



Final Status Survey Final Report Phase VII

**Appendix A7
Survey Unit Release Record
9312-0005, Former Radiologically
Controlled Area Tank Farm**

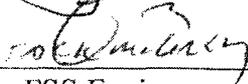
May 2007



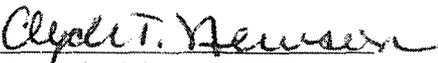
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FINAL STATUS SURVEY RELEASE RECORD
FORMER RADIOLOGICALLY CONTROLLED AREA
TANK FARM
SURVEY UNIT 9312-0005

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1. SURVEY UNIT DESCRIPTION

Survey Unit 9312-0005 (inside the former Radiologically Controlled Area (RCA)) is designated as Final Status Survey (FSS) Class 1 and has an area of approximately one thousand four hundred sixty (1,460) square meters of open land and is located approximately one thousand three hundred fifty nine feet (1,359 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 9312-0004 to the north (called north as oriented with the north to south flow of the Connecticut River), land Survey Unit 9312-0006 to the west, land Survey Unit 9312-0001 and land Survey Unit 9312-0002 to the south and land Survey Unit 9312-0009 to the east. As a result of demolition and remediation activities, the area topography is mostly flat and de-vegetated. The survey unit has a moderate slope running from east to west.

The reference coordinates associated with this survey unit are E011 through E013 by S064 through S066 (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 9312-0005 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 Unit 9312-0005 was the location of several significant reactor support structures and systems, primarily consisting of a grouping of liquid storage tanks referred to as the "Tank Farm" and the Spent Resin Facility.

The Tank Farm was an asphalt covered area located to the northeast of the former location of the Containment structure where the Refueling Water Storage Tank (RWST), the Waste Test Tanks A & B, the Aerated Drains Holdup Tank (ADHUT), the Borated Waste Storage Tank (BWST) and the Recycle Test Tanks (RTT's) were located. Rupture-containment dikes were constructed around the bases of these tanks. In addition, the area also contained sub-grade covered and shielded pipe trenches that housed subsurface piping and conduit associated with the tanks and other adjacent support systems. All of these tanks and systems had contained radioactive liquids over their history and were highly contaminated. Contamination levels in several of the systems were high enough to create high radiation areas in their vicinity.

The Resin Slurry and Ion Exchange Area included the "Ion Exchange Structure", the "Spent Resin Facility" and "Spent Resin Storage Facility". This area was located in the yard on the east side of the Tank Farm. All surfaces within these areas were contaminated during facility operation. On multiple occasions, there was documentation of the loss of contamination control during filter change-outs and resin processing activities, resulting in the spread of alpha, beta and gamma contamination. Samples taken in 1980 during the installation of modifications indicated the presence of significant concentrations of Cs-137 and Co-60 in the area of the original concrete support pad and the soil around it.

A review of the historical documentation indicated a significant number of operational events that may have impacted Survey Unit 9312-0005. 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 subsurface structures and footers; and the underlying soil and bedrock prior to system and structural decontamination and demolition. Some of the major events are summarized as follows;

- Diaphragm rupture, valve failure and gasket leakage from components associated with the Refueling Water Storage Tank (RWST) resulted in documented spills of radioactive liquid into the alleyway between the Containment structure and the Primary Auxiliary Building (PAB) in November 1973, February 1976, December 1976, February 1978 and January 1979.
- A frozen degassifier line in February 1979 caused the rupture of the diaphragm disc and led to leakage of reactor cavity water into the main stack drain and subsequently onto the surrounding area in the PAB alleyway. The report estimated a release of mixed fission and activation products onto the ground and the storm drains.

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- A series of events in September 1979 resulted in the release of steam generator contents into the stack. The steam condensed in the stack ductwork and subsequently leaked 50 to 75 gallons of contaminated water onto the alleyway. All of the liquid was removed and the area was decontaminated.
- The degassifier rupture diaphragm actuated in December 1979 and vented gaseous contents up the stack and liquid contents near the base of the stack. The impacted areas and systems were storm sewers, roof drain lines, stack, stack duct and drain lines and the PAB roof. All impacted areas were remediated.
- In September of 1981 and again in October of 1981, contaminated water overflowed from the RWST hatch onto the nearby ground due to a valve misalignment and the activation of the thermo siphon heater.
- Contaminated water from RWST cleanup hoses leaked onto the alleyway in April 1990. The area was decontaminated and released.
- In September 1990 and July 1994, cracks in the welds located in the base of the RWST led to leakage of contaminated water onto the tank pedestal.
- An improperly fabricated flange led to water leakage from the RWST in November 1991 and January 1992.
- During a rainstorm in August 1997, an overflow of water from the RWST catch basin area to an uncontrolled sand area was observed. Analysis of the water indicated H-3, Co-60 and Cs-137. The Condition Report identified the catch basin overflow as a potential source of historical tritium contamination of the yard drains and external containment mat sump.
- In June 1998, leakages from the RWST floor plates and manway port flanged joints were observed. The water accumulated around the tank foundation and trough areas on the western side of the tank. Analysis of water samples from both leaking areas identified the source of both leakages as the RWST.
- An HP survey in October 1998 revealed loose contamination at levels inside the catch containment at the base of the RWST.

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.

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 RWST and the 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

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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 9312-0005.

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 |

A review of this sample data shows Cs-137 and Co-60 to be the primary radionuclides of concern, with both isotopes reported at fairly low concentrations. The sample population as a whole was evaluated to assess the distribution of the detected radionuclides. The radionuclide distribution percentage for each sample in the population was calculated by dividing the concentration of each detected radionuclide by the total activity concentration in the sample, expressing the abundance of the specific nuclide in the sample compared against the total activity. The mean radionuclide distribution was then calculated by taking the average of the individual sample distribution fractions. The results are provided in Table 2.

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| Detected Radionuclide | Distribution Fraction |
|------------------------------|------------------------------|
| Cs-137 | 0.689 |
| Co-60 | 0.311 |

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). 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. 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.

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

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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 9312-0005 did not exceed the release criteria specified in the LTP and that the potential dose from residual radioactivity is As Low As Reasonably Achievable (ALARA).

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

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Equation 2

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

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 (pCi/g) ⁽²⁾ | Operational DCGL (pCi/g) ⁽³⁾ | Required MDC (pCi/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 in 2006 to establish the radiological condition of Survey Unit 9312-0005 for FSS. Cs-137 and Co-60 were the two (2) gamma emitting radionuclides reported in concentrations with the potential for exceeding the release criteria. Sr-90 was included as a radionuclide of concern due to its prevalence in the soil prior to remediation. The characterization data were used for the survey design and are provided in Table 1.

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

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

4. SURVEY DESIGN

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

The DQO process determined that Cs-137, Co-60 and Sr-90 would be the radionuclides of concern in Survey Unit 9312-0005 (refer to Section 3). The characterization survey did not include 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 adjusted relative shift was 2.0. A Prospective Power Curve was generated using COMPASS, a software package developed under the sponsorship of the United States Nuclear Regulatory Commission (USNRC) for implementation of the MARSSIM in support of the decommissioning license termination rule (10CFR20, Subpart E). The result of the COMPASS computer run showed adequate power for the survey design. The survey design specified fifteen (15) surface soil samples for non-parametric statistical testing. Based upon a review of the historical information and Characterization Survey data, four additional (4) judgmental samples were taken in this survey area. One (1) judgmental sample was taken adjacent to the former location of the Waste Test Tanks, one (1) judgmental sample was taken adjacent to the former location of the RWST, one (1) judgmental sample was taken adjacent to the former location of the BWST and one (1) judgmental sample was taken adjacent to the former location of the ADHUT.

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 | Northing | Easting |
| 9312-0005-001F | 236795.06 | 668657.32 |
| 9312-0005-002F | 236795.06 | 668692.10 |
| 9312-0005-003F | 236764.94 | 668639.92 |
| 9312-0005-004F | 236764.94 | 668674.71 |
| 9312-0005-005F | 236764.94 | 668709.49 |
| 9312-0005-006F | 236764.94 | 668744.28 |
| 9312-0005-007F | 236734.81 | 668622.53 |
| 9312-0005-008F | 236734.81 | 668657.32 |

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Table 4 - (continued)

| Designation | Northing | Easting |
|-------------------------------|-----------|-----------|
| 9312-0005-009F | 236734.81 | 668692.10 |
| 9312-0005-010F | 236734.81 | 668726.89 |
| 9312-0005-011F | 236734.81 | 668761.67 |
| 9312-0005-012F | 236704.69 | 668639.92 |
| 9312-0005-013F | 236704.69 | 668674.71 |
| 9312-0005-014F | 236704.69 | 668709.49 |
| 9312-0005-015F | 236674.56 | 668692.10 |
| 9312-0005-016B ⁽¹⁾ | 236697.81 | 668730.02 |
| 9312-0005-017B ⁽¹⁾ | 236657.88 | 668696.84 |
| 9312-0005-018B ⁽¹⁾ | 236687.95 | 668658.53 |
| 9312-0005-019B ⁽¹⁾ | 236718.90 | 668614.93 |

(1) B = biased – indicates judgmental 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 one (1) soil sample for “split sample” analysis by the off-site laboratory. This location was selected randomly using the Microsoft Excel “RANDBETWEEN” function.

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.

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| Table 5 – Synopsis of the Survey Design | | |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Feature | Design Criteria | Basis |
| Survey Unit Land Area | 1,460 m ² | Based on AutoCAD-LT |
| Number of Measurements | 19 (15 systematic grid) (4 Judgmental) | Type 1 and Type 2 errors were 0.05, sigma was 0.14 pCi/g, the LBGR was set at 0.73 to achieve a Relative Shift in the range of 1 and 3 |
| Grid Spacing | 10.63 m | Based on triangular grid |
| Operational DCGL | 4.75 pCi/g Cs-137 2.29 pCi/g Co-60 | 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 | 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 2,810 cpm plus ambient background | Based upon a Minimum Detectable Count Rate (MDCR) of 2,020 cpm and a corresponding MDC _{scan} of 13.92 pCi/g Cs-137 and 3.23 pCi/g Co-60 |

(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.

A single scan area was established that constituted approximately 100% of the surface area of Survey Unit 9312-0005. 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 5,640 counts per minute (cpm) up to 12,500 cpm.

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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 was scanned for elevated radiation levels.

Nineteen (19) 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 (9312-0005-006F, 9312-0005-014F and 9312-0005-015F) were randomly selected for HTD radionuclide analysis.

The implementation of survey specific quality control measures included the collection of one (1) sample (9312-0005-011F) for "split sample" analysis.

6. SURVEY RESULTS

All field survey activities were conducted between March 1, 2007 and March 14, 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 | 7.70 | 10.42 | NO |
| 2 | 9.56 | 10.95 | NO |
| 3 | 7.73 | 9.74 | NO |
| 4 | 7.50 | 10.51 | NO |
| 5 | 8.12 | 11.35 | NO |
| 6 | 11.70 | 13.31 | NO |
| 7 | 7.70 | 9.59 | NO |
| 8 | 6.83 | 9.98 | NO |
| 9 | 7.30 | 11.14 | NO |
| 10 | 11.80 | 13.91 | NO |
| 11 | 9.98 | 12.13 | NO |
| 12 | 6.16 | 9.71 | NO |
| 13 | 6.90 | 9.54 | NO |
| 14 | 7.01 | 9.55 | NO |
| 15 | 8.08 | 9.67 | NO |
| 16 ⁽²⁾ | 8.15 | 11.00 | NO |
| 17 ⁽²⁾ | 6.64 | 10.01 | NO |
| 18 ⁽²⁾ | 6.99 | 10.18 | NO |
| 19 ⁽²⁾ | 6.49 | 9.23 | NO |

(1) The action level is based on a measurement in accordance with the FSS plan (MDC(DCGL_{EMC}) of 2,810 cpm plus ambient background)

(2) Judgmental Sample Location

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 on March 5, 2007.

Forty-four (44) scan strips were established in this survey unit. No elevated measurement locations were identified during scanning. Table 7 provides an overview of the scan area survey. Scan results are provided in Attachment 2.

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Table 7 - Scan Area Results

| Scan Strips | Highest Logged Reading (kcpm) | Action Level ⁽¹⁾ (kcpm) | Elevated Reading Identification | Investigation Sample |
|-------------|-------------------------------|------------------------------------|---------------------------------|----------------------|
| 1 thru 10 | 12.10 | 14.61 | None | None |
| 11 thru 20 | 12.40 | 15.31 | None | None |
| 21 thru 30 | 7.00 | 9.45 | None | None |
| 31 thru 40 | 10.30 | 14.01 | None | None |
| 41 thru 44 | 11.90 | 14.21 | None | None |

(1) The action level is based on a measurement in accordance with the FSS plan (MDC(DCGL_{EMC}) of 2,810 cpm plus ambient background)

The off-site laboratory employed for the radiological analyses of samples was General Engineering Laboratories, LLC. The laboratory analyzed the fifteen (15) samples collected for non-parametric statistical testing, the associated field splits and the four (4) judgmental samples using gamma spectroscopy. Gamma spectroscopy analysis was performed to the required MDCs. 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 four (4) and Co-60 was identified in two (2) of the fifteen (15) samples collected for non-parametric statistical testing. The mean of the gamma spectroscopic analysis results for the sample population indicated that Cs-137 was present at levels slightly lower than expected environmental levels for Cs-137 within the vicinity of the HNP as presented in the Health Physics TSD BCY-HP-0063. A summary of the fifteen (15) samples collected for non-parametric statistical testing results is provided in Table 8.

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

| Sample Number | Cs-137 pCi/g | Co-60 pCi/g |
|----------------|-----------------|----------------|
| 9312-0005-001F | 3.82E-03 | -1.16E-02 |
| 9312-0005-002F | 1.51E-03 | 1.74E-02 |
| 9312-0005-003F | 2.65E-02 | -1.14E-02 |
| 9312-0005-004F | 2.38E-03 | -3.79E-03 |
| 9312-0005-005F | 5.86E-04 | -1.63E-03 |
| 9312-0005-006F | -2.47E-02 | 7.33E-03 |
| 9312-0005-007F | 2.11E-02 | -8.37E-03 |
| 9312-0005-008F | 2.93E-04 | 2.30E-03 |
| 9312-0005-009F | 8.59E-03 | 2.63E-03 |
| 9312-0005-010F | 2.02E-02 | 9.77E-03 |
| 9312-0005-011F | 1.46E-02 | 2.48E-03 |
| 9312-0005-012F | -5.70E-03 | 8.34E-03 |
| 9312-0005-013F | 1.32E-02 | 8.76E-04 |
| 9312-0005-014F | 2.37E+00 | 2.61E+00 |
| 9312-0005-015F | 2.01E-02 | 6.79E-03 |

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 three (3) of the fifteen (15) 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.

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

| Sample Number | Sr-90 pCi/g |
|----------------|----------------|
| 9312-0005-001F | 2.28E-02 |
| 9312-0005-002F | 2.87E-02 |
| 9312-0005-003F | 1.87E-02 |
| 9312-0005-004F | -1.36E-02 |
| 9312-0005-005F | 4.01E-03 |
| 9312-0005-006F | -5.12E-03 |
| 9312-0005-007F | -1.30E-02 |
| 9312-0005-008F | 3.99E-02 |
| 9312-0005-009F | 2.28E-02 |
| 9312-0005-010F | 5.77E-04 |
| 9312-0005-011F | 2.48E-02 |
| 9312-0005-012F | 1.30E-03 |
| 9312-0005-013F | 9.93E-03 |
| 9312-0005-014F | 2.67E-02 |
| 9312-0005-015F | 1.36E-02 |

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.

Tc-99 was positively identified (i.e., a result greater than two (2) standard deviations uncertainty) in one of the three (3) samples analyzed for HTD radionuclides. As previously stated in Section 4 of this report, the criteria for de-selection of a radionuclide is a concentration that is less than 5% of the Operational DCGL for individual radionuclides and less than 10% of the Operational DCGLs for aggregates.

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For Tc-99, the Operational DCGL is 7.60 $\mu\text{Ci/g}$ to achieve a TEDE of fifteen (15) mrem/yr. The analytical results for Tc-99 in sample 9312-0005-014F equated to 16.20 $\mu\text{Ci/g}$ or 213% of the Operational DCGL. Subsequently, Tc-99 was added as a radionuclide of concern and all soil samples for this survey unit were subjected to additional analysis for the presence of Tc-99. No other HTD radionuclides were detected. The results of the Tc-99 analysis for the statistical sample population are provided below in Table 10.

**Table 10 - Summary of Tc-99 Analysis Results for Surface Soil Samples
Comprising the Statistical Sample Population**

| Sample Number | Tc-99 $\mu\text{Ci/g}$ |
|----------------|---------------------------|
| 9312-0005-001F | 1.64E-01 |
| 9312-0005-002F | 4.11E-02 |
| 9312-0005-003F | 7.39E-02 |
| 9312-0005-004F | 5.84E-02 |
| 9312-0005-005F | 1.04E-01 |
| 9312-0005-006F | -9.98E-02 |
| 9312-0005-007F | 1.46E-01 |
| 9312-0005-008F | 1.42E-01 |
| 9312-0005-009F | 9.90E-02 |
| 9312-0005-010F | 8.99E-02 |
| 9312-0005-011F | 7.59E-02 |
| 9312-0005-012F | 6.58E-03 |
| 9312-0005-013F | 1.62E-01 |
| 9312-0005-014F | 1.62E+01 |
| 9312-0005-015F | -2.41E-01 |

The “sum-of-fractions” or “unity rule” is the mathematical test used to evaluate compliance with radiological criteria for license termination when more than one radionuclide has been determined to be potentially present. The combination of the fractions of each detected radionuclide against their respective Operational DCGL must be less than or equal to one (1).

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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 .

The results of the unity rule calculation for the radionuclides of concern in the statistical sample population for Survey Unit 9312-0005 are provided in Table 10 below.

| Table 11 – 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 | Tc-99 | |
| 9312-0005-001F | - | - | - | - | - |
| 9312-0005-002F | - | 0.008 | 0.031 | - | 0.039 |
| 9312-0005-003F | - | - | - | - | - |
| 9312-0005-004F | - | - | - | - | - |
| 9312-0005-005F | - | - | - | - | - |
| 9312-0005-006F | - | - | - | - | - |
| 9312-0005-007F | 0.004 | - | - | - | 0.004 |
| 9312-0005-008F | - | - | 0.043 | - | 0.043 |
| 9312-0005-009F | - | - | - | - | - |
| 9312-0005-010F | 0.004 | - | - | - | 0.004 |
| 9312-0005-011F | - | - | - | - | - |
| 9312-0005-012F | - | - | - | - | - |
| 9312-0005-013F | - | - | - | - | - |
| 9312-0005-014F | 0.499 | 1.140 | 0.029 | 2.132 | 3.800 |
| 9312-0005-015F | 0.004 | - | - | - | 0.004 |

- (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, 0.93 pCi/g for Sr-90 and 7.60 pCi/g for Tc-99 to achieve fifteen (15) mrem/yr TEDE respectively

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The analytical results for the soil sample taken from location 9312-0005-014F indicate residual radioactive material present in concentrations exceeding the individual Operational DCGLs for Co-60 and Tc-99 and exceeding the unity value of one (1). Additional samples were taken to bound the discrete area of elevated activity. The results of the bounding samples and 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. One sample location was selected for analysis, which exceeds the 5% minimum required by the LTP. The data were evaluated using USNRC acceptance criteria specified in Inspection Procedure 84750 as detailed in HNP Procedure RPM 5.1-24, "Split Sample Assessment for Final Status Survey". Cs-137 was not detected in sufficient quantity in the field split results at location 9312-0005-011F to evaluate in accordance with procedure. Evaluation using the reported results for naturally occurring K-40 resulted in acceptable agreement between the field-split results at this location. 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

Following a review of the analytical results for the designed sample population, it was determined that four (4) additional surface soil samples would be necessary to adequately bound the area of elevated activity identified by sample 9312-0005-014F. Bounding sample locations were identified in Addendum 1 to the Final Status Survey Plan. The four (4) bounding samples were taken at a distance of one (1) meter from the location of sample number 9312-0005-014F, 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 12 below.

Table 12 - Bounding Sample Results

| Sample Number | Cs-137 pCi/g | Co-60 pCi/g | Sr-90 pCi/g | Tc-99 pCi/g | Unity Fraction ⁽¹⁾⁽²⁾ |
|-----------------|-----------------|----------------|----------------|----------------|-------------------------------------|
| 9312-0005-020-I | 7.48E-03 | 1.25E-02 | 1.39E-02 | 3.23E-01 | 0.043 |
| 9312-0005-021-I | 1.45E-02 | 4.83E-03 | 9.37E-03 | 2.66E-01 | 0.035 |
| 9312-0005-022-I | 1.91E-02 | 2.80E-03 | 1.61E-03 | 2.89E-01 | 0.038 |
| 9312-0005-023-I | 1.90E-02 | 1.43E-02 | -6.07E-04 | 1.95E-01 | - |

- (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, 0.93 pCi/g for Sr-90 and 7.60 pCi/g for Tc-99 to achieve fifteen (15) mrem/yr TEDE respectively

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Cs-137, Co-60 and Sr-90 were not positively identified in any of the bounding samples. Tc-99 was positively identified (i.e., a result greater than two (2) standard deviations uncertainty) in three (3) of the four (4) samples, but at concentrations meeting the criteria for de-selection (i.e. a concentration that is less than 5% of the Operational DCGL for an individual radionuclide). Subsequently, the area of elevated activity was deemed to be adequately bounded.

The Elevated Measurement Comparison (EMC) protocol was applied to the area of elevated activity in accordance with LTP Section 5.8.3 and 5.4.7.4. The value used for the area factor for each area was determined from the area bounded by the adjacent samples at or below the DCGL_{op}. Due to the fact that the bounding samples were taken at a distance of one (1) meter in each direction from the sample location identified as elevated, the elevated area size was determined to be four (4) 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 13.

| Table 13 - Selected Area Factor for Elevated Area | |
|-------------------------------------------------------------------|------|
| Area Size: 4 m ² Area Factor Size: 4 m ² | |
| Cs-137 | 8.98 |
| Co-60 | 4.22 |
| Sr-90 | 314 |
| Tc-99 | 276 |

Using the Area Factors presented in Table 13 and the results of the soil samples, the following EMC calculation was deduced;

Equation 4

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

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 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 14.

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Table 14 - Average Concentration of Radionuclides for Balance of Survey Unit

| | Cs-137 | Co-60 | Sr-90 | Tc-99 |
|--------------------------------------------|----------|----------|----------|----------|
| DCGLop (pCi/g) | 4.75E+00 | 2.29E+00 | 9.30E-01 | 7.60E+00 |
| Average Concentration (δ) (pCi/g) | 8.55E-03 | 2.71E-03 | 9.49E-03 | 1.15E-01 |
| Avg. Fraction of the DCGL | 0.002 | 0.001 | 0.010 | 0.015 |
| Avg. Unity for Balance of Survey Unit | 0.028 | | | |

The average concentration of the elevated area is presented in Table 15.

Table 15 - Average Concentration of Radionuclides for Elevated Area

| | Cs-137 | Co-60 | Sr-90 | Tc-99 |
|--------------------------------------|----------|----------|----------|----------|
| Area Factor | 8.98 | 4.22 | 314.00 | 276.00 |
| DCGL _{EMC} (pCi/g): | 4.27E+01 | 9.66E+00 | 2.92E+02 | 2.10E+03 |
| Avg. Concentration in Elevated Area: | 2.37E+00 | 2.61E+00 | 2.67E-02 | 1.62E+01 |
| Avg. Concentration - δ : | 2.36E+00 | 2.61E+00 | 1.72E-02 | 1.61E+01 |
| Avg. Fraction of DCGL: | 0.055 | 0.270 | 0.000 | 0.008 |
| Avg. Unity for Elevated Area: | 0.333 | | | |

The sum of the average unity result for the elevated areas and the balance of the survey unit equates to 0.361. 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 prior to FSS. All excavations were characterized and backfilled with "clean" fill prior to performing FSS. In the area where remediation occurred, the ground area is comprised of barren dirt with no vegetation, and the soils have been graded relatively flat to the corresponding elevation of the adjacent survey units. The results for Cs-137 following remediation were well below the Operational DCGL provided in Table 3. 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.

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10. CHANGES FROM THE FINAL STATUS SURVEY PLAN

An addendum to the FSS plan was initiated on March 14, 2006 to implement the acquisition of additional soil samples necessary to adequately bound an area of elevated activity identified by the initial sample results.

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 16.

| Table 16 – Basic Statistical Quantities for Cs-137, Co-60, Sr-90 and Tc-99 from the Final Status Survey | | | | |
|----------------------------------------------------------------------------------------------------------------|---------------|--------------|--------------|--------------|
| | Cs-137 | Co-60 | Sr-90 | Tc-99 |
| | ρCi/g | ρCi/g | ρCi/g | ρCi/g |
| DCGL _{op} : | 4.75E+00 | 2.29E+00 | 9.30E-01 | 7.60E+00 |
| Minimum Value: | -2.47E-02 | -1.16E-02 | -1.36E-02 | -2.41E-01 |
| Maximum Value: | 2.37E+00 | 2.61E+00 | 3.99E-02 | 1.62E+01 |
| Mean: | 1.65E-01 | 1.75E-01 | 1.21E-02 | 1.13E+00 |
| Median: | 8.59E-03 | 2.48E-03 | 1.36E-02 | 8.99E-02 |
| Standard Deviation: | 6.10E-01 | 6.74E-01 | 1.60E-02 | 4.17E+00 |

The range of the data, about four (4) standard deviations for all four (4) radionuclides, was not a particularly large variation. The single area of elevated activity represented by sample location 9312-0005-014F caused the data set to skew positively as represented by a calculated skew of 3.87 for Cs-137, Co-60 and Tc-99. The calculated skew for Sr-90 is -0.15. 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.

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12. ANOMALIES

Analysis of the surface soil sample taken from location 9312-0005-014F indicated the presence of Co-60 at a concentration greater than the Operational DCGL for Co-60 and Tc-99 at a concentration three (3) times the Operational DCGL for Tc-99. Scan surveys of the area and subsequent bounding soil samples indicate that no additional discrete areas exhibiting elevated activity were present.

13. CONCLUSION

Survey Unit 9312-0005 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 an area 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 4.11 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.

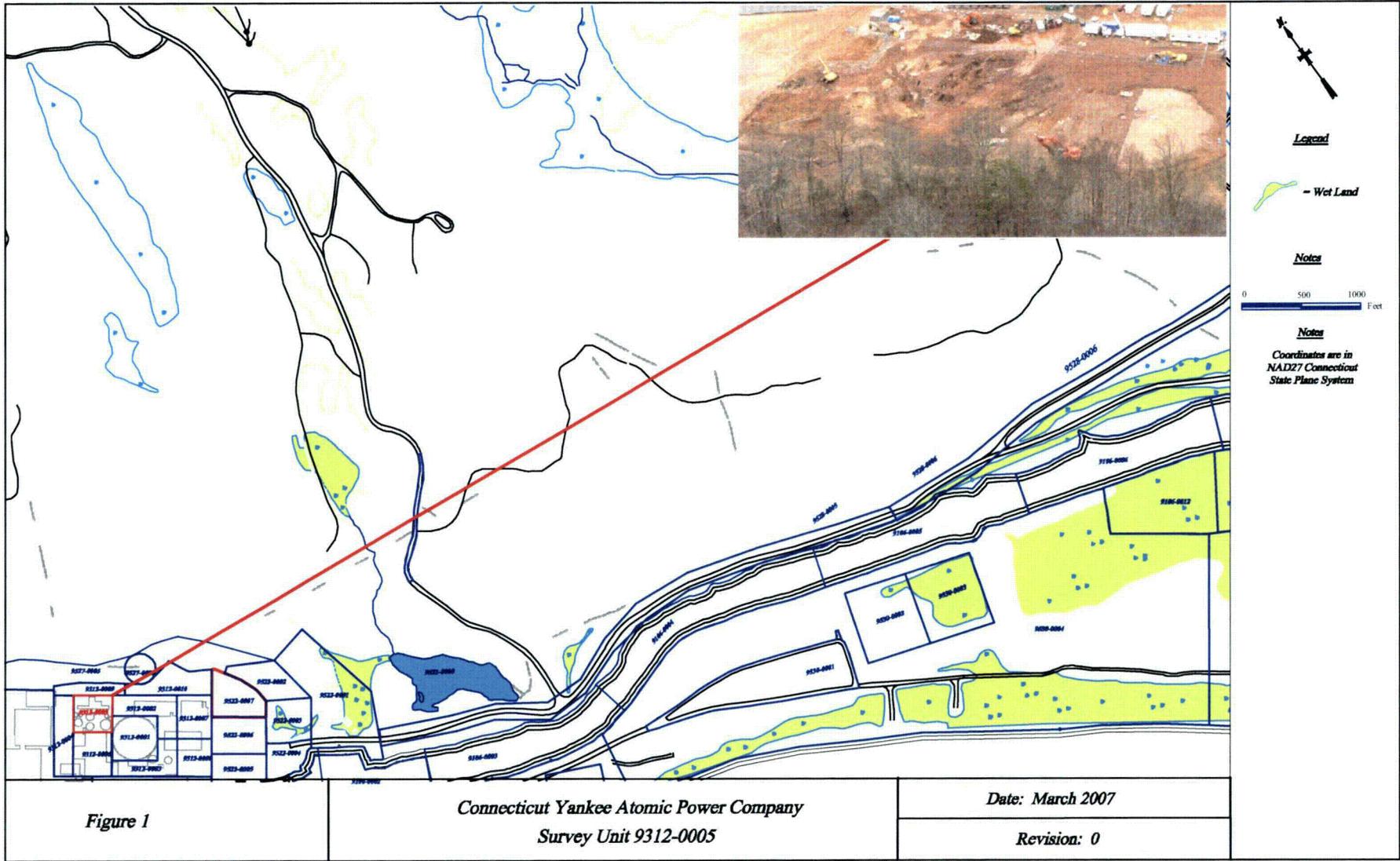
The average total dose from residual radioactivity in this survey unit, including exposures from the three (3) components as described in Section 3, that is, residual radioactivity in soil, existing groundwater radioactivity, and future groundwater radioactivity from the burial of concrete foundations or footings from site buildings containing residual radioactivity will not exceed 8.11 mrem/yr TEDE. Therefore, Survey Unit 9312-0005 is acceptable for unrestricted release.

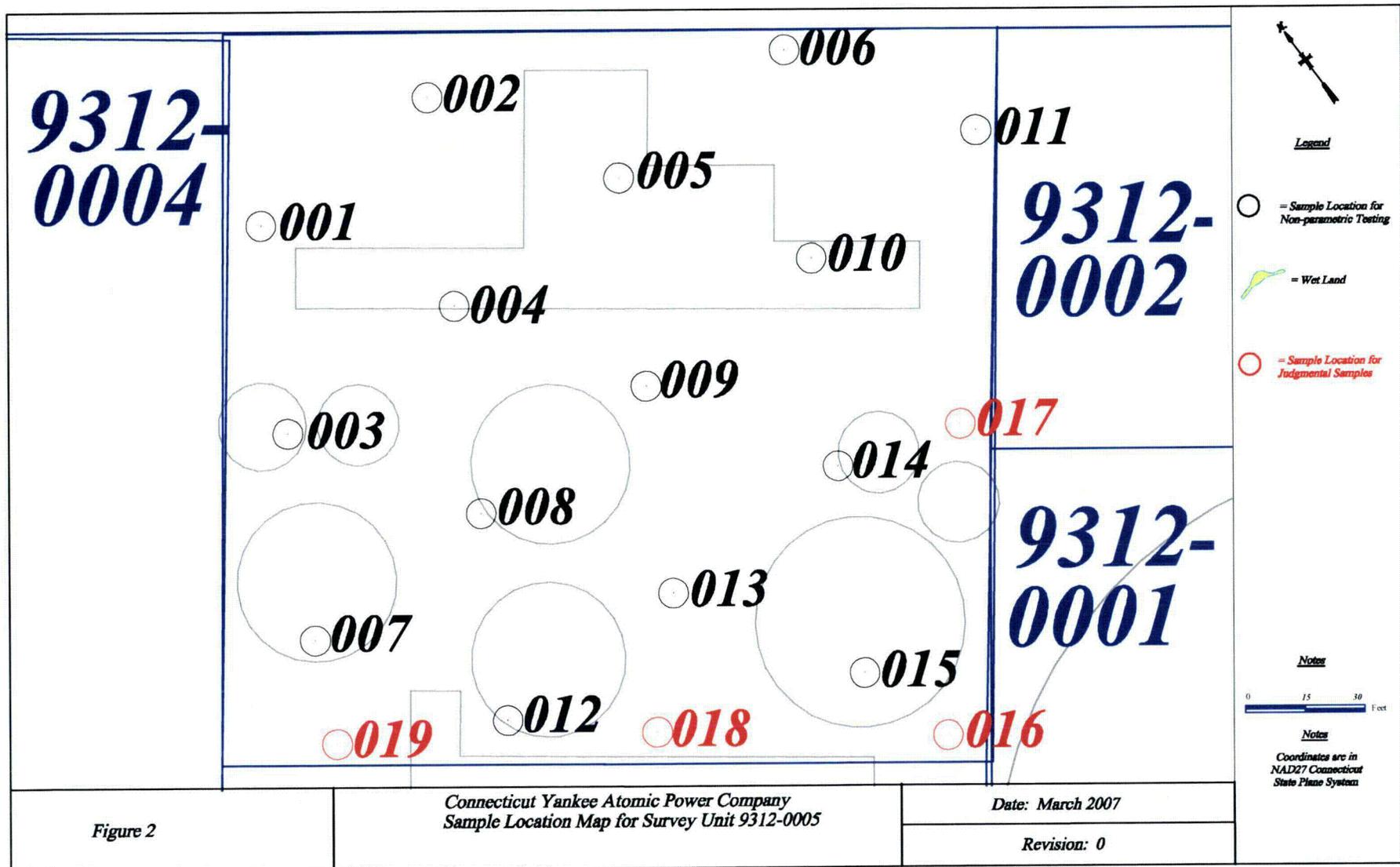
14. ATTACHMENTS

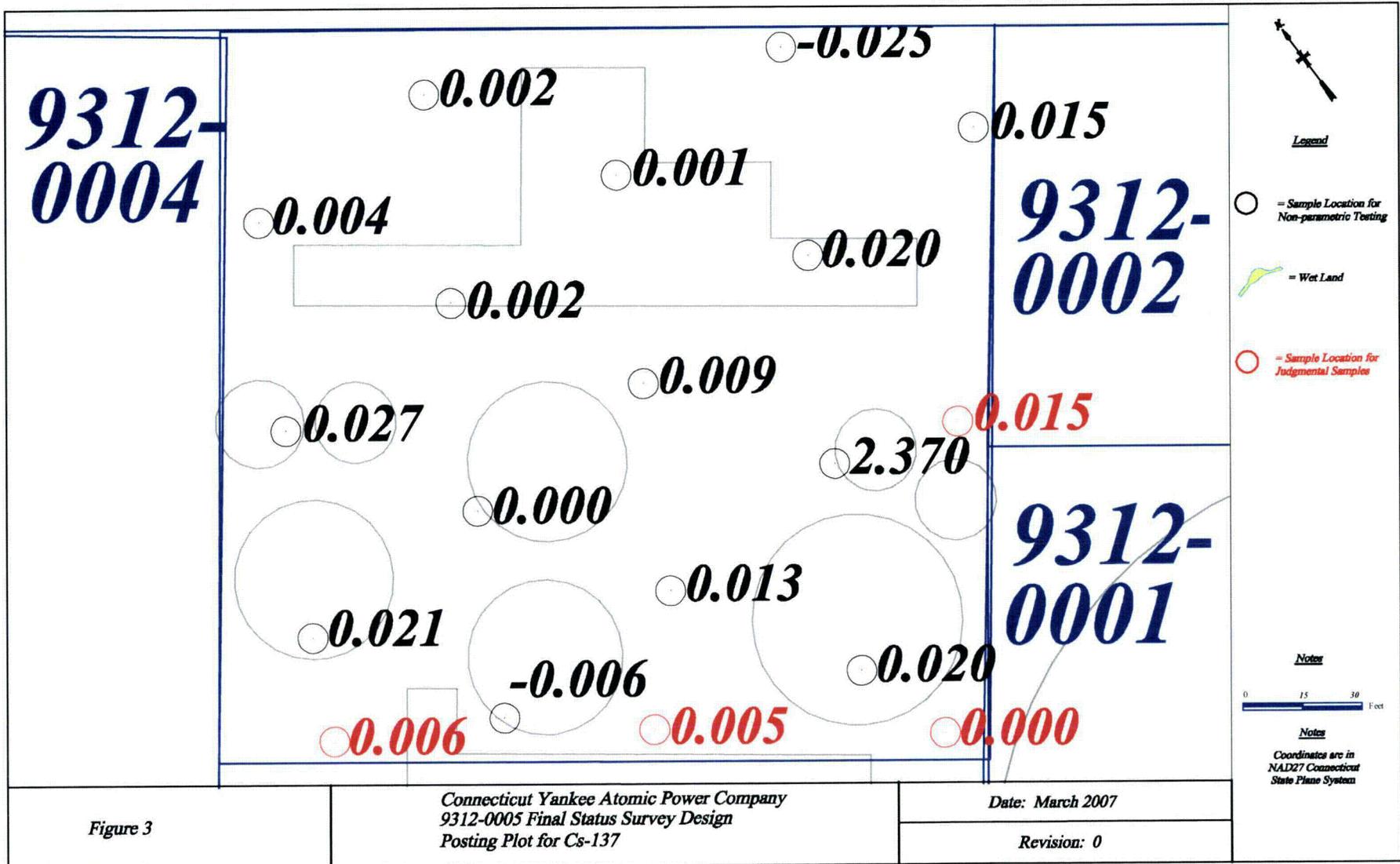
- 14.1 Attachment 1 – Figures
- 14.2 Attachment 2 – Scan Results
- 14.3 Attachment 3 – Laboratory Results
- 14.4 Attachment 4 – DQA Results

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ATTACHMENT 1 (FIGURES)







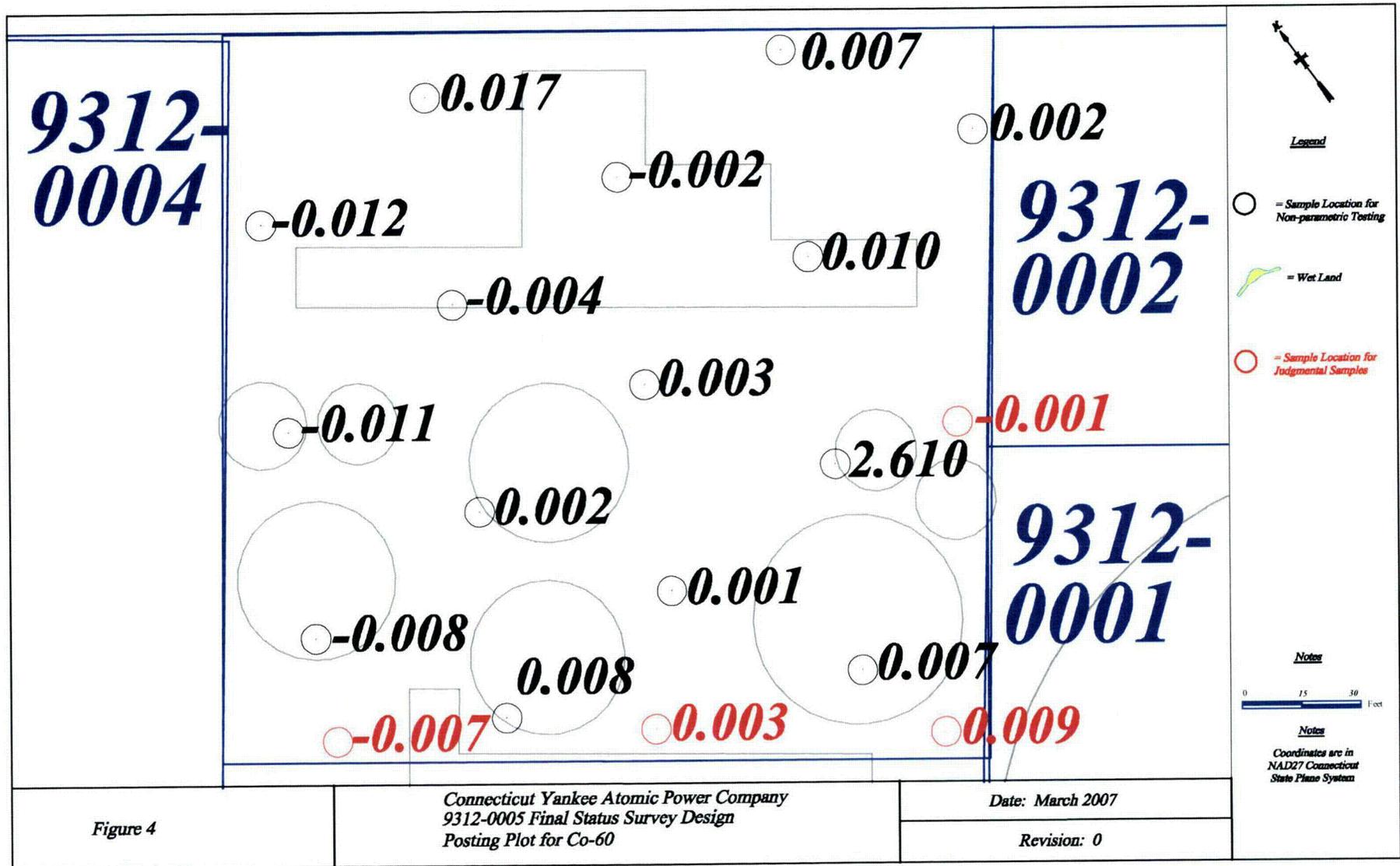


Figure 4

Connecticut Yankee Atomic Power Company
 9312-0005 Final Status Survey Design
 Posting Plot for Co-60

Date: March 2007

Revision: 0

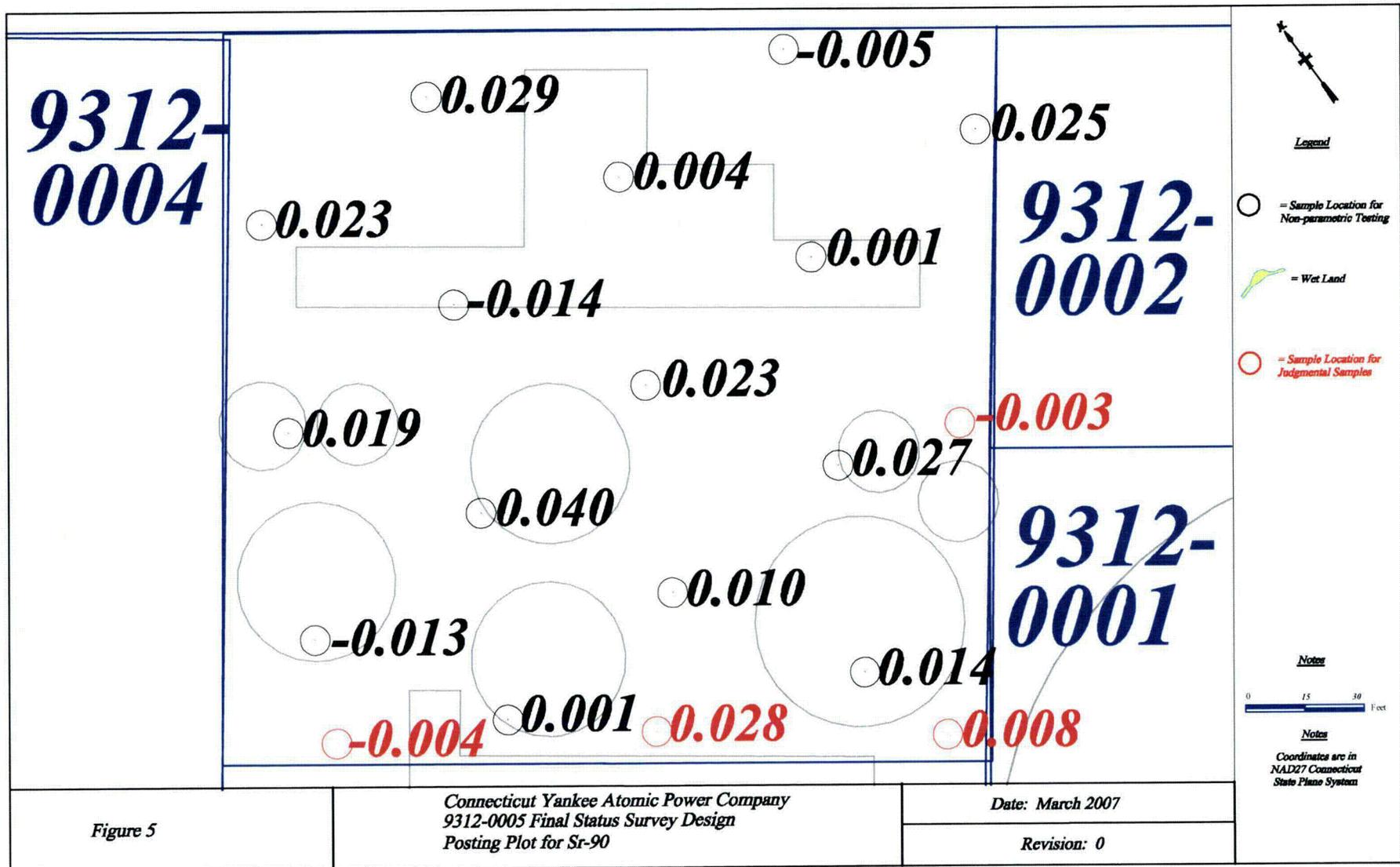
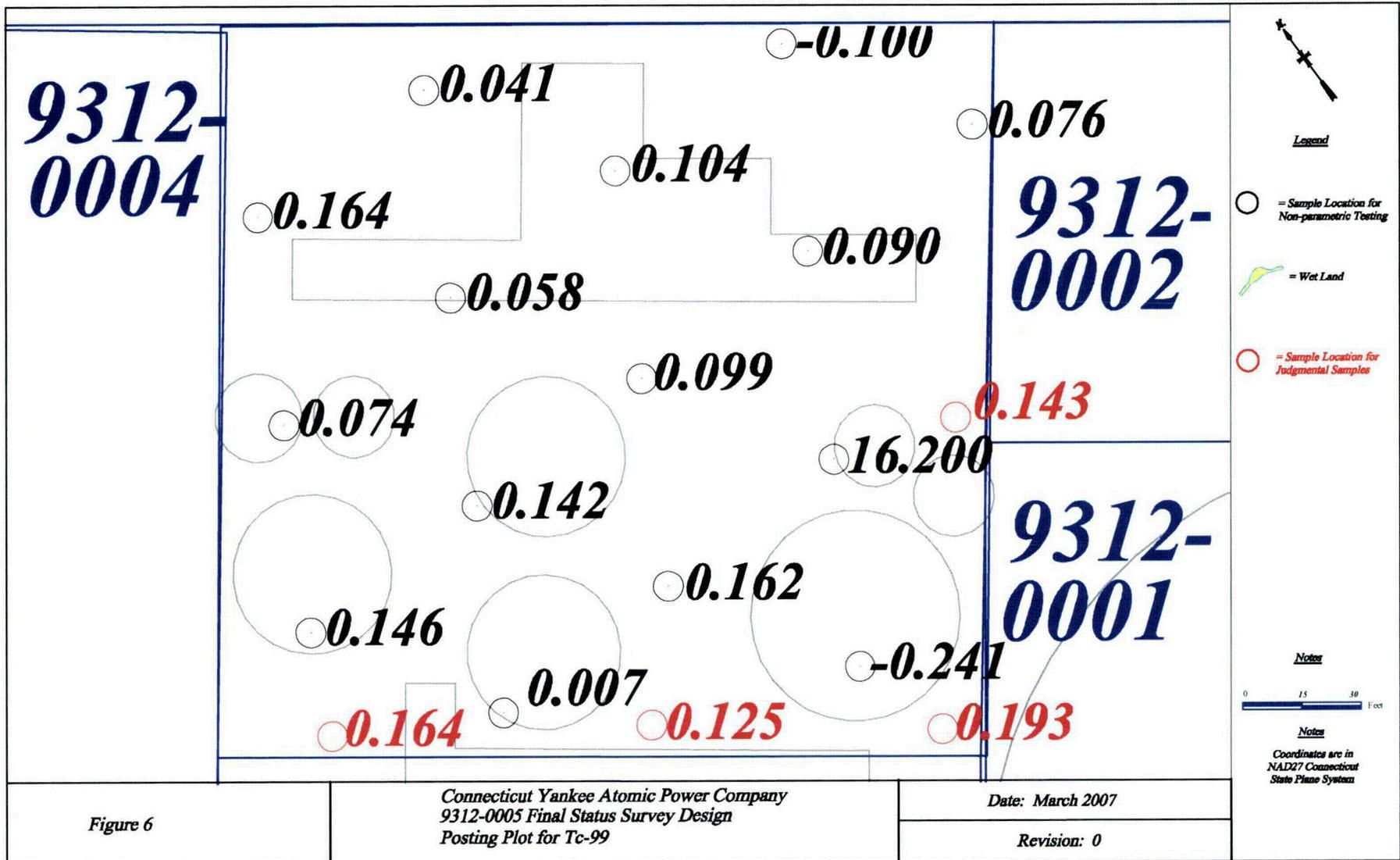


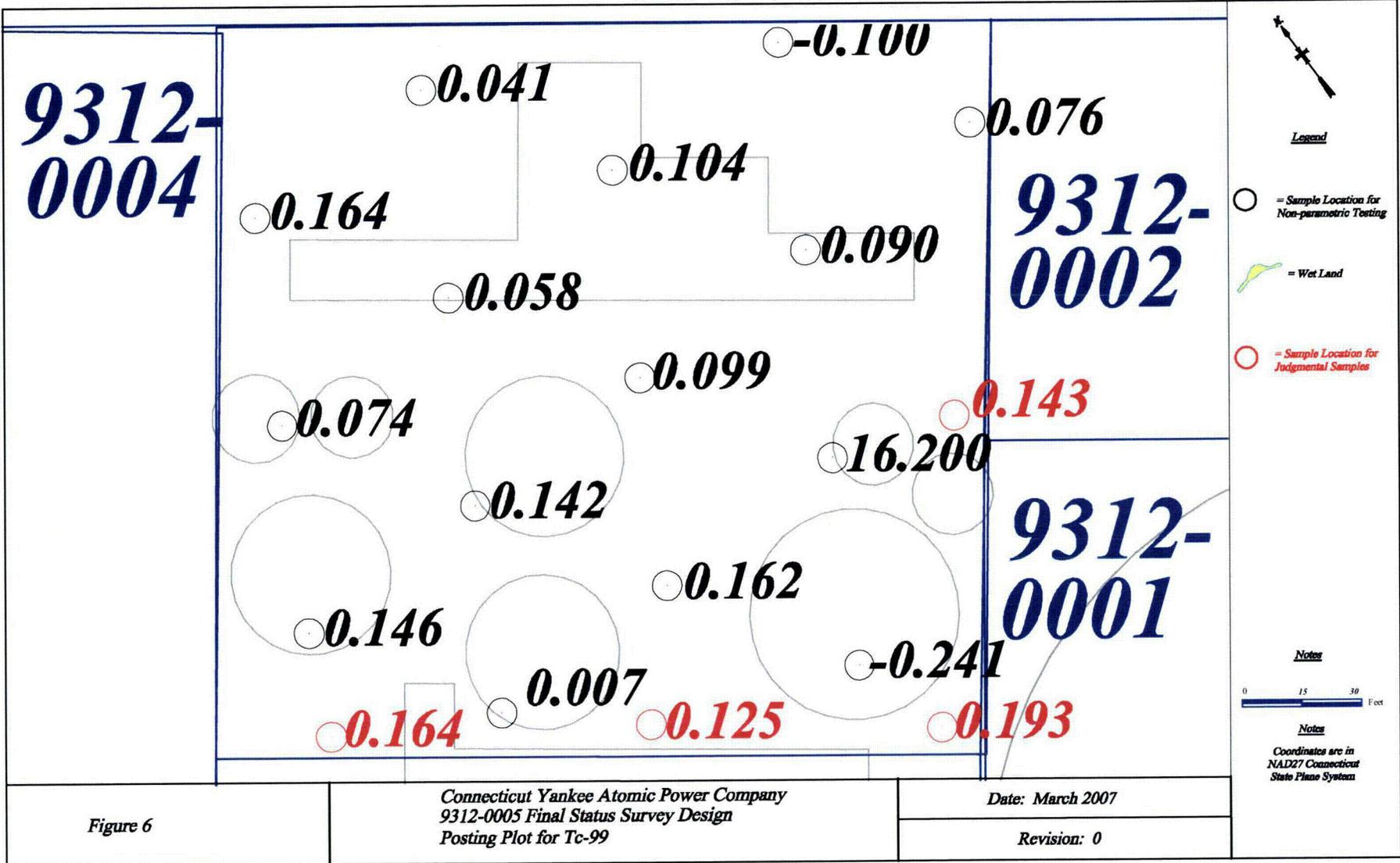
Figure 5

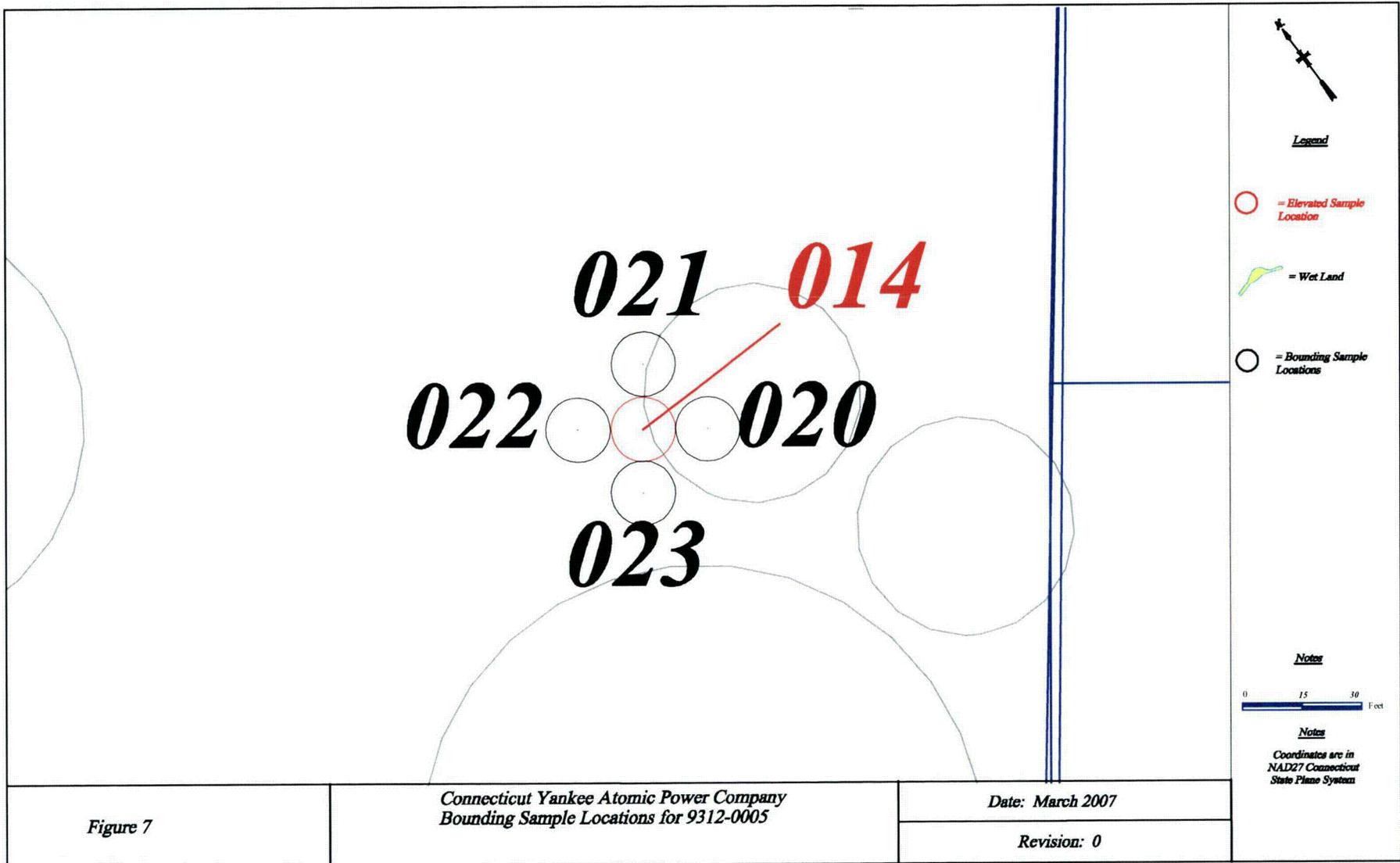
Connecticut Yankee Atomic Power Company
9312-0005 Final Status Survey Design
Posting Plot for Sr-90

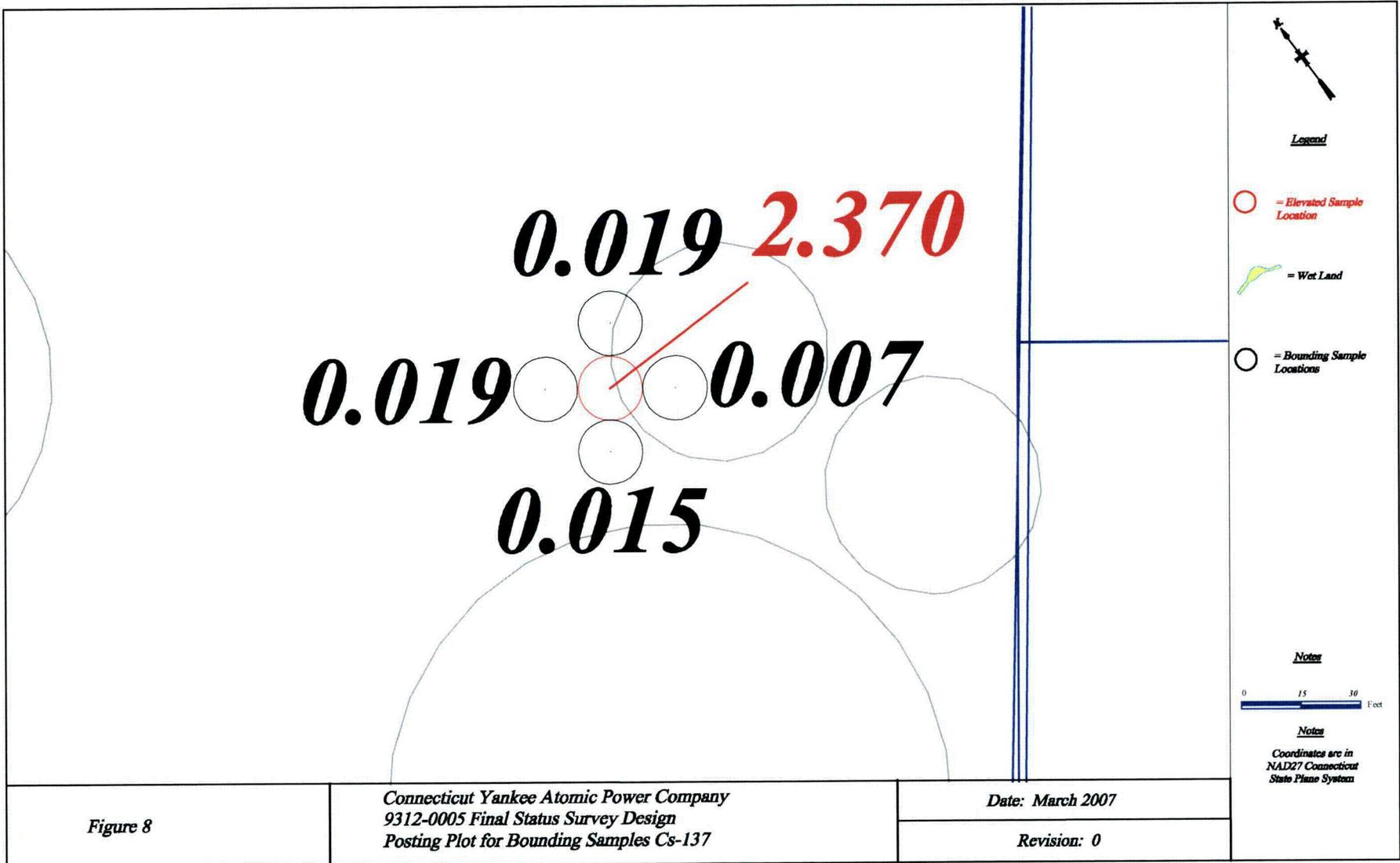
Date: March 2007

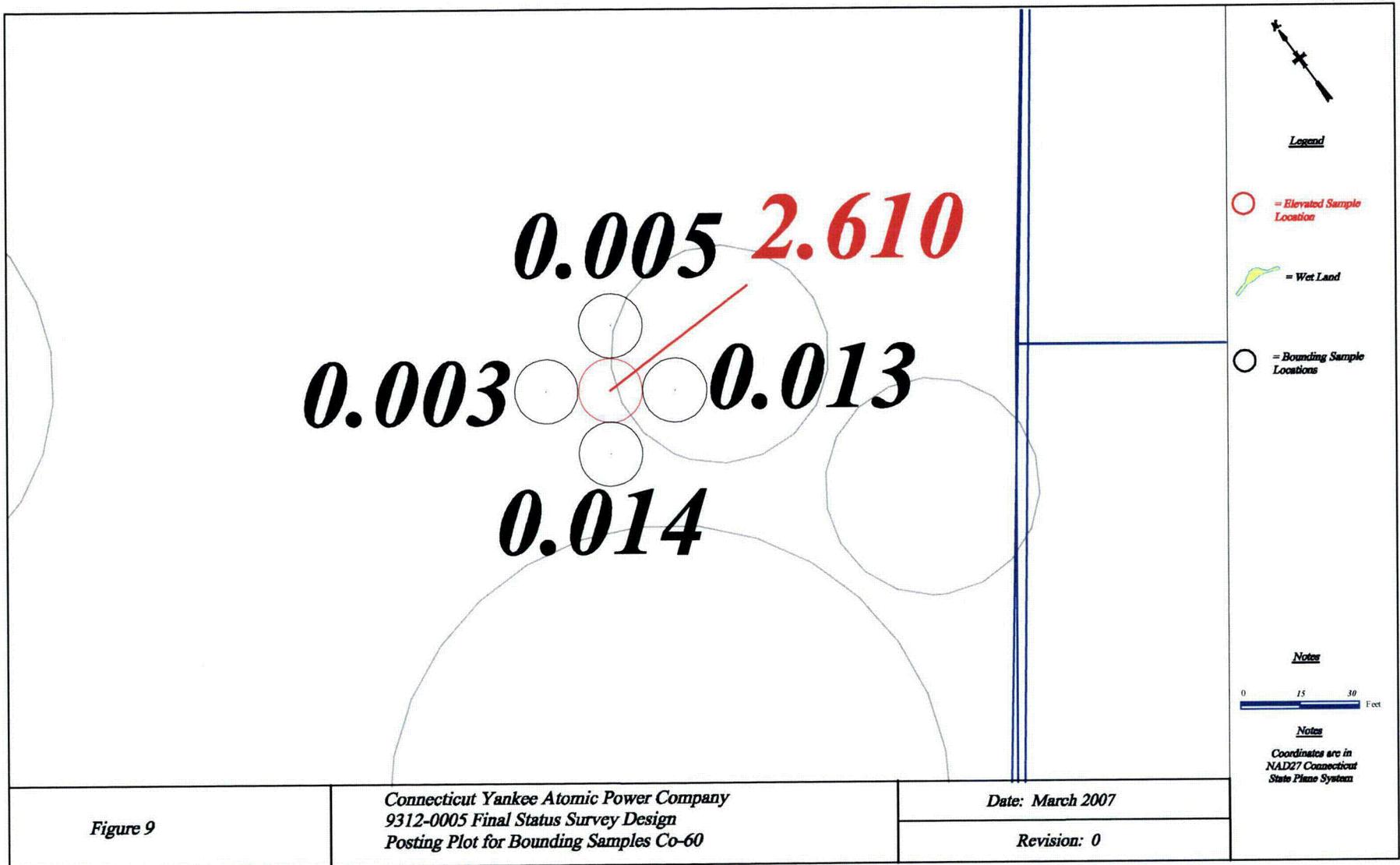
Revision: 0











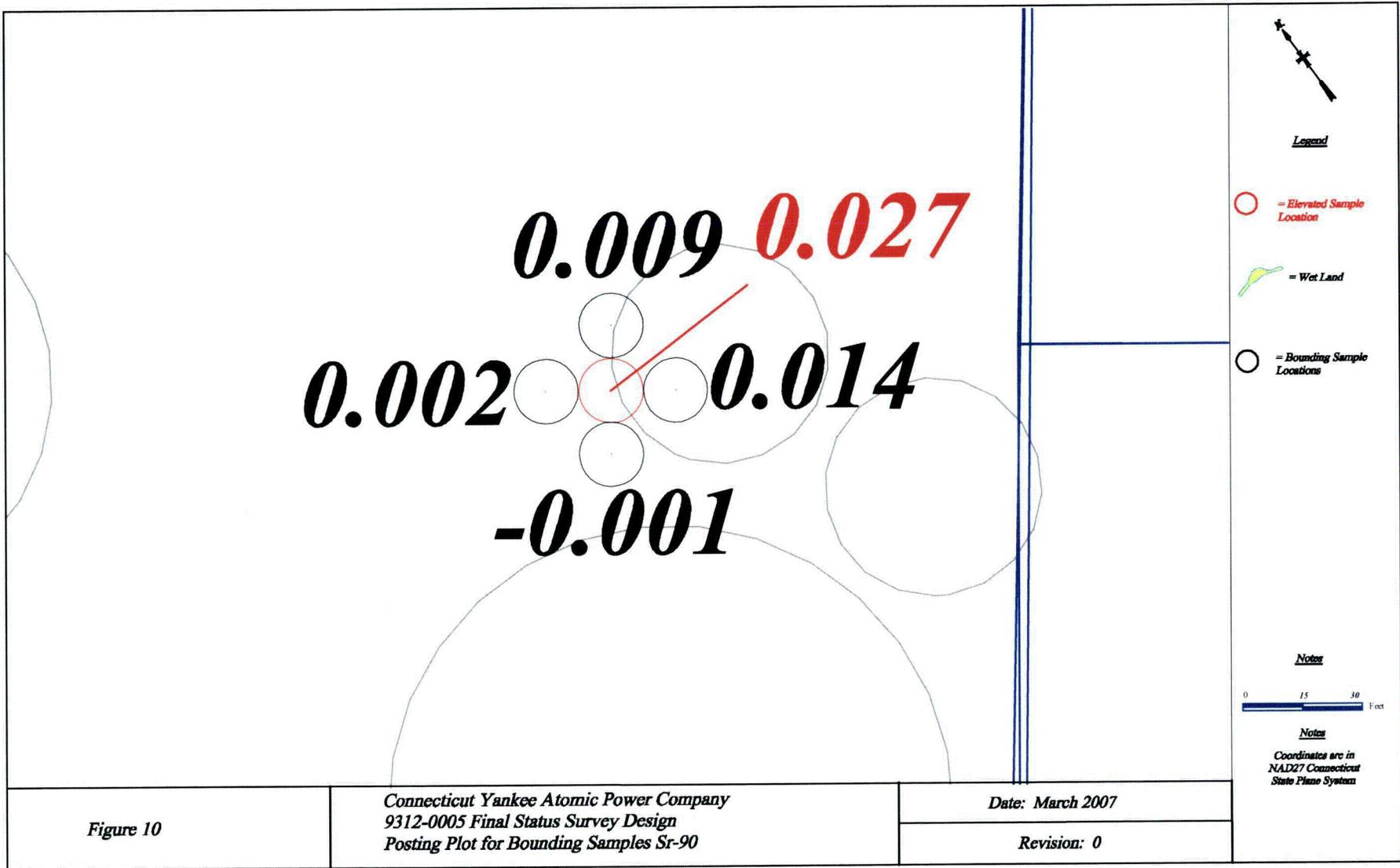
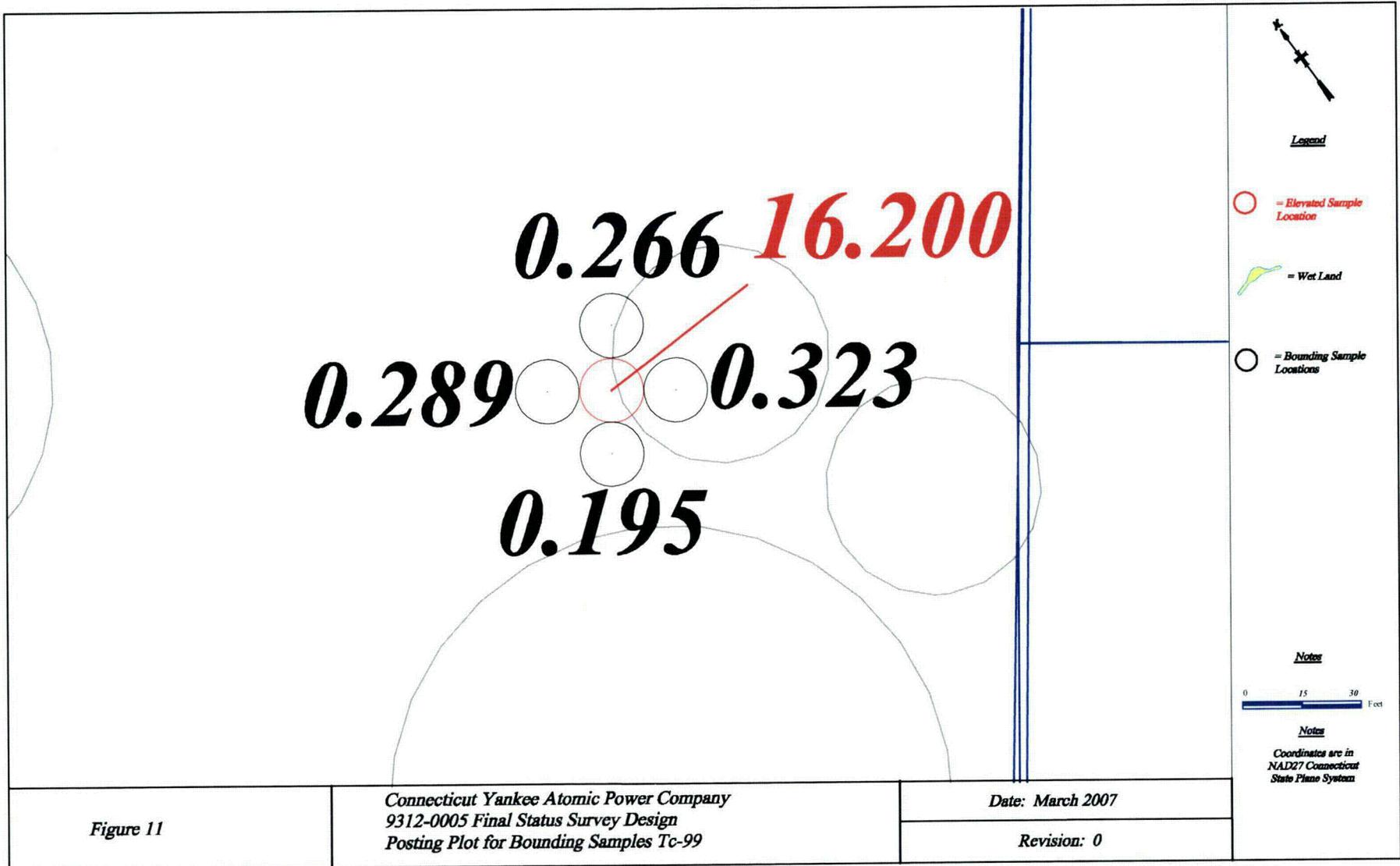


Figure 10

Connecticut Yankee Atomic Power Company
 9312-0005 Final Status Survey Design
 Posting Plot for Bounding Samples Sr-90

Date: March 2007

Revision: 0



FORMER RADIOLOGICALLY CONTROLLED AREA
TANK FARM
SURVEY UNIT 9312-0005
RELEASE RECORD

ATTACHMENT 2 (SCAN RESULTS)

| Survey Location | Log Date | Log Time | Reading | Alarm Level | >Alarm Level | E-600 S/N | Probe S/N |
|--------------------|----------|----------|----------|-------------|--------------|-----------|-----------|
| 9312-05-BL-00-01-0 | 3/1/2007 | 12:55:00 | 7.61E+03 | | | 1111 | 1004 |
| 9312-05-SL-00-01-0 | 3/1/2007 | 12:55:00 | 7.70E+03 | 1.04E+04 | | 1111 | 1004 |
| 9312-05-BL-00-02-0 | 3/1/2007 | 12:56:00 | 8.14E+03 | | | 1111 | 1004 |
| 9312-05-SL-00-02-0 | 3/1/2007 | 12:57:00 | 9.56E+03 | 1.10E+04 | | 1111 | 1004 |
| 9312-05-BL-00-03-0 | 3/1/2007 | 12:58:00 | 6.93E+03 | | | 1111 | 1004 |
| 9312-05-SL-00-03-0 | 3/1/2007 | 12:59:00 | 7.73E+03 | 9.74E+03 | | 1111 | 1004 |
| 9312-05-BL-00-04-0 | 3/1/2007 | 12:59:00 | 7.70E+03 | | | 1111 | 1004 |
| 9312-05-SL-00-04-0 | 3/1/2007 | 13:00:00 | 7.50E+03 | 1.05E+04 | | 1111 | 1004 |
| 9312-05-BL-00-05-0 | 3/1/2007 | 13:01:00 | 8.54E+03 | | | 1111 | 1004 |
| 9312-05-SL-00-05-0 | 3/1/2007 | 13:01:00 | 8.12E+03 | 1.14E+04 | | 1111 | 1004 |
| 9312-05-BL-00-06-0 | 3/1/2007 | 13:10:00 | 1.05E+04 | | | 1111 | 1004 |
| 9312-05-SL-00-06-0 | 3/1/2007 | 13:11:00 | 1.17E+04 | 1.33E+04 | | 1111 | 1004 |
| 9312-05-BL-00-07-0 | 3/1/2007 | 13:02:00 | 6.78E+03 | | | 1111 | 1004 |
| 9312-05-SL-00-07-0 | 3/1/2007 | 13:03:00 | 7.70E+03 | 9.59E+03 | | 1111 | 1004 |
| 9312-05-BL-00-08-0 | 3/1/2007 | 13:04:00 | 7.17E+03 | | | 1111 | 1004 |
| 9312-05-SL-00-08-0 | 3/1/2007 | 13:04:00 | 6.83E+03 | 9.98E+03 | | 1111 | 1004 |
| 9312-05-BL-00-09-0 | 3/1/2007 | 13:05:00 | 8.33E+03 | | | 1111 | 1004 |
| 9312-05-SL-00-09-0 | 3/1/2007 | 13:05:00 | 7.30E+03 | 1.11E+04 | | 1111 | 1004 |
| 9312-05-BL-00-10-0 | 3/1/2007 | 13:07:00 | 1.11E+04 | | | 1111 | 1004 |
| 9312-05-SL-00-10-0 | 3/1/2007 | 13:07:00 | 1.18E+04 | 1.39E+04 | | 1111 | 1004 |
| 9312-05-BL-00-11-0 | 3/1/2007 | 13:08:00 | 9.32E+03 | | | 1111 | 1004 |
| 9312-05-SL-00-11-0 | 3/1/2007 | 13:09:00 | 9.98E+03 | 1.21E+04 | | 1111 | 1004 |
| 9312-05-BL-00-12-0 | 3/1/2007 | 13:12:00 | 6.90E+03 | | | 1111 | 1004 |
| 9312-05-SL-00-12-0 | 3/1/2007 | 13:13:00 | 6.16E+03 | 9.71E+03 | | 1111 | 1004 |
| 9312-05-BL-00-13-0 | 3/1/2007 | 13:13:00 | 6.73E+03 | | | 1111 | 1004 |
| 9312-05-SL-00-13-0 | 3/1/2007 | 13:14:00 | 6.90E+03 | 9.54E+03 | | 1111 | 1004 |
| 9312-05-BL-00-14-0 | 3/1/2007 | 13:15:00 | 6.74E+03 | | | 1111 | 1004 |
| 9312-05-SL-00-14-0 | 3/1/2007 | 13:15:00 | 7.01E+03 | 9.55E+03 | | 1111 | 1004 |
| 9312-05-BL-00-15-0 | 3/1/2007 | 13:17:00 | 6.86E+03 | | | 1111 | 1004 |
| 9312-05-SL-00-15-0 | 3/1/2007 | 13:18:00 | 8.08E+03 | 9.67E+03 | | 1111 | 1004 |
| 9312-05-BL-00-16-0 | 3/1/2007 | 13:24:00 | 8.19E+03 | | | 1111 | 1004 |
| 9312-05-SL-00-16-0 | 3/1/2007 | 13:25:00 | 8.15E+03 | 1.10E+04 | | 1111 | 1004 |
| 9312-05-BL-00-17-0 | 3/1/2007 | 13:20:00 | 7.20E+03 | | | 1111 | 1004 |
| 9312-05-SL-00-17-0 | 3/1/2007 | 13:20:00 | 6.64E+03 | 1.00E+04 | | 1111 | 1004 |
| 9312-05-BL-00-18-0 | 3/1/2007 | 13:21:00 | 7.37E+03 | | | 1111 | 1004 |
| 9312-05-SL-00-18-0 | 3/1/2007 | 13:22:00 | 6.99E+03 | 1.02E+04 | | 1111 | 1004 |
| 9312-05-BL-00-19-0 | 3/1/2007 | 13:22:00 | 6.42E+03 | | | 1111 | 1004 |
| 9312-05-SL-00-19-0 | 3/1/2007 | 13:23:00 | 6.49E+03 | 9.23E+03 | | 1111 | 1004 |

| Survey Location | Log Date | Log Time | Reading | Alarm Level | >Alarm Level | E-600 S/N | Probe S/N |
|--------------------|-----------|----------|----------|-------------|--------------|-----------|-----------|
| 9312-05-BL-00-20-0 | 3/14/2007 | 12:53:00 | 7.58E+03 | | | 1107 | 1007 |
| 9312-05-SL-00-20-0 | 3/14/2007 | 12:54:00 | 7.83E+03 | 1.04E+04 | | 1107 | 1007 |
| 9312-05-BL-00-21-0 | 3/14/2007 | 12:54:00 | 6.56E+03 | | | 1107 | 1007 |
| 9312-05-SL-00-21-0 | 3/14/2007 | 12:55:00 | 8.91E+03 | 9.37E+03 | | 1107 | 1007 |
| 9312-05-BL-00-22-0 | 3/14/2007 | 12:55:00 | 7.13E+03 | | | 1107 | 1007 |
| 9312-05-SL-00-22-0 | 3/14/2007 | 12:56:00 | 8.29E+03 | 9.94E+03 | | 1107 | 1007 |
| 9312-05-BL-00-23-0 | 3/14/2007 | 12:56:00 | 7.12E+03 | | | 1107 | 1007 |
| 9312-05-SL-00-23-0 | 3/14/2007 | 12:57:00 | 7.50E+03 | 9.93E+03 | | 1107 | 1007 |

| Survey Location | Log Date | Log Time | Reading | Alarm Level | >Alarm Level | E-600 S/N | Probe S/N |
|--------------------|----------|----------|----------|-------------|--------------|-----------|-----------|
| 9312-05-BC-00-01-0 | 3/5/2007 | 8:08:00 | 1.02E+04 | | | 1117 | 1008 |
| 9312-05-SC-00-01-0 | 3/5/2007 | 8:12:00 | 1.02E+04 | 1.30E+04 | | 1117 | 1008 |
| 9312-05-BC-00-02-0 | 3/5/2007 | 8:12:00 | 9.84E+03 | | | 1117 | 1008 |
| 9312-05-SC-00-02-0 | 3/5/2007 | 8:15:00 | 9.34E+03 | 1.27E+04 | | 1117 | 1008 |
| 9312-05-BC-00-03-0 | 3/5/2007 | 8:17:00 | 1.09E+04 | | | 1117 | 1008 |
| 9312-05-SC-00-03-0 | 3/5/2007 | 8:20:00 | 9.95E+03 | 1.37E+04 | | 1117 | 1008 |
| 9312-05-BC-00-04-0 | 3/5/2007 | 8:20:00 | 1.05E+04 | | | 1117 | 1008 |
| 9312-05-SC-00-04-0 | 3/5/2007 | 8:23:00 | 1.10E+04 | 1.33E+04 | | 1117 | 1008 |
| 9312-05-BC-00-05-0 | 3/5/2007 | 8:24:00 | 1.04E+04 | | | 1117 | 1008 |
| 9312-05-SC-00-05-0 | 3/5/2007 | 8:26:00 | 1.13E+04 | 1.32E+04 | | 1117 | 1008 |
| 9312-05-BC-00-06-0 | 3/5/2007 | 8:27:00 | 9.65E+03 | | | 1117 | 1008 |
| 9312-05-SC-00-06-0 | 3/5/2007 | 8:29:00 | 1.21E+04 | 1.25E+04 | | 1117 | 1008 |
| 9312-05-BC-00-07-0 | 3/5/2007 | 8:30:00 | 1.18E+04 | | | 1117 | 1008 |
| 9312-05-SC-00-07-0 | 3/5/2007 | 8:34:00 | 1.07E+04 | 1.46E+04 | | 1117 | 1008 |
| 9312-05-BC-00-08-0 | 3/5/2007 | 8:34:00 | 9.99E+03 | | | 1117 | 1008 |
| 9312-05-SC-00-08-0 | 3/5/2007 | 8:37:00 | 1.00E+04 | 1.28E+04 | | 1117 | 1008 |
| 9312-05-BC-00-09-0 | 3/5/2007 | 9:35:00 | 1.11E+04 | | | 1117 | 1008 |
| 9312-05-SC-00-09-0 | 3/5/2007 | 9:38:00 | 9.07E+03 | 1.39E+04 | | 1117 | 1008 |
| 9312-05-BC-00-10-0 | 3/5/2007 | 9:39:00 | 9.55E+03 | | | 1117 | 1008 |
| 9312-05-SC-00-10-0 | 3/5/2007 | 9:42:00 | 1.11E+04 | 1.24E+04 | | 1117 | 1008 |
| 9312-05-BC-00-11-0 | 3/5/2007 | 9:54:00 | 1.18E+04 | | | 1117 | 1008 |
| 9312-05-SC-00-11-0 | 3/5/2007 | 9:57:00 | 1.04E+04 | 1.46E+04 | | 1117 | 1008 |
| 9312-05-BC-00-12-0 | 3/5/2007 | 9:57:00 | 9.76E+03 | | | 1117 | 1008 |
| 9312-05-SC-00-12-0 | 3/5/2007 | 9:59:00 | 9.51E+03 | 1.26E+04 | | 1117 | 1008 |
| 9312-05-BC-00-13-0 | 3/5/2007 | 10:01:00 | 7.97E+03 | | | 1117 | 1008 |
| 9312-05-SC-00-13-0 | 3/5/2007 | 10:03:00 | 1.02E+04 | 1.08E+04 | | 1117 | 1008 |
| 9312-05-BC-00-14-0 | 3/5/2007 | 10:03:00 | 1.02E+04 | | | 1117 | 1008 |
| 9312-05-SC-00-14-0 | 3/5/2007 | 10:05:00 | 1.18E+04 | 1.30E+04 | | 1117 | 1008 |
| 9312-05-BC-00-15-0 | 3/5/2007 | 10:08:00 | 1.25E+04 | | | 1117 | 1008 |
| 9312-05-SC-00-15-0 | 3/5/2007 | 10:09:00 | 1.24E+04 | 1.53E+04 | | 1117 | 1008 |
| 9312-05-BC-00-16-0 | 3/5/2007 | 10:10:00 | 8.82E+03 | | | 1117 | 1008 |
| 9312-05-SC-00-16-0 | 3/5/2007 | 10:11:00 | 8.37E+03 | 1.16E+04 | | 1117 | 1008 |
| 9312-05-BC-00-17-0 | 3/5/2007 | 9:34:00 | 1.03E+04 | | | 1110 | 1010 |
| 9312-05-SC-00-17-0 | 3/5/2007 | 9:41:00 | 8.65E+03 | 1.31E+04 | | 1110 | 1010 |
| 9312-05-BC-00-18-0 | 3/5/2007 | 9:42:00 | 7.76E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-18-0 | 3/5/2007 | 9:44:00 | 6.15E+03 | 1.06E+04 | | 1110 | 1010 |
| 9312-05-BC-00-19-0 | 3/5/2007 | 9:45:00 | 6.88E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-19-0 | 3/5/2007 | 9:47:00 | 8.12E+03 | 9.69E+03 | | 1110 | 1010 |
| 9312-05-BC-00-20-0 | 3/5/2007 | 9:48:00 | 7.13E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-20-0 | 3/5/2007 | 9:50:00 | 6.62E+03 | 9.94E+03 | | 1110 | 1010 |

| Survey Location | Log Date | Log Time | Reading | Alarm Level | >Alarm Level | E-600 S/N | Probe S/N |
|--------------------|----------|----------|----------|-------------|--------------|-----------|-----------|
| 9312-05-BC-00-21-0 | 3/5/2007 | 9:52:00 | 6.28E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-21-0 | 3/5/2007 | 9:54:00 | 6.66E+03 | 9.09E+03 | | 1110 | 1010 |
| 9312-05-BC-00-22-0 | 3/5/2007 | 9:55:00 | 6.19E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-22-0 | 3/5/2007 | 9:57:00 | 6.20E+03 | 9.00E+03 | | 1110 | 1010 |
| 9312-05-BC-00-23-0 | 3/5/2007 | 9:58:00 | 5.85E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-23-0 | 3/5/2007 | 10:01:00 | 6.32E+03 | 8.66E+03 | | 1110 | 1010 |
| 9312-05-BC-00-24-0 | 3/5/2007 | 10:02:00 | 6.34E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-24-0 | 3/5/2007 | 10:05:00 | 6.40E+03 | 9.15E+03 | | 1110 | 1010 |
| 9312-05-BC-00-25-0 | 3/5/2007 | 10:06:00 | 6.20E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-25-0 | 3/5/2007 | 10:08:00 | 6.31E+03 | 9.01E+03 | | 1110 | 1010 |
| 9312-05-BC-00-26-0 | 3/5/2007 | 10:09:00 | 6.11E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-26-0 | 3/5/2007 | 10:10:00 | 6.85E+03 | 8.92E+03 | | 1110 | 1010 |
| 9312-05-BC-00-27-0 | 3/5/2007 | 10:14:00 | 6.52E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-27-0 | 3/5/2007 | 10:16:00 | 7.00E+03 | 9.33E+03 | | 1110 | 1010 |
| 9312-05-BC-00-28-0 | 3/5/2007 | 10:27:00 | 6.15E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-28-0 | 3/5/2007 | 10:29:00 | 6.70E+03 | 8.96E+03 | | 1110 | 1010 |
| 9312-05-BC-00-29-0 | 3/5/2007 | 10:29:00 | 6.64E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-29-0 | 3/5/2007 | 10:31:00 | 6.10E+03 | 9.45E+03 | | 1110 | 1010 |
| 9312-05-BC-00-30-0 | 3/5/2007 | 10:32:00 | 6.38E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-30-0 | 3/5/2007 | 10:34:00 | 6.09E+03 | 9.19E+03 | | 1110 | 1010 |
| 9312-05-BC-00-31-0 | 3/5/2007 | 10:35:00 | 6.48E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-31-0 | 3/5/2007 | 10:37:00 | 5.99E+03 | 9.29E+03 | | 1110 | 1010 |
| 9312-05-BC-00-32-0 | 3/5/2007 | 10:37:00 | 5.98E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-32-0 | 3/5/2007 | 10:39:00 | 5.96E+03 | 8.79E+03 | | 1110 | 1010 |
| 9312-05-BC-00-33-0 | 3/5/2007 | 10:40:00 | 6.31E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-33-0 | 3/5/2007 | 10:41:00 | 6.96E+03 | 9.12E+03 | | 1110 | 1010 |
| 9312-05-BC-00-34-0 | 3/5/2007 | 10:42:00 | 5.65E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-34-0 | 3/5/2007 | 10:44:00 | 5.74E+03 | 8.46E+03 | | 1110 | 1010 |
| 9312-05-BC-00-35-0 | 3/5/2007 | 10:44:00 | 6.08E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-35-0 | 3/5/2007 | 10:46:00 | 6.01E+03 | 8.89E+03 | | 1110 | 1010 |
| 9312-05-BC-00-36-0 | 3/5/2007 | 10:47:00 | 5.90E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-36-0 | 3/5/2007 | 10:48:00 | 7.11E+03 | 8.71E+03 | | 1110 | 1010 |
| 9312-05-BC-00-37-0 | 3/5/2007 | 10:49:00 | 6.61E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-37-0 | 3/5/2007 | 10:51:00 | 6.61E+03 | 9.42E+03 | | 1110 | 1010 |
| 9312-05-BC-00-38-0 | 3/5/2007 | 10:51:00 | 5.84E+03 | | | 1110 | 1010 |
| 9312-05-SC-00-38-0 | 3/5/2007 | 10:53:00 | 6.23E+03 | 8.65E+03 | | 1110 | 1010 |
| 9312-05-BC-00-39-0 | 3/5/2007 | 10:33:00 | 1.12E+04 | | | 1117 | 1008 |
| 9312-05-SC-00-39-0 | 3/5/2007 | 10:34:00 | 1.03E+04 | 1.40E+04 | | 1117 | 1008 |
| 9312-05-BC-00-40-0 | 3/5/2007 | 10:35:00 | 8.85E+03 | | | 1117 | 1008 |
| 9312-05-SC-00-40-0 | 3/5/2007 | 10:37:00 | 8.14E+03 | 1.17E+04 | | 1117 | 1008 |

| Survey Location | Log Date | Log Time | Reading | Alarm Level | >Alarm Level | E-600 S/N | Probe S/N |
|--------------------|----------|----------|----------|-------------|--------------|-----------|-----------|
| 9312-05-BC-00-41-0 | 3/5/2007 | 10:38:00 | 7.47E+03 | | | 1117 | 1008 |
| 9312-05-SC-00-41-0 | 3/5/2007 | 10:40:00 | 9.44E+03 | 1.03E+04 | | 1117 | 1008 |
| 9312-05-BC-00-42-0 | 3/5/2007 | 10:41:00 | 1.08E+04 | | | 1117 | 1008 |
| 9312-05-SC-00-42-0 | 3/5/2007 | 10:42:00 | 1.19E+04 | 1.36E+04 | | 1117 | 1008 |
| 9312-05-BC-00-43-0 | 3/5/2007 | 10:43:00 | 1.14E+04 | | | 1117 | 1008 |
| 9312-05-SC-00-43-0 | 3/5/2007 | 10:44:00 | 1.10E+04 | 1.42E+04 | | 1117 | 1008 |
| 9312-05-BC-00-44-0 | 3/5/2007 | 10:45:00 | 9.21E+03 | | | 1117 | 1008 |
| 9312-05-SC-00-44-0 | 3/5/2007 | 10:48:00 | 8.33E+03 | 1.20E+04 | | 1117 | 1008 |

FORMER RADIOLOGICALLY CONTROLLED AREA
TANK FARM
SURVEY UNIT 9312-0005
RELEASE RECORD

ATTACHMENT 3 (LABORATORY DATA)

General Narrative

**General Narrative
for
Connecticut Yankee Atomic Power Co.
Work Order: 181852
SDG: MSR#07-00104**

March 09, 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 07, 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> |
|-----------------------------------------|----------------------------------|
| 181852001 | 9312-0005-001F |
| 181852002 | 9312-0005-002F |
| 181852003 | 9312-0005-003F |
| 181852004 | 9312-0005-004F |
| 181852005 | 9312-0005-005F |
| 181852006 | 9312-0005-006F |
| 181852007 | 9312-0005-007F |
| 181852008 | 9312-0005-008F |
| 181852009 | 9312-0005-009F |
| 181852010 | 9312-0005-010F |
| 181852011 | 9312-0005-011F |
| 181852012 | 9312-0005-011FS |
| 181852013 | 9312-0005-012F |
| 181852014 | 9312-0005-013F |
| 181852015 | 9312-0005-014F |
| 181852016 | 9312-0005-015F |
| 181852017 | 9312-0005-016B |
| 181852018 | 9312-0005-017B |
| 181852019 | 9312-0005-018B |
| 181852020 | 9312-0005-019B |

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

Seventeen 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 09 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. 2007-00071

| | | | | | | | | | | | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------|--------------------------|------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--|----------------------------------------------------------------------------------------------------------------|--|--------------|----------------------------------|-----------------------|---------------|
| 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) | | | | | | | | | | | | | 181852% | |
| 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 | | | | | | | | | | | | |
| 9312-0005-001F | 3/1/07 | 1258 | TS | G | BP | X | | | | | | | | |
| 9312-0005-002F | 3/1/07 | 1301 | TS | G | BP | X | | | | | | | | |
| 9312-0005-003F | 3/1/07 | 1303 | TS | G | BP | X | | | | | | | | |
| 9312-0005-004F | 3/1/07 | 1304 | TS | G | BP | X | | | | | | | | |
| 9312-0005-005F | 3/1/07 | 1305 | TS | G | BP | X | | | | | | | | |
| 9312-0005-006F | 3/1/07 | 1314 | TS | G | BP | | X | | | | | | | |
| 9312-0005-007F | 3/1/07 | 1306 | TS | G | BP | X | | | | | | | | |
| 9312-0005-008F | 3/1/07 | 1307 | TS | G | BP | X | | | | | | | | |
| 9312-0005-009F | 3/1/07 | 1308 | TS | G | BP | X | | | | | | | | |
| 9312-0005-010F | 3/1/07 | 1310 | TS | G | BP | X | | | | | | | | |
| NOTES: PO #: 002332 MSR #: 07-00104 <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.: 3° Deg. C Custody Sealed? Y N Custody Seal Intact? Y N | | | | | |
| 1) Relinquished By <i>[Signature]</i> | | | Date/Time 3/6/07 6900 | | | 2) Received By <i>[Signature]</i> | | | Date/Time 3/7/07 @ 1000 | | | Bill of Lading # 790194862909 | | |
| 3) Relinquished By | | | Date/Time | | | 4) Received By | | | Date/Time | | | | | |
| 5) Relinquished By | | | Date/Time | | | 6) Received By | | | Date/Time | | | | | |

9

Connecticut Yankee Atomic Power Company

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

Chain of Custody Form

No. 2007-00072

| | | | | | | | | | | | | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------|-----------------------|------------------|-----------------------------|-----------------------------------|--------|--|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------|---------------|
| 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) | | | | | | | | | | | | | | 181852.1 | |
| 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 | | | | | | | | | | | | | |
| 9312-0005-011F | 3/1/07 | 1312 | TS | G | BP | X | | | | | | | | | |
| 9312-0005-011FS | 3/1/07 | 1312 | TS | G | BP | X | | | | | | | | | |
| 9312-0005-012F | 3/1/07 | 1315 | TS | G | BP | X | | | | | | | | | |
| 9312-0005-013F | 3/1/07 | 1317 | TS | G | BP | X | | | | | | | | | |
| 9312-0005-014F | 3/1/07 | 1318 | TS | G | BP | | X | | | | | | | | |
| 9312-0005-015F | 3/1/07 | 1319 | TS | G | BP | | X | | | | | | | | |
| 9312-0005-016B | 3/1/07 | 1329 | TS | G | BP | X | | | | | | | | | |
| 9312-0005-017B | 3/1/07 | 1324 | TS | G | BP | X | | | | | | | | | |
| 9312-0005-018B | 3/1/07 | 1320 | TS | G | BP | X | | | | | | | | | |
| 9312-0005-019B | 3/1/07 | 1328 | TS | G | BP | X | | | | | | | | | |
| NOTES: PO #: 002332 MSR #: 07- 00104 <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.: 3° Deg. C Custody Sealed? <input checked="" type="checkbox"/> Y N Custody Seal Intact? <input checked="" type="checkbox"/> Y N | | | |
| 1) Relinquished By <i>[Signature]</i> | | | Date/Time 3/6/07 0855 | | | 2) Received By <i>[Signature]</i> | | | Date/Time 3.7.07 @ 1000 | | | 790194862931 | | | |
| 3) Relinquished By | | | Date/Time | | | 4) Received By | | | Date/Time | | | Bill of Lading # | | | |
| 5) Relinquished By | | | Date/Time | | | 6) Received By | | | Date/Time | | | | | | |

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Figure 1. Sample Check-in List

Date/Time Received: 3.7.07/1000

SDG#: MSR#07-00104

Work Order Number: 181852

Shipping Container ID: 11 2931 790194862909 Chain of Custody # 2007-06072
2007-00071

- 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 3°C
- 5. Vermiculite/packing materials is: Wet Dry
- 6. Number of samples in shipping container: 10 sample per cooler (2)
- 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: Chandler Services Date: 3.7.07

Telephoned to: _____ On _____ By _____



SAMPLE RECEIPT & REVIEW FORM

PM use only

| | |
|--------------------------------------------|---------------------------------------------------------------------------|
| Client: <i>Conn. Yankee Atomic Po. Co.</i> | SDG/ARCOC/Work Order: <i>181852</i> |
| Date Received: <i>3.7.07</i> | PM(A) Review (ensure non-conforming items are resolved prior to signing): |
| Received By: <i>C. Derricotte</i> | <i>[Signature]</i> |

| Sample Receipt Criteria | Yes | NA | No | Comments/Qualifiers (Required for Non-Conforming Items) |
|---------------------------------------------------------------------------------------|-------------------------------------|----|-------------------------------------|--------------------------------------------------------------------------------------|
| 1 Shipping containers received intact and sealed? | <input checked="" type="checkbox"/> | | | Circle Applicable: seals broken damaged container leaking container other (describe) |
| 2 Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method. | | | <input checked="" type="checkbox"/> | Circle Coolant # ice bags blue ice dry ice <u>none</u> other describe <i>3°C</i> |
| 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 | <i>Redx</i> | | | |
| | <i>79019486 2909</i> | | | |
| | <i>" " 2931</i> | | | |

| Suspected Hazard Information | Non-Regulated | Regulated | High Level | RSO RAD Receipt # |
|------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A Radiological Classification? | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | *If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation. |
| B PCB Regulated? | <input checked="" type="checkbox"/> | | | Maximum Counts Observed*: <i>60 cpm</i> |
| 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 (or PMA) review of Hazard classification: <input checked="" type="checkbox"/> | | | | Initials: <i>CD</i> Date: <i>3/7/07</i> |

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 181852**

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: | 615440 |
| Prep Batch Number: | 615438 |
| Dry Soil Prep GL-RAD-A-021 Batch Number: | 615437 |

| Sample ID | Client ID |
|------------------|--------------------------------------------------|
| 181852006 | 9312-0005-006F |
| 181852015 | 9312-0005-014F |
| 181852016 | 9312-0005-015F |
| 1201291463 | Method Blank (MB) |
| 1201291464 | 181852006(9312-0005-006F) Sample Duplicate (DUP) |
| 1201291465 | 181852006(9312-0005-006F) Matrix Spike (MS) |
| 1201291466 | 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# 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: 181852006 (9312-0005-006F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

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: | 615441 |
| Prep Batch Number: | 615438 |
| Dry Soil Prep GL-RAD-A-021 Batch Number: | 615437 |

| Sample ID | Client ID |
|------------------|--------------------------------------------------|
| 181852006 | 9312-0005-006F |
| 181852015 | 9312-0005-014F |
| 181852016 | 9312-0005-015F |
| 1201291467 | Method Blank (MB) |
| 1201291468 | 181852006(9312-0005-006F) Sample Duplicate (DUP) |
| 1201291469 | 181852006(9312-0005-006F) Matrix Spike (MS) |
| 1201291470 | 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# 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: 181852006 (9312-0005-006F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Sample 181852015 (9312-0005-014F) was recounted due to a suspected false positive.

Miscellaneous Information:

NCR Documentation

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

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: | 615442 |
| Prep Batch Number: | 615438 |
| Dry Soil Prep GL-RAD-A-021 Batch Number: | 615437 |

| Sample ID | Client ID |
|------------------|--------------------------------------------------|
| 181852006 | 9312-0005-006F |
| 181852015 | 9312-0005-014F |
| 181852016 | 9312-0005-015F |
| 1201291471 | Method Blank (MB) |
| 1201291472 | 181852006(9312-0005-006F) Sample Duplicate (DUP) |
| 1201291473 | 181852006(9312-0005-006F) Matrix Spike (MS) |
| 1201291474 | 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 volumes in this batch.

Designated QC

The following sample was used for QC: 181852006 (9312-0005-006F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples 1201291471 (MB) and 1201291474 (LCS) were recounted due to quench numbers being outside of the calibration range.

Miscellaneous Information:

NCR Documentation

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

| | |
|--------------------------|--------------------------------------------------------------|
| Product: | 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: | 615799 |
| Prep Batch Number: | 615437 |

| Sample ID | Client ID |
|------------------|--------------------------------------------------|
| 181852001 | 9312-0005-001F |
| 181852002 | 9312-0005-002F |
| 181852003 | 9312-0005-003F |
| 181852004 | 9312-0005-004F |
| 181852005 | 9312-0005-005F |
| 181852006 | 9312-0005-006F |
| 181852007 | 9312-0005-007F |
| 181852008 | 9312-0005-008F |
| 181852009 | 9312-0005-009F |
| 181852010 | 9312-0005-010F |
| 181852011 | 9312-0005-011F |
| 181852012 | 9312-0005-011FS |
| 181852013 | 9312-0005-012F |
| 181852014 | 9312-0005-013F |
| 181852015 | 9312-0005-014F |
| 181852016 | 9312-0005-015F |
| 181852017 | 9312-0005-016B |
| 181852018 | 9312-0005-017B |
| 181852019 | 9312-0005-018B |
| 181852020 | 9312-0005-019B |
| 1201292386 | Method Blank (MB) |
| 1201292387 | 181852001(9312-0005-001F) Sample Duplicate (DUP) |
| 1201292388 | 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: 181852001 (9312-0005-001F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:**Holding Time**

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:**NCR Documentation**

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

Additional Comments

The duplicate and the sample, 1201292387 (9312-0005-001F) and 181852001 (9312-0005-001F), did not meet the relative percent difference requirement for Ac-228, however, they do meet the relative error ratio requirement with a value of 1.08713.

Qualifier information

| Qualifier | Reason | Analyte | Sample |
|------------------|-------------------------------------|----------------|---------------|
| UI | Data rejected due to interference. | Europium-155 | 181852011 |
| UI | Data rejected due to low abundance. | Bismuth-212 | 181852002 |
| | | Cesium-134 | 181852005 |
| | | | 181852008 |
| | | | 181852009 |
| | | | 181852013 |
| | | | 181852014 |
| | | | 181852016 |
| | | | 181852019 |
| | | | 1201292387 |
| | | Cobalt-60 | 1201292386 |
| UI | Data rejected due to no valid peak. | Bismuth-212 | 181852004 |

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: | 615740 |
| Prep Batch Number: | 615438 |
| Dry Soil Prep GL-RAD-A-021 Batch Number: | 615437 |

| Sample ID | Client ID |
|------------------|--------------------------------------------------|
| 181852001 | 9312-0005-001F |
| 181852002 | 9312-0005-002F |
| 181852003 | 9312-0005-003F |
| 181852004 | 9312-0005-004F |
| 181852005 | 9312-0005-005F |
| 181852006 | 9312-0005-006F |
| 181852007 | 9312-0005-007F |
| 181852008 | 9312-0005-008F |
| 181852009 | 9312-0005-009F |
| 181852010 | 9312-0005-010F |
| 181852011 | 9312-0005-011F |
| 181852012 | 9312-0005-011FS |
| 181852013 | 9312-0005-012F |
| 181852014 | 9312-0005-013F |
| 181852015 | 9312-0005-014F |
| 181852016 | 9312-0005-015F |
| 181852017 | 9312-0005-016B |
| 181852018 | 9312-0005-017B |
| 181852019 | 9312-0005-018B |
| 181852020 | 9312-0005-019B |
| 1201292195 | Method Blank (MB) |
| 1201292196 | 181852006(9312-0005-006F) Sample Duplicate (DUP) |
| 1201292197 | 181852006(9312-0005-006F) Matrix Spike (MS) |
| 1201292198 | 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: 181852006 (9312-0005-006F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

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: 615548

| Sample ID | Client ID |
|------------------|--------------------------------------------------|
| 181852006 | 9312-0005-006F |
| 181852015 | 9312-0005-014F |
| 181852016 | 9312-0005-015F |
| 1201291721 | Method Blank (MB) |
| 1201291722 | 181852006(9312-0005-006F) Sample Duplicate (DUP) |
| 1201291723 | 181852006(9312-0005-006F) Matrix Spike (MS) |
| 1201291724 | 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: 181852006 (9312-0005-006F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

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: | 615544 |
| Prep Batch Number: | 615438 |
| Dry Soil Prep GL-RAD-A-021 Batch Number: | 615437 |

| Sample ID | Client ID |
|------------------|--------------------------------------------------|
| 181852006 | 9312-0005-006F |
| 181852015 | 9312-0005-014F |
| 181852016 | 9312-0005-015F |
| 1201291712 | Method Blank (MB) |
| 1201291713 | 181852006(9312-0005-006F) Sample Duplicate (DUP) |
| 1201291714 | 181852006(9312-0005-006F) Matrix Spike (MS) |
| 1201291715 | 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: 181852006 (9312-0005-006F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:**Holding Time**

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:**NCR Documentation**

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

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: | 615546 |
| Prep Batch Number: | 615438 |
| Dry Soil Prep GL-RAD-A-021 Batch Number: | 615437 |

| Sample ID | Client ID |
|------------------|--------------------------------------------------|
| 181852006 | 9312-0005-006F |
| 181852015 | 9312-0005-014F |
| 181852016 | 9312-0005-015F |
| 1201291716 | Method Blank (MB) |
| 1201291717 | 181852006(9312-0005-006F) Sample Duplicate (DUP) |
| 1201291718 | 181852006(9312-0005-006F) Matrix Spike (MS) |
| 1201291719 | 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 volumes in this batch.

Designated QC

The following sample was used for QC: 181852006 (9312-0005-006F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples 1201291716 (MB), 181852006 (9312-0005-006F) and 181852016 (9312-0005-015F) were 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.

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: | 615550 |

| Sample ID | Client ID |
|------------------|--------------------------------------------------|
| 181852006 | 9312-0005-006F |
| 181852015 | 9312-0005-014F |
| 181852016 | 9312-0005-015F |
| 1201291725 | Method Blank (MB) |
| 1201291726 | 181852006(9312-0005-006F) Sample Duplicate (DUP) |
| 1201291727 | 181852006(9312-0005-006F) Matrix Spike (MS) |
| 1201291728 | 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# 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: 181852006 (9312-0005-006F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product: Liquid Scint C14, Solid All,FSS

Analytical Method: EPA EERF C-01 Modified

Analytical Batch Number: 615551

| Sample ID | Client ID |
|------------------|--------------------------------------------------|
| 181852006 | 9312-0005-006F |
| 181852015 | 9312-0005-014F |
| 181852016 | 9312-0005-015F |
| 1201291729 | Method Blank (MB) |
| 1201291730 | 181852006(9312-0005-006F) Sample Duplicate (DUP) |
| 1201291731 | 181852006(9312-0005-006F) Matrix Spike (MS) |
| 1201291732 | 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: 181852006 (9312-0005-006F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Certification Statement

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

Review Validation:

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

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

Reviewer/Date:

K. A. Bell

3/13/07

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#07-00104 GEL Work Order: 181852

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 13, 2007

| | | | |
|-------------------|----------------|-------------|-----------|
| Client Sample ID: | 9312-0005-001F | Project: | YANK01204 |
| Sample ID: | 181852001 | Client ID: | YANK001 |
| Matrix: | TS | Vol. Recv.: | |
| Collect Date: | 01-MAR-07 | | |
| Receive Date: | 07-MAR-07 | | |
| Collector: | Client | | |
| Moisture: | 9.16% | | |

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

Rad Gamma Spec Analysis

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

| | | | | | | | | | | | | |
|---------------|---|----------|-----------|--------|-----------|--------|-------|--|------|----------|------|--------|
| Actinium-228 | | 0.488 | +/-0.206 | 0.0915 | +/-0.206 | 0.183 | pCi/g | | MJH1 | 03/08/07 | 1208 | 615799 |
| Americium-241 | U | -0.00779 | +/-0.0369 | 0.029 | +/-0.0369 | 0.058 | pCi/g | | | | | |
| Bismuth-212 | | 0.616 | +/-0.326 | 0.165 | +/-0.326 | 0.331 | pCi/g | | | | | |
| Bismuth-214 | | 0.439 | +/-0.126 | 0.0398 | +/-0.126 | 0.0796 | pCi/g | | | | | |
| Cesium-134 | U | 0.0359 | +/-0.0343 | 0.0289 | +/-0.0343 | 0.0579 | pCi/g | | | | | |
| Cesium-137 | U | 0.00382 | +/-0.0273 | 0.0243 | +/-0.0273 | 0.0486 | pCi/g | | | | | |
| Cobalt-60 | U | -0.0116 | +/-0.0304 | 0.024 | +/-0.0304 | 0.0479 | pCi/g | | | | | |
| Europium-152 | U | -0.0279 | +/-0.0866 | 0.0494 | +/-0.0866 | 0.0987 | pCi/g | | | | | |
| Europium-154 | U | 0.0436 | +/-0.0923 | 0.0816 | +/-0.0923 | 0.163 | pCi/g | | | | | |
| Europium-155 | U | -0.0145 | +/-0.0519 | 0.0454 | +/-0.0519 | 0.0907 | pCi/g | | | | | |
| Lead-212 | | 0.546 | +/-0.0722 | 0.027 | +/-0.0722 | 0.054 | pCi/g | | | | | |
| Lead-214 | | 0.571 | +/-0.108 | 0.0361 | +/-0.108 | 0.0722 | pCi/g | | | | | |
| Manganese-54 | U | 0.00465 | +/-0.0266 | 0.0234 | +/-0.0266 | 0.0467 | pCi/g | | | | | |
| Niobium-94 | U | -0.00203 | +/-0.0281 | 0.0211 | +/-0.0281 | 0.0421 | pCi/g | | | | | |
| Potassium-40 | | 9.47 | +/-0.935 | 0.203 | +/-0.935 | 0.405 | pCi/g | | | | | |
| Radium-226 | | 0.439 | +/-0.126 | 0.0398 | +/-0.126 | 0.0796 | pCi/g | | | | | |
| Silver-108m | U | 0.000965 | +/-0.0207 | 0.018 | +/-0.0207 | 0.036 | pCi/g | | | | | |
| Thallium-208 | | 0.208 | +/-0.0555 | 0.021 | +/-0.0555 | 0.0419 | pCi/g | | | | | |

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid-ALL FSS

| | | | | | | | | | | | | |
|--------------|---|--------|-----------|--------|-----------|--------|-------|--|------|----------|------|--------|
| Strontium-90 | U | 0.0228 | +/-0.0249 | 0.0173 | +/-0.0249 | 0.0413 | pCi/g | | KSD1 | 03/12/07 | 1532 | 615740 |
|--------------|---|--------|-----------|--------|-----------|--------|-------|--|------|----------|------|--------|

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/07/07 | 1059 | 615437 |

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 13, 2007

Client Sample ID: 9312-0005-001F
Sample ID: 181852001

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time Batch |
|---------------------------|-----------|---------------------------|-------------|----|-----------|-----|-------------------|----|---------|------|------------|
| Surrogate/Tracer recovery | Test | | | | Recovery% | | Acceptable Limits | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 78 | | (25%-125%) | | | | |
| 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
 - < 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 13, 2007

Client Sample ID: 9312-0005-002F
Sample ID: 181852002
Matrix: TS
Collect Date: 01-MAR-07
Receive Date: 07-MAR-07
Collector: Client
Moisture: 9.31%

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|--------------------------------------------------------|-----------|---------|-------------|--------|-----------|--------|-------|----|---------|----------|------|--------|
| Rad Gamma Spec Analysis | | | | | | | | | | | | |
| <i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i> | | | | | | | | | | | | |
| <i>Waived</i> | | | | | | | | | | | | |
| Actinium-228 | | 0.529 | +/-0.128 | 0.0498 | +/-0.128 | 0.0995 | pCi/g | | MJH1 | 03/08/07 | 1208 | 615799 |
| Americium-241 | U | 0.0207 | +/-0.0672 | 0.054 | +/-0.0672 | 0.108 | pCi/g | | | | | |
| Bismuth-212 | UI | 0.00 | +/-0.142 | 0.132 | +/-0.142 | 0.263 | pCi/g | | | | | |
| Bismuth-214 | | 0.455 | +/-0.0808 | 0.0254 | +/-0.0808 | 0.0508 | pCi/g | | | | | |
| Cesium-134 | U | 0.0166 | +/-0.0168 | 0.0155 | +/-0.0168 | 0.031 | pCi/g | | | | | |
| Cesium-137 | U | 0.00151 | +/-0.0158 | 0.0137 | +/-0.0158 | 0.0273 | pCi/g | | | | | |
| Cobalt-60 | U | 0.0174 | +/-0.0158 | 0.0148 | +/-0.0158 | 0.0296 | pCi/g | | | | | |
| Europium-152 | U | -0.0498 | +/-0.0567 | 0.0345 | +/-0.0567 | 0.0689 | pCi/g | | | | | |
| Europium-154 | U | -0.0114 | +/-0.0472 | 0.0397 | +/-0.0472 | 0.0793 | pCi/g | | | | | |
| Europium-155 | U | 0.0295 | +/-0.0493 | 0.0438 | +/-0.0493 | 0.0875 | pCi/g | | | | | |
| Lead-212 | | 0.509 | +/-0.0575 | 0.0209 | +/-0.0575 | 0.0418 | pCi/g | | | | | |
| Lead-214 | | 0.472 | +/-0.0726 | 0.0275 | +/-0.0726 | 0.0549 | pCi/g | | | | | |
| Manganese-54 | U | 0.00747 | +/-0.0183 | 0.0141 | +/-0.0183 | 0.0282 | pCi/g | | | | | |
| Niobium-94 | U | 0.00758 | +/-0.0153 | 0.0126 | +/-0.0153 | 0.0251 | pCi/g | | | | | |
| Potassium-40 | | 11.2 | +/-0.951 | 0.111 | +/-0.951 | 0.223 | pCi/g | | | | | |
| Radium-226 | | 0.455 | +/-0.0808 | 0.0254 | +/-0.0808 | 0.0508 | pCi/g | | | | | |
| Silver-108m | U | 0.00541 | +/-0.0143 | 0.0125 | +/-0.0143 | 0.025 | pCi/g | | | | | |
| Thallium-208 | | 0.175 | +/-0.0346 | 0.0126 | +/-0.0346 | 0.0251 | pCi/g | | | | | |
| Rad Gas Flow Proportional Counting | | | | | | | | | | | | |
| <i>GFPC, Sr90, solid-ALL FSS</i> | | | | | | | | | | | | |
| Strontium-90 | U | 0.0287 | +/-0.0262 | 0.0175 | +/-0.0262 | 0.0418 | pCi/g | | KSD1 | 03/12/07 | 1532 | 615740 |

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/07/07 | 1059 | 615437 |

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 13, 2007

Client Sample ID: 9312-0005-002F
Sample ID: 181852002

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|----------------------------------|-------------|---------------------------|-------------|----|------------------|--------------------------|-------|----|---------|------|------|-------|
| Surrogate/Tracer recovery | Test | | | | Recovery% | Acceptable Limits | | | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 71 | (25%-125%) | | | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 71 | (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 13, 2007

Client Sample ID: 9312-0005-003F
Sample ID: 181852003
Matrix: TS
Collect Date: 01-MAR-07
Receive Date: 07-MAR-07
Collector: Client
Moisture: 5.33%

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|--------------------------------------------------------|-----------|----------|-------------|--------|-----------|--------|-------|----|---------|----------|------|--------|
| Rad Gamma Spec Analysis | | | | | | | | | | | | |
| <i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i> | | | | | | | | | | | | |
| <i>Waived</i> | | | | | | | | | | | | |
| Actinium-228 | | 0.556 | +/-0.196 | 0.078 | +/-0.196 | 0.156 | pCi/g | | MJH1 | 03/08/07 | 1251 | 615799 |
| Americium-241 | U | -0.0013 | +/-0.0455 | 0.0375 | +/-0.0455 | 0.075 | pCi/g | | | | | |
| Bismuth-212 | U | 0.347 | +/-0.321 | 0.186 | +/-0.321 | 0.372 | pCi/g | | | | | |
| Bismuth-214 | | 0.436 | +/-0.121 | 0.0459 | +/-0.121 | 0.0918 | pCi/g | | | | | |
| Cesium-134 | U | 0.0356 | +/-0.0376 | 0.0273 | +/-0.0376 | 0.0546 | pCi/g | | | | | |
| Cesium-137 | U | 0.0265 | +/-0.0343 | 0.0216 | +/-0.0343 | 0.0431 | pCi/g | | | | | |
| Cobalt-60 | U | -0.0114 | +/-0.0291 | 0.0234 | +/-0.0291 | 0.0468 | pCi/g | | | | | |
| Europium-152 | U | 0.0459 | +/-0.0877 | 0.0624 | +/-0.0877 | 0.125 | pCi/g | | | | | |
| Europium-154 | U | -0.0584 | +/-0.0862 | 0.0677 | +/-0.0862 | 0.135 | pCi/g | | | | | |
| Europium-155 | U | 0.033 | +/-0.0768 | 0.0563 | +/-0.0768 | 0.113 | pCi/g | | | | | |
| Lead-212 | | 0.525 | +/-0.0749 | 0.0312 | +/-0.0749 | 0.0623 | pCi/g | | | | | |
| Lead-214 | | 0.467 | +/-0.0978 | 0.0408 | +/-0.0978 | 0.0815 | pCi/g | | | | | |
| Manganese-54 | U | 0.0474 | +/-0.0325 | 0.0275 | +/-0.0325 | 0.055 | pCi/g | | | | | |
| Niobium-94 | U | -0.0173 | +/-0.0278 | 0.0226 | +/-0.0278 | 0.0451 | pCi/g | | | | | |
| Potassium-40 | | 9.89 | +/-1.03 | 0.183 | +/-1.03 | 0.366 | pCi/g | | | | | |
| Radium-226 | | 0.436 | +/-0.121 | 0.0459 | +/-0.121 | 0.0918 | pCi/g | | | | | |
| Silver-108m | U | -0.00794 | +/-0.0237 | 0.0205 | +/-0.0237 | 0.0409 | pCi/g | | | | | |
| Thallium-208 | | 0.177 | +/-0.0537 | 0.0204 | +/-0.0537 | 0.0408 | pCi/g | | | | | |
| Rad Gas Flow Proportional Counting | | | | | | | | | | | | |
| <i>GFPC, Sr90, solid-ALL FSS</i> | | | | | | | | | | | | |
| Strontium-90 | U | 0.0187 | +/-0.0263 | 0.0196 | +/-0.0263 | 0.0454 | pCi/g | | KSD1 | 03/12/07 | 1532 | 615740 |

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/07/07 | 1059 | 615437 |

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 13, 2007

Client Sample ID: 9312-0005-003F
Sample ID: 181852003

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch # |
|----------------------------------|-------------|---------------------------|-------------|----|------------------|-----|--------------------------|----|---------|------|------|---------|
| Surrogate/Tracer recovery | Test | | | | Recovery% | | Acceptable Limits | | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 85 | | (25%-125%) | | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 85 | | (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 13, 2007

Client Sample ID: 9312-0005-004F
Sample ID: 181852004
Matrix: TS
Collect Date: 01-MAR-07
Receive Date: 07-MAR-07
Collector: Client
Moisture: 7.84%

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

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

Rad Gamma Spec Analysis

Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth

Waived

| | | | | | | | | | | | | |
|---------------|----|-----------|-----------|--------|-----------|--------|-------|--|------|----------|------|--------|
| Actinium-228 | | 0.569 | +/-0.166 | 0.0724 | +/-0.166 | 0.145 | pCi/g | | MJH1 | 03/08/07 | 1520 | 615799 |
| Americium-241 | U | 0.0182 | +/-0.0351 | 0.0285 | +/-0.0351 | 0.057 | pCi/g | | | | | |
| Bismuth-212 | UI | 0.00 | +/-0.332 | 0.159 | +/-0.332 | 0.317 | pCi/g | | | | | |
| Bismuth-214 | | 0.329 | +/-0.0868 | 0.0411 | +/-0.0868 | 0.0821 | pCi/g | | | | | |
| Cesium-134 | U | 0.00321 | +/-0.0302 | 0.0265 | +/-0.0302 | 0.0529 | pCi/g | | | | | |
| Cesium-137 | U | 0.00238 | +/-0.0263 | 0.0233 | +/-0.0263 | 0.0466 | pCi/g | | | | | |
| Cobalt-60 | U | -0.00379 | +/-0.032 | 0.0262 | +/-0.032 | 0.0524 | pCi/g | | | | | |
| Europium-152 | U | -0.0153 | +/-0.0722 | 0.0466 | +/-0.0722 | 0.0931 | pCi/g | | | | | |
| Europium-154 | U | -0.0147 | +/-0.0912 | 0.0747 | +/-0.0912 | 0.149 | pCi/g | | | | | |
| Europium-155 | U | 0.0264 | +/-0.0491 | 0.0442 | +/-0.0491 | 0.0884 | pCi/g | | | | | |
| Lead-212 | | 0.427 | +/-0.0732 | 0.0299 | +/-0.0732 | 0.0597 | pCi/g | | | | | |
| Lead-214 | | 0.495 | +/-0.0947 | 0.034 | +/-0.0947 | 0.068 | pCi/g | | | | | |
| Manganese-54 | U | -0.000431 | +/-0.0266 | 0.0229 | +/-0.0266 | 0.0458 | pCi/g | | | | | |
| Niobium-94 | U | -0.000557 | +/-0.0229 | 0.020 | +/-0.0229 | 0.0401 | pCi/g | | | | | |
| Potassium-40 | | 9.67 | +/-1.01 | 0.217 | +/-1.01 | 0.434 | pCi/g | | | | | |
| Radium-226 | | 0.329 | +/-0.0868 | 0.0411 | +/-0.0868 | 0.0821 | pCi/g | | | | | |
| Silver-108m | U | -0.0162 | +/-0.022 | 0.018 | +/-0.022 | 0.0359 | pCi/g | | | | | |
| Thallium-208 | | 0.180 | +/-0.0592 | 0.0204 | +/-0.0592 | 0.0408 | pCi/g | | | | | |

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid-ALL FSS

| | | | | | | | | | | | | |
|--------------|---|---------|-----------|--------|-----------|--------|-------|--|------|----------|------|--------|
| Strontium-90 | U | -0.0136 | +/-0.0147 | 0.0151 | +/-0.0147 | 0.0365 | pCi/g | | KSD1 | 03/12/07 | 1532 | 615740 |
|--------------|---|---------|-----------|--------|-----------|--------|-------|--|------|----------|------|--------|

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/07/07 | 1059 | 615437 |

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

Report Date: March 13, 2007

Client Sample ID: 9312-0005-004F
Sample ID: 181852004

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|----------------------------------|-------------|---------------------------|-------------|----|------------------|-----|--------------------------|----|---------|------|------|-------|
| Surrogate/Tracer recovery | Test | | | | Recovery% | | Acceptable Limits | | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 84 | | (25%-125%) | | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 84 | | (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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Address : 362 Injun Hollow Rd

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

Report Date: March 13, 2007

Client Sample ID: 9312-0005-005F
Sample ID: 181852005
Matrix: TS
Collect Date: 01-MAR-07
Receive Date: 07-MAR-07
Collector: Client
Moisture: 8.71%

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

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

Rad Gamma Spec Analysis

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

| | | | | | | | | | | | | |
|---------------|----|-----------|-----------|--------|-----------|--------|-------|--|------|----------|------|--------|
| Actinium-228 | | 0.552 | +/-0.126 | 0.046 | +/-0.126 | 0.092 | pCi/g | | MJH1 | 03/08/07 | 1523 | 615799 |
| Americium-241 | U | -0.00413 | +/-0.0671 | 0.0526 | +/-0.0671 | 0.105 | pCi/g | | | | | |
| Bismuth-212 | | 0.402 | +/-0.191 | 0.101 | +/-0.191 | 0.202 | pCi/g | | | | | |
| Bismuth-214 | | 0.334 | +/-0.0653 | 0.0258 | +/-0.0653 | 0.0516 | pCi/g | | | | | |
| Cesium-134 | UI | 0.00 | +/-0.0284 | 0.0169 | +/-0.0284 | 0.0337 | pCi/g | | | | | |
| Cesium-137 | U | 0.000586 | +/-0.0167 | 0.0137 | +/-0.0167 | 0.0273 | pCi/g | | | | | |
| Cobalt-60 | U | -0.00163 | +/-0.0174 | 0.0139 | +/-0.0174 | 0.0277 | pCi/g | | | | | |
| Europium-152 | U | 0.0173 | +/-0.0623 | 0.0381 | +/-0.0623 | 0.0762 | pCi/g | | | | | |
| Europium-154 | U | -0.03 | +/-0.0513 | 0.0418 | +/-0.0513 | 0.0836 | pCi/g | | | | | |
| Europium-155 | U | -0.0438 | +/-0.052 | 0.0422 | +/-0.052 | 0.0842 | pCi/g | | | | | |
| Lead-212 | | 0.544 | +/-0.0605 | 0.0205 | +/-0.0605 | 0.0409 | pCi/g | | | | | |
| Lead-214 | | 0.447 | +/-0.0765 | 0.0266 | +/-0.0765 | 0.0532 | pCi/g | | | | | |
| Manganese-54 | U | -0.000829 | +/-0.0164 | 0.0142 | +/-0.0164 | 0.0284 | pCi/g | | | | | |
| Niobium-94 | U | 0.022 | +/-0.0153 | 0.0141 | +/-0.0153 | 0.0281 | pCi/g | | | | | |
| Potassium-40 | | 10.0 | +/-0.896 | 0.122 | +/-0.896 | 0.244 | pCi/g | | | | | |
| Radium-226 | | 0.334 | +/-0.0653 | 0.0258 | +/-0.0653 | 0.0516 | pCi/g | | | | | |
| Silver-108m | U | 0.00138 | +/-0.0141 | 0.0121 | +/-0.0141 | 0.0242 | pCi/g | | | | | |
| Thallium-208 | | 0.166 | +/-0.0311 | 0.0127 | +/-0.0311 | 0.0254 | pCi/g | | | | | |

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid-ALL FSS

| | | | | | | | | | | | | |
|--------------|---|---------|----------|--------|----------|--------|-------|--|------|----------|------|--------|
| Strontium-90 | U | 0.00401 | +/-0.024 | 0.0196 | +/-0.024 | 0.0451 | pCi/g | | KSD1 | 03/12/07 | 1532 | 615740 |
|--------------|---|---------|----------|--------|----------|--------|-------|--|------|----------|------|--------|

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/07/07 | 1059 | 615437 |

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 13, 2007

Client Sample ID: 9312-0005-005F
Sample ID: 181852005

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|---------------------------|-----------|---------------------------|-------------|----|-----------|-----|-------------------|----|---------|------|------|-------|
| Surrogate/Tracer recovery | Test | | | | Recovery% | | Acceptable Limits | | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 87 | | (25%-125%) | | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 87 | | (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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- 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 13, 2007

Client Sample ID: 9312-0005-006F
Sample ID: 181852006
Matrix: TS
Collect Date: 01-MAR-07
Receive Date: 07-MAR-07
Collector: Client
Moisture: 6.12%

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch # |
|--------------------------------------------------------|-----------|----------|-------------|--------|-----------|--------|-------|----|---------|----------|------|---------|
| Rad Alpha Spec Analysis | | | | | | | | | | | | |
| <i>Alphaspec Am241, Cm, Solid ALL FSS</i> | | | | | | | | | | | | |
| Americium-241 | U | 0.0195 | +/-0.0871 | 0.0581 | +/-0.0872 | 0.218 | pCi/g | | DXH2 | 03/08/07 | 0756 | 615440 |
| Curium-242 | U | 0.0494 | +/-0.111 | 0.060 | +/-0.112 | 0.224 | pCi/g | | | | | |
| Curium-243/244 | U | -0.0434 | +/-0.0903 | 0.101 | +/-0.0905 | 0.303 | pCi/g | | | | | |
| <i>Alphaspec Pu, Solid-ALL FSS</i> | | | | | | | | | | | | |
| Plutonium-238 | U | -0.0703 | +/-0.0784 | 0.100 | +/-0.0788 | 0.281 | pCi/g | | DXH2 | 03/08/07 | 0756 | 615441 |
| Plutonium-239/240 | U | 0.0453 | +/-0.0849 | 0.0378 | +/-0.085 | 0.156 | pCi/g | | | | | |
| <i>Liquid Scint Pu241, Solid-ALL FSS</i> | | | | | | | | | | | | |
| Plutonium-241 | U | 1.73 | +/-7.14 | 5.90 | +/-7.14 | 12.5 | pCi/g | | DXH2 | 03/09/07 | 0932 | 615442 |
| Rad Gamma Spec Analysis | | | | | | | | | | | | |
| <i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i> | | | | | | | | | | | | |
| <i>Waived</i> | | | | | | | | | | | | |
| Actinium-228 | | 0.594 | +/-0.192 | 0.0854 | +/-0.192 | 0.171 | pCi/g | | MJH1 | 03/08/07 | 1610 | 615799 |
| Americium-241 | U | -0.00139 | +/-0.0436 | 0.0359 | +/-0.0436 | 0.0718 | pCi/g | | | | | |
| Bismuth-212 | | 0.604 | +/-0.271 | 0.176 | +/-0.271 | 0.351 | pCi/g | | | | | |
| Bismuth-214 | | 0.415 | +/-0.124 | 0.0432 | +/-0.124 | 0.0864 | pCi/g | | | | | |
| Cesium-134 | U | 0.0386 | +/-0.0328 | 0.0274 | +/-0.0328 | 0.0547 | pCi/g | | | | | |
| Cesium-137 | U | -0.0247 | +/-0.0323 | 0.0238 | +/-0.0323 | 0.0476 | pCi/g | | | | | |
| Cobalt-60 | U | 0.00733 | +/-0.0266 | 0.023 | +/-0.0266 | 0.046 | pCi/g | | | | | |
| Europium-152 | U | 0.0834 | +/-0.0673 | 0.0643 | +/-0.0673 | 0.129 | pCi/g | | | | | |
| Europium-154 | U | 0.0493 | +/-0.0929 | 0.0816 | +/-0.0929 | 0.163 | pCi/g | | | | | |
| Europium-155 | U | 0.0193 | +/-0.0652 | 0.0578 | +/-0.0652 | 0.116 | pCi/g | | | | | |
| Lead-212 | | 0.578 | +/-0.0794 | 0.0313 | +/-0.0794 | 0.0626 | pCi/g | | | | | |
| Lead-214 | | 0.455 | +/-0.102 | 0.0446 | +/-0.102 | 0.0892 | pCi/g | | | | | |
| Manganese-54 | U | 0.0119 | +/-0.0271 | 0.0243 | +/-0.0271 | 0.0486 | pCi/g | | | | | |
| Niobium-94 | U | 0.0158 | +/-0.0263 | 0.0231 | +/-0.0263 | 0.0462 | pCi/g | | | | | |
| Potassium-40 | | 9.79 | +/-1.05 | 0.183 | +/-1.05 | 0.366 | pCi/g | | | | | |
| Radium-226 | | 0.415 | +/-0.124 | 0.0432 | +/-0.124 | 0.0864 | pCi/g | | | | | |
| Silver-108m | U | 0.0194 | +/-0.0243 | 0.0222 | +/-0.0243 | 0.0444 | pCi/g | | | | | |
| Thallium-208 | | 0.165 | +/-0.0506 | 0.0242 | +/-0.0506 | 0.0484 | pCi/g | | | | | |
| Rad Gas Flow Proportional Counting | | | | | | | | | | | | |
| <i>GFPC, Sr90, solid-ALL FSS</i> | | | | | | | | | | | | |
| Strontium-90 | U | -0.00512 | +/-0.0167 | 0.0149 | +/-0.0167 | 0.0353 | pCi/g | | KSD1 | 03/12/07 | 1532 | 615740 |
| Rad Liquid Scintillation Analysis | | | | | | | | | | | | |
| <i>LSC, Tritium Dist, Solid - 3 pCi/g</i> | | | | | | | | | | | | |
| Tritium | U | -0.322 | +/-1.24 | 1.05 | +/-1.24 | 2.19 | pCi/g | | AXD2 | 03/08/07 | 2156 | 615550 |

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

Report Date: March 13, 2007

Client Sample ID: 9312-0005-006F
Sample ID: 181852006

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch # |
|------------------------------------------|-----------|---------|-------------|--------|-----------|-------|-------|------|----------|------|--------|---------|
| Rad Liquid Scintillation Analysis | | | | | | | | | | | | |
| <i>Liquid Scint C14, Solid All, FSS</i> | | | | | | | | | | | | |
| Carbon-14 | U | -0.0845 | +/-0.0856 | 0.0737 | +/-0.0856 | 0.151 | pCi/g | AXD2 | 03/08/07 | 2153 | 615551 | |
| <i>Liquid Scint Fe55, Solid-ALL FSS</i> | | | | | | | | | | | | |
| Iron-55 | U | -12 | +/-44.1 | 30.3 | +/-44.1 | 63.1 | pCi/g | MXP1 | 03/10/07 | 1858 | 615544 | |
| <i>Liquid Scint Ni63, Solid-ALL FSS</i> | | | | | | | | | | | | |
| Nickel-63 | U | -11.2 | +/-10.9 | 9.54 | +/-10.9 | 19.7 | pCi/g | MXP1 | 03/12/07 | 1748 | 615546 | |
| <i>Liquid Scint Tc99, Solid-ALL FSS</i> | | | | | | | | | | | | |
| Technetium-99 | U | -0.0998 | +/-0.210 | 0.179 | +/-0.210 | 0.367 | pCi/g | MXP1 | 03/12/07 | 1125 | 615548 | |

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/07/07 | 1059 | 615437 |

The following Analytical Methods were performed

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

| Surrogate/Tracer recovery | Test | Recovery % | Acceptable Limits |
|---------------------------|----------------------------------|------------|-------------------|
| Americium-243 Tracer | Alphaspec Am241, Cm, Solid ALL | 85 | (15%-125%) |
| Americium-243 Tracer | Alphaspec Am241, Cm, Solid ALL | 85 | (15%-125%) |
| Plutonium-242 Tracer | Alphaspec Pu, Solid-ALL FSS | 96 | (15%-125%) |
| Plutonium-242 Tracer | Alphaspec Pu, Solid-ALL FSS | 96 | (15%-125%) |
| Plutonium-242 Tracer | Liquid Scint Pu241, Solid-ALL FS | 77 | (25%-125%) |
| Plutonium-242 Tracer | Liquid Scint Pu241, Solid-ALL FS | 77 | (25%-125%) |

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power

Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424

Contact: Mr. Jack McCarthy

Project: Soils PO# 002332

Report Date: March 13, 2007

Client Sample ID: 9312-0005-006F

Sample ID: 181852006

Project: YANK01204

Client ID: YANK001

Vol. Recv.:

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time Batch |
|-----------------------|-----------|---------------------------------|-------------|----|-----|-----|------------|----|---------|------|------------|
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 95 | | (25%-125%) | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 95 | | (25%-125%) | | | | |
| Iron-59 Tracer | | Liquid Scint Fe55, Solid-ALL FS | | | 78 | | (15%-125%) | | | | |
| Iron-59 Tracer | | Liquid Scint Fe55, Solid-ALL FS | | | 78 | | (15%-125%) | | | | |
| Nickel Carrier | | Liquid Scint Ni63, Solid-ALL FS | | | 90 | | (25%-125%) | | | | |
| Nickel Carrier | | Liquid Scint Ni63, Solid-ALL FS | | | 90 | | (25%-125%) | | | | |
| Technetium-99m Tracer | | Liquid Scint Tc99, Solid-ALL FS | | | 98 | | (15%-125%) | | | | |
| Technetium-99m Tracer | | Liquid Scint Tc99, Solid-ALL FS | | | 98 | | (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 13, 2007

Client Sample ID: 9312-0005-007F
Sample ID: 181852007
Matrix: TS
Collect Date: 01-MAR-07
Receive Date: 07-MAR-07
Collector: Client
Moisture: 7.12%

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|--------------------------------------------------------|-----------|----------|-------------|---------|-----------|--------|-------|----|---------|----------|------|--------|
| Rad Gamma Spec Analysis | | | | | | | | | | | | |
| <i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i> | | | | | | | | | | | | |
| <i>Waived</i> | | | | | | | | | | | | |
| Actinium-228 | | 0.496 | +/-0.114 | 0.0374 | +/-0.114 | 0.0748 | pCi/g | | MJH1 | 03/08/07 | 1613 | 615799 |
| Americium-241 | U | 0.0808 | +/-0.0715 | 0.0604 | +/-0.0715 | 0.121 | pCi/g | | | | | |
| Bismuth-212 | | 0.344 | +/-0.139 | 0.0797 | +/-0.139 | 0.159 | pCi/g | | | | | |
| Bismuth-214 | | 0.389 | +/-0.059 | 0.0194 | +/-0.059 | 0.0388 | pCi/g | | | | | |
| Cesium-134 | U | 0.0179 | +/-0.0191 | 0.0131 | +/-0.0191 | 0.0262 | pCi/g | | | | | |
| Cesium-137 | U | 0.0211 | +/-0.0132 | 0.0111 | +/-0.0132 | 0.0222 | pCi/g | | | | | |
| Cobalt-60 | U | -0.00837 | +/-0.0124 | 0.00972 | +/-0.0124 | 0.0194 | pCi/g | | | | | |
| Europium-152 | U | -0.00969 | +/-0.0409 | 0.0296 | +/-0.0409 | 0.0591 | pCi/g | | | | | |
| Europium-154 | U | -0.0122 | +/-0.0385 | 0.0316 | +/-0.0385 | 0.0632 | pCi/g | | | | | |
| Europium-155 | U | 0.0383 | +/-0.0407 | 0.0322 | +/-0.0407 | 0.0644 | pCi/g | | | | | |
| Lead-212 | | 0.495 | +/-0.0504 | 0.0165 | +/-0.0504 | 0.0331 | pCi/g | | | | | |
| Lead-214 | | 0.419 | +/-0.0607 | 0.0194 | +/-0.0607 | 0.0388 | pCi/g | | | | | |
| Manganese-54 | U | 0.0152 | +/-0.0146 | 0.0118 | +/-0.0146 | 0.0235 | pCi/g | | | | | |
| Niobium-94 | U | 0.00233 | +/-0.012 | 0.0103 | +/-0.012 | 0.0205 | pCi/g | | | | | |
| Potassium-40 | | 9.50 | +/-0.784 | 0.0791 | +/-0.784 | 0.158 | pCi/g | | | | | |
| Radium-226 | | 0.389 | +/-0.059 | 0.0194 | +/-0.059 | 0.0388 | pCi/g | | | | | |
| Silver-108m | U | -0.00559 | +/-0.0111 | 0.00954 | +/-0.0111 | 0.0191 | pCi/g | | | | | |
| Thallium-208 | | 0.159 | +/-0.0273 | 0.0101 | +/-0.0273 | 0.0202 | pCi/g | | | | | |
| Rad Gas Flow Proportional Counting | | | | | | | | | | | | |
| <i>GFPC, Sr90, solid-ALL FSS</i> | | | | | | | | | | | | |
| Strontium-90 | U | -0.013 | +/-0.0205 | 0.0192 | +/-0.0205 | 0.0446 | pCi/g | | KSD1 | 03/12/07 | 1532 | 615740 |

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/07/07 | 1059 | 615437 |

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

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

Report Date: March 13, 2007

Client Sample ID: 9312-0005-007F
Sample ID: 181852007

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|---------------------------|-----------|---------------------------|-------------|----|------------|-----|-------------------|----|---------|------|------|-------|
| Surrogate/Tracer recovery | Test | | | | Recovery % | | Acceptable Limits | | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 85 | | (25%-125%) | | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 85 | | (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
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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

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Address : 362 Injun Hollow Rd

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

Report Date: March 13, 2007

Client Sample ID: 9312-0005-008F
Sample ID: 181852008
Matrix: TS
Collect Date: 01-MAR-07
Receive Date: 07-MAR-07
Collector: Client
Moisture: 4.82%

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|--------------------------------------------------------|-----------|----------|-------------|---------|------------|--------|-------|----|---------|----------|------|--------|
| Rad Gamma Spec Analysis | | | | | | | | | | | | |
| <i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i> | | | | | | | | | | | | |
| <i>Waived</i> | | | | | | | | | | | | |
| Actinium-228 | | 0.503 | +/-0.0929 | 0.0263 | +/-0.0929 | 0.0526 | pCi/g | | MJH1 | 03/08/07 | 1937 | 615799 |
| Americium-241 | U | -0.00279 | +/-0.0566 | 0.0471 | +/-0.0566 | 0.0942 | pCi/g | | | | | |
| Bismuth-212 | | 0.290 | +/-0.133 | 0.0595 | +/-0.133 | 0.119 | pCi/g | | | | | |
| Bismuth-214 | | 0.369 | +/-0.0573 | 0.0151 | +/-0.0573 | 0.0301 | pCi/g | | | | | |
| Cesium-134 | UI | 0.00 | +/-0.0196 | 0.0101 | +/-0.0196 | 0.0201 | pCi/g | | | | | |
| Cesium-137 | U | 0.000293 | +/-0.00981 | 0.00839 | +/-0.00981 | 0.0168 | pCi/g | | | | | |
| Cobalt-60 | U | 0.0023 | +/-0.011 | 0.00824 | +/-0.011 | 0.0165 | pCi/g | | | | | |
| Europium-152 | U | -0.0117 | +/-0.0271 | 0.0212 | +/-0.0271 | 0.0423 | pCi/g | | | | | |
| Europium-154 | U | 0.0173 | +/-0.031 | 0.0274 | +/-0.031 | 0.0548 | pCi/g | | | | | |
| Europium-155 | U | 0.0166 | +/-0.0324 | 0.0264 | +/-0.0324 | 0.0529 | pCi/g | | | | | |
| Lead-212 | | 0.528 | +/-0.0502 | 0.0121 | +/-0.0502 | 0.0242 | pCi/g | | | | | |
| Lead-214 | | 0.408 | +/-0.0527 | 0.0152 | +/-0.0527 | 0.0303 | pCi/g | | | | | |
| Manganese-54 | U | 0.0133 | +/-0.0114 | 0.00805 | +/-0.0114 | 0.0161 | pCi/g | | | | | |
| Niobium-94 | U | -0.00521 | +/-0.00913 | 0.00756 | +/-0.00913 | 0.0151 | pCi/g | | | | | |
| Potassium-40 | | 9.98 | +/-0.702 | 0.0764 | +/-0.702 | 0.153 | pCi/g | | | | | |
| Radium-226 | | 0.369 | +/-0.0573 | 0.0151 | +/-0.0573 | 0.0301 | pCi/g | | | | | |
| Silver-108m | U | -0.012 | +/-0.00897 | 0.00686 | +/-0.00897 | 0.0137 | pCi/g | | | | | |
| Thallium-208 | | 0.142 | +/-0.023 | 0.00724 | +/-0.023 | 0.0145 | pCi/g | | | | | |

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid-ALL FSS

| | | | | | | | | | | | | |
|--------------|---|--------|-----------|--------|-----------|--------|-------|--|------|----------|------|--------|
| Strontium-90 | U | 0.0399 | +/-0.0286 | 0.0185 | +/-0.0286 | 0.0435 | pCi/g | | KSD1 | 03/12/07 | 1532 | 615740 |
|--------------|---|--------|-----------|--------|-----------|--------|-------|--|------|----------|------|--------|

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/07/07 | 1059 | 615437 |

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 13, 2007

Client Sample ID: 9312-0005-008F
Sample ID: 181852008

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

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

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Address : 362 Injun Hollow Rd

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

Report Date: March 13, 2007

Client Sample ID: 9312-0005-009F
Sample ID: 181852009
Matrix: TS
Collect Date: 01-MAR-07
Receive Date: 07-MAR-07
Collector: Client
Moisture: 4.75%

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

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

Rad Gamma Spec Analysis

Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth

Waived

| | | | | | | | | | | | | |
|---------------|----|----------|-----------|---------|-----------|--------|-------|--|------|----------|------|--------|
| Actinium-228 | | 0.390 | +/-0.108 | 0.040 | +/-0.108 | 0.080 | pCi/g | | MJH1 | 03/08/07 | 1926 | 615799 |
| Americium-241 | U | 0.0143 | +/-0.0597 | 0.047 | +/-0.0597 | 0.094 | pCi/g | | | | | |
| Bismuth-212 | | 0.339 | +/-0.161 | 0.0768 | +/-0.161 | 0.154 | pCi/g | | | | | |
| Bismuth-214 | | 0.429 | +/-0.0683 | 0.0207 | +/-0.0683 | 0.0414 | pCi/g | | | | | |
| Cesium-134 | UI | 0.00 | +/-0.0209 | 0.0139 | +/-0.0209 | 0.0278 | pCi/g | | | | | |
| Cesium-137 | U | 0.00859 | +/-0.0142 | 0.0111 | +/-0.0142 | 0.0222 | pCi/g | | | | | |
| Cobalt-60 | U | 0.00263 | +/-0.0131 | 0.0115 | +/-0.0131 | 0.0229 | pCi/g | | | | | |
| Europium-152 | U | 0.0272 | +/-0.0554 | 0.0291 | +/-0.0554 | 0.0581 | pCi/g | | | | | |
| Europium-154 | U | -0.00617 | +/-0.0379 | 0.0324 | +/-0.0379 | 0.0648 | pCi/g | | | | | |
| Europium-155 | U | 0.0301 | +/-0.0313 | 0.032 | +/-0.0313 | 0.0639 | pCi/g | | | | | |
| Lead-212 | | 0.511 | +/-0.0556 | 0.0161 | +/-0.0556 | 0.0322 | pCi/g | | | | | |
| Lead-214 | | 0.452 | +/-0.0643 | 0.0203 | +/-0.0643 | 0.0407 | pCi/g | | | | | |
| Manganese-54 | U | 0.00877 | +/-0.0158 | 0.010 | +/-0.0158 | 0.020 | pCi/g | | | | | |
| Niobium-94 | U | -0.00697 | +/-0.0116 | 0.00977 | +/-0.0116 | 0.0195 | pCi/g | | | | | |
| Potassium-40 | | 9.11 | +/-0.742 | 0.100 | +/-0.742 | 0.200 | pCi/g | | | | | |
| Radium-226 | | 0.429 | +/-0.0683 | 0.0207 | +/-0.0683 | 0.0414 | pCi/g | | | | | |
| Silver-108m | U | -0.00771 | +/-0.0133 | 0.00949 | +/-0.0133 | 0.019 | pCi/g | | | | | |
| Thallium-208 | | 0.141 | +/-0.0253 | 0.011 | +/-0.0253 | 0.0219 | pCi/g | | | | | |

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid-ALL FSS

| | | | | | | | | | | | | |
|--------------|---|--------|-----------|--------|-----------|-------|-------|--|------|----------|------|--------|
| Strontium-90 | U | 0.0228 | +/-0.0283 | 0.0207 | +/-0.0283 | 0.048 | pCi/g | | KSD1 | 03/12/07 | 1532 | 615740 |
|--------------|---|--------|-----------|--------|-----------|-------|-------|--|------|----------|------|--------|

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/07/07 | 1059 | 615437 |

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

Report Date: March 13, 2007

Client Sample ID: 9312-0005-009F
Sample ID: 181852009

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

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

Notes:

The Qualifiers in this report are defined as follows :

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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
 - 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 13, 2007

Client Sample ID: 9312-0005-010F
Sample ID: 181852010
Matrix: TS
Collect Date: 01-MAR-07
Receive Date: 07-MAR-07
Collector: Client
Moisture: 6%

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|--------------------------------------------------------|-----------|----------|-------------|---------|-----------|--------|-------|----|---------|----------|------|--------|
| Rad Gamma Spec Analysis | | | | | | | | | | | | |
| <i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i> | | | | | | | | | | | | |
| <i>Waived</i> | | | | | | | | | | | | |
| Actinium-228 | | 0.740 | +/-0.153 | 0.0381 | +/-0.153 | 0.0762 | pCi/g | | MJH1 | 03/08/07 | 1927 | 615799 |
| Americium-241 | U | 0.0409 | +/-0.0601 | 0.0499 | +/-0.0601 | 0.0997 | pCi/g | | | | | |
| Bismuth-212 | | 0.458 | +/-0.159 | 0.0795 | +/-0.159 | 0.159 | pCi/g | | | | | |
| Bismuth-214 | | 0.586 | +/-0.0756 | 0.021 | +/-0.0756 | 0.0419 | pCi/g | | | | | |
| Cesium-134 | U | 0.026 | +/-0.0166 | 0.0137 | +/-0.0166 | 0.0273 | pCi/g | | | | | |
| Cesium-137 | U | 0.0202 | +/-0.0122 | 0.0106 | +/-0.0122 | 0.0212 | pCi/g | | | | | |
| Cobalt-60 | U | 0.00977 | +/-0.0136 | 0.0119 | +/-0.0136 | 0.0238 | pCi/g | | | | | |
| Europium-152 | U | 0.0356 | +/-0.0473 | 0.0304 | +/-0.0473 | 0.0607 | pCi/g | | | | | |
| Europium-154 | U | -0.00151 | +/-0.0439 | 0.0368 | +/-0.0439 | 0.0736 | pCi/g | | | | | |
| Europium-155 | U | 0.0281 | +/-0.0475 | 0.0354 | +/-0.0475 | 0.0707 | pCi/g | | | | | |
| Lead-212 | | 0.723 | +/-0.069 | 0.0179 | +/-0.069 | 0.0358 | pCi/g | | | | | |
| Lead-214 | | 0.680 | +/-0.0827 | 0.0209 | +/-0.0827 | 0.0417 | pCi/g | | | | | |
| Manganese-54 | U | -0.00695 | +/-0.0128 | 0.0108 | +/-0.0128 | 0.0217 | pCi/g | | | | | |
| Niobium-94 | U | 0.00509 | +/-0.0123 | 0.0106 | +/-0.0123 | 0.0211 | pCi/g | | | | | |
| Potassium-40 | | 12.4 | +/-0.931 | 0.0956 | +/-0.931 | 0.191 | pCi/g | | | | | |
| Radium-226 | | 0.586 | +/-0.0756 | 0.021 | +/-0.0756 | 0.0419 | pCi/g | | | | | |
| Silver-108m | U | -0.00698 | +/-0.0115 | 0.00983 | +/-0.0115 | 0.0196 | pCi/g | | | | | |
| Thallium-208 | | 0.237 | +/-0.0337 | 0.0106 | +/-0.0337 | 0.0211 | pCi/g | | | | | |
| Rad Gas Flow Proportional Counting | | | | | | | | | | | | |
| <i>GFPC, Sr90, solid-ALL FSS</i> | | | | | | | | | | | | |
| Strontium-90 | U | 0.000577 | +/-0.0249 | 0.0208 | +/-0.0249 | 0.0482 | pCi/g | | KSD1 | 03/12/07 | 1532 | 615740 |

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/07/07 | 1059 | 615437 |

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 13, 2007

Client Sample ID: 9312-0005-010F
Sample ID: 181852010

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|----------------------------------|-------------|---------------------------|-------------|----|------------------|-----|--------------------------|----|---------|------|------|-------|
| Surrogate/Tracer recovery | Test | | | | Recovery% | | Acceptable Limits | | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 71 | | (25%-125%) | | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 71 | | (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 13, 2007

| | | | |
|-------------------|----------------|-------------|-----------|
| Client Sample ID: | 9312-0005-011F | Project: | YANK01204 |
| Sample ID: | 181852011 | Client ID: | YANK001 |
| Matrix: | TS | Vol. Recv.: | |
| Collect Date: | 01-MAR-07 | | |
| Receive Date: | 07-MAR-07 | | |
| Collector: | Client | | |
| Moisture: | 9.39% | | |

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

Rad Gamma Spec Analysis

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

| | | | | | | | | | | | | |
|---------------|----|----------|-----------|---------|-----------|--------|-------|--|------|----------|------|--------|
| Actinium-228 | | 0.577 | +/-0.111 | 0.0359 | +/-0.111 | 0.0717 | pCi/g | | MJH1 | 03/08/07 | 1930 | 615799 |
| Americium-241 | U | 0.0137 | +/-0.0773 | 0.0627 | +/-0.0773 | 0.125 | pCi/g | | | | | |
| Bismuth-212 | | 0.375 | +/-0.198 | 0.0747 | +/-0.198 | 0.149 | pCi/g | | | | | |
| Bismuth-214 | | 0.402 | +/-0.0631 | 0.0196 | +/-0.0631 | 0.0392 | pCi/g | | | | | |
| Cesium-134 | U | 0.020 | +/-0.0225 | 0.0129 | +/-0.0225 | 0.0258 | pCi/g | | | | | |
| Cesium-137 | U | 0.0146 | +/-0.0261 | 0.0097 | +/-0.0261 | 0.0194 | pCi/g | | | | | |
| Cobalt-60 | U | 0.00248 | +/-0.0127 | 0.0108 | +/-0.0127 | 0.0216 | pCi/g | | | | | |
| Europium-152 | U | 0.00579 | +/-0.037 | 0.028 | +/-0.037 | 0.0559 | pCi/g | | | | | |
| Europium-154 | U | -0.0143 | +/-0.0426 | 0.0349 | +/-0.0426 | 0.0699 | pCi/g | | | | | |
| Europium-155 | UI | 0.00 | +/-0.056 | 0.0315 | +/-0.056 | 0.0631 | pCi/g | | | | | |
| Lead-212 | | 0.553 | +/-0.0702 | 0.0161 | +/-0.0702 | 0.0322 | pCi/g | | | | | |
| Lead-214 | | 0.456 | +/-0.0654 | 0.0196 | +/-0.0654 | 0.0392 | pCi/g | | | | | |
| Manganese-54 | U | -0.00597 | +/-0.0122 | 0.00987 | +/-0.0122 | 0.0197 | pCi/g | | | | | |
| Niobium-94 | U | 0.00404 | +/-0.0113 | 0.00977 | +/-0.0113 | 0.0195 | pCi/g | | | | | |
| Potassium-40 | | 10.4 | +/-0.854 | 0.0883 | +/-0.854 | 0.177 | pCi/g | | | | | |
| Radium-226 | | 0.402 | +/-0.0631 | 0.0196 | +/-0.0631 | 0.0392 | pCi/g | | | | | |
| Silver-108m | U | 0.00183 | +/-0.0132 | 0.00908 | +/-0.0132 | 0.0181 | pCi/g | | | | | |
| Thallium-208 | | 0.150 | +/-0.0317 | 0.0101 | +/-0.0317 | 0.0203 | pCi/g | | | | | |

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid-ALL FSS

| | | | | | | | | | | | | |
|--------------|---|--------|----------|--------|----------|--------|-------|--|------|----------|------|--------|
| Strontium-90 | U | 0.0248 | +/-0.029 | 0.0202 | +/-0.029 | 0.0486 | pCi/g | | KSD1 | 03/12/07 | 1532 | 615740 |
|--------------|---|--------|----------|--------|----------|--------|-------|--|------|----------|------|--------|

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/07/07 | 1059 | 615437 |

The following Analytical Methods were performed

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

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

Report Date: March 13, 2007

Client Sample ID: 9312-0005-011F
Sample ID: 181852011

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|----------------------------------|-------------|---------------------------|-------------|----|------------------|-----|--------------------------|----|---------|------|------|-------|
| Surrogate/Tracer recovery | Test | | | | Recovery% | | Acceptable Limits | | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 61 | | (25%-125%) | | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 61 | | (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 13, 2007

Client Sample ID: 9312-0005-011FS
Sample ID: 181852012
Matrix: TS
Collect Date: 01-MAR-07
Receive Date: 07-MAR-07
Collector: Client
Moisture: 9.51%

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch # |
|--------------------------------------------------------|-----------|----------|-------------|--------|-----------|--------|-------|----|---------|----------|------|---------|
| Rad Gamma Spec Analysis | | | | | | | | | | | | |
| <i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i> | | | | | | | | | | | | |
| <i>Waived</i> | | | | | | | | | | | | |
| Actinium-228 | | 0.473 | +/-0.121 | 0.0374 | +/-0.121 | 0.0748 | pCi/g | | MJH1 | 03/08/07 | 1928 | 615799 |
| Americium-241 | U | 0.0521 | +/-0.0616 | 0.0479 | +/-0.0616 | 0.0957 | pCi/g | | | | | |
| Bismuth-212 | | 0.394 | +/-0.173 | 0.0857 | +/-0.173 | 0.171 | pCi/g | | | | | |
| Bismuth-214 | | 0.410 | +/-0.0714 | 0.0199 | +/-0.0714 | 0.0399 | pCi/g | | | | | |
| Cesium-134 | U | 0.0154 | +/-0.0211 | 0.0142 | +/-0.0211 | 0.0284 | pCi/g | | | | | |
| Cesium-137 | | 0.0242 | +/-0.018 | 0.0111 | +/-0.018 | 0.0221 | pCi/g | | | | | |
| Cobalt-60 | U | 0.00214 | +/-0.0145 | 0.0124 | +/-0.0145 | 0.0248 | pCi/g | | | | | |
| Europium-152 | U | 0.00724 | +/-0.0389 | 0.030 | +/-0.0389 | 0.060 | pCi/g | | | | | |
| Europium-154 | U | 0.0336 | +/-0.0559 | 0.0392 | +/-0.0559 | 0.0784 | pCi/g | | | | | |
| Europium-155 | U | 0.00489 | +/-0.0361 | 0.0321 | +/-0.0361 | 0.0642 | pCi/g | | | | | |
| Lead-212 | | 0.493 | +/-0.0517 | 0.0168 | +/-0.0517 | 0.0337 | pCi/g | | | | | |
| Lead-214 | | 0.467 | +/-0.0725 | 0.021 | +/-0.0725 | 0.0419 | pCi/g | | | | | |
| Manganese-54 | U | 0.00363 | +/-0.0151 | 0.0113 | +/-0.0151 | 0.0226 | pCi/g | | | | | |
| Niobium-94 | U | 0.0131 | +/-0.0124 | 0.0112 | +/-0.0124 | 0.0225 | pCi/g | | | | | |
| Potassium-40 | | 9.87 | +/-0.834 | 0.0937 | +/-0.834 | 0.187 | pCi/g | | | | | |
| Radium-226 | | 0.410 | +/-0.0714 | 0.0199 | +/-0.0714 | 0.0399 | pCi/g | | | | | |
| Silver-108m | U | -0.00577 | +/-0.0123 | 0.0103 | +/-0.0123 | 0.0206 | pCi/g | | | | | |
| Thallium-208 | | 0.166 | +/-0.028 | 0.0108 | +/-0.028 | 0.0215 | pCi/g | | | | | |
| Rad Gas Flow Proportional Counting | | | | | | | | | | | | |
| <i>GFPC, Sr90, solid-ALL FSS</i> | | | | | | | | | | | | |
| Strontium-90 | U | 0.0223 | +/-0.0281 | 0.0205 | +/-0.0281 | 0.0478 | pCi/g | | KSD1 | 03/12/07 | 1533 | 615740 |

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/07/07 | 1059 | 615437 |

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 13, 2007

Client Sample ID: 9312-0005-011FS
Sample ID: 181852012

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

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

Notes:

The Qualifiers in this report are defined as follows :

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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

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Address : 362 Injun Hollow Rd

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

Report Date: March 13, 2007

Client Sample ID: 9312-0005-012F
Sample ID: 181852013
Matrix: TS
Collect Date: 01-MAR-07
Receive Date: 07-MAR-07
Collector: Client
Moisture: 6.6%

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

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

Rad Gamma Spec Analysis

Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth

Waived

| | | | | | | | | | | | | |
|---------------|----|----------|-----------|---------|-----------|--------|-------|--|------|----------|------|--------|
| Actinium-228 | | 0.552 | +/-0.114 | 0.0375 | +/-0.114 | 0.075 | pCi/g | | MJH1 | 03/08/07 | 1928 | 615799 |
| Americium-241 | U | 0.000738 | +/-0.0602 | 0.0497 | +/-0.0602 | 0.0994 | pCi/g | | | | | |
| Bismuth-212 | | 0.418 | +/-0.148 | 0.0826 | +/-0.148 | 0.165 | pCi/g | | | | | |
| Bismuth-214 | | 0.372 | +/-0.0655 | 0.0197 | +/-0.0655 | 0.0394 | pCi/g | | | | | |
| Cesium-134 | UI | 0.00 | +/-0.0234 | 0.0133 | +/-0.0234 | 0.0266 | pCi/g | | | | | |
| Cesium-137 | U | -0.0057 | +/-0.0134 | 0.0112 | +/-0.0134 | 0.0223 | pCi/g | | | | | |
| Cobalt-60 | U | 0.00834 | +/-0.0146 | 0.0112 | +/-0.0146 | 0.0223 | pCi/g | | | | | |
| Europium-152 | U | -0.006 | +/-0.0355 | 0.0274 | +/-0.0355 | 0.0547 | pCi/g | | | | | |
| Europium-154 | U | -0.0209 | +/-0.0396 | 0.0321 | +/-0.0396 | 0.0641 | pCi/g | | | | | |
| Europium-155 | U | 0.0285 | +/-0.0392 | 0.0321 | +/-0.0392 | 0.0641 | pCi/g | | | | | |
| Lead-212 | | 0.518 | +/-0.0525 | 0.0153 | +/-0.0525 | 0.0305 | pCi/g | | | | | |
| Lead-214 | | 0.416 | +/-0.058 | 0.0194 | +/-0.058 | 0.0388 | pCi/g | | | | | |
| Manganese-54 | U | 0.00526 | +/-0.0128 | 0.00961 | +/-0.0128 | 0.0192 | pCi/g | | | | | |
| Niobium-94 | U | 0.00204 | +/-0.0115 | 0.00984 | +/-0.0115 | 0.0197 | pCi/g | | | | | |
| Potassium-40 | | 9.46 | +/-0.761 | 0.0864 | +/-0.761 | 0.173 | pCi/g | | | | | |
| Radium-226 | | 0.372 | +/-0.0655 | 0.0197 | +/-0.0655 | 0.0394 | pCi/g | | | | | |
| Silver-108m | U | -0.00251 | +/-0.0106 | 0.00928 | +/-0.0106 | 0.0185 | pCi/g | | | | | |
| Thallium-208 | | 0.183 | +/-0.0287 | 0.0102 | +/-0.0287 | 0.0205 | pCi/g | | | | | |

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid-ALL FSS

| | | | | | | | | | | | | |
|--------------|---|--------|-----------|--------|-----------|--------|-------|--|------|----------|------|--------|
| Strontium-90 | U | 0.0013 | +/-0.0222 | 0.0184 | +/-0.0222 | 0.0437 | pCi/g | | KSD1 | 03/12/07 | 1533 | 615740 |
|--------------|---|--------|-----------|--------|-----------|--------|-------|--|------|----------|------|--------|

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/07/07 | 1059 | 615437 |

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

Report Date: March 13, 2007

Client Sample ID: 9312-0005-012F
Sample ID: 181852013

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

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

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

Report Date: March 13, 2007

Client Sample ID: 9312-0005-013F
Sample ID: 181852014
Matrix: TS
Collect Date: 01-MAR-07
Receive Date: 07-MAR-07
Collector: Client
Moisture: 7.6%

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|--------------------------------------------------------|-----------|----------|-------------|---------|------------|--------|-------|----|---------|----------|------|--------|
| Rad Gamma Spec Analysis | | | | | | | | | | | | |
| <i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i> | | | | | | | | | | | | |
| <i>Waived</i> | | | | | | | | | | | | |
| Actinium-228 | | 0.527 | +/-0.106 | 0.0353 | +/-0.106 | 0.0705 | pCi/g | | MJH1 | 03/08/07 | 1929 | 615799 |
| Americium-241 | U | 0.0526 | +/-0.056 | 0.0473 | +/-0.056 | 0.0945 | pCi/g | | | | | |
| Bismuth-212 | | 0.248 | +/-0.144 | 0.0707 | +/-0.144 | 0.141 | pCi/g | | | | | |
| Bismuth-214 | | 0.377 | +/-0.0574 | 0.0195 | +/-0.0574 | 0.0389 | pCi/g | | | | | |
| Cesium-134 | UI | 0.00 | +/-0.0189 | 0.0118 | +/-0.0189 | 0.0236 | pCi/g | | | | | |
| Cesium-137 | U | 0.0132 | +/-0.0179 | 0.00923 | +/-0.0179 | 0.0185 | pCi/g | | | | | |
| Cobalt-60 | U | 0.000876 | +/-0.0117 | 0.00983 | +/-0.0117 | 0.0197 | pCi/g | | | | | |
| Europium-152 | U | -0.0295 | +/-0.0374 | 0.0262 | +/-0.0374 | 0.0525 | pCi/g | | | | | |
| Europium-154 | U | 0.0157 | +/-0.040 | 0.0345 | +/-0.040 | 0.0689 | pCi/g | | | | | |
| Europium-155 | U | 0.0201 | +/-0.0364 | 0.0295 | +/-0.0364 | 0.0589 | pCi/g | | | | | |
| Lead-212 | | 0.478 | +/-0.0471 | 0.0148 | +/-0.0471 | 0.0296 | pCi/g | | | | | |
| Lead-214 | | 0.395 | +/-0.0569 | 0.0194 | +/-0.0569 | 0.0388 | pCi/g | | | | | |
| Manganese-54 | U | -0.00766 | +/-0.0135 | 0.0104 | +/-0.0135 | 0.0209 | pCi/g | | | | | |
| Niobium-94 | U | -0.00213 | +/-0.0121 | 0.00874 | +/-0.0121 | 0.0175 | pCi/g | | | | | |
| Potassium-40 | | 9.50 | +/-0.806 | 0.0826 | +/-0.806 | 0.165 | pCi/g | | | | | |
| Radium-226 | | 0.377 | +/-0.0574 | 0.0195 | +/-0.0574 | 0.0389 | pCi/g | | | | | |
| Silver-108m | U | -0.00361 | +/-0.00984 | 0.00851 | +/-0.00984 | 0.017 | pCi/g | | | | | |
| Thallium-208 | | 0.161 | +/-0.0297 | 0.010 | +/-0.0297 | 0.020 | pCi/g | | | | | |
| Rad Gas Flow Proportional Counting | | | | | | | | | | | | |
| <i>GFPC, Sr90, solid-ALL FSS</i> | | | | | | | | | | | | |
| Strontium-90 | U | 0.00993 | +/-0.0199 | 0.0151 | +/-0.020 | 0.036 | pCi/g | | KSD1 | 03/12/07 | 1533 | 615740 |

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/07/07 | 1059 | 615437 |

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 13, 2007

Client Sample ID: 9312-0005-013F
Sample ID: 181852014

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|----------------------------------|-------------|---------------------------|-------------|----|------------------|-----|--------------------------|----|---------|------|------|-------|
| Surrogate/Tracer recovery | Test | | | | Recovery% | | Acceptable Limits | | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 91 | | (25%-125%) | | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 91 | | (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 13, 2007

Client Sample ID: 9312-0005-014F
Sample ID: 181852015
Matrix: TS
Collect Date: 01-MAR-07
Receive Date: 07-MAR-07
Collector: Client
Moisture: 4.98%

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch # |
|--------------------------------------------------------|-----------|-----------|-------------|--------|-----------|--------|-------|----|---------|----------|------|---------|
| Rad Alpha Spec Analysis | | | | | | | | | | | | |
| <i>Alphaspec Am241, Cm, Solid ALL FSS</i> | | | | | | | | | | | | |
| Americium-241 | U | 0.0745 | +/-0.193 | 0.131 | +/-0.193 | 0.382 | pCi/g | | DXH2 | 03/08/07 | 0756 | 615440 |
| Curium-242 | U | -0.0218 | +/-0.0942 | 0.0578 | +/-0.0943 | 0.239 | pCi/g | | | | | |
| Curium-243/244 | U | 0.106 | +/-0.227 | 0.153 | +/-0.227 | 0.426 | pCi/g | | | | | |
| <i>Alphaspec Pu, Solid-ALL FSS</i> | | | | | | | | | | | | |
| Plutonium-238 | U | -0.0565 | +/-0.111 | 0.114 | +/-0.112 | 0.303 | pCi/g | | DXH2 | 03/08/07 | 1508 | 615441 |
| Plutonium-239/240 | U | -0.101 | +/-0.144 | 0.149 | +/-0.145 | 0.373 | pCi/g | | | | | |
| <i>Liquid Scint Pu241, Solid-ALL FSS</i> | | | | | | | | | | | | |
| Plutonium-241 | U | -2.03 | +/-5.73 | 4.92 | +/-5.73 | 10.5 | pCi/g | | DXH2 | 03/09/07 | 0948 | 615442 |
| Rad Gamma Spec Analysis | | | | | | | | | | | | |
| <i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i> | | | | | | | | | | | | |
| <i>Waived</i> | | | | | | | | | | | | |
| Actinium-228 | | 0.456 | +/-0.134 | 0.0592 | +/-0.134 | 0.118 | pCi/g | | MJH1 | 03/08/07 | 1930 | 615799 |
| Americium-241 | | 3.93 | +/-0.368 | 0.0582 | +/-0.368 | 0.116 | pCi/g | | | | | |
| Bismuth-212 | | 0.343 | +/-0.252 | 0.106 | +/-0.252 | 0.211 | pCi/g | | | | | |
| Bismuth-214 | | 0.357 | +/-0.0648 | 0.0255 | +/-0.0648 | 0.051 | pCi/g | | | | | |
| Cesium-134 | U | 0.0142 | +/-0.019 | 0.0171 | +/-0.019 | 0.0341 | pCi/g | | | | | |
| Cesium-137 | | 2.37 | +/-0.207 | 0.0139 | +/-0.207 | 0.0277 | pCi/g | | | | | |
| Cobalt-60 | | 2.61 | +/-0.154 | 0.0111 | +/-0.154 | 0.0222 | pCi/g | | | | | |
| Europium-152 | U | -0.00908 | +/-0.0491 | 0.0382 | +/-0.0491 | 0.0763 | pCi/g | | | | | |
| Europium-154 | U | -0.0141 | +/-0.0409 | 0.0338 | +/-0.0409 | 0.0676 | pCi/g | | | | | |
| Europium-155 | U | 0.0174 | +/-0.0424 | 0.0391 | +/-0.0424 | 0.0781 | pCi/g | | | | | |
| Lead-212 | | 0.483 | +/-0.0545 | 0.022 | +/-0.0545 | 0.044 | pCi/g | | | | | |
| Lead-214 | | 0.395 | +/-0.0648 | 0.0278 | +/-0.0648 | 0.0555 | pCi/g | | | | | |
| Manganese-54 | U | -0.00232 | +/-0.0174 | 0.0152 | +/-0.0174 | 0.0303 | pCi/g | | | | | |
| Niobium-94 | U | 0.00575 | +/-0.0149 | 0.0128 | +/-0.0149 | 0.0256 | pCi/g | | | | | |
| Potassium-40 | | 9.35 | +/-0.693 | 0.0895 | +/-0.693 | 0.179 | pCi/g | | | | | |
| Radium-226 | | 0.357 | +/-0.0648 | 0.0255 | +/-0.0648 | 0.051 | pCi/g | | | | | |
| Silver-108m | U | -0.000583 | +/-0.016 | 0.0141 | +/-0.016 | 0.0282 | pCi/g | | | | | |
| Thallium-208 | | 0.136 | +/-0.0306 | 0.0138 | +/-0.0306 | 0.0275 | pCi/g | | | | | |
| Rad Gas Flow Proportional Counting | | | | | | | | | | | | |
| <i>GFPC, Sr90, solid-ALL FSS</i> | | | | | | | | | | | | |
| Strontium-90 | U | 0.0267 | +/-0.0267 | 0.0184 | +/-0.0267 | 0.0436 | pCi/g | | KSD1 | 03/12/07 | 1533 | 615740 |
| Rad Liquid Scintillation Analysis | | | | | | | | | | | | |
| <i>LSC, Tritium Dist, Solid - 3 pCi/g</i> | | | | | | | | | | | | |
| Tritium | U | -0.747 | +/-1.22 | 1.05 | +/-1.22 | 2.19 | pCi/g | | AXD2 | 03/08/07 | 2259 | 615550 |

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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 13, 2007

Client Sample ID: 9312-0005-014F
Sample ID: 181852015

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|------------------------------------------|-----------|--------|-------------|--------|-----------|-------|-------|----|---------|----------|------|--------|
| Rad Liquid Scintillation Analysis | | | | | | | | | | | | |
| <i>Liquid Scint C14, Solid ALL FSS</i> | | | | | | | | | | | | |
| Carbon-14 | U | -0.051 | +/-0.0881 | 0.0751 | +/-0.0881 | 0.154 | pCi/g | | AXD2 | 03/08/07 | 2254 | 615551 |
| <i>Liquid Scint Fe55, Solid-ALL FSS</i> | | | | | | | | | | | | |
| Iron-55 | U | 17.2 | +/-46.6 | 31.4 | +/-46.6 | 65.4 | pCi/g | | MXP1 | 03/10/07 | 1915 | 615544 |
| <i>Liquid Scint Ni63, Solid-ALL FSS</i> | | | | | | | | | | | | |
| Nickel-63 | U | -16.2 | +/-12.5 | 10.9 | +/-12.5 | 22.2 | pCi/g | | MXP1 | 03/10/07 | 2143 | 615546 |
| <i>Liquid Scint Tc99, Solid-ALL FSS</i> | | | | | | | | | | | | |
| Technetium-99 | | 16.2 | +/-0.503 | 0.184 | +/-0.642 | 0.378 | pCi/g | | MXP1 | 03/12/07 | 1157 | 615548 |

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/07/07 | 1059 | 615437 |

The following Analytical Methods were performed

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

| Surrogate/Tracer recovery | Test | Recovery % | Acceptable Limits |
|---------------------------|----------------------------------|------------|-------------------|
| Americium-243 Tracer | Alphaspec Am241, Cm, Solid ALL | 86 | (15%-125%) |
| Americium-243 Tracer | Alphaspec Am241, Cm, Solid ALL | 86 | (15%-125%) |
| Plutonium-242 Tracer | Alphaspec Pu, Solid-ALL FSS | 85 | (15%-125%) |
| Plutonium-242 Tracer | Alphaspec Pu, Solid-ALL FSS | 85 | (15%-125%) |
| Plutonium-242 Tracer | Liquid Scint Pu241, Solid-ALL FS | 92 | (25%-125%) |
| Plutonium-242 Tracer | Liquid Scint Pu241, Solid-ALL FS | 92 | (25%-125%) |

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Contact: Mr. Jack McCarthy

Project: Soils PO# 002332

Report Date: March 13, 2007

Client Sample ID: 9312-0005-014F
Sample ID: 181852015

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|-----------------------|-----------|---------------------------------|-------------|----|-----|-----|------------|----|---------|------|------|-------|
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 79 | | (25%-125%) | | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 79 | | (25%-125%) | | | | | |
| Iron-59 Tracer | | Liquid Scint Fe55, Solid-ALL FS | | | 73 | | (15%-125%) | | | | | |
| Iron-59 Tracer | | Liquid Scint Fe55, Solid-ALL FS | | | 73 | | (15%-125%) | | | | | |
| Nickel Carrier | | Liquid Scint Ni63, Solid-ALL FS | | | 57 | | (25%-125%) | | | | | |
| Nickel Carrier | | Liquid Scint Ni63, Solid-ALL FS | | | 57 | | (25%-125%) | | | | | |
| Technetium-99m Tracer | | Liquid Scint Tc99, Solid-ALL FS | | | 94 | | (15%-125%) | | | | | |
| Technetium-99m Tracer | | Liquid Scint Tc99, Solid-ALL FS | | | 94 | | (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 13, 2007

Client Sample ID: 9312-0005-015F
Sample ID: 181852016
Matrix: TS
Collect Date: 01-MAR-07
Receive Date: 07-MAR-07
Collector: Client
Moisture: 5.93%

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|--------------------------------------------------------|-----------|----------|-------------|---------|-----------|--------|-------|----|---------|----------|------|--------|
| Rad Alpha Spec Analysis | | | | | | | | | | | | |
| <i>Alphaspec Am241, Cm, Solid ALL FSS</i> | | | | | | | | | | | | |
| Americium-241 | U | -0.0648 | +/-0.0617 | 0.0968 | +/-0.0623 | 0.297 | pCi/g | | DXH2 | 03/08/07 | 0756 | 615440 |
| Curium-242 | U | 0.00157 | +/-0.0855 | 0.0706 | +/-0.0855 | 0.248 | pCi/g | | | | | |
| Curium-243/244 | U | -0.09 | +/-0.100 | 0.128 | +/-0.101 | 0.359 | pCi/g | | | | | |
| <i>Alphaspec Pu, Solid-ALL FSS</i> | | | | | | | | | | | | |
| Plutonium-238 | U | 0.00124 | +/-0.0671 | 0.0554 | +/-0.0671 | 0.195 | pCi/g | | DXH2 | 03/08/07 | 0756 | 615441 |
| Plutonium-239/240 | U | 0.0395 | +/-0.0892 | 0.048 | +/-0.0893 | 0.180 | pCi/g | | | | | |
| <i>Liquid Scint Pu241, Solid-ALL FSS</i> | | | | | | | | | | | | |
| Plutonium-241 | U | -2.19 | +/-6.21 | 5.33 | +/-6.21 | 11.3 | pCi/g | | DXH2 | 03/09/07 | 1005 | 615442 |
| Rad Gamma Spec Analysis | | | | | | | | | | | | |
| <i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i> | | | | | | | | | | | | |
| <i>Waived</i> | | | | | | | | | | | | |
| Actinium-228 | | 0.538 | +/-0.113 | 0.0327 | +/-0.113 | 0.0653 | pCi/g | | MJH1 | 03/08/07 | 1930 | 615799 |
| Americium-241 | U | -0.0262 | +/-0.0536 | 0.0419 | +/-0.0536 | 0.0838 | pCi/g | | | | | |
| Bismuth-212 | | 0.331 | +/-0.169 | 0.0766 | +/-0.169 | 0.153 | pCi/g | | | | | |
| Bismuth-214 | | 0.387 | +/-0.0613 | 0.0197 | +/-0.0613 | 0.0394 | pCi/g | | | | | |
| Cesium-134 | UI | 0.00 | +/-0.015 | 0.0127 | +/-0.015 | 0.0253 | pCi/g | | | | | |
| Cesium-137 | U | 0.0201 | +/-0.016 | 0.0104 | +/-0.016 | 0.0208 | pCi/g | | | | | |
| Cobalt-60 | U | 0.00679 | +/-0.0118 | 0.0105 | +/-0.0118 | 0.021 | pCi/g | | | | | |
| Europium-152 | U | 0.00621 | +/-0.0313 | 0.0272 | +/-0.0313 | 0.0544 | pCi/g | | | | | |
| Europium-154 | U | 0.00793 | +/-0.0381 | 0.0331 | +/-0.0381 | 0.0661 | pCi/g | | | | | |
| Europium-155 | U | 0.0283 | +/-0.0483 | 0.030 | +/-0.0483 | 0.060 | pCi/g | | | | | |
| Lead-212 | | 0.513 | +/-0.0504 | 0.0155 | +/-0.0504 | 0.031 | pCi/g | | | | | |
| Lead-214 | | 0.462 | +/-0.0589 | 0.0196 | +/-0.0589 | 0.0392 | pCi/g | | | | | |
| Manganese-54 | U | 0.006 | +/-0.0147 | 0.0105 | +/-0.0147 | 0.0209 | pCi/g | | | | | |
| Niobium-94 | U | 0.00489 | +/-0.0111 | 0.00979 | +/-0.0111 | 0.0196 | pCi/g | | | | | |
| Potassium-40 | | 9.80 | +/-0.785 | 0.0797 | +/-0.785 | 0.159 | pCi/g | | | | | |
| Radium-226 | | 0.387 | +/-0.0613 | 0.0197 | +/-0.0613 | 0.0394 | pCi/g | | | | | |
| Silver-108m | U | -0.00889 | +/-0.0112 | 0.00915 | +/-0.0112 | 0.0183 | pCi/g | | | | | |
| Thallium-208 | | 0.161 | +/-0.0287 | 0.0101 | +/-0.0287 | 0.0201 | pCi/g | | | | | |
| Rad Gas Flow Proportional Counting | | | | | | | | | | | | |
| <i>GFPC, Sr90, solid-ALL FSS</i> | | | | | | | | | | | | |
| Strontium-90 | U | 0.0136 | +/-0.0257 | 0.0197 | +/-0.0257 | 0.0458 | pCi/g | | KSD1 | 03/12/07 | 1533 | 615740 |
| Rad Liquid Scintillation Analysis | | | | | | | | | | | | |
| <i>LSC, Tritium Dist, Solid - 3 pCi/g</i> | | | | | | | | | | | | |
| Tritium | U | -1.46 | +/-1.48 | 1.30 | +/-1.48 | 2.70 | pCi/g | | AXD2 | 03/09/07 | 0001 | 615550 |

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Certificate of Analysis

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

Report Date: March 13, 2007

Client Sample ID: 9312-0005-015F
Sample ID: 181852016

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|------------------------------------------|-----------|---------|-------------|-------|-----------|-------|-------|----|---------|----------|------|--------|
| Rad Liquid Scintillation Analysis | | | | | | | | | | | | |
| <i>Liquid Scint C14, Solid All, FSS</i> | | | | | | | | | | | | |
| Carbon-14 | U | -0.0872 | +/-0.0883 | 0.076 | +/-0.0883 | 0.156 | pCi/g | | AXD2 | 03/08/07 | 2356 | 615551 |
| <i>Liquid Scint Fe55, Solid-ALL FSS</i> | | | | | | | | | | | | |
| Iron-55 | U | 2.45 | +/-48.3 | 32.9 | +/-48.3 | 68.6 | pCi/g | | MXP1 | 03/10/07 | 1931 | 615544 |
| <i>Liquid Scint Ni63, Solid-ALL FSS</i> | | | | | | | | | | | | |
| Nickel-63 | U | -13.3 | +/-10.9 | 9.59 | +/-10.9 | 19.8 | pCi/g | | MXP1 | 03/12/07 | 1804 | 615546 |
| <i>Liquid Scint Tc99, Solid-ALL FSS</i> | | | | | | | | | | | | |
| Technetium-99 | U | -0.241 | +/-0.209 | 0.182 | +/-0.209 | 0.373 | pCi/g | | MXP1 | 03/12/07 | 1229 | 615548 |

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/07/07 | 1059 | 615437 |

The following Analytical Methods were performed

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

| Surrogate/Tracer recovery | Test | Recovery % | Acceptable Limits |
|---------------------------|----------------------------------|------------|-------------------|
| Americium-243 Tracer | Alphaspec Am241, Cm, Solid ALL | 90 | (15%-125%) |
| Americium-243 Tracer | Alphaspec Am241, Cm, Solid ALL | 90 | (15%-125%) |
| Plutonium-242 Tracer | Alphaspec Pu, Solid-ALL FSS | 93 | (15%-125%) |
| Plutonium-242 Tracer | Alphaspec Pu, Solid-ALL FSS | 93 | (15%-125%) |
| Plutonium-242 Tracer | Liquid Scint Pu241, Solid-ALL FS | 86 | (25%-125%) |
| Plutonium-242 Tracer | Liquid Scint Pu241, Solid-ALL FS | 86 | (25%-125%) |

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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 13, 2007

Client Sample ID: 9312-0005-015F
Sample ID: 181852016

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|-----------------------|-----------|---------------------------------|-------------|----|-----|-----|------------|----|---------|------|------|-------|
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 77 | | (25%-125%) | | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 77 | | (25%-125%) | | | | | |
| Iron-59 Tracer | | Liquid Scint Fe55, Solid-ALL FS | | | 74 | | (15%-125%) | | | | | |
| Iron-59 Tracer | | Liquid Scint Fe55, Solid-ALL FS | | | 74 | | (15%-125%) | | | | | |
| Nickel Carrier | | Liquid Scint Ni63, Solid-ALL FS | | | 88 | | (25%-125%) | | | | | |
| Nickel Carrier | | Liquid Scint Ni63, Solid-ALL FS | | | 88 | | (25%-125%) | | | | | |
| Technetium-99m Tracer | | Liquid Scint Tc99, Solid-ALL FS | | | 95 | | (15%-125%) | | | | | |
| Technetium-99m Tracer | | Liquid Scint Tc99, Solid-ALL FS | | | 95 | | (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 13, 2007

Client Sample ID: 9312-0005-016B
Sample ID: 181852017
Matrix: TS
Collect Date: 01-MAR-07
Receive Date: 07-MAR-07
Collector: Client
Moisture: 6.94%

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|--------------------------------------------------------|-----------|----------|-------------|--------|-----------|--------|-------|----|---------|----------|------|--------|
| Rad Gamma Spec Analysis | | | | | | | | | | | | |
| <i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i> | | | | | | | | | | | | |
| <i>Waived</i> | | | | | | | | | | | | |
| Actinium-228 | | 0.473 | +/-0.132 | 0.0487 | +/-0.132 | 0.0974 | pCi/g | | MJH1 | 03/08/07 | 1931 | 615799 |
| Americium-241 | U | 0.0128 | +/-0.0271 | 0.0223 | +/-0.0271 | 0.0445 | pCi/g | | | | | |
| Bismuth-212 | | 0.562 | +/-0.209 | 0.110 | +/-0.209 | 0.220 | pCi/g | | | | | |
| Bismuth-214 | | 0.476 | +/-0.0833 | 0.0261 | +/-0.0833 | 0.0522 | pCi/g | | | | | |
| Cesium-134 | U | 0.0218 | +/-0.0198 | 0.0169 | +/-0.0198 | 0.0338 | pCi/g | | | | | |
| Cesium-137 | U | 0.000414 | +/-0.0226 | 0.0157 | +/-0.0226 | 0.0314 | pCi/g | | | | | |
| Cobalt-60 | U | 0.00939 | +/-0.0168 | 0.0146 | +/-0.0168 | 0.0292 | pCi/g | | | | | |
| Europium-152 | U | 0.0403 | +/-0.0582 | 0.0338 | +/-0.0582 | 0.0676 | pCi/g | | | | | |
| Europium-154 | U | 0.0348 | +/-0.0568 | 0.043 | +/-0.0568 | 0.0859 | pCi/g | | | | | |
| Europium-155 | U | 0.0463 | +/-0.0468 | 0.0343 | +/-0.0468 | 0.0685 | pCi/g | | | | | |
| Lead-212 | | 0.486 | +/-0.0577 | 0.0195 | +/-0.0577 | 0.0389 | pCi/g | | | | | |
| Lead-214 | | 0.452 | +/-0.0666 | 0.0247 | +/-0.0666 | 0.0494 | pCi/g | | | | | |
| Manganese-54 | U | 0.00442 | +/-0.0168 | 0.0149 | +/-0.0168 | 0.0297 | pCi/g | | | | | |
| Niobium-94 | U | -0.00775 | +/-0.0159 | 0.0132 | +/-0.0159 | 0.0264 | pCi/g | | | | | |
| Potassium-40 | | 9.38 | +/-0.760 | 0.120 | +/-0.760 | 0.239 | pCi/g | | | | | |
| Radium-226 | | 0.476 | +/-0.0833 | 0.0261 | +/-0.0833 | 0.0522 | pCi/g | | | | | |
| Silver-108m | U | 0.00854 | +/-0.0143 | 0.0128 | +/-0.0143 | 0.0256 | pCi/g | | | | | |
| Thallium-208 | | 0.132 | +/-0.0358 | 0.0146 | +/-0.0358 | 0.0292 | pCi/g | | | | | |
| Rad Gas Flow Proportional Counting | | | | | | | | | | | | |
| <i>GFPC, Sr90, solid-ALL FSS</i> | | | | | | | | | | | | |
| Strontium-90 | U | 0.00764 | +/-0.0224 | 0.0176 | +/-0.0224 | 0.0416 | pCi/g | | KSD1 | 03/12/07 | 1533 | 615740 |

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/07/07 | 1059 | 615437 |

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 13, 2007

Client Sample ID: 9312-0005-016B
Sample ID: 181852017

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

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

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

Report Date: March 13, 2007

Client Sample ID: 9312-0005-017B
Sample ID: 181852018
Matrix: TS
Collect Date: 01-MAR-07
Receive Date: 07-MAR-07
Collector: Client
Moisture: 5.81%

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|--------------------------------------------------------|-----------|----------|-------------|---------|------------|--------|-------|----|---------|----------|------|--------|
| Rad Gamma Spec Analysis | | | | | | | | | | | | |
| <i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i> | | | | | | | | | | | | |
| <i>Waived</i> | | | | | | | | | | | | |
| Actinium-228 | | 0.594 | +/-0.110 | 0.0346 | +/-0.110 | 0.0692 | pCi/g | | MJH1 | 03/08/07 | 1932 | 615799 |
| Americium-241 | U | 0.0229 | +/-0.0176 | 0.015 | +/-0.0176 | 0.0301 | pCi/g | | | | | |
| Bismuth-212 | | 0.405 | +/-0.166 | 0.0756 | +/-0.166 | 0.151 | pCi/g | | | | | |
| Bismuth-214 | | 0.408 | +/-0.0599 | 0.0204 | +/-0.0599 | 0.0407 | pCi/g | | | | | |
| Cesium-134 | U | 0.0171 | +/-0.0237 | 0.0129 | +/-0.0237 | 0.0257 | pCi/g | | | | | |
| Cesium-137 | U | 0.0147 | +/-0.0189 | 0.0102 | +/-0.0189 | 0.0205 | pCi/g | | | | | |
| Cobalt-60 | U | -0.00141 | +/-0.0119 | 0.00993 | +/-0.0119 | 0.0199 | pCi/g | | | | | |
| Europium-152 | U | 0.00206 | +/-0.0343 | 0.0254 | +/-0.0343 | 0.0507 | pCi/g | | | | | |
| Europium-154 | U | 0.0255 | +/-0.041 | 0.0358 | +/-0.041 | 0.0716 | pCi/g | | | | | |
| Europium-155 | U | 0.0323 | +/-0.0317 | 0.0243 | +/-0.0317 | 0.0486 | pCi/g | | | | | |
| Lead-212 | | 0.559 | +/-0.0646 | 0.0147 | +/-0.0646 | 0.0295 | pCi/g | | | | | |
| Lead-214 | | 0.492 | +/-0.0628 | 0.0178 | +/-0.0628 | 0.0356 | pCi/g | | | | | |
| Manganese-54 | U | 0.0127 | +/-0.00991 | 0.00994 | +/-0.00991 | 0.0199 | pCi/g | | | | | |
| Niobium-94 | U | 0.00596 | +/-0.0151 | 0.0096 | +/-0.0151 | 0.0192 | pCi/g | | | | | |
| Potassium-40 | | 9.94 | +/-0.783 | 0.0868 | +/-0.783 | 0.173 | pCi/g | | | | | |
| Radium-226 | | 0.408 | +/-0.0599 | 0.0204 | +/-0.0599 | 0.0407 | pCi/g | | | | | |
| Silver-108m | U | -0.00888 | +/-0.0101 | 0.00856 | +/-0.0101 | 0.0171 | pCi/g | | | | | |
| Thallium-208 | | 0.173 | +/-0.0269 | 0.00969 | +/-0.0269 | 0.0194 | pCi/g | | | | | |
| Rad Gas Flow Proportional Counting | | | | | | | | | | | | |
| <i>GFPC, Sr90, solid-ALL FSS</i> | | | | | | | | | | | | |
| Strontium-90 | U | -0.00258 | +/-0.0228 | 0.0196 | +/-0.0228 | 0.0464 | pCi/g | | KSD1 | 03/12/07 | 1533 | 615740 |

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/07/07 | 1059 | 615437 |

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 13, 2007

Client Sample ID: 9312-0005-017B
Sample ID: 181852018

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

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

Notes:

The Qualifiers in this report are defined as follows :

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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
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy---Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

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Address : 362 Injun Hollow Rd

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

Report Date: March 13, 2007

Client Sample ID: 9312-0005-018B
Sample ID: 181852019
Matrix: TS
Collect Date: 01-MAR-07
Receive Date: 07-MAR-07
Collector: Client
Moisture: 7.1%

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|--------------------------------------------------------|-----------|----------|-------------|---------|-----------|--------|-------|----|---------|----------|------|--------|
| Rad Gamma Spec Analysis | | | | | | | | | | | | |
| <i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i> | | | | | | | | | | | | |
| <i>Waived</i> | | | | | | | | | | | | |
| Actinium-228 | | 0.503 | +/-0.0974 | 0.0312 | +/-0.0974 | 0.0623 | pCi/g | | MJH1 | 03/08/07 | 1932 | 615799 |
| Americium-241 | U | 0.0178 | +/-0.0381 | 0.032 | +/-0.0381 | 0.064 | pCi/g | | | | | |
| Bismuth-212 | | 0.276 | +/-0.159 | 0.0713 | +/-0.159 | 0.143 | pCi/g | | | | | |
| Bismuth-214 | | 0.353 | +/-0.0558 | 0.0179 | +/-0.0558 | 0.0358 | pCi/g | | | | | |
| Cesium-134 | UI | 0.00 | +/-0.0145 | 0.0113 | +/-0.0145 | 0.0226 | pCi/g | | | | | |
| Cesium-137 | U | 0.00515 | +/-0.0137 | 0.0101 | +/-0.0137 | 0.0203 | pCi/g | | | | | |
| Cobalt-60 | U | 0.00328 | +/-0.0116 | 0.00996 | +/-0.0116 | 0.0199 | pCi/g | | | | | |
| Europium-152 | U | -0.00245 | +/-0.0372 | 0.0235 | +/-0.0372 | 0.0469 | pCi/g | | | | | |
| Europium-154 | U | 0.0261 | +/-0.0344 | 0.0303 | +/-0.0344 | 0.0606 | pCi/g | | | | | |
| Europium-155 | U | 0.0274 | +/-0.0318 | 0.0262 | +/-0.0318 | 0.0525 | pCi/g | | | | | |
| Lead-212 | | 0.464 | +/-0.0451 | 0.0131 | +/-0.0451 | 0.0262 | pCi/g | | | | | |
| Lead-214 | | 0.447 | +/-0.0567 | 0.0161 | +/-0.0567 | 0.0321 | pCi/g | | | | | |
| Manganese-54 | U | 0.00849 | +/-0.0097 | 0.00829 | +/-0.0097 | 0.0166 | pCi/g | | | | | |
| Niobium-94 | U | -0.00234 | +/-0.0103 | 0.00862 | +/-0.0103 | 0.0172 | pCi/g | | | | | |
| Potassium-40 | | 9.44 | +/-0.729 | 0.072 | +/-0.729 | 0.144 | pCi/g | | | | | |
| Radium-226 | | 0.353 | +/-0.0558 | 0.0179 | +/-0.0558 | 0.0358 | pCi/g | | | | | |
| Silver-108m | U | -0.00499 | +/-0.0094 | 0.00811 | +/-0.0094 | 0.0162 | pCi/g | | | | | |
| Thallium-208 | | 0.159 | +/-0.0278 | 0.00889 | +/-0.0278 | 0.0178 | pCi/g | | | | | |
| Rad Gas Flow Proportional Counting | | | | | | | | | | | | |
| <i>GFPC, Sr90, solid-ALL FSS</i> | | | | | | | | | | | | |
| Strontium-90 | U | 0.0281 | +/-0.025 | 0.0169 | +/-0.025 | 0.0399 | pCi/g | | KSD1 | 03/12/07 | 1533 | 615740 |

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/07/07 | 1059 | 615437 |

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

Report Date: March 13, 2007

Client Sample ID: 9312-0005-018B
Sample ID: 181852019

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time Batch |
|----------------------------------|-------------|---------------------------|-------------|----|------------------|-----|--------------------------|----|---------|------|------------|
| Surrogate/Tracer recovery | Test | | | | Recovery% | | Acceptable Limits | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 78 | | (25%-125%) | | | | |
| Strontium Carrier | | GFPC, Sr90, solid-ALL FSS | | | 78 | | (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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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 13, 2007

Client Sample ID: 9312-0005-019B
Sample ID: 181852020
Matrix: TS
Collect Date: 01-MAR-07
Receive Date: 07-MAR-07
Collector: Client
Moisture: 4.09%

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

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

Rad Gamma Spec Analysis

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

| | | | | | | | | | | | | |
|---------------|---|----------|-----------|---------|-----------|--------|-------|--|------|----------|------|--------|
| Actinium-228 | | 0.556 | +/-0.124 | 0.0441 | +/-0.124 | 0.0882 | pCi/g | | MJH1 | 03/08/07 | 1935 | 615799 |
| Americium-241 | U | 0.0191 | +/-0.0201 | 0.0166 | +/-0.0201 | 0.0331 | pCi/g | | | | | |
| Bismuth-212 | | 0.436 | +/-0.197 | 0.0902 | +/-0.197 | 0.180 | pCi/g | | | | | |
| Bismuth-214 | | 0.418 | +/-0.072 | 0.0212 | +/-0.072 | 0.0423 | pCi/g | | | | | |
| Cesium-134 | U | 0.0236 | +/-0.0164 | 0.0153 | +/-0.0164 | 0.0306 | pCi/g | | | | | |
| Cesium-137 | U | 0.00618 | +/-0.0188 | 0.0118 | +/-0.0188 | 0.0236 | pCi/g | | | | | |
| Cobalt-60 | U | -0.00722 | +/-0.0176 | 0.0143 | +/-0.0176 | 0.0285 | pCi/g | | | | | |
| Europium-152 | U | -0.0138 | +/-0.0592 | 0.0296 | +/-0.0592 | 0.0592 | pCi/g | | | | | |
| Europium-154 | U | 0.0145 | +/-0.0501 | 0.043 | +/-0.0501 | 0.086 | pCi/g | | | | | |
| Europium-155 | U | 0.0189 | +/-0.0362 | 0.0248 | +/-0.0362 | 0.0495 | pCi/g | | | | | |
| Lead-212 | | 0.497 | +/-0.0547 | 0.0159 | +/-0.0547 | 0.0317 | pCi/g | | | | | |
| Lead-214 | | 0.392 | +/-0.0707 | 0.0209 | +/-0.0707 | 0.0417 | pCi/g | | | | | |
| Manganese-54 | U | 0.0214 | +/-0.0151 | 0.014 | +/-0.0151 | 0.0281 | pCi/g | | | | | |
| Niobium-94 | U | 0.0145 | +/-0.0187 | 0.0119 | +/-0.0187 | 0.0237 | pCi/g | | | | | |
| Potassium-40 | | 9.59 | +/-0.658 | 0.123 | +/-0.658 | 0.246 | pCi/g | | | | | |
| Radium-226 | | 0.418 | +/-0.072 | 0.0212 | +/-0.072 | 0.0423 | pCi/g | | | | | |
| Silver-108m | U | -0.0172 | +/-0.0142 | 0.00986 | +/-0.0142 | 0.0197 | pCi/g | | | | | |
| Thallium-208 | | 0.202 | +/-0.037 | 0.0114 | +/-0.037 | 0.0228 | pCi/g | | | | | |

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid-ALL FSS

| | | | | | | | | | | | | |
|--------------|---|----------|-----------|-------|-----------|--------|-------|--|------|----------|------|--------|
| Strontium-90 | U | -0.00411 | +/-0.0257 | 0.022 | +/-0.0257 | 0.0492 | pCi/g | | KSD1 | 03/12/07 | 1533 | 615740 |
|--------------|---|----------|-----------|-------|-----------|--------|-------|--|------|----------|------|--------|

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/07/07 | 1059 | 615437 |

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 13, 2007

Client Sample ID: 9312-0005-019B
Sample ID: 181852020

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

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

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QC Summary

Report Date: March 13, 2007

Page 1 of 9

Client : Connecticut Yankee Atomic Power
362 Injun Hollow Rd

Contact: East Hampton, Connecticut
Mr. Jack McCarthy

Workorder: 181852

| Parmname | NOM | Sample | Qual | QC | Units | RPD% | REC% | Range | Anlst | Date | Time |
|---------------------------------------------|---------|-----------|-----------|-----------|---------|-------|------|-------------|-------|----------|-------|
| Rad Alpha Spec Batch 615440 | | | | | | | | | | | |
| QC1201291464 181852006 DUP Americium-241 | U | 0.0195 | U | 0.033 | pCi/g | 51 | | (0% - 100%) | DXH2 | 03/08/07 | 07:56 |
| | Uncert: | +/-0.0871 | | +/-0.0767 | | | | | | | |
| | TPU: | +/-0.0872 | | +/-0.0768 | | | | | | | |
| Curium-242 | U | 0.0494 | U | 0.00 | pCi/g | 200 | | (0% - 100%) | | | |
| | Uncert: | +/-0.111 | | +/-0.0711 | | | | | | | |
| | TPU: | +/-0.112 | | +/-0.0711 | | | | | | | |
| Curium-243/244 | U | -0.0434 | U | -0.00845 | pCi/g | 135 | | (0% - 100%) | | | |
| | Uncert: | +/-0.0903 | | +/-0.071 | | | | | | | |
| | TPU: | +/-0.0905 | | +/-0.071 | | | | | | | |
| QC1201291466 LCS Americium-241 | 13.0 | | | 11.2 | pCi/g | | 86 | (75%-125%) | | | |
| | Uncert: | | | +/-1.15 | | | | | | | |
| | TPU: | | | +/-1.88 | | | | | | | |
| Curium-242 | | | U | 0.0308 | pCi/g | | | | | | |
| | Uncert: | | | +/-0.0603 | | | | | | | |
| | TPU: | | | +/-0.0604 | | | | | | | |
| Curium-243/244 | 15.6 | | | 15.8 | pCi/g | | 101 | (75%-125%) | | | |
| | Uncert: | | | +/-1.36 | | | | | | | |
| | TPU: | | | +/-2.49 | | | | | | | |
| QC1201291463 MB Americium-241 | | | U | -0.00601 | pCi/g | | | | | 03/08/07 | 07:56 |
| | Uncert: | | | +/-0.0177 | | | | | | | |
| | TPU: | | | +/-0.0177 | | | | | | | |
| Curium-242 | | | U | 0.00 | pCi/g | | | | | | |
| | Uncert: | | | +/-0.0581 | | | | | | | |
| | TPU: | | | +/-0.0581 | | | | | | | |
| Curium-243/244 | | | U | 0.00 | pCi/g | | | | | | |
| | Uncert: | | | +/-0.0577 | | | | | | | |
| | TPU: | | | +/-0.0577 | | | | | | | |
| QC1201291465 181852006 MS Americium-241 | 13.6 | U | 0.0195 | 12.4 | pCi/g | | 91 | (75%-125%) | | 03/08/07 | 07:56 |
| | Uncert: | | +/-0.0871 | +/-1.22 | | | | | | | |
| | TPU: | | +/-0.0872 | +/-2.04 | | | | | | | |
| Curium-242 | | U | 0.0494 | 0.00 | pCi/g | | | | | | |
| | Uncert: | | +/-0.111 | +/-0.0628 | | | | | | | |
| | TPU: | | +/-0.112 | +/-0.0628 | | | | | | | |
| Curium-243/244 | 16.3 | U | -0.0434 | 15.3 | pCi/g | | 94 | (75%-125%) | | | |
| | Uncert: | | +/-0.0903 | +/-1.35 | | | | | | | |
| | TPU: | | +/-0.0905 | +/-2.42 | | | | | | | |
| Batch 615441 | | | | | | | | | | | |
| QC1201291468 181852006 DUP Plutonium-238 | | U | -0.0703 | U | -0.0204 | pCi/g | 110 | (0% - 100%) | DXH2 | 03/08/07 | 07:56 |

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QC Summary

Workorder: 181852

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| Parmname | NOM | Sample | Qual | QC | Units | RPD% | REC% | Range | Anlst | Date | Time |
|-----------------------|-----------|---------|-----------|-----------|-----------|--------|-------|-------------|-------------|------|----------------|
| Rad Alpha Spec | | | | | | | | | | | |
| Batch | 615441 | | | | | | | | | | |
| Plutonium-239/240 | | Uncert: | +/-0.0784 | +/-0.0698 | | | | | | | |
| | | TPU: | +/-0.0788 | +/-0.0698 | | | | | | | |
| | U | | 0.0453 | U | 0.0601 | pCi/g | 28 | (0% - 100%) | | | |
| | | Uncert: | +/-0.0849 | +/-0.0833 | | | | | | | |
| | | TPU: | +/-0.085 | +/-0.0835 | | | | | | | |
| QC1201291470 | LCS | | | | | | | | | | |
| Plutonium-238 | | | | U | -0.0131 | pCi/g | | (75%-125%) | | | |
| | | Uncert: | | | +/-0.0564 | | | | | | |
| | | TPU: | | | +/-0.0564 | | | | | | |
| Plutonium-239/240 | | 13.0 | | | 13.0 | pCi/g | 100 | (75%-125%) | | | |
| | | Uncert: | | | +/-1.17 | | | | | | |
| | | TPU: | | | +/-1.73 | | | | | | |
| QC1201291467 | MB | | | | | | | | | | |
| Plutonium-238 | | | | U | 0.0159 | pCi/g | | | | | |
| | | Uncert: | | | +/-0.0633 | | | | | | |
| | | TPU: | | | +/-0.0634 | | | | | | |
| Plutonium-239/240 | | | | U | 0.0233 | pCi/g | | | | | |
| | | Uncert: | | | +/-0.0617 | | | | | | |
| | | TPU: | | | +/-0.0617 | | | | | | |
| QC1201291469 | 181852006 | MS | | | | | | | | | |
| Plutonium-238 | | | U | -0.0703 | U | 0.0262 | pCi/g | (75%-125%) | | | |
| | | Uncert: | | +/-0.0784 | +/-0.0971 | | | | | | |
| | | TPU: | | +/-0.0788 | +/-0.0971 | | | | | | |
| Plutonium-239/240 | | 13.5 | U | 0.0453 | 14.8 | pCi/g | 110 | (75%-125%) | | | |
| | | Uncert: | | +/-0.0849 | +/-1.36 | | | | | | |
| | | TPU: | | +/-0.085 | +/-2.05 | | | | | | |
| Batch | 615442 | | | | | | | | | | |
| QC1201291472 | 181852006 | DUP | | | | | | | | | |
| Plutonium-241 | | | U | 1.73 | U | -2.52 | pCi/g | 0 | (0% - 100%) | DXH2 | 03/09/07 10:37 |
| | | Uncert: | | +/-7.14 | +/-5.43 | | | | | | |
| | | TPU: | | +/-7.14 | +/-5.43 | | | | | | |
| QC1201291474 | LCS | | | | | | | | | | |
| Plutonium-241 | | 139 | | | 141 | pCi/g | 101 | (75%-125%) | | | 03/10/07 23:29 |
| | | Uncert: | | | +/-13.3 | | | | | | |
| | | TPU: | | | +/-19.6 | | | | | | |
| QC1201291471 | MB | | | | | | | | | | |
| Plutonium-241 | | | | U | 1.10 | pCi/g | | | | | 03/10/07 23:13 |
| | | Uncert: | | | +/-6.34 | | | | | | |
| | | TPU: | | | +/-6.34 | | | | | | |
| QC1201291473 | 181852006 | MS | | | | | | | | | |
| Plutonium-241 | | 141 | U | 1.73 | 132 | pCi/g | 93 | (75%-125%) | | | 03/09/07 10:53 |
| | | Uncert: | | +/-7.14 | +/-12.4 | | | | | | |
| | | TPU: | | +/-7.14 | +/-18.1 | | | | | | |
| Rad Gamma Spec | | | | | | | | | | | |
| Batch | 615799 | | | | | | | | | | |
| QC1201292387 | 181852001 | DUP | | | | | | | | | |
| Actinium-228 | | | | 0.488 | 0.615 | pCi/g | 23 | (0% - 100%) | MJH1 | | 03/08/07 19:38 |
| | | Uncert: | | +/-0.206 | +/-0.102 | | | | | | |
| | | | | | +/-0.102 | | | | | | |

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QC Summary

Workorder: 181852

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| Parmname | NOM | Sample | Qual | QC | Units | RPD% | REC% | Range | Anlst | Date | Time |
|----------------|-----|---------|-----------|----|-----------|-------|------|-------------|-------|------|------|
| Rad Gamma Spec | | | | | | | | | | | |
| Batch 615799 | | | | | | | | | | | |
| Americium-241 | | TPU: | +/-0.206 | | | | | | | | |
| | U | | -0.00779 | U | 0.036 | pCi/g | 311 | (0% - 100%) | | | |
| | | Uncert: | +/-0.0369 | | +/-0.0375 | | | | | | |
| Bismuth-212 | | TPU: | +/-0.0369 | | +/-0.0375 | | | | | | |
| | | | 0.616 | | 0.365 | pCi/g | 51 | (0% - 100%) | | | |
| | | Uncert: | +/-0.326 | | +/-0.174 | | | | | | |
| Bismuth-214 | | TPU: | +/-0.326 | | +/-0.174 | | | | | | |
| | | | 0.439 | | 0.442 | pCi/g | 1 | (0% - 100%) | | | |
| | | Uncert: | +/-0.126 | | +/-0.0627 | | | | | | |
| Cesium-134 | | TPU: | +/-0.126 | | +/-0.0627 | | | | | | |
| | U | | 0.0359 | UI | 0.00 | pCi/g | 13 | (0% - 100%) | | | |
| | | Uncert: | +/-0.0343 | | +/-0.0171 | | | | | | |
| Cesium-137 | | TPU: | +/-0.0343 | | +/-0.0171 | | | | | | |
| | U | | 0.00382 | U | 0.0185 | pCi/g | 132 | (0% - 100%) | | | |
| | | Uncert: | +/-0.0273 | | +/-0.0148 | | | | | | |
| Cobalt-60 | | TPU: | +/-0.0273 | | +/-0.0148 | | | | | | |
| | U | | -0.0116 | U | -0.00783 | pCi/g | 39 | (0% - 100%) | | | |
| | | Uncert: | +/-0.0304 | | +/-0.0146 | | | | | | |
| Europium-152 | | TPU: | +/-0.0304 | | +/-0.0146 | | | | | | |
| | U | | -0.0279 | U | -0.000612 | pCi/g | 191 | (0% - 100%) | | | |
| | | Uncert: | +/-0.0866 | | +/-0.0365 | | | | | | |
| Europium-154 | | TPU: | +/-0.0866 | | +/-0.0365 | | | | | | |
| | U | | 0.0436 | U | -0.00753 | pCi/g | 284 | (0% - 100%) | | | |
| | | Uncert: | +/-0.0923 | | +/-0.0371 | | | | | | |
| Europium-155 | | TPU: | +/-0.0923 | | +/-0.0371 | | | | | | |
| | U | | -0.0145 | U | -0.00224 | pCi/g | 146 | (0% - 100%) | | | |
| | | Uncert: | +/-0.0519 | | +/-0.0333 | | | | | | |
| Lead-212 | | TPU: | +/-0.0519 | | +/-0.0333 | | | | | | |
| | | | 0.546 | | 0.559 | pCi/g | 2 | (0% - 20%) | | | |
| | | Uncert: | +/-0.0722 | | +/-0.0563 | | | | | | |
| Lead-214 | | TPU: | +/-0.0722 | | +/-0.0563 | | | | | | |
| | | | 0.571 | | 0.580 | pCi/g | 2 | (0% - 20%) | | | |
| | | Uncert: | +/-0.108 | | +/-0.0694 | | | | | | |
| Manganese-54 | | TPU: | +/-0.108 | | +/-0.0694 | | | | | | |
| | U | | 0.00465 | U | 0.00592 | pCi/g | 24 | (0% - 100%) | | | |
| | | Uncert: | +/-0.0266 | | +/-0.0128 | | | | | | |
| Niobium-94 | | TPU: | +/-0.0266 | | +/-0.0128 | | | | | | |
| | U | | -0.00203 | U | 0.000299 | pCi/g | 269 | (0% - 100%) | | | |
| | | Uncert: | +/-0.0281 | | +/-0.0119 | | | | | | |
| Potassium-40 | | TPU: | +/-0.0281 | | +/-0.0119 | | | | | | |
| | | | 9.47 | | 10.2 | pCi/g | 8 | (0% - 20%) | | | |
| | | Uncert: | +/-0.935 | | +/-0.799 | | | | | | |
| Radium-226 | | TPU: | +/-0.935 | | +/-0.799 | | | | | | |
| | | | 0.439 | | 0.442 | pCi/g | 1 | (0% - 100%) | | | |
| | | Uncert: | +/-0.126 | | +/-0.0627 | | | | | | |
| Silver-108m | | TPU: | +/-0.126 | | +/-0.0627 | | | | | | |
| | U | | 0.000965 | U | -0.00882 | pCi/g | 249 | (0% - 100%) | | | |
| | | Uncert: | +/-0.0207 | | +/-0.0145 | | | | | | |

GEL LABORATORIES LLC

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QC Summary

Workorder: 181852

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| Parmname | NOM | Sample Qual | QC | Units | RPD% | REC% | Range | Anlst | Date Time |
|----------------------------------|---------|-------------|-----------|-------|------|------|-------------|-------|----------------|
| Rad Gamma Spec | | | | | | | | | |
| Batch | 615799 | | | | | | | | |
| Thallium-208 | TPU: | +/-0.0207 | +/-0.0145 | | | | | | |
| | | 0.208 | 0.177 | pCi/g | 16 | | (0% - 100%) | | |
| | Uncert: | +/-0.0555 | +/-0.0301 | | | | | | |
| | TPU: | +/-0.0555 | +/-0.0301 | | | | | | |
| QC1201292388 LCS Actinium-228 | | | U -0.49 | pCi/g | | | | | 03/08/07 12:51 |
| | Uncert: | | +/-0.420 | | | | | | |
| | TPU: | | +/-0.420 | | | | | | |
| Americium-241 | 23.4 | | 28.0 | pCi/g | | 120 | (75%-125%) | | |
| | Uncert: | | +/-3.18 | | | | | | |
| | TPU: | | +/-3.18 | | | | | | |
| Bismuth-212 | | | U -0.0647 | pCi/g | | | | | |
| | Uncert: | | +/-0.711 | | | | | | |
| | TPU: | | +/-0.711 | | | | | | |
| Bismuth-214 | | | U -0.124 | pCi/g | | | | | |
| | Uncert: | | +/-0.161 | | | | | | |
| | TPU: | | +/-0.161 | | | | | | |
| Cesium-134 | | | U 0.00765 | pCi/g | | | | | |
| | Uncert: | | +/-0.105 | | | | | | |
| | TPU: | | +/-0.105 | | | | | | |
| Cesium-137 | 9.46 | | 10.3 | pCi/g | | 109 | (75%-125%) | | |
| | Uncert: | | +/-0.958 | | | | | | |
| | TPU: | | +/-0.958 | | | | | | |
| Cobalt-60 | 13.5 | | 15.0 | pCi/g | | 111 | (75%-125%) | | |
| | Uncert: | | +/-0.949 | | | | | | |
| | TPU: | | +/-0.949 | | | | | | |
| Europium-152 | | | U 0.0356 | pCi/g | | | | | |
| | Uncert: | | +/-0.217 | | | | | | |
| | TPU: | | +/-0.217 | | | | | | |
| Europium-154 | | | U -0.0918 | pCi/g | | | | | |
| | Uncert: | | +/-0.237 | | | | | | |
| | TPU: | | +/-0.237 | | | | | | |
| Europium-155 | | | U -0.092 | pCi/g | | | | | |
| | Uncert: | | +/-0.254 | | | | | | |
| | TPU: | | +/-0.254 | | | | | | |
| Lead-212 | | | U 0.0841 | pCi/g | | | | | |
| | Uncert: | | +/-0.140 | | | | | | |
| | TPU: | | +/-0.140 | | | | | | |
| Lead-214 | | | U 0.0818 | pCi/g | | | | | |
| | Uncert: | | +/-0.214 | | | | | | |
| | TPU: | | +/-0.214 | | | | | | |
| Manganese-54 | | | U -0.0307 | pCi/g | | | | | |
| | Uncert: | | +/-0.0978 | | | | | | |
| | TPU: | | +/-0.0978 | | | | | | |
| Niobium-94 | | | U -0.063 | pCi/g | | | | | |
| | Uncert: | | +/-0.0849 | | | | | | |
| | TPU: | | +/-0.0849 | | | | | | |
| Potassium-40 | | | U 0.326 | pCi/g | | | | | |

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QC Summary

Workorder: 181852

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| Parmname | NOM | Sample Qual | QC | Units | RPD% | REC% | Range | Anlst | Date | Time |
|-----------------|--------|-------------|-----------|-------|------|------|------------|-------|----------|-------|
| Rad Gamma Spec | | | | | | | | | | |
| Batch | 615799 | | | | | | | | | |
| | | | Uncert: | | | | | | | |
| | | | TPU: | | | | | | | |
| Radium-226 | | U | -0.124 | pCi/g | | | (75%-125%) | | | |
| | | | Uncert: | | | | | | | |
| | | | TPU: | | | | | | | |
| Silver-108m | | U | 0.0625 | pCi/g | | | | | | |
| | | | Uncert: | | | | | | | |
| | | | TPU: | | | | | | | |
| Thallium-208 | | U | -0.0547 | pCi/g | | | | | | |
| | | | Uncert: | | | | | | | |
| | | | TPU: | | | | | | | |
| QC1201292386 MB | | | | | | | | | | |
| Actinium-228 | | U | 0.037 | pCi/g | | | | | 03/08/07 | 19:37 |
| | | | Uncert: | | | | | | | |
| | | | TPU: | | | | | | | |
| Americium-241 | | U | 0.00119 | pCi/g | | | | | | |
| | | | Uncert: | | | | | | | |
| | | | TPU: | | | | | | | |
| Bismuth-212 | | U | -0.0276 | pCi/g | | | | | | |
| | | | Uncert: | | | | | | | |
| | | | TPU: | | | | | | | |
| Bismuth-214 | | U | 0.0108 | pCi/g | | | | | | |
| | | | Uncert: | | | | | | | |
| | | | TPU: | | | | | | | |
| Cesium-134 | | U | -0.000536 | pCi/g | | | | | | |
| | | | Uncert: | | | | | | | |
| | | | TPU: | | | | | | | |
| Cesium-137 | | U | -0.00353 | pCi/g | | | | | | |
| | | | Uncert: | | | | | | | |
| | | | TPU: | | | | | | | |
| Cobalt-60 | | UI | 0.00 | pCi/g | | | | | | |
| | | | Uncert: | | | | | | | |
| | | | TPU: | | | | | | | |
| Europium-152 | | U | -0.00489 | pCi/g | | | | | | |
| | | | Uncert: | | | | | | | |
| | | | TPU: | | | | | | | |
| Europium-154 | | U | 0.0131 | pCi/g | | | | | | |
| | | | Uncert: | | | | | | | |
| | | | TPU: | | | | | | | |
| Europium-155 | | U | -0.0222 | pCi/g | | | | | | |
| | | | Uncert: | | | | | | | |
| | | | TPU: | | | | | | | |
| Lead-212 | | U | 0.0065 | pCi/g | | | | | | |
| | | | Uncert: | | | | | | | |
| | | | TPU: | | | | | | | |
| Lead-214 | | U | 0.000597 | pCi/g | | | | | | |
| | | | Uncert: | | | | | | | |
| | | | TPU: | | | | | | | |

GEL LABORATORIES LLC

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

QC Summary

Workorder: 181852

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| Parmname | NOM | Sample | Qual | QC | Units | RPD% | REC% | Range | Anlst | Date | Time |
|---------------------------------|-----------|--------|---------|------------|----------|---------|-------|-------------|-------------|----------|----------------|
| Rad Gamma Spec | | | | | | | | | | | |
| Batch | 615799 | | | | | | | | | | |
| Manganese-54 | | | U | -0.00255 | pCi/g | | | | | | |
| | Uncert: | | | +/-0.00629 | | | | | | | |
| | TPU: | | | +/-0.00629 | | | | | | | |
| Niobium-94 | | | U | 0.00489 | pCi/g | | | | | | |
| | Uncert: | | | +/-0.00664 | | | | | | | |
| | TPU: | | | +/-0.00664 | | | | | | | |
| Potassium-40 | | | U | 0.0428 | pCi/g | | | | | | |
| | Uncert: | | | +/-0.144 | | | | | | | |
| | TPU: | | | +/-0.144 | | | | | | | |
| Radium-226 | | | U | 0.0108 | pCi/g | | | | | | |
| | Uncert: | | | +/-0.0287 | | | | | | | |
| | TPU: | | | +/-0.0287 | | | | | | | |
| Silver-108m | | | U | -0.000251 | pCi/g | | | | | | |
| | Uncert: | | | +/-0.00615 | | | | | | | |
| | TPU: | | | +/-0.00615 | | | | | | | |
| Thallium-208 | | | U | -0.00743 | pCi/g | | | | | | |
| | Uncert: | | | +/-0.0095 | | | | | | | |
| | TPU: | | | +/-0.0095 | | | | | | | |
| Rad Gas Flow | | | | | | | | | | | |
| Batch | 615740 | | | | | | | | | | |
| QC1201292196 | 181852006 | DUP | | | | | | | | | |
| Strontium-90 | | | U | -0.00512 | pCi/g | 0 | | (0% - 100%) | KSD1 | 03/12/07 | 15:31 |
| | | | Uncert: | +/-0.0167 | | | | | | | |
| | | | TPU: | +/-0.0167 | | | | | | | |
| QC1201292198 | LCS | | | | | | | | | | |
| Strontium-90 | | | 1.52 | | 1.52 | pCi/g | 100 | (75%-125%) | | 03/12/07 | 15:32 |
| | | | Uncert: | | +/-0.106 | | | | | | |
| | | | TPU: | | +/-0.115 | | | | | | |
| QC1201292195 | MB | | | | | | | | | | |
| Strontium-90 | | | U | -0.0101 | pCi/g | | | | | 03/12/07 | 15:31 |
| | | | Uncert: | +/-0.0201 | | | | | | | |
| | | | TPU: | +/-0.0201 | | | | | | | |
| QC1201292197 | 181852006 | MS | | | | | | | | | |
| Strontium-90 | | | 5.09 | U | -0.00512 | pCi/g | 105 | (75%-125%) | | 03/12/07 | 15:31 |
| | | | Uncert: | +/-0.0167 | | | | | | | |
| | | | TPU: | +/-0.0167 | | | | | | | |
| Rad Liquid Scintillation | | | | | | | | | | | |
| Batch | 615544 | | | | | | | | | | |
| QC1201291713 | 181852006 | DUP | | | | | | | | | |
| Iron-55 | | | U | -12 | U | 10.8 | pCi/g | 0 | (0% - 100%) | MXP1 | 03/10/07 20:04 |
| | | | Uncert: | +/-44.1 | | +/-46.7 | | | | | |
| | | | TPU: | +/-44.1 | | +/-46.7 | | | | | |
| QC1201291715 | LCS | | | | | | | | | | |
| Iron-55 | | | 1240 | | 1190 | pCi/g | 96 | (75%-125%) | | 03/10/07 | 20:36 |
| | | | Uncert: | | +/-89.9 | | | | | | |
| | | | TPU: | | +/-116 | | | | | | |
| QC1201291712 | MB | | | | | | | | | | |
| Iron-55 | | | | U | 2.24 | pCi/g | | | | 03/10/07 | 19:47 |

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| Parmname | NOM | Sample | Qual | QC | Units | RPD% | REC% | Range | Anlst | Date | Time |
|---------------------------------|-----------|---------|------|----------|----------|--------|-------|------------|-------------|----------|----------------|
| Rad Liquid Scintillation | | | | | | | | | | | |
| Batch | 615544 | | | | | | | | | | |
| | | Uncert: | | +/-49.8 | | | | | | | |
| | | TPU: | | +/-49.8 | | | | | | | |
| QC1201291714 | 181852006 | MS | | | | | | | | | |
| Iron-55 | | 1270 | U | -12 | 1110 | pCi/g | 87 | (75%-125%) | | 03/10/07 | 20:20 |
| | | Uncert: | | +/-44.1 | +/-84.7 | | | | | | |
| | | TPU: | | +/-44.1 | +/-109 | | | | | | |
| Batch | 615546 | | | | | | | | | | |
| QC1201291717 | 181852006 | DUP | | | | | | | | | |
| Nickel-63 | | | U | -11.2 | U | -7.67 | pCi/g | 0 | (0% - 100%) | MXP1 | 03/10/07 23:18 |
| | | Uncert: | | +/-10.9 | +/-8.87 | | | | | | |
| | | TPU: | | +/-10.9 | +/-8.87 | | | | | | |
| QC1201291719 | LCS | | | | | | | | | | |
| Nickel-63 | | 573 | | | 484 | pCi/g | 85 | (75%-125%) | | 03/11/07 | 00:21 |
| | | Uncert: | | | +/-15.4 | | | | | | |
| | | TPU: | | | +/-23.4 | | | | | | |
| QC1201291716 | MB | | | | | | | | | | |
| Nickel-63 | | | U | | -2.81 | pCi/g | | | | 03/12/07 | 18:20 |
| | | Uncert: | | | +/-11.0 | | | | | | |
| | | TPU: | | | +/-11.0 | | | | | | |
| QC1201291718 | 181852006 | MS | | | | | | | | | |
| Nickel-63 | | 587 | U | -11.2 | 510 | pCi/g | 87 | (75%-125%) | | 03/10/07 | 23:49 |
| | | Uncert: | | +/-10.9 | +/-16.8 | | | | | | |
| | | TPU: | | +/-10.9 | +/-25.1 | | | | | | |
| Batch | 615548 | | | | | | | | | | |
| QC1201291722 | 181852006 | DUP | | | | | | | | | |
| Technetium-99 | | | U | -0.0998 | U | -0.311 | pCi/g | 0 | (0% - 100%) | MXP1 | 03/12/07 13:32 |
| | | Uncert: | | +/-0.210 | +/-0.221 | | | | | | |
| | | TPU: | | +/-0.210 | +/-0.221 | | | | | | |
| QC1201291724 | LCS | | | | | | | | | | |
| Technetium-99 | | 19.5 | | | 15.9 | pCi/g | 82 | (75%-125%) | | 03/12/07 | 14:36 |
| | | Uncert: | | | +/-0.478 | | | | | | |
| | | TPU: | | | +/-0.621 | | | | | | |
| QC1201291721 | MB | | | | | | | | | | |
| Technetium-99 | | | U | | -0.283 | pCi/g | | | | 03/12/07 | 13:00 |
| | | Uncert: | | | +/-0.190 | | | | | | |
| | | TPU: | | | +/-0.190 | | | | | | |
| QC1201291723 | 181852006 | MS | | | | | | | | | |
| Technetium-99 | | 19.5 | U | -0.0998 | 16.1 | pCi/g | 82 | (75%-125%) | | 03/12/07 | 14:04 |
| | | Uncert: | | +/-0.210 | +/-0.488 | | | | | | |
| | | TPU: | | +/-0.210 | +/-0.630 | | | | | | |
| Batch | 615550 | | | | | | | | | | |
| QC1201291726 | 181852006 | DUP | | | | | | | | | |
| Tritium | | | U | -0.322 | U | 0.0544 | pCi/g | 0 | (0% - 100%) | AXD2 | 03/09/07 02:06 |
| | | Uncert: | | +/-1.24 | +/-1.34 | | | | | | |
| | | TPU: | | +/-1.24 | +/-1.34 | | | | | | |
| QC1201291728 | LCS | | | | | | | | | | |
| Tritium | | 11.2 | | | 10.6 | pCi/g | 95 | (75%-125%) | | 03/09/07 | 04:11 |
| | | Uncert: | | | +/-1.64 | | | | | | |
| | | TPU: | | | +/-1.65 | | | | | | |

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QC Summary

Workorder: 181852

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| Parmname | NOM | Sample Qual | QC | Units | RPD% | REC% | Range | Anlst | Date Time |
|---------------------------------|---------------|-------------|-------------------|-------------------|-------|-----------|------------|-------|---------------------------------|
| Rad Liquid Scintillation | | | | | | | | | |
| Batch | 615550 | | | | | | | | |
| QC1201291725 | MB | | | | | | | | |
| Tritium | | | U | -0.321 | pCi/g | | | | 03/09/07 01:04 |
| | | | | Uncert: +/-1.24 | | | | | |
| | | | | TPU: +/-1.24 | | | | | |
| QC1201291727 | 181852006 MS | | | | | | | | |
| Tritium | | 11.7 U | -0.322 | 10.4 | pCi/g | 88 | (75%-125%) | | 03/09/07 03:08 |
| | | | Uncert: +/-1.24 | +/-1.70 | | | | | |
| | | | TPU: +/-1.24 | +/-1.71 | | | | | |
| Batch | 615551 | | | | | | | | |
| QC1201291730 | 181852006 DUP | | | | | | | | |
| Carbon-14 | | | U | -0.0845 | U | -0.0665 | pCi/g | 0 | (0% - 100%) AXD2 03/09/07 01:59 |
| | | | | Uncert: +/-0.0856 | | +/-0.0904 | | | |
| | | | | TPU: +/-0.0856 | | +/-0.0904 | | | |
| QC1201291732 | LCS | | | | | | | | |
| Carbon-14 | | 6.65 | | 6.52 | pCi/g | 98 | (75%-125%) | | 03/09/07 04:02 |
| | | | | Uncert: +/-0.371 | | | | | |
| | | | | TPU: +/-0.385 | | | | | |
| QC1201291729 | MB | | | | | | | | |
| Carbon-14 | | | U | -0.0464 | pCi/g | | | | 03/09/07 00:58 |
| | | | | Uncert: +/-0.0865 | | | | | |
| | | | | TPU: +/-0.0865 | | | | | |
| QC1201291731 | 181852006 MS | | | | | | | | |
| Carbon-14 | | 7.22 U | -0.0845 | 7.32 | pCi/g | 101 | (75%-125%) | | 03/09/07 03:01 |
| | | | Uncert: +/-0.0856 | +/-0.213 | | | | | |
| | | | TPU: +/-0.0856 | +/-0.242 | | | | | |

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
- QC Samples were not spiked with this compound

GEL LABORATORIES LLC

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QC Summary

Workorder: 181852

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| Parname | NOM | Sample Qual | QC | Units | RPD% | REC% | Range | Anlst | Date | Time |
|---------|-----|-------------|----|-------|------|------|-------|-------|------|------|
| Y | | | | | | | | | | |
| ^ | | | | | | | | | | |
| h | | | | | | | | | | |

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

** Indicates analyte is a surrogate compound.

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

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

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

General Narrative

**General Narrative
for
Connecticut Yankee Atomic Power Co.
Work Order: 182417
SDG: MSR#07-00114**

March 21, 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 16, 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> |
|-----------------------------------------|----------------------------------|
| 182417001 | 9312-0005-020I |
| 182417002 | 9312-0005-021I |
| 182417003 | 9312-0005-022I |
| 182417004 | 9312-0005-023I |

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

Four soil samples were analyzed for Gamma, Strontium-90 and Tc-99.

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 21 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. 2007-00078

| | | | | | | | | | | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------|-------------------------------------------------------------|------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------|------------------|-----------------------|---------------|
| 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 & Tc-99 | | | | | | | Comments: | |
| Analytical Lab (Name, City, State): General Engineering Laboratories 2040 Savage Road Charleston, SC 29407 ATT: Cheryl Jones (843-556-8171) | | | | | | | | | | | | | 182417 | |
| 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 | | | | | | | | | | | | |
| 9312-0005-020I | 3/14/07 | 1252 | TS | G | BP | X | | | | | | | | |
| 9312-0005-021I | 3/14/07 | 1254 | TS | G | BP | X | | | | | | | | |
| 9312-0005-022I | 3/14/07 | 1255 | TS | G | BP | X | | | | | | | | |
| 9312-0005-023I | 3/14/07 | 1256 | TS | G | BP | X | | | | | | | | |
| NOTES: PO #: 002332 MSR #: 07-00114 <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA | | | | | | | | | | | | | | |
| 1) Relinquished By: <i>[Signature]</i> Date/Time: 3/15/07 0900 | | | 2) Received By: <i>[Signature]</i> Date/Time: 3-16-07 10:00 | | | Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other | | | Internal Container Temp.: 19° Deg. C Custody Sealed? Custody Seal Intact? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> | | | | | |
| 3) Relinquished By | | | 4) Received By | | | | | | | | | Bill of Lading # | | |
| 5) Relinquished By | | | 6) Received By | | | | | | | | | | | |

5

Figure 1. Sample Check-in List

Date/Time Received: 3-16-07

SDG#: MSR # 07-00114

Work Order Number: 182417

Shipping Container ID: 792307401309 Chain of Custody #: 2007-00078

- 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 790
- 5. Vermiculite/packing materials is: Wet Dry
- 6. Number of samples in shipping container: 24
- 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: T. S. B. Date: 3-16-07

Telephoned to: _____ On _____ By _____



SAMPLE RECEIPT & REVIEW FORM

PM use only

| | |
|-----------------------------------|---------------------------------------------------------------------------|
| Client: <u>Connecticut Yankee</u> | SDG/ARCOC/Work Order: <u>182417</u> |
| Date Received: <u>3-16-07</u> | PM(A) Review (ensure non-conforming items are resolved prior to signing): |
| Received By: <u>TS</u> | <u>Audrey Reyes</u> |

| Sample Receipt Criteria | Yes | NA | No | Comments/Qualifiers (Required for Non-Conforming Items) |
|---------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------|
| 1 Shipping containers received intact and sealed? | <input checked="" type="checkbox"/> | | | Circle Applicable: seals broken damaged container leaking container other (describe) |
| 2 Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method. | | <input checked="" type="checkbox"/> | | Circle Coolant # ice bags blue ice dry ice none <u>other describe</u> <u>190</u> <u>packing material</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>7923 0740 1309 19°</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 (or PMA) review of Hazard classification: _____ Initials ATK Date: 3/16/07

Subject: COC-07-0078

From: "Rick E. Gault" <Gault@CYAPCO.com>

Date: Thu, 15 Mar 2007 09:03:05 -0400

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

Cheryl;

We're sending 4 samples (under MSR 07-00114) to GEL today. All of the samples have a 7 day TAT request. It is acceptable for GEL to use the traced/untraced Tc-99 process for these quick TAT requests. See attached COC for requested analyses.

Rick Gault
CYAPCO
860-267-3903

| | |
|------------------|----------------------------------------------------------------------------------------------------------------------------------|
| SCAN8082_000.pdf | Content-Description: SCAN8082_000.pdf Content-Type: application/octet-stream Content-Encoding: base64 |
|------------------|----------------------------------------------------------------------------------------------------------------------------------|

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 182417**

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: 618297
Prep Batch Number: 617707

| Sample ID | Client ID |
|------------------|--------------------------------------------------|
| 182417001 | 9312-0005-020I |
| 182417002 | 9312-0005-021I |
| 182417003 | 9312-0005-022I |
| 182417004 | 9312-0005-023I |
| 1201298461 | Method Blank (MB) |
| 1201298462 | 182417001(9312-0005-020I) Sample Duplicate (DUP) |
| 1201298463 | 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: 182417001 (9312-0005-020I).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:**Holding Time**

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:**NCR Documentation**

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

Additional Comments

The duplicate and sample, 1201298462 (9312-0005-020I) and 182417001 (9312-0005-020I), did not meet the relative percent difference requirement for Pb-214, however, they do meet the relative error ratio requirement with a value of 2.19127.

Qualifier information

| Qualifier | Reason | Analyte | Sample |
|-----------|---------------------------------------|--------------|------------|
| UI | Data rejected due to high peak width. | Radium-226 | 1201298461 |
| UI | Data rejected due to low abundance. | Bismuth-214 | 1201298461 |
| | | Cesium-134 | 182417002 |
| | | | 182417003 |
| | | | 182417004 |
| | | | 1201298462 |
| | | Lead-214 | 1201298461 |
| UI | Data rejected due to no valid peak. | Potassium-40 | 1201298461 |

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: 617750
Prep Batch Number: 617709
Dry Soil Prep GL-RAD-A-021 Batch Number: 617707

| Sample ID | Client ID |
|------------------|--------------------------------------------------|
| 182417001 | 9312-0005-020I |
| 182417002 | 9312-0005-021I |
| 182417003 | 9312-0005-022I |
| 182417004 | 9312-0005-023I |
| 1201297139 | Method Blank (MB) |
| 1201297140 | 182417002(9312-0005-021I) Sample Duplicate (DUP) |
| 1201297141 | 182417002(9312-0005-021I) Matrix Spike (MS) |
| 1201297142 | 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: 182417002 (9312-0005-021I).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Chemical Recoveries

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

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

| | |
|--------------------------|-----------------------------------------|
| Product: | Liquid Scint Tc99, Solid-ALL FSS |
| Analytical Method: | DOE EML HASL-300, Tc-02-RC Modified |
| Analytical Batch Number: | 617711 |

| Sample ID | Client ID |
|------------------|--------------------------------------------------|
| 182417001 | 9312-0005-020I |
| 182417002 | 9312-0005-021I |
| 182417003 | 9312-0005-022I |
| 182417004 | 9312-0005-023I |
| 1201297029 | Method Blank (MB) |
| 1201297030 | 182417001(9312-0005-020I) Sample Duplicate (DUP) |
| 1201297031 | 182417001(9312-0005-020I) Matrix Spike (MS) |
| 1201297032 | 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: 182417001 (9312-0005-020I).

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: _____



3/22/07

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#07-00114 GEL Work Order: 182417

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 21, 2007

| | | | |
|-------------------|----------------|-------------|-----------|
| Client Sample ID: | 9312-0005-020I | Project: | YANK01204 |
| Sample ID: | 182417001 | Client ID: | YANK001 |
| Matrix: | TS | Vol. Recv.: | |
| Collect Date: | 14-MAR-07 | | |
| Receive Date: | 16-MAR-07 | | |
| Collector: | Client | | |
| Moisture: | 10.1% | | |

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

Rad Gamma Spec Analysis

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

| | | | | | | | | | | | | |
|---------------|---|----------|-----------|--------|-----------|--------|-------|--|------|----------|------|--------|
| Actinium-228 | | 0.609 | +/-0.165 | 0.0791 | +/-0.165 | 0.158 | pCi/g | | | | | |
| Americium-241 | U | 0.0477 | +/-0.0331 | 0.0288 | +/-0.0331 | 0.0577 | pCi/g | | MJH1 | 03/19/07 | 1504 | 618297 |
| Bismuth-212 | | 0.548 | +/-0.272 | 0.144 | +/-0.272 | 0.287 | pCi/g | | | | | |
| Bismuth-214 | | 0.497 | +/-0.112 | 0.0365 | +/-0.112 | 0.073 | pCi/g | | | | | |
| Cesium-134 | U | 0.0414 | +/-0.0294 | 0.0287 | +/-0.0294 | 0.0573 | pCi/g | | | | | |
| Cesium-137 | U | 0.00748 | +/-0.0254 | 0.0232 | +/-0.0254 | 0.0463 | pCi/g | | | | | |
| Cobalt-60 | U | 0.0125 | +/-0.0338 | 0.0261 | +/-0.0338 | 0.0521 | pCi/g | | | | | |
| Europium-152 | U | -0.0296 | +/-0.070 | 0.0489 | +/-0.070 | 0.0977 | pCi/g | | | | | |
| Europium-154 | U | -0.0382 | +/-0.0897 | 0.0716 | +/-0.0897 | 0.143 | pCi/g | | | | | |
| Europium-155 | U | -0.0515 | +/-0.0605 | 0.0453 | +/-0.0605 | 0.0905 | pCi/g | | | | | |
| Lead-212 | | 0.480 | +/-0.0669 | 0.0256 | +/-0.0669 | 0.0511 | pCi/g | | | | | |
| Lead-214 | | 0.410 | +/-0.0893 | 0.0367 | +/-0.0893 | 0.0734 | pCi/g | | | | | |
| Manganese-54 | U | -0.00173 | +/-0.0249 | 0.0216 | +/-0.0249 | 0.0432 | pCi/g | | | | | |
| Niobium-94 | U | -0.00355 | +/-0.0232 | 0.0203 | +/-0.0232 | 0.0406 | pCi/g | | | | | |
| Potassium-40 | | 9.50 | +/-1.02 | 0.229 | +/-1.02 | 0.457 | pCi/g | | | | | |
| Radium-226 | | 0.497 | +/-0.112 | 0.0365 | +/-0.112 | 0.073 | pCi/g | | | | | |
| Silver-108m | U | 0.00407 | +/-0.0191 | 0.0171 | +/-0.0191 | 0.0342 | pCi/g | | | | | |
| Thallium-208 | | 0.206 | +/-0.0441 | 0.0187 | +/-0.0441 | 0.0373 | pCi/g | | | | | |

Rad Gas Flow Proportional Counting

GFPC, Sr90, solid-ALL FSS

| | | | | | | | | | | | | |
|--------------|---|--------|-----------|--------|-----------|--------|-------|--|------|----------|------|--------|
| Strontium-90 | U | 0.0139 | +/-0.0205 | 0.0153 | +/-0.0205 | 0.0355 | pCi/g | | KSD1 | 03/20/07 | 1329 | 617750 |
|--------------|---|--------|-----------|--------|-----------|--------|-------|--|------|----------|------|--------|

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Solid-ALL FSS

| | | | | | | | | | | | | |
|---------------|---|-------|----------|-------|----------|-------|-------|--|------|----------|------|--------|
| Technetium-99 | U | 0.323 | +/-0.258 | 0.210 | +/-0.258 | 0.430 | pCi/g | | MXP1 | 03/20/07 | 2322 | 617711 |
|---------------|---|-------|----------|-------|----------|-------|-------|--|------|----------|------|--------|

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | LXM2 | 03/16/07 | 1117 | 617707 |

The following Analytical Methods were performed

| Method | Description |
|--------|-------------|
|--------|-------------|

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 21, 2007

Client Sample ID: 9312-0005-020I
Sample ID: 182417001

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

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

| Surrogate/Tracer recovery | Test | Recovery % | Acceptable Limits |
|---------------------------|---------------------------------|------------|-------------------|
| Strontium Carrier | GFPC, Sr90, solid-ALL FSS | 87 | (25%-125%) |
| Technetium-99m Tracer | Liquid Scint Tc99, Solid-ALL FS | 84 | (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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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 21, 2007

Client Sample ID: 9312-0005-0211
Sample ID: 182417002
Matrix: TS
Collect Date: 14-MAR-07
Receive Date: 16-MAR-07
Collector: Client
Moisture: 10.1%

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|--------------------------------------------------------|-----------|-----------|-------------|--------|-----------|--------|-------|----|---------|----------|------|--------|
| Rad Gamma Spec Analysis | | | | | | | | | | | | |
| <i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i> | | | | | | | | | | | | |
| <i>Waived</i> | | | | | | | | | | | | |
| Actinium-228 | | 0.452 | +/-0.142 | 0.0547 | +/-0.142 | 0.109 | pCi/g | | MJH1 | 03/19/07 | 1505 | 618297 |
| Americium-241 | U | 0.0916 | +/-0.112 | 0.0982 | +/-0.112 | 0.196 | pCi/g | | | | | |
| Bismuth-212 | | 0.488 | +/-0.241 | 0.113 | +/-0.241 | 0.226 | pCi/g | | | | | |
| Bismuth-214 | | 0.457 | +/-0.0903 | 0.030 | +/-0.0903 | 0.0599 | pCi/g | | | | | |
| Cesium-134 | UI | 0.00 | +/-0.0284 | 0.0187 | +/-0.0284 | 0.0374 | pCi/g | | | | | |
| Cesium-137 | U | 0.0145 | +/-0.0188 | 0.0174 | +/-0.0188 | 0.0347 | pCi/g | | | | | |
| Cobalt-60 | U | 0.00483 | +/-0.0197 | 0.0171 | +/-0.0197 | 0.0343 | pCi/g | | | | | |
| Europium-152 | U | -0.0115 | +/-0.0456 | 0.0394 | +/-0.0456 | 0.0787 | pCi/g | | | | | |
| Europium-154 | U | -0.000341 | +/-0.0563 | 0.0477 | +/-0.0563 | 0.0954 | pCi/g | | | | | |
| Europium-155 | U | 0.0602 | +/-0.0785 | 0.0494 | +/-0.0785 | 0.0988 | pCi/g | | | | | |
| Lead-212 | | 0.526 | +/-0.0753 | 0.024 | +/-0.0753 | 0.0479 | pCi/g | | | | | |
| Lead-214 | | 0.422 | +/-0.0806 | 0.0296 | +/-0.0806 | 0.0592 | pCi/g | | | | | |
| Manganese-54 | U | -0.00509 | +/-0.0187 | 0.0155 | +/-0.0187 | 0.031 | pCi/g | | | | | |
| Niobium-94 | U | -0.0121 | +/-0.0169 | 0.0137 | +/-0.0169 | 0.0274 | pCi/g | | | | | |
| Potassium-40 | | 9.19 | +/-0.987 | 0.128 | +/-0.987 | 0.256 | pCi/g | | | | | |
| Radium-226 | | 0.457 | +/-0.0903 | 0.030 | +/-0.0903 | 0.0599 | pCi/g | | | | | |
| Silver-108m | U | -0.00685 | +/-0.0151 | 0.0133 | +/-0.0151 | 0.0266 | pCi/g | | | | | |
| Thallium-208 | | 0.171 | +/-0.0421 | 0.0131 | +/-0.0421 | 0.0261 | pCi/g | | | | | |
| Rad Gas Flow Proportional Counting | | | | | | | | | | | | |
| <i>GFPC, Sr90, solid-ALL FSS</i> | | | | | | | | | | | | |
| Strontium-90 | U | 0.00937 | +/-0.0224 | 0.0176 | +/-0.0224 | 0.0405 | pCi/g | | KSD1 | 03/20/07 | 1329 | 617750 |
| Rad Liquid Scintillation Analysis | | | | | | | | | | | | |
| <i>Liquid Scint Tc99, Solid-ALL FSS</i> | | | | | | | | | | | | |
| Technetium-99 | U | 0.266 | +/-0.259 | 0.212 | +/-0.259 | 0.433 | pCi/g | | MXPI | 03/20/07 | 2353 | 617711 |

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | LXM2 | 03/16/07 | 1117 | 617707 |

The following Analytical Methods were performed

| Method | Description |
|--------|-----------------------|
| 1 | EML HASL 300, 4.5.2.3 |

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 21, 2007

Client Sample ID: 9312-0005-0211 Project: YANK01204
Sample ID: 182417002 Client ID: YANK001
Vol. Recv.:

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

| Surrogate/Tracer recovery | Test | Recovery % | Acceptable Limits |
|---------------------------|---------------------------------|------------|-------------------|
| Strontium Carrier | GFPC, Sr90, solid-ALL FSS | 77 | (25%-125%) |
| Technetium-99m Tracer | Liquid Scint Tc99, Solid-ALL FS | 86 | (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.

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 21, 2007

Client Sample ID: 9312-0005-0221
Sample ID: 182417003
Matrix: TS
Collect Date: 14-MAR-07
Receive Date: 16-MAR-07
Collector: Client
Moisture: 10.2%

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

| Parameter | Qualifier | Result | Uncertainty | LC | TPU | MDA | Units | DF | Analyst | Date | Time | Batch |
|--------------------------------------------------------|-----------|----------|-------------|--------|-----------|--------|-------|----|---------|----------|------|--------|
| Rad Gamma Spec Analysis | | | | | | | | | | | | |
| <i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i> | | | | | | | | | | | | |
| <i>Waived</i> | | | | | | | | | | | | |
| Actinium-228 | | 0.383 | +/-0.138 | 0.0608 | +/-0.138 | 0.121 | pCi/g | | MJH1 | 03/19/07 | 1505 | 618297 |
| Americium-241 | U | 0.0336 | +/-0.0844 | 0.0743 | +/-0.0844 | 0.149 | pCi/g | | | | | |
| Bismuth-212 | | 0.405 | +/-0.183 | 0.114 | +/-0.183 | 0.227 | pCi/g | | | | | |
| Bismuth-214 | | 0.412 | +/-0.0889 | 0.0326 | +/-0.0889 | 0.0652 | pCi/g | | | | | |
| Cesium-134 | UI | 0.00 | +/-0.029 | 0.0205 | +/-0.029 | 0.0409 | pCi/g | | | | | |
| Cesium-137 | U | 0.0191 | +/-0.0194 | 0.0145 | +/-0.0194 | 0.029 | pCi/g | | | | | |
| Cobalt-60 | U | 0.0028 | +/-0.0235 | 0.0196 | +/-0.0235 | 0.0392 | pCi/g | | | | | |
| Europium-152 | U | -0.0142 | +/-0.052 | 0.042 | +/-0.052 | 0.084 | pCi/g | | | | | |
| Europium-154 | U | 0.0432 | +/-0.0606 | 0.0561 | +/-0.0606 | 0.112 | pCi/g | | | | | |
| Europium-155 | U | 0.0665 | +/-0.061 | 0.0485 | +/-0.061 | 0.0969 | pCi/g | | | | | |
| Lead-212 | | 0.518 | +/-0.0645 | 0.025 | +/-0.0645 | 0.0499 | pCi/g | | | | | |
| Lead-214 | | 0.414 | +/-0.0892 | 0.0327 | +/-0.0892 | 0.0653 | pCi/g | | | | | |
| Manganese-54 | U | -0.00801 | +/-0.0196 | 0.0162 | +/-0.0196 | 0.0325 | pCi/g | | | | | |
| Niobium-94 | U | 0.00376 | +/-0.018 | 0.016 | +/-0.018 | 0.0321 | pCi/g | | | | | |
| Potassium-40 | | 8.96 | +/-0.965 | 0.154 | +/-0.965 | 0.308 | pCi/g | | | | | |
| Radium-226 | | 0.412 | +/-0.0889 | 0.0326 | +/-0.0889 | 0.0652 | pCi/g | | | | | |
| Silver-108m | U | -0.0133 | +/-0.0177 | 0.0146 | +/-0.0177 | 0.0291 | pCi/g | | | | | |
| Thallium-208 | | 0.153 | +/-0.0384 | 0.0146 | +/-0.0384 | 0.0292 | pCi/g | | | | | |
| Rad Gas Flow Proportional Counting | | | | | | | | | | | | |
| <i>GFPC, Sr90, solid-ALL FSS</i> | | | | | | | | | | | | |
| Strontium-90 | U | 0.00161 | +/-0.0191 | 0.0158 | +/-0.0191 | 0.0364 | pCi/g | | KSD1 | 03/20/07 | 1329 | 617750 |
| Rad Liquid Scintillation Analysis | | | | | | | | | | | | |
| <i>Liquid Scint Tc99, Solid-ALL FSS</i> | | | | | | | | | | | | |
| Technetium-99 | U | 0.289 | +/-0.239 | 0.195 | +/-0.239 | 0.399 | pCi/g | | MXP1 | 03/21/07 | 0025 | 617711 |

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | LXM2 | 03/16/07 | 1117 | 617707 |

The following Analytical Methods were performed

| Method | Description |
|--------|-----------------------|
| 1 | EML HASL 300, 4.5.2.3 |

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 McGarthy
Project: Soils PO# 002332

Report Date: March 21, 2007

Client Sample ID: 9312-0005-022I
Sample ID: 182417003

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

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

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

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 21, 2007

Client Sample ID: 9312-0005-0231
Sample ID: 182417004
Matrix: TS
Collect Date: 14-MAR-07
Receive Date: 16-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 |
|--------------------------------------------------------|-----------|-----------|-------------|--------|-----------|--------|-------|----|---------|----------|------|--------|
| Rad Gamma Spec Analysis | | | | | | | | | | | | |
| <i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i> | | | | | | | | | | | | |
| <i>Waived</i> | | | | | | | | | | | | |
| Actinium-228 | | 0.517 | +/-0.141 | 0.0542 | +/-0.141 | 0.108 | pCi/g | | MJH1 | 03/19/07 | 1506 | 618297 |
| Americium-241 | U | -0.0183 | +/-0.0552 | 0.0461 | +/-0.0552 | 0.0921 | pCi/g | | | | | |
| Bismuth-212 | U | 0.171 | +/-0.243 | 0.110 | +/-0.243 | 0.219 | pCi/g | | | | | |
| Bismuth-214 | | 0.418 | +/-0.0778 | 0.0269 | +/-0.0778 | 0.0538 | pCi/g | | | | | |
| Cesium-134 | UI | 0.00 | +/-0.0311 | 0.0184 | +/-0.0311 | 0.0367 | pCi/g | | | | | |
| Cesium-137 | U | 0.019 | +/-0.026 | 0.016 | +/-0.026 | 0.0319 | pCi/g | | | | | |
| Cobalt-60 | U | 0.0143 | +/-0.0158 | 0.0149 | +/-0.0158 | 0.0297 | pCi/g | | | | | |
| Europium-152 | U | 0.0322 | +/-0.0466 | 0.0417 | +/-0.0466 | 0.0834 | pCi/g | | | | | |
| Europium-154 | U | 0.0172 | +/-0.0565 | 0.0494 | +/-0.0565 | 0.0987 | pCi/g | | | | | |
| Europium-155 | U | 0.0589 | +/-0.0559 | 0.0391 | +/-0.0559 | 0.0781 | pCi/g | | | | | |
| Lead-212 | | 0.456 | +/-0.0549 | 0.0226 | +/-0.0549 | 0.0451 | pCi/g | | | | | |
| Lead-214 | | 0.404 | +/-0.0734 | 0.0287 | +/-0.0734 | 0.0573 | pCi/g | | | | | |
| Manganese-54 | U | 0.0114 | +/-0.0156 | 0.0146 | +/-0.0156 | 0.0292 | pCi/g | | | | | |
| Niobium-94 | U | -0.00854 | +/-0.0164 | 0.0135 | +/-0.0164 | 0.0269 | pCi/g | | | | | |
| Potassium-40 | | 9.96 | +/-0.889 | 0.104 | +/-0.889 | 0.208 | pCi/g | | | | | |
| Radium-226 | | 0.418 | +/-0.0778 | 0.0269 | +/-0.0778 | 0.0538 | pCi/g | | | | | |
| Silver-108m | U | -0.00444 | +/-0.0143 | 0.0125 | +/-0.0143 | 0.025 | pCi/g | | | | | |
| Thallium-208 | | 0.159 | +/-0.0368 | 0.0132 | +/-0.0368 | 0.0263 | pCi/g | | | | | |
| Rad Gas Flow Proportional Counting | | | | | | | | | | | | |
| <i>GFPC, Sr90, solid-ALL FSS</i> | | | | | | | | | | | | |
| Strontium-90 | U | -0.000607 | +/-0.0191 | 0.0161 | +/-0.0191 | 0.0369 | pCi/g | | KSD1 | 03/20/07 | 1330 | 617750 |
| Rad Liquid Scintillation Analysis | | | | | | | | | | | | |
| <i>Liquid Scint Tc99, Solid-ALL FSS</i> | | | | | | | | | | | | |
| Technetium-99 | U | 0.195 | +/-0.240 | 0.198 | +/-0.240 | 0.404 | pCi/g | | MXP1 | 03/21/07 | 0057 | 617711 |

The following Prep Methods were performed

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|----------------------------|---------|----------|------|------------|
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | LXM2 | 03/16/07 | 1117 | 617707 |

The following Analytical Methods were performed

| Method | Description |
|--------|-----------------------|
| 1 | EML HASL 300, 4.5.2.3 |

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 21, 2007

Client Sample ID: 9312-0005-0231
Sample ID: 182417004

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

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

| Surrogate/Tracer recovery | Test | Recovery% | Acceptable Limits |
|---------------------------|---------------------------------|-----------|-------------------|
| Strontium Carrier | GFPC, Sr90, solid-ALL FSS | 85 | (25%-125%) |
| Technetium-99m Tracer | Liquid Scint Tc99, Solid-ALL FS | 92 | (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.

QUALITY CONTROL DATA

GEL LABORATORIES LLC

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

QC Summary

Report Date: March 21, 2007

Page 1 of 6

Client : Connecticut Yankee Atomic Power
362 Injun Hollow Rd

Contact: East Hampton, Connecticut
Mr. Jack McCarthy

Workorder: 182417

| Parmname | NOM | Sample | Qual | QC | Units | RPD% | REC% | Range | Anlst | Date | Time |
|----------------------------|--------|----------|------|-----------|-------|------|------|-------------|-------|----------|-------|
| Rad Gamma Spec | | | | | | | | | | | |
| Batch | 618297 | | | | | | | | | | |
| QC1201298462 182417001 DUP | | | | | | | | | | | |
| Actinium-228 | | 0.609 | | 0.570 | pCi/g | 7 | | (0% - 100%) | MJH1 | 03/19/07 | 15:07 |
| | | Uncert: | | +/-0.165 | | | | | | | |
| | | TPU: | | +/-0.165 | | | | | | | |
| Americium-241 | U | 0.0477 | U | 0.0387 | pCi/g | 21 | | (0% - 100%) | | | |
| | | Uncert: | | +/-0.0331 | | | | | | | |
| | | TPU: | | +/-0.0331 | | | | | | | |
| Bismuth-212 | | 0.548 | | 0.389 | pCi/g | 34 | | (0% - 100%) | | | |
| | | Uncert: | | +/-0.272 | | | | | | | |
| | | TPU: | | +/-0.272 | | | | | | | |
| Bismuth-214 | | 0.497 | | 0.485 | pCi/g | 2 | | (0% - 100%) | | | |
| | | Uncert: | | +/-0.112 | | | | | | | |
| | | TPU: | | +/-0.112 | | | | | | | |
| Cesium-134 | U | 0.0414 | UI | 0.00 | pCi/g | 48 | | (0% - 100%) | | | |
| | | Uncert: | | +/-0.0294 | | | | | | | |
| | | TPU: | | +/-0.0294 | | | | | | | |
| Cesium-137 | U | 0.00748 | U | 0.00785 | pCi/g | 5 | | (0% - 100%) | | | |
| | | Uncert: | | +/-0.0254 | | | | | | | |
| | | TPU: | | +/-0.0254 | | | | | | | |
| Cobalt-60 | U | 0.0125 | U | 0.0207 | pCi/g | 50 | | (0% - 100%) | | | |
| | | Uncert: | | +/-0.0338 | | | | | | | |
| | | TPU: | | +/-0.0338 | | | | | | | |
| Europium-152 | U | -0.0296 | U | 0.000739 | pCi/g | 210 | | (0% - 100%) | | | |
| | | Uncert: | | +/-0.070 | | | | | | | |
| | | TPU: | | +/-0.070 | | | | | | | |
| Europium-154 | U | -0.0382 | U | -0.0269 | pCi/g | 35 | | (0% - 100%) | | | |
| | | Uncert: | | +/-0.0897 | | | | | | | |
| | | TPU: | | +/-0.0897 | | | | | | | |
| Europium-155 | U | -0.0515 | U | 0.0181 | pCi/g | 417 | | (0% - 100%) | | | |
| | | Uncert: | | +/-0.0605 | | | | | | | |
| | | TPU: | | +/-0.0605 | | | | | | | |
| Lead-212 | | 0.480 | | 0.574 | pCi/g | 18 | | (0%-20%) | | | |
| | | Uncert: | | +/-0.0669 | | | | | | | |
| | | TPU: | | +/-0.0669 | | | | | | | |
| Lead-214 | | 0.410 | | 0.544 | pCi/g | 28* | | (0%-20%) | | | |
| | | Uncert: | | +/-0.0893 | | | | | | | |
| | | TPU: | | +/-0.0893 | | | | | | | |
| Manganese-54 | U | -0.00173 | U | 0.00726 | pCi/g | 326 | | (0% - 100%) | | | |
| | | Uncert: | | +/-0.0249 | | | | | | | |
| | | TPU: | | +/-0.0249 | | | | | | | |
| Niobium-94 | U | -0.00355 | U | 0.0126 | pCi/g | 357 | | (0% - 100%) | | | |
| | | Uncert: | | +/-0.0232 | | | | | | | |
| | | TPU: | | +/-0.0232 | | | | | | | |

GEL LABORATORIES LLC

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QC Summary

Workorder: 182417

Page 2 of 6

| Parmname | NOM | Sample Qual | QC | Units | RPD% | REC% | Range | Anlst | Date | Time |
|-----------------------|---------|-------------|-----------|-------|------|------|-------------|-------|----------|-------|
| Rad Gamma Spec | | | | | | | | | | |
| Batch | 618297 | | | | | | | | | |
| Potassium-40 | | 9.50 | 10.1 | pCi/g | 6 | | (0% - 20%) | | | |
| | Uncert: | +/-1.02 | +/-0.922 | | | | | | | |
| | TPU: | +/-1.02 | +/-0.922 | | | | | | | |
| Radium-226 | | 0.497 | 0.485 | pCi/g | 2 | | (0% - 100%) | | | |
| | Uncert: | +/-0.112 | +/-0.0843 | | | | | | | |
| | TPU: | +/-0.112 | +/-0.0843 | | | | | | | |
| Silver-108m | U | 0.00407 | U -0.0116 | pCi/g | 416 | | (0% - 100%) | | | |
| | Uncert: | +/-0.0191 | +/-0.0156 | | | | | | | |
| | TPU: | +/-0.0191 | +/-0.0156 | | | | | | | |
| Thallium-208 | | 0.206 | 0.199 | pCi/g | 3 | | (0% - 100%) | | | |
| | Uncert: | +/-0.0441 | +/-0.0378 | | | | | | | |
| | TPU: | +/-0.0441 | +/-0.0378 | | | | | | | |
| QC1201298463 | LCS | | | | | | | | | |
| Actinium-228 | | | U -0.173 | pCi/g | | | | | 03/19/07 | 15:07 |
| | Uncert: | | +/-0.588 | | | | | | | |
| | TPU: | | +/-0.588 | | | | | | | |
| Americium-241 | 23.4 | | 27.7 | pCi/g | | 118 | (75%-125%) | | | |
| | Uncert: | | +/-3.30 | | | | | | | |
| | TPU: | | +/-3.30 | | | | | | | |
| Bismuth-212 | | | U -0.505 | pCi/g | | | | | | |
| | Uncert: | | +/-1.04 | | | | | | | |
| | TPU: | | +/-1.04 | | | | | | | |
| Bismuth-214 | | | U -0.0815 | pCi/g | | | | | | |
| | Uncert: | | +/-0.234 | | | | | | | |
| | TPU: | | +/-0.234 | | | | | | | |
| Cesium-134 | | | U 0.0232 | pCi/g | | | | | | |
| | Uncert: | | +/-0.152 | | | | | | | |
| | TPU: | | +/-0.152 | | | | | | | |
| Cesium-137 | 9.46 | | 10.1 | pCi/g | | 107 | (75%-125%) | | | |
| | Uncert: | | +/-0.897 | | | | | | | |
| | TPU: | | +/-0.897 | | | | | | | |
| Cobalt-60 | 13.5 | | 14.8 | pCi/g | | 110 | (75%-125%) | | | |
| | Uncert: | | +/-1.14 | | | | | | | |
| | TPU: | | +/-1.14 | | | | | | | |
| Europium-152 | | | U 0.323 | pCi/g | | | | | | |
| | Uncert: | | +/-0.299 | | | | | | | |
| | TPU: | | +/-0.299 | | | | | | | |
| Europium-154 | | | U -0.0936 | pCi/g | | | | | | |
| | Uncert: | | +/-0.282 | | | | | | | |
| | TPU: | | +/-0.282 | | | | | | | |
| Europium-155 | | | U -0.292 | pCi/g | | | | | | |
| | Uncert: | | +/-0.310 | | | | | | | |
| | TPU: | | +/-0.310 | | | | | | | |
| Lead-212 | | | U 0.059 | pCi/g | | | | | | |
| | Uncert: | | +/-0.175 | | | | | | | |
| | TPU: | | +/-0.175 | | | | | | | |
| Lead-214 | | | U 0.0728 | pCi/g | | | | | | |
| | Uncert: | | +/-0.221 | | | | | | | |

GEL LABORATORIES LLC

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

QC Summary

Workorder: 182417

Page 3 of 6

| Parmname | NOM | Sample Qual | QC | Units | RPD% | REC% | Range | Anlst | Date | Time |
|-----------------------|---------|-------------|-----------|-------|------|------|------------|-------|------|----------------|
| Rad Gamma Spec | | | | | | | | | | |
| Batch | 618297 | | | | | | | | | |
| Manganese-54 | TPU: | | +/-0.221 | | | | | | | |
| | Uncert: | U | 0.00216 | pCi/g | | | | | | |
| | TPU: | | +/-0.126 | | | | | | | |
| Niobium-94 | TPU: | | +/-0.126 | | | | | | | |
| | Uncert: | U | -0.0138 | pCi/g | | | | | | |
| | TPU: | | +/-0.111 | | | | | | | |
| Potassium-40 | TPU: | | +/-0.111 | | | | | | | |
| | Uncert: | U | 0.307 | pCi/g | | | | | | |
| | TPU: | | +/-0.947 | | | | | | | |
| Radium-226 | TPU: | | +/-0.947 | | | | | | | |
| | Uncert: | U | -0.0815 | pCi/g | | | (75%-125%) | | | |
| | TPU: | | +/-0.234 | | | | | | | |
| Silver-108m | TPU: | | +/-0.234 | | | | | | | |
| | Uncert: | U | -0.0206 | pCi/g | | | | | | |
| | TPU: | | +/-0.119 | | | | | | | |
| Thallium-208 | TPU: | | +/-0.119 | | | | | | | |
| | Uncert: | U | 0.0317 | pCi/g | | | | | | |
| | TPU: | | +/-0.117 | | | | | | | |
| | TPU: | | +/-0.117 | | | | | | | |
| QC1201298461 MB | | | | | | | | | | |
| Actinium-228 | | | | | | | | | | 03/19/07 15:06 |
| | Uncert: | U | -0.00399 | pCi/g | | | | | | |
| | TPU: | | +/-0.0574 | | | | | | | |
| Americium-241 | TPU: | | +/-0.0574 | | | | | | | |
| | Uncert: | U | 0.0107 | pCi/g | | | | | | |
| | TPU: | | +/-0.0462 | | | | | | | |
| Bismuth-212 | TPU: | | +/-0.0462 | | | | | | | |
| | Uncert: | U | -0.0538 | pCi/g | | | | | | |
| | TPU: | | +/-0.0898 | | | | | | | |
| Bismuth-214 | TPU: | | +/-0.0898 | | | | | | | |
| | Uncert: | UI | 0.00 | pCi/g | | | | | | |
| | TPU: | | +/-0.0644 | | | | | | | |
| Cesium-134 | TPU: | | +/-0.0644 | | | | | | | |
| | Uncert: | U | 0.0171 | pCi/g | | | | | | |
| | TPU: | | +/-0.0142 | | | | | | | |
| Cesium-137 | TPU: | | +/-0.0142 | | | | | | | |
| | Uncert: | U | -0.00319 | pCi/g | | | | | | |
| | TPU: | | +/-0.023 | | | | | | | |
| Cobalt-60 | TPU: | | +/-0.023 | | | | | | | |
| | Uncert: | U | -0.00553 | pCi/g | | | | | | |
| | TPU: | | +/-0.0145 | | | | | | | |
| Europium-152 | TPU: | | +/-0.0145 | | | | | | | |
| | Uncert: | U | -0.0164 | pCi/g | | | | | | |
| | TPU: | | +/-0.0394 | | | | | | | |
| Europium-154 | TPU: | | +/-0.0394 | | | | | | | |
| | Uncert: | U | -0.0138 | pCi/g | | | | | | |
| | TPU: | | +/-0.0329 | | | | | | | |
| Europium-155 | TPU: | | +/-0.0329 | | | | | | | |
| | Uncert: | U | 0.0503 | pCi/g | | | | | | |

GEL LABORATORIES LLC

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QC Summary

Workorder: 182417

Page 4 of 6

| Parmname | NOM | Sample | Qual | QC | Units | RPD% | REC% | Range | Anlst | Date | Time | |
|---------------------------------|-----------|--------|------|-------------------------------------|-------|------------------------|-------|-------|------------------|------------|----------|-------|
| Rad Gamma Spec | | | | | | | | | | | | |
| Batch | 618297 | | | | | | | | | | | |
| Lead-212 | | | | Uncert: +/-0.0302 TPU: +/-0.0302 | | | | | | | | |
| | | | U | 0.0171 | pCi/g | | | | | | | |
| Lead-214 | | | | Uncert: +/-0.0264 TPU: +/-0.0264 | | | | | | | | |
| | | | UI | 0.00 | pCi/g | | | | | | | |
| Manganese-54 | | | | Uncert: +/-0.0731 TPU: +/-0.0731 | | | | | | | | |
| | | | U | -0.00474 | pCi/g | | | | | | | |
| Niobium-94 | | | | Uncert: +/-0.011 TPU: +/-0.011 | | | | | | | | |
| | | | U | -0.00525 | pCi/g | | | | | | | |
| Potassium-40 | | | | Uncert: +/-0.0122 TPU: +/-0.0122 | | | | | | | | |
| | | | UI | 0.00 | pCi/g | | | | | | | |
| Radium-226 | | | | Uncert: +/-0.167 TPU: +/-0.167 | | | | | | | | |
| | | | UI | 0.00 | pCi/g | | | | | | | |
| Silver-108m | | | | Uncert: +/-0.0644 TPU: +/-0.0644 | | | | | | | | |
| | | | U | 0.00809 | pCi/g | | | | | | | |
| Thallium-208 | | | | Uncert: +/-0.0118 TPU: +/-0.0118 | | | | | | | | |
| | | | U | 0.00986 | pCi/g | | | | | | | |
| | | | | Uncert: +/-0.0165 TPU: +/-0.0165 | | | | | | | | |
| Rad Gas Flow | | | | | | | | | | | | |
| Batch | 617750 | | | | | | | | | | | |
| QC1201297140 | 182417002 | DUP | | | | | | | | | | |
| Strontium-90 | | | U | 0.00937 | U | -0.0161 | pCi/g | 0 | (0% - 100%) KSD1 | 03/20/07 | 13:30 | |
| | | | | Uncert: +/-0.0224 TPU: +/-0.0224 | | +/-0.0218 +/-0.0218 | | | | | | |
| QC1201297142 | LCS | | | | | | | | | | | |
| Strontium-90 | | | | 1.55 | | 1.69 | pCi/g | 109 | (75%-125%) | 03/20/07 | 12:51 | |
| | | | | Uncert: +/-0.110 TPU: +/-0.121 | | | | | | | | |
| QC1201297139 | MB | | | | | | | | | | | |
| Strontium-90 | | | | | U | -0.000886 | pCi/g | | | 03/20/07 | 13:30 | |
| | | | | Uncert: +/-0.0172 TPU: +/-0.0172 | | | | | | | | |
| QC1201297141 | 182417002 | MS | | | | | | | | | | |
| Strontium-90 | | | | 4.34 | U | 0.00937 | 5.15 | pCi/g | 119 | (75%-125%) | 03/20/07 | 12:51 |
| | | | | Uncert: +/-0.0224 TPU: +/-0.0224 | | +/-0.346 +/-0.380 | | | | | | |
| Rad Liquid Scintillation | | | | | | | | | | | | |
| Batch | 617711 | | | | | | | | | | | |
| QC1201297030 | 182417001 | DUP | | | | | | | | | | |
| Technetium-99 | | | U | 0.323 | U | 0.182 | pCi/g | 0 | (0% - 100%) MXP1 | 03/21/07 | 02:00 | |

GEL LABORATORIES LLC

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

QC Summary

Workorder: 182417

Page 5 of 6

| Parmname | NOM | Sample Qual | QC | Units | RPD% | REC% | Range | Anlst | Date | Time |
|---------------------------------|-----------|-------------|----------|-------|------|------|------------|-------|----------|-------|
| Rad Liquid Scintillation | | | | | | | | | | |
| Batch | 617711 | | | | | | | | | |
| QC1201297032 | LCS | | | | | | | | | |
| Technetium-99 | 18.5 | | | | | 99 | (75%-125%) | | 03/21/07 | 03:03 |
| | Uncert: | +/-0.258 | | | | | | | | |
| | TPU: | +/-0.258 | | | | | | | | |
| | | | | | | | | | | |
| QC1201297029 | MB | | | | | | | | | |
| Technetium-99 | | U | 0.162 | pCi/g | | | | | 03/21/07 | 01:28 |
| | Uncert: | | +/-0.209 | | | | | | | |
| | TPU: | | +/-0.209 | | | | | | | |
| QC1201297031 | 182417001 | MS | | | | | | | | |
| Technetium-99 | 19.9 | U | 0.323 | pCi/g | | 97 | (75%-125%) | | 03/21/07 | 02:32 |
| | Uncert: | +/-0.258 | | | | | | | | |
| | TPU: | +/-0.258 | | | | | | | | |

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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QC Summary

Workorder: 182417

Page 6 of 6

| <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> |
|-----------------|------------|--------------------|-----------|--------------|-------------|-------------|--------------|--------------|-------------|-------------|
|-----------------|------------|--------------------|-----------|--------------|-------------|-------------|--------------|--------------|-------------|-------------|

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
TANK FARM
SURVEY UNIT 9312-0005
RELEASE RECORD

ATTACHMENT 4 (DQA RESULTS)

FORMER RADIOLOGICALLY CONTROLLED AREA
TANK FARM
SURVEY UNIT 9312-0005
RELEASE RECORD

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

TANK FARM (RCA)
SURVEY UNIT 9312-0005

RELEASE RECORD
Attachment 4

Survey Unit: 9312-0005
Area Description: RCA / Former Tank Farm
Classification: 1
Survey Media: Surface Soils
Type of Survey: Final Status Survey
Number of Measurements: 15 Static, 4 Investigative

STATISTICS on TOTAL
POPULATION

| | Cs-137 | Co-60 | Sr-90 | Tc-99 |
|-----------------------------|-----------|-----------|-----------|-----------|
| DCGL _{op} (pCi/g): | 4.75E+00 | 2.29E+00 | 9.30E-01 | 7.60E+00 |
| Minimum Value: | -2.47E-02 | -1.16E-02 | -1.36E-02 | -2.41E-01 |
| Maximum Value: | 2.37E+00 | 2.61E+00 | 3.99E-02 | 1.62E+01 |
| Mean: | 1.08E-01 | 1.11E-01 | 1.07E-02 | 7.86E-01 |
| Median: | 1.09E-02 | 2.72E-03 | 8.51E-03 | 1.43E-01 |
| Standard Deviation: | 4.82E-01 | 5.32E-01 | 1.43E-02 | 3.29E+00 |

STATISTICS on NON-PARAMETRIC
POPULATION

| | Cs-137 | Co-60 | Sr-90 | Tc-99 |
|-----------------------------|-----------|-----------|-----------|-----------|
| DCGL _{op} (pCi/g): | 4.75E+00 | 2.29E+00 | 9.30E-01 | 7.60E+00 |
| Minimum Value: | -2.47E-02 | -1.16E-02 | -1.36E-02 | -2.41E-01 |
| Maximum Value: | 2.37E+00 | 2.61E+00 | 3.99E-02 | 1.62E+01 |
| Mean: | 1.65E-01 | 1.75E-01 | 1.21E-02 | 1.13E+00 |
| Median: | 8.59E-03 | 2.48E-03 | 1.36E-02 | 8.99E-02 |
| Standard Deviation: | 6.10E-01 | 6.74E-01 | 1.60E-02 | 4.17E+00 |

| Sample ID | GPS Coordinates | | Cs-137 | | | | Co-60 | | | | Sr-90 | | | | Tc-99 | | | | Fraction of DCGL |
|-----------------|-----------------|-----------|-----------|-------|----------|------------|-----------|-------|----------|------------|-----------|-------|----------|------------|-----------|-------|----------|------------|------------------|
| | | | Result | 2σ | MDA | Identified | |
| | North | East | (pCi/g) | | (pCi/g) | | |
| 9312-0005-001F | 236795.06 | 668657.32 | 3.82E-03 | 0.027 | 4.86E-02 | | -1.16E-02 | 0.030 | 4.79E-02 | | 2.28E-02 | 0.025 | 4.13E-02 | | 1.64E-01 | 0.205 | 3.46E-01 | | 0.042 |
| 9312-0005-002F | 236795.06 | 668692.10 | 1.51E-03 | 0.016 | 2.73E-02 | | 1.74E-02 | 0.016 | 2.96E-02 | + | 2.87E-02 | 0.026 | 4.18E-02 | + | 4.11E-02 | 0.217 | 3.72E-01 | | 0.044 |
| 9312-0005-003F | 236764.94 | 668639.92 | 2.65E-02 | 0.034 | 4.31E-02 | | -1.14E-02 | 0.029 | 4.68E-02 | | 1.87E-02 | 0.026 | 4.54E-02 | | 7.39E-02 | 0.196 | 3.34E-01 | | 0.030 |
| 9312-0005-004F | 236764.94 | 668674.71 | 2.38E-03 | 0.026 | 4.66E-02 | | -3.79E-03 | 0.032 | 5.24E-02 | | -1.36E-02 | 0.015 | 3.65E-02 | | 5.84E-02 | 0.205 | 3.52E-01 | | -0.008 |
| 9312-0005-005F | 236764.94 | 668709.49 | 5.86E-04 | 0.017 | 2.73E-02 | | -1.63E-03 | 0.017 | 2.77E-02 | | 4.01E-03 | 0.024 | 4.51E-02 | | 1.04E-01 | 0.188 | 3.18E-01 | | 0.017 |
| 9312-0005-006F | 236764.94 | 668744.28 | -2.47E-02 | 0.032 | 4.76E-02 | | 7.33E-03 | 0.027 | 4.60E-02 | | -5.12E-03 | 0.017 | 3.53E-02 | | -9.98E-02 | 0.210 | 3.67E-01 | | -0.021 |
| 9312-0005-007F | 236734.81 | 668622.53 | 2.11E-02 | 0.013 | 2.22E-02 | + | -8.37E-03 | 0.012 | 1.94E-02 | | -1.30E-02 | 0.021 | 4.46E-02 | | 1.46E-01 | 0.198 | 3.35E-01 | | 0.006 |
| 9312-0005-008F | 236734.81 | 668657.32 | 2.93E-04 | 0.010 | 1.68E-02 | | 2.30E-03 | 0.011 | 1.65E-02 | | 3.99E-02 | 0.029 | 4.35E-02 | + | 1.42E-01 | 0.210 | 3.55E-01 | | 0.063 |
| 9312-0005-009F | 236734.81 | 668692.10 | 8.59E-03 | 0.014 | 2.22E-02 | | 2.63E-03 | 0.013 | 2.29E-02 | | 2.28E-02 | 0.028 | 4.80E-02 | | 9.90E-02 | 0.203 | 3.46E-01 | | 0.040 |
| 9312-0005-010F | 236734.81 | 668726.89 | 2.02E-02 | 0.012 | 2.12E-02 | + | 9.77E-03 | 0.014 | 2.38E-02 | | 5.77E-04 | 0.025 | 4.82E-02 | | 8.99E-02 | 0.203 | 3.46E-01 | | 0.021 |
| 9312-0005-011F | 236734.81 | 668761.67 | 1.46E-02 | 0.026 | 1.94E-02 | | 2.48E-03 | 0.013 | 2.16E-02 | | 2.48E-02 | 0.029 | 4.86E-02 | | 7.59E-02 | 0.217 | 3.70E-01 | | 0.041 |
| 9312-0005-012F | 236704.69 | 668639.92 | -5.70E-03 | 0.013 | 2.23E-02 | | 8.34E-03 | 0.015 | 2.23E-02 | | 1.30E-03 | 0.022 | 4.37E-02 | | 6.58E-03 | 0.196 | 3.37E-01 | | 0.005 |
| 9312-0005-013F | 236704.69 | 668674.71 | 1.32E-02 | 0.018 | 1.85E-02 | | 8.76E-04 | 0.012 | 1.97E-02 | | 9.93E-03 | 0.020 | 3.60E-02 | | 1.62E-01 | 0.220 | 3.71E-01 | | 0.035 |
| 9312-0005-014F | 236704.69 | 668709.49 | 2.37E+00 | 0.207 | 2.77E-02 | + | 2.61E+00 | 0.154 | 2.22E-02 | + | 2.67E-02 | 0.027 | 4.36E-02 | + | 1.62E+01 | 0.050 | 3.78E-01 | + | 3.799 |
| 9312-0005-015F | 236674.56 | 668692.10 | 2.01E-02 | 0.016 | 2.08E-02 | + | 6.79E-03 | 0.012 | 2.10E-02 | | 1.36E-02 | 0.026 | 4.58E-02 | | -2.41E-01 | 0.209 | 3.73E-01 | | -0.010 |
| 9312-0005-011FS | 236734.81 | 668761.67 | 2.42E-02 | 0.018 | 2.21E-02 | + | 2.14E-03 | 0.015 | 2.48E-02 | | 2.23E-02 | 0.028 | 4.78E-02 | | 1.43E-01 | 0.216 | 3.65E-01 | | 0.049 |
| 9312-0005-016-B | 236697.81 | 668730.02 | -4.14E-04 | 0.023 | 3.14E-02 | | 9.39E-03 | 0.017 | 2.92E-02 | | 7.64E-03 | 0.022 | 4.16E-02 | | 1.93E-01 | 0.211 | 3.54E-01 | | 0.038 |
| 9312-0005-017-B | 236657.88 | 668696.84 | 1.47E-02 | 0.019 | 2.05E-02 | | -1.41E-03 | 0.012 | 1.99E-02 | | -2.58E-03 | 0.023 | 4.64E-02 | | 1.43E-01 | 0.211 | 3.56E-01 | | 0.019 |

TANK FARM (RCA)
SURVEY UNIT 9312-0005

RELEASE RECORD
Attachment 4

| Sample ID | GPS Coordinates | | Cs-137 | | | | Co-60 | | | | Sr-90 | | | | Tc-99 | | | | Fraction of DCGL |
|-----------------|-----------------|-----------|----------|-------|----------|------------|-----------|-------|----------|------------|-----------|-------|----------|------------|----------|-------|----------|------------|------------------|
| | | | Result | 2σ | MDA | Identified | 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) | | (pCi/g) | | (pCi/g) | | |
| 9312-0005-018-B | 236687.95 | 668658.53 | 5.15E-03 | 0.014 | 2.03E-02 | | 3.28E-03 | 0.012 | 1.99E-02 | | 2.81E-02 | 0.025 | 3.99E-02 | + | 1.25E-01 | 0.200 | 3.38E-01 | | 0.049 |
| 9312-0005-019-B | 236718.90 | 668614.93 | 6.18E-03 | 0.019 | 2.36E-02 | | -7.22E-03 | 0.018 | 2.85E-02 | | -4.11E-03 | 0.026 | 4.92E-02 | | 1.64E-01 | 0.202 | 3.40E-01 | | 0.015 |
| 9312-0005-020-I | 236702.25 | 668712.72 | 7.48E-03 | 0.025 | 4.63E-02 | | 1.25E-02 | 0.034 | 9.77E-02 | | 1.39E-02 | 0.021 | 3.55E-02 | | 3.23E-01 | 0.258 | 4.30E-01 | + | 0.064 |
| 9312-0005-021-I | 236707.91 | 668711.92 | 1.45E-02 | 0.019 | 3.47E-02 | | 4.83E-03 | 0.020 | 3.43E-02 | | 9.37E-03 | 0.022 | 4.05E-02 | | 2.66E-01 | 0.259 | 4.33E-01 | + | 0.050 |
| 9312-0005-022-I | 236707.08 | 668706.22 | 1.91E-02 | 0.019 | 2.90E-02 | | 2.80E-03 | 0.024 | 3.92E-02 | | 1.61E-03 | 0.019 | 3.64E-02 | | 2.89E-01 | 0.239 | 3.99E-01 | + | 0.045 |
| 9312-0005-023-1 | 236701.53 | 668707.10 | 1.90E-02 | 0.026 | 3.19E-02 | | 1.43E-02 | 0.016 | 2.97E-02 | | -6.07E-04 | 0.019 | 3.69E-02 | | 1.95E-01 | 0.240 | 4.04E-01 | | 0.035 |

OTHER RADIONUCLIDES

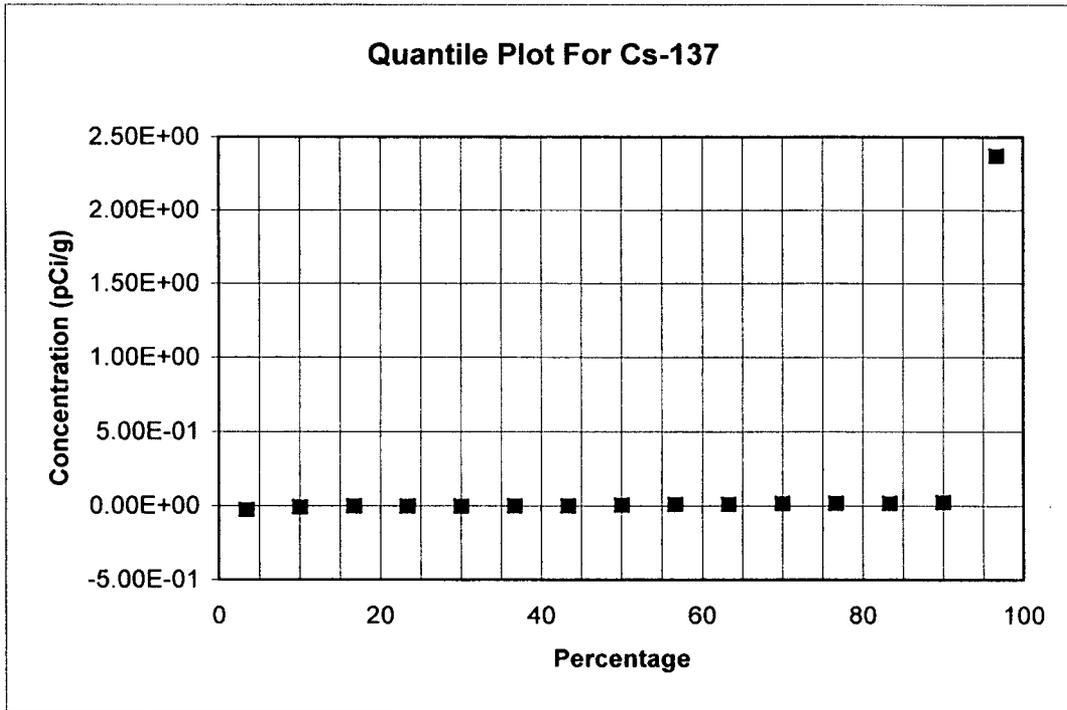
| Sample ID | Isotope | Result (pCi/g) | 2σ | MDA (pCi/g) | Identified | DCGL _{op} (pCi/g) | Fraction of DCGL |
|-----------------|---------|----------------|-------|-------------|------------|----------------------------|------------------|
| 9312-0005-001F | Cs-134 | 3.59E-02 | 0.034 | 5.79E-02 | + | 2.8E+00 | 0.013 |
| 9312-0005-003F | Mn-54 | 4.74E-02 | 0.033 | 5.50E-02 | + | 1.0E+01 | 0.005 |
| 9312-0005-005F | Nb-94 | 2.20E-02 | 0.015 | 2.81E-02 | + | 4.3E+00 | 0.005 |
| 9312-0005-006F | Cs-134 | 3.86E-02 | 0.033 | 5.47E-02 | + | 2.8E+00 | 0.014 |
| 9312-0005-007F | Am-241 | 8.08E-02 | 0.072 | 1.21E-01 | + | 1.6E+01 | 0.005 |
| 9312-0005-007F | Mn-54 | 1.52E-02 | 0.015 | 2.35E-02 | + | 1.0E+01 | 0.001 |
| 9312-0005-008F | Mn-54 | 1.33E-02 | 0.011 | 1.61E-02 | + | 1.0E+01 | 0.001 |
| 9312-0005-010F | Cs-134 | 2.60E-02 | 0.017 | 2.73E-02 | + | 2.8E+00 | 0.009 |
| 9312-0005-016-B | Cs-134 | 2.18E-02 | 0.020 | 3.38E-02 | + | 2.8E+00 | 0.008 |
| 9312-0005-017-B | Am-241 | 2.29E-02 | 0.018 | 3.01E-02 | + | 1.6E+01 | 0.001 |
| 9312-0005-017-B | Eu-155 | 3.23E-02 | 0.032 | 4.86E-02 | + | 2.4E+02 | 0.000 |
| 9312-0005-019-B | Cs-134 | 2.36E-02 | 0.016 | 3.06E-02 | + | 2.8E+00 | 0.008 |
| 9312-0005-019-B | Mn-54 | 2.14E-02 | 0.015 | 2.81E-02 | + | 1.0E+01 | 0.002 |

FORMER RADIOLOGICALLY CONTROLLED AREA
TANK FARM
SURVEY UNIT 9312-0005
RELEASE RECORD

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

QUANTILE PLOT FOR CESIUM-137

Survey Unit: 9312-0005
 Survey Unit Name: RCA – Former Tank Farm
 Mean: 1.65E-01 pCi/g



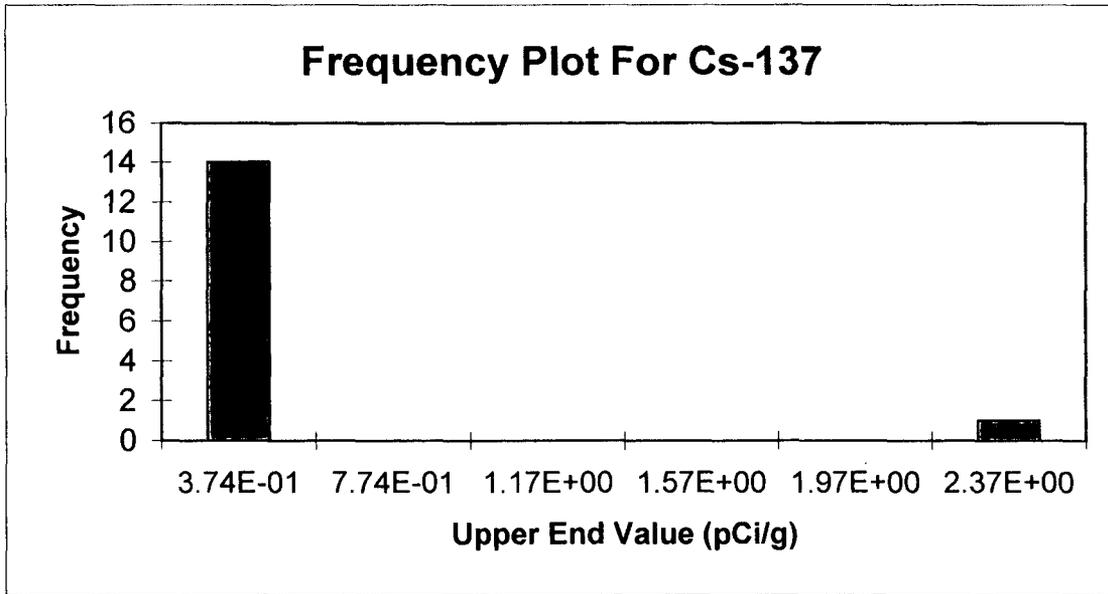
| Cs-137 | Rank | Percentage |
|-----------|------|------------|
| -2.47E-02 | 1 | 3.3% |
| -5.70E-03 | 2 | 10.0% |
| 2.93E-04 | 3 | 16.7% |
| 5.86E-04 | 4 | 23.3% |
| 1.51E-03 | 5 | 30.0% |
| 2.38E-03 | 6 | 36.7% |
| 3.82E-03 | 7 | 43.3% |
| 8.59E-03 | 8 | 50.0% |
| 1.32E-02 | 9 | 56.7% |
| 1.46E-02 | 10 | 63.3% |
| 2.01E-02 | 11 | 70.0% |
| 2.02E-02 | 12 | 76.7% |
| 2.11E-02 | 13 | 83.3% |
| 2.65E-02 | 14 | 90.0% |
| 2.37E+00 | 15 | 96.7% |

10 D. Wajtkowiak 3/27/07
 Submitted by/Date

JACK WILSON 3/28/07
 Reviewed by/Date

FREQUENCY PLOT FOR CESIUM-137

Survey Unit: 9312-0005
 Survey Unit Name: RCA - Former Tank Farm
 Mean: 1.65E-01 pCi/g



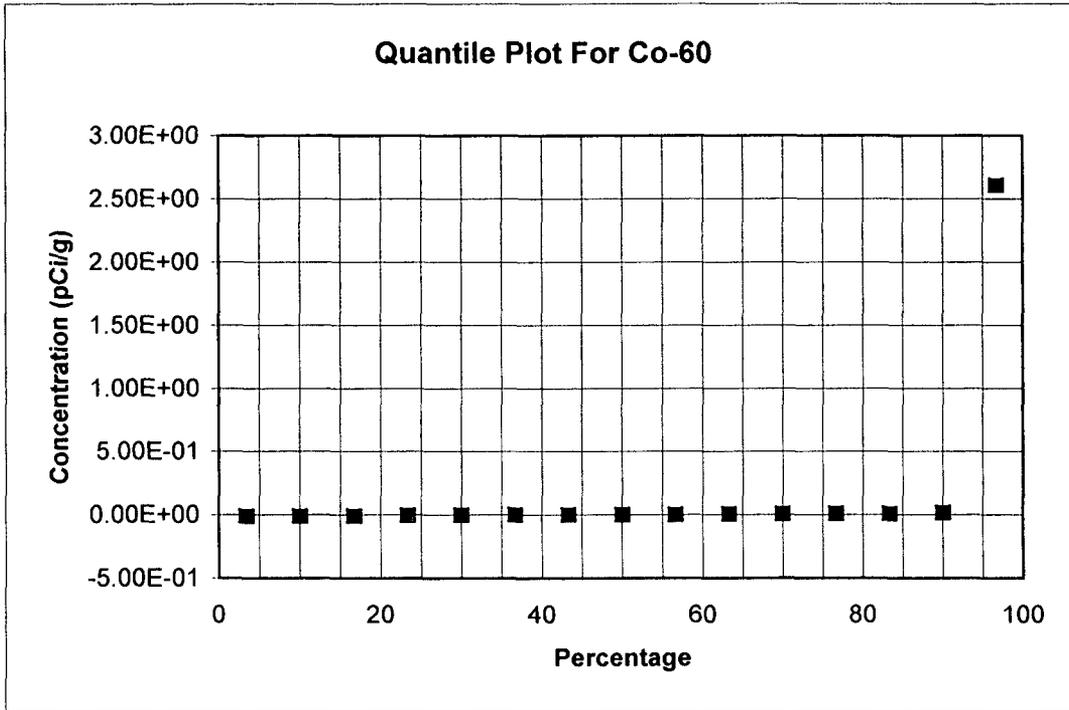
| Upper End Value | Observation Frequency | Observation Frequency |
|-----------------|-----------------------|-----------------------|
| 3.74E-01 | 14 | 93% |
| 7.74E-01 | 0 | 0% |
| 1.17E+00 | 0 | 0% |
| 1.57E+00 | 0 | 0% |
| 1.97E+00 | 0 | 0% |
| 2.37E+00 | 1 | 7% |
| Total: | 15 | 100% |

[Signature]
 Submitted by/Date: D. WOSTKOWIAK 3/27/07

[Signature]
 Reviewed by/Date: Jack M... 3/28/07

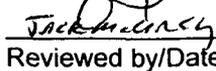
QUANTILE PLOT FOR COBALT-60

Survey Unit: 9312-0005
 Survey Unit Name: RCA / Former Tank Farm
 Mean: 1.75E-01 pCi/g



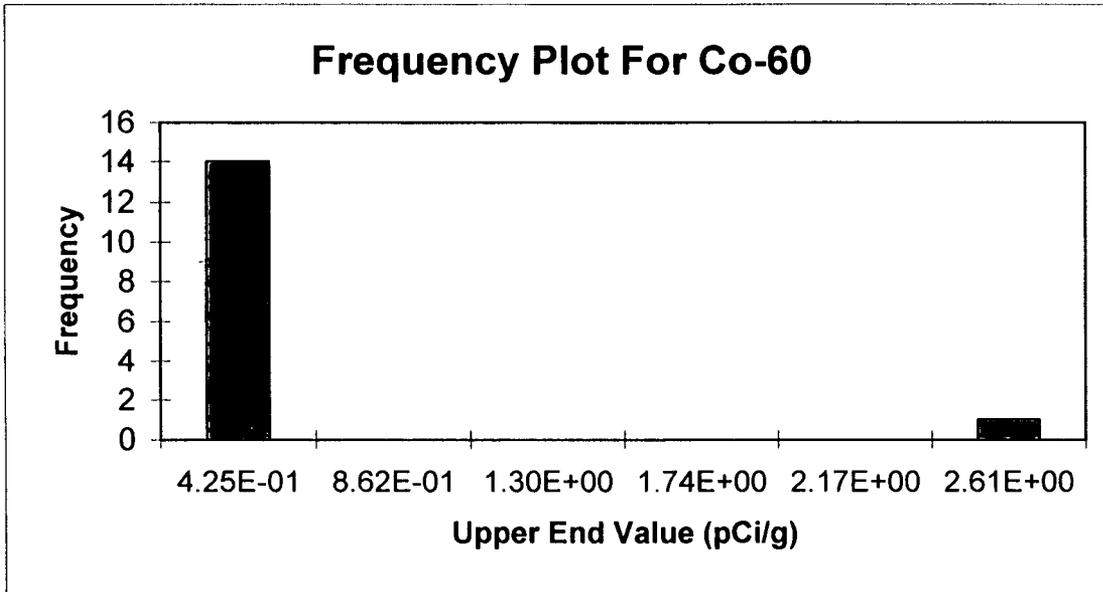
| Co-60 | Rank | Percentage |
|-----------|------|------------|
| -1.16E-02 | 1 | 3.3% |
| -1.14E-02 | 2 | 10.0% |
| -8.37E-03 | 3 | 16.7% |
| -3.79E-03 | 4 | 23.3% |
| -1.63E-03 | 5 | 30.0% |
| 8.76E-04 | 6 | 36.7% |
| 2.30E-03 | 7 | 43.3% |
| 2.48E-03 | 8 | 50.0% |
| 2.63E-03 | 9 | 56.7% |
| 6.79E-03 | 10 | 63.3% |
| 7.33E-03 | 11 | 70.0% |
| 8.34E-03 | 12 | 76.7% |
| 9.77E-03 | 13 | 83.3% |
| 1.74E-02 | 14 | 90.0% |
| 2.61E+00 | 15 | 96.7% |

 ZAWATKOWIAK 3/27/07
 Submitted by/Date

 3/28/07
 Reviewed by/Date

FREQUENCY PLOT FOR COBALT-60

Survey Unit: 9312-0005
 Survey Unit Name: RCA / Former Tank Farm
 Mean: 1.75E-01 pCi/g



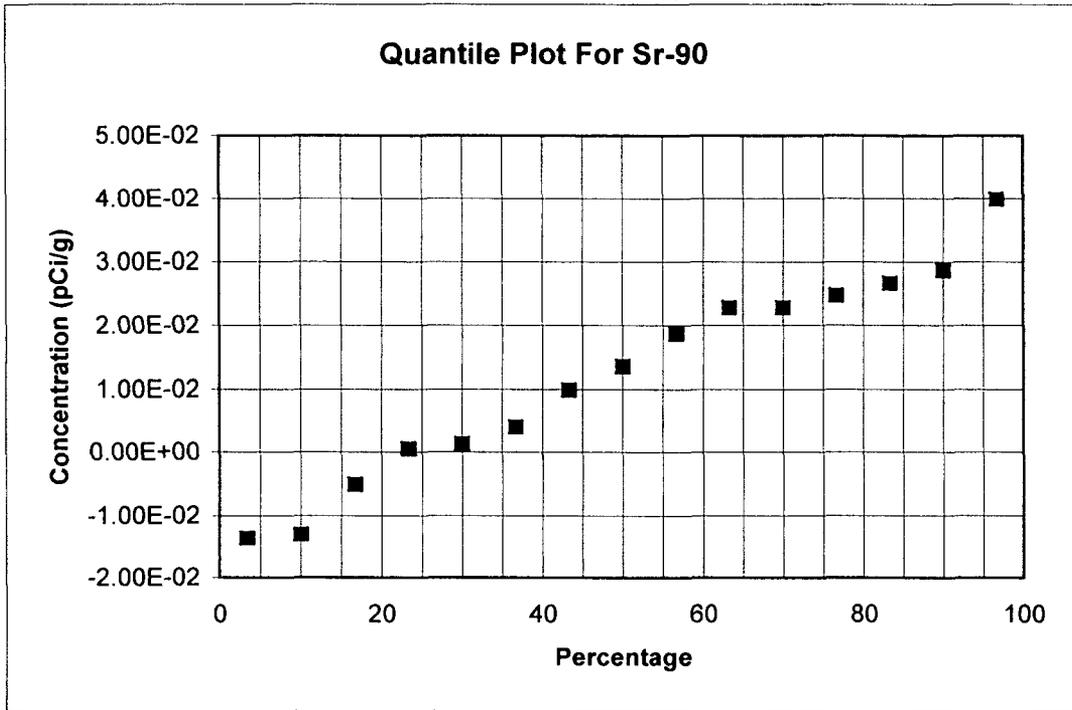
| Upper End Value | Observation Frequency | Observation Frequency |
|-----------------|-----------------------|-----------------------|
| 4.25E-01 | 14 | 93% |
| 8.62E-01 | 0 | 0% |
| 1.30E+00 | 0 | 0% |
| 1.74E+00 | 0 | 0% |
| 2.17E+00 | 0 | 0% |
| 2.61E+00 | 1 | 7% |
| Total: | 15 | 100% |

[Signature]
 Submitted by/Date
 D. WOSTKOWIAK 3/27/07

[Signature]
 Reviewed by/Date
 JACK MILERSKY 3/28/07

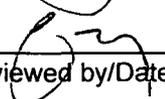
QUANTILE PLOT FOR STRONTIUM-90

Survey Unit: 9312-0005
 Survey Unit Name: RCA - Former Tank Farm
 Mean: 1.21E-02 pCi/g



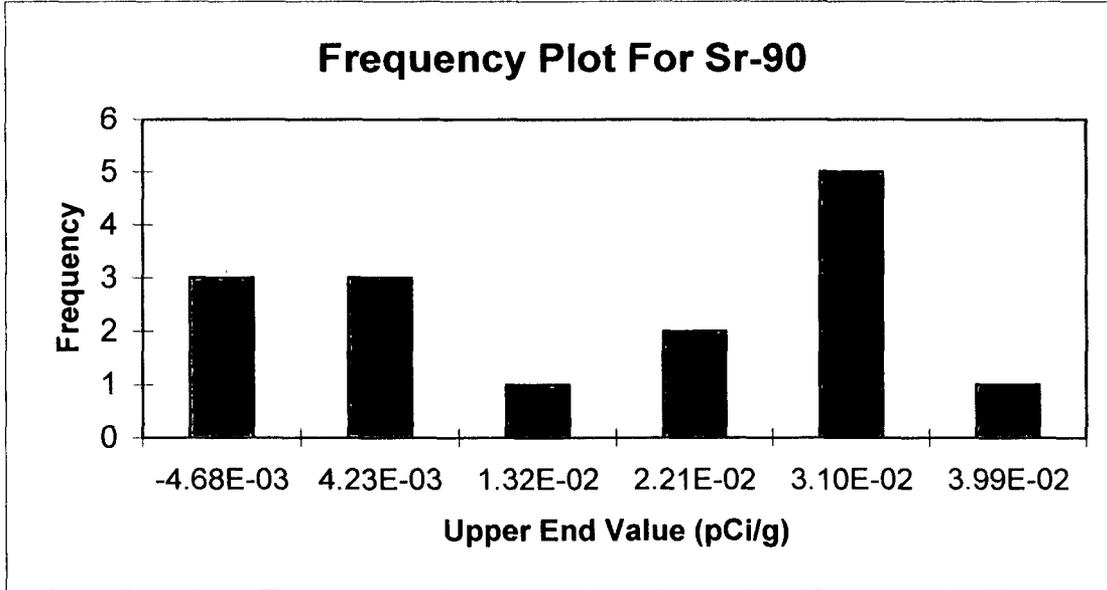
| Sr-90 | Rank | Percentage |
|-----------|------|------------|
| -1.36E-02 | 1 | 3.3% |
| -1.30E-02 | 2 | 10.0% |
| -5.12E-03 | 3 | 16.7% |
| 5.77E-04 | 4 | 23.3% |
| 1.30E-03 | 5 | 30.0% |
| 4.01E-03 | 6 | 36.7% |
| 9.93E-03 | 7 | 43.3% |
| 1.36E-02 | 8 | 50.0% |
| 1.87E-02 | 9 | 56.7% |
| 2.28E-02 | 10 | 63.3% |
| 2.28E-02 | 11 | 70.0% |
| 2.48E-02 | 12 | 76.7% |
| 2.67E-02 | 13 | 83.3% |
| 2.87E-02 | 14 | 90.0% |
| 3.99E-02 | 15 | 96.7% |

 D. WAJTKOWIAK 3/26/07
 Submitted by/Date

 3/28/07
 Reviewed by/Date

FREQUENCY PLOT FOR STRONTIUM-90

Survey Unit: 9312-0005
 Survey Unit Name: RCA - Former Tank Farm
 Mean: 1.21E-02 pCi/g



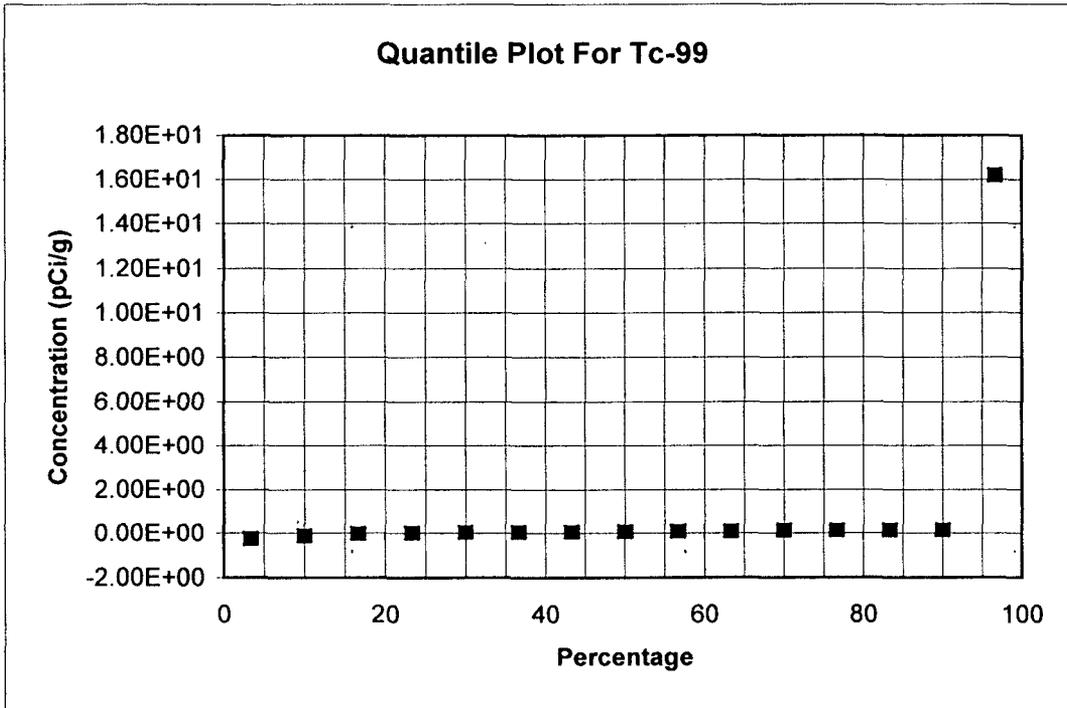
| Upper End Value | Observation Frequency | Observation Frequency |
|-----------------|-----------------------|-----------------------|
| -4.68E-03 | 3 | 20% |
| 4.23E-03 | 3 | 20% |
| 1.32E-02 | 1 | 7% |
| 2.21E-02 | 2 | 13% |
| 3.10E-02 | 5 | 33% |
| 3.99E-02 | 1 | 7% |
| Total: | 15 | 100% |

[Signature]
 Submitted by/Date: D. WARTKOWIAK 3/27/07

[Signature]
 Reviewed by/Date: S. K. M. WASH 3/28/07

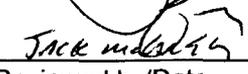
QUANTILE PLOT FOR TECHNETIUM-99

Survey Unit: 9312-0005
 Survey Unit Name: RCA - Former Tank Farm
 Mean: 1.13E+00 pCi/g



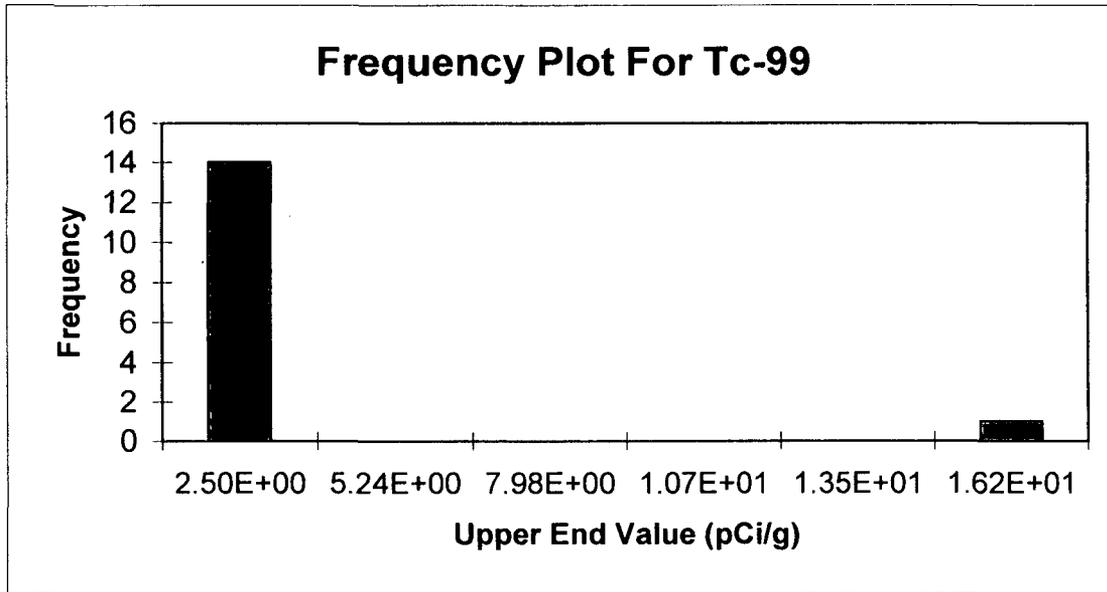
| Tc-99 | Rank | Percentage |
|-----------|------|------------|
| -2.41E-01 | 1 | 3.3% |
| -9.98E-02 | 2 | 10.0% |
| 6.58E-03 | 3 | 16.7% |
| 4.11E-02 | 4 | 23.3% |
| 5.84E-02 | 5 | 30.0% |
| 7.39E-02 | 6 | 36.7% |
| 7.59E-02 | 7 | 43.3% |
| 8.99E-02 | 8 | 50.0% |
| 9.90E-02 | 9 | 56.7% |
| 1.04E-01 | 10 | 63.3% |
| 1.42E-01 | 11 | 70.0% |
| 1.46E-01 | 12 | 76.7% |
| 1.62E-01 | 13 | 83.3% |
| 1.64E-01 | 14 | 90.0% |
| 1.62E+01 | 15 | 96.7% |

 D. WAITKOWIAK 3/27/07
 Submitted by/Date

 Jack 3/28/07
 Reviewed by/Date

FREQUENCY PLOT FOR TECHNETIUM-99

Survey Unit: 9312-0005
 Survey Unit Name: RCA - Former Tank Farm
 Mean: 1.13E+00 pCi/g



| Upper End Value | Observation Frequency | Observation Frequency |
|-----------------|-----------------------|-----------------------|
| 2.50E+00 | 14 | 93% |
| 5.24E+00 | 0 | 0% |
| 7.98E+00 | 0 | 0% |
| 1.07E+01 | 0 | 0% |
| 1.35E+01 | 0 | 0% |
| 1.62E+01 | 1 | 7% |
| Total: | 15 | 100% |

[Signature]
 Submitted by/Date J. WOJTKOWIK 3/27/07
[Signature]
 Reviewed by/Date JACK M. [Signature] 3/28/07

FORMER RADIOLOGICALLY CONTROLLED AREA
TANK FARM
SURVEY UNIT 9312-0005
RELEASE RECORD

ATTACHMENT 4C (SIGN TEST)

Sign Test Calculation Sheet for Multiple Radionuclides

| Survey Area Number: 9312 | | Survey Unit Number: 0005 | | WPIR #: N/A | | |
|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|---------------------------------------|------------------|------|
| Survey Area Name: Tank Farm (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 | 4 th Radionuclide Tc-99 | | |
| DCGL: | 4.75E+00 | 2.29E+00 | 9.30E-01 | 7.60E+00 | | |
| 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 |
| 3.82E-03 | -1.16E-02 | 2.28E-02 | 1.64E-01 | 0.04 | 0.96 | +1 |
| 1.51E-03 | 1.74E-02 | 2.87E-02 | 4.11E-02 | 0.04 | 0.96 | +1 |
| 2.65E-02 | -1.14E-02 | 1.87E-02 | 7.39E-02 | 0.03 | 0.97 | +1 |
| 2.38E-03 | -3.79E-03 | -1.36E-02 | 5.84E-02 | -0.01 | 1.01 | +1 |
| 5.86E-04 | -1.63E-03 | 4.01E-03 | 1.04E-01 | 0.02 | 0.98 | +1 |
| -2.47E-02 | 7.33E-03 | -5.12E-03 | -9.98E-02 | -0.02 | 1.02 | +1 |
| 2.11E-02 | -8.37E-03 | -1.30E-02 | 1.46E-01 | 0.01 | 0.99 | +1 |
| 2.93E-04 | 2.30E-03 | 3.99E-02 | 1.42E-01 | 0.06 | 0.94 | +1 |
| 8.59E-03 | 2.63E-03 | 2.28E-02 | 9.90E-02 | 0.04 | 0.96 | +1 |
| 2.02E-02 | 9.77E-03 | 5.77E-04 | 8.99E-02 | 0.02 | 0.98 | +1 |
| 1.46E-02 | 2.48E-03 | 2.48E-02 | 7.59E-02 | 0.04 | 0.96 | +1 |
| -5.70E-03 | 8.34E-03 | 1.30E-03 | 6.58E-03 | 0.00 | 1.00 | +1 |
| 1.32E-02 | 8.76E-04 | 9.93E-03 | 1.62E-01 | 0.04 | 0.96 | +1 |
| 2.37E+00 | 2.61E+00 | 2.67E-02 | 1.62E+01 | 3.80 | -2.80 | -1 |
| 2.01E-02 | 6.79E-03 | 1.36E-02 | -2.41E-01 | -0.01 | 1.01 | +1 |
| | | | | | | |
| | | | | | | |
| Number of positive differences (S+) | | | | | | 14 |

Critical Value 11

Survey Unit Meets the Acceptance Criteria

Performed by: David Wojtkowiak

Date: 3/26/2007

Independent Review by: Jack M. [Signature]

Date: 3/28/07

FORMER RADIOLOGICALLY CONTROLLED AREA
TANK FARM
SURVEY UNIT 9312-0005
RELEASE RECORD

ATTACHMENT 4D (QC SPLIT RESULTS)

Split Sample Assessment Form

| | | |
|---------------------|---------------------|-----------------------------------|
| Survey Area #: 9312 | Survey Unit #: 0005 | Survey Unit Name: RCA - Tank Farm |
|---------------------|---------------------|-----------------------------------|

| | |
|---------------------------|---------------------|
| Sample Plan or WPIR#: N/A | SML#: 9312-0005-011 |
|---------------------------|---------------------|

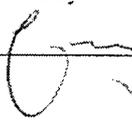
Sample Description: Comparison of split samples collected from sample measurement location #11 and analyzed using gamma spectroscopy by off-site Vendor Laboratory. The standard sample was 9312-0005-011F, the comparison sample was 9312-0005-011FS.

| STANDARD | | | | | COMPARISON | | | |
|--------------|----------------|----------------|------------|-----------------|----------------|----------------|------------------|------------------|
| Radionuclide | Activity Value | Standard Error | Resolution | Agreement Range | Activity Value | Standard Error | Comparison Ratio | Acceptable (Y/N) |
| K-40 | 1.04E+01 | 0.427 | 24 | 0.75 - 1.33 | 9.87E+00 | 0.417 | 0.95 | Y |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Comments/Corrective Actions: Cs-137 was not detected in sufficient quantities in the field split results at location 9312-0005-011F to evaluate in accordance with procedure. Evaluation using the reported results for K-40 resulted in acceptable agreement between the field-split results at these locations. Since K-40 was found to be present at an acceptable level of agreement, no further action is warranted.

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

| | |
|-------------------|------------------------|
| <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: 3/26/2007 | Received by:  | Date: 3/28/07 |
|--------------------------------------------------------------------------------------------------------------------|-----------------|-----------------------------------------------------------------------------------------------------|---------------|

FORMER RADIOLOGICALLY CONTROLLED AREA
TANK FARM
SURVEY UNIT 9312-0005
RELEASE RECORD

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



DQA Surface Soil Report

Assessment Summary

| | | | |
|-------------------------|----------------------------------------------------|--------------|---------------|
| Site: | 9312 | | |
| Planner(s): | Wojo | | |
| Survey Unit Name: | 9312-0005 | | |
| Report Number: | 1 | | |
| Survey Unit Samples: | 15 | | |
| 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

