3/20/2007	15:07:00	1.12E+04	1.42E+04		1110	1010
9312-09-ER-00-34-1	3/21/2007	7:56:00	1.79E+04	1.42E+04	+	1117	1008
9312-09-BC-00-35-0	3/20/2007	15:08:00	9.89E+03			1110	1010
9312-09-SC-00-35-0	3/20/2007	15:14:00	1.00E+04	1.19E+04		1110	1010
9312-09-ER-00-35-1	3/21/2007	7:57:00	1.93E+04	1.19E+04	+	1117	1008
9312-09-ER-00-35-2	3/21/2007	7:59:00	1.21E+04	1.19E+04	+	1117	1008
9312-09-BC-00-36-0	3/21/2007	10:07:00	1.06E+04			1117	1008
9312-09-SC-00-36-0	3/21/2007	10:09:00	1.20E+04	1.26E+04		1117	1008
9312-09-BC-00-37-0	3/21/2007	10:11:00	1.09E+04			1117	1008
9312-09-SC-00-37-0	3/21/2007	10:41:00	1.10E+04	1.29E+04		1117	1008
9312-09-BC-00-38-0	3/21/2007	10:44:00	1.25E+04			1117	1008
9312-09-SC-00-38-0	3/21/2007	11:21:00	1.16E+04	1.45E+04		1117	1008
9312-09-BC-00-39-0	3/21/2007	13:20:00	1.10E+04			1117	1008
9312-09-SC-00-39-0	3/21/2007	14:19:00	1.22E+04	1.30E+04		1117	1008
9312-09-ER-00-39-2	3/23/2007	13:42:00	2.19E+04	1.30E+04	+	1117	1008
9312-09-ER-00-39-1	3/23/2007	13:48:00	1.57E+04	1.30E+04	+	1117	1008

Survey Unit 9312-0009

**Scan Survey Results
Scan Strip Scans**

Survey Location	Log Date	Log Time	Reading	Alarm Level	>Alarm Level	E-600 S/N	Probe S/N
9312-09-BC-00-40-0	3/21/2007	14:37:00	1.21E+04			1117	1008
9312-09-SC-00-40-0	3/21/2007	14:43:00	1.37E+04	1.41E+04		1117	1008
9312-09-BC-00-41-0	3/21/2007	14:53:00	1.33E+04			1117	1008
9312-09-SC-00-41-0	3/21/2007	15:11:00	1.16E+04	1.53E+04		1117	1008
9312-09-BC-00-42-0	3/22/2007	7:43:00	1.04E+04			1117	1008
9312-09-SC-00-42-0	3/22/2007	8:02:00	1.12E+04	1.24E+04		1117	1008
9312-09-ER-00-42-1	3/23/2007	13:30:00	1.45E+04	1.24E+04	+	1117	1008
9312-09-ER-00-42-2	3/23/2007	13:35:00	1.62E+04	1.24E+04	+	1117	1008
9312-09-BC-00-43-0	3/22/2007	8:11:00	1.12E+04			1117	1008
9312-09-SC-00-43-0	3/22/2007	8:31:00	1.14E+04	1.32E+04		1117	1008
9312-09-ER-00-43-1	3/23/2007	13:18:00	1.52E+04	1.32E+04	+	1117	1008
9312-09-BC-00-44-0	3/22/2007	10:07:00	1.24E+04			1117	1008
9312-09-SC-00-44-0	3/22/2007	10:19:00	1.10E+04	1.44E+04		1117	1008
9312-09-BC-00-45-0	3/22/2007	10:22:00	1.38E+04			1117	1008
9312-09-SC-00-45-0	3/22/2007	10:32:00	1.23E+04	1.58E+04		1117	1008
9312-09-BC-00-46-0	3/22/2007	10:38:00	1.19E+04			1117	1008
9312-09-SC-00-46-0	3/22/2007	10:54:00	1.31E+04	1.39E+04		1117	1008
9312-09-BC-00-47-0	3/22/2007	13:12:00	1.07E+04			1117	1008
9312-09-SC-00-47-0	3/22/2007	13:22:00	1.04E+04	1.27E+04		1117	1008
9312-09-BC-00-48-0	3/22/2007	13:30:00	1.14E+04			1117	1008
9312-09-SC-00-48-0	3/22/2007	13:40:00	1.23E+04	1.34E+04		1117	1008
9312-09-BC-00-49-0	3/22/2007	13:42:00	1.17E+04			1117	1008
9312-09-SC-00-49-0	3/22/2007	13:58:00	1.25E+04	1.37E+04		1117	1008
9312-09-BC-00-50-0	3/22/2007	14:04:00	9.14E+03			1117	1008
9312-09-SC-00-50-0	3/22/2007	14:16:00	1.04E+04	1.11E+04		1117	1008
9312-09-BC-00-51-0	3/22/2007	14:30:00	1.10E+04			1117	1008
9312-09-SC-00-51-0	3/22/2007	14:43:00	1.18E+04	1.30E+04		1117	1008
9312-09-BC-00-52-0	3/22/2007	14:48:00	1.02E+04			1117	1008
9312-09-SC-00-52-0	3/22/2007	15:06:00	1.07E+04	1.22E+04		1117	1008
9312-09-BC-00-53-0	3/23/2007	10:45:00	6.32E+03			1117	1008
9312-09-SC-00-53-0	3/23/2007	10:49:00	6.68E+03	8.32E+03		1117	1008
9312-09-BC-00-54-0	3/23/2007	7:40:00	7.92E+03			1117	1008
9312-09-SC-00-54-0	3/23/2007	8:11:00	7.51E+03	9.92E+03		1117	1008
9312-09-ER-00-54-1	3/23/2007	11:13:00	1.21E+04	9.92E+03	+	1117	1008
9312-09-BC-00-55-0	3/23/2007	8:13:00	8.92E+03			1117	1008
9312-09-SC-00-55-0	3/23/2007	8:24:00	7.95E+03	1.09E+04		1117	1008
9312-09-BC-00-56-0	3/23/2007	9:59:00	9.29E+03			1117	1008
9312-09-SC-00-56-0	3/23/2007	10:11:00	8.05E+03	1.13E+04		1117	1008
9312-09-BC-00-57-0	3/23/2007	10:15:00	7.56E+03			1117	1008
9312-09-SC-00-57-0	3/23/2007	10:23:00	7.12E+03	9.56E+03		1117	1008
9312-09-BC-00-58-0	3/23/2007	10:26:00	6.72E+03			1117	1008
9312-09-SC-00-58-0	3/23/2007	10:37:00	6.50E+03	8.72E+03		1117	1008

FORMER RADIOLOGICALLY CONTROLLED AREA
EAST TRENCH NORTH
SURVEY UNIT 9312-0009

RELEASE RECORD

ATTACHMENT 3 (LABORATORY DATA)

Revision 0

General Narrative

**General Narrative
for
Connecticut Yankee Atomic Power Co.
Work Order: 182732
SDG: MSR#07-00119**

March 26, 2007

Laboratory Identification:

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

Summary

Sample receipt

The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on March 22, 2007 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>
182732001	9312-0009-102F
182732002	9312-0009-104F
182732003	9312-0009-106F
182732004	9312-0009-107F
182732005	9312-0009-109F
182732006	9312-0009-111F
182732007	9312-0009-115F
182732008	9312-0009-117F
182732009	9312-0009-101F
182732010	9312-0009-103F
182732011	9312-0009-103FS
182732012	9312-0009-105F
182732013	9312-0009-108F
182732014	9312-0009-110F
182732015	9312-0009-112F
182732016	9312-0009-113F
182732017	9312-0009-114F
182732018	9312-0009-116F
182732019	9312-0009-119F
182732020	9312-0009-120F
182732021	9312-0009-120FS
182732022	9312-0009-121F
182732023	9312-0009-122-I
182732024	9312-0009-123-I
182732025	9312-0009-124-I

182732026 9312-0009-125-I
182732027 9312-0009-126F

Items of Note

There are no items to note.

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (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.

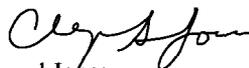
Analytical Request

Twenty-four soil samples were analyzed for FSSGAM and Strontium-90. Three 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 26 March 2007

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. 2007-00081

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size- & Type Code	Analyses Requested						Lab Use Only			
Contact Name & Phone: Jack McCarthy 860-267-3924						FSSGAM & Sr-90	FSSALL							Comments:	
Analytical Lab (Name, City, State): General Engineering Laboratories 2040 Savage Road Charleston, SC 29407 ATT: Cheryl Jones (843-556-8171)														182732%	
Priority: <input type="checkbox"/> 30 D. <input type="checkbox"/> 15 D. <input checked="" type="checkbox"/> 7 D. Other:														Comment, Preservation	Lab Sample ID
Sample Designation	Date	Time													
9312-0009-102F	3/15/07	1318	TS	G	BP	X									
9312-0009-104F	3/15/07	1328	TS	G	BP		X								
9312-0009-106F	3/15/07	1337	TS	G	BP	X									
9312-0009-107F	3/15/07	1343	TS	G	BP	X									
9312-0009-109F	3/15/07	1350	TS	G	BP	X									
9312-0009-111F	3/15/07	1403	TS	G	BP	X									
9312-0009-115F	3/15/07	1437	TS	G	BP	X									
9312-0009-117F	3/15/07	1420	TS	G	BP	X									
NOTES: PO #: 002332 MSR #: 07-00119 <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA						Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other			Internal Container Temp.: <u>14</u> Deg. C Custody Sealed? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Custody Seal Intact? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>						
1) Relinquished By <i>[Signature]</i>		Date/Time <u>3/21/07 0813</u>		2) Received By <i>[Signature]</i>		Date/Time <u>3-22-07 9:15</u>		Bill of Lading #							
3) Relinquished By		Date/Time		4) Received By		Date/Time									
5) Relinquished By		Date/Time		6) Received By		Date/Time									

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Connecticut Yankee Atomic Power Company

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

Chain of Custody Form

No. 2007-00082

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size- & Type Code	Analyses Requested						Lab Use Only											
Contact Name & Phone: Jack McCarthy 860-267-3924						FSSGAM & Sr-90	FSSALL							Comments:									
Analytical Lab (Name, City, State): General Engineering Laboratories 2040 Savage Road Charleston, SC 29407 ATT: Cheryl Jones (843-556-8171)														FSSGAM & Sr-90	FSSALL								
Priority: <input type="checkbox"/> 30 D. <input type="checkbox"/> 15 D. <input checked="" type="checkbox"/> 7 D. Other:																							
Sample Designation	Date	Time									Comment, Preservation	Lab Sample ID											
9312-0009-101F	3/19/07	1451	TS	G	BP	X																	
9312-0009-103F	3/19/07	1453	TS	G	BP	X																	
9312-0009-103FS	3/19/07	1453	TS	G	BP	X																	
9312-0009-105F	3/19/07	1455	TS	G	BP	X																	
9312-0009-108F	3/19/07	1456	TS	G	BP	X																	
9312-0009-110F	3/19/07	1458	TS	G	BP	X		X															
9312-0009-112F	3/19/07	1500	TS	G	BP	X																	
9312-0009-113F	3/19/07	1502	TS	G	BP	X																	
9312-0009-114F	3/19/07	1504	TS	G	BP	X																	
9312-0009-116F	3/19/07	1505	TS	G	BP	X																	
9312-0009-119F	3/19/07	1507	TS	G	BP	X																	
NOTES: PO #: 002332 MSR #: 07-00119 <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA											Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other		Internal Container Temp.: <u>14</u> Deg. C Custody Sealed? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Custody Seal Intact? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>										
1) Relinquished By <i>[Signature]</i>			Date/Time <u>3/21/07 0815</u>			2) Received By <i>[Signature]</i>			Date/Time <u>3-22-07 915</u>			Bill of Lading #											
3) Relinquished By			Date/Time			4) Received By			Date/Time														
5) Relinquished By			Date/Time			6) Received By			Date/Time														

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Connecticut Yankee Atomic Power Company

362 Injun Hollow Road, East Hampton, CT 06424
860-267-2536

Chain of Custody Form

No. 2007-00083

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size & Type Code	Analyses Requested						Lab Use Only					
Contact Name & Phone: Jack McCarthy 860-267-3924						FSSGAM & Sr-90	FSSALL							Comments:			
Analytical Lab (Name, City, State): General Engineering Laboratories 2040 Savage Road Charleston, SC 29407 ATT: Cheryl Jones (843-556-8171)														Comment, Preservation		Lab Sample ID	
Priority: <input type="checkbox"/> 30 D. <input type="checkbox"/> 15 D. <input checked="" type="checkbox"/> 7 D. Other:																	
Sample Designation	Date	Time															
9312-0009-120F	3/19/07	1509	TS	G	BP	X											
9312-0009-120FS	3/19/07	1509	TS	G	BP	X											
9312-0009-121F	3/19/07	1511	TS	G	BP	X											
9312-0009-122-I	3/20/07	0720	TS	G	BP	X											
9312-0009-123-I	3/20/07	0724	TS	G	BP	X											
9312-0009-124-I	3/20/07	0729	TS	G	BP	X											
9312-0009-125-I	3/20/07	0735	TS	G	BP	X											
9312-0009-126F	3/20/07	1103	TS	G	BP	X	X										
NOTES: PO #: 002332 MSR #: 07-00119 <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA											Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other		Internal Container Temp.: <u>14</u> Deg. C Custody Sealed? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Custody Seal Intact? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>				
1) Relinquished By <i>[Signature]</i>			Date/Time <u>3/21/07 0813</u>			2) Received By <i>Tanaka</i>			Date/Time <u>3-22-07 915</u>			Bill of Lading #					
3) Relinquished By			Date/Time			4) Received By			Date/Time								
5) Relinquished By			Date/Time			6) Received By			Date/Time								

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Figure 1. Sample Check-in List

Date/Time Received: 3-22-07 9:15

SDG#: MSR#07-00119

Work Order Number: 182732

Shipping Container ID: 79813338 9250 Chain of Custody #: 2007-00083
2007-00081 2007-00082

1. Custody Seals on shipping container intact? Yes No
2. Custody Seals dated and signed? Yes No
3. Chain-of-Custody record present? Yes No
4. Cooler temperature 140
5. Vermiculite/packing materials is: Wet Dry
6. Number of samples in shipping container: 8, 8, 11
7. Sample holding times exceeded? Yes No

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

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

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

Sample Custodian/Laboratory: Tue Ste Date: 3-22-07 9:15

Telephoned to: _____ On _____ By _____



SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: <u>CONNECTICUT YIELD</u>	SDG/ARCO/Work Order: <u>182732</u>
Date Received: <u>3-22-07</u>	PM(A) Review (ensure non-conforming items are resolved prior to signing): <i>Clyde</i>
Received By: <u>TS</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 <i>other (describe)</i> <u>See below</u> <i>padding MOCU</i>
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>7981 3338 9267 140</u> <u>7981 3338 9256 140</u>

Suspected Hazard Information	Non-Regulated	Regulated	High Level	RSO RAD Receipt # _____ *If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
A Radiological Classification?	✓			Maximum Counts Observed*: <u>100 cpm</u>
B PCB Regulated?	✓			
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: <input checked="" type="checkbox"/>				Initials: <u>TS</u> Date: <u>3/22/07</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 182732**

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:	619131
Prep Batch Number:	619108
Dry Soil Prep GL-RAD-A-021 Batch Number:	619106

Sample ID	Client ID
182732002	9312-0009-104F
182732014	9312-0009-110F
182732027	9312-0009-126F
1201300502	Method Blank (MB)
1201300503	182732002(9312-0009-104F) Sample Duplicate (DUP)
1201300504	182732002(9312-0009-104F) Matrix Spike (MS)
1201300505	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 15.

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: 182732002 (9312-0009-104F).

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 1201300503 (9312-0009-104F) was recounted due to a negative result greater than three times the error.

Miscellaneous Information:

NCR Documentation

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Alphaspec Pu, Solid-ALL FSS
Analytical Method:	DOE EML HASL-300, Pu-11-RC Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	619132
Prep Batch Number:	619108
Dry Soil Prep GL-RAD-A-021 Batch Number:	619106

Sample ID	Client ID
182732002	9312-0009-104F
182732014	9312-0009-110F
182732027	9312-0009-126F
1201300506	Method Blank (MB)
1201300507	182732002(9312-0009-104F) Sample Duplicate (DUP)
1201300508	182732002(9312-0009-104F) Matrix Spike (MS)
1201300509	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 15.

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: 182732002 (9312-0009-104F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Liquid Scint Pu241, Solid-ALL FSS
Analytical Method:	DOE EML HASL-300, Pu-11-RC Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	619133
Prep Batch Number:	619108
Dry Soil Prep GL-RAD-A-021 Batch Number:	619106

Sample ID	Client ID
182732002	9312-0009-104F
182732014	9312-0009-110F
182732027	9312-0009-126F
1201300510	Method Blank (MB)
1201300511	182732002(9312-0009-104F) Sample Duplicate (DUP)
1201300512	182732002(9312-0009-104F) Matrix Spike (MS)
1201300513	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-035 REV# 9.

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: 182732002 (9312-0009-104F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived
Analytical Method:	EML HASL 300, 4.5.2.3
Prep Method:	Dry Soil Prep
Analytical Batch Number:	619153
Prep Batch Number:	619106

Sample ID	Client ID
182732001	9312-0009-102F
182732002	9312-0009-104F
182732003	9312-0009-106F
182732004	9312-0009-107F
182732005	9312-0009-109F
182732006	9312-0009-111F
182732007	9312-0009-115F
182732008	9312-0009-117F
182732009	9312-0009-101F
182732010	9312-0009-103F
182732011	9312-0009-103FS
182732012	9312-0009-105F
182732013	9312-0009-108F
182732014	9312-0009-110F
182732015	9312-0009-112F
182732016	9312-0009-113F
182732017	9312-0009-114F
182732018	9312-0009-116F
182732019	9312-0009-119F
182732020	9312-0009-120F
1201300556	Method Blank (MB)
1201300557	182732001(9312-0009-102F) Sample Duplicate (DUP)
1201300558	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL 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: 182732001 (9312-0009-102F).

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 182732008 (9312-0009-117F) was recounted due to a technical error.

Miscellaneous Information:**NCR Documentation**

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

Additional Comments

The sample and the duplicate ,1201300557 (9312-0009-102F) and 182732001 (9312-0009-102F), did not meet the relative percent difference requirements for Cs-137, however they do meet the relative error ratio requirement with value of 1.53269 for Cs-137.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to interference.	Manganese-54	182732009
UI	Data rejected due to low abundance.	Cesium-134	182732002
			182732003
			182732004
			182732006
			182732007
			182732009
			182732011
			182732012
			182732014
			182732016
			182732020
			1201300557
		Cobalt-60	182732007

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: 619637

Prep Batch Number: 619107

Sample ID	Client ID
182732021	9312-0009-120FS
182732022	9312-0009-121F
182732023	9312-0009-122-I
182732024	9312-0009-123-I
182732025	9312-0009-124-I
182732026	9312-0009-125-I
182732027	9312-0009-126F
1201301732	Method Blank (MB)
1201301733	182732025(9312-0009-124-I) Sample Duplicate (DUP)
1201301734	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL 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: 182732025 (9312-0009-124-I).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to high counting uncertainty.	Potassium-40	1201301732
UI	Data rejected due to interference.	Manganese-54	182732026
UI	Data rejected due to low abundance.	Cesium-134	182732021
			182732022
			182732023
			182732024
			182732025
			182732026
			182732027
		Cobalt-60	182732022
			182732026
		Manganese-54	182732023

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:	619181
Prep Batch Number:	619108
Dry Soil Prep GL-RAD-A-021 Batch Number:	619106

Sample ID	Client ID
182732001	9312-0009-102F
182732002	9312-0009-104F
182732003	9312-0009-106F
182732004	9312-0009-107F
182732005	9312-0009-109F
182732006	9312-0009-111F
182732007	9312-0009-115F
182732008	9312-0009-117F
182732009	9312-0009-101F
182732010	9312-0009-103F
182732011	9312-0009-103FS
182732012	9312-0009-105F
182732013	9312-0009-108F
182732014	9312-0009-110F
182732015	9312-0009-112F
182732016	9312-0009-113F
182732017	9312-0009-114F
182732018	9312-0009-116F
182732019	9312-0009-119F
182732020	9312-0009-120F
1201300619	Method Blank (MB)
1201300620	182732009(9312-0009-101F) Sample Duplicate (DUP)
1201300621	182732009(9312-0009-101F) Matrix Spike (MS)
1201300622	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-004 REV# 11.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 182732009 (9312-0009-101F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Chemical Recoveries

All chemical recoveries meet the required acceptance limits for this sample set.

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product: 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: 619186

Prep Batch Number: 619108

Dry Soil Prep GL-RAD-A-021 Batch Number: 619107

Sample ID	Client ID
182732021	9312-0009-120FS
182732022	9312-0009-121F
182732023	9312-0009-122-I
182732024	9312-0009-123-I
182732025	9312-0009-124-I
182732026	9312-0009-125-I
182732027	9312-0009-126F
1201300627	Method Blank (MB)
1201300628	182732022(9312-0009-121F) Sample Duplicate (DUP)
1201300629	182732022(9312-0009-121F) Matrix Spike (MS)
1201300630	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-004 REV# 11.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 182732022 (9312-0009-121F).

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 1201300627 (MB), 182732021 (9312-0009-120FS), 182732022 (9312-0009-121F), 182732023 (9312-0009-122-I), 182732024 (9312-0009-123-I), 182732025 (9312-0009-124-I), 182732026 (9312-0009-125-I) and 182732027 (9312-0009-126F) were recounted due to high MDAs.

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:	619196

Sample ID	Client ID
182732002	9312-0009-104F
182732014	9312-0009-110F
182732027	9312-0009-126F
1201300631	Method Blank (MB)
1201300632	182732002(9312-0009-104F) Sample Duplicate (DUP)
1201300633	182732002(9312-0009-104F) Matrix Spike (MS)
1201300634	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL 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: 182732002 (9312-0009-104F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Liquid Scint Fe55, Solid-ALL FSS
Analytical Method:	DOE RESL Fe-1, Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	619278
Prep Batch Number:	619108
Dry Soil Prep GL-RAD-A-021 Batch Number:	619106

Sample ID	Client ID
182732002	9312-0009-104F
182732014	9312-0009-110F
182732027	9312-0009-126F
1201300842	Method Blank (MB)
1201300843	182732002(9312-0009-104F) Sample Duplicate (DUP)
1201300844	182732002(9312-0009-104F) Matrix Spike (MS)
1201300845	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL 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: 182732002 (9312-0009-104F).

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 1201300843 (9312-0009-104F) and 182732002 (9312-0009-104F) were recounted due to high relative percent difference/relative error ratio.

Miscellaneous Information:**NCR Documentation**

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

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: 620503
Prep Batch Number: 619108
Dry Soil Prep GL-RAD-A-021 Batch Number: 619106

Sample ID	Client ID
182732002	9312-0009-104F
182732014	9312-0009-110F
182732027	9312-0009-126F
1201303904	Method Blank (MB)
1201303905	182732014(9312-0009-110F) Sample Duplicate (DUP)
1201303906	182732014(9312-0009-110F) Matrix Spike (MS)
1201303907	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL 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: 182732014 (9312-0009-110F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples were reprepared due to low/high recovery.

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product: LSC, Tritium Dist, Solid - 3 pCi/g
Analytical Method: EPA 906.0 Modified
Analytical Batch Number: 619285

Sample ID	Client ID
182732002	9312-0009-104F
182732014	9312-0009-110F
182732027	9312-0009-126F
1201300860	Method Blank (MB)
1201300861	182732002(9312-0009-104F) Sample Duplicate (DUP)
1201300862	182732002(9312-0009-104F) Matrix Spike (MS)
1201300863	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-002 REV# 14.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 182732002 (9312-0009-104F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

The batch was recounted due to suspected false positives caused by detector error.

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product: Liquid Scint C14, Solid All,FSS

Analytical Method: EPA EERF C-01 Modified

Analytical Batch Number: 619288

Sample ID	Client ID
182732002	9312-0009-104F
182732014	9312-0009-110F
182732027	9312-0009-126F
1201300868	Method Blank (MB)
1201300869	182732002(9312-0009-104F) Sample Duplicate (DUP)
1201300870	182732002(9312-0009-104F) Matrix Spike (MS)
1201300871	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL 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: 182732002 (9312-0009-104F).

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: *Ramiro Williams* 3/29/07

SAMPLE DATA SUMMARY

GEL 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#07-00119 GEL Work Order: 182732

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 GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Cheryl Jones.

Reviewed by



GEL 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: March 29, 2007

Client Sample ID:	9312-0009-102F	Project:	YANK01204
Sample ID:	182732001	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	15-MAR-07		
Receive Date:	22-MAR-07		
Collector:	Client		
Moisture:	12.9%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.823	+/-0.146	0.0469	+/-0.146	0.0937	pCi/g		MJH1	03/23/07	1853	619153	1
Americium-241	U	0.0323	+/-0.0228	0.0194	+/-0.0228	0.0387	pCi/g						
Bismuth-212		0.752	+/-0.241	0.0923	+/-0.241	0.184	pCi/g						
Bismuth-214		0.743	+/-0.105	0.0228	+/-0.105	0.0456	pCi/g						
Cesium-134	U	0.026	+/-0.0267	0.016	+/-0.0267	0.0321	pCi/g						
Cesium-137		0.157	+/-0.0309	0.0122	+/-0.0309	0.0243	pCi/g						
Cobalt-60	U	-0.00346	+/-0.015	0.0124	+/-0.015	0.0247	pCi/g						
Europium-152	U	0.0216	+/-0.0464	0.0324	+/-0.0464	0.0648	pCi/g						
Europium-154	U	0.00779	+/-0.0475	0.0386	+/-0.0475	0.0771	pCi/g						
Europium-155	U	0.0318	+/-0.0408	0.0332	+/-0.0408	0.0664	pCi/g						
Lead-212		0.783	+/-0.0951	0.0184	+/-0.0951	0.0367	pCi/g						
Lead-214		0.804	+/-0.100	0.0223	+/-0.100	0.0446	pCi/g						
Manganese-54	U	0.00378	+/-0.0147	0.013	+/-0.0147	0.026	pCi/g						
Niobium-94	U	0.00523	+/-0.0141	0.0122	+/-0.0141	0.0243	pCi/g						
Potassium-40		11.1	+/-0.840	0.104	+/-0.840	0.209	pCi/g						
Radium-226		0.743	+/-0.105	0.0228	+/-0.105	0.0456	pCi/g						
Silver-108m	U	0.00395	+/-0.0129	0.0115	+/-0.0129	0.0229	pCi/g						
Thallium-208		0.280	+/-0.0418	0.0125	+/-0.0418	0.025	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.0141	+/-0.019	0.0173	+/-0.019	0.0383	pCi/g		KSD1	03/26/07	1859	619181	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1022	619106

The following Analytical Methods were performed

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

GEL 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: March 29, 2007

Client Sample ID: 9312-0009-102F
Sample ID: 182732001

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier		GFPC, Sr90, solid-ALL FSS			69		(25%-125%)						

Notes:

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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.

GEL 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: March 29, 2007

Client Sample ID: 9312-0009-104F
Sample ID: 182732002
Matrix: TS
Collect Date: 15-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 13.5%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	0.137	+/-0.134	0.0383	+/-0.135	0.159	pCi/g		MXA	03/23/07	1351	619131	1
Curium-242	U	0.0163	+/-0.0648	0.0397	+/-0.0649	0.164	pCi/g						
Curium-243/244	U	-0.0483	+/-0.100	0.105	+/-0.100	0.292	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	-0.0659	+/-0.0457	0.0871	+/-0.0463	0.267	pCi/g		MXA	03/23/07	1351	619132	2
Plutonium-239/240	U	-0.0233	+/-0.0797	0.0815	+/-0.0797	0.256	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	-2.59	+/-6.28	5.42	+/-6.28	11.5	pCi/g		MXA	03/27/07	0030	619133	3
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.956	+/-0.153	0.0394	+/-0.153	0.0787	pCi/g		MJH1	03/23/07	1854	619153	4
Americium-241	U	0.0734	+/-0.0717	0.0619	+/-0.0717	0.124	pCi/g						
Bismuth-212		0.720	+/-0.210	0.0844	+/-0.210	0.169	pCi/g						
Bismuth-214		0.964	+/-0.113	0.0212	+/-0.113	0.0423	pCi/g						
Cesium-134	UI	0.00	+/-0.0231	0.0153	+/-0.0231	0.0306	pCi/g						
Cesium-137	U	0.0165	+/-0.0155	0.0122	+/-0.0155	0.0244	pCi/g						
Cobalt-60	U	-0.0113	+/-0.0127	0.00996	+/-0.0127	0.0199	pCi/g						
Europium-152	U	0.0126	+/-0.048	0.0304	+/-0.048	0.0607	pCi/g						
Europium-154	U	-0.0112	+/-0.0464	0.0329	+/-0.0464	0.0658	pCi/g						
Europium-155	U	-0.0154	+/-0.0407	0.0376	+/-0.0407	0.0751	pCi/g						
Lead-212		0.863	+/-0.0752	0.0176	+/-0.0752	0.0351	pCi/g						
Lead-214		1.04	+/-0.104	0.0215	+/-0.104	0.043	pCi/g						
Manganese-54	U	0.000166	+/-0.0165	0.0121	+/-0.0165	0.0243	pCi/g						
Niobium-94	U	0.016	+/-0.0127	0.0114	+/-0.0127	0.0227	pCi/g						
Potassium-40		10.7	+/-0.834	0.0992	+/-0.834	0.198	pCi/g						
Radium-226		0.964	+/-0.113	0.0212	+/-0.113	0.0423	pCi/g						
Silver-108m	U	-0.00502	+/-0.0117	0.0103	+/-0.0117	0.0206	pCi/g						
Thallium-208		0.294	+/-0.0378	0.0113	+/-0.0378	0.0226	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.0233	+/-0.0199	0.0139	+/-0.0199	0.0318	pCi/g		KSD1	03/26/07	1859	619181	5
Rad Liquid Scintillation Analysis													

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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: March 29, 2007

Client Sample ID: 9312-0009-104F
Sample ID: 182732002

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid – 3 pCi/g</i>													
Tritium	U	-0.299	+/-1.13	0.961	+/-1.13	2.01	pCi/g		AXD2	03/26/07	1516	619285	6
<i>Liquid Scint C14, Solid All,FSS</i>													
Carbon-14	U	0.0404	+/-0.0991	0.0823	+/-0.0991	0.169	pCi/g		AXD2	03/24/07	1802	619288	8
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	-16.2	+/-29.2	20.7	+/-29.2	43.5	pCi/g		MXP1	03/27/07	1331	619278	9
<i>Liquid Scint Ni63, Solid-ALL FSS</i>													
Nickel-63	U	-4.89	+/-7.26	6.23	+/-7.26	12.8	pCi/g		MXP1	03/29/07	0000	620503	11
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.174	+/-0.243	0.200	+/-0.243	0.409	pCi/g		MXP1	03/27/07	1551	619196	13

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1022	619106

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	EML HASL 300, 4.5.2.3
5	EPA 905.0 Modified
6	EPA 906.0 Modified
7	EPA 906.0 Modified
8	EPA EERF C-01 Modified
9	DOE RESL Fe-1, Modified
10	DOE RESL Fe-1, Modified
11	DOE RESL Ni-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 Tracer	Alphaspec Am241, Cm, Solid ALL	91	(15%-125%)
Plutonium-242 Tracer	Alphaspec Pu, Solid-ALL FSS	86	(15%-125%)

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Certificate of Analysis

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

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

Report Date: March 29, 2007

Client Sample ID: 9312-0009-104F
Sample ID: 182732002

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time Batch	Mtd
Strontium Carrier		GFPC, Sr90, solid-ALL	FSS		60		(25%-125%)					
Iron-59 Tracer		Liquid Scint Fe55, Solid-ALL	FS		74		(15%-125%)					
Nickel Carrier		Liquid Scint Ni63, Solid-ALL	FS		70		(25%-125%)					
Technetium-99m Tracer		Liquid Scint Tc99, Solid-ALL	FS		81		(15%-125%)					

Notes:

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
 - < Result is less than value reported
 - > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B For General Chemistry and Organic analysis the 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
 - ND Analyte concentration is not detected above the detection limit
 - 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: March 29, 2007

Client Sample ID: 9312-0009-106F
Sample ID: 182732003
Matrix: TS
Collect Date: 15-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 17.8%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth Waived</i>													
Actinium-228		0.665	+/-0.120	0.0424	+/-0.120	0.0847	pCi/g		MJH1	03/23/07	1854	619153	1
Americium-241	U	0.0578	+/-0.0557	0.0445	+/-0.0557	0.089	pCi/g						
Bismuth-212		0.609	+/-0.171	0.0842	+/-0.171	0.168	pCi/g						
Bismuth-214		0.657	+/-0.0813	0.0242	+/-0.0813	0.0484	pCi/g						
Cesium-134	UI	0.00	+/-0.0182	0.0144	+/-0.0182	0.0288	pCi/g						
Cesium-137		5.55	+/-0.433	0.0128	+/-0.433	0.0256	pCi/g						
Cobalt-60		0.443	+/-0.0448	0.00999	+/-0.0448	0.020	pCi/g						
Europium-152	U	-0.00397	+/-0.0629	0.0416	+/-0.0629	0.0831	pCi/g						
Europium-154	U	-0.00226	+/-0.0464	0.0334	+/-0.0464	0.0667	pCi/g						
Europium-155	U	0.00394	+/-0.0441	0.0386	+/-0.0441	0.0771	pCi/g						
Lead-212		0.659	+/-0.0657	0.0226	+/-0.0657	0.0451	pCi/g						
Lead-214		0.777	+/-0.0958	0.030	+/-0.0958	0.0599	pCi/g						
Manganese-54	U	0.00691	+/-0.0166	0.0127	+/-0.0166	0.0254	pCi/g						
Niobium-94	U	0.00382	+/-0.0124	0.0105	+/-0.0124	0.021	pCi/g						
Potassium-40		9.56	+/-0.741	0.0929	+/-0.741	0.186	pCi/g						
Radium-226		0.657	+/-0.0813	0.0242	+/-0.0813	0.0484	pCi/g						
Silver-108m	U	0.00298	+/-0.0188	0.0163	+/-0.0188	0.0326	pCi/g						
Thallium-208		0.201	+/-0.0346	0.0129	+/-0.0346	0.0259	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90		0.0451	+/-0.0238	0.016	+/-0.0238	0.0355	pCi/g		KSD1	03/26/07	1859	619181	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1022	619106

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
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Certificate of Analysis

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

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

Report Date: March 29, 2007

Client Sample ID: 9312–0009–106F
Sample ID: 182732003

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid–ALL	FSS			74		(25%–125%)						

Notes:

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol–condensation product
- B For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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.

GEL 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: March 29, 2007

Client Sample ID: 9312-0009-107F
Sample ID: 182732004
Matrix: TS
Collect Date: 15-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 5.4%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.741	+/-0.117	0.0324	+/-0.117	0.0648	pCi/g		MJH1	03/23/07	1855	619153	1
Americium-241	U	0.0385	+/-0.0411	0.0357	+/-0.0411	0.0713	pCi/g						
Bismuth-212		0.428	+/-0.156	0.072	+/-0.156	0.144	pCi/g						
Bismuth-214		0.694	+/-0.0823	0.0174	+/-0.0823	0.0349	pCi/g						
Cesium-134	UI	0.00	+/-0.0149	0.0117	+/-0.0149	0.0234	pCi/g						
Cesium-137		0.0838	+/-0.0197	0.00957	+/-0.0197	0.0191	pCi/g						
Cobalt-60	U	0.0109	+/-0.0126	0.00985	+/-0.0126	0.0197	pCi/g						
Europium-152	U	-0.0432	+/-0.0361	0.0255	+/-0.0361	0.0509	pCi/g						
Europium-154	U	-0.0448	+/-0.0355	0.0277	+/-0.0355	0.0553	pCi/g						
Europium-155	U	0.0423	+/-0.043	0.0286	+/-0.043	0.0573	pCi/g						
Lead-212		0.784	+/-0.0664	0.0147	+/-0.0664	0.0295	pCi/g						
Lead-214		0.750	+/-0.0769	0.0182	+/-0.0769	0.0363	pCi/g						
Manganese-54	U	0.0166	+/-0.0158	0.00864	+/-0.0158	0.0173	pCi/g						
Niobium-94	U	0.0104	+/-0.0104	0.0093	+/-0.0104	0.0186	pCi/g						
Potassium-40		9.71	+/-0.723	0.0744	+/-0.723	0.149	pCi/g						
Radium-226		0.694	+/-0.0823	0.0174	+/-0.0823	0.0349	pCi/g						
Silver-108m	U	-0.00155	+/-0.00949	0.00844	+/-0.00949	0.0169	pCi/g						
Thallium-208		0.234	+/-0.0317	0.00908	+/-0.0317	0.0182	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.000719	+/-0.0158	0.0134	+/-0.0158	0.030	pCi/g		KSD1	03/26/07	1859	619181	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1022	619106

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
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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: March 29, 2007

Client Sample ID: 9312-0009-107F
Sample ID: 182732004

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits					
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				77		(25%-125%)					

Notes:

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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 For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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: March 29, 2007

Client Sample ID: 9312-0009-109F
Sample ID: 182732005
Matrix: TS
Collect Date: 15-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 11.1%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.912	+/-0.176	0.0457	+/-0.176	0.0913	pCi/g		MJH1	03/26/07	1550	619153	1
Americium-241	U	0.00152	+/-0.0981	0.0614	+/-0.0981	0.123	pCi/g						
Bismuth-212		0.594	+/-0.215	0.106	+/-0.215	0.211	pCi/g						
Bismuth-214		0.743	+/-0.0957	0.0289	+/-0.0957	0.0577	pCi/g						
Cesium-134	U	0.0278	+/-0.0335	0.0183	+/-0.0335	0.0366	pCi/g						
Cesium-137		1.13	+/-0.113	0.0146	+/-0.113	0.0291	pCi/g						
Cobalt-60		0.0607	+/-0.0302	0.0153	+/-0.0302	0.0306	pCi/g						
Europium-152	U	-0.0464	+/-0.0555	0.0402	+/-0.0555	0.0803	pCi/g						
Europium-154	U	-0.0434	+/-0.057	0.0464	+/-0.057	0.0927	pCi/g						
Europium-155	U	0.0515	+/-0.0542	0.0513	+/-0.0542	0.103	pCi/g						
Lead-212		0.825	+/-0.0812	0.0253	+/-0.0812	0.0506	pCi/g						
Lead-214		0.865	+/-0.103	0.0301	+/-0.103	0.0602	pCi/g						
Manganese-54	U	0.0116	+/-0.0177	0.016	+/-0.0177	0.0319	pCi/g						
Niobium-94	U	-0.0114	+/-0.0163	0.0134	+/-0.0163	0.0267	pCi/g						
Potassium-40		10.1	+/-0.861	0.128	+/-0.861	0.255	pCi/g						
Radium-226		0.743	+/-0.0957	0.0289	+/-0.0957	0.0577	pCi/g						
Silver-108m	U	-0.0082	+/-0.0166	0.014	+/-0.0166	0.0279	pCi/g						
Thallium-208		0.257	+/-0.0441	0.0149	+/-0.0441	0.0297	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.00468	+/-0.0177	0.0154	+/-0.0177	0.0345	pCi/g		KSD1	03/26/07	1900	619181	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1022	619106

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
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Certificate of Analysis

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

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

Report Date: March 29, 2007

Client Sample ID: 9312-0009-109F Project: YANK01204
Sample ID: 182732005 Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery		Test		Recovery%		Acceptable Limits							
Strontium Carrier		GFPC, Sr90, solid-ALL FSS			67	(25%-125%)							

Notes:

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 - < Result is less than value reported
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 - A The TIC is a suspected aldol-condensation product
 - B For General Chemistry and Organic analysis the 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
 - ND Analyte concentration is not detected above the detection limit
 - 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: March 29, 2007

Client Sample ID: 9312-0009-111F
Sample ID: 182732006
Matrix: TS
Collect Date: 15-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 8.47%

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

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

Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth

Waived

Actinium-228		0.575	+/-0.0926	0.0276	+/-0.0926	0.0551	pCi/g		MJH1	03/23/07	1855	619153	1
Americium-241	U	-0.00873	+/-0.0597	0.0503	+/-0.0597	0.101	pCi/g						
Bismuth-212		0.340	+/-0.130	0.0582	+/-0.130	0.116	pCi/g						
Bismuth-214		0.536	+/-0.070	0.0164	+/-0.070	0.0327	pCi/g						
Cesium-134	UI	0.00	+/-0.0145	0.00973	+/-0.0145	0.0195	pCi/g						
Cesium-137		0.557	+/-0.0553	0.00852	+/-0.0553	0.017	pCi/g						
Cobalt-60		0.0212	+/-0.0196	0.00783	+/-0.0196	0.0157	pCi/g						
Europium-152	U	-0.0158	+/-0.0314	0.0216	+/-0.0314	0.0432	pCi/g						
Europium-154	U	-0.0194	+/-0.0289	0.0242	+/-0.0289	0.0484	pCi/g						
Europium-155	U	0.0491	+/-0.0322	0.0299	+/-0.0322	0.0598	pCi/g						
Lead-212		0.580	+/-0.0536	0.0132	+/-0.0536	0.0264	pCi/g						
Lead-214		0.649	+/-0.0701	0.016	+/-0.0701	0.0321	pCi/g						
Manganese-54	U	0.00584	+/-0.00873	0.00784	+/-0.00873	0.0157	pCi/g						
Niobium-94	U	-0.000659	+/-0.0087	0.00741	+/-0.0087	0.0148	pCi/g						
Potassium-40		9.90	+/-0.685	0.0764	+/-0.685	0.153	pCi/g						
Radium-226		0.536	+/-0.070	0.0164	+/-0.070	0.0327	pCi/g						
Silver-108m	U	-0.0041	+/-0.00854	0.00757	+/-0.00854	0.0151	pCi/g						
Thallium-208		0.185	+/-0.0253	0.00805	+/-0.0253	0.0161	pCi/g						

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid-ALL FSS

Strontium-90	U	-0.0207	+/-0.0155	0.0152	+/-0.0155	0.0338	pCi/g		KSD1	03/26/07	1900	619181	2
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1022	619106

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
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East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: March 29, 2007

Client Sample ID: 9312-0009-111F
Sample ID: 182732006

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier		GFPC, Sr90, solid-ALL FSS			67		(25%-125%)						

Notes:

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- B For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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: March 29, 2007

Client Sample ID: 9312-0009-115F
Sample ID: 182732007
Matrix: TS
Collect Date: 15-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 10.3%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.586	+/-0.117	0.0302	+/-0.117	0.0604	pCi/g		MJH1	03/23/07	1855	619153	1
Americium-241	U	0.0395	+/-0.0488	0.0425	+/-0.0488	0.0849	pCi/g						
Bismuth-212		0.373	+/-0.133	0.0669	+/-0.133	0.134	pCi/g						
Bismuth-214		0.542	+/-0.0708	0.0175	+/-0.0708	0.0349	pCi/g						
Cesium-134	UI	0.00	+/-0.0193	0.0118	+/-0.0193	0.0235	pCi/g						
Cesium-137		0.901	+/-0.0785	0.00952	+/-0.0785	0.019	pCi/g						
Cobalt-60	UI	0.00	+/-0.0118	0.0114	+/-0.0118	0.0227	pCi/g						
Europium-152	U	-0.0253	+/-0.0365	0.0268	+/-0.0365	0.0535	pCi/g						
Europium-154	U	0.0148	+/-0.0341	0.0302	+/-0.0341	0.0603	pCi/g						
Europium-155	U	0.0263	+/-0.0357	0.0299	+/-0.0357	0.0598	pCi/g						
Lead-212		0.544	+/-0.0523	0.0154	+/-0.0523	0.0307	pCi/g						
Lead-214		0.614	+/-0.0724	0.0193	+/-0.0724	0.0387	pCi/g						
Manganese-54	U	0.00107	+/-0.0107	0.00923	+/-0.0107	0.0184	pCi/g						
Niobium-94	U	-0.00289	+/-0.00989	0.00849	+/-0.00989	0.017	pCi/g						
Potassium-40		9.10	+/-0.735	0.0786	+/-0.735	0.157	pCi/g						
Radium-226		0.542	+/-0.0708	0.0175	+/-0.0708	0.0349	pCi/g						
Silver-108m	U	-0.00472	+/-0.0108	0.00963	+/-0.0108	0.0192	pCi/g						
Thallium-208		0.182	+/-0.0263	0.00921	+/-0.0263	0.0184	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.00905	+/-0.0195	0.0154	+/-0.0195	0.0345	pCi/g		KSD1	03/26/07	1900	619181	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1022	619106

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
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Certificate of Analysis

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

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

Report Date: March 29, 2007

Client Sample ID: 9312–0009–115F
Sample ID: 182732007

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid	ALL FSS			68		(25%–125%)						

Notes:

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- B For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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: March 29, 2007

Client Sample ID: 9312-0009-117F
Sample ID: 182732008
Matrix: TS
Collect Date: 15-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 13%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		1.04	+/-0.204	0.0821	+/-0.204	0.164	pCi/g		MJH1	03/28/07	1439	619153	1
Americium-241	U	0.0464	+/-0.0532	0.0381	+/-0.0532	0.0762	pCi/g						
Bismuth-212		0.673	+/-0.356	0.167	+/-0.356	0.334	pCi/g						
Bismuth-214		1.00	+/-0.160	0.0426	+/-0.160	0.0851	pCi/g						
Cesium-134	U	0.0542	+/-0.0424	0.0302	+/-0.0424	0.0604	pCi/g						
Cesium-137		1.71	+/-0.186	0.0229	+/-0.186	0.0457	pCi/g						
Cobalt-60		0.0592	+/-0.0473	0.0202	+/-0.0473	0.0403	pCi/g						
Europium-152	U	-0.00989	+/-0.101	0.061	+/-0.101	0.122	pCi/g						
Europium-154	U	-0.021	+/-0.0928	0.0764	+/-0.0928	0.153	pCi/g						
Europium-155	U	0.0102	+/-0.0711	0.0545	+/-0.0711	0.109	pCi/g						
Lead-212		0.904	+/-0.102	0.0333	+/-0.102	0.0665	pCi/g						
Lead-214		1.10	+/-0.154	0.0451	+/-0.154	0.090	pCi/g						
Manganese-54	U	-0.018	+/-0.0292	0.0243	+/-0.0292	0.0486	pCi/g						
Niobium-94	U	0.0164	+/-0.0277	0.0222	+/-0.0277	0.0444	pCi/g						
Potassium-40		9.97	+/-1.02	0.215	+/-1.02	0.429	pCi/g						
Radium-226		1.00	+/-0.160	0.0426	+/-0.160	0.0851	pCi/g						
Silver-108m	U	-0.0116	+/-0.0267	0.0229	+/-0.0267	0.0459	pCi/g						
Thallium-208		0.303	+/-0.0597	0.0227	+/-0.0597	0.0453	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.00542	+/-0.0212	0.0173	+/-0.0212	0.0383	pCi/g		KSD1	03/26/07	1900	619181	3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1022	619106

The following Analytical Methods were performed

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

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Certificate of Analysis

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

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

Report Date: March 29, 2007

Client Sample ID: 9312–0009–117F
Sample ID: 182732008

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits					
Strontium Carrier	GFPC, Sr90, solid–ALL FSS				63		(25%–125%)					

Notes:

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol–condensation product
- B For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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.

GEL 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: March 29, 2007

Client Sample ID: 9312-0009-101F
Sample ID: 182732009
Matrix: TS
Collect Date: 19-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 7.96%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.998	+/-0.155	0.0334	+/-0.155	0.0668	pCi/g		MJH1	03/23/07	1856	619153	1
Americium-241	U	0.0129	+/-0.0512	0.0402	+/-0.0512	0.0804	pCi/g						
Bismuth-212		0.752	+/-0.187	0.0743	+/-0.187	0.148	pCi/g						
Bismuth-214		0.906	+/-0.102	0.0183	+/-0.102	0.0365	pCi/g						
Cesium-134	UI	0.00	+/-0.0191	0.0129	+/-0.0191	0.0258	pCi/g						
Cesium-137		0.0558	+/-0.0155	0.00974	+/-0.0155	0.0195	pCi/g						
Cobalt-60	U	0.00833	+/-0.0124	0.0108	+/-0.0124	0.0217	pCi/g						
Europium-152	U	-0.0466	+/-0.0563	0.0266	+/-0.0563	0.0531	pCi/g						
Europium-154	U	-0.0208	+/-0.0377	0.0315	+/-0.0377	0.063	pCi/g						
Europium-155	U	0.0454	+/-0.0363	0.0316	+/-0.0363	0.0632	pCi/g						
Lead-212		0.980	+/-0.0806	0.0161	+/-0.0806	0.0322	pCi/g						
Lead-214		1.06	+/-0.101	0.019	+/-0.101	0.0379	pCi/g						
Manganese-54	UI	0.00	+/-0.0232	0.00759	+/-0.0232	0.0152	pCi/g						
Niobium-94	U-0.000757		+/-0.0105	0.00886	+/-0.0105	0.0177	pCi/g						
Potassium-40		17.2	+/-1.17	0.0914	+/-1.17	0.183	pCi/g						
Radium-226		0.906	+/-0.102	0.0183	+/-0.102	0.0365	pCi/g						
Silver-108m	U	-0.00237	+/-0.0119	0.00865	+/-0.0119	0.0173	pCi/g						
Thallium-208		0.314	+/-0.035	0.00949	+/-0.035	0.019	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.016	+/-0.0207	0.0158	+/-0.0207	0.0352	pCi/g		KSD1	03/26/07	1900	619181	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1022	619106

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
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Certificate of Analysis

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

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

Report Date: March 29, 2007

Client Sample ID: 9312–0009–101F
Sample ID: 182732009

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits					
Strontium Carrier	GFPC, Sr90, solid–ALL	FSS			74		(25%–125%)					

Notes:

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
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- 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
- ND Analyte concentration is not detected above the detection limit
- 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.

GEL 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: March 29, 2007

Client Sample ID: 9312-0009-103F
Sample ID: 182732010
Matrix: TS
Collect Date: 19-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 8.64%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.740	+/-0.164	0.0623	+/-0.164	0.125	pCi/g		MJH1	03/24/07	0642	619153	1
Americium-241	U	0.0337	+/-0.0313	0.0271	+/-0.0313	0.0541	pCi/g						
Bismuth-212		0.499	+/-0.251	0.138	+/-0.251	0.276	pCi/g						
Bismuth-214		0.660	+/-0.106	0.0303	+/-0.106	0.0606	pCi/g						
Cesium-134	U	0.0257	+/-0.0244	0.0226	+/-0.0244	0.0452	pCi/g						
Cesium-137		0.517	+/-0.0696	0.0176	+/-0.0696	0.0351	pCi/g						
Cobalt-60	U	0.0323	+/-0.0257	0.0215	+/-0.0257	0.043	pCi/g						
Europium-152	U	0.066	+/-0.0552	0.048	+/-0.0552	0.096	pCi/g						
Europium-154	U	-0.0315	+/-0.0666	0.0539	+/-0.0666	0.108	pCi/g						
Europium-155	U	0.0851	+/-0.0627	0.0436	+/-0.0627	0.0871	pCi/g						
Lead-212		0.748	+/-0.0972	0.0255	+/-0.0972	0.0509	pCi/g						
Lead-214		0.633	+/-0.0999	0.0308	+/-0.0999	0.0615	pCi/g						
Manganese-54	U	-0.00831	+/-0.019	0.0161	+/-0.019	0.0323	pCi/g						
Niobium-94	U	-0.00459	+/-0.0192	0.0161	+/-0.0192	0.0321	pCi/g						
Potassium-40		11.8	+/-1.02	0.136	+/-1.02	0.272	pCi/g						
Radium-226		0.660	+/-0.106	0.0303	+/-0.106	0.0606	pCi/g						
Silver-108m	U	-0.0152	+/-0.0213	0.0155	+/-0.0213	0.031	pCi/g						
Thallium-208		0.242	+/-0.0514	0.0174	+/-0.0514	0.0347	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.0243	+/-0.025	0.0191	+/-0.025	0.0417	pCi/g		KSD1	03/26/07	1901	619181	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1022	619106

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
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Certificate of Analysis

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

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

Report Date: March 29, 2007

Client Sample ID: 9312-0009-103F
Sample ID: 182732010

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid-ALL	FSS			71		(25%-125%)						

Notes:

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- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- ND Analyte concentration is not detected above the detection limit
- 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: March 29, 2007

Client Sample ID:	9312-0009-103FS	Project:	YANK01204
Sample ID:	182732011	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	19-MAR-07		
Receive Date:	22-MAR-07		
Collector:	Client		
Moisture:	9.29%		

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

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

Actinium-228		0.778	+/-0.136	0.0433	+/-0.136	0.0865	pCi/g		MJH1	03/24/07	0642	619153	1
Americium-241	U	0.005	+/-0.0966	0.0793	+/-0.0966	0.159	pCi/g						
Bismuth-212		0.522	+/-0.189	0.0908	+/-0.189	0.181	pCi/g						
Bismuth-214		0.617	+/-0.0949	0.0255	+/-0.0949	0.051	pCi/g						
Cesium-134	UI	0.00	+/-0.0264	0.0168	+/-0.0264	0.0335	pCi/g						
Cesium-137		0.559	+/-0.0634	0.0143	+/-0.0634	0.0286	pCi/g						
Cobalt-60		0.0607	+/-0.0264	0.014	+/-0.0264	0.028	pCi/g						
Europium-152	U	0.0221	+/-0.0564	0.0366	+/-0.0564	0.0731	pCi/g						
Europium-154	U	-0.00209	+/-0.0492	0.0421	+/-0.0492	0.0842	pCi/g						
Europium-155	U	0.00665	+/-0.0513	0.0453	+/-0.0513	0.0905	pCi/g						
Lead-212		0.784	+/-0.0776	0.0206	+/-0.0776	0.0413	pCi/g						
Lead-214		0.687	+/-0.092	0.0257	+/-0.092	0.0514	pCi/g						
Manganese-54	U	0.00319	+/-0.0155	0.0136	+/-0.0155	0.0271	pCi/g						
Niobium-94	U	0.00178	+/-0.0149	0.0126	+/-0.0149	0.0252	pCi/g						
Potassium-40		12.5	+/-0.977	0.116	+/-0.977	0.231	pCi/g						
Radium-226		0.617	+/-0.0949	0.0255	+/-0.0949	0.051	pCi/g						
Silver-108m	U	-0.0127	+/-0.0143	0.0121	+/-0.0143	0.0242	pCi/g						
Thallium-208		0.205	+/-0.0347	0.0131	+/-0.0347	0.0262	pCi/g						

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid-ALL FSS

Strontium-90	U	-0.0115	+/-0.0198	0.0176	+/-0.0198	0.0386	pCi/g		KSD1	03/26/07	1901	619181	2
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1022	619106

The following Analytical Methods were performed

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

GEL 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: March 29, 2007

Client Sample ID: 9312-0009-103FS
Sample ID: 182732011

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				74		(25%-125%)						

Notes:

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- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- ND Analyte concentration is not detected above the detection limit
- 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.

GEL 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: March 29, 2007

Client Sample ID: 9312-0009-105F
Sample ID: 182732012
Matrix: TS
Collect Date: 19-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 5.32%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth Waived</i>													
Actinium-228		0.972	+/-0.172	0.0457	+/-0.172	0.0913	pCi/g		MJH1	03/24/07	0643	619153	1
Americium-241	U	0.0246	+/-0.072	0.0574	+/-0.072	0.115	pCi/g						
Bismuth-212		0.704	+/-0.200	0.107	+/-0.200	0.214	pCi/g						
Bismuth-214		0.942	+/-0.113	0.0249	+/-0.113	0.0498	pCi/g						
Cesium-134	UI	0.00	+/-0.0314	0.0177	+/-0.0314	0.0354	pCi/g						
Cesium-137		0.0802	+/-0.0211	0.0137	+/-0.0211	0.0273	pCi/g						
Cobalt-60	U	0.00272	+/-0.0174	0.015	+/-0.0174	0.0299	pCi/g						
Europium-152	U	-0.0575	+/-0.0587	0.0361	+/-0.0587	0.0721	pCi/g						
Europium-154	U	-0.0275	+/-0.0533	0.0443	+/-0.0533	0.0886	pCi/g						
Europium-155	U	0.0577	+/-0.0632	0.0451	+/-0.0632	0.0901	pCi/g						
Lead-212		0.909	+/-0.0823	0.0225	+/-0.0823	0.0449	pCi/g						
Lead-214		1.03	+/-0.112	0.0259	+/-0.112	0.0518	pCi/g						
Manganese-54	U	0.0134	+/-0.018	0.0145	+/-0.018	0.0289	pCi/g						
Niobium-94	U	0.0174	+/-0.0148	0.0132	+/-0.0148	0.0264	pCi/g						
Potassium-40		16.0	+/-1.20	0.119	+/-1.20	0.237	pCi/g						
Radium-226		0.942	+/-0.113	0.0249	+/-0.113	0.0498	pCi/g						
Silver-108m	U	-0.00712	+/-0.0147	0.0123	+/-0.0147	0.0245	pCi/g						
Thallium-208		0.298	+/-0.0388	0.0136	+/-0.0388	0.0272	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.0197	+/-0.018	0.0128	+/-0.018	0.0293	pCi/g		KSD1	03/26/07	1901	619181	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1022	619106

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
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GEL 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: March 29, 2007

Client Sample ID: 9312–0009–105F
Sample ID: 182732012

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery %		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid–ALL FSS				60		(25%–125%)						

Notes:

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < 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
- ND Analyte concentration is not detected above the detection limit
- 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.

GEL 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: March 29, 2007

Client Sample ID: 9312-0009-108F
Sample ID: 182732013
Matrix: TS
Collect Date: 19-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 2.77%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.558	+/-0.151	0.0608	+/-0.151	0.122	pCi/g		MJH1	03/26/07	1337	619153	1
Americium-241	U	0.0508	+/-0.0858	0.0753	+/-0.0858	0.151	pCi/g						
Bismuth-212		0.502	+/-0.228	0.132	+/-0.228	0.264	pCi/g						
Bismuth-214		0.443	+/-0.0893	0.0338	+/-0.0893	0.0676	pCi/g						
Cesium-134	U	0.0262	+/-0.0406	0.022	+/-0.0406	0.044	pCi/g						
Cesium-137	U	0.0061	+/-0.0209	0.0187	+/-0.0209	0.0374	pCi/g						
Cobalt-60	U	0.00742	+/-0.0236	0.0208	+/-0.0236	0.0415	pCi/g						
Europium-152	U	-0.00143	+/-0.0551	0.0471	+/-0.0551	0.0941	pCi/g						
Europium-154	U	-0.008	+/-0.0644	0.0542	+/-0.0644	0.108	pCi/g						
Europium-155	U	0.0394	+/-0.0553	0.0518	+/-0.0553	0.104	pCi/g						
Lead-212		0.575	+/-0.0711	0.0264	+/-0.0711	0.0528	pCi/g						
Lead-214		0.454	+/-0.095	0.0321	+/-0.095	0.0641	pCi/g						
Manganese-54	U	0.0175	+/-0.0198	0.0183	+/-0.0198	0.0366	pCi/g						
Niobium-94	U	0.0102	+/-0.0219	0.0174	+/-0.0219	0.0348	pCi/g						
Potassium-40		9.28	+/-1.05	0.165	+/-1.05	0.329	pCi/g						
Radium-226		0.443	+/-0.0893	0.0338	+/-0.0893	0.0676	pCi/g						
Silver-108m	U	-0.0059	+/-0.0177	0.0149	+/-0.0177	0.0298	pCi/g						
Thallium-208		0.193	+/-0.0369	0.019	+/-0.0369	0.0379	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.0163	+/-0.0182	0.0135	+/-0.0182	0.0304	pCi/g		KSD1	03/26/07	1901	619181	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1022	619106

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
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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: March 29, 2007

Client Sample ID: 9312-0009-108F
Sample ID: 182732013

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				74		(25%-125%)						

Notes:

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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: March 29, 2007

Client Sample ID: 9312-0009-110F
Sample ID: 182732014
Matrix: TS
Collect Date: 19-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: .0667%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	-0.0607	+/-0.0555	0.089	+/-0.0561	0.273	pCi/g		MXA	03/23/07	1351	619131	1
Curium-242	U	0.0286	+/-0.106	0.0717	+/-0.106	0.240	pCi/g						
Curium-243/244	U	0.0126	+/-0.131	0.104	+/-0.131	0.304	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	0.0222	+/-0.0589	0.0262	+/-0.0589	0.132	pCi/g		MXA	03/23/07	1351	619132	2
Plutonium-239/240	U	0.0374	+/-0.0844	0.0454	+/-0.0845	0.170	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	-1.32	+/-6.02	5.13	+/-6.02	10.9	pCi/g		MXA	03/27/07	0046	619133	3
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		1.40	+/-0.232	0.0536	+/-0.232	0.107	pCi/g		MJH1	03/26/07	1338	619153	4
Americium-241	U	0.095	+/-0.104	0.0814	+/-0.104	0.163	pCi/g						
Bismuth-212		0.846	+/-0.229	0.118	+/-0.229	0.236	pCi/g						
Bismuth-214		2.31	+/-0.241	0.028	+/-0.241	0.056	pCi/g						
Cesium-134	UI	0.00	+/-0.0282	0.019	+/-0.0282	0.0379	pCi/g						
Cesium-137		0.102	+/-0.0275	0.0146	+/-0.0275	0.0291	pCi/g						
Cobalt-60	U	0.00991	+/-0.0203	0.0174	+/-0.0203	0.0347	pCi/g						
Europium-152	U	-0.0668	+/-0.058	0.0405	+/-0.058	0.0809	pCi/g						
Europium-154	U	0.00217	+/-0.070	0.0505	+/-0.070	0.101	pCi/g						
Europium-155	U	0.0926	+/-0.067	0.0486	+/-0.067	0.0971	pCi/g						
Lead-212		1.20	+/-0.102	0.0235	+/-0.102	0.047	pCi/g						
Lead-214		2.71	+/-0.241	0.0288	+/-0.241	0.0575	pCi/g						
Manganese-54	U	-0.00273	+/-0.0217	0.0162	+/-0.0217	0.0324	pCi/g						
Niobium-94	U	0.0178	+/-0.0178	0.0154	+/-0.0178	0.0309	pCi/g						
Potassium-40		22.9	+/-1.61	0.138	+/-1.61	0.276	pCi/g						
Radium-226		2.31	+/-0.241	0.028	+/-0.241	0.056	pCi/g						
Silver-108m	U	0.00304	+/-0.0172	0.0143	+/-0.0172	0.0286	pCi/g						
Thallium-208		0.432	+/-0.0546	0.0147	+/-0.0546	0.0294	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.00268	+/-0.018	0.0154	+/-0.018	0.0346	pCi/g		KSD1	03/26/07	1902	619181	5
Rad Liquid Scintillation Analysis													

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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: March 29, 2007

Client Sample ID: 9312-0009-110F
Sample ID: 182732014

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid – 3 pCi/g</i>													
Tritium	U	0.742	+/-1.18	0.964	+/-1.18	2.02	pCi/g		AXD2	03/26/07	1618	619285	6
<i>Liquid Scint C14, Solid All, FSS</i>													
Carbon-14	U	0.144	+/-0.101	0.0816	+/-0.101	0.167	pCi/g		AXD2	03/24/07	1904	619288	8
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	8.92	+/-28.5	19.1	+/-28.5	40.2	pCi/g		MXP1	03/26/07	2236	619278	9
<i>Liquid Scint Ni63, Solid-ALL FSS</i>													
Nickel-63	U	-6.13	+/-7.43	6.41	+/-7.43	13.2	pCi/g		MXP1	03/29/07	0031	620503	10
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.307	+/-0.248	0.203	+/-0.248	0.414	pCi/g		MXP1	03/27/07	1628	619196	12

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1022	619106

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	Alphaspec Am241, Cm, Solid ALL	74	(15%-125%)
Plutonium-242 Tracer	Alphaspec Pu, Solid-ALL FSS	100	(15%-125%)
Sroutium Carrier	GFPC, Sr90, solid-ALL FSS	63	(25%-125%)
			(15%-125%)

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Certificate of Analysis

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

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

Report Date: March 29, 2007

Client Sample ID: 9312-0009-110F
Sample ID: 182732014

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Iron-59 Tracer		Liquid Scint Fe55, Solid-ALL FS			74								
Nickel Carrier		Liquid Scint Ni63, Solid-ALL FS			69		(25%-125%)						
Technetium-99m Tracer		Liquid Scint Tc99, Solid-ALL FS			80		(15%-125%)						

Notes:

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 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - ND Analyte concentration is not detected above the detection limit
 - 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: March 29, 2007

Client Sample ID: 9312-0009-112F
Sample ID: 182732015
Matrix: TS
Collect Date: 19-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 1.92%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth Waived</i>													
Actinium-228		0.613	+/-0.137	0.052	+/-0.137	0.104	pCi/g		MJH1	03/26/07	1339	619153	1
Americium-241	U	0.0381	+/-0.0662	0.0548	+/-0.0662	0.110	pCi/g						
Bismuth-212		0.548	+/-0.285	0.107	+/-0.285	0.214	pCi/g						
Bismuth-214		0.483	+/-0.0884	0.029	+/-0.0884	0.0581	pCi/g						
Cesium-134	U	0.0267	+/-0.0202	0.0194	+/-0.0202	0.0388	pCi/g						
Cesium-137	U	0.0299	+/-0.0257	0.0153	+/-0.0257	0.0306	pCi/g						
Cobalt-60	U	0.00404	+/-0.0172	0.015	+/-0.0172	0.030	pCi/g						
Europium-152	U	-0.00685	+/-0.0532	0.0426	+/-0.0532	0.0852	pCi/g						
Europium-154	U	-0.0388	+/-0.0576	0.045	+/-0.0576	0.090	pCi/g						
Europium-155	U	0.0277	+/-0.0499	0.0457	+/-0.0499	0.0914	pCi/g						
Lead-212		0.572	+/-0.0653	0.0242	+/-0.0653	0.0484	pCi/g						
Lead-214		0.503	+/-0.0814	0.0295	+/-0.0814	0.0589	pCi/g						
Manganese-54	U	-0.00355	+/-0.0166	0.0143	+/-0.0166	0.0285	pCi/g						
Niobium-94	U	-0.000887	+/-0.0177	0.015	+/-0.0177	0.030	pCi/g						
Potassium-40		10.4	+/-0.978	0.131	+/-0.978	0.262	pCi/g						
Radium-226		0.483	+/-0.0884	0.029	+/-0.0884	0.0581	pCi/g						
Silver-108m	U	-0.00525	+/-0.0161	0.0139	+/-0.0161	0.0277	pCi/g						
Thallium-208		0.150	+/-0.0353	0.0155	+/-0.0353	0.0311	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.0132	+/-0.016	0.0149	+/-0.016	0.0336	pCi/g		KSD1	03/26/07	1902	619181	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1022	619106

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
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Certificate of Analysis

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

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

Report Date: March 29, 2007

Client Sample ID: 9312–0009–112F
Sample ID: 182732015

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits					
Strontium Carrier	GFPC, Sr90, solid–ALL	FSS			70		(25%–125%)					

Notes:

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 - B For General Chemistry and Organic analysis the 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
 - ND Analyte concentration is not detected above the detection limit
 - 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: March 29, 2007

Client Sample ID: 9312-0009-113F
Sample ID: 182732016
Matrix: TS
Collect Date: 19-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 9.62%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.829	+/-0.197	0.0676	+/-0.197	0.135	pCi/g		MJH1	03/26/07	1339	619153	1
Americium-241	U	0.103	+/-0.0992	0.0845	+/-0.0992	0.169	pCi/g						
Bismuth-212		0.478	+/-0.311	0.130	+/-0.311	0.259	pCi/g						
Bismuth-214		0.728	+/-0.120	0.0365	+/-0.120	0.073	pCi/g						
Cesium-134	UI	0.00	+/-0.0345	0.0244	+/-0.0345	0.0488	pCi/g						
Cesium-137		1.55	+/-0.147	0.0198	+/-0.147	0.0396	pCi/g						
Cobalt-60		0.084	+/-0.0334	0.0177	+/-0.0334	0.0354	pCi/g						
Europium-152	U	-0.0339	+/-0.0766	0.0546	+/-0.0766	0.109	pCi/g						
Europium-154	U	0.0108	+/-0.062	0.054	+/-0.062	0.108	pCi/g						
Europium-155	U	0.0228	+/-0.0644	0.0589	+/-0.0644	0.118	pCi/g						
Lead-212		0.708	+/-0.0805	0.0324	+/-0.0805	0.0647	pCi/g						
Lead-214		0.772	+/-0.117	0.0396	+/-0.117	0.0791	pCi/g						
Manganese-54	U	-0.00824	+/-0.0221	0.0181	+/-0.0221	0.0361	pCi/g						
Niobium-94	U	0.00824	+/-0.0197	0.0174	+/-0.0197	0.0348	pCi/g						
Potassium-40		10.6	+/-1.06	0.143	+/-1.06	0.286	pCi/g						
Radium-226		0.728	+/-0.120	0.0365	+/-0.120	0.073	pCi/g						
Silver-108m	U-0.000465		+/-0.022	0.0194	+/-0.022	0.0388	pCi/g						
Thallium-208		0.236	+/-0.0516	0.019	+/-0.0516	0.038	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.033	+/-0.0253	0.0186	+/-0.0253	0.0407	pCi/g		KSD1	03/26/07	1902	619181	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1022	619106

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
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Certificate of Analysis

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

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

Report Date: March 29, 2007

Client Sample ID: 9312–0009–113F
Sample ID: 182732016

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid–ALL	FSS			75		(25%–125%)						

Notes:

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol–condensation product
- B For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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.

GEL 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: March 29, 2007

Client Sample ID: 9312-0009-114F
Sample ID: 182732017
Matrix: TS
Collect Date: 19-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 4.06%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.836	+/-0.174	0.0612	+/-0.174	0.122	pCi/g		MJH1	03/26/07	1556	619153	1
Americium-241	U	0.103	+/-0.118	0.0979	+/-0.118	0.196	pCi/g						
Bismuth-212		0.734	+/-0.319	0.135	+/-0.319	0.269	pCi/g						
Bismuth-214		0.745	+/-0.120	0.038	+/-0.120	0.0759	pCi/g						
Cesium-134	U	0.0388	+/-0.0374	0.0254	+/-0.0374	0.0509	pCi/g						
Cesium-137		1.86	+/-0.161	0.0184	+/-0.161	0.0368	pCi/g						
Cobalt-60		0.107	+/-0.044	0.0176	+/-0.044	0.0352	pCi/g						
Europium-152	U	0.0194	+/-0.0939	0.0572	+/-0.0939	0.114	pCi/g						
Europium-154	U	-0.0201	+/-0.0758	0.0541	+/-0.0758	0.108	pCi/g						
Europium-155	U	-0.00656	+/-0.0773	0.0632	+/-0.0773	0.126	pCi/g						
Lead-212		0.590	+/-0.0812	0.0335	+/-0.0812	0.067	pCi/g						
Lead-214		0.886	+/-0.134	0.0415	+/-0.134	0.0829	pCi/g						
Manganese-54	U	-0.00173	+/-0.0219	0.0188	+/-0.0219	0.0377	pCi/g						
Niobium-94	U	0.0152	+/-0.0204	0.0187	+/-0.0204	0.0374	pCi/g						
Potassium-40		10.4	+/-1.04	0.155	+/-1.04	0.309	pCi/g						
Radium-226		0.745	+/-0.120	0.038	+/-0.120	0.0759	pCi/g						
Silver-108m	U	-0.00468	+/-0.0242	0.0208	+/-0.0242	0.0415	pCi/g						
Thallium-208		0.207	+/-0.0513	0.0213	+/-0.0513	0.0426	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.0155	+/-0.0176	0.0163	+/-0.0176	0.0361	pCi/g		KSD1	03/26/07	2115	619181	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1022	619106

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
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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: March 29, 2007

Client Sample ID: 9312-0009-114F
Sample ID: 182732017

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits					
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				74		(25%-125%)					

Notes:

The Qualifiers in this report are defined as follows :

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 - B For General Chemistry and Organic analysis the 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
 - ND Analyte concentration is not detected above the detection limit
 - 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: March 29, 2007

Client Sample ID: 9312-0009-116F
Sample ID: 182732018
Matrix: TS
Collect Date: 19-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 6.04%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.620	+/-0.179	0.0571	+/-0.179	0.114	pCi/g		MJH1	03/26/07	1657	619153	1
Americium-241	U	0.0682	+/-0.0988	0.086	+/-0.0988	0.172	pCi/g						
Bismuth-212		0.663	+/-0.291	0.150	+/-0.291	0.300	pCi/g						
Bismuth-214		0.623	+/-0.121	0.0343	+/-0.121	0.0685	pCi/g						
Cesium-134	U	0.0339	+/-0.0348	0.0244	+/-0.0348	0.0488	pCi/g						
Cesium-137		0.588	+/-0.0804	0.0201	+/-0.0804	0.0402	pCi/g						
Cobalt-60	U	0.0249	+/-0.0273	0.0253	+/-0.0273	0.0507	pCi/g						
Europium-152	U	-0.0314	+/-0.066	0.052	+/-0.066	0.104	pCi/g						
Europium-154	U	-0.0207	+/-0.0688	0.0565	+/-0.0688	0.113	pCi/g						
Europium-155	U	0.0642	+/-0.0623	0.0584	+/-0.0623	0.117	pCi/g						
Lead-212		0.551	+/-0.073	0.0309	+/-0.073	0.0618	pCi/g						
Lead-214		0.542	+/-0.102	0.0395	+/-0.102	0.079	pCi/g						
Manganese-54	U	0.00148	+/-0.0229	0.0197	+/-0.0229	0.0393	pCi/g						
Niobium-94	U	0.0138	+/-0.0216	0.0196	+/-0.0216	0.0393	pCi/g						
Potassium-40		10.6	+/-1.13	0.150	+/-1.13	0.299	pCi/g						
Radium-226		0.623	+/-0.121	0.0343	+/-0.121	0.0685	pCi/g						
Silver-108m	U	-0.00155	+/-0.0219	0.0188	+/-0.0219	0.0375	pCi/g						
Thallium-208		0.207	+/-0.0537	0.0178	+/-0.0537	0.0355	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.0192	+/-0.020	0.015	+/-0.020	0.0333	pCi/g		KSD1	03/26/07	2116	619181	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1022	619106

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
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Certificate of Analysis

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

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

Report Date: March 29, 2007

Client Sample ID: 9312-0009-116F
Sample ID: 182732018

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits					
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				74		(25%-125%)					

Notes:

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- B For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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: March 29, 2007

Client Sample ID: 9312-0009-119F
Sample ID: 182732019
Matrix: TS
Collect Date: 19-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 10.9%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.689	+/-0.162	0.0579	+/-0.162	0.116	pCi/g		MJH1	03/26/07	1657	619153	1
Americium-241	U	0.0854	+/-0.115	0.0967	+/-0.115	0.193	pCi/g						
Bismuth-212		0.471	+/-0.177	0.120	+/-0.177	0.239	pCi/g						
Bismuth-214		0.616	+/-0.102	0.0361	+/-0.102	0.0721	pCi/g						
Cesium-134	U	0.0406	+/-0.0358	0.0209	+/-0.0358	0.0417	pCi/g						
Cesium-137		4.58	+/-0.428	0.0184	+/-0.428	0.0367	pCi/g						
Cobalt-60		0.159	+/-0.0434	0.0138	+/-0.0434	0.0276	pCi/g						
Europium-152	U	0.0234	+/-0.0966	0.0601	+/-0.0966	0.120	pCi/g						
Europium-154	U	-0.0632	+/-0.0663	0.0507	+/-0.0663	0.101	pCi/g						
Europium-155	U	0.0399	+/-0.0827	0.0609	+/-0.0827	0.122	pCi/g						
Lead-212		0.590	+/-0.0704	0.0313	+/-0.0704	0.0625	pCi/g						
Lead-214		0.802	+/-0.122	0.0424	+/-0.122	0.0848	pCi/g						
Manganese-54	U	0.00669	+/-0.0197	0.0176	+/-0.0197	0.0352	pCi/g						
Niobium-94	U	0.0085	+/-0.0214	0.0162	+/-0.0214	0.0323	pCi/g						
Potassium-40		8.67	+/-0.862	0.128	+/-0.862	0.255	pCi/g						
Radium-226		0.616	+/-0.102	0.0361	+/-0.102	0.0721	pCi/g						
Silver-108m	U	0.00625	+/-0.0267	0.0232	+/-0.0267	0.0463	pCi/g						
Thallium-208		0.219	+/-0.0495	0.0188	+/-0.0495	0.0376	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.00244	+/-0.0156	0.0133	+/-0.0156	0.0299	pCi/g		KSD1	03/26/07	2116	619181	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1022	619106

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
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Certificate of Analysis

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

Report Date: March 29, 2007

Client Sample ID: 9312–0009–119F
Sample ID: 182732019

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid–ALL	FSS			76		(25%–125%)						

Notes:

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- B For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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: March 29, 2007

Client Sample ID: 9312-0009-120F
Sample ID: 182732020
Matrix: TS
Collect Date: 19-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 10.5%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth Waived</i>													
Actinium-228		1.18	+/-0.219	0.0654	+/-0.219	0.131	pCi/g		MJH1	03/26/07	1658	619153	1
Americium-241	U	0.000283	+/-0.0897	0.0729	+/-0.0897	0.146	pCi/g						
Bismuth-212		0.812	+/-0.298	0.148	+/-0.298	0.296	pCi/g						
Bismuth-214		1.37	+/-0.160	0.0309	+/-0.160	0.0617	pCi/g						
Cesium-134	UI	0.00	+/-0.0353	0.0235	+/-0.0353	0.047	pCi/g						
Cesium-137		0.0897	+/-0.036	0.0206	+/-0.036	0.0412	pCi/g						
Cobalt-60	U	0.00781	+/-0.0215	0.0189	+/-0.0215	0.0377	pCi/g						
Europium-152	U	-0.0189	+/-0.0724	0.052	+/-0.0724	0.104	pCi/g						
Europium-154	U	0.042	+/-0.0637	0.0574	+/-0.0637	0.115	pCi/g						
Europium-155	U	-0.00215	+/-0.0677	0.0611	+/-0.0677	0.122	pCi/g						
Lead-212		1.22	+/-0.115	0.0304	+/-0.115	0.0608	pCi/g						
Lead-214		1.34	+/-0.147	0.0378	+/-0.147	0.0756	pCi/g						
Manganese-54	U	-0.0107	+/-0.0225	0.0192	+/-0.0225	0.0384	pCi/g						
Niobium-94	U	0.000533	+/-0.0208	0.0178	+/-0.0208	0.0355	pCi/g						
Potassium-40		12.6	+/-1.12	0.171	+/-1.12	0.342	pCi/g						
Radium-226		1.37	+/-0.160	0.0309	+/-0.160	0.0617	pCi/g						
Silver-108m	U	-0.0107	+/-0.0212	0.0177	+/-0.0212	0.0353	pCi/g						
Thallium-208		0.404	+/-0.0548	0.0163	+/-0.0548	0.0325	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.0138	+/-0.0166	0.0154	+/-0.0166	0.0341	pCi/g		KSD1	03/26/07	2116	619181	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1022	619106

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
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Certificate of Analysis

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

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

Report Date: March 29, 2007

Client Sample ID: 9312-0009-120F
Sample ID: 182732020

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier		GFPC, Sr90, solid-ALL FSS			66		(25%-125%)						

Notes:

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 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - ND Analyte concentration is not detected above the detection limit
 - 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: March 29, 2007

Client Sample ID:	9312-0009-120FS	Project:	YANK01204
Sample ID:	182732021	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	19-MAR-07		
Receive Date:	22-MAR-07		
Collector:	Client		
Moisture:	11.4%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		1.14	+/-0.194	0.0439	+/-0.194	0.0877	pCi/g		MJH1	03/26/07	2005	619637	1
Americium-241	U	0.0149	+/-0.0739	0.0631	+/-0.0739	0.126	pCi/g						
Bismuth-212		0.831	+/-0.219	0.0923	+/-0.219	0.185	pCi/g						
Bismuth-214		1.30	+/-0.129	0.0237	+/-0.129	0.0473	pCi/g						
Cesium-134	UI	0.00	+/-0.0249	0.0184	+/-0.0249	0.0367	pCi/g						
Cesium-137		0.0781	+/-0.0209	0.0122	+/-0.0209	0.0244	pCi/g						
Cobalt-60	U	-0.00376	+/-0.0156	0.0131	+/-0.0156	0.0262	pCi/g						
Europium-152	U	-0.019	+/-0.0442	0.0357	+/-0.0442	0.0713	pCi/g						
Europium-154	U	0.0481	+/-0.0519	0.041	+/-0.0519	0.082	pCi/g						
Europium-155	U	0.0564	+/-0.0607	0.0393	+/-0.0607	0.0786	pCi/g						
Lead-212		1.21	+/-0.103	0.021	+/-0.103	0.042	pCi/g						
Lead-214		1.45	+/-0.144	0.0251	+/-0.144	0.0502	pCi/g						
Manganese-54	U	0.0112	+/-0.0257	0.0134	+/-0.0257	0.0267	pCi/g						
Niobium-94	U	0.0079	+/-0.0139	0.0124	+/-0.0139	0.0248	pCi/g						
Potassium-40		11.5	+/-0.958	0.128	+/-0.958	0.255	pCi/g						
Radium-226		1.30	+/-0.129	0.0237	+/-0.129	0.0473	pCi/g						
Silver-108m	U	0.0056	+/-0.0133	0.0117	+/-0.0133	0.0235	pCi/g						
Thallium-208		0.371	+/-0.0451	0.0128	+/-0.0451	0.0256	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.00244	+/-0.0272	0.0229	+/-0.0272	0.0485	pCi/g		KSD1	03/27/07	1350	619186	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1028	619107

The following Analytical Methods were performed

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

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Certificate of Analysis

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

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

Report Date: March 29, 2007

Client Sample ID: 9312-0009-120FS
Sample ID: 182732021

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier		GFPC, Sr90, solid-ALL FSS			61		(25%-125%)						

Notes:

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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 For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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: March 29, 2007

Client Sample ID: 9312-0009-121F
Sample ID: 182732022
Matrix: TS
Collect Date: 19-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 7.35%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.862	+/-0.154	0.0422	+/-0.154	0.0844	pCi/g		MJH1	03/26/07	2006	619637	1
Americium-241	U	0.0102	+/-0.0711	0.059	+/-0.0711	0.118	pCi/g						
Bismuth-212		0.642	+/-0.161	0.0871	+/-0.161	0.174	pCi/g						
Bismuth-214		0.771	+/-0.0941	0.0218	+/-0.0941	0.0437	pCi/g						
Cesium-134	UI	0.00	+/-0.021	0.0156	+/-0.021	0.0313	pCi/g						
Cesium-137		0.0952	+/-0.0238	0.0125	+/-0.0238	0.0251	pCi/g						
Cobalt-60	UI	0.00	+/-0.0168	0.0142	+/-0.0168	0.0283	pCi/g						
Europium-152	U	-0.0343	+/-0.0509	0.0298	+/-0.0509	0.0595	pCi/g						
Europium-154	U	0.019	+/-0.0549	0.0407	+/-0.0549	0.0814	pCi/g						
Europium-155	U	0.050	+/-0.0505	0.0375	+/-0.0505	0.075	pCi/g						
Lead-212		0.783	+/-0.0707	0.0172	+/-0.0707	0.0343	pCi/g						
Lead-214		0.876	+/-0.0951	0.0221	+/-0.0951	0.0442	pCi/g						
Manganese-54	U	0.0222	+/-0.0174	0.0124	+/-0.0174	0.0249	pCi/g						
Niobium-94	U	0.00908	+/-0.0135	0.0118	+/-0.0135	0.0235	pCi/g						
Potassium-40		14.4	+/-1.06	0.105	+/-1.06	0.209	pCi/g						
Radium-226		0.771	+/-0.0941	0.0218	+/-0.0941	0.0437	pCi/g						
Silver-108m	U	-0.00525	+/-0.0132	0.0105	+/-0.0132	0.0209	pCi/g						
Thallium-208		0.233	+/-0.0364	0.0117	+/-0.0364	0.0233	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.0047	+/-0.0226	0.0193	+/-0.0226	0.0411	pCi/g		KSD1	03/27/07	1350	619186	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1028	619107

The following Analytical Methods were performed

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

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Certificate of Analysis

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

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

Report Date: March 29, 2007

Client Sample ID: 9312-0009-121F
Sample ID: 182732022

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier		GFPC, Sr90, solid-ALL FSS			62		(25%-125%)						

Notes:

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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: March 29, 2007

Client Sample ID: 9312-0009-122-I
Sample ID: 182732023
Matrix: TS
Collect Date: 20-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 4.06%

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

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

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

Actinium-228		0.664	+/-0.117	0.0348	+/-0.117	0.0696	pCi/g		MJH1	03/26/07	2006	619637	1
Americium-241	U	0.0558	+/-0.0548	0.0451	+/-0.0548	0.0901	pCi/g						
Bismuth-212		0.423	+/-0.162	0.074	+/-0.162	0.148	pCi/g						
Bismuth-214		0.757	+/-0.0877	0.0197	+/-0.0877	0.0395	pCi/g						
Cesium-134	UI	0.00	+/-0.0191	0.0129	+/-0.0191	0.0258	pCi/g						
Cesium-137		2.04	+/-0.164	0.012	+/-0.164	0.024	pCi/g						
Cobalt-60		0.0921	+/-0.0236	0.0106	+/-0.0236	0.0211	pCi/g						
Europium-152	U9.650E-05		+/-0.0486	0.0329	+/-0.0486	0.0657	pCi/g						
Europium-154	U	-0.0233	+/-0.036	0.0276	+/-0.036	0.0552	pCi/g						
Europium-155	U	0.0355	+/-0.0423	0.037	+/-0.0423	0.0739	pCi/g						
Lead-212		0.744	+/-0.0675	0.0185	+/-0.0675	0.0371	pCi/g						
Lead-214		0.957	+/-0.101	0.0238	+/-0.101	0.0476	pCi/g						
Manganese-54	UI	0.00	+/-0.0192	0.0109	+/-0.0192	0.0217	pCi/g						
Niobium-94	U	0.00296	+/-0.011	0.00945	+/-0.011	0.0189	pCi/g						
Potassium-40		8.69	+/-0.666	0.0835	+/-0.666	0.167	pCi/g						
Radium-226		0.757	+/-0.0877	0.0197	+/-0.0877	0.0395	pCi/g						
Silver-108m	U	-0.00347	+/-0.0137	0.012	+/-0.0137	0.024	pCi/g						
Thallium-208		0.213	+/-0.0298	0.0102	+/-0.0298	0.0204	pCi/g						

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid-ALL FSS

Strontium-90	U	0.00689	+/-0.0206	0.0167	+/-0.0206	0.0365	pCi/g		KSD1	03/27/07	1405	619186	2
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1028	619107

The following Analytical Methods were performed

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

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Certificate of Analysis

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

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

Report Date: March 29, 2007

Client Sample ID: 9312–0009–122–I
Sample ID: 182732023

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid–ALL FSS				76		(25%–125%)						

Notes:

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- A The TIC is a suspected aldol–condensation product
- B For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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: March 29, 2007

Client Sample ID: 9312-0009-123-I
Sample ID: 182732024
Matrix: TS
Collect Date: 20-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 6.77%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		1.38	+/-0.216	0.0424	+/-0.216	0.0848	pCi/g		MJH1	03/26/07	2007	619637	1
Americium-241	U	0.0692	+/-0.072	0.0592	+/-0.072	0.118	pCi/g						
Bismuth-212		1.08	+/-0.215	0.0957	+/-0.215	0.191	pCi/g						
Bismuth-214		1.16	+/-0.123	0.0251	+/-0.123	0.0501	pCi/g						
Cesium-134	UI	0.00	+/-0.0229	0.0173	+/-0.0229	0.0345	pCi/g						
Cesium-137		0.129	+/-0.0345	0.0131	+/-0.0345	0.0262	pCi/g						
Cobalt-60	U	-0.00326	+/-0.016	0.0134	+/-0.016	0.0267	pCi/g						
Europium-152	U	-0.0064	+/-0.060	0.0366	+/-0.060	0.0731	pCi/g						
Europium-154	U	-0.0148	+/-0.0477	0.0399	+/-0.0477	0.0798	pCi/g						
Europium-155	U	0.0516	+/-0.0623	0.0398	+/-0.0623	0.0795	pCi/g						
Lead-212		1.29	+/-0.109	0.0205	+/-0.109	0.041	pCi/g						
Lead-214		1.26	+/-0.127	0.0257	+/-0.127	0.0514	pCi/g						
Manganese-54	U	0.0102	+/-0.0195	0.0133	+/-0.0195	0.0266	pCi/g						
Niobium-94	U	0.0172	+/-0.0144	0.0127	+/-0.0144	0.0255	pCi/g						
Potassium-40		19.3	+/-1.41	0.110	+/-1.41	0.219	pCi/g						
Radium-226		1.16	+/-0.123	0.0251	+/-0.123	0.0501	pCi/g						
Silver-108m	U	-0.0106	+/-0.0157	0.0116	+/-0.0157	0.0231	pCi/g						
Thallium-208		0.412	+/-0.0454	0.0127	+/-0.0454	0.0253	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90		0.0434	+/-0.0271	0.0197	+/-0.0272	0.0427	pCi/g		KSD1	03/27/07	1405	619186	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1028	619107

The following Analytical Methods were performed

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

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Certificate of Analysis

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

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

Report Date: March 29, 2007

Client Sample ID: 9312-0009-123-I
Sample ID: 182732024

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits					
Strontium Carrier		GFPC, Sr90, solid-ALL FSS			67		(25%-125%)					

Notes:

The Qualifiers in this report are defined as follows :

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 - A The TIC is a suspected aldol-condensation product
 - B For General Chemistry and Organic analysis the 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
 - ND Analyte concentration is not detected above the detection limit
 - 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: March 29, 2007

Client Sample ID: 9312-0009-124-I
Sample ID: 182732025
Matrix: TS
Collect Date: 20-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 2.33%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		1.03	+/-0.154	0.0317	+/-0.154	0.0633	pCi/g		MJH1	03/26/07	1956	619637	1
Americium-241	U	0.0217	+/-0.0516	0.0402	+/-0.0516	0.0803	pCi/g						
Bismuth-212		0.623	+/-0.144	0.0666	+/-0.144	0.133	pCi/g						
Bismuth-214		0.946	+/-0.104	0.0171	+/-0.104	0.0343	pCi/g						
Cesium-134	UI	0.00	+/-0.017	0.0116	+/-0.017	0.0231	pCi/g						
Cesium-137		0.708	+/-0.0674	0.0099	+/-0.0674	0.0198	pCi/g						
Cobalt-60		0.0465	+/-0.0198	0.00975	+/-0.0198	0.0195	pCi/g						
Europium-152	U	-0.0392	+/-0.0414	0.0265	+/-0.0414	0.0529	pCi/g						
Europium-154	U	0.0305	+/-0.041	0.0313	+/-0.041	0.0625	pCi/g						
Europium-155	U	0.0613	+/-0.0438	0.0317	+/-0.0438	0.0634	pCi/g						
Lead-212		0.976	+/-0.0802	0.0162	+/-0.0802	0.0324	pCi/g						
Lead-214		1.07	+/-0.101	0.0187	+/-0.101	0.0374	pCi/g						
Manganese-54	U	0.0167	+/-0.0107	0.00968	+/-0.0107	0.0194	pCi/g						
Niobium-94	U	0.00618	+/-0.0101	0.00878	+/-0.0101	0.0176	pCi/g						
Potassium-40		17.3	+/-1.16	0.0779	+/-1.16	0.156	pCi/g						
Radium-226		0.946	+/-0.104	0.0171	+/-0.104	0.0343	pCi/g						
Silver-108m	U	0.0101	+/-0.0148	0.00898	+/-0.0148	0.0179	pCi/g						
Thallium-208		0.322	+/-0.0352	0.00871	+/-0.0352	0.0174	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90		0.0385	+/-0.0228	0.0163	+/-0.0229	0.0355	pCi/g		KSD1	03/27/07	1405	619186	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1028	619107

The following Analytical Methods were performed

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

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Certificate of Analysis

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

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

Report Date: March 29, 2007

Client Sample ID: 9312-0009-124-I
Sample ID: 182732025

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery %		Acceptable Limits					
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				72		(25%-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 For General Chemistry and Organic analysis the 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
 - ND Analyte concentration is not detected above the detection limit
 - 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: March 29, 2007

Client Sample ID: 9312-0009-125-I
Sample ID: 182732026
Matrix: TS
Collect Date: 20-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: .916%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth Waived</i>													
Actinium-228		1.19	+/-0.165	0.0308	+/-0.165	0.0616	pCi/g		MJH1	03/26/07	2306	619637	1
Americium-241	U	0.0515	+/-0.069	0.059	+/-0.069	0.118	pCi/g						
Bismuth-212		0.742	+/-0.181	0.0672	+/-0.181	0.134	pCi/g						
Bismuth-214		0.947	+/-0.103	0.0178	+/-0.103	0.0357	pCi/g						
Cesium-134	UI	0.00	+/-0.0175	0.0116	+/-0.0175	0.0233	pCi/g						
Cesium-137		0.135	+/-0.021	0.00934	+/-0.021	0.0187	pCi/g						
Cobalt-60	UI	0.00	+/-0.0188	0.0106	+/-0.0188	0.0212	pCi/g						
Europium-152	U	-0.00274	+/-0.0317	0.0253	+/-0.0317	0.0507	pCi/g						
Europium-154	U	-0.00976	+/-0.0358	0.0306	+/-0.0358	0.0612	pCi/g						
Europium-155	U	0.0468	+/-0.0441	0.0325	+/-0.0441	0.065	pCi/g						
Lead-212		1.04	+/-0.0892	0.0159	+/-0.0892	0.0318	pCi/g						
Lead-214		1.09	+/-0.103	0.0181	+/-0.103	0.0362	pCi/g						
Manganese-54	UI	0.00	+/-0.0159	0.00955	+/-0.0159	0.0191	pCi/g						
Niobium-94	U	0.0125	+/-0.0103	0.00911	+/-0.0103	0.0182	pCi/g						
Potassium-40		18.1	+/-1.15	0.0833	+/-1.15	0.167	pCi/g						
Radium-226		0.947	+/-0.103	0.0178	+/-0.103	0.0357	pCi/g						
Silver-108m	U	-0.00752	+/-0.00939	0.00822	+/-0.00939	0.0164	pCi/g						
Thallium-208		0.326	+/-0.0378	0.00895	+/-0.0378	0.0179	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.0401	+/-0.0259	0.0193	+/-0.026	0.0414	pCi/g		KSD1	03/27/07	1416	619186	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1028	619107

The following Analytical Methods were performed

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

GEL 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: March 29, 2007

Client Sample ID: 9312-0009-125-1
Sample ID: 182732026

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				64		(25%-125%)						

Notes:

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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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East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: March 29, 2007

Client Sample ID: 9312-0009-126F
Sample ID: 182732027
Matrix: TS
Collect Date: 20-MAR-07
Receive Date: 22-MAR-07
Collector: Client
Moisture: 3.06%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	0.134	+/-0.184	0.0772	+/-0.185	0.289	pCi/g		MXA	03/23/07	1351	619131	1
Curium-242	U	-0.0222	+/-0.115	0.111	+/-0.115	0.358	pCi/g						
Curium-243/244	U	-0.105	+/-0.129	0.161	+/-0.130	0.456	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	-0.0238	+/-0.0269	0.0513	+/-0.027	0.192	pCi/g		MXA	03/23/07	1351	619132	2
Plutonium-239/240	U	-0.0475	+/-0.038	0.0725	+/-0.0383	0.234	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	-3.09	+/-5.86	5.10	+/-5.86	10.9	pCi/g		MXA	03/27/07	0102	619133	3
Rad Gamma Spec Analysis													
<i>Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		1.38	+/-0.251	0.0814	+/-0.251	0.163	pCi/g		MJH1	03/27/07	0626	619637	4
Americium-241	U	0.0752	+/-0.135	0.103	+/-0.135	0.205	pCi/g						
Bismuth-212		0.817	+/-0.378	0.167	+/-0.378	0.334	pCi/g						
Bismuth-214		3.29	+/-0.321	0.0401	+/-0.321	0.0802	pCi/g						
Cesium-134	UI	0.00	+/-0.0379	0.0273	+/-0.0379	0.0545	pCi/g						
Cesium-137		0.137	+/-0.0411	0.0217	+/-0.0411	0.0434	pCi/g						
Cobalt-60	U	-0.01	+/-0.0349	0.0249	+/-0.0349	0.0498	pCi/g						
Europium-152	U	6.630E-05	+/-0.105	0.0602	+/-0.105	0.120	pCi/g						
Europium-154	U	0.00883	+/-0.092	0.0725	+/-0.092	0.145	pCi/g						
Europium-155	U	0.0883	+/-0.0937	0.067	+/-0.0937	0.134	pCi/g						
Lead-212		1.46	+/-0.142	0.0344	+/-0.142	0.0688	pCi/g						
Lead-214		3.66	+/-0.342	0.0409	+/-0.342	0.0817	pCi/g						
Manganese-54	U	0.00527	+/-0.0311	0.0228	+/-0.0311	0.0456	pCi/g						
Niobium-94	U	0.0154	+/-0.0242	0.0212	+/-0.0242	0.0424	pCi/g						
Potassium-40		27.5	+/-1.99	0.188	+/-1.99	0.375	pCi/g						
Radium-226		3.29	+/-0.321	0.0401	+/-0.321	0.0802	pCi/g						
Silver-108m	U	-0.0026	+/-0.0244	0.0204	+/-0.0244	0.0408	pCi/g						
Thallium-208		0.425	+/-0.0635	0.0215	+/-0.0635	0.043	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.0438	+/-0.028	0.0212	+/-0.0281	0.045	pCi/g		KSD1	03/27/07	1416	619186	5
Rad Liquid Scintillation Analysis													

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

Report Date: March 29, 2007

Client Sample ID: 9312-0009-126F
Sample ID: 182732027

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid – 3 pCi/g</i>													
Tritium	U	-0.0882	+/-1.14	0.963	+/-1.14	2.01	pCi/g		AXD2	03/26/07	1721	619285	7
<i>Liquid Scint C14, Solid ALL,FSS</i>													
Carbon-14	U	0.0916	+/-0.101	0.0827	+/-0.101	0.169	pCi/g		AXD2	03/24/07	2006	619288	9
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	9.99	+/-31.6	21.2	+/-31.6	44.6	pCi/g		MXP1	03/26/07	2252	619278	10
<i>Liquid Scint Ni63, Solid-ALL FSS</i>													
Nickel-63	U	-1.67	+/-6.46	5.47	+/-6.46	11.3	pCi/g		MXP1	03/29/07	0102	620503	11
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99		0.684	+/-0.255	0.201	+/-0.255	0.411	pCi/g		MXP1	03/27/07	1705	619196	13

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/22/07	1028	619107

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 Ni-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 Tracer	Alphaspec Am241, Cm, Solid ALL	56	(15%-125%)
Plutonium-242 Tracer	Alphaspec Pu, Solid-ALL FSS	94	(15%-125%)

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East Hampton, Connecticut 06424

Contact: Mr. Jack McCarthy

Project: Soils PO# 002332

Report Date: March 29, 2007

Client Sample ID: 9312-0009-126F
Sample ID: 182732027

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Strontium Carrier		GFPC, Sr90, solid-ALL	FSS		63		(25%-125%)						
Iron-59 Tracer		Liquid Scint Fe55, Solid-ALL	FS		70		(15%-125%)						
Nickel Carrier		Liquid Scint Ni63, Solid-ALL	FS		82		(25%-125%)						
Technetium-99m Tracer		Liquid Scint Tc99, Solid-ALL	FS		80		(15%-125%)						

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 - 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

GEL LABORATORIES LLC

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

QC Summary

Report Date: March 29, 2007
Page 1 of 13

Client : Connecticut Yankee Atomic Power
362 Injun Hollow Rd

Contact: East Hampton, Connecticut
Mr. Jack McCarthy

Workorder: 182732

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	619131										
QC1201300503	182732002 DUP										
Americium-241	U	0.137	U	0.0235	pCi/g	1060		(0% - 100%)	AXA1	03/26/07	19:08
	Uncert:	+/-0.134		+/-0.087							
	TPU:	+/-0.135		+/-0.087							
Curium-242	U	0.0163	U	-0.0222	pCi/g	282		(0% - 100%)			
	Uncert:	+/-0.0648		+/-0.0654							
	TPU:	+/-0.0649		+/-0.0654							
Curium-243/244	U	-0.0483	U	-0.0129	pCi/g	69		(0% - 100%)			
	Uncert:	+/-0.100		+/-0.0667							
	TPU:	+/-0.100		+/-0.0667							
QC1201300505	LCS										
Americium-241		13.0		13.4	pCi/g		103	(75%-125%)		03/23/07	13:51
	Uncert:			+/-1.30							
	TPU:			+/-2.09							
Curium-242			U	0.0251	pCi/g						
	Uncert:			+/-0.0666							
	TPU:			+/-0.0667							
Curium-243/244		15.6		14.6	pCi/g		94	(75%-125%)			
	Uncert:			+/-1.36							
	TPU:			+/-2.24							
QC1201300502	MB										
Americium-241			U	0.030	pCi/g					03/23/07	13:51
	Uncert:			+/-0.117							
	TPU:			+/-0.117							
Curium-242			U	0.0499	pCi/g						
	Uncert:			+/-0.0985							
	TPU:			+/-0.0987							
Curium-243/244			U	-0.0044	pCi/g						
	Uncert:			+/-0.0856							
	TPU:			+/-0.0856							
QC1201300504	182732002 MS										
Americium-241	U	0.137		13.8	pCi/g		101	(75%-125%)		03/23/07	13:51
	Uncert:	+/-0.134		+/-1.34							
	TPU:	+/-0.135		+/-2.16							
Curium-242	U	0.0163	U	0.0885	pCi/g						
	Uncert:	+/-0.0648		+/-0.121							
	TPU:	+/-0.0649		+/-0.122							
Curium-243/244	U	-0.0483		15.1	pCi/g		92	(75%-125%)			
	Uncert:	+/-0.100		+/-1.41							
	TPU:	+/-0.100		+/-2.33							
Batch	619132										
QC1201300507	182732002 DUP										
Plutonium-238	U	-0.0659	U	0.106	pCi/g	857		(0% - 100%)	AXA1	03/23/07	13:51

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QC Summary

Workorder: 182732

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	619132										
Plutonium-239/240		Uncert:		+/-0.0457							+/-0.140
		TPU:		+/-0.0463							+/-0.140
	U		U	-0.0233	pCi/g	35		(0% - 100%)			
		Uncert:		+/-0.0797							+/-0.0755
		TPU:		+/-0.0797							+/-0.0755
QC1201300509	LCS										
Plutonium-238			U	-0.0342	pCi/g			(75%-125%)			03/23/07 13:50
		Uncert:		+/-0.0775							
		TPU:		+/-0.0775							
Plutonium-239/240		13.0		12.4	pCi/g		95	(75%-125%)			
		Uncert:		+/-1.31							
		TPU:		+/-1.99							
QC1201300506	MB										
Plutonium-238			U	0.00249	pCi/g						03/23/07 13:51
		Uncert:		+/-0.0958							
		TPU:		+/-0.0958							
Plutonium-239/240			U	0.0623	pCi/g						
		Uncert:		+/-0.0863							
		TPU:		+/-0.0866							
QC1201300508	182732002	MS									
Plutonium-238		U	U	-0.0659	pCi/g			(75%-125%)			03/23/07 13:51
		Uncert:		+/-0.0457							
		TPU:		+/-0.0463							
Plutonium-239/240		13.7	U	-0.0233	pCi/g		103	(75%-125%)			
		Uncert:		+/-0.0797							
		TPU:		+/-0.0797							
Batch	619133										
QC1201300511	182732002	DUP									
Plutonium-241		U	U	-2.59	pCi/g	0		(0% - 100%)	MXA1		03/27/07 01:35
		Uncert:		+/-6.28							
		TPU:		+/-6.28							
QC1201300513	LCS										
Plutonium-241		140		119	pCi/g		85	(75%-125%)			03/27/07 02:07
		Uncert:		+/-12.5							
		TPU:		+/-17.9							
QC1201300510	MB										
Plutonium-241			U	2.80	pCi/g						03/27/07 01:18
		Uncert:		+/-6.20							
		TPU:		+/-6.21							
QC1201300512	182732002	MS									
Plutonium-241		141	U	-2.59	pCi/g		81	(75%-125%)			03/27/07 01:51
		Uncert:		+/-6.28							
		TPU:		+/-6.28							
Rad Gamma Spec											
Batch	619153										
QC1201300557	182732001	DUP									
Actinium-228				0.823	pCi/g	8		(0% - 100%)	MJH1		03/26/07 16:58
		Uncert:		+/-0.146							
											+/-0.203
											+/-0.203

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QC Summary

Workorder: 182732

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 619153											
Americium-241		TPU:		+/-0.146							
	U		U	0.0323	pCi/g	32		(0% - 100%)			
		Uncert:		+/-0.0228							
Bismuth-212		TPU:		+/-0.0228							
				0.752	pCi/g	37		(0% - 100%)			
		Uncert:		+/-0.241							
Bismuth-214		TPU:		+/-0.241							
				0.743	pCi/g	5		(0% - 100%)			
		Uncert:		+/-0.105							
Cesium-134		TPU:		+/-0.105							
	U		UI	0.026	pCi/g	90		(0% - 100%)			
		Uncert:		+/-0.0267							
Cesium-137		TPU:		+/-0.0267							
				0.157	pCi/g	26		(0% - 100%)			
		Uncert:		+/-0.0309							
Cobalt-60		TPU:		+/-0.0309							
	U		U	-0.00346	pCi/g	34		(0% - 100%)			
		Uncert:		+/-0.015							
Europium-152		TPU:		+/-0.015							
	U		U	0.0216	pCi/g	3		(0% - 100%)			
		Uncert:		+/-0.0464							
Europium-154		TPU:		+/-0.0464							
	U		U	0.00779	pCi/g	140		(0% - 100%)			
		Uncert:		+/-0.0475							
Europium-155		TPU:		+/-0.0475							
	U		U	0.0318	pCi/g	409		(0% - 100%)			
		Uncert:		+/-0.0408							
Lead-212		TPU:		+/-0.0408							
				0.783	pCi/g	4		(0% - 20%)			
		Uncert:		+/-0.0951							
Lead-214		TPU:		+/-0.0951							
				0.804	pCi/g	0		(0% - 20%)			
		Uncert:		+/-0.100							
Manganese-54		TPU:		+/-0.100							
	U		U	0.00378	pCi/g	317		(0% - 100%)			
		Uncert:		+/-0.0147							
Niobium-94		TPU:		+/-0.0147							
	U		U	0.00523	pCi/g	146		(0% - 100%)			
		Uncert:		+/-0.0141							
Potassium-40		TPU:		+/-0.0141							
				11.1	pCi/g	5		(0% - 20%)			
		Uncert:		+/-0.840							
Radium-226		TPU:		+/-0.840							
				0.743	pCi/g	5		(0% - 100%)			
		Uncert:		+/-0.105							
Silver-108m		TPU:		+/-0.105							
	U		U	0.00395	pCi/g	84		(0% - 100%)			
		Uncert:		+/-0.0129							

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QC Summary

Workorder: 182732

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec									
Batch	619153								
Thallium-208	TPU:	+/-0.0129	+/-0.019						
		0.280	0.256	pCi/g	9		(0% - 100%)		
	Uncert:	+/-0.0418	+/-0.0572						
	TPU:	+/-0.0418	+/-0.0572						
QC1201300558	LCS								
Actinium-228			1.08	pCi/g					03/26/07 15:51
	Uncert:		+/-0.828						
	TPU:		+/-0.828						
Americium-241	16.0		13.3	pCi/g		83	(75%-125%)		
	Uncert:		+/-2.13						
	TPU:		+/-2.13						
Bismuth-212		U	1.10	pCi/g					
	Uncert:		+/-0.795						
	TPU:		+/-0.795						
Bismuth-214			0.553	pCi/g					
	Uncert:		+/-0.226						
	TPU:		+/-0.226						
Cesium-134		U	-0.0181	pCi/g					
	Uncert:		+/-0.112						
	TPU:		+/-0.112						
Cesium-137	6.20		5.72	pCi/g		92	(75%-125%)		
	Uncert:		+/-0.499						
	TPU:		+/-0.499						
Cobalt-60	9.35		9.40	pCi/g		101	(75%-125%)		
	Uncert:		+/-0.693						
	TPU:		+/-0.693						
Europium-152		U	-0.0105	pCi/g					
	Uncert:		+/-0.292						
	TPU:		+/-0.292						
Europium-154		U	0.165	pCi/g					
	Uncert:		+/-0.241						
	TPU:		+/-0.241						
Europium-155		U	-0.263	pCi/g					
	Uncert:		+/-0.295						
	TPU:		+/-0.295						
Lead-212			0.987	pCi/g					
	Uncert:		+/-0.200						
	TPU:		+/-0.200						
Lead-214			0.662	pCi/g					
	Uncert:		+/-0.267						
	TPU:		+/-0.267						
Manganese-54		U	-0.103	pCi/g					
	Uncert:		+/-0.104						
	TPU:		+/-0.104						
Niobium-94		U	-0.0274	pCi/g					
	Uncert:		+/-0.0905						
	TPU:		+/-0.0905						
Potassium-40		U	0.826	pCi/g					

GEL LABORATORIES LLC

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QC Summary

Workorder: 182732

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	619153									
Radium-226							(75%-125%)			
	Uncert:		+/-1.01							
	TPU:		+/-1.01							
			0.553	pCi/g						
Silver-108m		U								
	Uncert:		+/-0.226							
	TPU:		+/-0.226							
			0.0194	pCi/g						
Thallium-208										
	Uncert:		+/-0.0921							
	TPU:		+/-0.0921							
			0.312	pCi/g						
	Uncert:		+/-0.156							
	TPU:		+/-0.156							
QC1201300556 MB										
Actinium-228		U							03/26/07	16:58
	Uncert:		+/-0.038							
	TPU:		+/-0.038							
Americium-241		U								
	Uncert:		-0.0284	pCi/g						
	TPU:		+/-0.0382							
Bismuth-212		U								
	Uncert:		+/-0.0382							
	TPU:		+/-0.0382							
			0.0317	pCi/g						
Bismuth-214		U								
	Uncert:		+/-0.0785							
	TPU:		+/-0.0785							
			-0.0282	pCi/g						
Cesium-134		U								
	Uncert:		+/-0.0258							
	TPU:		+/-0.0258							
			0.00554	pCi/g						
Cesium-137		U								
	Uncert:		+/-0.0115							
	TPU:		+/-0.0115							
			0.0114	pCi/g						
Cobalt-60		U								
	Uncert:		+/-0.0117							
	TPU:		+/-0.0117							
			0.00771	pCi/g						
Europium-152		U								
	Uncert:		+/-0.0132							
	TPU:		+/-0.0132							
			-0.0205	pCi/g						
Europium-154		U								
	Uncert:		+/-0.0289							
	TPU:		+/-0.0289							
			0.0282	pCi/g						
Europium-155		U								
	Uncert:		+/-0.0311							
	TPU:		+/-0.0311							
			0.0128	pCi/g						
Lead-212		U								
	Uncert:		+/-0.0252							
	TPU:		+/-0.0252							
			0.00811	pCi/g						
Lead-214		U								
	Uncert:		+/-0.0219							
	TPU:		+/-0.0219							
			-0.00414	pCi/g						
	Uncert:		+/-0.0238							
	TPU:		+/-0.0238							

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	619153									
Manganese-54		U	0.000477	pCi/g						
	Uncert:		+/-0.0114							
	TPU:		+/-0.0114							
Niobium-94		U	-0.0072	pCi/g						
	Uncert:		+/-0.0103							
	TPU:		+/-0.0103							
Potassium-40		U	0.0659	pCi/g						
	Uncert:		+/-0.153							
	TPU:		+/-0.153							
Radium-226		U	-0.0282	pCi/g						
	Uncert:		+/-0.0258							
	TPU:		+/-0.0258							
Silver-108m		U	-0.00499	pCi/g						
	Uncert:		+/-0.00982							
	TPU:		+/-0.00982							
Thallium-208		U	0.00174	pCi/g						
	Uncert:		+/-0.0137							
	TPU:		+/-0.0137							
Batch	619637									
	QC1201301733 182732025 DUP									
Actinium-228			1.03	pCi/g	4		(0% - 100%)	MJH1	03/27/07	06:27
	Uncert:		+/-0.154							
	TPU:		+/-0.154							
Americium-241		U	0.0217	pCi/g	113		(0% - 100%)			
	Uncert:		+/-0.0516							
	TPU:		+/-0.0516							
Bismuth-212			0.623	pCi/g	4		(0% - 100%)			
	Uncert:		+/-0.144							
	TPU:		+/-0.144							
Bismuth-214			0.946	pCi/g	13		(0%-20%)			
	Uncert:		+/-0.104							
	TPU:		+/-0.104							
Cesium-134		UI	0.00	pCi/g	36		(0% - 100%)			
	Uncert:		+/-0.017							
	TPU:		+/-0.017							
Cesium-137			0.708	pCi/g	1		(0% - 100%)			
	Uncert:		+/-0.0674							
	TPU:		+/-0.0674							
Cobalt-60		U	0.0465	pCi/g	4		(0% - 100%)			
	Uncert:		+/-0.0198							
	TPU:		+/-0.0198							
Europium-152		U	-0.0392	pCi/g	254		(0% - 100%)			
	Uncert:		+/-0.0414							
	TPU:		+/-0.0414							
Europium-154		U	0.0305	pCi/g	88		(0% - 100%)			
	Uncert:		+/-0.041							
	TPU:		+/-0.041							
Europium-155		U	0.0613	pCi/g	98		(0% - 100%)			
	Uncert:		+/-0.075							
	TPU:		+/-0.075							

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec Batch 619637									
		Uncert: +/-0.0438	+/-0.0677						
		TPU: +/-0.0438	+/-0.0677						
Lead-212		0.976	1.07	pCi/g	9		(0% - 20%)		
		Uncert: +/-0.0802	+/-0.104						
		TPU: +/-0.0802	+/-0.104						
Lead-214		1.07	1.16	pCi/g	8		(0% - 20%)		
		Uncert: +/-0.101	+/-0.140						
		TPU: +/-0.101	+/-0.140						
Manganese-54	U	0.0167	U -0.00507	pCi/g	374		(0% - 100%)		
		Uncert: +/-0.0107	+/-0.0238						
		TPU: +/-0.0107	+/-0.0238						
Niobium-94	U	0.00618	U 0.00913	pCi/g	39		(0% - 100%)		
		Uncert: +/-0.0101	+/-0.0207						
		TPU: +/-0.0101	+/-0.0207						
Potassium-40		17.3	16.1	pCi/g	7		(0% - 20%)		
		Uncert: +/-1.16	+/-1.32						
		TPU: +/-1.16	+/-1.32						
Radium-226		0.946	1.08	pCi/g	13		(0% - 100%)		
		Uncert: +/-0.104	+/-0.134						
		TPU: +/-0.104	+/-0.134						
Silver-108m	U	0.0101	U -0.00462	pCi/g	536		(0% - 100%)		
		Uncert: +/-0.0148	+/-0.021						
		TPU: +/-0.0148	+/-0.021						
Thallium-208		0.322	0.307	pCi/g	5		(0% - 100%)		
		Uncert: +/-0.0352	+/-0.0589						
		TPU: +/-0.0352	+/-0.0589						
QC1201301734 LCS Actinium-228			1.20	pCi/g					03/27/07 06:28
		Uncert: +/-0.733	+/-0.733						
		TPU: +/-0.733	+/-0.733						
Americium-241	16.0		12.5	pCi/g		78	(75%-125%)		
		Uncert: +/-0.946	+/-0.946						
		TPU: +/-0.946	+/-0.946						
Bismuth-212			U 0.109	pCi/g					
		Uncert: +/-0.838	+/-0.838						
		TPU: +/-0.838	+/-0.838						
Bismuth-214			0.529	pCi/g					
		Uncert: +/-0.286	+/-0.286						
		TPU: +/-0.286	+/-0.286						
Cesium-134			U 0.0701	pCi/g					
		Uncert: +/-0.119	+/-0.119						
		TPU: +/-0.119	+/-0.119						
Cesium-137	6.20		5.89	pCi/g		95	(75%-125%)		
		Uncert: +/-0.542	+/-0.542						
		TPU: +/-0.542	+/-0.542						
Cobalt-60	9.35		8.95	pCi/g		96	(75%-125%)		
		Uncert: +/-0.649	+/-0.649						
		TPU: +/-0.649	+/-0.649						

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec									
Batch	619637								
Europium-152		U	-0.135	pCi/g					
	Uncert:		+/-0.232						
	TPU:		+/-0.232						
Europium-154		U	0.376	pCi/g					
	Uncert:		+/-0.464						
	TPU:		+/-0.464						
Europium-155		U	0.230	pCi/g					
	Uncert:		+/-0.213						
	TPU:		+/-0.213						
Lead-212			0.845	pCi/g					
	Uncert:		+/-0.202						
	TPU:		+/-0.202						
Lead-214			0.644	pCi/g					
	Uncert:		+/-0.218						
	TPU:		+/-0.218						
Manganese-54		U	-0.036	pCi/g					
	Uncert:		+/-0.105						
	TPU:		+/-0.105						
Niobium-94		U	-0.0633	pCi/g					
	Uncert:		+/-0.0991						
	TPU:		+/-0.0991						
Potassium-40		U	0.027	pCi/g					
	Uncert:		+/-0.920						
	TPU:		+/-0.920						
Radium-226			0.529	pCi/g			(75%-125%)		
	Uncert:		+/-0.286						
	TPU:		+/-0.286						
Silver-108m		U	0.0899	pCi/g					
	Uncert:		+/-0.0847						
	TPU:		+/-0.0847						
Thallium-208			0.389	pCi/g					
	Uncert:		+/-0.193						
	TPU:		+/-0.193						
QC1201301732	MB								
Actinium-228		U	0.0201	pCi/g					03/27/07 06:27
	Uncert:		+/-0.0587						
	TPU:		+/-0.0587						
Americium-241		U	-0.0292	pCi/g					
	Uncert:		+/-0.0587						
	TPU:		+/-0.0587						
Bismuth-212		U	0.00372	pCi/g					
	Uncert:		+/-0.093						
	TPU:		+/-0.093						
Bismuth-214		U	0.0138	pCi/g					
	Uncert:		+/-0.0443						
	TPU:		+/-0.0443						
Cesium-134		U	0.00741	pCi/g					
	Uncert:		+/-0.0148						

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	619637									
Cesium-137		TPU:		+/-0.0148						
			U	-0.014	pCi/g					
		Uncert:		+/-0.0137						
Cobalt-60		TPU:		+/-0.0137						
			U	0.000799	pCi/g					
		Uncert:		+/-0.0155						
Europium-152		TPU:		+/-0.0155						
			U	0.0348	pCi/g					
		Uncert:		+/-0.0361						
Europium-154		TPU:		+/-0.0361						
			U	0.0329	pCi/g					
		Uncert:		+/-0.0393						
Europium-155		TPU:		+/-0.0393						
			U	-0.00597	pCi/g					
		Uncert:		+/-0.0355						
Lead-212		TPU:		+/-0.0355						
			U	0.0141	pCi/g					
		Uncert:		+/-0.0297						
Lead-214		TPU:		+/-0.0297						
			U	0.0156	pCi/g					
		Uncert:		+/-0.0448						
Manganese-54		TPU:		+/-0.0448						
			U	-0.00356	pCi/g					
		Uncert:		+/-0.0131						
Niobium-94		TPU:		+/-0.0131						
			U	0.0074	pCi/g					
		Uncert:		+/-0.015						
Potassium-40		TPU:		+/-0.015						
			UI	0.00	pCi/g					
		Uncert:		+/-0.305						
Radium-226		TPU:		+/-0.305						
			U	0.0138	pCi/g					
		Uncert:		+/-0.0443						
Silver-108m		TPU:		+/-0.0443						
			U	0.00794	pCi/g					
		Uncert:		+/-0.0134						
Thallium-208		TPU:		+/-0.0134						
			U	0.0148	pCi/g					
		Uncert:		+/-0.0193						
		TPU:		+/-0.0193						
Rad Gas Flow										
Batch	619181									
QC1201300620	182732009	DUP								
Strontium-90		U	0.016	U	-0.00874	pCi/g	0	(0% - 100%) KSD1	03/26/07	21:16
		Uncert:	+/-0.0207		+/-0.018					
		TPU:	+/-0.0207		+/-0.018					
QC1201300622	LCS									
Strontium-90		1.39			1.59	pCi/g	114	(75%-125%)	03/26/07	21:16

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow										
Batch	619181									
			Uncert:							+/-0.106
			TPU:							+/-0.116
QC1201300619	MB									
Strontium-90		U	0.0103	pCi/g						03/26/07 21:16
			Uncert:							+/-0.0136
			TPU:							+/-0.0136
QC1201300621	182732009	MS								
Strontium-90		1.59 U	0.016	pCi/g		101	(75%-125%)			03/26/07 21:16
			Uncert:							+/-0.0207
			TPU:							+/-0.0207
Batch	619186									
QC1201300628	182732022	DUP								
Strontium-90		U	-0.0047 U	pCi/g	0		(0% - 100%)	KSD1		03/27/07 08:46
			Uncert:							+/-0.0226
			TPU:							+/-0.0226
QC1201300630	LCS									
Strontium-90		1.49		pCi/g		111	(75%-125%)			
			Uncert:							+/-0.110
			TPU:							+/-0.282
QC1201300627	MB									
Strontium-90		U	-0.0137	pCi/g						03/27/07 14:16
			Uncert:							+/-0.0172
			TPU:							+/-0.0172
QC1201300629	182732022	MS								
Strontium-90		1.66 U	-0.0047	pCi/g		85	(75%-125%)			03/27/07 08:46
			Uncert:							+/-0.0226
			TPU:							+/-0.0226
Rad Liquid Scintillation										
Batch	619196									
QC1201300632	182732002	DUP								
Technetium-99		U	0.174 U	pCi/g	0		(0% - 100%)	MXP1		03/27/07 18:19
			Uncert:							+/-0.243
			TPU:							+/-0.243
QC1201300634	LCS									
Technetium-99		19.4		pCi/g		98	(75%-125%)			03/27/07 19:33
			Uncert:							+/-0.506
			TPU:							+/-0.690
QC1201300631	MB									
Technetium-99		U	0.229	pCi/g						03/27/07 17:42
			Uncert:							+/-0.217
			TPU:							+/-0.217
QC1201300633	182732002	MS								
Technetium-99		19.4 U	0.174	pCi/g		99	(75%-125%)			03/27/07 18:56
			Uncert:							+/-0.243
			TPU:							+/-0.243
Batch	619278									
QC1201300843	182732002	DUP								
Iron-55		U	-16.2 U	pCi/g	0		(0% - 100%)	MXP1		03/27/07 13:47

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation									
Batch	619278								
		Uncert:	+/-29.2						+/-31.1
		TPU:	+/-29.2						+/-31.1
QC1201300845	LCS								
Iron-55		1210		1120	pCi/g	92	(75%-125%)		03/26/07 23:57
		Uncert:		+/-58.9					
		TPU:		+/-92.4					
QC1201300842	MB								
Iron-55			U	27.9	pCi/g				03/26/07 23:08
		Uncert:		+/-32.4					
		TPU:		+/-32.4					
QC1201300844	182732002 MS								
Iron-55		1250 U	-16.2	1190	pCi/g	95	(75%-125%)		03/26/07 23:41
		Uncert:	+/-29.2	+/-64.6					
		TPU:	+/-29.2	+/-101					
Batch	619285								
QC1201300861	182732002 DUP								
Tritium			U	-0.299 U	1.02	pCi/g	0	(0% - 100%) 4XD2	03/26/07 19:25
		Uncert:		+/-1.13	+/-1.19				
		TPU:		+/-1.13	+/-1.19				
QC1201300863	LCS								
Tritium		11.8		11.4	pCi/g	96	(75%-125%)		03/26/07 21:30
		Uncert:		+/-1.60					
		TPU:		+/-1.61					
QC1201300860	MB								
Tritium			U	0.643	pCi/g				03/26/07 18:23
		Uncert:		+/-1.13					
		TPU:		+/-1.13					
QC1201300862	182732002 MS								
Tritium		11.8 U	-0.299	10.7	pCi/g	90	(75%-125%)		03/26/07 20:27
		Uncert:	+/-1.13	+/-1.55					
		TPU:	+/-1.13	+/-1.56					
Batch	619288								
QC1201300869	182732002 DUP								
Carbon-14			U	0.0404 U	0.0962	pCi/g	0	(0% - 100%) 4XD2	03/24/07 22:09
		Uncert:		+/-0.0991	+/-0.099				
		TPU:		+/-0.0991	+/-0.099				
QC1201300871	LCS								
Carbon-14		7.09		7.25	pCi/g	102	(75%-125%)		03/25/07 00:13
		Uncert:		+/-0.215					
		TPU:		+/-0.243					
QC1201300868	MB								
Carbon-14			U	0.0671	pCi/g				03/24/07 21:08
		Uncert:		+/-0.0977					
		TPU:		+/-0.0977					
QC1201300870	182732002 MS								
Carbon-14		7.22 U	0.0404	7.09	pCi/g	98	(75%-125%)		03/24/07 23:11
		Uncert:	+/-0.0991	+/-0.215					
		TPU:	+/-0.0991	+/-0.241					
Batch	620503								

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Liquid Scintillation											
Batch	620503										
QC1201303905	182732014	DUP									
Nickel-63		U	-6.13	U	2.89	pCi/g	0	(0% - 100%)	MXPI	03/29/07	02:04
			Uncert: +/-7.43		+/-6.74						
			TPU: +/-7.43		+/-6.74						
QC1201303907	LCS										
Nickel-63	564				562	pCi/g	100	(75%-125%)		03/29/07	03:06
			Uncert: +/-16.7		+/-26.3						
			TPU: +/-26.3								
QC1201303904	MB										
Nickel-63				U	-2.94	pCi/g				03/29/07	01:33
			Uncert: +/-6.43		+/-6.43						
			TPU: +/-6.43								
QC1201303906	182732014	MS									
Nickel-63	573	U	-6.13		552	pCi/g	96	(75%-125%)		03/29/07	02:35
			Uncert: +/-7.43		+/-17.1						
			TPU: +/-7.43		+/-26.3						

Notes:

The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded

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<u>Parmname</u>	<u>NOM</u>	<u>Sample Qual</u>	<u>QC</u>	<u>Units</u>	<u>RPD%</u>	<u>REC%</u>	<u>Range</u>	<u>Anlst</u>	<u>Date</u>	<u>Time</u>
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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.

General Narrative

**General Narrative
for
Connecticut Yankee Atomic Power Co.
Work Order: 183089
SDG: MSR#07-00125**

March 29, 2007

Laboratory Identification:

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

Summary

Sample receipt

The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on March 27, 2007 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>
183089001	9312-0009-127-I
183089002	9312-0009-128-I
183089003	9312-0009-129-I
183089004	9312-0009-130-I
183089005	9312-0009-131-I
183089006	9312-0009-132-I
183089007	9312-0009-133-I
183089008	9312-0009-134-I
183089009	9312-0009-135-I
183089010	9312-0009-136-I
183089011	9312-0009-137-I

Items of Note

There are no items to note.

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (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

Eleven soil samples were analyzed for FSSGAM and Strontium-90.

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 29 March 2007

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
860-267-2536

Chain of Custody Form

No. 2007-00088

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size- & Type Code	Analyses Requested					Lab Use Only			
Contact Name & Phone: Jack McCarthy 860-267-3924						FSSGAM & Sr-90	FSSALL						Comments:	
Analytical Lab (Name, City, State): General Engineering Laboratories 2040 Savage Road Charleston, SC 29407 ATT: Cheryl Jones (843-556-8171)													183089	
Priority: <input type="checkbox"/> 30 D. <input type="checkbox"/> 15 D. <input checked="" type="checkbox"/> 7 D. Other:													Comment, Preservation	Lab Sample ID
Sample Designation	Date	Time												
9312-0009-127-I	3/21/07	0743	TS	G	BP	X								
9312-0009-128-I	3/21/07	0801	TS	G	BP	X								
9312-0009-129-I	3/21/07	0803	TS	G	BP	X								
9312-0009-130-I	3/21/07	0807	TS	G	BP	X								
9312-0009-131-I	3/21/07	0810	TS	G	BP	X								
NOTES: PO #: 002332 MSR #: 07- 00125 <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.: 14 Deg. C Custody Sealed? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Custody Seal Intact? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>					
1) Relinquished By <i>[Signature]</i> Date/Time 3/24/07 1050			2) Received By <i>[Signature]</i> Date/Time 3/27/07 930			Bill of Lading #								
3) Relinquished By Date/Time			4) Received By Date/Time											
5) Relinquished By Date/Time			6) Received By Date/Time											

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Connecticut Yankee Atomic Power Company

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

Chain of Custody Form

No. 2007-00098

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size- & Type Code	Analyses Requested						Lab Use Only			
Contact Name & Phone: Jack McCarthy 860-267-3924						FSSGAM & Sr-90	FSSALL							Comments:	
Analytical Lab (Name, City, State): General Engineering Laboratories 2040 Savage Road Charleston, SC 29407 ATT: Cheryl Jones (843-556-8171)														183089	
Priority: <input type="checkbox"/> 30 D. <input type="checkbox"/> 15 D. <input checked="" type="checkbox"/> 7 D. Other:														Comment, Preservation	Lab Sample ID
Sample Designation	Date	Time													
9312-0009-132-I	3/23/07	1350	TS	G	BP	X									
9312-0009-133-I	3/23/07	1345	TS	G	BP	X									
9312-0009-134-I	3/23/07	1325	TS	G	BP	X									
9312-0009-135-I	3/23/07	1335	TS	G	BP	X									
9312-0009-136-I	3/23/07	1318	TS	G	BP	X									
9312-0009-137-I	3/23/07	1112	TS	G	BP	X									
NOTES: PO #: 002332 MSR #: 07-00125 <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA						Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other			Internal Container Temp.: <u>14</u> Deg. C Custody Sealed? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Custody Seal Intact? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>						
1) Relinquished By <i>[Signature]</i>		Date/Time <u>3/26/07 1050</u>		2) Received By <i>[Signature]</i>		Date/Time <u>3/27/07 9:30</u>		Bill of Lading #							
3) Relinquished By		Date/Time		4) Received By		Date/Time									
5) Relinquished By		Date/Time		6) Received By		Date/Time									

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Figure 1. Sample Check-in List

- Date/Time Received: 3/27/07 9:30
- SDG#: MSR#07-00120, MSR#07-00125
- Work Order Number: 183090, 183089
- Shipping Container ID: see cont form Chain of Custody #: see cont form
1. Custody Seals on shipping container intact? Yes No
2. Custody Seals dated and signed? Yes No
3. Chain-of-Custody record present? Yes No
4. Cooler temperature see cont. form
5. Vermiculite/packing materials is: Wet Dry
6. Number of samples in shipping container: 30
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: Juan Lopez Date: 3/27/07

Telephoned to: _____ On _____ By _____



SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: <u>ANK</u>	SDG/ARCOC/Work Order: <u>183089, 183090</u>
Date Received: <u>3/27/07</u>	PM(A) Review (ensure non-conforming items are resolved prior to signing): <i>[Signature]</i>
Received By: <u>JP e oay 3/27/07</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				
----	-----------------------------------------------	--	--	--	--

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

PM (or PMA) review of Hazard classification: Initials CAJ Date: 3/27/07

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 183089**

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: 620460
Prep Batch Number: 620379

Sample ID	Client ID
183089001	9312-0009-127-I
183089002	9312-0009-128-I
183089003	9312-0009-129-I
183089004	9312-0009-130-I
183089005	9312-0009-131-I
183089006	9312-0009-132-I
183089007	9312-0009-133-I
183089008	9312-0009-134-I
183089009	9312-0009-135-I
183089010	9312-0009-136-I
183089011	9312-0009-137-I
1201303820	Method Blank (MB)
1201303821	183089001(9312-0009-127-I) Sample Duplicate (DUP)
1201303822	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL 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: 183089001 (9312-0009-127-I).

QC Information

Refer to Non-Conformance Report.

Technical Information:**Holding Time**

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples 1201303821 (9312-0009-127-I) and 183089001 (9312-0009-127-I) were recounted due to high relative percent difference/relative error ratio.

Miscellaneous Information:**NCR Documentation**

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. The following NCR was generated for this SDG: NCR 418844 was generated due to Failed RPD for DUP. 1. The sample (183089001) and the duplicate (1201303821) failed the relative percent difference requirement for Cobalt-60. 1. The sample and the duplicate were recounted. All other isotopes met the relative percent difference requirement for the sample and the duplicate. Reporting results

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	183089003
		Cesium-134	183089007
		Manganese-54	1201303820
UI	Data rejected due to interference.		183089006
UI	Data rejected due to low abundance.	Actinium-228	183089006
		Cesium-134	183089008
			183089010
			183089011
		Niobium-94	1201303821
		Silver-108m	183089011

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:	620442
Prep Batch Number:	620380
Dry Soil Prep GL-RAD-A-021 Batch Number:	620379

Sample ID	Client ID
183089001	9312-0009-127-I
183089002	9312-0009-128-I
183089003	9312-0009-129-I
183089004	9312-0009-130-I
183089005	9312-0009-131-I
183089006	9312-0009-132-I
183089007	9312-0009-133-I
183089008	9312-0009-134-I
183089009	9312-0009-135-I
183089010	9312-0009-136-I
183089011	9312-0009-137-I
1201303765	Method Blank (MB)
1201303766	183089001(9312-0009-127-I) Sample Duplicate (DUP)
1201303767	183089001(9312-0009-127-I) Matrix Spike (MS)
1201303768	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-004 REV# 11.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 183089001 (9312-0009-127-I).

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.

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr. 03-APR-07	Division: Radiochemistry	Quality Criteria: Specifications	Type: Process
Instrument Type: GAMMA SPECTROMETER	Test / Method: EML HASL 300, 4.5.2.3	Matrix Type: Solid	Client Code: YANK
Batch ID: 620460	Sample Numbers: See Below		
Potentially affected work order(s)(SDG): 183089(MSR#07-00125)			
Application Issues: Failed RPD for DUP			
Specification and Requirements Nonconformance Description:		NRG Disposition:	
1. The sample (183089001) and the duplicate (1201303821) failed the relative percent difference requirement for Cobalt-60.		1. The sample and the duplicate were recounted. All other isotopes met the relative percent difference requirement for the sample and the duplicate. Reporting results	

Originator's Name:
 Shenise Euland 03-APR-07

Data Validator/Group Leader:
 Heather Anderson 03-APR-07

Quality Review:

Director:

SAMPLE DATA SUMMARY

GEL 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#07-00125 GEL Work Order: 183089

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 GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Cheryl Jones.



Reviewed by

GEL 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: April 3, 2007

Client Sample ID:	9312-0009-127-I	Project:	YANK01204
Sample ID:	183089001	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	21-MAR-07		
Receive Date:	27-MAR-07		
Collector:	Client		
Moisture:	11.7%		

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

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

Actinium-228	U	0.301	+/-0.293	0.179	+/-0.293	0.357	pCi/g		MJH1	04/02/07	1123	620460	1
Americium-241	U	0.120	+/-0.0869	0.0622	+/-0.0869	0.124	pCi/g						
Bismuth-212	U	0.433	+/-0.401	0.265	+/-0.401	0.530	pCi/g						
Bismuth-214		2.08	+/-0.299	0.0846	+/-0.299	0.169	pCi/g						
Cesium-134	U	0.0376	+/-0.0517	0.046	+/-0.0517	0.0918	pCi/g						
Cesium-137		25.5	+/-2.23	0.0451	+/-2.23	0.0901	pCi/g						
Cobalt-60		1.43	+/-0.151	0.0371	+/-0.151	0.0741	pCi/g						
Europium-152	U	-0.152	+/-0.308	0.150	+/-0.308	0.300	pCi/g						
Europium-154	U	0.138	+/-0.147	0.116	+/-0.147	0.232	pCi/g						
Europium-155	U	0.0519	+/-0.124	0.108	+/-0.124	0.216	pCi/g						
Lead-212		0.417	+/-0.106	0.0777	+/-0.106	0.155	pCi/g						
Lead-214		2.40	+/-0.306	0.108	+/-0.306	0.217	pCi/g						
Manganese-54	U	-0.0206	+/-0.0466	0.0389	+/-0.0466	0.0777	pCi/g						
Niobium-94	U	0.034	+/-0.0418	0.036	+/-0.0418	0.072	pCi/g						
Potassium-40		14.8	+/-1.59	0.339	+/-1.59	0.678	pCi/g						
Radium-226		2.08	+/-0.299	0.0846	+/-0.299	0.169	pCi/g						
Silver-108m	U	0.017	+/-0.0758	0.065	+/-0.0758	0.130	pCi/g						
Thallium-208		0.124	+/-0.073	0.0467	+/-0.073	0.0933	pCi/g						

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid-ALL FSS

Strontium-90		0.189	+/-0.035	0.0112	+/-0.0354	0.0268	pCi/g		KSD1	04/02/07	1732	620442	3
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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	03/27/07	1017	620379

The following Analytical Methods were performed

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

GEL 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: April 3, 2007

Client Sample ID: 9312-0009-127-1
Sample ID: 183089001

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time Batch	Mtd
4	EPA 905.0 Modified											
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits					
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				70		(25%-125%)					

Notes:

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
 - < Result is less than value reported
 - > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B For General Chemistry and Organic analysis the 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
 - ND Analyte concentration is not detected above the detection limit
 - 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.

GEL 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: April 3, 2007

Client Sample ID: 9312-0009-128-I
Sample ID: 183089002
Matrix: TS
Collect Date: 21-MAR-07
Receive Date: 27-MAR-07
Collector: Client
Moisture: 7.91%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.544	+/-0.190	0.0846	+/-0.190	0.169	pCi/g		MJH1	03/28/07	0946	620460	1
Americium-241	U	0.0525	+/-0.0492	0.0416	+/-0.0492	0.0831	pCi/g						
Bismuth-212	U	0.338	+/-0.305	0.204	+/-0.305	0.407	pCi/g						
Bismuth-214		0.680	+/-0.132	0.0462	+/-0.132	0.0924	pCi/g						
Cesium-134	U	0.0294	+/-0.0536	0.0317	+/-0.0536	0.0634	pCi/g						
Cesium-137		2.40	+/-0.235	0.0276	+/-0.235	0.0551	pCi/g						
Cobalt-60		0.0913	+/-0.051	0.0274	+/-0.051	0.0548	pCi/g						
Europium-152	U	-0.0205	+/-0.0943	0.0719	+/-0.0943	0.144	pCi/g						
Europium-154	U	5.370E-05	+/-0.103	0.0867	+/-0.103	0.173	pCi/g						
Europium-155	U	0.016	+/-0.0716	0.0649	+/-0.0716	0.130	pCi/g						
Lead-212		0.588	+/-0.0851	0.0381	+/-0.0851	0.0761	pCi/g						
Lead-214		0.637	+/-0.131	0.0521	+/-0.131	0.104	pCi/g						
Manganese-54	U	-0.0168	+/-0.0293	0.0245	+/-0.0293	0.0489	pCi/g						
Niobium-94	U	0.00816	+/-0.0289	0.0248	+/-0.0289	0.0495	pCi/g						
Potassium-40		8.25	+/-1.02	0.222	+/-1.02	0.444	pCi/g						
Radium-226		0.680	+/-0.132	0.0462	+/-0.132	0.0924	pCi/g						
Silver-108m	U	-0.0145	+/-0.0333	0.0286	+/-0.0333	0.0572	pCi/g						
Thallium-208		0.218	+/-0.0567	0.0268	+/-0.0567	0.0535	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90		0.0328	+/-0.0176	0.0104	+/-0.0177	0.0246	pCi/g		KSD1	04/02/07	1732	620442	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/27/07	1017	620379

The following Analytical Methods were performed

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

GEL 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: April 3, 2007

Client Sample ID: 9312-0009-128-I
Sample ID: 183089002

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				83		(25%-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 For General Chemistry and Organic analysis the 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
 - ND Analyte concentration is not detected above the detection limit
 - 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: April 3, 2007

Client Sample ID: 9312-0009-129-I
Sample ID: 183089003
Matrix: TS
Collect Date: 21-MAR-07
Receive Date: 27-MAR-07
Collector: Client
Moisture: 10.3%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.845	+/-0.216	0.0732	+/-0.216	0.146	pCi/g		MJH1	03/28/07	0946	620460	1
Americium-241	U	0.0261	+/-0.0362	0.0303	+/-0.0362	0.0606	pCi/g						
Bismuth-212	UI	0.00	+/-0.359	0.157	+/-0.359	0.315	pCi/g						
Bismuth-214		0.724	+/-0.132	0.0423	+/-0.132	0.0846	pCi/g						
Cesium-134	U	0.0489	+/-0.0348	0.026	+/-0.0348	0.052	pCi/g						
Cesium-137		3.50	+/-0.329	0.0227	+/-0.329	0.0455	pCi/g						
Cobalt-60		0.170	+/-0.0445	0.0206	+/-0.0445	0.0412	pCi/g						
Europium-152	U	-0.0312	+/-0.106	0.0623	+/-0.106	0.125	pCi/g						
Europium-154	U	0.050	+/-0.0757	0.0651	+/-0.0757	0.130	pCi/g						
Europium-155	U	0.035	+/-0.0692	0.0543	+/-0.0692	0.109	pCi/g						
Lead-212		0.708	+/-0.0968	0.0331	+/-0.0968	0.0661	pCi/g						
Lead-214		0.825	+/-0.133	0.0493	+/-0.133	0.0985	pCi/g						
Manganese-54	U	0.0075	+/-0.0245	0.0217	+/-0.0245	0.0433	pCi/g						
Niobium-94	U	-0.00547	+/-0.0235	0.0193	+/-0.0235	0.0386	pCi/g						
Potassium-40		9.92	+/-1.06	0.174	+/-1.06	0.349	pCi/g						
Radium-226		0.724	+/-0.132	0.0423	+/-0.132	0.0846	pCi/g						
Silver-108m	U	-0.0112	+/-0.0283	0.0241	+/-0.0283	0.0481	pCi/g						
Thallium-208		0.234	+/-0.054	0.0232	+/-0.054	0.0463	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.0196	+/-0.0176	0.0123	+/-0.0176	0.0284	pCi/g		KSD1	04/02/07	1732	620442	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/27/07	1017	620379

The following Analytical Methods were performed

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

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Certificate of Analysis

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

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

Report Date: April 3, 2007

Client Sample ID: 9312-0009-129-I
Sample ID: 183089003

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				82		(25%-125%)						

Notes:

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- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
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- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- ND Analyte concentration is not detected above the detection limit
- 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: April 3, 2007

Client Sample ID: 9312-0009-130-I
Sample ID: 183089004
Matrix: TS
Collect Date: 21-MAR-07
Receive Date: 27-MAR-07
Collector: Client
Moisture: 15.7%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.734	+/-0.179	0.0596	+/-0.179	0.119	pCi/g		MJH1	03/28/07	0946	620460	1
Americium-241	U	0.0233	+/-0.0844	0.0691	+/-0.0844	0.138	pCi/g						
Bismuth-212		0.413	+/-0.278	0.138	+/-0.278	0.276	pCi/g						
Bismuth-214		0.643	+/-0.114	0.0365	+/-0.114	0.073	pCi/g						
Cesium-134	U	0.0177	+/-0.0315	0.0218	+/-0.0315	0.0435	pCi/g						
Cesium-137		3.46	+/-0.318	0.0201	+/-0.318	0.0402	pCi/g						
Cobalt-60		0.0862	+/-0.0398	0.0174	+/-0.0398	0.0349	pCi/g						
Europium-152	U	0.00831	+/-0.0784	0.0607	+/-0.0784	0.121	pCi/g						
Europium-154	U	0.0036	+/-0.0583	0.0492	+/-0.0583	0.0984	pCi/g						
Europium-155	U	0.0279	+/-0.0623	0.0566	+/-0.0623	0.113	pCi/g						
Lead-212		0.579	+/-0.0708	0.0318	+/-0.0708	0.0636	pCi/g						
Lead-214		0.667	+/-0.103	0.0434	+/-0.103	0.0867	pCi/g						
Manganese-54	U	-0.00111	+/-0.0222	0.0165	+/-0.0222	0.033	pCi/g						
Niobium-94	U	0.0157	+/-0.036	0.0164	+/-0.036	0.0328	pCi/g						
Potassium-40		8.90	+/-0.921	0.148	+/-0.921	0.295	pCi/g						
Radium-226		0.643	+/-0.114	0.0365	+/-0.114	0.073	pCi/g						
Silver-108m	U	-0.00138	+/-0.0266	0.0231	+/-0.0266	0.0462	pCi/g						
Thallium-208		0.223	+/-0.0473	0.0184	+/-0.0473	0.0369	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.00307	+/-0.0127	0.0102	+/-0.0127	0.024	pCi/g		KSD1	04/02/07	1732	620442	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/27/07	1017	620379

The following Analytical Methods were performed

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

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Certificate of Analysis

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

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

Report Date: April 3, 2007

Client Sample ID: 9312-0009-130-I
Sample ID: 183089004

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery %		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid-ALL	FSS			74		(25%-125%)						

Notes:

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- B For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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: April 3, 2007

Client Sample ID: 9312-0009-131-I
Sample ID: 183089005
Matrix: TS
Collect Date: 21-MAR-07
Receive Date: 27-MAR-07
Collector: Client
Moisture: 17.7%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.775	+/-0.222	0.0841	+/-0.222	0.168	pCi/g		MJH1	03/28/07	0947	620460	1
Americium-241	U	0.0169	+/-0.0448	0.0383	+/-0.0448	0.0765	pCi/g						
Bismuth-212		0.760	+/-0.329	0.152	+/-0.329	0.303	pCi/g						
Bismuth-214		0.822	+/-0.142	0.0482	+/-0.142	0.0963	pCi/g						
Cesium-134	U	0.051	+/-0.0457	0.0314	+/-0.0457	0.0628	pCi/g						
Cesium-137		3.26	+/-0.270	0.0283	+/-0.270	0.0566	pCi/g						
Cobalt-60		0.209	+/-0.0627	0.0226	+/-0.0627	0.0452	pCi/g						
Europium-152	U	-0.0248	+/-0.0859	0.0659	+/-0.0859	0.132	pCi/g						
Europium-154	U	0.0338	+/-0.0832	0.0723	+/-0.0832	0.145	pCi/g						
Europium-155	U	0.0202	+/-0.0888	0.0573	+/-0.0888	0.114	pCi/g						
Lead-212		0.855	+/-0.106	0.0364	+/-0.106	0.0727	pCi/g						
Lead-214		0.912	+/-0.143	0.051	+/-0.143	0.102	pCi/g						
Manganese-54	U	-0.00859	+/-0.0293	0.0246	+/-0.0293	0.0491	pCi/g						
Niobium-94	U	-0.0234	+/-0.0295	0.0226	+/-0.0295	0.0452	pCi/g						
Potassium-40		8.84	+/-1.03	0.211	+/-1.03	0.421	pCi/g						
Radium-226		0.822	+/-0.142	0.0482	+/-0.142	0.0963	pCi/g						
Silver-108m	U	0.00142	+/-0.0303	0.0264	+/-0.0303	0.0528	pCi/g						
Thallium-208		0.292	+/-0.0605	0.0265	+/-0.0605	0.0529	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90		0.0855	+/-0.0232	0.00956	+/-0.0233	0.0229	pCi/g		KSD1	04/02/07	1732	620442	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/27/07	1017	620379

The following Analytical Methods were performed

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

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Certificate of Analysis

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

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

Report Date: April 3, 2007

Client Sample ID: 9312-0009-131-I
Sample ID: 183089005

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				71		(25%-125%)						

Notes:

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- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- ND Analyte concentration is not detected above the detection limit
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- ^ 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: April 3, 2007

Client Sample ID: 9312-0009-132-I
Sample ID: 183089006
Matrix: TS
Collect Date: 23-MAR-07
Receive Date: 27-MAR-07
Collector: Client
Moisture: 15.3%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228	UI	0.00	+/-0.169	0.105	+/-0.169	0.209	pCi/g		MJH1	03/28/07	0947	620460	1
Americium-241	U	0.107	+/-0.0963	0.0766	+/-0.0963	0.153	pCi/g						
Bismuth-212		0.573	+/-0.248	0.108	+/-0.248	0.217	pCi/g						
Bismuth-214		0.611	+/-0.111	0.0362	+/-0.111	0.0724	pCi/g						
Cesium-134	U	0.0301	+/-0.0201	0.0181	+/-0.0201	0.0361	pCi/g						
Cesium-137		9.38	+/-0.758	0.0183	+/-0.758	0.0367	pCi/g						
Cobalt-60		0.356	+/-0.0491	0.0162	+/-0.0491	0.0324	pCi/g						
Europium-152	U	0.0409	+/-0.0959	0.0648	+/-0.0959	0.130	pCi/g						
Europium-154	U	-0.000457	+/-0.0534	0.045	+/-0.0534	0.0899	pCi/g						
Europium-155	U	0.0442	+/-0.0624	0.0546	+/-0.0624	0.109	pCi/g						
Lead-212		0.528	+/-0.0845	0.0354	+/-0.0845	0.0708	pCi/g						
Lead-214		0.693	+/-0.117	0.0473	+/-0.117	0.0946	pCi/g						
Manganese-54	UI	0.00	+/-0.0283	0.0164	+/-0.0283	0.0329	pCi/g						
Niobium-94	U	0.0167	+/-0.0175	0.0153	+/-0.0175	0.0306	pCi/g						
Potassium-40		8.43	+/-0.826	0.142	+/-0.826	0.285	pCi/g						
Radium-226		0.611	+/-0.111	0.0362	+/-0.111	0.0724	pCi/g						
Silver-108m	U	-0.0277	+/-0.0297	0.0248	+/-0.0297	0.0496	pCi/g						
Thallium-208		0.185	+/-0.042	0.019	+/-0.042	0.0379	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90		0.0403	+/-0.0194	0.0115	+/-0.0195	0.0267	pCi/g		KSD1	04/02/07	1732	620442	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/27/07	1017	620379

The following Analytical Methods were performed

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

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Certificate of Analysis

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

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

Report Date: April 3, 2007

Client Sample ID: 9312-0009-132-I
Sample ID: 183089006

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits					
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				83		(25%-125%)					

Notes:

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- > Result is greater than value reported
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- 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: April 3, 2007

Client Sample ID: 9312-0009-133-I
Sample ID: 183089007
Matrix: TS
Collect Date: 23-MAR-07
Receive Date: 27-MAR-07
Collector: Client
Moisture: 6.84%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth Waived</i>													
Actinium-228		0.597	+/-0.214	0.0766	+/-0.214	0.153	pCi/g		MJH1	03/28/07	0948	620460	1
Americium-241	U	0.127	+/-0.0873	0.0726	+/-0.0873	0.145	pCi/g						
Bismuth-212		0.449	+/-0.287	0.151	+/-0.287	0.302	pCi/g						
Bismuth-214		0.587	+/-0.119	0.0451	+/-0.119	0.0901	pCi/g						
Cesium-134	UI	0.00	+/-0.0452	0.0225	+/-0.0452	0.0449	pCi/g						
Cesium-137		5.36	+/-0.444	0.0235	+/-0.444	0.047	pCi/g						
Cobalt-60		0.306	+/-0.0563	0.020	+/-0.0563	0.040	pCi/g						
Europium-152	U	0.00537	+/-0.101	0.0772	+/-0.101	0.154	pCi/g						
Europium-154	U	-0.054	+/-0.0713	0.0542	+/-0.0713	0.108	pCi/g						
Europium-155	U	0.0515	+/-0.0751	0.0673	+/-0.0751	0.135	pCi/g						
Lead-212		0.695	+/-0.0918	0.0402	+/-0.0918	0.0804	pCi/g						
Lead-214		0.722	+/-0.130	0.0559	+/-0.130	0.112	pCi/g						
Manganese-54	U	0.0103	+/-0.0286	0.0228	+/-0.0286	0.0456	pCi/g						
Niobium-94	U	0.0137	+/-0.0229	0.0199	+/-0.0229	0.0398	pCi/g						
Potassium-40		8.87	+/-0.944	0.170	+/-0.944	0.340	pCi/g						
Radium-226		0.587	+/-0.119	0.0451	+/-0.119	0.0901	pCi/g						
Silver-108m	U8.180E-05		+/-0.0363	0.030	+/-0.0363	0.0599	pCi/g						
Thallium-208		0.221	+/-0.0565	0.0242	+/-0.0565	0.0483	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90		0.0287	+/-0.0164	0.00979	+/-0.0165	0.0232	pCi/g		KSD1	04/02/07	1732	620442	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/27/07	1017	620379

The following Analytical Methods were performed

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

GEL 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: April 3, 2007

Client Sample ID: 9312–0009–133–I
Sample ID: 183089007

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid–ALL FSS				80		(25%–125%)						

Notes:

The Qualifiers in this report are defined as follows :

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- > Result is greater than value reported
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- B For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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: April 3, 2007

Client Sample ID: 9312-0009-134-I
Sample ID: 183089008
Matrix: TS
Collect Date: 23-MAR-07
Receive Date: 27-MAR-07
Collector: Client
Moisture: 6.93%

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

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

Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth

Waived

Actinium-228		0.724	+/-0.163	0.0484	+/-0.163	0.0967	pCi/g		MJH1	03/28/07	0948	620460	1
Americium-241	U	0.104	+/-0.0836	0.0682	+/-0.0836	0.136	pCi/g						
Bismuth-212		0.282	+/-0.196	0.108	+/-0.196	0.216	pCi/g						
Bismuth-214		0.683	+/-0.0959	0.030	+/-0.0959	0.060	pCi/g						
Cesium-134	UI	0.00	+/-0.0301	0.0189	+/-0.0301	0.0378	pCi/g						
Cesium-137		2.60	+/-0.239	0.0146	+/-0.239	0.0291	pCi/g						
Cobalt-60		0.106	+/-0.0316	0.014	+/-0.0316	0.0279	pCi/g						
Europium-152	U	-0.00416	+/-0.0815	0.0482	+/-0.0815	0.0963	pCi/g						
Europium-154	U	0.0122	+/-0.0641	0.0477	+/-0.0641	0.0954	pCi/g						
Europium-155	U	0.00876	+/-0.0571	0.0523	+/-0.0571	0.105	pCi/g						
Lead-212		0.615	+/-0.0695	0.0265	+/-0.0695	0.053	pCi/g						
Lead-214		0.791	+/-0.105	0.0352	+/-0.105	0.0703	pCi/g						
Manganese-54	U	0.0162	+/-0.0175	0.0159	+/-0.0175	0.0318	pCi/g						
Niobium-94	U	-0.00423	+/-0.016	0.0134	+/-0.016	0.0268	pCi/g						
Potassium-40		11.9	+/-0.992	0.120	+/-0.992	0.241	pCi/g						
Radium-226		0.683	+/-0.0959	0.030	+/-0.0959	0.060	pCi/g						
Silver-108m	U	-0.00211	+/-0.0207	0.0176	+/-0.0207	0.0352	pCi/g						
Thallium-208		0.200	+/-0.0387	0.0155	+/-0.0387	0.031	pCi/g						

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid-ALL FSS

Strontium-90	U	0.0147	+/-0.0139	0.00957	+/-0.0139	0.0225	pCi/g		KSD1	04/02/07	1732	620442	2
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/27/07	1017	620379

The following Analytical Methods were performed

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

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Certificate of Analysis

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

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

Report Date: April 3, 2007

Client Sample ID: 9312-0009-134-I
Sample ID: 183089008

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				79		(25%-125%)						

Notes:

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- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
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- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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Certificate of Analysis

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

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

Report Date: April 3, 2007

Client Sample ID: 9312-0009-135-I
Sample ID: 183089009
Matrix: TS
Collect Date: 23-MAR-07
Receive Date: 27-MAR-07
Collector: Client
Moisture: 7.54%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.636	+/-0.202	0.0811	+/-0.202	0.162	pCi/g		MJH1	03/28/07	1253	620460	1
Americium-241	U	0.0537	+/-0.0466	0.0372	+/-0.0466	0.0743	pCi/g						
Bismuth-212	U	0.293	+/-0.295	0.174	+/-0.295	0.348	pCi/g						
Bismuth-214		0.673	+/-0.135	0.0458	+/-0.135	0.0916	pCi/g						
Cesium-134	U	0.0495	+/-0.0283	0.0253	+/-0.0283	0.0506	pCi/g						
Cesium-137		5.76	+/-0.626	0.023	+/-0.626	0.0459	pCi/g						
Cobalt-60		0.183	+/-0.0453	0.0188	+/-0.0453	0.0375	pCi/g						
Europium-152	U	0.0628	+/-0.0986	0.0749	+/-0.0986	0.150	pCi/g						
Europium-154	U	0.0445	+/-0.0797	0.0708	+/-0.0797	0.141	pCi/g						
Europium-155	U	0.0125	+/-0.0657	0.0599	+/-0.0657	0.120	pCi/g						
Lead-212		0.692	+/-0.102	0.0392	+/-0.102	0.0784	pCi/g						
Lead-214		0.811	+/-0.140	0.0522	+/-0.140	0.104	pCi/g						
Manganese-54	U	0.00299	+/-0.0259	0.0228	+/-0.0259	0.0455	pCi/g						
Niobium-94	U	0.00996	+/-0.0242	0.021	+/-0.0242	0.042	pCi/g						
Potassium-40		9.25	+/-1.04	0.160	+/-1.04	0.320	pCi/g						
Radium-226		0.673	+/-0.135	0.0458	+/-0.135	0.0916	pCi/g						
Silver-108m	U	-0.0186	+/-0.036	0.031	+/-0.036	0.0619	pCi/g						
Thallium-208		0.248	+/-0.0575	0.0233	+/-0.0575	0.0466	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.0202	+/-0.0169	0.0114	+/-0.017	0.0267	pCi/g		KSD1	04/02/07	1732	620442	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/27/07	1017	620379

The following Analytical Methods were performed

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

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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: April 3, 2007

Client Sample ID: 9312-0009-135-I
Sample ID: 183089009

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits					
Strontium Carrier		GFPC, Sr90, solid-ALL FSS			76		(25%-125%)					

Notes:

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 - D Results are reported from a diluted aliquot of the sample
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 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - ND Analyte concentration is not detected above the detection limit
 - 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: April 3, 2007

Client Sample ID: 9312-0009-136-I
Sample ID: 183089010
Matrix: TS
Collect Date: 23-MAR-07
Receive Date: 27-MAR-07
Collector: Client
Moisture: 4.33%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth Waived</i>													
Actinium-228		0.822	+/-0.239	0.0979	+/-0.239	0.196	pCi/g		MJH1	03/28/07	1253	620460	1
Americium-241	U	0.0453	+/-0.0622	0.0486	+/-0.0622	0.097	pCi/g						
Bismuth-212		0.983	+/-0.383	0.191	+/-0.383	0.382	pCi/g						
Bismuth-214		0.852	+/-0.158	0.0523	+/-0.158	0.104	pCi/g						
Cesium-134	UI	0.00	+/-0.0671	0.033	+/-0.0671	0.066	pCi/g						
Cesium-137		4.98	+/-0.456	0.0286	+/-0.456	0.0571	pCi/g						
Cobalt-60		0.178	+/-0.0676	0.0257	+/-0.0676	0.0514	pCi/g						
Europium-152	U	-0.0152	+/-0.104	0.0871	+/-0.104	0.174	pCi/g						
Europium-154	U	-0.0514	+/-0.0942	0.0751	+/-0.0942	0.150	pCi/g						
Europium-155	U	0.0672	+/-0.0982	0.0751	+/-0.0982	0.150	pCi/g						
Lead-212		0.982	+/-0.123	0.044	+/-0.123	0.088	pCi/g						
Lead-214		0.934	+/-0.152	0.0604	+/-0.152	0.121	pCi/g						
Manganese-54	U	0.0259	+/-0.0318	0.0266	+/-0.0318	0.0531	pCi/g						
Niobium-94	U	0.0259	+/-0.029	0.0257	+/-0.029	0.0514	pCi/g						
Potassium-40		9.02	+/-1.08	0.197	+/-1.08	0.395	pCi/g						
Radium-226		0.852	+/-0.158	0.0523	+/-0.158	0.104	pCi/g						
Silver-108m	U	-0.0036	+/-0.0377	0.0328	+/-0.0377	0.0656	pCi/g						
Thallium-208		0.299	+/-0.0786	0.0296	+/-0.0786	0.0592	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.000672	+/-0.0165	0.0138	+/-0.0165	0.0314	pCi/g		KSD1	04/02/07	1733	620442	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/27/07	1017	620379

The following Analytical Methods were performed

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

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Certificate of Analysis

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

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

Report Date: April 3, 2007

Client Sample ID: 9312-0009-136-I
Sample ID: 183089010

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				70		(25%-125%)						

Notes:

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- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- ND Analyte concentration is not detected above the detection limit
- 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.

GEL 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: April 3, 2007

Client Sample ID:	9312-0009-137-I	Project:	YANK01204
Sample ID:	183089011	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	23-MAR-07		
Receive Date:	27-MAR-07		
Collector:	Client		
Moisture:	1.07%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.764	+/-0.155	0.0529	+/-0.155	0.106	pCi/g		MJH1	03/28/07	1254	620460	1
Americium-241	U	0.0942	+/-0.0865	0.0706	+/-0.0865	0.141	pCi/g						
Bismuth-212		0.436	+/-0.253	0.112	+/-0.253	0.225	pCi/g						
Bismuth-214		0.727	+/-0.117	0.032	+/-0.117	0.0639	pCi/g						
Cesium-134	UI	0.00	+/-0.0226	0.0192	+/-0.0226	0.0383	pCi/g						
Cesium-137		4.33	+/-0.386	0.0169	+/-0.386	0.0339	pCi/g						
Cobalt-60		0.337	+/-0.0482	0.0163	+/-0.0482	0.0325	pCi/g						
Europium-152	U	-0.0365	+/-0.0772	0.054	+/-0.0772	0.108	pCi/g						
Europium-154	U	-0.072	+/-0.0601	0.0471	+/-0.0601	0.0941	pCi/g						
Europium-155	U	0.0318	+/-0.0606	0.054	+/-0.0606	0.108	pCi/g						
Lead-212		0.721	+/-0.0758	0.0299	+/-0.0758	0.0597	pCi/g						
Lead-214		0.728	+/-0.101	0.0404	+/-0.101	0.0807	pCi/g						
Manganese-54	U	0.000531	+/-0.0178	0.0156	+/-0.0178	0.0311	pCi/g						
Niobium-94	U	0.0182	+/-0.0165	0.0149	+/-0.0165	0.0297	pCi/g						
Potassium-40		11.6	+/-0.988	0.117	+/-0.988	0.233	pCi/g						
Radium-226		0.727	+/-0.117	0.032	+/-0.117	0.0639	pCi/g						
Silver-108m	UI	0.00	+/-0.0293	0.0205	+/-0.0293	0.041	pCi/g						
Thallium-208		0.218	+/-0.0417	0.0173	+/-0.0417	0.0345	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.00358	+/-0.012	0.0106	+/-0.012	0.025	pCi/g		KSD1	04/02/07	1733	620442	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	03/27/07	1017	620379

The following Analytical Methods were performed

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

GEL 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: April 3, 2007

Client Sample ID: 9312-0009-137-I
Sample ID: 183089011

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits					
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				76		(25%-125%)					

Notes:

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 - > Result is greater than value reported
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 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - ND Analyte concentration is not detected above the detection limit
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 - 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

GEL LABORATORIES LLC

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QC Summary

Report Date: April 3, 2007
Page 1 of 5

Client : Connecticut Yankee Atomic Power
362 Injun Hollow Rd

Contact: East Hampton, Connecticut
Mr. Jack McCarthy

Workorder: 183089

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	620460										
QC1201303821	183089001 DUP										
Actinium-228	U	0.301		0.503	pCi/g	50		(0% - 100%)	MJH1	03/28/07	15:42
		Uncert:		+/-0.293							
		TPU:		+/-0.293							
Americium-241	U	0.120	U	0.165	pCi/g	32		(0% - 100%)			
		Uncert:		+/-0.0869							
		TPU:		+/-0.0869							
Bismuth-212	U	0.433	U	0.183	pCi/g	81		(0% - 100%)			
		Uncert:		+/-0.401							
		TPU:		+/-0.401							
Bismuth-214		2.08		1.79	pCi/g	15		(0% - 20%)			
		Uncert:		+/-0.299							
		TPU:		+/-0.299							
Cesium-134	U	0.0376	U	0.00988	pCi/g	117		(0% - 100%)			
		Uncert:		+/-0.0517							
		TPU:		+/-0.0517							
Cesium-137		25.5		23.7	pCi/g	7		(0% - 20%)			
		Uncert:		+/-2.23							
		TPU:		+/-2.23							
Cobalt-60		1.43		1.92	pCi/g	29*		(0% - 20%)			
		Uncert:		+/-0.151							
		TPU:		+/-0.151							
Europium-152	U	-0.152	U	-0.106	pCi/g	36		(0% - 100%)			
		Uncert:		+/-0.308							
		TPU:		+/-0.308							
Europium-154	U	0.138	U	-0.00718	pCi/g	222		(0% - 100%)			
		Uncert:		+/-0.147							
		TPU:		+/-0.147							
Europium-155	U	0.0519	U	0.019	pCi/g	93		(0% - 100%)			
		Uncert:		+/-0.124							
		TPU:		+/-0.124							
Lead-212		0.417		0.346	pCi/g	19		(0% - 100%)			
		Uncert:		+/-0.106							
		TPU:		+/-0.106							
Lead-214		2.40		2.01	pCi/g	18		(0% - 20%)			
		Uncert:		+/-0.306							
		TPU:		+/-0.306							
Manganese-54	U	-0.0206	U	-0.0105	pCi/g	65		(0% - 100%)			
		Uncert:		+/-0.0466							
		TPU:		+/-0.0466							
Niobium-94	U	0.034	UI	0.00	pCi/g	58		(0% - 100%)			
		Uncert:		+/-0.0418							
		TPU:		+/-0.0418							

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QC Summary

Workorder: 183089

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	620460									
Potassium-40		14.8	15.2	pCi/g	2		(0% - 20%)			
	Uncert:	+/-1.59	+/-1.23							
	TPU:	+/-1.59	+/-1.23							
Radium-226		2.08	1.79	pCi/g	15		(0% - 100%)			
	Uncert:	+/-0.299	+/-0.202							
	TPU:	+/-0.299	+/-0.202							
Silver-108m	U	0.017	U -0.00579	pCi/g	408		(0% - 100%)			
	Uncert:	+/-0.0758	+/-0.041							
	TPU:	+/-0.0758	+/-0.041							
Thallium-208		0.124	0.0683	pCi/g	58		(0% - 100%)			
	Uncert:	+/-0.073	+/-0.0477							
	TPU:	+/-0.073	+/-0.0477							
QC1201303822	LCS									
Actinium-228			1.51	pCi/g					03/28/07	16:06
	Uncert:		+/-0.743							
	TPU:		+/-0.743							
Americium-241	16.0		13.6	pCi/g		85	(75%-125%)			
	Uncert:		+/-1.30							
	TPU:		+/-1.30							
Bismuth-212		U	1.12	pCi/g						
	Uncert:		+/-0.936							
	TPU:		+/-0.936							
Bismuth-214			0.952	pCi/g						
	Uncert:		+/-0.363							
	TPU:		+/-0.363							
Cesium-134		U	0.205	pCi/g						
	Uncert:		+/-0.212							
	TPU:		+/-0.212							
Cesium-137	6.20		6.06	pCi/g		98	(75%-125%)			
	Uncert:		+/-0.715							
	TPU:		+/-0.715							
Cobalt-60	9.33		9.06	pCi/g		97	(75%-125%)			
	Uncert:		+/-0.652							
	TPU:		+/-0.652							
Europium-152		U	-0.0193	pCi/g						
	Uncert:		+/-0.276							
	TPU:		+/-0.276							
Europium-154		U	-0.151	pCi/g						
	Uncert:		+/-0.254							
	TPU:		+/-0.254							
Europium-155		U	0.264	pCi/g						
	Uncert:		+/-0.223							
	TPU:		+/-0.223							
Lead-212			1.03	pCi/g						
	Uncert:		+/-0.208							
	TPU:		+/-0.208							
Lead-214			0.798	pCi/g						
	Uncert:		+/-0.332							

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QC Summary

Workorder: 183089

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	620460									
Manganese-54	TPU:		+/-0.332							
	Uncert:	U	0.0536	pCi/g						
	TPU:		+/-0.103							
Niobium-94	TPU:		+/-0.103							
	Uncert:	U	0.0926	pCi/g						
	TPU:		+/-0.105							
Potassium-40	TPU:		2.13	pCi/g						
	Uncert:		+/-1.50							
Radium-226	TPU:		+/-1.50							
	Uncert:		0.952	pCi/g			(75%-125%)			
	TPU:		+/-0.363							
Silver-108m	TPU:		+/-0.363							
	Uncert:	U	0.0391	pCi/g						
	TPU:		+/-0.0893							
Thallium-208	TPU:		+/-0.0893							
	Uncert:		0.422	pCi/g						
	TPU:		+/-0.181							
	TPU:		+/-0.181							
QC1201303820	MB									
Actinium-228		U	-0.022	pCi/g					03/28/07	14:40
	Uncert:		+/-0.0587							
	TPU:		+/-0.0587							
Americium-241		U	0.00955	pCi/g						
	Uncert:		+/-0.0366							
	TPU:		+/-0.0366							
Bismuth-212		U	-0.0254	pCi/g						
	Uncert:		+/-0.0902							
	TPU:		+/-0.0902							
Bismuth-214		U	-0.0146	pCi/g						
	Uncert:		+/-0.0327							
	TPU:		+/-0.0327							
Cesium-134		U	-0.00842	pCi/g						
	Uncert:		+/-0.013							
	TPU:		+/-0.013							
Cesium-137		U	0.0029	pCi/g						
	Uncert:		+/-0.0123							
	TPU:		+/-0.0123							
Cobalt-60		U	0.000993	pCi/g						
	Uncert:		+/-0.0143							
	TPU:		+/-0.0143							
Europium-152		U	-0.00491	pCi/g						
	Uncert:		+/-0.0329							
	TPU:		+/-0.0329							
Europium-154		U	0.00135	pCi/g						
	Uncert:		+/-0.0395							
	TPU:		+/-0.0395							
Europium-155		U	-0.0166	pCi/g						

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QC Summary

Workorder: 183089

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	620460									
			Uncert:							
			TPU:							
Lead-212		U	0.0175	pCi/g						
			Uncert:							
			TPU:							
Lead-214		U	-0.00101	pCi/g						
			Uncert:							
			TPU:							
Manganese-54		UI	0.00	pCi/g						
			Uncert:							
			TPU:							
Niobium-94		U	0.00397	pCi/g						
			Uncert:							
			TPU:							
Potassium-40		U	-0.0311	pCi/g						
			Uncert:							
			TPU:							
Radium-226		U	-0.0146	pCi/g						
			Uncert:							
			TPU:							
Silver-108m		U	-0.00257	pCi/g						
			Uncert:							
			TPU:							
Thallium-208		U	0.0121	pCi/g						
			Uncert:							
			TPU:							
Rad Gas Flow										
Batch	620442									
QC1201303766	183089001	DUP								
Strontium-90			0.189	0.0957	pCi/g	66*	(0% - 100%)	KSD1	04/02/07	17:33
			Uncert:							
			TPU:							
QC1201303768	LCS									
Strontium-90			1.44	1.49	pCi/g	104	(75%-125%)		04/02/07	17:33
			Uncert:							
			TPU:							
QC1201303765	MB									
Strontium-90		U	-0.00228	pCi/g					04/02/07	17:33
			Uncert:							
			TPU:							
QC1201303767	183089001	MS								
Strontium-90			1.65	0.189	1.50	pCi/g	79	(75%-125%)	04/02/07	17:33
			Uncert:							
			TPU:							

Notes:

The Qualifiers in this report are defined as follows:

GEL LABORATORIES LLC

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QC Summary

Workorder: 183089

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
**	Analyte is a surrogate compound									
<	Result is less than value reported									
>	Result is greater than value reported									
A	The TIC is a suspected aldol-condensation product									
B	For General Chemistry and Organic analysis the 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									
ND	Analyte concentration is not detected above the detection limit									
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.

General Narrative

**General Narrative
for
Connecticut Yankee Atomic Power Co.
Work Order: 184031
SDG: MSR#07-0146**

April 16, 2007

Laboratory Identification:

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

Summary

Sample receipt

The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on April 12, 2007 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>
184031001	9312-0009-138I
184031002	9312-0009-139I
184031003	9312-0009-140I
184031004	9312-0009-141I
184031005	9312-0009-142I
184031006	9312-0009-143I
184031007	9312-0009-144I
184031008	9312-0009-145I

Items of Note

There are no items to note.

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (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.

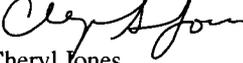
Analytical Request

Eight samples were analyzed for FSSGAM and Strontium 90.

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 16 April 2007

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 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. 2007-00128

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size- & Type Code	Analyses Requested						Lab Use Only		
Contact Name & Phone: Jack McCarthy 860-267-3924						FSSGAM & Sr-90						Comments: <div style="text-align: right; font-size: 1.2em;">1840311</div>		
Analytical Lab (Name, City, State): General Engineering Laboratories 2040 Savage Road Charleston, SC 29407 ATT: Cheryl Jones (843-556-8171)														
Priority: <input type="checkbox"/> 30 D. <input type="checkbox"/> 15 D. <input checked="" type="checkbox"/> 7 D. Other:														
Sample Designation	Date	Time									Comment, Preservation	Lab Sample ID		
9312-0009-138I	4/10/07	1425	TS	G	BP	X								
9312-0009-139I	4/10/07	1430	TS	G	BP	X								
9312-0009-140I	4/10/07	1435	TS	G	BP	X								
9312-0009-141I	4/10/07	1440	TS	G	BP	X								
9312-0009-142I	4/10/07	1505	TS	G	BP	X								
9312-0009-143I	4/10/07	1510	TS	G	BP	X								
9312-0009-144I	4/10/07	1525	TS	G	BP	X								
9312-0009-145I	4/10/07	1530	TS	G	BP	X								
NOTES: PO #: 002332 MSR #: 07-0146 <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA											Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other		Internal Container Temp.: <u>14</u> Deg. C Custody Sealed? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Custody Seal Intact? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
1) Relinquished By <i>[Signature]</i>			Date/Time 4/11/07 1405			2) Received By <i>[Signature]</i>			Date/Time 4-12-07 915			Bill of Lading #		
3) Relinquished By			Date/Time			4) Received By			Date/Time					
5) Relinquished By			Date/Time			6) Received By			Date/Time					

Figure 1. Sample Check-in List

Date/Time Received: 4-12-07 . 915

SDG#: MSP# 07-0144, 0145, 0146, 0148

Work Order Number: 184029, 184030, 184031, 184032

Shipping Container ID: 7907 1375 5631 Chain of Custody # 2007-00123, 2007-00124, 2007-00125

- 1. Custody Seals on shipping container intact? Yes No
- 2. Custody Seals dated and signed? Yes No
- 3. Chain-of-Custody record present? Yes No
- 4. Cooler temperature 13° 14°
- 5. Vermiculite/packing materials is: Wet Dry
- 6. Number of samples in shipping container: TS 21 8-8-5, 17
- 7. Sample holding times exceeded? Yes No

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

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

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

Sample Custodian/Laboratory: Terra Sta Date: 4-12-07 915

Telephoned to: _____ On _____ By _____



SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: <u>Competition Yankee</u>	SDG/ARCOC/Work Order: <u>184029, 184030, 184031, 184032</u>
Date Received: <u>4-12-07</u>	PM(A) Review (ensure non-conforming items are resolved prior to signing):
Received By: <u>TS</u>	<u><i>Cheryl Jones</i></u>

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.		<input checked="" type="checkbox"/>		Circle Coolant # ice bags blue ice dry ice none other (describe) <u>See below</u>
3 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>			
4 Sample containers intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?		<input checked="" type="checkbox"/>		Sample ID's, containers affected and observed pH:
6 VOA vials free of headspace (defined as < 6mm bubble)?		<input checked="" type="checkbox"/>		Sample ID's and containers affected:
7 Are Encore containers present? (If yes, immediately deliver to VOA laboratory)			<input checked="" type="checkbox"/>	
8 Samples received within holding time?	<input checked="" type="checkbox"/>			Id's and tests affected:
9 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>			Sample ID's affected:
11 Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>			Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>			
14 Air Bill, Tracking #'s, & Additional Comments				<u>7907-1375 5631 13°</u> <u>7986 4952 6000 14°</u>

Suspected Hazard Information	Non-Regulated	Regulated	High Level	RSO RAD Receipt # _____ *If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
A Radiological Classification?	<input checked="" type="checkbox"/>			Maximum Counts Observed*: <u>600 cpm</u>
B PCB Regulated?	<input checked="" type="checkbox"/>			
C Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.	<input checked="" type="checkbox"/>			Hazard Class Shipped: UN#:
D Regulated as a Foreign Soil?	<input checked="" type="checkbox"/>			
PM(A) review of Hazard classification: <input checked="" type="checkbox"/>				Initials: <u><i>TS</i></u> Date: <u>4/12/07</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 184031**

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: 624979
Prep Batch Number: 624893

Sample ID	Client ID
184031001	9312-0009-138I
184031002	9312-0009-139I
184031003	9312-0009-140I
184031004	9312-0009-141I
184031005	9312-0009-142I
184031006	9312-0009-143I
184031007	9312-0009-144I
184031008	9312-0009-145I
1201313865	Method Blank (MB)
1201313866	184029004(9514-0000-018J) Sample Duplicate (DUP)
1201313867	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 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: 184029004 (9514-0000-018J).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to interference.	Europium-155	184031005 184031007 184031008
UI	Data rejected due to low abundance.	Bismuth-212	184031007 184031008
		Bismuth-214	184031008
		Cesium-134	184031006 184031007
		Cobalt-60	184031007

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: 624928

Prep Batch Number: 624895

Dry Soil Prep GL-RAD-A-021 Batch Number: 624893

Sample ID	Client ID
184031001	9312-0009-138I
184031002	9312-0009-139I
184031003	9312-0009-140I
184031004	9312-0009-141I
184031005	9312-0009-142I
184031006	9312-0009-143I
184031007	9312-0009-144I
184031008	9312-0009-145I
1201313741	Method Blank (MB)
1201313742	184030011(9803-0000-011F) Sample Duplicate (DUP)
1201313743	184030011(9803-0000-011F) Matrix Spike (MS)
1201313744	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-004 REV# 11.

Calibration Information:**Calibration Information**

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:**Blank Information**

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

Designated QC

The following sample was used for QC: 184030011 (9803-0000-011F).

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 184031005 (9312-0009-142I) was recounted due to a negative result greater than three times the error. Sample 184031004 (9312-0009-141I) was recounted to verify sample result. First count being reported.

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.

SAMPLE DATA SUMMARY

GEL 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#07-0146 GEL Work Order: 184031

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 GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Cheryl Jones.



Reviewed by

GEL 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: April 19, 2007

Client Sample ID:	9312-0009-138I	Project:	YANK01204
Sample ID:	184031001	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	10-APR-07		
Receive Date:	12-APR-07		
Collector:	Client		
Moisture:	13.4%		

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

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

Actinium-228		0.928	+/-0.191	0.0607	+/-0.191	0.121	pCi/g		MJH1	04/16/07	1043	624979	1
Americium-241	U	0.0849	+/-0.108	0.0911	+/-0.108	0.182	pCi/g						
Bismuth-212		0.680	+/-0.253	0.136	+/-0.253	0.272	pCi/g						
Bismuth-214		0.881	+/-0.129	0.0332	+/-0.129	0.0664	pCi/g						
Cesium-134	U	0.0355	+/-0.0241	0.0228	+/-0.0241	0.0455	pCi/g						
Cesium-137		2.86	+/-0.268	0.021	+/-0.268	0.042	pCi/g						
Cobalt-60		0.130	+/-0.0308	0.019	+/-0.0308	0.0379	pCi/g						
Europium-152	U	0.0442	+/-0.074	0.059	+/-0.074	0.118	pCi/g						
Europium-154	U	0.0124	+/-0.0649	0.0569	+/-0.0649	0.114	pCi/g						
Europium-155	U	0.047	+/-0.0667	0.065	+/-0.0667	0.130	pCi/g						
Lead-212		0.769	+/-0.0841	0.0335	+/-0.0841	0.0669	pCi/g						
Lead-214		0.840	+/-0.126	0.042	+/-0.126	0.0839	pCi/g						
Manganese-54	U	0.0211	+/-0.0229	0.0187	+/-0.0229	0.0374	pCi/g						
Niobium-94	U	-0.00509	+/-0.0196	0.0168	+/-0.0196	0.0336	pCi/g						
Potassium-40		11.3	+/-1.05	0.105	+/-1.05	0.210	pCi/g						
Radium-226		0.881	+/-0.129	0.0332	+/-0.129	0.0664	pCi/g						
Silver-108m	U	-0.0241	+/-0.0262	0.0211	+/-0.0262	0.0421	pCi/g						
Thallium-208		0.219	+/-0.0463	0.0198	+/-0.0463	0.0396	pCi/g						

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid-ALL FSS

Strontium-90		0.0462	+/-0.0198	0.0121	+/-0.0199	0.0273	pCi/g		NXL3	04/16/07	2032	624928	2
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	04/12/07	1136	624893

The following Analytical Methods were performed

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

GEL 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: April 19, 2007

Client Sample ID: 9312-0009-138I
Sample ID: 184031001

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				76		(25%-125%)						

Notes:

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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.

GEL 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: April 19, 2007

Client Sample ID: 9312-0009-139I
Sample ID: 184031002
Matrix: TS
Collect Date: 10-APR-07
Receive Date: 12-APR-07
Collector: Client
Moisture: 14.5%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.946	+/-0.232	0.112	+/-0.232	0.223	pCi/g		MJH1	04/16/07	1044	624979	1
Americium-241	U	0.0813	+/-0.0613	0.0537	+/-0.0613	0.107	pCi/g						
Bismuth-212		0.606	+/-0.453	0.249	+/-0.453	0.498	pCi/g						
Bismuth-214		0.725	+/-0.166	0.0664	+/-0.166	0.133	pCi/g						
Cesium-134	U	0.0371	+/-0.0423	0.0393	+/-0.0423	0.0785	pCi/g						
Cesium-137		3.02	+/-0.294	0.0317	+/-0.294	0.0633	pCi/g						
Cobalt-60		0.361	+/-0.0769	0.0291	+/-0.0769	0.0582	pCi/g						
Europium-152	U	-0.11	+/-0.110	0.0887	+/-0.110	0.177	pCi/g						
Europium-154	U	-0.0837	+/-0.129	0.084	+/-0.129	0.168	pCi/g						
Europium-155	U	0.0503	+/-0.0873	0.0819	+/-0.0873	0.164	pCi/g						
Lead-212		0.682	+/-0.124	0.0579	+/-0.124	0.116	pCi/g						
Lead-214		0.860	+/-0.164	0.0662	+/-0.164	0.132	pCi/g						
Manganese-54	U	0.0235	+/-0.0367	0.0336	+/-0.0367	0.0671	pCi/g						
Niobium-94	U	0.0237	+/-0.0346	0.0309	+/-0.0346	0.0617	pCi/g						
Potassium-40		11.3	+/-1.25	0.220	+/-1.25	0.439	pCi/g						
Radium-226		0.725	+/-0.166	0.0664	+/-0.166	0.133	pCi/g						
Silver-108m	U	-0.0137	+/-0.0392	0.0342	+/-0.0392	0.0683	pCi/g						
Thallium-208		0.273	+/-0.075	0.0323	+/-0.075	0.0645	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.0102	+/-0.0169	0.0131	+/-0.0169	0.0293	pCi/g		NXL3	04/16/07	2032	624928	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	04/12/07	1136	624893

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
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Certificate of Analysis

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

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

Report Date: April 19, 2007

Client Sample ID: 9312-0009-139I
Sample ID: 184031002

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				80		(25%-125%)						

Notes:

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- B For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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.

GEL 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: April 19, 2007

Client Sample ID: 9312-0009-140I
Sample ID: 184031003
Matrix: TS
Collect Date: 10-APR-07
Receive Date: 12-APR-07
Collector: Client
Moisture: 15.5%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.698	+/-0.220	0.0874	+/-0.220	0.175	pCi/g		MJH1	04/16/07	1044	624979	1
Americium-241	U	0.0503	+/-0.0443	0.0384	+/-0.0443	0.0768	pCi/g						
Bismuth-212		0.747	+/-0.389	0.173	+/-0.389	0.345	pCi/g						
Bismuth-214		0.779	+/-0.139	0.0418	+/-0.139	0.0835	pCi/g						
Cesium-134	U	0.0421	+/-0.0513	0.0301	+/-0.0513	0.0601	pCi/g						
Cesium-137		2.35	+/-0.234	0.0236	+/-0.234	0.0472	pCi/g						
Cobalt-60		0.185	+/-0.0505	0.0215	+/-0.0505	0.043	pCi/g						
Europium-152	U	-0.0265	+/-0.0836	0.0668	+/-0.0836	0.134	pCi/g						
Europium-154	U	0.107	+/-0.0923	0.0846	+/-0.0923	0.169	pCi/g						
Europium-155	U	0.00873	+/-0.0652	0.0599	+/-0.0652	0.120	pCi/g						
Lead-212		0.807	+/-0.109	0.0363	+/-0.109	0.0726	pCi/g						
Lead-214		0.839	+/-0.138	0.048	+/-0.138	0.0959	pCi/g						
Manganese-54	U	-0.0125	+/-0.0279	0.0235	+/-0.0279	0.0469	pCi/g						
Niobium-94	U	0.0212	+/-0.0248	0.0225	+/-0.0248	0.045	pCi/g						
Potassium-40		11.4	+/-1.23	0.243	+/-1.23	0.486	pCi/g						
Radium-226		0.779	+/-0.139	0.0418	+/-0.139	0.0835	pCi/g						
Silver-108m	U	-0.00792	+/-0.0299	0.026	+/-0.0299	0.052	pCi/g						
Thallium-208		0.250	+/-0.0628	0.0227	+/-0.0628	0.0454	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.00729	+/-0.0205	0.0165	+/-0.0205	0.0363	pCi/g		NXL3	04/16/07	2033	624928	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	04/12/07	1136	624893

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
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GEL 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: April 19, 2007

Client Sample ID: 9312-0009-140I
Sample ID: 184031003

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				78		(25%-125%)						

Notes:

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
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- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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.

GEL 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: April 19, 2007

Client Sample ID: 9312-0009-141I
Sample ID: 184031004
Matrix: TS
Collect Date: 10-APR-07
Receive Date: 12-APR-07
Collector: Client
Moisture: 14%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		1.02	+/-0.192	0.0661	+/-0.192	0.132	pCi/g		MJH1	04/16/07	1045	624979	1
Americium-241	U	0.0199	+/-0.0845	0.0712	+/-0.0845	0.142	pCi/g						
Bismuth-212		0.530	+/-0.289	0.124	+/-0.289	0.248	pCi/g						
Bismuth-214		0.813	+/-0.119	0.0378	+/-0.119	0.0755	pCi/g						
Cesium-134	U	0.0421	+/-0.0255	0.0223	+/-0.0255	0.0447	pCi/g						
Cesium-137		3.76	+/-0.341	0.0214	+/-0.341	0.0427	pCi/g						
Cobalt-60		0.343	+/-0.0637	0.0158	+/-0.0637	0.0316	pCi/g						
Europium-152	U	-0.119	+/-0.085	0.0574	+/-0.085	0.115	pCi/g						
Europium-154	U	0.0217	+/-0.0657	0.0499	+/-0.0657	0.0997	pCi/g						
Europium-155	U	0.0399	+/-0.0902	0.0629	+/-0.0902	0.126	pCi/g						
Lead-212		0.876	+/-0.0899	0.0333	+/-0.0899	0.0665	pCi/g						
Lead-214		0.915	+/-0.132	0.0436	+/-0.132	0.0872	pCi/g						
Manganese-54	U-0.000284		+/-0.0222	0.0195	+/-0.0222	0.0389	pCi/g						
Niobium-94	U	0.0115	+/-0.0204	0.018	+/-0.0204	0.0359	pCi/g						
Potassium-40		11.1	+/-1.00	0.138	+/-1.00	0.275	pCi/g						
Radium-226		0.813	+/-0.119	0.0378	+/-0.119	0.0755	pCi/g						
Silver-108m	U	-0.0185	+/-0.026	0.0224	+/-0.026	0.0447	pCi/g						
Thallium-208		0.326	+/-0.0547	0.0202	+/-0.0547	0.0403	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90		2.46	+/-0.105	0.0144	+/-0.117	0.0323	pCi/g		NXL3	04/16/07	2034	624928	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	04/12/07	1136	624893

The following Analytical Methods were performed

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

GEL 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: April 19, 2007

Client Sample ID: 9312-0009-141I
Sample ID: 184031004

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits					
Strontium Carrier		GFPC, Sr90, solid-ALL FSS			75		(25%-125%)					

Notes:

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
 - < Result is less than value reported
 - > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B For General Chemistry and Organic analysis the 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
 - ND Analyte concentration is not detected above the detection limit
 - 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.

GEL 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: April 19, 2007

Client Sample ID: 9312-0009-142I
Sample ID: 184031005
Matrix: TS
Collect Date: 10-APR-07
Receive Date: 12-APR-07
Collector: Client
Moisture: 8.62%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.725	+/-0.249	0.0966	+/-0.249	0.193	pCi/g		MJH1	04/16/07	1045	624979	1
Americium-241	U	0.011	+/-0.0474	0.0408	+/-0.0474	0.0816	pCi/g						
Bismuth-212		0.649	+/-0.353	0.228	+/-0.353	0.456	pCi/g						
Bismuth-214		0.590	+/-0.143	0.0531	+/-0.143	0.106	pCi/g						
Cesium-134	U	0.0274	+/-0.0408	0.035	+/-0.0408	0.0699	pCi/g						
Cesium-137	U	0.0453	+/-0.0389	0.0359	+/-0.0389	0.0717	pCi/g						
Cobalt-60	U	0.0221	+/-0.0468	0.0363	+/-0.0468	0.0725	pCi/g						
Europium-152	U	0.0342	+/-0.0802	0.0688	+/-0.0802	0.138	pCi/g						
Europium-154	U	-0.0941	+/-0.107	0.0765	+/-0.107	0.153	pCi/g						
Europium-155	UI	0.00	+/-0.179	0.062	+/-0.179	0.124	pCi/g						
Lead-212		0.973	+/-0.121	0.0345	+/-0.121	0.069	pCi/g						
Lead-214		0.613	+/-0.134	0.0481	+/-0.134	0.096	pCi/g						
Manganese-54	U	0.0314	+/-0.0307	0.0293	+/-0.0307	0.0586	pCi/g						
Niobium-94	U	0.00279	+/-0.0342	0.0288	+/-0.0342	0.0575	pCi/g						
Potassium-40		15.9	+/-1.63	0.272	+/-1.63	0.543	pCi/g						
Radium-226		0.590	+/-0.143	0.0531	+/-0.143	0.106	pCi/g						
Silver-108m	U	0.013	+/-0.0255	0.0233	+/-0.0255	0.0465	pCi/g						
Thallium-208		0.315	+/-0.0646	0.0276	+/-0.0646	0.0551	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.0156	+/-0.0204	0.0153	+/-0.0204	0.0349	pCi/g		NXL3	04/17/07	1516	624928	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	04/12/07	1136	624893

The following Analytical Methods were performed

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

GEL 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: April 19, 2007

Client Sample ID: 9312–0009–142I
Sample ID: 184031005

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid–ALL FSS				89		(25%–125%)						

Notes:

The Qualifiers in this report are defined as follows :

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- > Result is greater than value reported
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- B For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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: April 19, 2007

Client Sample ID: 9312-0009-143I
Sample ID: 184031006
Matrix: TS
Collect Date: 10-APR-07
Receive Date: 12-APR-07
Collector: Client
Moisture: 7.36%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.974	+/-0.235	0.0656	+/-0.235	0.131	pCi/g		MJH1	04/16/07	1046	624979	1
Americium-241	U	0.0689	+/-0.102	0.0851	+/-0.102	0.170	pCi/g						
Bismuth-212		0.747	+/-0.270	0.142	+/-0.270	0.284	pCi/g						
Bismuth-214		0.673	+/-0.107	0.0389	+/-0.107	0.0777	pCi/g						
Cesium-134	UI	0.00	+/-0.0416	0.026	+/-0.0416	0.052	pCi/g						
Cesium-137		0.166	+/-0.0422	0.0199	+/-0.0422	0.0398	pCi/g						
Cobalt-60	U	0.026	+/-0.0271	0.0218	+/-0.0271	0.0435	pCi/g						
Europium-152	U	-0.0202	+/-0.0763	0.0507	+/-0.0763	0.101	pCi/g						
Europium-154	U	-0.00874	+/-0.0808	0.0683	+/-0.0808	0.136	pCi/g						
Europium-155	U	0.0513	+/-0.0677	0.0623	+/-0.0677	0.125	pCi/g						
Lead-212		1.05	+/-0.107	0.0316	+/-0.107	0.0632	pCi/g						
Lead-214		0.733	+/-0.119	0.0358	+/-0.119	0.0715	pCi/g						
Manganese-54	U	0.00286	+/-0.0283	0.0208	+/-0.0283	0.0416	pCi/g						
Niobium-94	U	0.0136	+/-0.0298	0.0195	+/-0.0298	0.0389	pCi/g						
Potassium-40		15.7	+/-1.43	0.165	+/-1.43	0.329	pCi/g						
Radium-226		0.673	+/-0.107	0.0389	+/-0.107	0.0777	pCi/g						
Silver-108m	U	-0.00223	+/-0.0208	0.0182	+/-0.0208	0.0364	pCi/g						
Thallium-208		0.353	+/-0.0613	0.0184	+/-0.0613	0.0367	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.0029	+/-0.0184	0.0157	+/-0.0184	0.0348	pCi/g		NXL3	04/16/07	2034	624928	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	04/12/07	1136	624893

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
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Certificate of Analysis

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

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

Report Date: April 19, 2007

Client Sample ID: 9312-0009-143I
Sample ID: 184031006

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				75		(25%-125%)						

Notes:

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- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- ND Analyte concentration is not detected above the detection limit
- 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: April 19, 2007

Client Sample ID: 9312-0009-144I
Sample ID: 184031007
Matrix: TS
Collect Date: 10-APR-07
Receive Date: 12-APR-07
Collector: Client
Moisture: 4.74%

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

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

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

Actinium-228		1.07	+/-0.188	0.0566	+/-0.188	0.113	pCi/g		MJH1	04/16/07	1047	624979	1
Americium-241	U	0.00642	+/-0.0796	0.0636	+/-0.0796	0.127	pCi/g						
Bismuth-212	UI	0.00	+/-0.255	0.165	+/-0.255	0.329	pCi/g						
Bismuth-214		0.591	+/-0.103	0.0312	+/-0.103	0.0623	pCi/g						
Cesium-134	UI	0.00	+/-0.023	0.0211	+/-0.023	0.0423	pCi/g						
Cesium-137	U	0.00754	+/-0.031	0.0157	+/-0.031	0.0315	pCi/g						
Cobalt-60	UI	0.00	+/-0.0459	0.0165	+/-0.0459	0.033	pCi/g						
Europium-152	U	-0.0406	+/-0.0676	0.038	+/-0.0676	0.0759	pCi/g						
Europium-154	U	-0.00372	+/-0.0698	0.0508	+/-0.0698	0.102	pCi/g						
Europium-155	UI	0.00	+/-0.0903	0.0485	+/-0.0903	0.0969	pCi/g						
Lead-212		0.950	+/-0.0895	0.0255	+/-0.0895	0.0509	pCi/g						
Lead-214		0.725	+/-0.0948	0.0275	+/-0.0948	0.0549	pCi/g						
Manganese-54	U	0.00859	+/-0.018	0.0161	+/-0.018	0.0322	pCi/g						
Niobium-94	U	0.019	+/-0.017	0.0153	+/-0.017	0.0306	pCi/g						
Potassium-40		17.1	+/-1.31	0.122	+/-1.31	0.243	pCi/g						
Radium-226		0.591	+/-0.103	0.0312	+/-0.103	0.0623	pCi/g						
Silver-108m	U	-0.00357	+/-0.0164	0.0139	+/-0.0164	0.0279	pCi/g						
Thallium-208		0.294	+/-0.043	0.0143	+/-0.043	0.0286	pCi/g						

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid-ALL FSS

Strontium-90	U	0.0054	+/-0.0156	0.0125	+/-0.0156	0.0281	pCi/g		NXL3	04/16/07	2034	624928	2
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	04/12/07	1136	624893

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
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Certificate of Analysis

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

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

Report Date: April 19, 2007

Client Sample ID: 9312-0009-144I
Sample ID: 184031007

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				87		(25%-125%)						

Notes:

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- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- ND Analyte concentration is not detected above the detection limit
- 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: April 19, 2007

Client Sample ID: 9312-0009-145I
Sample ID: 184031008
Matrix: TS
Collect Date: 10-APR-07
Receive Date: 12-APR-07
Collector: Client
Moisture: 8.08%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		1.04	+/-0.251	0.124	+/-0.251	0.247	pCi/g		MJH1	04/16/07	1247	624979	1
Americium-241	U	0.063	+/-0.0612	0.0529	+/-0.0612	0.106	pCi/g						
Bismuth-212	UI	0.00	+/-0.427	0.314	+/-0.427	0.627	pCi/g						
Bismuth-214	UI	0.00	+/-0.160	0.116	+/-0.160	0.231	pCi/g						
Cesium-134	U	0.0826	+/-0.049	0.0428	+/-0.049	0.0855	pCi/g						
Cesium-137	U	0.00168	+/-0.0408	0.0349	+/-0.0408	0.0698	pCi/g						
Cobalt-60	U	-0.00436	+/-0.0391	0.0324	+/-0.0391	0.0648	pCi/g						
Europium-152	U	0.0215	+/-0.108	0.0806	+/-0.108	0.161	pCi/g						
Europium-154	U	0.0234	+/-0.121	0.104	+/-0.121	0.207	pCi/g						
Europium-155	UI	0.00	+/-0.113	0.079	+/-0.113	0.158	pCi/g						
Lead-212		0.959	+/-0.122	0.0438	+/-0.122	0.0876	pCi/g						
Lead-214		0.777	+/-0.137	0.057	+/-0.137	0.114	pCi/g						
Manganese-54	U	0.00525	+/-0.0403	0.0309	+/-0.0403	0.0618	pCi/g						
Niobium-94	U	0.00909	+/-0.0345	0.0299	+/-0.0345	0.0597	pCi/g						
Potassium-40		16.8	+/-1.58	0.249	+/-1.58	0.498	pCi/g						
Radium-226		0.699	+/-0.160	0.0561	+/-0.160	0.112	pCi/g						
Silver-108m	U	-0.0152	+/-0.032	0.0275	+/-0.032	0.055	pCi/g						
Thallium-208		0.304	+/-0.0796	0.0302	+/-0.0796	0.0604	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	-0.0186	+/-0.0142	0.014	+/-0.0142	0.0311	pCi/g		NXL3	04/16/07	2034	624928	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	04/12/07	1136	624893

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
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GEL 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: April 19, 2007

Client Sample ID: 9312–0009–145I
Sample ID: 184031008

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid–ALL FSS				80		(25%–125%)						

Notes:

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- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- ND Analyte concentration is not detected above the detection limit
- 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

GEL LABORATORIES LLC

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

QC Summary

Report Date: April 19, 2007
Page 1 of 5

Client : Connecticut Yankee Atomic Power
362 Injun Hollow Rd

Contact: East Hampton, Connecticut
Mr. Jack McCarthy

Workorder: 184031

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	624979										
QC1201313866 184029004 DUP											
Actinium-228		0.426		0.459	pCi/g	8		(0% - 100%)	MJH1	04/16/07	13:54
	Uncert:	+/-0.156		+/-0.155							
	TPU:	+/-0.156		+/-0.155							
Americium-241	U	0.0454	U	0.0245	pCi/g	60		(0% - 100%)			
	Uncert:	+/-0.0614		+/-0.0782							
	TPU:	+/-0.0614		+/-0.0782							
Bismuth-212	UI	0.00		0.372	pCi/g	10		(0% - 100%)			
	Uncert:	+/-0.224		+/-0.305							
	TPU:	+/-0.224		+/-0.305							
Bismuth-214		0.413		0.436	pCi/g	5		(0% - 100%)			
	Uncert:	+/-0.0806		+/-0.0924							
	TPU:	+/-0.0806		+/-0.0924							
Cesium-134	U	0.0263	U	0.0218	pCi/g	19		(0% - 100%)			
	Uncert:	+/-0.0228		+/-0.0339							
	TPU:	+/-0.0228		+/-0.0339							
Cesium-137	U	-0.00417	U	0.002	pCi/g	569		(0% - 100%)			
	Uncert:	+/-0.0182		+/-0.0195							
	TPU:	+/-0.0182		+/-0.0195							
Cobalt-60	U	-0.00237	U	-0.00244	pCi/g	3		(0% - 100%)			
	Uncert:	+/-0.0189		+/-0.0179							
	TPU:	+/-0.0189		+/-0.0179							
Europium-152	U	-0.0408	U	-0.00651	pCi/g	145		(0% - 100%)			
	Uncert:	+/-0.0513		+/-0.059							
	TPU:	+/-0.0513		+/-0.059							
Europium-154	U	0.0285	U	-0.00323	pCi/g	251		(0% - 100%)			
	Uncert:	+/-0.0592		+/-0.0585							
	TPU:	+/-0.0592		+/-0.0585							
Europium-155	U	-0.00628	U	0.0343	pCi/g	290		(0% - 100%)			
	Uncert:	+/-0.0469		+/-0.0513							
	TPU:	+/-0.0469		+/-0.0513							
Lead-212		0.489		0.479	pCi/g	2		(0% - 100%)			
	Uncert:	+/-0.0599		+/-0.0617							
	TPU:	+/-0.0599		+/-0.0617							
Lead-214		0.457		0.412	pCi/g	10		(0% - 100%)			
	Uncert:	+/-0.0794		+/-0.0797							
	TPU:	+/-0.0794		+/-0.0797							
Manganese-54	U	0.0114	U	-0.000555	pCi/g	220		(0% - 100%)			
	Uncert:	+/-0.0183		+/-0.0208							
	TPU:	+/-0.0183		+/-0.0208							
Niobium-94	U	0.00235	U	0.00242	pCi/g	3		(0% - 100%)			
	Uncert:	+/-0.0177		+/-0.0169							
	TPU:	+/-0.0177		+/-0.0169							

GEL LABORATORIES LLC

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

QC Summary

Workorder: 184031

Page 2 of 5

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	624979									
Potassium-40		10.1	9.57	pCi/g	5		(0% - 20%)			
	Uncert:	+/-0.938	+/-1.02							
	TPU:	+/-0.938	+/-1.02							
Radium-226		0.413	0.436	pCi/g	5		(0% - 100%)			
	Uncert:	+/-0.0806	+/-0.0924							
	TPU:	+/-0.0806	+/-0.0924							
Silver-108m	U	-0.00456	U 0.00556	pCi/g	2030		(0% - 100%)			
	Uncert:	+/-0.0162	+/-0.0164							
	TPU:	+/-0.0162	+/-0.0164							
Thallium-208		0.137	0.154	pCi/g	12		(0% - 100%)			
	Uncert:	+/-0.0382	+/-0.0393							
	TPU:	+/-0.0382	+/-0.0393							
QC1201313867	LCS									
Actinium-228			0.936	pCi/g					04/16/07	13:55
	Uncert:		+/-0.600							
	TPU:		+/-0.600							
Americium-241	16.0		12.5	pCi/g		78	(75%-125%)			
	Uncert:		+/-1.03							
	TPU:		+/-1.03							
Bismuth-212			2.48	pCi/g						
	Uncert:		+/-1.35							
	TPU:		+/-1.35							
Bismuth-214			0.909	pCi/g						
	Uncert:		+/-0.309							
	TPU:		+/-0.309							
Cesium-134			0.190	pCi/g						
	Uncert:		+/-0.0993							
	TPU:		+/-0.0993							
Cesium-137	6.19		5.71	pCi/g		92	(75%-125%)			
	Uncert:		+/-0.530							
	TPU:		+/-0.530							
Cobalt-60	9.28		8.93	pCi/g		96	(75%-125%)			
	Uncert:		+/-0.634							
	TPU:		+/-0.634							
Europium-152		U	0.111	pCi/g						
	Uncert:		+/-0.238							
	TPU:		+/-0.238							
Europium-154		U	-0.0578	pCi/g						
	Uncert:		+/-0.206							
	TPU:		+/-0.206							
Europium-155		U	0.144	pCi/g						
	Uncert:		+/-0.236							
	TPU:		+/-0.236							
Lead-212			0.682	pCi/g						
	Uncert:		+/-0.242							
	TPU:		+/-0.242							
Lead-214			0.861	pCi/g						
	Uncert:		+/-0.284							

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QC Summary

Workorder: 184031

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Parname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	624979									
Manganese-54	TPU:		+/-0.284							
	Uncert:	U	-0.0751	pCi/g						
	TPU:		+/-0.0865							
Niobium-94	TPU:	U	-0.0344	pCi/g						
	Uncert:		+/-0.0846							
	TPU:		+/-0.0846							
Potassium-40	TPU:	U	0.938	pCi/g						
	Uncert:		+/-1.03							
	TPU:		+/-1.03							
Radium-226	TPU:		0.909	pCi/g			(75%-125%)			
	Uncert:		+/-0.309							
	TPU:		+/-0.309							
Silver-108m	TPU:	U	0.0701	pCi/g						
	Uncert:		+/-0.0795							
	TPU:		+/-0.0795							
Thallium-208	TPU:		0.372	pCi/g						
	Uncert:		+/-0.147							
	TPU:		+/-0.147							
QC1201313865 MB										
Actinium-228	TPU:	U	-0.02	pCi/g					04/16/07	13:54
	Uncert:		+/-0.0506							
	TPU:		+/-0.0506							
Americium-241	TPU:	U	0.000275	pCi/g						
	Uncert:		+/-0.0504							
	TPU:		+/-0.0504							
Bismuth-212	TPU:	U	0.096	pCi/g						
	Uncert:		+/-0.0927							
	TPU:		+/-0.0927							
Bismuth-214	TPU:	U	0.0177	pCi/g						
	Uncert:		+/-0.045							
	TPU:		+/-0.045							
Cesium-134	TPU:	U	0.00481	pCi/g						
	Uncert:		+/-0.0131							
	TPU:		+/-0.0131							
Cesium-137	TPU:	U	-0.00391	pCi/g						
	Uncert:		+/-0.0132							
	TPU:		+/-0.0132							
Cobalt-60	TPU:	U	0.00699	pCi/g						
	Uncert:		+/-0.0132							
	TPU:		+/-0.0132							
Europium-152	TPU:	U	-0.00356	pCi/g						
	Uncert:		+/-0.0316							
	TPU:		+/-0.0316							
Europium-154	TPU:	U	-0.0281	pCi/g						
	Uncert:		+/-0.0387							
	TPU:		+/-0.0387							
Europium-155	TPU:	U	0.00361	pCi/g						

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QC Summary

Workorder: 184031

Page 4 of 5

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	624979									
			Uncert:							
			TPU:							
Lead-212		U	0.0167	pCi/g						
			Uncert:							
			TPU:							
Lead-214		U	-0.0217	pCi/g						
			Uncert:							
			TPU:							
Manganese-54		U	-0.00843	pCi/g						
			Uncert:							
			TPU:							
Niobium-94		U	0.00454	pCi/g						
			Uncert:							
			TPU:							
Potassium-40		U	0.00683	pCi/g						
			Uncert:							
			TPU:							
Radium-226		U	0.0177	pCi/g						
			Uncert:							
			TPU:							
Silver-108m		U	-0.00351	pCi/g						
			Uncert:							
			TPU:							
Thallium-208		U	-0.00829	pCi/g						
			Uncert:							
			TPU:							
Rad Gas Flow										
Batch	624928									
QC1201313742	184030011	DUP								
Strontium-90		U	0.0026	U	0.000838	pCi/g	0	(0% - 100%)	NXL3	04/16/07 22:53
			Uncert:		+/-0.0157					
			TPU:		+/-0.0157					
QC1201313744	LCS									
Strontium-90		1.43			1.54	pCi/g	107	(75%-125%)		04/16/07 22:54
			Uncert:		+/-0.102					
			TPU:		+/-0.108					
QC1201313741	MB									
Strontium-90				U	0.0164	pCi/g				04/16/07 20:36
			Uncert:		+/-0.0189					
			TPU:		+/-0.0189					
QC1201313743	184030011	MS								
Strontium-90		1.59	U	0.0026	1.59	pCi/g	100	(75%-125%)		04/16/07 22:53
			Uncert:		+/-0.109					
			TPU:		+/-0.115					

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

GEL LABORATORIES LLC

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QC Summary

Workorder: 184031

Page 5 of 5

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
**	Analyte is a surrogate compound									
<	Result is less than value reported									
>	Result is greater than value reported									
A	The TIC is a suspected aldol-condensation product									
B	For General Chemistry and Organic analysis the 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									
ND	Analyte concentration is not detected above the detection limit									
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.

General Narrative

**General Narrative
for
Connecticut Yankee Atomic Power Co.
Work Order: 184758
SDG: MSR#07-0152**

April 24, 2007

Laboratory Identification:

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

Summary

Sample receipt

The sample arrived at GEL Laboratories LLC, Charleston, South Carolina on April 24, 2007 for analysis. Shipping container temperature was checked, documented, and within specifications. The sample was 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 sample:

Laboratory Identification	Sample Description
184758001	9312-0009-146I

Items of Note

There are no items to note.

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (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

One soil sample was analyzed for FSSGAM and Strontium-90.

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 24 April 2007

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 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

Figure 1. Sample Check-in List

Date/Time Received: 4-24-07 0945

SDG#: MSP#07-0152

Work Order Number: 184758

Shipping Container ID: 7912 ^{F22.0X} 7944 Chain of Custody # 2007-00130

- 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 18°C NO ICE
- 5. Vermiculite/packing materials is: Wet Dry NA ✓
- 6. Number of samples in shipping container: 1
- 7. Sample holding times exceeded? Yes No

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

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

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

Sample Custodian/Laboratory: Mike Kowalski Date: 4-24-07

Telephoned to: _____ On _____ By _____



SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: <u>CANN YANKEL</u>	SDG/ARCOC/Work Order: <u>184758</u>
Date Received: <u>4/24/07</u>	PM(A) Review (ensure non-conforming items are resolved prior to signing): <u>Clyde Jones</u>
Received By: <u>M/R</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				

Suspected Hazard Information	Non-Regulated	Regulated	High Level	RSO RAD Receipt # _____ *If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
A Radiological Classification?	<input checked="" type="checkbox"/>			Maximum Counts Observed*: <u>6pm 30</u>
B PCB Regulated?	<input checked="" type="checkbox"/>			
C Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.	<input checked="" type="checkbox"/>			Hazard Class Shipped: UN#:
D Regulated as Foreign Soil?	<input checked="" type="checkbox"/>			
PM (or PMA) review of Hazard classification: <input checked="" type="checkbox"/>				Initials: <u>CYJ</u> Date: <u>4/24/07</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 184758**

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: 628367
Prep Batch Number: 628149

Sample ID	Client ID
184758001	9312-0009-146I
1201322139	Method Blank (MB)
1201322140	184758001(9312-0009-146I) Sample Duplicate (DUP)
1201322141	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 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: 184758001 (9312-0009-146I).

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 1201322140 (9312-0009-146I) was recounted due to high MDA.

Miscellaneous Information:**NCR Documentation**

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

Additional Comments

The sample and the duplicate, 1201322140 (9312-0009-146I) and 184758001 (9312-0009-146I), did not meet the relative percent difference requirement for Bi-212, Ra-226 and Bi214, however they do meet the relative error ratio requirement with value of 1.59 for Bi-212 and 1.68 for Bi-214 and Ra-226..

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to interference.	Europium-155	184758001
			1201322140
		Manganese-54	1201322140
UI	Data rejected due to low abundance.	Cesium-134	1201322140

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: 628274
Prep Batch Number: 628151
Dry Soil Prep GL-RAD-A-021 Batch Number: 628149

Sample ID	Client ID
184758001	9312-0009-146I
1201321923	Method Blank (MB)
1201321924	184758001(9312-0009-146I) Sample Duplicate (DUP)
1201321925	184758001(9312-0009-146I) Matrix Spike (MS)
1201321926	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-004 REV# 11.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 184758001 (9312-0009-146I).

QC Information

All of the QC samples met the required acceptance limits.

SAMPLE DATA SUMMARY

GEL 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#07-0152 GEL Work Order: 184758

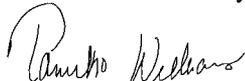
The Qualifiers in this report are defined as follows:

- * 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 GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Cheryl Jones.



Reviewed by

GEL LABORATORIES LLC

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

Certificate of Analysis

Company :
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 Haddam Neck, Connecticut 06424
 Contact: Mr. Arthur Hammond
 Project: Soils PO# 002332

Report Date: April 26, 2007

Client Sample ID:	9312-0009-146I	Project:	YANK01204
Sample ID:	184758001	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	23-APR-07		
Receive Date:	24-APR-07		
Collector:	Client		
Moisture:	13.8%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		1.01	+/-0.248	0.0829	+/-0.248	0.166	pCi/g		MJH1	04/25/07	1312	628367	1
Americium-241	U	0.0221	+/-0.0487	0.0402	+/-0.0487	0.0804	pCi/g						
Bismuth-212	U	0.396	+/-0.262	0.243	+/-0.262	0.486	pCi/g						
Bismuth-214		0.838	+/-0.160	0.0511	+/-0.160	0.102	pCi/g						
Cesium-134	U	0.0528	+/-0.0382	0.0331	+/-0.0382	0.0663	pCi/g						
Cesium-137		2.92	+/-0.289	0.0263	+/-0.289	0.0526	pCi/g						
Cobalt-60		0.217	+/-0.0585	0.0252	+/-0.0585	0.0503	pCi/g						
Europium-152	U	0.0559	+/-0.0949	0.0761	+/-0.0949	0.152	pCi/g						
Europium-154	U	0.0982	+/-0.122	0.0842	+/-0.122	0.168	pCi/g						
Europium-155	UI	0.00	+/-0.110	0.0589	+/-0.110	0.118	pCi/g						
Lead-212		0.849	+/-0.115	0.0385	+/-0.115	0.077	pCi/g						
Lead-214		0.736	+/-0.134	0.0545	+/-0.134	0.109	pCi/g						
Manganese-54	U	-0.00869	+/-0.0276	0.0233	+/-0.0276	0.0465	pCi/g						
Niobium-94	U	0.0337	+/-0.0297	0.0271	+/-0.0297	0.0541	pCi/g						
Potassium-40		11.9	+/-1.27	0.218	+/-1.27	0.435	pCi/g						
Radium-226		0.838	+/-0.160	0.0511	+/-0.160	0.102	pCi/g						
Silver-108m	U	-0.00756	+/-0.0335	0.0288	+/-0.0335	0.0576	pCi/g						
Thallium-208		0.268	+/-0.0646	0.026	+/-0.0646	0.052	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid-ALL FSS</i>													
Strontium-90	U	0.0122	+/-0.0267	0.0206	+/-0.0267	0.0483	pCi/g		NXL3	04/26/07	1150	628274	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	JMB1	04/24/07	1416	628149

The following Analytical Methods were performed

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

GEL LABORATORIES LLC

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

Certificate of Analysis

Company :
Address : Haddam Neck Plant
362 Injun Hollow Road
Haddam Neck, Connecticut 06424
Contact: Mr. Arthur Hammond
Project: Soils PO# 002332

Report Date: April 26, 2007

Client Sample ID: 9312-0009-146I
Sample ID: 184758001

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Mtd
Surrogate/Tracer recovery	Test				Recovery%		Acceptable Limits						
Strontium Carrier	GFPC, Sr90, solid-ALL FSS				74		(25%-125%)						

Notes:

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the 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
- ND Analyte concentration is not detected above the detection limit
- 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

GEL LABORATORIES LLC

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

QC Summary

Report Date: April 26, 2007
Page 1 of 5

Client :
Haddam Neck Plant
362 Injun Hollow Road
Haddam Neck, Connecticut
Contact: Mr. Arthur Hammond
Workorder: 184758

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	628367										
QC1201322140 184758001 DUP											
Actinium-228		1.01		0.859	pCi/g	16		(0% - 100%)	MJH1	04/25/07	18:04
		Uncert:		+/-0.124							
		TPU:		+/-0.124							
Americium-241	U	0.0221	U	0.0293	pCi/g	28		(0% - 100%)			
		Uncert:		+/-0.0414							
		TPU:		+/-0.0414							
Bismuth-212	U	0.396		0.642	pCi/g	48		(0% - 100%)			
		Uncert:		+/-0.153							
		TPU:		+/-0.153							
Bismuth-214		0.838		0.685	pCi/g	20		(0% - 100%)			
		Uncert:		+/-0.0799							
		TPU:		+/-0.0799							
Cesium-134	U	0.0528	UI	0.00	pCi/g	12		(0% - 100%)			
		Uncert:		+/-0.0165							
		TPU:		+/-0.0165							
Cesium-137		2.92		3.02	pCi/g	3		(0% - 20%)			
		Uncert:		+/-0.263							
		TPU:		+/-0.263							
Cobalt-60		0.217		0.195	pCi/g	11		(0% - 100%)			
		Uncert:		+/-0.0234							
		TPU:		+/-0.0234							
Europium-152	U	0.0559	U	-0.00424	pCi/g	233		(0% - 100%)			
		Uncert:		+/-0.0405							
		TPU:		+/-0.0405							
Europium-154	U	0.0982	U	-0.00826	pCi/g	237		(0% - 100%)			
		Uncert:		+/-0.0297							
		TPU:		+/-0.0297							
Europium-155	UI	0.00	UI	0.00	pCi/g	119		(0% - 100%)			
		Uncert:		+/-0.0399							
		TPU:		+/-0.0399							
Lead-212		0.849		0.861	pCi/g	1		(0% - 20%)			
		Uncert:		+/-0.0706							
		TPU:		+/-0.0706							
Lead-214		0.736		0.827	pCi/g	12		(0% - 20%)			
		Uncert:		+/-0.0815							
		TPU:		+/-0.0815							
Manganese-54	U	-0.00869	UI	0.00	pCi/g	695		(0% - 100%)			
		Uncert:		+/-0.0109							
		TPU:		+/-0.0109							
Niobium-94	U	0.0337	U	0.00249	pCi/g	172		(0% - 100%)			
		Uncert:		+/-0.00881							
		TPU:		+/-0.00881							

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QC Summary

Workorder: 184758

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	628367									
Potassium-40		11.9	12.4	pCi/g	4		(0% - 20%)			
	Uncert:	+/-1.27	+/-0.856							
	TPU:	+/-1.27	+/-0.856							
Radium-226		0.838	0.685	pCi/g	20		(0% - 100%)			
	Uncert:	+/-0.160	+/-0.0799							
	TPU:	+/-0.160	+/-0.0799							
Silver-108m	U	-0.00756	U -0.0118	pCi/g	43		(0% - 100%)			
	Uncert:	+/-0.0335	+/-0.0113							
	TPU:	+/-0.0335	+/-0.0113							
Thallium-208		0.268	0.273	pCi/g	2		(0% - 100%)			
	Uncert:	+/-0.0646	+/-0.0314							
	TPU:	+/-0.0646	+/-0.0314							
QC1201322141	LCS									
Actinium-228			1.01	pCi/g					04/25/07	13:13
	Uncert:		+/-0.502							
	TPU:		+/-0.502							
Americium-241	16.0		14.3	pCi/g		90	(75%-125%)			
	Uncert:		+/-1.68							
	TPU:		+/-1.68							
Bismuth-212			U 0.954	pCi/g						
	Uncert:		+/-0.793							
	TPU:		+/-0.793							
Bismuth-214			0.437	pCi/g						
	Uncert:		+/-0.193							
	TPU:		+/-0.193							
Cesium-134			U 0.0909	pCi/g						
	Uncert:		+/-0.108							
	TPU:		+/-0.108							
Cesium-137	6.19		6.07	pCi/g		98	(75%-125%)			
	Uncert:		+/-0.570							
	TPU:		+/-0.570							
Cobalt-60	9.24		9.63	pCi/g		104	(75%-125%)			
	Uncert:		+/-0.609							
	TPU:		+/-0.609							
Europium-152			U -0.0155	pCi/g						
	Uncert:		+/-0.183							
	TPU:		+/-0.183							
Europium-154			U 0.0741	pCi/g						
	Uncert:		+/-0.160							
	TPU:		+/-0.160							
Europium-155			U -0.000203	pCi/g						
	Uncert:		+/-0.228							
	TPU:		+/-0.228							
Lead-212			0.931	pCi/g						
	Uncert:		+/-0.167							
	TPU:		+/-0.167							
Lead-214			0.715	pCi/g						
	Uncert:		+/-0.216							

GEL LABORATORIES LLC

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

QC Summary

Workorder: 184758

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	628367									
Manganese-54	TPU:		+/-0.216							
		U	0.00508	pCi/g						
	Uncert:		+/-0.0709							
Niobium-94	TPU:		+/-0.0709							
		U	0.0346	pCi/g						
	Uncert:		+/-0.0656							
Potassium-40	TPU:		+/-0.0656							
		U	0.658	pCi/g						
	Uncert:		+/-1.04							
Radium-226	TPU:		+/-1.04							
			0.437	pCi/g			(75%-125%)			
	Uncert:		+/-0.193							
Silver-108m	TPU:		+/-0.193							
		U	0.0197	pCi/g						
	Uncert:		+/-0.0698							
Thallium-208	TPU:		+/-0.0698							
			0.307	pCi/g						
	Uncert:		+/-0.113							
	TPU:		+/-0.113							
QC1201322139	MB									
Actinium-228		U	0.0709	pCi/g					04/25/07	12:53
	Uncert:		+/-0.116							
Americium-241	TPU:		+/-0.116							
		U	-0.00747	pCi/g						
	Uncert:		+/-0.024							
Bismuth-212	TPU:		+/-0.024							
		U	0.193	pCi/g						
	Uncert:		+/-0.187							
Bismuth-214	TPU:		+/-0.187							
		U	-0.0433	pCi/g						
	Uncert:		+/-0.0517							
Cesium-134	TPU:		+/-0.0517							
		U	-0.015	pCi/g						
	Uncert:		+/-0.0243							
Cesium-137	TPU:		+/-0.0243							
		U	-0.00432	pCi/g						
	Uncert:		+/-0.0207							
Cobalt-60	TPU:		+/-0.0207							
		U	0.00755	pCi/g						
	Uncert:		+/-0.0251							
Europium-152	TPU:		+/-0.0251							
		U	-0.0233	pCi/g						
	Uncert:		+/-0.0525							
Europium-154	TPU:		+/-0.0525							
		U	0.0121	pCi/g						
	Uncert:		+/-0.0686							
Europium-155	TPU:		+/-0.0686							
		U	-0.0129	pCi/g						

GEL LABORATORIES LLC

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QC Summary

Workorder: 184758

Page 4 of 5

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	628367									
	Uncert:									
	TPU:									
Lead-212		U		pCi/g						
	Uncert:									
	TPU:									
Lead-214		U		pCi/g						
	Uncert:									
	TPU:									
Manganese-54		U		pCi/g						
	Uncert:									
	TPU:									
Niobium-94		U		pCi/g						
	Uncert:									
	TPU:									
Potassium-40		U		pCi/g						
	Uncert:									
	TPU:									
Radium-226		U		pCi/g						
	Uncert:									
	TPU:									
Silver-108m		U		pCi/g						
	Uncert:									
	TPU:									
Thallium-208		U		pCi/g						
	Uncert:									
	TPU:									
Rad Gas Flow										
Batch	628274									
QC1201321924	184758001 DUP									
Strontium-90		U	0.0122	U	0.0112	pCi/g	0	(0% - 100%) NXL3	04/26/07	11:50
	Uncert:		+/-0.0267		+/-0.0249					
	TPU:		+/-0.0267		+/-0.0249					
QC1201321926	LCS									
Strontium-90	1.66				1.95	pCi/g	118	(75%-125%)	04/26/07	11:50
	Uncert:				+/-0.135					
	TPU:				+/-0.147					
QC1201321923	MB									
Strontium-90				U	0.0214	pCi/g			04/26/07	11:50
	Uncert:				+/-0.0255					
	TPU:				+/-0.0255					
QC1201321925	184758001 MS									
Strontium-90	5.33	U	0.0122		6.48	pCi/g	122	(75%-125%)		
	Uncert:		+/-0.0267		+/-0.456					
	TPU:		+/-0.0267		+/-0.497					

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

GEL LABORATORIES LLC

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

QC Summary

Workorder: 184758

Page 5 of 5

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
**	Analyte is a surrogate compound									
<	Result is less than value reported									
>	Result is greater than value reported									
A	The TIC is a suspected aldol-condensation product									
B	For General Chemistry and Organic analysis the 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									
ND	Analyte concentration is not detected above the detection limit									
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.

FORMER RADIOLOGICALLY CONTROLLED AREA
EAST TRENCH NORTH
SURVEY UNIT 9312-0009

RELEASE RECORD

ATTACHMENT 4 (DQA RESULTS)

Revision 0

FORMER RADIOLOGICALLY CONTROLLED AREA
EAST TRENCH NORTH
SURVEY UNIT 9312-0009
RELEASE RECORD

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

Revision 0

HILLSIDE ROCKFACE (RCA)
SURVEY UNIT 9312-0009

RELEASE RECORD
Attachment 4

Survey Unit: 9312-0009
Area Description: RCA / East Trench North
Classification: 1
Number of Measurements: 21 Static, 15 Investigative

STATISTICS on TOTAL
POPULATION

	Cs-137	Co-60	Sr-90
DCGL _{op} (pCi/g):	4.75E+00	2.29E+00	9.30E-01
Minimum Value:	1.68E-03	-1.13E-02	-2.07E-02
Maximum Value:	2.55E+01	1.43E+00	2.46E+00
Mean:	2.31E+00	1.24E-01	7.03E-02
Median:	8.05E-01	5.29E-02	9.63E-03
Standard Deviation:	4.09E+00	2.31E-01	3.62E-01

STATISTICS on NON-PARAMETRIC
POPULATION

	Cs-137	Co-60	Sr-90
DCGL _{op} (pCi/g):	4.75E+00	2.29E+00	9.30E-01
Minimum Value:	6.10E-03	-1.13E-02	-2.07E-02
Maximum Value:	5.55E+00	4.43E-01	4.51E-02
Mean:	9.43E-01	4.85E-02	7.75E-03
Median:	1.57E-01	9.91E-03	5.42E-03
Standard Deviation:	1.50E+00	1.00E-01	1.95E-02

Sample ID	GPS Coordinates		Cs-137				Co-60				Sr-90				Fraction of DCGL
			Result	2σ	MDA	Identified	Result	2σ	MDA	Identified	Result	2σ	MDA	Identified	
	North	East	(pCi/g)		(pCi/g)		(pCi/g)		(pCi/g)		(pCi/g)		(pCi/g)		
9312-0009-101F	236868.51	668625.63	5.58E-02	0.016	1.95E-02	+	8.33E-03	0.012	2.17E-02		1.60E-02	0.021	3.52E-02		0.033
9312-0009-102F	236868.51	668654.58	1.57E-01	0.031	2.43E-02	+	-3.46E-03	0.015	2.47E-02		-1.41E-02	0.019	3.83E-02		0.016
9312-0009-103F	236843.44	668669.06	5.17E-01	0.070	3.51E-02	+	3.23E-02	0.026	4.30E-02	+	2.43E-02	0.025	4.17E-02		0.149
9312-0009-104F	236843.44	668698.01	1.65E-02	0.016	2.44E-02	+	-1.13E-02	0.014	1.99E-02		2.33E-02	0.020	3.18E-02	+	0.024
9312-0009-105F	236818.37	668683.53	8.02E-02	0.021	2.73E-02	+	2.72E-03	0.017	2.99E-02		1.97E-02	0.018	2.93E-02	+	0.039
9312-0009-106F	236818.37	668712.49	5.55E+00	0.433	2.56E-02	+	4.43E-01	0.045	2.00E-02	+	4.51E-02	0.024	3.55E-02	+	1.410
9312-0009-107F	236818.37	668741.44	8.38E-02	0.020	1.91E-02	+	1.09E-02	0.013	1.97E-02		-7.19E-04	0.016	3.00E-02		0.022
9312-0009-108F	236793.29	668726.96	6.10E-03	0.021	3.74E-02		7.42E-03	0.024	4.15E-02		1.63E-02	0.018	3.04E-02		0.022
9312-0009-109F	236793.29	668755.91	1.13E+00	0.113	2.91E-02	+	6.07E-02	0.030	3.06E-02	+	-4.68E-03	0.018	3.45E-02		0.259
9312-0009-110F	236768.22	668770.39	1.02E-01	0.028	2.91E-02	+	9.91E-03	0.020	3.47E-02		-2.68E-03	0.018	3.46E-02		0.023
9312-0009-111F	236768.22	668799.34	5.57E-01	0.055	1.70E-02	+	2.12E-02	0.020	1.57E-02	+	-2.07E-02	0.016	3.38E-02		0.104
9312-0009-112F	236743.15	668784.86	2.99E-02	0.026	3.06E-02	+	4.04E-03	0.017	3.00E-02		-1.32E-02	0.016	3.36E-02		-0.006
9312-0009-113F	236743.15	668813.81	1.55E+00	0.147	3.96E-02	+	8.40E-02	0.033	3.54E-02	+	3.30E-02	0.025	4.07E-02	+	0.398

HILLSIDE ROCKFACE (RCA)
SURVEY UNIT 9312-0009

RELEASE RECORD
Attachment 4

Sample ID	GPS Coordinates		Cs-137				Co-60				Sr-90				Fraction of DCGL
			Result	2σ	MDA	Identified	Result	2σ	MDA	Identified	Result	2σ	MDA	Identified	
	North	East	(pCi/g)		(pCi/g)		(pCi/g)		(pCi/g)		(pCi/g)		(pCi/g)		
9312-0009-114F	236718.08	668857.24	1.86E+00	0.161	3.68E-02	+	1.07E-01	0.044	3.52E-02	+	-1.55E-02	0.018	3.61E-02		0.422
9312-0009-115F	236718.08	668973.04	9.01E-01	0.079	1.90E-02	+	0.00E+00	0.012	2.27E-02		9.05E-03	0.020	3.45E-02		0.199
9312-0009-116F	236693.01	668871.71	5.88E-01	0.080	4.02E-02	+	2.49E-02	0.027	5.07E-02		1.92E-02	0.020	3.33E-02		0.155
9312-0009-117F	236693.01	668900.66	1.71E+00	0.186	4.57E-02	+	5.92E-02	0.047	4.03E-02	+	5.42E-03	0.021	3.83E-02		0.392
9312-0009-119F	236693.01	668958.56	4.58E+00	0.428	3.67E-02	+	1.59E-01	0.043	2.76E-02	+	-2.44E-03	0.016	2.99E-02		1.031
9312-0009-120F	236693.01	668987.51	8.97E-02	0.036	4.12E-02	+	7.81E-03	0.022	3.77E-02		-1.38E-02	0.017	3.41E-02		0.007
9312-0009-121F	236667.93	669001.99	9.52E-02	0.024	2.51E-02	+	0.00E+00	0.017	2.83E-02		-4.70E-03	0.023	4.11E-02		0.015
9312-0009-126F	236769.70	668772.25	1.37E-01	0.411	4.34E-02		-1.00E-02	0.032	4.34E-02		4.38E-02	0.028	4.50E-02	+	0.072
9312-0009-118F			SAMPLE RELOCATED TO SAMPLE LOCATION 126F												
9312-0009-103FS	236843.44	668669.06	5.59E-01	0.063	2.86E-02	+	6.07E-02	0.026	2.80E-02	+	-1.15E-02	0.020	3.86E-02		0.132
9312-0009-120FS	236693.01	668987.51	7.81E-02	0.021	2.44E-02	+	-3.76E-03	0.016	2.62E-02		-2.44E-03	0.027	4.85E-02		0.012
9312-0009-122-I	236770.62	668766.63	2.04E+00	0.164	2.40E-02	+	9.21E-02	0.024	2.11E-02	+	6.89E-03	0.021	3.65E-02		0.477
9312-0009-123-I	236736.94	668812.24	1.29E-01	0.035	2.62E-02	+	-3.26E-03	0.016	2.67E-02		4.34E-02	0.027	4.27E-02	+	0.072
9312-0009-124-I	236737.53	668796.11	7.08E-01	0.067	1.98E-02	+	4.65E-02	0.020	1.95E-02	+	3.85E-02	0.023	3.55E-02	+	0.211
9312-0009-125-I	236731.69	668799.67	1.35E-01	0.021	1.87E-02	+	0.00E+00	0.019	2.12E-02		4.01E-02	0.026	4.14E-02	+	0.072
9312-0009-127-I	236677.66	668900.48	2.55E+01	2.230	9.01E-02	+	1.43E+00	0.151	7.41E-02	+	1.89E-01	0.035	2.68E-02	+	6.196
9312-0009-128-I	236700.47	668950.50	2.40E+00	0.235	5.51E-02	+	9.13E-02	0.051	5.48E-02	+	3.28E-02	0.018	2.46E-02	+	0.580
9312-0009-129-I	236700.58	668961.15	3.50E+00	0.329	4.55E-02	+	1.70E-01	0.045	4.12E-02	+	1.96E-02	0.018	2.84E-02	+	0.832
9312-0009-130-I	236708.06	668968.32	3.46E+00	0.318	4.02E-02	+	8.62E-02	0.040	3.49E-02	+	3.07E-03	0.013	2.40E-02		0.769
9312-0009-131-I	236708.91	668977.03	3.26E+00	0.270	5.66E-02	+	2.09E-01	0.063	4.52E-02	+	8.55E-02	0.023	2.29E-02	+	0.870
9312-0009-132-I	236695.77	668925.98	9.38E+00	0.076	3.67E-02	+	3.56E-01	0.049	3.24E-02	+	4.03E-02	0.019	2.67E-02	+	2.174
9312-0009-133-I	236698.06	668912.96	5.36E+00	0.444	4.70E-02	+	3.06E-01	0.056	4.00E-02	+	2.87E-02	0.016	2.32E-02	+	1.293
9312-0009-134-I	236702.71	668881.03	2.60E+00	0.239	2.91E-02	+	1.06E-01	0.032	2.79E-02	+	1.47E-02	0.014	2.25E-02	+	0.609
9312-0009-135-I	236701.41	668873.83	5.76E+00	0.626	4.59E-02	+	1.83E-01	0.045	3.75E-02	+	2.02E-02	0.017	2.67E-02	+	1.314
9312-0009-136-I	236708.18	668866.71	4.98E+00	0.456	5.71E-02	+	1.78E-01	0.068	5.14E-02	+	6.72E-04	0.017	3.14E-02		1.127
9312-0009-137-I	236857.93	668695.60	4.33E+00	0.386	3.39E-02	+	3.37E-01	0.048	3.25E-02	+	-3.58E-03	0.012	2.50E-02		1.055
9312-0009-138-I			2.86E+00	0.268	4.20E-02	+	1.30E-01	0.031	3.79E-02	+	4.62E-02	0.020	2.73E-02	+	0.709
9312-0009-139-I			3.02E+00	0.294	6.33E-02	+	3.61E-01	0.077	5.82E-02	+	1.02E-02	0.017	2.93E-02		0.804

HILLSIDE ROCKFACE (RCA)
SURVEY UNIT 9312-0009

RELEASE RECORD
Attachment 4

Sample ID	GPS Coordinates		Cs-137				Co-60				Sr-90				Fraction of DCGL
			Result	2 σ	MDA	Identified	Result	2 σ	MDA	Identified	Result	2 σ	MDA	Identified	
	North	East	(pCi/g)		(pCi/g)		(pCi/g)		(pCi/g)		(pCi/g)		(pCi/g)		
9312-0009-140-I			2.35E+00	0.234	4.72E-02	+	1.85E-01	0.051	4.30E-02	+	7.29E-03	0.021	3.63E-02		0.583
9312-0009-141-I			3.76E+00	0.341	4.27E-02	+	3.43E-01	0.064	3.16E-02	+	2.46E+00	0.105	3.23E-02	+	3.587
9312-0009-142-I			4.53E-02	0.039	7.17E-02	+	2.21E-02	0.047	7.25E-02		1.56E-02	0.020	3.49E-02		0.036
9312-0009-143-I			1.66E-01	0.042	3.98E-02	+	2.60E-02	0.027	4.35E-02		-2.90E-03	0.018	3.48E-02		0.043
9312-0009-144-I			7.54E-03	0.031	3.15E-02		0.00E+00	0.046	3.30E-02		5.40E-03	0.016	2.81E-02		0.007
9312-0009-145-I			1.68E-03	0.041	6.98E-02		-4.36E-03	0.039	6.48E-02		-1.86E-02	0.014	3.11E-02		-0.022
9312-0009-146-I			2.92E+00	0.289	5.26E-02	+	2.17E-01	0.059	5.03E-02	+	1.22E-02	0.027	4.83E-02		0.723

FORMER RADIOLOGICALLY CONTROLLED AREA
EAST TRENCH NORTH
SURVEY UNIT 9312-0009

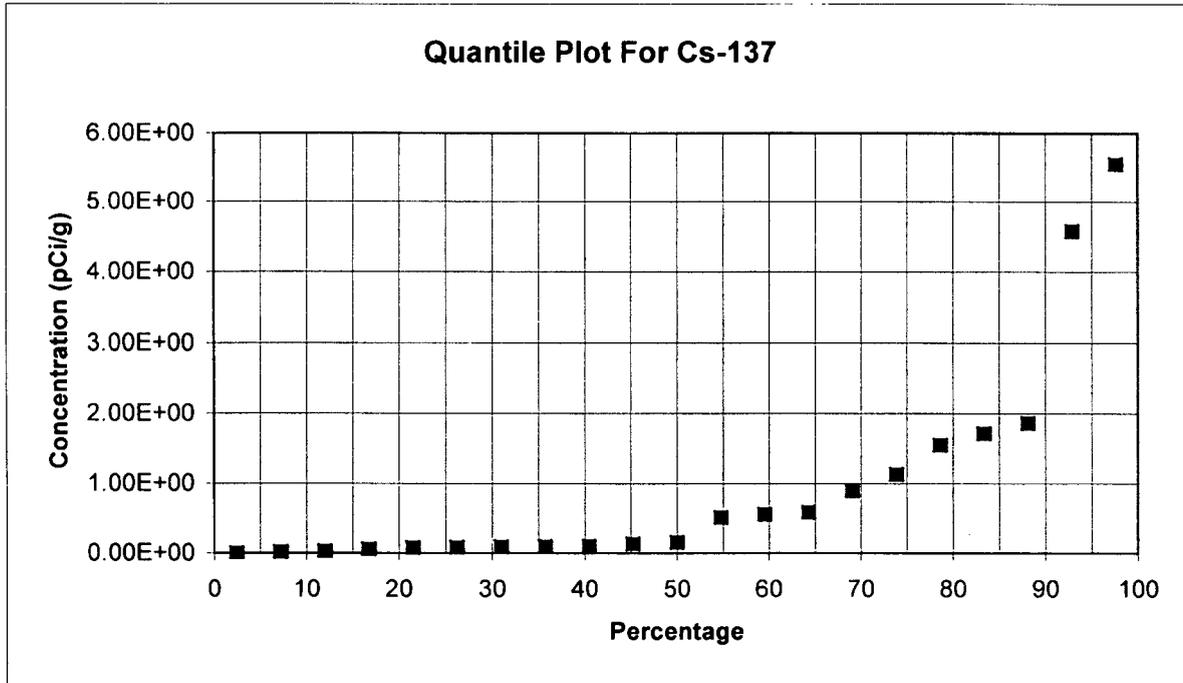
RELEASE RECORD

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

Revision 0

QUANTILE PLOT FOR CESIUM-137

Survey Unit: 9312-0009
 Survey Unit Name: RCA – East Trench North
 Mean: 9.43E-01 pCi/g

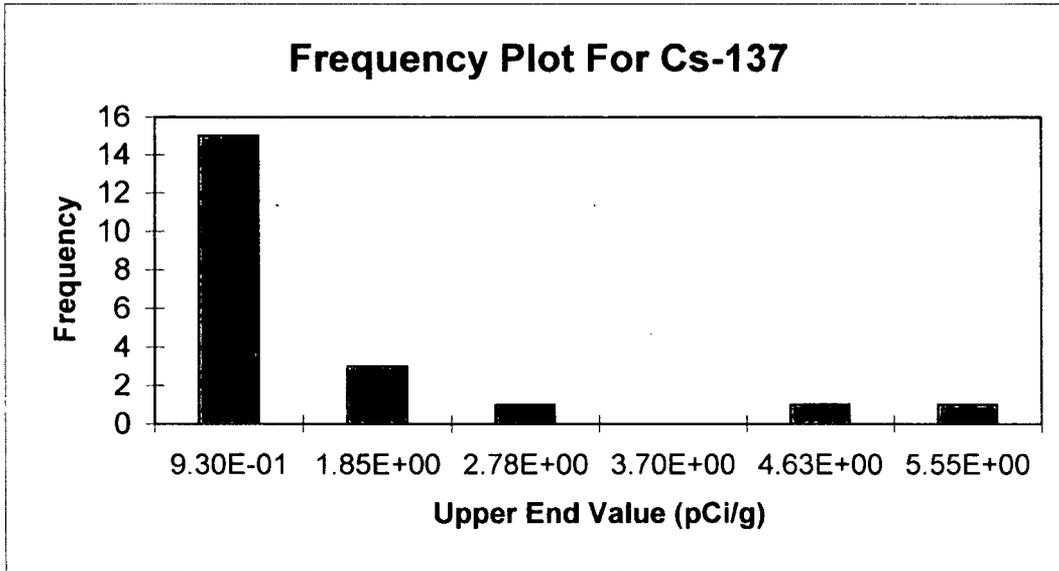


Cs-137	Rank	Percentage	Cs-137	Rank	Percentage
6.10E-03	1	2.4%	1.13E+00	16	73.8%
1.65E-02	2	7.1%	1.55E+00	17	78.6%
2.99E-02	3	11.9%	1.71E+00	18	83.3%
5.58E-02	4	16.7%	1.86E+00	19	88.1%
8.02E-02	5	21.4%	4.58E+00	20	92.9%
8.38E-02	6	26.2%	5.55E+00	21	97.6%
8.97E-02	7	31.0%			
9.52E-02	8	35.7%			
1.02E-01	9	40.5%			
1.37E-01	10	45.2%			
1.57E-01	11	50.0%			
5.17E-01	12	54.8%			
5.57E-01	13	59.5%			
5.88E-01	14	64.3%			
9.01E-01	15	69.0%			

D. Waszkowiak
 Submitted by/Date: D. WASZKOWIAK 4/30/07
Dal Powell
 Reviewed by/Date: Dal Powell 5-1-07

FREQUENCY PLOT FOR CESIUM-137

Survey Unit: 9312-0009
 Survey Unit Name: RCA - East Trench North
 Mean: 9.43E-01 pCi/g



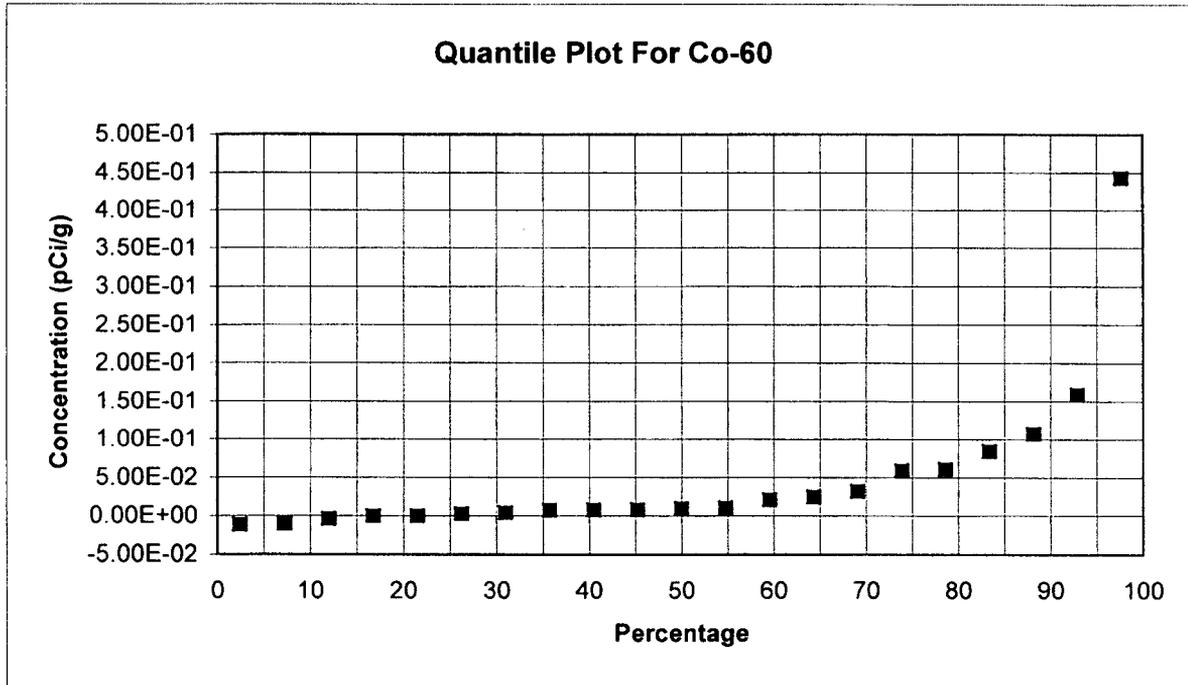
Upper End Value	Observation Frequency	Observation Frequency
9.30E-01	15	71%
1.85E+00	3	14%
2.78E+00	1	5%
3.70E+00	0	0%
4.63E+00	1	5%
5.55E+00	1	5%
Total:	21	100%

D. Waszkowiak
 Submitted by/Date
 D. WASZKOWIAK 4/30/07

Oct. Randall
 Reviewed by/Date
 Oct. Randall 5-1-07

QUANTILE PLOT FOR COBALT-60

Survey Unit: 9312-0009
 Survey Unit Name: RCA – East Trench North
 Mean: 4.85E-02 pCi/g

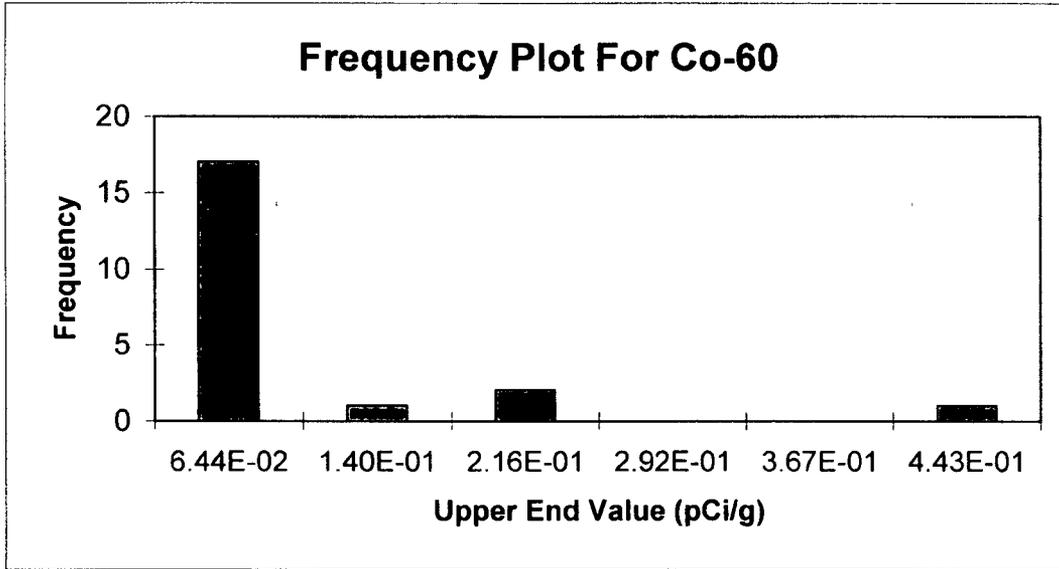


Co-60	Rank	Percentage	Co-60	Rank	Percentage
-1.13E-02	1	2.4%	5.92E-02	16	73.8%
-1.00E-02	2	7.1%	6.07E-02	17	78.6%
-3.46E-03	3	11.9%	8.40E-02	18	83.3%
0.00E+00	4	16.7%	1.07E-01	19	88.1%
0.00E+00	5	21.4%	1.59E-01	20	92.9%
2.72E-03	6	26.2%	4.43E-01	21	97.6%
4.04E-03	7	31.0%			
7.42E-03	8	35.7%			
7.81E-03	9	40.5%			
8.33E-03	10	45.2%			
9.91E-03	11	50.0%			
1.09E-02	12	54.8%			
2.12E-02	13	59.5%			
2.49E-02	14	64.3%			
3.23E-02	15	69.0%			

[Signature]
 Submitted by/Date: D. WOJTKOWIAK 4/30/07
[Signature]
 Reviewed by/Date: Paul Randall 5-1-07

FREQUENCY PLOT FOR COBALT-60

Survey Unit: 9312-0009
 Survey Unit Name: RCA - East Trench North
 Mean: 4.85E-02 pCi/g



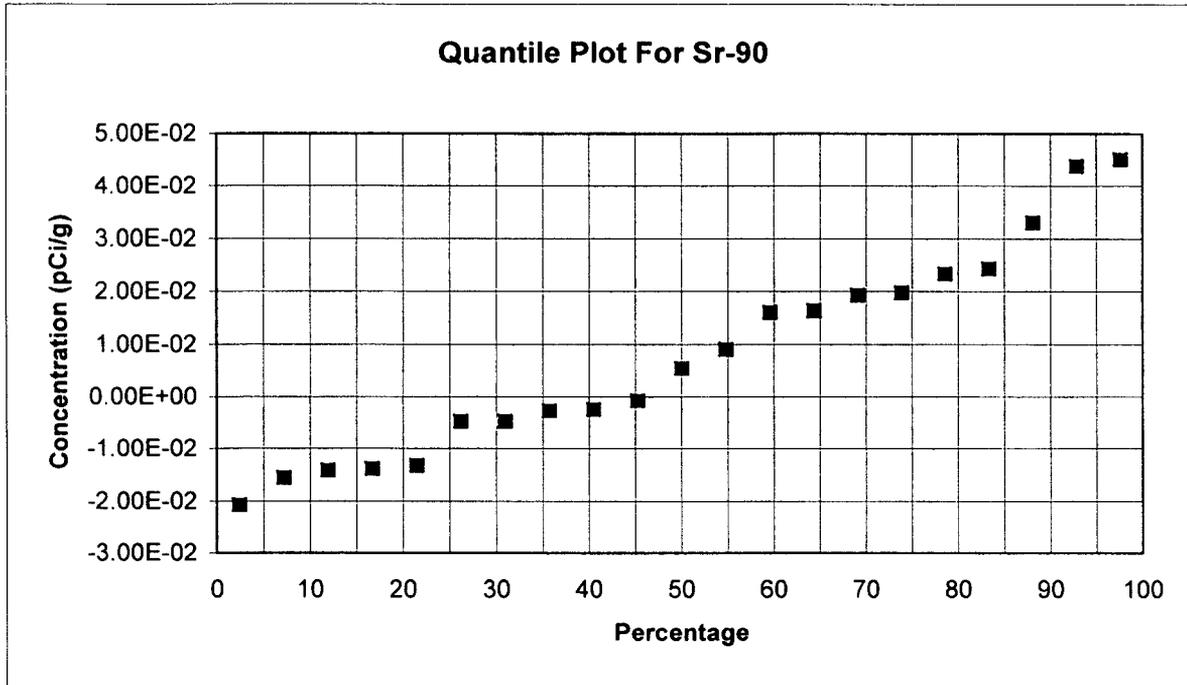
Upper End Value	Observation Frequency	Observation Frequency
6.44E-02	17	81%
1.40E-01	1	5%
2.16E-01	2	10%
2.92E-01	0	0%
3.67E-01	0	0%
4.43E-01	1	5%
Total:	21	100%

[Signature]
 DWOSKOWIAK 4/30/07
 Submitted by/Date

[Signature]
 5-1-07
 Reviewed by/Date

QUANTILE PLOT FOR STRONTIUM-90

Survey Unit: 9312-0009
 Survey Unit Name: RCA – East Trench North
 Mean: 7.75E-03 pCi/g



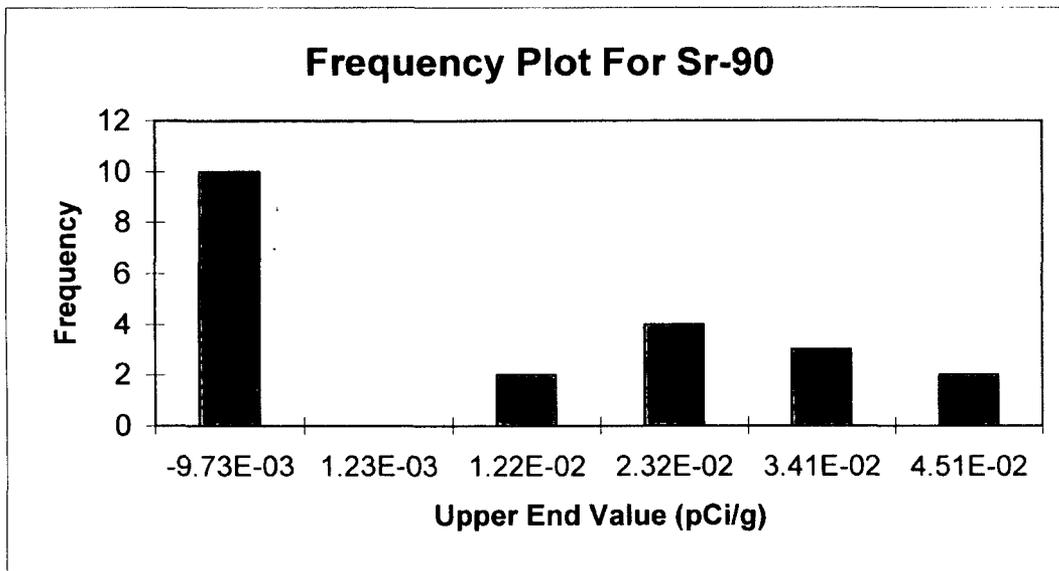
Sr-90	Rank	Percentage	Sr-90	Rank	Percentage
-2.07E-02	1	2.4%	1.97E-02	16	73.8%
-1.55E-02	2	7.1%	2.33E-02	17	78.6%
-1.41E-02	3	11.9%	2.43E-02	18	83.3%
-1.38E-02	4	16.7%	3.30E-02	19	88.1%
-1.32E-02	5	21.4%	4.38E-02	20	92.9%
-4.70E-03	6	26.2%	4.51E-02	21	97.6%
-4.68E-03	7	31.0%			
-2.68E-03	8	35.7%			
-2.44E-03	9	40.5%			
-7.19E-04	10	45.2%			
5.42E-03	11	50.0%			
9.05E-03	12	54.8%			
1.60E-02	13	59.5%			
1.63E-02	14	64.3%			
1.92E-02	15	69.0%			

D. J. Waszkowiak
 Submitted by/Date: D. WASZKOWIAK 4/30/07

Earl Marshall
 Reviewed by/Date: Earl Marshall 5-1-07

FREQUENCY PLOT FOR STRONTIUM-90

Survey Unit: 9312-0009
 Survey Unit Name: RCA - East Trench North
 Mean: 7.75E-03 pCi/g



Upper End Value	Observation Frequency	Observation Frequency
-9.73E-03	10	48%
1.23E-03	0	0%
1.22E-02	2	10%
2.32E-02	4	19%
3.41E-02	3	14%
4.51E-02	2	10%
Total:	21	100%

D. Wolkowiak
 Submitted by/Date D. WOLKOWIAK 4/30/07

Oil Marshall
 Reviewed by/Date Oil Marshall 5-1-07

FORMER RADIOLOGICALLY CONTROLLED AREA
EAST TRENCH NORTH
SURVEY UNIT 9312-0009

RELEASE RECORD

ATTACHMENT 4C (SIGN TEST)

Revision 0

Sign Test Calculation Sheet for Multiple Radionuclides

Survey Area Number: 9312		Survey Unit Number: 0009		WPIR #: N/A		
Survey Area Name: East Trench North (RCA)		Classification: 1	TYPE I (α error): 0.05	N: 15		
Radionuclides:	1 st Radionuclide Cs-137	2 nd Radionuclide Co-60	3 rd Radionuclide Sr-90			
DCGL:	4.75E+00	2.29E+00	9.30E-01			
Results 1 st Radionuclide (pCi/g)	Results 2 nd Radionuclide (pCi/g)	Results 3 rd Radionuclide (pCi/g)	Results 4 th Radionuclide (pCi/g)	Weighted Sum (W _s)	1-W _s	Sign
5.58E-02	8.33E-03	1.60E-02		0.03	0.97	+1
1.57E-01	-3.46E-03	-1.41E-02		0.02	0.98	+1
5.17E-01	3.23E-02	2.43E-02		0.15	0.85	+1
1.65E-02	-1.13E-02	2.33E-02		0.02	0.98	+1
8.02E-02	2.72E-03	1.97E-02		0.04	0.96	+1
5.55E+00	4.43E-01	4.51E-02		1.41	-0.41	-1
8.38E-02	1.09E-02	-7.19E-04		0.02	0.98	+1
6.10E-03	7.42E-03	1.63E-02		0.02	0.98	+1
1.13E+00	6.07E-02	-4.68E-03		0.26	0.74	+1
1.02E-01	9.91E-03	-2.68E-03		0.02	0.98	+1
5.57E-01	2.12E-02	-2.07E-02		0.10	0.90	+1
2.99E-02	4.04E-03	-1.32E-02		-0.01	1.01	+1
1.55E+00	8.40E-02	3.30E-02		0.40	0.60	+1
1.86E+00	1.07E-01	-1.55E-02		0.42	0.58	+1
9.01E-01	0.00E+00	9.05E-03		0.20	0.80	+1
5.88E-01	2.49E-02	1.92E-02		0.16	0.84	+1
1.71E+00	5.92E-02	5.42E-03		0.39	0.61	+1
4.58E+00	1.59E-01	-2.44E-03		1.03	-0.03	-1
8.97E-02	7.81E-03	-1.38E-02		0.01	0.99	+1
9.52E-02	0.00E+00	-4.70E-03		0.01	0.99	+1
1.37E-01	-1.00E-02	4.38E-02		0.07	0.93	+1
Number of positive differences (S+)						19

Critical Value 14 Survey Unit 1 Meets 1 the Acceptance Criteria

Performed by: David Wojtkowiak

Date: 4/5/2007

Independent Review by: Paul Randall

Date: 5-1-07

FORMER RADIOLOGICALLY CONTROLLED AREA
EAST TRENCH NORTH
SURVEY UNIT 9312-0009

RELEASE RECORD

ATTACHMENT 4D (QC SPLIT RESULTS)

Revision 0

Split Sample Assessment Form

Survey Area #: 9312		Survey Unit #: 0009		Survey Unit Name: RCA - East Trench North																
Sample Plan or WPIR#: N/A						SML#: 9312-0009-120														
Sample Description: Comparison of split samples collected from sample measurement location #120 and analyzed using gamma spectroscopy by off-site Vendor Laboratory. The standard sample was 9312-0009-120F, the comparison sample was 9312-0009-120FS.																				
STANDARD				COMPARISON																
Radionuclide	Activity Value	Standard Error	Resolution	Agreement Range	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)												
Cs-137	8.97E-02	0.018	5	0.5 - 2.0	7.81E-02	0.010	0.87	Y												
Comments/Corrective Actions: None					Table is provided to show acceptance criteria used to assess split samples.															
					<table style="margin-left: auto; margin-right: auto;"> <tr> <td><u>Resolution</u></td> <td><u>Agreement Range</u></td> </tr> <tr> <td>4 - 7</td> <td>0.5 - 2.0</td> </tr> <tr> <td>8 - 15</td> <td>0.6 - 1.66</td> </tr> <tr> <td>16 - 50</td> <td>0.75 - 1.33</td> </tr> <tr> <td>51 - 200</td> <td>0.80 - 1.25</td> </tr> <tr> <td>>200</td> <td>0.85 - 1.18</td> </tr> </table>			<u>Resolution</u>	<u>Agreement Range</u>	4 - 7	0.5 - 2.0	8 - 15	0.6 - 1.66	16 - 50	0.75 - 1.33	51 - 200	0.80 - 1.25	>200	0.85 - 1.18	
<u>Resolution</u>	<u>Agreement Range</u>																			
4 - 7	0.5 - 2.0																			
8 - 15	0.6 - 1.66																			
16 - 50	0.75 - 1.33																			
51 - 200	0.80 - 1.25																			
>200	0.85 - 1.18																			
Performed by: D. Wojtkowiak		Date: 4/5/2007		Reveived by: <i>Oak</i>		Date: 5-1-07														

Split Sample Assessment Form

Survey Area #: 9312	Survey Unit #: 0009	Survey Unit Name: RCA - East Trench North
Sample Plan or WPIR#: N/A	SML#: 9312-0009-103	

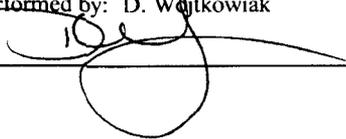
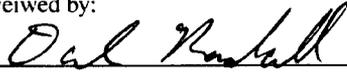
Sample Description: Comparison of split samples collected from sample measurement location #103 and analyzed using gamma spectroscopy by off-site Vendor Laboratory. The standard sample was 9312-0009-103F, the comparison sample was 9312-0009-103FS.

STANDARD					COMPARISON			
Radionuclide	Activity Value	Standard Error	Resolution	Agreement Range	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)
Cs-137	5.17E-01	0.035	15	0.6 - 1.66	5.59E-01	0.032	1.08	Y

Comments/Corrective Actions: None

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

<u>Resolution</u>	<u>Agreement Range</u>
4 - 7	0.5 - 2.0
8 - 15	0.6 - 1.66
16 - 50	0.75 - 1.33
51 - 200	0.80 - 1.25
>200	0.85 - 1.18

Performed by: D. Wojtkowiak 	Date: 4/5/2007	Reveiwed by: 	Date: 5-1-07
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FORMER RADIOLOGICALLY CONTROLLED AREA
EAST TRENCH NORTH
SURVEY UNIT 9312-0009

RELEASE RECORD

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

Revision 0



DQA Surface Soil Report

Assessment Summary

Site:	9312		
Planner(s):	Wojo		
Survey Unit Name:	9312-0009		
Report Number:	1		
Survey Unit Samples:	21		
Reference Area Samples:	0		
Test Performed:	Sign	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	Reject Null Hypothesis (Survey Unit PASSES)		

Retrospective Power Curve

