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Final Status Survey Final Report Phase IV

Appendix A15 Survey Unit Release Record 9106-0015, Discharge Canal



November 2006

CYAPCO FINAL STATUS SURVEY RELEASE RECORD DISCHARGE CANAL **SURVEY UNIT 9106-0015** Date: <u>11-21-96</u> malal Prepared By: FSS Engineer Date: <u>//- 2/-</u>0C Reviewed By: FSS Engineer Date: 11/26/86 Approved By: Clyce T. Yeu Technical Support Manager

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1. SURVEY UNIT DESCRIPTION

Survey Unit 9106-0015 (Discharge Canal) is designated as Final Status Survey (FSS) Class 1 and consists of approximately 1,170 m² (0.29 acres) of water covered sediment in an area located approximately 0.81 miles from the reference coordinate system benchmark used at the Haddam Neck Plant (HNP) (see Attachment 1, Figure 1). The Discharge Canal is a man-made mile long waterway that runs parallel to, and ultimately communicates with the Connecticut River. The Discharge Canal is subdivided into fifteen (15) survey units including two (2) permanent wetland areas for FSS purposes. The survey unit is completely surrounded by Discharge Canal Survey Unit 9106-0007. The survey unit comprises the canal sediments to the depth of three feet from the top of the sediment layer or the original construction depth. This survey unit is bounded by reference coordinates E022 through E029 and by S133 through S143 (refer to License Termination Plan Section 5.4.4). The reference coordinates provide the maximum dimensions of a rectangle containing this survey unit. Some areas contained in this rectangle may not be part of this survey unit. The boundary of the survey unit was defined using a Global Positioning System (GPS) based on the Connecticut State Plane System North American Datum (NAD) 1927.

2. CLASSIFICATION BASIS

The survey unit was classified in accordance with Procedure RPM 5.1-10, "Survey Unit Classification." The historical information, scoping analyses and characterization results provided sufficient data to designate Survey Unit 9106-0015 as Class 1 in June 2006.

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

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

A review of the 10CFR50.75(g)(1) database report identified a number of events that may have impacted this survey unit. Several events indicated the potential for plant related contamination in the survey unit. These included a number of primary side system to secondary side system leakage events, contamination found to be present in secondary side systems and components, and unmonitored spills that drained to the discharge canal. In 1986, samples were taken from the legacy dredge spoils removed in 1979 dredged spoils area and from recently dredged canal sediment. The sample analyses indicated that the concentrations of Cs-137, Co-60 and other radionuclides were a small

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

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

The survey area that constitutes Survey Unit 9106-0015 was initially a portion of Class 2 Survey Unit 9106-0007. However, upon reviewing the FSS data for Survey Unit 9106-0007, it was determined that one (1) sample exceeded the Operational DCGL for the area. This required that a portion of Survey Unit 9106-0007 be reclassified as a Class 1 survey unit. This was done and the newly created survey unit was designated 9106-0015.

The FSS data taken in association with the initial FSS design for Survey Unit 9106-0007, was deemed to be appropriate for characterization data for Survey Unit 9106-0015. This consisted of fifteen (15) sediment samples taken from fifteen (15) locations. All of the samples were analyzed by gamma spectroscopy and for Sr-90. In addition, two (2) of these samples were analyzed for all Hard-to-Detect (HTD) nuclides. The results indicated that the radionuclides of concern identified for FSS planning purposes were Cs-137, Co-60 and Sr-90 (refer to Table 1).

Table 1 – Basic Statistical Quantities for Cs-137, Co-60 and Sr-90 from the Characterization Survey					
Parameter	Cs-137 (pCi/g)	Co-60 (pCi/g)	Sr-90 (ρCi/g)		
Minimum Value:	-1.62E-02	-1.46E-02	-9.81E-03		
Maximum Value:	6.42E-01	3.09E+00	4.04E-02		
Mean:	2.25E-01	4.90E-01	8.03E-03		
Median:	2.21E-01	1.20E-01	7.30E-03		
Standard Deviation: 2.22E-01 8.32E-01 1.08E-02					
NOTE: The Operational DCGLs from Table 2 are 6.01 pCi/g for Cs-137, 2.90 pCi/g for					
Co-60 and 1.18 for Sr-90; these are used in conjunction with the unity rule to achieve					
nineteen (19) mrem/yr TEDE					

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

Based upon the historical information and the results of radiological surveys performed during characterization, it was concluded that there was significant probability for residual radioactivity to be present in this survey unit in

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concentrations greater than the Operational DCGLs justifying a final survey unit classification of Class 1 (refer to Section 3).

3. DATA QUALITY OBJECTIVES (DQO)

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

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

The primary objective of the Final Status Survey Plan (FSSP) was to demonstrate that the level of residual radioactivity in Survey Unit 9106-0015 did not exceed the release criteria specified in the LTP and that the potential dose from residual radioactivity is As Low As Reasonably Achievable (ALARA).

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

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

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

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Equation 1:

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

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

This survey unit is not affected by existing groundwater, (reference CY memo ISC 06-024). Therefore, dose contribution from existing groundwater is zero (0) mrem/yr TEDE.

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

Equation 2:

19 mrem/yr_{Total}=19 mrem/yr_{Soil}+0 mrem/yr_{Existing GW}+0 mrem/yr_{Future GW}

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

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

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Table 2 – Radionuclide Specific Base Case Soil DCGL, Operational DCGLs and Required Minimum Detectable Concentrations				
Radionuclide ⁽¹⁾	Base Case Soil DCGL (ρCi/g) ⁽²⁾	Operational DCGL (pCi/g) ⁽³⁾	Required MDC (ρCi/g) ⁽⁴⁾	
H-3	4.12E+02	3.13E+02	1.65E+01	
C-14	5.66E+00	4.30E+00	2.26E-01	
Mn-54	1.74E+01	1.32E+01	6.96E-01	
Fe-55	2.74E+04	2.08E+04	1.10E+03	
Co-60	3.81E+00	2.90E+00	1.52E-01	
Ni-63	7.23E+02	5.49E+02	2.89E+01	
Sr-90	1.55E+00	1.18E+00	6.20E-02	
Nb-94	7.12E+00	5.41E+00	2.85E-01	
Tc-99	1.26E+01	9.58E+00	5.04E-01	
Ag-108m	7.14E+00	5.43E+00	2.86E-01	
Cs-134	4.67E+00	3.55E+00	1.87E-01	
Cs-137	7.91E+00	6.01E+00	3.16E-01	
Eu-152	1.01E+01	7.68E+00	4.04E-01	
Eu-154	9.29E+00	7.06E+00	3.72E-01	
Eu-155	3.92E+02	2.98E+02	1.57E+01	
Pu-238	2.96E+01	2.25E+01	1.18E+00	
Pu-239/240	2.67E+01	2.03E+01	1.07E+00	
Pu-241	8.70E+02	6.61E+02	3.48E+01	
Am-241 ⁽⁵⁾	2.58E+01	1.96E+01	1.03E+00	
Cm-243/244	2.90E+01	2.20E+01	1.16E+00	

(1) Bold indicates those radionuclides considered to be Hard to Detect (HTD)

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

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

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

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

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

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

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summaries included unique sample identification, analytical method, radionuclide, result, and uncertainty to two (2) standard deviations, laboratory data qualifiers, units, and the required and observed MDC.

The Elevated Measurement Comparison (EMC) consists of comparing each measurement from the survey unit with the investigation levels discussed in Section 4 (and presented in Table 4). As stated in Section 5.8.3 of the LTP, any measurement from the survey unit that is greater than an investigation level indicates an area of relatively high concentrations that should be investigated, regardless of the outcome of the nonparametric statistical tests. Thus the use of the EMC against the investigation levels may be viewed as assurance that unusually large measurements will receive proper attention regardless of the outcome of that any area having the potential for significant dose contributions will be identified.

The LTP (by way of Equation 5-31) states that if residual radioactivity exists in an isolated area of elevated activity in addition to residual radioactivity distributed relatively uniformly across a survey unit, the unity rule will be used to ensure the total dose is within the release criterion. This is demonstrated in equation 3.

Equation 3:

$$\frac{\delta}{DCGL_{W}} + \frac{\overline{C}_{elevated} - \delta}{(AreaFactor) \times DCGL_{W}} < 1$$

Where:

 δ = average concentration outside the elevated area,

 $\overline{C}_{elevated}$ = average concentration in the elevated area.

A separate term will be used in Equation 3.0 for each elevated area in a survey unit.

4. SURVEY DESIGN

The level of effort associated with planning a survey is based on the complexity of the survey and nature of the hazards. Guidance for preparing FSS plans is provided in Procedure RPM 5.1-11, "*Preparation of Final Status Survey Plans*".

This survey was initially designed to ten (10) mrem/yr TEDE. At the time when the survey was designed, the dose contribution for existing and future groundwater had not yet been determined. Subsequently, a conservative value

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was chosen for the design DCGL. This approach is no longer required as the total dose from existing and future groundwater has been established. The dose for soil used for this survey unit to demonstrate compliance with the LTP criteria is nineteen (19) mrem/yr TEDE, as discussed in Section 3 of this Release Record.

The DQO process determined that Cs-137, Co-60 and Sr-90 were the radionuclides of concern (refer to Section 2). The sum of fractions or unity rule was used with the individual Operational DCGLs because multiple radionuclides (Cs-137, Co-60 and Sr-90) were considered in the survey design.

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

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

The EMC applies to this survey unit since it is a Class 1 area.

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

The number of sediment samples for FSS was determined in accordance with Procedure RPM 5.1-12, "Determination of the Number of Samples for Final Status Survey." The Lower Bound of the Gray Region (LBGR) was set in accordance with Procedure RPM 5.1-11 to 0.394 to maintain the relative shift (Δ/σ) in the range of 1 and 3. The resulting relative shift was 1.1. A Prospective Power Curve was generated using COMPASS, a software package developed under the sponsorship of the United States Nuclear Regulatory Commission (USNRC) for implementation of MARSSIM in support of the decommissioning license termination rule (10 CFR 20, Subpart E). The result of the COMPASS computer run showed adequate power for the survey design. This indicates that the survey unit has a high probability of rejecting the null hypothesis, assuming that the characterization data are representative of the FSS results. Survey design specified twenty-eight (28) sediment core samples for non-parametric statistical testing.

The grid pattern and locations of the sediment 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."

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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 3.

Table 3 -Sample Measure	ment Locations with Ass	ociated GPS Coordinates
Designation	Northing	Easting
9106-0015-001F	235153.65	672480.81
9106-0015-002F	235133.21	672445.41
9106-0015-003F	235133.21	672469.01
9106-0015-004F	235133.21	672492.61
9106-0015-005F	235112.77	672410.01
9106-0015-006F	235112.77	672433.61
9106-0015-007F	235112.77	672457.21
9106-0015-008F	235112.77	672480.81
9106-0015-009F	235112.77	672504.40
9106-0015-010F	235092.34	672421.81
9106-0015-011F	235092.34	672445.41
9106-0015-012F	235092.34	672469.01
9106-0015-013F	235092.34	672492.61
9106-0015-014F	235092.34	672516.20
9106-0015-015F	235071.90	672433.61
9106-0015-016F	235071.90	672457.21
9106-0015-017F	235071.90	672480.81
9106-0015-018F	235071.90	672504.40
9106-0015-019F	235071.90	672528.00
9106-0015-020F	235051.46	672445.41
9106-0015-021F	235051.46	672469.01
9106-0015-022F	235051.46	672492.61
9106-0015-023F	235051.46	672516.20
9106-0015-024F	235051.46	672539.80
9106-0015-025F	235031.02	672457.21
9106-0015-026F	235031.02	672480.81
9106-0015-027F	235031.02	672504.40
9106-0015-028F	235010.58	672469.01

Five (5) sediment samples were analyzed for the full suite of radionuclides specified in Table 1, exceeding the requirement to analyze 5% of the sample population for HTD analysis specified in procedure RPM 5.1-11. Three (3) of the five (5) samples were randomly selected using the Microsoft Excel "RAND"

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

The results of one (1) additional sample, number 9106-0007-017F, were included in this report as a result of the investigation that was conducted based on the results of the sample analyses.

The implementation of quality control measures as referenced by Procedure RPM 5.1-24, "Split Sample Assessment for Final Status Survey," required the collection of three (3) soil samples for "split sample" analysis by the off-site laboratory. These locations were selected randomly using the Microsoft Excel "RAND" function. The number of quality control samples exceeded the 5% requirement as specified by the LTP.

Section 5.7.3.2.6 of the LTP specifies that scanning is not required for the FSS of the Discharge Canal. Table 4 provides a synopsis of the survey design.

Table 4 – Synopsis of the Survey Design ⁽¹⁾				
Feature	Design Criteria	Basis		
Survey Unit	1.170 m^2	Based on AutoCAD-LT and Visual		
Land Area	1,170 m	Sample Plan calculations		
		Type 1 and Type 2 errors were 0.05,		
Number of	26	sigma was 0.552 the LBGR was set to		
Measurements ⁽³⁾	20	0.394 to maintain Relative Shift in the		
		range of 1 and 3, Relative Shift was 1.1		
Grid Spacing	7.21 m	Based on triangular grid		
	3.16 ρCi/g Cs-137			
Design DCGL	1.52 ρCi/g Co-60	To achieve ten (10) mrem/yr TEDE		
	0.62 pCi/g Sr-90			
Operational	6.01 pCi/g Cs-137	To achieve nineteen (19) mrem/yr		
DCGI	2.90 ρCi/g Co-60	TEDE ⁽²⁾ to demonstrate compliance with		
DCOL	1.18 pCi/g Sr-90	Equation 2 of this Release Record		
Scan Coverage	N/A	The LTP exempts this area		
Sediment	6.01 pCi/g Cs-137	The Operational DCGL mosts the LTR		
Investigation	2.90 ρCi/g Co-60	aritaria for a Close 1 survey unit		
Level	1.18 ρCi/g Sr-90	citteria for a Class I survey unit		
		The survey unit area divided by the		
Area between	15 m^2	number of direct measurements		
points	4,5 III	used to calculate the grid size.		
		$(1,170 \text{ m}^2/26 = 45 \text{ m}^2)$		

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

(2) The allowable dose for soil in this survey unit is nineteen (19) mrem/yr TEDE as the bounding dose from existing and future groundwater has been established based on field data (reference CY memo ISC 06-024.)

(3) The grid size selected was based on twenty-six (26) samples. However, the VSP run generated twenty-eight (28) measurement locations, each of the twenty-eight (28) measurements taken were used in the Sign Test.

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5. SURVEY IMPLEMENTATION

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

Measurement locations were identified in North American Datum (NAD) 1927 coordinates that were supplied to the sampling vendor, Ocean Surveys, Inc. (OSI) of Old Saybrook, Connecticut. Discharge Canal sampling was accomplished using direct push technology to collect composite samples of bottom and mean high water mark sediments. Sediment cores from the Discharge Canal were obtained by OSI using a vibrating corer that is platform mounted on a sampling vessel. The core barrel was a three (3) inch diameter thin-walled aluminum tube which also served as a core liner (ten (10) feet or less). A core catcher was available to prevent the sample from sliding out of the bottom of the tube. Vessel positioning and the determination of sample locations were accomplished using a GPS interfaced with a navigation and data logging system.

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

The twenty-eight (28) sediment samples were collected and packaged in accordance with Haddam Neck Plant (HNP) Procedure RPM 5.1-3, "*Collection of Sample Media for Final Status Survey*" and FSS design. Samples were controlled, transported, stored, and transferred to the off-site laboratory using COC protocols.

Five (5) samples (9106-0015-002F, 9106-0015-004F, 9106-0015-015F, 9106-0015-018F and 9106-0015-021F) of the total number of samples identified for non-parametric testing were selected for HTD radionuclide analysis by the off-site laboratory. A sixth sample, 9106-0007-017F, was originally collected and analyzed as part of Survey Unit 9106-0007. However, since the sample results exceeded the limits for a Class 2 survey unit, Survey Unit 9106-0015, a Class 1 survey unit, was created. The results of sample number 9106-0007-017F were included in this survey unit as a investigative sample result that required

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additional sampling and analysis and not for non-parametric testing purposes (refer to Section 8).

The implementation of quality control measures included the collection of three (3) split samples at locations (9106-0015-005F, 9106-0015-012F and 9106-0015-018F for comparative analysis by the off-site laboratory.

6. SURVEY RESULTS

The off-site laboratory employed for the radiological analyses of samples was General Engineering Laboratories (GEL) – Charleston, South Carolina. The laboratory analyzed the twenty-eight (28) samples taken for non-parametric statistical testing and the associated duplicates using gamma spectroscopy. Sr-90 was analyzed by liquid scintillation analyses. All analyses were performed to the required MDC.

Cs-137 was positively identified (i.e., a result greater than two (2) standard deviations uncertainty) in twenty-four (24), Co-60 was positively identified in twenty-one (21) and Sr-90 was positively identified in five (5) of the twenty-eight (28) samples.

Several other radionuclides, which were positively identified, could be deselected or excluded using the 5% and 10% rule described in Section 5.4.7.2 of the LTP.

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

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Table 5- Summary of Sediment Sample Results					
				Fracti	on of the
Sample Number	Cs-137	Co-60	Sr-90	Operation	nal DCGL ⁽¹⁾
Sample Number	ρCi/g	ρCi/g	ρCi/g	Nuclides	Unity
				of concern	(Sign Test) ⁽²⁾
9106-0015-001F	2.560E-02	1.200E-02	2.480E-02	2.92E-02	8.33E-02
9106-0015-002F	5.220E-01	1.110E+00	-1.880E-02	4.54E-01	5.95E-01
9106-0015-003F	4.67E-02	1.42E-01	-3.33E-03	5.39E-02	1.08E-01
9106-0015-004F	-8.56E-03	9.74E-03	1.98E-02	1.86E-02	1.88E-02
9106-0015-005F	5.89E-02	9.29E-04	1.33E-02	2.13E-02	7.54E-02
9106-0015-006F	3.22E-01	3.50E-01	8.64E-03	1.82E-01	2.36E-01
9106-0015-007F	2.85E-01	3.55E-01	2.98E-03	1.72E-01	2.26E-01
9106-0015-008F	2.15E-01	3.49E-01	1.05E-02	1.65E-01	2.19E-01
9106-0015-009F	1.19E-02	3.23E-02	1.55E-02	2.61E-02	8.03E-02
9106-0015-010F	2.53E-01	0.00E+00	3.71E-03	4.52E-02	9.93E-02
9106-0015-011F	4.93E-01	3.96E-01	1.88E-02	2.34E-01	2.88E-01
9106-0015-012F	3.47E-01	6.55E-01	3.27E-03	2.86E-01	3.40E-01
9106-0015-013F	4.43E-01	7.05E-01	5.00E-03	3.21E-01	3.75E-01
9106-0015-014F	4.43E-02	4.32E-02	2.22E-02	4.09E-02	9.90E-02
9106-0015-015F	2.08E-01	7.07E-02	2.11E-02	7.67E-02	4.79E-02
9106-0015-016F	3.02E-01	1.01E-01	-2.59E-03	8.29E-02	1.37E-01
9106-0015-017F	4.74E-01	2.90E-01	4.49E-03	1.83E-01	2.37E-01
9106-0015-018F	3.54E-01	1.16E+00	-1.15E-02	4.49E-01	4.72E-01
9106-0015-019F	9.01E-02	2.38E-01	9.59E-03	1.05E-01	1.59E-01
9106-0015-020F	9.79E-02	2.03E-01	-8.28E-03	7.93E-02	1.33E-01
9106-0015-021F	3.98E-01	0.00E+00	-1.17E-02	5.64E-02	7.43E-02
9106-0015-022F	3.46E-01	6.97E-01	2.53E-03	3.00E-01	3.54E-01
9106-0015-023F	3.28E-01	1.06E+00	-1.20E-02	4.10E-01	4.64E-01
9106-0015-024F	6.71E-02	1.15E-01	2.52E-02	7.20E-02	1.03E-01
9106-0015-025F	1.17E-02	-3.63E-03	1.28E-02	1.15E-02	4.25E-02
9106-0015-026F	3.23E-01	5.75E-02	6.51E-03	7.90E-02	1.10E-01
9106-0015-027F	2.73E-01	1.39E-01	3.14E-03	9.60E-02	1.27E-01
9106-0015-028F	4.90E-03	-3.79E-03	-1.53E-02	-1.33E-02	1.77E-02

The Operational DCGLs from Table 2 are 6.01 pCi/g for Cs-137, 2.90 pCi/g for Co-60, 1.18 pCi/g for Sr-90; the Operational DCGL for C-14, a HTD radionuclide identified in one (1) or more FSS samples analyzed for HTD, is 4.30 pCi/g, These values were used in conjunction with the unity rule to achieve nineteen (19) mrem/yr TEDE.

(2) This column is the sum of the DCGL unity fraction from identified radionuclides of concern and HTD isotope(s) exceeding the 5%/10% rule for one (1) or more FSS samples. For those samples not measured for HTD isotopes, an average calculated value of 3.1% of the DCGL was added to each sample.

The off-site laboratory also processed a total of five (5) samples, collected for non-parametric testing, for HTD analysis as required by the sample plan.

Sample number 9106-0007-017F was including in this report for the following reasons; because the sample result exceeded the Operational DCGL, the sample

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result precipitated the creation of this survey unit, and as a part of the investigation relating to this sample to ensure that it complies the $DCGL_{EMC}$ comparison Test of Section 5 of the LTP.

The analyses included alpha spectroscopy, gas proportional counting, and liquid scintillation depending on the radionuclide and the measurement method. All analyses met the required MDC.

Three (3) of the five (5) samples collected for non-parametric testing, and analyzed for HTD radionuclides, met the accepted criteria for detection (i.e., a result greater than two (2) standard deviations uncertainty. Each of the positive results for HTD radionuclides could be de-selected based on the 5% and 10% rules, with the exception of one (1) sample, 9106-0015-002F, which exceeded the 10% rule for a total of four (4) HTD radionuclides. Based on the HTD analyses, the maximum dose impact from these results was added to Table 5.

Table 6 - Hard-to-Detect Sample Results					
Sample Number (9106-)	С-14 (рСі/g)	Tc-99 (ρCi/g)	Am-241 (ρCi/g)	Pu-241 (ρCi/g)	Fraction of Operational DCGL ⁽¹⁾⁽²⁾
0015-002F	2.07E-01	3.90E-01	2.92E-01	2.46E+01	0.1409
0015-004F	8.18E-03	0.00E+00	0.00E+00	0.00E+00	0.0019
0015-015F	-1.24E-01	0.00E+00	0.00E+00	0.00E+00	-0.0288
0015-018F	5.72E-02	0.00E+00	1.93E-01	0.00E+00	0.0232
0015-021F	-4.90E-02	2.81E-01	0.00E+00	0.00E+00	0.0179
0007-017F ⁽³⁾	3.04E-02	1.20E-01	3.00E-03	-1.93E+00	0.0218

The HTD results are presented in Table 6.

(1) The Operational DCGLs for C-14 is 4.30 ρ Ci/g, Tc-99 is 9.58 ρ Ci/g, Am-241 is 19.6 ρ Ci/g, and Pu-241 is 661 ρ Ci/g. These values were used in conjuncture with the unity rule to achieve nineteen (19) mrem/yr TEDE.

(2) This column is the sum of the DCGL unity fraction from identified HTD radionuclides identified in one (1) or more FSS samples.

(3) Sample number 9106-0007-017F was the initiating sample for the generation of this survey unit. This sample was analyzed for HTD radionuclides as part of the investigative process for an EMC. The results of the sample analyses of 9106-0007-017F were not included in the results of sample analyses conducted for non-parametric testing. (sample 9106-0007-017F was not taken as a part of the sample design for this survey unit).

7. QUALITY CONTROL

The three (3) split samples taken for QC were analyzed by the off-site laboratory. The data were evaluated using USNRC acceptance criteria specified in Inspection Procedure 84750 and as detailed in HNP Procedure RPM 5.1-24, *"Split Sample Assessment for Final Status Survey."*

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One (1) split-sample (9106-0015-005F/S) did not meet the comparison criterion for Cs-137. A possible cause for this anomaly could be the presence of Cs-137 tightly bound to organic material in the sample aliquot. This distribution of material does not lend itself to homogenous mixing in a sediment matrix and, therefore, is not necessarily an indicator of inadequate sampling or sample preparation methodology. Additionally, since the resolution ratios for both Co-60 and Sr-90 were less than four (4), and the USNRC Inspection Procedure 84750 does not give guidance on resolution ratios below four (4), a determination on acceptability for such ratios can not be made. In this sample, K-40, a natural radioisotope, was found to be present at an acceptable level of agreement; therefore, the comparison was determined to be acceptable.

For the other two (2) QC split samples (9106-0015-012F/S & 9106-0015-018F/S), there was an acceptable level of agreement between the samples for Cs-137, Co-60 and K-40. However, the resolution ratio for Sr-90 was less than four (4), and the USNRC Inspection Procedure 84750 does not give guidance on resolution ratios below four (4), a determination on acceptability for such rations can not be made.

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

8. INVESTIGATIONS AND RESULTS

One (1) sample result, that led to the creation of this survey unit, was found to exceed the Operational DCGL of nineteen (19) mrem/yr, exceeding the investigation level from Table 4. Thus an investigation was required to determine compliance with Equation 3 of Section 3.

The first step in determining whether compliance with the EMC unity rule is to determine the area extent of the elevated measurement region. This was done by taking investigation samples at a distance of one (1) meter in each of the four (4) compass directions about the elevated sample point (9106-0007-017F). When these sample results were determined to be below the investigation levels specified in Table 4, the area was said to be bounded.

The area of the elevated measurement location (also the area used to determine area factors) was conservatively calculated by assuming the area was a circle with a radius equal to the most distant bounding measurement location. This was done using actual GPS log data. This was the most prudent approach since maneuvering the sampling vessel to obtain samples within such closely spaced locations imposes unusually high positioning precision. Table 7 provides sample measurement location information (in NAD 1927) and distances from sample location 9106-0007-017F.

Table 7 – Investigation Sample Measurement Locations with Associated GPS Coordinates				
Designation	Northing	Easting	Distance from 9106-0007-017F (m)	
9106-0007-017F	235080.50	672486.69	-	
9106-0015-017A	235083.20	672486.95	0.827309	
9106-0015-017B	235080.67	672489.39	0.825131	
9106-0015-017C	235076.99	672487.21	1.082234	
9106-0015-017D	235081.57	672483.02	1.165954	
	4.3			

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Since the bounded area was determined to be 4.3 m², the Area Factor (AF) values from Table 5-5 of the LTP for six (6) m² were conservatively applied to determine the DCGL_{EMC} for each nuclide. With this information, it is possible to assess compliance with the EMC rule. This is demonstrated in Table 8. A map of the investigative sample locations is provided in Figure 6 of Attachment 1.

		estigation Re	esults	
Sample Number	Cs-137 ρCi/g	Co-60 ρCi/g	Sr-90 ρCi/g	Fraction of the Operational DCGL
Area Factor				
(6 m^2)	7.01	3.29	211	
DCGL _{EMC}	4.21E+01	9.53E+00	2.49E+02	Nuclides of concern ⁽¹⁾
0007-017F	6.42E-01	3.09E+00	8.94E-03	1.18E+00
0015-017A	3.65E-01	1.02E+00	-1.08E-02	4.04E-01
0015-017B	1.92E-01	3.57E-01	3.32E-03	1.58E-01
0015-017C	1.95E-01	2.45E-01	4.84E-03	1.21E-01
0015-017D	3.13E-01	8.95E-01	-3.67E-03	3.58E-01
δ	2.26E-01	2.96E-01	5.37E-03	1.44E-01
		Fraction o	f the DCGL	ЕМС
$\overline{C}_{elevated}$	3.41E-01	1.12E+00	5.26E-04	
$\overline{C}_{elevated} - \delta$	1.15E-01	8.26E-01	-4.84E-03	Nuclides of concern ⁽¹⁾
$\frac{\overline{C}_{elevated} - \delta}{DCGL_{EMC}}$	2.74E-03	8.67E-02	-1.95E-05	8.94E-02
Hard	Hard-to-Detect (HTD) Results ⁽²⁾			3.10E-02
Total			2.64E-01	

(1)This represents the unity fraction of the DCGL from nuclides that are considered nuclides of concern (Cs-137, Co-60 and Sr-90) from the FSS plan.

(2) This represents the unity fraction of the DCGL from HTD nuclides that were not considered nuclides of concern from the FSS plan, and represents an increase of 3.1%. These values were not subtracted from the mean activity of the elevated area, which is conservative.

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9. **REMEDIATION AND RESULTS**

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

10. CHANGES FROM THE FINAL STATUS SURVEY PLAN

The survey was designed to ten (10) mrem/yr TEDE which was conservative and necessary at the time of FSS planning. It is no longer required as the total dose from existing and future groundwater has been established. The dose for soil used to demonstrate compliance with the LTP and CTDEP criteria is nineteen (19) mrem/yr TEDE as discussed in Section 2 of this Release Record.

11. DATA QUALITY ASSESSMENT (DQA)

The DQO sample design and data were reviewed in accordance with Procedure RPM 5.1-23, "Data Quality Assessment." The sample design had adequate power as indicated by the Retrospective Power Curve. The Sign Test was performed on the data and compared to the original assumptions of the DQOs. The evaluation of the Sign Test results indicates that the survey unit passes the unrestricted release criterion, 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 standard deviation was slightly more than the value used for the survey design. This is represented by the shift in the retrospective power curve as shown in Attachment 2f. This would indicate a need to change the original LBGR in order to maintain the number of samples at twenty-eight (28) to meet the Operational DCGL. However, the value of LBGR is not a critical issue as the survey unit has passed the statistical test, and the mean and median values are well below the Operational DCGL when used in conjunction with the unity rule. Also, the retrospective power curve shows that a sufficient number of samples were collected to achieve the desired power. Therefore, the survey unit meets the unrestricted release criterion with adequate power as required by the DQOs

The range of the data, about 3.47 standard deviations, was not unusually large. The difference between the mean and median was 42.2% of the standard deviation which indicates some skewness in the data. The data was represented graphically through posting plots, a frequency plot, and a quantile plot. The frequency plot shows some positive skewness as confirmed by the calculated skew of 1.09.

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The survey area had one (1) elevated measurement location, which was evaluated using the unity EMC test. This resulted in a passing value of 0.264, which is significantly below unity.

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

12. ANOMALIES

The anomalies associated with a disagreement on one (1) of the field splits has been discussed in Section 7. The source of the disagreement for Cs-137 is believed to be due to Cs-137 being tightly bound to organic materials in the sample media. Such a physical form does not lend itself to homogenous mixing in a sediment matrix.

13. CONCLUSION

Survey Unit 9106-0015 has demonstrated compliance with the dose based, unrestricted release criterion. The sample data passed the Sign Test and the null hypothesis was rejected. The ALARA criteria for soils as specified in Chapter 4 of the LTP were achieved. Reclassification and remediation of this survey unit was not required.

Graphical representation of data indicates some positive skewness that is probably due to localized differences in particulate deposition rates, hydraulic velocity and sedimentation rates. The Retrospective Power Curve generated using COMPASS shows adequate power was achieved. The survey unit was properly designated as a Class 1 survey unit.

The dose contribution from sediment in this survey unit is 3.1 mrem/yr TEDE based on the average concentration of the samples used for non-parametric statistical sampling.

This survey unit is not affected by existing groundwater (reference CY memo ISC 06-024). It has been determined that the dose contribution from groundwater sources is bounded by zero (0) mrem/yr TEDE.

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

The average total dose from residual radioactivity in this survey unit, including exposures from the three (3) components as described in Section 3, that is, residual radioactivity in soil, existing groundwater radioactivity, and future groundwater radioactivity from the burial of concrete foundations or footings from site buildings containing residual radioactivity, will not exceed 3.1 mrem/yr Total Effective Dose Equivalent (TEDE).

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14. ATTACHMENTS

14.1 Attachment 1 – Figures

14.2 Attachment 2 – Sample and Statistical Data

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Attachment 1 Figures (9 pages)

















			<u>Legend</u> 0 12.5 25
	<u>9106-0015-017A</u> <u>9106-0015-017B</u>	\rightarrow	<u>Notes</u> Coordinates are in NAD27 Connecticut State Plane System
	(0.0028) <u>9106-0015-017D</u> <u>9106-0015-017C</u> <u>9106-0007-017F</u> <u>9106-0007-017F</u> (0.0041) <u>9106-0007-017F</u>		Actual Sample Location for Samp Number 9106-0007-0171 which was the initiating cause fo the creation of Survey Area 9106-0015.
	7100 0015		Actual Sample Locations for Investigatory Samp
			Area Boundary for the DCGL EMC Calculation (####) = Fraction of the Operational DCGL due to Strontium-90
Figure 9	Connecticut Yankee Atomic Power Company 9106-0015 Elevated Measurement Comparison (EMC) Calculation Data for Strontium-90	Date: February 2007	
		Revision: 1	

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Attachment 2 Sample and Statistical Data

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Attachment 2a Sample Data (294 Pages)

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General Narrative	1
Chain of Custody and Supporting Documentation	5
Radiological Analysis Sample Data Summary Quality Control Data	13 37 104



CASE NARRATIVE For CONNECTICUT YANKEE RE: Soil PO# 002332 Work Order: 167556 SDG: MSR #06-1037

August 2, 2006

Laboratory Identification: General Engineering Laboratories, LLC

Mailing Address:

P.O. Box 30712 Charleston, South Carolina 29417

Express Mail Delivery and Shipping Address:

2040 Savage Road Charleston, South Carolina 29407

Telephone Number:

(843) 556-8171

Summary:

Sample receipt

The sample(s) for this Project arrived at General Engineering Laboratories, LLC, (GEL) in Charleston, South Carolina on July 21, 2006. All sample containers arrived without any visible signs of tampering or breakage. The chain of custody contained the proper documentation and signatures.

The laboratory received the following sample(s):

Sample ID	<u>Client Sample ID</u>
167556001	9106-0015-022F
167556002	9106-0015-023F
167556003	9106-0015-024F
167556004	9106-0015-026F
167556005	9106-0015-027F
167556006	9106-0015-028F
167556007	9106-0015-018F
167556008	9106-0015-025F
167556009	9106-0015-001F

GENERAL ENGINEERING LABORATORIES, LLC a Member of THE GEL GROUP, INC. P.O. Box 30712 • Charleston, SC229417 • 2040 Savage Road (29407) Phone (843) 556-8171 • Fax (843) 766-1178 • www.gel.com
167556010	9106-0015-002F
167556011	9106-0015-003F
167556012	9106-0015-005F
167556013	9106-0015-006F
167556014	9106-0015-007F
167556015	9106-0015-008F
167556016	9106-0015-009F
167556017	9106-0015-010F
167556018	9106-0015-011F
167556019	9106-0015-012F
167556020	9106-0015-013F
167556021	9106-0015-014F
167556022	9106-0015-016F
167556023	9106-0015-017F
167556024	9106-0015-019F
167556025	9106-0015-020F
167556026	9106-0015-005FS
167556027	9106-0015-012FS
167556028	9106-0015-018FS
167556029	9106-0015-021F
167556030	9106-0015-004F
167556031	9106-0015-015F

Items of Note:

There are no items of note.

Case Narrative:

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

Analytical Request:

Twenty-eight soil samples were analyzed for FSSGAM and Sr-90. Three soil samples were analyzed for FSSALL.

Internal Chain of Custody:

Custody was maintained for the sample(s).

GENERAL ENGINEERING LABORATORIES, LLC a Member of THE GEL GROUP, INC. P.O. Box 30712 • Charleston, SC329417 • 2040 Savage Road (29407) Phone (843) 556-8171 • Fax (843) 766-1178 • www.gel.com

Data Package:

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

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

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Cheryl Jones Project Manager

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

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Contact Name & Phone: Jack McCarthy 860-26	7-3924										(Comments:	
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9106-0015-028F	6-27-06	14:31	SE	C	BP	X		X					
9106-0015-018F	6-27-06	17:18	SE	C	BP	X		X					
9106-0015-025F	6-27-06	16:43	SE	C	BP	X		X					
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Health Physics Procedure

Health Physics Procedure

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

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9106-0015-013F	6-28-06	10:04	SE	C	BP	X		X					
9106-0015-014F	6-28-06	09:05	SE	C	BP	X		X					
9106-0015-015F	6-28-06	08:25	SE	C	BP		X						
9106-0015-016F	6-28-06	08:46	SE	C	BP	X		Х					
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9106-0015-007F	6-28-06	11.33	SE		BP	X			<u> </u>	+		· · · · · · · ·	
9106-0015-008F	6-28-06	11:10	SE	C	BP	X	<u> </u>	$\frac{x}{x}$		+			
9106-0015-009F	6-28-06	10:25	SE	C C	BP	$\frac{x}{x}$		x					
9106-0015-010F	6-28-06	15:17	SE	C	BP	x	<u> </u>	X		<u>+</u>		·	
NOTES: PO #: 002332	MSR #: 06-4	037 SSV	WP# NA		LTP QA		Radwa	ste QA		Non	QA	Samples Shipped Via: Fed Ex UPS Hand	Anterhal Container Temp: <u>23</u> Deg: C Custody, Sealed?
1) Relinquished By $\int A_1 m_E R_1 A_2 A_1 T T.$ 3) Relinquished By	7.20	Date/Tim -06 14 Date/Tim	e 15 e	2) Recei	ved By	nt		7/6	Date/	Time	30	Other	Custody Seal Intact?
					······					1 IIIC		Bill of Lading # 7910 5711 1220	

Health Physics Procedure

Health Physics Procedure

167556

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

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	Connecticut 362 Inju	t Yankee A t un Hollow Road, I 860-26	tomic Po East Hampton 7-2556	wer C , CT 0642	ompan 4	ıy			Ch	ain o	of Cu	stody l	Form	No. 2006	00468
Project	t Name: Haddam	Neck Decom	missioning			<u> </u>		Anal	yses Re	auestec	1	Lab Us	eQniy		
Contac Jack M	ct Name & Phone AcCarthy 860-20	: 67-3924		ĺ								Comm	ents		
Analyt Genera 2040 S 843 55	tical Lab (Name,) al Engineering La Savage Road. Cha 56 8171. Attn. Ch	City, State) aboratories arleston SC. 29 aeryl Jones	407				SSGAM	FSSALL	Sr-90						
Priorit	y: 🗌 30 D. 🔀 14	4 D. 🗌 7 D.		Media	Sample Type	Container Size- &Type			2						
Sample	e Designation	Date	Time	Code	Code	Code	'	[<u>'</u>			Co	omment, Preservation	, Lab Sa	mple ID
1 9106-00	015-005FS	6-28-06	15:47	SE	C	BP	X		<u>X</u>						
9106-00	015-012FS	6-27-06	10:58	SE		BP	X		<u>X</u>						
7100-00	015-01815	.0-27-00	17:18	SE		BP	X		X		┝━╌┟─		<u> </u>		
	·····														
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NOTE	S: PO #: 002332	MSR #: 06- <i> </i>	037 ssw	/P# NA		LTP QA		Radwa	ste QA		Non Q	A Si	amples Shipped Via:] Fed Ex] UPS] Hand	Internal Temps 2 Custody	Sontainer <u>A</u> Deg C V Sealed?
1) Relin	quished By		Date/Time		2) Receiv	ved By				Date/7				Custody S	N/
JAIM	15 KUARTE	7.	20-06/10	145	ĨXĨ	Alinh	A	-11-	silor				Other	Cubicdy	- Pludel (
3) Relin	quished By		Date/Time	,	4) Receiv	ved By				Date/1	Fime	B	ill of Lading #	Ŷ.	NÖ
L		<u> </u>									- <u></u>	B	ill of Lading # .910 5711 [286		



SAMPLE RECEIPT & REVIEW FORM

TATORIES'				PM use only	
lient: Conn. Nank.				SDG/ARCOC/Work Order: 167554, 167555,16	s 75
ate Received: 712100				PM(A) Review (ensure non-conforming items are resolved prior to signing	g):
eceived By:				Curton	
		T	· · ·		
Sample Receipt Criteria	Yes	NA	°N N	Comments/Qualifiers (Required for Non-Conforming Item	s)
Shipping containers received intac and sealed?	:1 /		·	Circle Applicable: seals broken damaged container leaking container other (descri	bc)
Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.	1			Circle Coolans # ice bags blue ice dry ice none other d See Cont. Sheet.	lescribe
Chain of custody documents included with shipment?	1				
Sample containers intact and sealed?	7			Circle Applicable: seals broken damaged container leaking container other (descri))
Samples requiring chemical preservation at proper pH?		/		Sample ID's, containers affected and observed pH:	
VOA vials free of headspace (defined as < 6mm bubble)?		\square		Sample ID's and containers affected:	
Are Encore containers present? (If yes, immediately deliver to VOA laboratory)			/		
Samples received within holding time?	/		·	ld's and tests affected:	
Sample ID's on COC match ID's on bottles?			7	Sample ID's and containers affected: Sec. C'ONH. Sheet	
Date & time on COC match date & time on bottles?	1			Sample ID's affected:	
Number of containers received match number indicated on COC?	/		9	Sample ID's affected:	
COC form is properly signed in relinquished/received sections?	/				
Air Bill , Tracking #'s, & Additional Comments	Se	وح	she	ret	
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 furth nvestigation.	er
Radiological Classification?	1		M	Maximum Counts Observed*: COND 40	
CB Regulated?	1		С	Comments:	
Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.	1		н V	lazard Class Shipped: IN#:	
Did (or Did A) antique of Horsed along	iticatio			Automatic and a	

	Connecticut Yankee Statement of Work for Analytical Lab Services CY-ISC-SOW-001
	Figure 1. Sample Check-in List Date/Time Received: 71210e 0930
	SDG#: MSR#06-1035, MSR#06-1036, MSR#06-1037
	Work Order Number: 167556
•	Shipping Container ID: <u>See Cont Sheet</u> Chain of Custody # See Cont. Sheet
	1. Custody Seals on shipping container intact? Yes [] No [/]
	2. Custody Seals dated and signed? Yes [] No [] N/7
	3. Chain-of-Custody record present? Yes [/ No []
	4. Cooler temperature <u>See Cont</u> Sheet.
	5. Vermiculite/packing materials is: Wet [] Dry [] NA
	6. Number of samples in shipping container: See Cont Sheef.
	7. Sample holding times exceeded? Yes [] No []
· · · · ·	8. Samples have: <u>tape</u> hazard labels <u>custody seals</u> appropriate sample labels
	9. Samples are:
	in good condition leaking
	broken have of hubbles
	10. Were any anomalies identified in sample receipt? Yes [] No L
• •	11. Description of anomalies (include sample numbers):
· ,	
	Sample Custodian/Laboratory: K. Wheat Date: 7121106
	Telephoned to:On
•	

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SAMPLE RECEIPT & REVIEW FORM CONTINUATION FORM

Fed ex #'s	# ch containe	es, Coc #
7910 5711 1209 - 21.6	9	2006-00-44
1301 - 22.0	8	2006-0448
1194 - 21.0	10	2006-00447
1286 - 21.0	8	2006-00434
1220 - 23'C	9	2004-00443
(12104) 1 Coder Wout Feder #-	21°C B	2006-00-418/00441
Chain # 2006-00444:		
Sample # 9106-0013-004	IF actually rea	ds
9106-0013-00	4FS	
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Radiochemistry Case Narrative Connecticut Yankee Atomic Power Co. (YANK) Work Order 167556

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:	552678
Prep Batch Number:	550566
Dry Soil Prep GL-RAD-A-021 Batch Number:	550554

Sample ID	Client ID
167556029	9106-0015-021F
167556030	9106-0015-004F
167556031	9106-0015-015F
1201146077	Method Blank (MB)
1201146078	167555016(9106-0013-004F) Sample Duplicate (DUP)
1201146079	167555016(9106-0013-004F) Matrix Spike (MS)
1201146080	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 14.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 167555016 (9106-0013-004F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

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.

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:	550872
Prep Batch Number:	550566
Dry Soil Prep GL-RAD-A-021 Batch Number:	550554

Sample ID	Client ID
167556029	9106-0015-021F
167556030	9106-0015-004F
167556031	9106-0015-015F
1201141927	Method Blank (MB)
1201141928	167555016(9106-0013-004F) Sample Duplicate (DUP)
1201141929	167555016(9106-0013-004F) Matrix Spike (MS)
1201141930	Laboratory Control Sample (LCS)

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 14.

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<u>Calibration Information:</u>

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: 167555016 (9106-0013-004F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

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.

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:	550873
Prep Batch Number:	550566
Dry Soil Prep GL-RAD-A-021 Batch Number:	550554

Sample ID	Client ID
167556029	9106-0015-021F
167556030	9106-0015-004F
167556031	9106-0015-015F
1201141931	Method Blank (MB)
1201141932	167555016(9106-0013-004F) Sample Duplicate (DUP)
1201141933	167555016(9106-0013-004F) Matrix Spike (MS)
1201141934	Laboratory Control Sample (LCS)

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

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 167555016 (9106-0013-004F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

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.

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:	551078
Prep Batch Number:	550552

Sample ID	Client ID
167556001	9106-0015-022F
167556002	9106-0015-023F
167556003	9106-0015-024F
167556004	9106-0015-026F
167556005	9106-0015-027F
167556006	9106-0015-028F
167556007	9106-0015-018F
167556008	9106-0015-025F
167556009	9106-0015-001F
167556010	9106-0015-002F
167556011	9106-0015-003F
167556012	9106-0015-005F
167556013	9106-0015-006F
167556014	9106-0015-007F
167556015	9106-0015-008F
167556016	9106-0015-009F
167556017	9106-0015-010F
167556018	9106-0015-011F
167556019	9106-0015-012F
167556020	9106-0015-013F
1201142453	Method Blank (MB)
1201142454	167556001(9106-0015-022F) Sample Duplicate (DUP)
1201142455	Laboratory Control Sample (LCS)

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 11.

<u>Calibration Information:</u>

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: 167556001 (9106-0015-022F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

Additional Comments

The sample and the duplicate, 1201142454 (9106-0015-022F) and 167556001 (9106-0015-022F), did not meet the relative percent difference requirement for Ac-228 and Cs-137, however, they do meet the relative error ratio requirement with a value of 2.29 for Ac-228 and 2.54 for Cs-137.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to interference.	Europium-155	167556002
			167556003
			167556010
		Manganese-54	167556003
UI	Data rejected due to low abundance.	Bismuth-212	167556017
		Cesium-134	167556003
			167556015
			167556017
			167556019
		Cobalt-60	167556017
			1201142453
		Europium-154	1201142454
		Europium-155	167556007
		Silver-108m	167556010
UI	Data rejected due to no valid peak.	Cesium-134	167556013

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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:	551081
Prep Batch Number:	550554

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Sample ID	Client ID
167556021	9106-0015-014F
167556022	9106-0015-016F
167556023	9106-0015-017F
167556024	9106-0015-019F
167556025	9106-0015-020F
167556026	9106-0015-005FS
167556027	9106-0015-012FS
167556028	9106-0015-018FS
167556029	9106-0015-021F
167556030	9106-0015-004F
167556031	9106-0015-015F
1201142459	Method Blank (MB)
1201142460	167556029(9106-0015-021F) Sample Duplicate (DUP)
1201142461	Laboratory Control Sample (LCS)

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 11.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 167556029 (9106-0015-021F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to high peak width.	Bismuth-212	167556022
		Cobalt-60	167556029
UI	Data rejected due to interference.	Manganese-54	167556024
			167556026
			167556031
UI	Data rejected due to low abundance.	Bismuth-214	167556027
		Cesium-134	167556021
			167556026
			167556031
			1201142460
		Lead-212	167556023
			1201142459

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:	550820
Prep Batch Number:	550564
Dry Soil Prep GL-RAD-A-021 Batch Number:	550552

Sample ID	Client ID
167556001	9106-0015-022F
167556002	9106-0015-023F
167556003	9106-0015-024F
167556004	9106-0015-026F
167556005	9106-0015-027F
167556006	9106-0015-028F
167556007	9106-0015-018F
167556008	9106-0015-025F
167556009	9106-0015-001F
167556010	9106-0015-002F
167556011	9106-0015-003F
167556012	9106-0015-005F
167556013	9106-0015-006F
167556014	9106-0015-007F
167556015	9106-0015-008F
167556016	9106-0015-009F
167556017	9106-0015-010F
167556018	9106-0015-011F
167556019	9106-0015-012F
167556020	9106-0015-013F
1201141746	Method Blank (MB)
1201141747	167556008(9106-0015-025F) Sample Duplicate (DUP)
1201141748	167556008(9106-0015-025F) Matrix Spike (MS)
1201141749	Laboratory Control Sample (LCS)

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-004 REV# 10.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 167556008 (9106-0015-025F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Chemical Recoveries

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

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Samples 1201141746 (MB), 1201141747 (9106-0015-025F), 1201141748 (9106-0015-025F), 1201141749 (LCS), 167556001 (9106-0015-022F), 167556002 (9106-0015-023F), 167556003 (9106-0015-024F), 167556004 (9106-0015-026F), 167556005 (9106-0015-027F), 167556006 (9106-0015-028F), 167556007 (9106-0015-018F), 167556008 (9106-0015-025F), 167556009 (9106-0015-001F), 167556010 (9106-0015-002F), 167556011 (9106-0015-003F), 167556012 (9106-0015-005F), 167556013 (9106-0015-006F), 167556014 (9106-0015-007F), 167556015 (9106-0015-008F), 167556016 (9106-0015-009F), 167556017 (9106-0015-010F), 167556018 (9106-0015-011F), 167556019 (9106-0015-012F) and 167556020 (9106-0015-013F) were dried and reweighed due to low matrix spike recovery.

<u>Oualifier information</u>

Manual qualifiers were not required.

Method/Analysis Information

Product:	GFPC, Sr90, solid-ALL FSS
Analytical Method:	EPA 905.0 Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	550821
Prep Batch Number:	550566
Dry Soil Prep GL-RAD-A-021 Batch Number:	550554

Sample ID	Client ID
167556021	9106-0015-014F
167556022	9106-0015-016F
167556023	9106-0015-017F
167556024	9106-0015-019F
167556025	9106-0015-020F
167556026	9106-0015-005FS
167556027	9106-0015-012FS
167556028	9106-0015-018FS
167556029	9106-0015-021F
167556030	9106-0015-004F
167556031	9106-0015-015F
1201141750	Method Blank (MB)
1201141751	167554004(9106-0007-021F) Sample Duplicate (DUP)
1201141752	167554004(9106-0007-021F) Matrix Spike (MS)
1201141753	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-004 REV# 10.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 167554004 (9106-0007-021F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Chemical Recoveries

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

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Product:	Liquid Scint Tc99, Solid-ALL FSS
Analytical Method:	DOE EML HASL-300, Tc-02-RC Modified
Analytical Batch Number:	550849

Sample ID	Client ID
167556029	9106-0015-021F
167556030	9106-0015-004F
167556031	9106-0015-015F
1201141843	Method Blank (MB)
1201141844	167556030(9106-0015-004F) Sample Duplicate (DUP)
1201141845	167556030(9106-0015-004F) Matrix Spike (MS)
1201141846	Laboratory Control Sample (LCS)

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-005 REV# 13.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 167556030 (9106-0015-004F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	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:	550847
Prep Batch Number:	550566
Dry Soil Prep GL-RAD-A-021 Batch Number:	550554

Sample ID	Client ID
167556029	9106-0015-021F
167556030	9106-0015-004F
167556031	9106-0015-015F
1201141835	Method Blank (MB)
1201141836	167555017(9106-0013-009F) Sample Duplicate (DUP)
1201141837	167555017(9106-0013-009F) Matrix Spike (MS)
1201141838	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-040 REV# 3.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 167555017 (9106-0013-009F).

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.

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:	556697
Prep Batch Number:	550566
Dry Soil Prep GL-RAD-A-021 Batch Number:	550554

Sample ID	Client ID
167556029	9106-0015-021F
167556030	9106-0015-004F
167556031	9106-0015-015F
1201155543	Method Blank (MB)
1201155544	167555017(9106-0013-009F) Sample Duplicate (DUP)
1201155545	167555017(9106-0013-009F) Matrix Spike (MS)
1201155546	Laboratory Control Sample (LCS)

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-022 REV# 8.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 167555017 (9106-0013-009F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples were reprepped due to low/high recovery.

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	LSC, Tritium Dist, Solid-HTD2,ALL FSS
Analytical Method:	EPA 906.0 Modified
Analytical Batch Number:	550850

Sample ID	Client ID
167556029	9106-0015-021F
167556030	9106-0015-004F
167556031	9106-0015-015F
1201141847	Method Blank (MB)
1201141848	167556031(9106-0015-015F) Sample Duplicate (DUP)
1201141849	167556031(9106-0015-015F) Matrix Spike (MS)
1201141850	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-002 REV# 12.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 167556031 (9106-0015-015F).

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.

Product:	Liquid Scint C14, Solid All,FSS
Analytical Method:	EPA EERF C-01 Modified
Analytical Batch Number:	550851

Sample ID	Client ID
167556029	9106-0015-021F
167556030	9106-0015-004F
167556031	9106-0015-015F
1201141851	Method Blank (MB)
1201141852	167556029(9106-0015-021F) Sample Duplicate (DUP)
1201141853	167556029(9106-0015-021F) Matrix Spike (MS)
1201141854	Laboratory Control Sample (LCS)

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-003 REV# 8.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 167556029 (9106-0015-021F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Sample 1201141852 (9106-0015-021F) was recounted due to high MDA.

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

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.

⁸/₁₄/₅₆

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

Reviewer/Date:



GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis Report for

YANK001 Connecticut Yankee Atomic Power Co.

Client SDG: MSR#06-1037 GEL Work Order: 167556

The Qualifiers in this report are defined as follows:

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

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

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

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

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

Con Add	npany : Iress :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power								
Con	tact:	East Hampt	on, Connec	ticut 06424				Rep	ort Date: Au	gust 14, 2006		
Proj	ect:	Soils PO# 0	02332									
		Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID: D: ate: ate:		9106 00 1675560 SE 27 JUN 21 JUL Client 39.1%	015 022F 001 06 06		Project: Y Client ID: Y Vol. Recv.:	ANK01204 ANK001			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date Tim	e Batch N	1td
Rad Gamma Spe	ec Analy	sis										
Gamma,Solid Waived	FSS GA	M & ALL FSS	226 Ingro	wth								
Actinium 228 Americium 24	11	U	0.799 0.0246	+/ 0.156 +/ 0.104	0.0607 0.0853	+/ 0.156 +/ 0.104	0.128 0.176	pCi/g pCi/g	MJH1	08/02/06 215	7 551078	1
Bismuth 212			0.457	+/ 0.238	0.126	+/ 0.238	0.266	pCi/g				
Bismuth 214			0.612	+/ 0.0886	0.030	+/ 0.0886	0.0628	pCi/g				
Cesium 134		U	0.0453	+/ 0.0355	0.0231	+/ 0.0355	0.0482	pCi/g				
Cesium 137			0.540	+/ 0.0445	0.01/8	+/ 0.0445	0.0372	pCi/g				
Euronium 152	,	T	0.037	$\pm / 0.0732$	0.0191	+/ 0.0732	0.0409	pCi/g				
Europium 152		U U	0.0334	+/ 0.0503	0.0423	+/ 0.0503	0.0878	pCi/g				
Europium 155		U U	0.00728	+/ 0.0649	0.0455	+/ 0.0592	0.0935	nCi/g				
Lead 212		U	0.742	+/ 0.0572	0.0235	+/ 0.0572	0.0486	pCi/g				
Lead 214			0.625	+/ 0.0879	0.0296	+/ 0.0879	0.0615	pCi/g				
Manganese 54	ŀ	U	0.022	+/ 0.0235	0.017	+/ 0.0235	0.0358	pCi/g				
Niobium 94		Ū	0.00715	+/ 0.0183	0.0156	+/ 0.0183	0.0326	pCi/g				
Potassium 40			12.5	+/ 0.783	0.138	+/ 0.783	0.302	pCi/g				
Radium 226			0.612	+/ 0.0886	0.030	+/ 0.0886	0.0628	pCi/g				
Silver 108m		U	0.00466	+/ 0.0164	0.0143	+/ 0.0164	0.0298	pCi/g				
Thallium 208			0.219	+/ 0.0428	0.0167	+/ 0.0428	0.0349	pCi/g				
Rad Gas Flow P	roportic	onal Counting	g									
GFPC. Sr90. so	lid AL	L FSS										
Strontium 90		U	0.00253	+/ 0.0182	0.0196	+/ 0.0182	0.0421	pCi/g	BXF1	07/28/06 200	4 550820	2
TTL - 6-11 - **												
Method	rep Me Desci	thods were <u>p</u> ription	erformed			Analyst	Date	Time	Prep Batc	h		
Dry Soil Prep	Dry S	Soil Prep GL	RAD A 0	21		AXP2	07/21	/06 1531	550552			
The following A	nalytica	al Methods w	ere perfor	med								
Method	Descr	iption										
1	EML	HASL 300, 4	.5.2.3									
2	EPA 9	905.0 Modifie	d									

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Certificate of Analysis

Parameter		Oualifier Result Uncertainty		PII MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sample ID: Sample ID:	9106 0015 02 167556001	22F	Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Project:	Soils PO# 002332					
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy			R	eport Date: August 14,	2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd					

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	73	(25% 125%)

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

Certificate of Analysis

Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power						
Contact:	East Hampto Mr. Jack Mo	on, Connec Carthy	ticut 06424				Re	port Date: August 14	4, 2006
Project:	Soils PO# 0	02332							
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID: b: te: ate:		9106 00 1675560 SE 27 JUN 21 JUL Client 50.3%	015 023F 002 1 06 2 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
Rad Gamma Spec Analy	/sis								
Gamma,Solid FSS GAI Waived	M & ALL FSS	226 Ingro	wth						
Actinium 228		0.918	+/ 0.311	0.111	+/ 0.311	0.236	pCi/g	MJH1 08/02	/06 2157 551078 1
Americium 241		0.132	+/ 0.0628	0.031	+/ 0.0628	0.0639	pCi/g		
Bismuth 212		0.708	+/ 0.479	0.232	+/ 0.479	0.493	pCi/g		
Bismuth 214		0.655	+/ 0.150	0.0538	+/ 0.150	0.114	pCi/g		
Cesium 134	U	0.0612	+/ 0.0474	0.0391	+/ 0.0474	0.0825	pCi/g		
Cesium 137		0.328	+/ 0.0695	0.0278	+/ 0.0695	0.0592	pCi/g		
Cobalt 60		1.06	+/ 0.130	0.0345	+/ 0.130	0.0748	pCi/g		
Europium 152	U	0.0443	+/ 0.0817	0.070	+/ 0.0817	0.146	pCi/g		
Europium 154	U	0.0323	+/ 0.108	0.0858	+/ 0.108	0.187	pCi/g		
Europium 155	UI	0.00	+/ 0.100	0.0533	+/ 0.100	0.110	pCi/g		
Lead 212		0.890	+/ 0.134	0.03//	+/ 0.134	0.0783	pCl/g		
Lead 214 Manganaga 54		0.052	+/ 0.128	0.0484	+/ 0.128	0.101	pCi/g		
Niohium 04		0.0331	+/0.0448	0.0303	+/0.0448	0.0767	pCi/g		
Potassium 40	U	13 5	+/ 1 43	0.0233	+/143	0.055	pCi/g		
Radium 226		0.655	+/0.150	0.0538	+/0.150	0.114	pCi/g		
Silver 108m	U	0.00144	+/0.0278	0.023	+/0.0278	0.0486	nCi/g		
Thallium 208	•	0.264	+/ 0.0861	0.0297	+/ 0.0861	0.0628	pCi/g		
Rad Gas Flow Proportio	onal Counting	2					P 8		
GFPC Sr90 solid ALI	LESS	-							
Strontium 90	U	0.012	+/ 0.0132	0.0172	+/ 0.0132	0.0381	pCi/g	BXF1 07/31	/06 1029 550820 2
The following Prep Me	thods were D	erformed							
Method Desci	ription				Analyst	Date	Time	Prep Batch	
Dry Soil Prep Dry S	oil Prep GL	RAD A 0	21		AXP2	07/21/0	06 1531	550552	
The following Analytica Method Descr	I Methods w	ere perfor	med						
	-Puon							,	
I EML 2 EPA	HASL 300, 4 905.0 Modifie	.5.2.3 d							
Surrogate/Tracer recov	ery Test				Recovery%	Acce	eptable Limits	S	

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Certificate of Analysis

Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		
Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: August 14, 2006
Project:	Soils PO# 002332		
	Client Sample ID: Sample ID:	9106 0015 023F 167556002	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
Parameter	Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtd

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	74	(25% 125%)

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

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Certificate of Analysis

Company : Address :	Connecticut 362 Injun H	t Yankee A lollow Rd	tomic Power								
Contact: Project:	East Hampt Mr. Jack M Soils PO# 0	on, Connec cCarthy 02332	eticut 06424				F	Report Date: Aug	gust 14, 2	2006	
	Client Sam Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106 00 1675560 SE 27 JUN 21 JUL Client 45.7%	015 024F 03 06 06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	Date	Time Batch Mt	d
Rad Gamma Spec Anal	ysis										-
Gamma, Solid FSS GA	M & ALL FSS	226 Ingro	wth								
Waived											
Actinium 228		1.06	+/ 0.175	0.0574	+/ 0.175	0.120	pCi/g	MJH1	08/02/0	6 2158 551078 1	I
Americium 241	U	0.0554	+/ 0.084	0.0647	+/ 0.084	0.132	pCi/g				
Bismuth 212		0.705	+/ 0.250	0.131	+/ 0.250	0.272	pCi/g				
Bismuth 214		0.793	+/ 0.103	0.0302	+/ 0.103	0.0625	pCi/g				
Cesium 134	UI	0.00	+/ 0.0438	0.0223	+/ 0.0438	0.0461	pCi/g				
Cesium 137		0.0671	+/ 0.0327	0.0165	+/ 0.0327	0.0343	pCi/g				
Cobalt 60		0.115	+/ 0.033	0.0194	+/ 0.033	0.0408	pCi/g				
Europium 152	U	0.0101	+/ 0.0582	0.0458	+/ 0.0582	0.0939	pCi/g				
Europium 154	U	0.00943	+/ 0.0646	0.0545	+/ 0.0646	0.114	pC1/g				
Europium 155	UI	0.00	+/ 0.0595	0.0419	+/ 0.0595	0.0853	pCi/g				
Lead 212		1.10	+/ 0.0754	0.0248	+/ 0.0754	0.0506	pCi/g				
Lead 214 Managanaga 54	111	0.903	+/ 0.093	0.0319	+/ 0.093	0.0654	pC1/g				
Manganese 54		0.00	+/ 0.0334	0.0169	+/ 0.0334	0.0352	pCl/g				
Potossium 40	0	0.00093	+/ 0.0185	0.0149	+/ 0.0185	0.031	pCl/g				
Podium 226		0 703	$\pm / 0.000$	0.137	$\pm / 0.000$	0.335	pCi/g				
Silver 108m	TI	7 6000	$\pm / 0.103$	0.0302	± 0.103	0.0025	pCl/g				
Silver Toom	U	7.0901	+7 0.0192	0.015	-7 0.0192	0.0309	pc1/g				
Thallium 208		0.358	+/ 0.0516	0.0168	+/ 0.0516	0.0348	pCi/g				
Rad Gas Flow Proporti	onal Counting	g					1 0				
GFPC, Sr90. solid AL	L FSS										
Strontium 90	U	0.0252	+/ 0.0167	0.0139	+/ 0.0167	0.0312	pCi/g	BXF1	07/31/0	6 1029 550820 2	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL RAD A 021	AXP2	07/21/06	1531	550552
The following A	Analytical Methods were performed				
Method	Description			-	······
1	EML HASL 300, 4.5.2.3				
2	EPA 905.0 Modified				

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Certificate of Analysis

Parameter	Qua	lifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
	Clie Sam	nt Sam ple ID	ple ID:		9106 0015 167556003	5 024F		Project: Client ID: Vol. Recv.	YANK01204 YANK001	
Contac Project	East t: Mr. J : Soils	Hampto ack Mc PO# 00	on, Connec Carthy)2332	cticut 06424					Report Date: August 14	, 2006
Compa Addres	ny: Conr s: 362 l	ecticut njun Ho	Yankee A blow Rd	tomic Power						

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

Notes:

.

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

Certificate of Analysis

Company : Connecticut Yankee Atomic Power

Address	: 362 Injun H	ollow Rd									
Contact:	East Hampto Mr. Jack Mo	on, Connec Carthy	ticut 06424			Report Date: August 14, 2006					
Project:	Soils PO# 0	02332									
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106 001 16755600 SE 27 JUN 21 JUL Client 36.3%	15 026F 04 06 06	H C N	Project: Y Client ID: Y Jol. Recv.:	ANK01204 ANK001			
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt		
Rad Gamma Spec An	alysis										
Gamma,Solid FSS (Waived	GAM & ALL FSS	226 Ingro	wth								
Actinium 228 Americium 241 Bismuth 212 Bismuth 212 Cesium 134 Cesium 137 Cobalt 60 Europium 152 Europium 154 Europium 155 Lead 212 Lead 214 Manganese 54 Niobium 94 Potassium 40 Radium 226 Silver 108m Thallium 208 Rad Gas Flow Propoi <i>GFPC, Sr90, solid A</i> Strontium 90	U U U U U U Ttional Counting ALL FSS U	0.690 0.0332 0.692 0.655 0.0397 0.323 0.0575 0.00373 0.0133 0.0257 0.752 0.576 0.0123 0.00994 11.6 0.655 0.00308 0.252 g	+/ 0.174 +/ 0.091 +/ 0.285 +/ 0.0893 +/ 0.0294 +/ 0.0534 +/ 0.0526 +/ 0.0526 +/ 0.0654 +/ 0.0654 +/ 0.0638 +/ 0.0913 +/ 0.0224 +/ 0.0204 +/ 0.899 +/ 0.0893 +/ 0.0133	0.0631 0.0732 0.134 0.0307 0.023 0.0189 0.0178 0.0453 0.0453 0.0453 0.0453 0.0493 0.0275 0.0335 0.0185 0.0171 0.0135	+/ 0.174 +/ 0.091 +/ 0.285 +/ 0.0893 +/ 0.0294 +/ 0.0534 +/ 0.0526 +/ 0.0555 +/ 0.0654 +/ 0.0654 +/ 0.0913 +/ 0.0224 +/ 0.0204 +/ 0.0893 +/ 0.0185 +/ 0.0133	0.136 0.151 0.286 0.0652 0.0487 0.040 0.0392 0.0949 0.116 0.102 0.0569 0.070 0.0395 0.0368 0.360 0.0652 0.0335 0.0364	pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g	МЛН1 08/02/4 ВХF1 07/31/	06 2159 551078		
The following Pren I	Methods were n	erformed									
Method De	scription	ci ioi incu			Analyst	Date	Time	Prep Batch			
Dry Soil Prep Dr	y Soil Prep GL	RAD A 0	21		AXP2	07/21/0	6 1531	550552			
The following Analyt	tical Methods w	ere perfor	med								
Method De	scription										
1 EM	1L HASL 300, 4	.5.2.3									
2 EP	A 905.0 Modifie	d									
Surrogate/Tracer red	covery Test				Recovery%	Acce	ptable Limits				

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Certificate of Analysis

Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID: :		9106 0015 167556004	026F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Project:	Soils PO# 00	02332							
	Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	cticut 06424				I	Report Date: August 14	, 2006
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power						

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

Notes:

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

- Result is less than value reported <
- > Result is greater than value reported
- The TIC is a suspected aldol condensation product Α
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- Η Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

-

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Company Address :	: Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power						
Contact:	East Hampt Mr. Jack Mo	on, Connec cCarthy	ticut 06424				Re	eport Date: Augus	st 14, 2006
Project:	Soils PO# 0	02332							
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ite: ate:		9106 00 1675560 SE 27 JUN 21 JUL Client 31.6%	015 027F 005 06 06	H (Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst D	ate Time Batch M
Rad Gamma Spec Ana	alysis						·		
Gamma,Solid FSS G	AM & ALL FSS	S 226 Ingro	wth						
Waived		-							
Actinium 228		0.597	+/ 0.226	0.0755	+/ 0.226	0.162	pCi/g	MJH1 08	3/02/06 2159 551078
Americium 241	U	0.0217	+/ 0.0333	0.0295	+/ 0.0333	0.0607	pCi/g		
Bismuth 212		0.505	+/ 0.284	0.167	+/ 0.284	0.356	pCi/g		
Bismuth 214		0.550	+/ 0.102	0.0374	+/ 0.102	0.0795	pCi/g		
Cesium 134	U	0.00267	+/ 0.0397	0.0285	+/ 0.0397	0.0603	pCi/g		
Cesium 137		0.273	+/ 0.0624	0.0235	+/ 0.0624	0.0498	pCi/g		
Cobalt 60		0.139	+/ 0.0451	0.0288	+/ 0.0451	0.0621	pCi/g		
Europium 152	U	0.0331	+/ 0.0566	0.0484	+/ 0.0566	0.102	pCi/g		
Europium 154	U	0.0308	+/ 0.0866	0.0704	+/ 0.0866	0.153	pCi/g		
Europium 155	· U	0.00801	+/ 0.0513	0.0449	+/ 0.0513	0.0928	pCi/g		
Lead 212		0.645	+/ 0.0718	0.0324	+/ 0.0718	0.067	pCi/g		
Lead 214		0.522	+/ 0.0805	0.0343	+/ 0.0805	0.072	pCi/g		
Manganese 54	U	0.0262	+/ 0.0297	0.0227	+/ 0.0297	0.0485	pCi/g		
Niobium 94	U	0.0158	+/ 0.0251	0.022	+/ 0.0251	0.0465	pCi/g		
Potassium 40		10.4	+/ 0.947	0.198	+/ 0.947	0.440	pCi/g		
Radium 226		0.550	+/ 0.102	0.0374	+/ 0.102	0.0795	pCi/g		
Silver 108m	U	0.00333	+/ 0.0212	0.0186	+/ 0.0212	0.0392	pCi/g		
Thallium 208		0.253	+/ 0.0576	0.0206	+/ 0.0576	0.0438	pCi/g		
Rad Gas Flow Propor	tional Counting	g							
GFPC, Sr90, solid A	LL FSS								
Strontium 90	U	0.00314	+/ 0.0156	0.0168	+/ 0.0156	0.0378	pCi/g	BXF1 0	7/31/06 1029 550820
The following Prep N	1ethods were p	erformed							
Method Des	scription				Analyst	Date	Time	e Prep Batch	
Dry Soil Prep Dry	v Soil Prep GL	RAD A (21		AXP2	07/21/0	6 1531	550552	
The following Analyti	ical Methods w	ere perfor	med						
Method Des	cription								
1 EM	L HASL 300, 4	.5.2.3							/ / / / / / / / / / / / / / / / /
2 EP/	A 905.0 Modifie	ed							
Surrogate/Tracer rec	overy Test				Recovery%	6 Acce	ptable Limit	s	

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Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sam Sample ID	iple ID: :		9106 0015 167556005	027F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Project:	Soils PO# 00	02332							
	Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	ticut 06424]	Report Date: August 14,	, 2006
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power						

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	62	(25% 125%)

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power

Addres	s : 362 Injun	Hollow Rd									
Contact	East Hamp t: Mr. Jack M	oton, Conneo AcCarthy	cticut 06424				Re	port Date: Au	gust 14, 20	106	
Project	: Soils PO#	002332									
	Client Sa Sample I Matrix: Collect I Receive I Collector Moisture	umple ID: D: Date: Date: ::		9106 00 1675560 SE 27 JUN 21 JUL Client 24.7%	015 028F 006 1 06 2 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	lime Batch	Mtd
Rad Gamma Spec A	nalysis										
Gamma,Solid FSS Waived	GAM & ALL FS	SS 226 Ingro	owth								
Actinium 228 Americium 241 Bismuth 212	U	0.367 0.0354 0.352	+/ 0.103 +/ 0.0729 +/ 0.173	0.0378 0.0606 0.0996	+/ 0.103 +/ 0.0729 +/ 0.173	0.081 0.126 0.210	pCi/g pCi/g pCi/g	MJH1	08/02/06 2	2159 55107	78 1
Bismuth 214		0.202	+/ 0.0692	0.0216	+/ 0.0692	0.0455	pCi/g				
Cesium 134		0.014/	+/ 0.0192	0.0135	+/ 0.0192	0.0286	pCi/g				
Cesium 137		0.0049	+/ 0.0152	0.013	+/ 0.0152	0.0273	pCi/g				
Cobalt 60		0.00379	+/ 0.0141	0.0112	+/ 0.0141	0.0245	pCi/g				
Europium 152	U	0.0128	+/ 0.033	0.028/	+/ 0.033	0.0604	pCI/g				
Europium 154	L	0.0203	+/ 0.039/	0.0346	+/ 0.0397	0.0748	pCi/g				
Europium 155	L	0.052	+/ 0.0407	0.039	+/ 0.0407	0.0806	pCi/g				
Lead 212		0.444	+/ 0.0425	0.0197	+/ 0.0425	0.0408	pCı/g				
Lead 214		0.295	+/ 0.0608	0.0201	+/ 0.0608	0.0424	pCi/g				
Manganese 54	U	0.00289	+/ 0.0136	0.0119	+/ 0.0136	0.0253	pCi/g				
Niobium 94	U	0.00973	+/ 0.013	0.0114	+/ 0.013	0.0239	pCi/g				
Potassium 40		5.18	+/ 0.461	0.0737	+/ 0.461	0.168	pCi/g				
Radium 226		0.202	+/ 0.0692	0.0216	+/ 0.0692	0.0455	pCi/g				
Silver 108m	U	0.00217	+/ 0.0111	0.00985	+/ 0.0111	0.0208	pCi/g				
Thallium 208		0.101	+/ 0.0274	0.012	+/ 0.0274	0.0253	pCi/g				
Rad Gas Flow Prop	ortional Counti	ng									
GFPC, Sr90, solid	ALL FSS										
Strontium 90	U	0.0153	+/ 0.016	0.0213	+/ 0.016	0.0472	pCi/g	BXF1	07/31/06	1029 55082	20 2
The following Pren	Methods were	nerformed									
Method D	Description	periormeu			Analyst	Date	Time	Prep Bate	h		-
Dry Soil Prep D	Dry Soil Prep GL	RAD A ()21		AXP2	07/21/0	06 1531	550552		-	-
The following Anal	ytical Methods	were perfor	med								-
Method D	escription										_
1 E	ML HASL 300,	4.5.2.3									
2 E	PA 905.0 Modif	ied									
Surrogate/Tracer r	ecovery Tes	st			Recovery%	Acce	eptable Limits	1			

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Certificate of Analysis

Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID:		9106 0015 167556006	028F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Project:	Soils PO# 00	02332							
	Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	cticut 06424				1	Report Date: August 14,	2006
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power						

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	58	(25% 125%)

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

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	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power						
	Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	ticut 06424				Rep	port Date: August	14, 2006
	Project:	Soils PO# 00	02332							
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	pple ID: : te: ute:		9106 00 1675560 SE 27 JUN 21 JUL Client 30.5%	015 018F 007 06 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Dat	e Time Batch Mtd
Rad Gamma	a Spec Analy	ysis								
Gamma,So	lid FSS GA	M & ALL FSS	226 Ingro	wth						
Waived										
Actinium	228		0.704	+/ 0.174	0.0798	+/ 0.174	0.167	pCi/g	MJH1 08/0	2/06 2200 551078 1
Americiur	m 241	U	0.0293	+/ 0.0449	0.040	+/ 0.0449	0.0822	pCi/g		
Bismuth 2	212		0.681	+/ 0.263	0.152	+/ 0.263	0.319	pCi/g		
Bismuth 2	214		0.517	+/ 0.0941	0.0319	+/ 0.0941	0.0669	pCi/g		
Cesium 1	.34	U	0.0448	+/ 0.047	0.0235	+/ 0.047	0.0492	pCi/g		
Cesium I	.37		0.354	+/ 0.0551	0.0169	+/ 0.0551	0.0355	pCi/g		
Cobalt 60	150	11	1.10	+/ 0.100	0.0140	+/ 0.100	0.032	pCi/g		
Europium	152	U	0.019	+/ 0.0509	0.0440	+/0.0509	0.0926	pCi/g		
Europium	154		0.0120	+/ 0.0540	0.040	± 0.0540	0.0990	pCi/g		
Land 212	155	U	0.00	+/0.0034	0.0432	+/0.0034 +/0.0018	0.0634	pCi/g		
Lead 212	, L		0.601	+/ 0.0913	0.0309	+/ 0.0918	0.000	pCi/g		
Manganes	se 54	П	0.020	+/ 0.0201	0.0200	+/ 0.0201	0.039	pCi/g		
Niobium	94	Ŭ	0.0139	+/ 0.0187	0.0169	+/ 0.0187	0.0354	pCi/g		
Potassium	40	Ũ	12.7	+/ 1.09	0.127	+/ 1.09	0.283	pCi/g		
Radium 2	226		0.517	+/ 0.0941	0.0319	+/ 0.0941	0.0669	pCi/g		
Silver 10	8m	U	0.0183	+/ 0.0182	0.0162	+/ 0.0182	0.0337	pCi/g		
Thallium	208		0.243	+/ 0.0458	0.016	+/ 0.0458	0.0337	pCi/g		
Rad Gas Flo	ow Proportio	onal Counting	5							
GFPC. Sr9	0. solid AL	L FSS								
Strontium	90	U	0.0115	+/ 0.0136	0.018	+/ 0.0136	0.0403	pCi/g	BXF1 07/3	1/06 1029 550820 2
The followi	ing Prep Me	thods were pe	erformed							
Method	Desc	ription				Analyst	Date	Time	Prep Batch	
Dry Soil Pre	p Dry S	Soil Prep GL	RAD A 0	021		AXP2	07/21/	06 1531	550552	
The following	ng Analytica	al Methods we	ere perfor	med						
Method	Desci	ription								·
1	EML	HASL 300, 4.	5.2.3							
2	EPA	905.0 Modifie	d							
0										

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Comj Addr	pany : ess :	Connecticut 362 Injun Ho	Yankee At llow Rd	tomic Power						
Conta	act:	East Hampto Mr. Jack Mc	n, Connec Carthy	ticut 06424				R	Report Date: August 14,	2006
Proje	ect:	Soils PO# 00	2332							
		Client Sam Sample ID:	ple ID:		9106 0015 167556007	018F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	60	(25% 125%)	

Notes:

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

- Result is less than value reported <
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- Target analyte was detected in the associated blank В
- 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
- Η Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy Uncertain identification

Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier Х

- Y QC Samples were not spiked with this compound
- ۸ RPD of sample and duplicate evaluated using +/ RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power

Addres	s : 362 Injun H	ollow Rd							
Contac	East Hampt t: Mr. Jack Me	on, Connec cCarthy	ticut 06424				Rej	port Date: August 1	4, 2006
Project	: Soils PO# 0	02332							
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106 00 1675560 SE 27 JUN 21 JUL Client 45.6%	15 025F 08 06 06	F C V	Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Dat	e Time Batch Mte
Rad Gamma Spec A	alysis								
Gamma,Solid FSS Waived	S GAM & ALL FSS	226 Ingro	wth						
Actinium 228		0.922	+/ 0.242	0.087	+/ 0.242	0.174	pCi/g	MJH1 08/0	2/06 2213 551078 1
Americium 241	U	0.0512	+/ 0.0952	0.0694	+/ 0.0952	0.139	pCi/g		
Bismuth 212		0.551	+/ 0.420	0.179	+/ 0.420	0.357	pCi/g		
Bismuth 214		0.755	+/ 0.149	0.0416	+/ 0.149	0.0831	pCi/g		
Cesium 134	U	0.0485	+/ 0.058	0.0288	+/ 0.058	0.0576	pCi/g		
Cesium 137	· U	0.0117	+/ 0.0299	0.0248	+/ 0.0299	0.0495	pCi/g		
Cobalt 60	U	0.00363	+/ 0.0334	0.027	+/ 0.0334	0.0539	pCi/g		
Europium 152	U	0.0385	+/ 0.0988	0.0582	+/ 0.0988	0.116	pCi/g		
Europium 154	U	0.0447	+/ 0.0909	0.0705	+/ 0.0909	0.141	pCi/g		
Europium 155	U	0.0768	+/ 0.0905	0.062	+/ 0.0905	0.124	pCi/g		
Lead 212		1.12	+/ 0.120	0.0344	+/ 0.120	0.0688	pCi/g		
Lead 214		0.929	+/ 0.136	0.0408	+/ 0.136	0.0816	pCi/g		
Manganese 54	U	0.0174	+/ 0.0295	0.0235	+/ 0.0295	0.047	pCi/g		
Niobium 94	U	0.0143	+/ 0.0259	0.0226	+/ 0.0259	0.0451	pCi/g		
Potassium 40		17.2	+/ 1.53	0.199	+/ 1.53	0.397	pCi/g		
Radium 226		0.755	+/ 0.149	0.0416	+/ 0.149	0.0831	pCi/g		
Silver 108m	U	0.00906	+/ 0.024	0.0192	+/ 0.024	0.0384	pCi/g		
Thallium 208		0.308	+/ 0.0692	0.023	+/ 0.0692	0.0459	pCi/g		
Rad Gas Flow Prop	ortional Counting	B							
GFPC, Sr90, solid	ALL FSS								
Strontium 90	U	0.0128	+/ 0.0169	0.0164	+/ 0.0169	0.0368	pCi/g	BXF1 07/3	1/06 1029 550820 2
The following Prep) Methods were p	erformed							
Method I	Description				Analyst	Date	Time	Prep Batch	
Dry Soil Prep I	Dry Soil Prep GL	RADA)21		AXP2	07/21/0	6 1531	550552	
The following Anal	ytical Methods w	ere perfor	med				· · · · · ·		
									,
	ML HASL 300, 4	.5.2.3							
2 E	PA 905.0 Modifie	ed							
Surrogate/Tracer	recovery Test				Recovery%	Acce	ptable Limits		

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Certificate of Analysis

Parameter		Qualifier Result Uncertainty		TDI	MDA	Unite	DE Analust Data	Time Detch Mid
		Client Sample ID: Sample ID:	9106 0015 167556008	025F		Project: Client ID: Vol. Recy :	YANK01204 YANK001	
	Project:	Soils PO# 002332						
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy				F	Report Date: August 14,	2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd						

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	66	(25% 125%)

Notes:

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

- < Result is less than value reported
- Result is greater than value reported >
- A The TIC is a suspected aldol condensation product
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- 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
- Value is estimated J

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

Certificate of Analysis

Company : Connecticut Yankee Atomic Power

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Addre	ss : 362	lnjun H	ollow Rd									
Contac	Eas ct: Mr.	t Hampto Jack Mo	on, Connec cCarthy	ticut 06424				Re	port Date: Au	ıgust 14,	2006	
Projec	t: Soi	ls PO# 0	02332									
	Cl Sa Ma Co Re Co Ma	ient San mple ID atrix: Illect Da ceive D Illector: oisture:	nple ID:): nte: ate:		9106 00 1675560 SE 28 JUN 21 JUL Client 15.2%	015 001F 009 1 06 2 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter	Q	ualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	st Date	Time	Batch Mto
Rad Gamma Spec	Analysis											
Gamma,Solid FS Waived	SGAM &	ALL FSS	226 Ingro	wth								
Actinium 228 Americium 241 Bismuth 212 Bismuth 212 Cesium 134 Cesium 137 Cobalt 60 Europium 152 Europium 154 Europium 155 Lead 212 Lead 214 Manganese 54 Niobium 94 Potassium 40 Radium 226 Silver 108m Thallium 208		บ บ บ บ บ บ บ	0.592 0.00472 0.646 0.464 0.0344 0.0256 0.012 0.00443 0.0276 0.057 0.634 0.057 0.634 0.0143 0.00316 11.8 0.464 0.00452 0.221	+/ 0.136 +/ 0.0757 +/ 0.242 +/ 0.0832 +/ 0.0232 +/ 0.020 +/ 0.019 +/ 0.0637 +/ 0.0637 +/ 0.0546 +/ 0.074 +/ 0.074 +/ 0.021 +/ 1.02 +/ 0.0832 +/ 0.0168 +/ 0.0168	0.0625 0.0598 0.112 0.0304 0.0212 0.0182 0.0171 0.0423 0.0489 0.0464 0.0235 0.0295 0.0156 0.0154 0.116 0.0304 0.0159	+/ 0.136 +/ 0.0757 +/ 0.242 +/ 0.0832 +/ 0.0232 +/ 0.020 +/ 0.019 +/ 0.0637 +/ 0.0606 +/ 0.0546 +/ 0.074 +/ 0.074 +/ 0.0878 +/ 0.0195 +/ 0.021 +/ 0.0832 +/ 0.0832 +/ 0.0168	0.125 0.120 0.223 0.0607 0.0425 0.0365 0.0341 0.0846 0.0977 0.0928 0.047 0.0589 0.0311 0.0308 0.231 0.0607 0.0287 0.0317	pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g	MJHI	08/02/0	6 2213	551078 1
Rad Gas Flow Pro	portional (Counting	0.221	+/ 0.0445	0.0159	+/ 0.0445	0.0317	pCI/g				
GFPC Sr90 solia	I ALLESS	e 7	5									
Strontium 90		U	0.0248	+/ 0.0208	0.0185	+/ 0.0208	0.0416	pCi/g	BXF1	07/31/0	6 1228	550820 2
The following Pre	p Methods	s were p	erformed									
Method	Descriptio	n				Analyst	Date	Time	Prep Batc	:h		
Dry Soil Prep	Dry Soil P	rep GL	RAD A 0	21		AXP2	07/21/0	06 1531	550552			
The following Ana	lytical Me	thods w	ere perfor	med								
Method	Descriptio	n										
1	EML HAS	L 300, 4	.5.2.3									
2	EPA 905.0	Modifie	đ									
Surrogate/Tracer	recovery	Test				Recovery%	Acce	eptable Limits				

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Certificate of Analysis

Parameter		Qualifier F	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sample Sample ID:	e ID:		9106 0015 167556009	001F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Project:	Soils PO# 0023	332							
	Contact:	East Hampton, Mr. Jack McCa	Connect orthy	icut 06424]	Report Date: August 14,	2006
	Company : Address :	Connecticut Ya 362 Injun Hollo	ankee Ate ow Rd	omic Power				·		

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	55	(25% 125%)	

Notes:

The Qualifiers in this report are defined as follows :

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- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy Uncertain identification
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- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/ RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded

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	Company : Address :	Connecticut 362 Injun He	Yankee A ollow Rd	tomic Power							
	Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	ticut 06424				Re	port Date: Aug	ıst 14, 2006	
	Project:	Soils PO# 00	02332								
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	nple ID: :: te: ate:		9106 001 16755601 SE 28 JUN 21 JUL Client 38.9%	15 002F 0 06 06	P C V	roject: lient ID; lol. Recv.:	YANK01204 YANK001		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	Date Time Batch N	/Itd
Rad Gamm	a Spec Analy	ysis				··· · · · · · · · · · · · · · · · · ·		·			_
Gamma,So	olid FSS GA	M & ALL FSS	226 Ingro	wth							
Waived			_								
Actinium	228		0.867	+/ 0.261	0.108	+/ 0.261	0.217	pCi/g	MJH1 0	8/02/06 2214 551078	1
Americiu	m 241	. U	0.0351	+/ 0.0435	0.0289 -	⊦/ 0.0435	0.0578	pCi/g			
Bismuth	212		0.817	+/ 0.454	0.213	+/ 0.454	0.426	pCi/g			
Bismuth	214		0.602	+/ 0.128	0.0455	+/ 0.128	0.0909	pCi/g			
Cesium 1	134	U	0.0334	+/ 0.0399	0.0358 -	+/ 0.0399	0.0716	pCi/g			
Cesium 1	137		0.522	+/ 0.0825	0.0274 -	+/ 0.0825	0.0548	pCi/g			
Cobalt 6	0		1.11	+/ 0.109	0.0296	+/ 0.109	0.0593	pCi/g			
Europium	152	U	0.05	+/ 0.0956	0.0591 -	+/ 0.0956	0.118	pCi/g			
Europium	ı 154	U	0.00342	+/ 0.0997	0.0824 -	+/ 0.0997	0.165	pCi/g			
Europium	155	UI	0.00	+/ 0.0735	0.0479 -	+/ 0.0735	0.0958	pCi/g			
Lead 212	2		0.828	+/ 0.0995	0.0315 -	+/ 0.0995	0.063	pCi/g			
Lead 214	ł		0.611	+/ 0.118	0.0421	+/ 0.118	0.0842	pCi/g			
Manganes	se 54	U	0.00239	+/ 0.0385	0.0327 -	+/ 0.0385	0.0654	pCi/g			
Niobium	94	U	0.0158	+/ 0.0294	0.0261 -	+/ 0.0294	0.0522	pCi/g			
Potassium	n 40		13.2	+/ 1.09	0.246	+/ 1.09	0.492	pCi/g			
Radium 2	226		0.602	+/ 0.128	0.0455	+/ 0.128	0.0909	pCi/g			
Silver 10	8m	UI	0.00	+/ 0.0604	0.0211 -	+/ 0.0604	0.0421	pCi/g			
Thallium	208		0.248	+/ 0.0665	0.025 -	+/ 0.0665	0.050	pCi/g			
Rad Gas Flo	ow Proportio	onal Counting	5								
GFPC. Sr	90. solid AL	L FSS									
Strontium	90	U	0.0188	+/ 0.00973	0.0159+/	0.00974	0.0359	pCi/g	BXF1 (7/31/06 1228 550820	2
The follow	ing Prep Me	thods were pe	erformed								
Method	Desci	ription				Analyst	Date	Time	Prep Batch		
Dry Soil Pre	p Dry S	Soil Prep GL	RAD A 0	021		AXP2	07/21/0	6 1531	550552		
The followi	ng Analytica	l Methods we	ere perfor	med						_	
Method	Descr	iption									
1	EML	HASL 300, 4.	.5.2.3								
2	EPA 9	905.0 Modifie	d								
Surrogate/	Tracer recov	very Test				Recovery%	Acce	otable Limits	5		

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Certificate of Analysis

Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID: :		9106 0015 167556010	002F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Project:	Soils PO# 00	02332							
	Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	cticut 06424]	Report Date: August 14,	2006
	Company : Address :	Connecticut 362 Injun He	Yankee A ollow Rd	tomic Power						

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	66	(25% 125%)

Notes:

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- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power										
Contact:	East Hampte Mr. Jack Me	on, Connec cCarthy	ticut 06424				R	Report Date: August 14, 2006					
Project:	Soils PO# 0	02332											
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID: D: ate: ate:		9106 00 1675560 SE 28 JUN 21 JUL Client 51.9%	015 003F 011 06 06		Project: Client ID: Vol. Recv.:	YANK YANK	C01204 C001				
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time F	Batch N	1td
Rad Gamma Spec Anal	ysis												
Gamma,Solid FSS GA Waived	M & ALL FSS	226 Ingro	wth										
Actinium 228		0.957	+/ 0.187	0.0691	+/ 0.187	0.146	pCi/g		MJH1	08/02/06	5 2319 5	51078	1
Americium 241	U	0.019	+/ 0.124	0.0838	+/ 0.124	0.172	pCi/g						
Bismuth 212		0.724	+/ 0.331	0.144	+/ 0.331	0.302	pCi/g						
Bismuth 214		0.712	+/ 0.114	0.0344	+/ 0.114	0.0718	pCi/g						
Cesium 134	U	0.0123	+/ 0.0552	0.0238	+/ 0.0552	0.0499	pCi/g						
Cesium 137		0.0467	+/ 0.0304	0.0208	+/ 0.0304	0.0434	pCi/g						
Cobalt 60		0.142	+/ 0.0629	0.0219	+/ 0.0629	0.0468	pCi/g						
Europium 152	U	0.00241	+/ 0.061	0.0472	+/ 0.061	0.09/9	pCI/g						
Europium 154	U U	0.0406	+/0.0793	0.0073	+/0.0793	0.143	pCi/g						
Lead 212	0	0.0410	+/ 0.0037	0.0521	+/ 0.0037	0.107	pCi/g						
Lead 212		0.706	+/ 0.0995	0.0200	+/ 0.0995	0.0555	pCi/g						
Manganese 54	IJ	0.0141	+/ 0.0255	0.021	+/ 0.0255	0.044	pCi/g						
Niobium 94	Ŭ	0.00372	+/ 0.0263	0.0183	+/ 0.0263	0.0382	pCi/g						
Potassium 40	•	15.0	+/ 0.976	0.184	+/ 0.976	0.398	pCi/g						
Radium 226		0.712	+/ 0.114	0.0344	+/ 0.114	0.0718	pCi/g						
Silver 108m	U	0.00288	+/ 0.019	0.0155	+/ 0.019	0.0324	pCi/g						
Thallium 208		0.282	+/ 0.0552	0.0177	+/ 0.0552	0.0371	pCi/g						
Rad Gas Flow Proportio	onal Counting	g											
GFPC, Sr90, solid AL	L FSS												
Strontium 90	U	0.00333	+/ 0.0138	0.0162	+/ 0.0138	0.0368	pCi/g		BXF1	07/31/00	6 1228 5	50820	2
The following Prep Me	thods were p	erformed											
Method Desc	ription				Analyst	Date	Tim	e Pr	en Batch				

Methou	Description	Analyst	Date	TIME	Thep Daten
Dry Soil Prep	Dry Soil Prep GL RAD A 021	AXP2	07/21/06	1531	550552
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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Certificate of Analysis

Parameter	Quali	ier Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
	Client Sampl	Sample ID: e ID:		9106 0015 167556011	003F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Project	: Soils P	O# 002332							
Contac	East Ha t: Mr. Jac	mpton, Conne k McCarthy	ecticut 06424				I	Report Date: August 14,	2006
Compa Addres	ny: Connec s: 362 Inj	ticut Yankee A In Hollow Rd	Atomic Power						

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	62	(25% 125%)

Notes:

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- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
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- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/ RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded

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Certificate of Analysis

Company : Address :	Connecticut 362 Injun H	Yankee A	tomic Power							
Contact:	East Hampt Mr. Jack Me	on, Connec cCarthy	ticut 06424				Re	eport Date: Augus	st 14, 2006	
Project:	Soils PO# 0	02332								
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106 00 1675560 SE 28 JUN 21 JUL Client 43.7%	15 005F 12 06 06	Ĭ	Project: Llient ID: /ol. Recv.:	YANK01204 YANK001		
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst D	ate Time Batch I	vitd
Rad Gamma Spec Analy	ysis								······································	
Gamma,Solid FSS GA	M & ALL FSS	226 Ingro	wth							
Waived										
Actinium 228		0.944	+/ 0.231	0.0665	+/ 0.231	0.143	pCi/g	MJH1 08	/02/06 2320 551078	1
Americium 241	U	0.0774	+/ 0.104	0.0786	+/ 0.104	0.162	pCi/g			
Bismuth 212		0.426	+/ 0.330	0.165	+/ 0.330	0.350	pCi/g			
Bismuth 214		0.548	+/ 0.0998	0.0431	+/ 0.0998	0.0904	pCi/g			
Cesium 134	U	0.0306	+/ 0.0418	0.0272	+/ 0.0418	0.0574	pCi/g			
Cesium 137		0.0589	+/ 0.0336	0.0198	+/ 0.0336	0.042	pCi/g			
Cobalt 60	U	0.000929	+/ 0.0279	0.0233	+/ 0.0279	0.0507	pCi/g			
Europium 152	U	0.0167	+/ 0.0582	0.0482	+/ 0.0582	0.101	pCi/g			
Europium 154	U	0.022	+/ 0.0/86	0.0038	+/ 0.0/86	0.139	pCl/g			
Lead 212	U	0.0444	± 0.0641	0.032	+/ 0.0041	0.108	pCi/g			
Lead 212		0.011	$\pm / 0.101$	0.0367	+/ 0.101	0.0730	pCl/g			
Manganese 54	T	0.00375	+/ 0.0995	0.0308	$\pm / 0.0993$	0.077	pCi/g			
Nichium 94	U U	0.00375	+/ 0.0204	0.0217	+/ 0.0204	0.0417	pCi/g			
Potassium 40	Ũ	14.2	+/ 1 04	0 177	+/ 1.04	0.396	pCi/g			
Radium 226		0.548	+/ 0.0998	0.0431	+/ 0.0998	0.0904	pCi/g			
Silver 108m	U	0.00534	+/ 0.020	0.0169	+/ 0.020	0.0356	pCi/g			
Thallium 208	0	0.301	+/ 0.0503	0.0203	+/ 0.0503	0.0429	pCi/g			
Rad Gas Flow Proportion	onal Counting	2	,				P 8			
GEPC Sron solid AL		5								
Strontium 90	U	0.0133	+/ 0.018	0.0173	+/ 0.018	0.0391	pCi/g	BXF1 07	//31/06 1228 550820	2
The following Prep Me	thods were p	erformed								
Method Desci	ription				Analyst	Date	Time	Prep Batch		
Dry Soil Prep Dry S	Soil Prep GL	RAD A 0	21		AXP2	07/21/0	6 1531	550552		
The following Analytica Method Descr	al Methods w	ere perfor	med							
1 EMI	HASI 200 4	523								
2 EPA	905.0 Modifie	.3.2.3 :d								
Surrogate/Tracer recov	ery Test				Recovery%	Acce	otable Limits	5		

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Certificate of Analysis

eter		Qualifier Result Uncertai	nty LC TPU	MDA Units DF Analyst Date Time Batch Mtd
		Client Sample ID: Sample ID:	9106 0015 005F 167556012	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Project:	Soils PO# 002332		
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy	l	Report Date: August 14, 2006
	Company : Address :	Connecticut Yankee Atomic Powe 362 Injun Hollow Rd	75	

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	60	(25% 125%)

Notes:

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The Qualifiers in this report are defined as follows :

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- ^ RPD of sample and duplicate evaluated using +/ RL. Concentrations are <5X the RL
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Company : Connecticut Yankee Atomic Power

Address :	362 Injun H	ollow Rd								
Contact:	East Hampt Mr. Jack M	on, Connec cCarthy	ticut 06424				Re	port Date: Au	gust 14, 200	5
Project:	Soils PO# 0	02332								
	Client San Sample II Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106 00 1675560 SE 28 JUN 21 JUL Client 31%	015 006F 013 1 06 - 06	Pi C V	roject: lient ID: ol. Recv.:	YANK01204 YANK001		
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date Ti	me Batch Mt
Rad Gamma Spec Ana	alysis									
Gamma,Solid FSS G Waived	AM & ALL FSS	5 226 Ingro	wth							
Actinium 228 Americium 241 Bismuth 212 Bismuth 214 Cesium 134 Cesium 137 Cobalt 60 Europium 152 Europium 154 Europium 155 Lead 212 Lead 214 Manganese 54 Niobium 94 Potassium 40	ט טו ט ט ט ט ט ט ט ט ט	0.630 0.0436 0.700 0.530 0.00 0.322 0.350 0.0139 0.0671 0.0798 0.728 0.578 0.0161 0.00415 12.4	+/ 0.158 +/ 0.148 +/ 0.269 +/ 0.0311 +/ 0.0592 +/ 0.0632 +/ 0.0652 +/ 0.0782 +/ 0.0796 +/ 0.0742 +/ 0.031 +/ 0.021 +/ 0.882	0.0716 0.0812 0.159 0.0365 0.0225 0.0193 0.0198 0.0545 0.0573 0.0307 0.0402 0.0213 0.0175 0.157	+/ 0.158 +/ 0.148 +/ 0.269 +/ 0.091 +/ 0.0371 +/ 0.0592 +/ 0.0633 +/ 0.0652 +/ 0.0782 +/ 0.0782 +/ 0.0796 +/ 0.0742 +/ 0.031 +/ 0.021 +/ 0.882	0.153 0.167 0.337 0.0771 0.048 0.0409 0.0434 0.114 0.126 0.118 0.0636 0.0837 0.0452 0.0371 0.353	pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g pCi/g	МЈНІ	08/02/06 23	20 551078
Radium 226		0.530	+/ 0.091	0.0365	+/ 0.091	0.0771	pCi/g			
Silver 108m	U	0.00876	+/ 0.0226	0.018	+/ 0.0226	0.0377	pCi/g			
Rad Gas Flow Propert	tional Counting	g 0.230	+7 0.0333	0.0104	+/ 0.0559	0.0371	peng			
GFPC, Sr90, solid A	LL FSS	-								
Strontium 90	U	0.00864	+/ 0.020	0.0207	+/ 0.020	0.0462	pCi/g	BXF1	07/31/06 12	28 550820 2
The following Prep M	lethods were p	erformed								
Method Des	cription				Analyst	Date	Time	Prep Batc	h	
Dry Soil Prep Dry	Soil Prep GL	RAD A 0	21		AXP2	07/21/06	1531	550552		
The following Analyti Method Des	cal Methods w	ere perfor	med							<u></u>
I EM	L HASE 300, 4	.5.2.3								
Z EPA	A 905.0 Modifie	a								
Surrogate/Tracer rec	overy Test	:			Recovery%	б Ассер	table Limits			

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Certificate of Analysis

Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID: :		9106 0015 167556013	006F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Project:	Soils PO# 00	02332							
	Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	ticut 06424]	Report Date: August 14,	2006
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power						

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	54	(25% 125%)

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

Certificate of Analysis

Company : Connecticut Yankee Atomic Power

Addro	ess : 362	Injun H	lollow Rd							
. Conta	East act: Mr.	Hampt Jack M	on, Connec cCarthy	ticut 06424				Rep	port Date: August 14	4, 2006
Proje	ct: Soils	s PO # 0	02332							
	Clic San Ma Col Rec Col Mo	ent Sar nple II trix: lect Da eive D lector: isture:	nple ID:): ate: pate:		9106 00 1675560 SE 28 JUN 21 JUL Client 36.2%	015 007F 014 06 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter	Qu	alifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt
Rad Gamma Spec	Analysis									
Gamma,Solid F. Waived	SS GAM & A	LL FSS	S 226 Ingro	wth						
Actinium 228			0.677	+/ 0.304	0.109	+/ 0.304	0.230	pCi/g	MJH1 08/02	/06 2321 551078 1
Americium 241		U	0.00383	+/ 0.0411	0.0335	+/ 0.0411	0.0689	pCi/g		
Bismuth 212			0.485	+/ 0.523	0.218	+/ 0.523	0.459	pCi/g		
Bismuth 214			0.546	+/ 0.127	0.0561	+/ 0.127	0.117	pCi/g		
Cesium 134		U	0.0351	+/ 0.0412	0.0355	+/ 0.0412	0.0746	pCi/g		
Cesium 137			0.285	+/ 0.0741	0.0253	+/ 0.0741	0.0535	pCi/g		
Cobalt 60			0.355	+/ 0.0793	0.0294	+/ 0.0793	0.0634	pCi/g		
Europium 152		U	0.0141	+/ 0.082	0.0661	+/ 0.082	0.138	pCi/g		
Europium 154		U	0.0392	+/ 0.106	0.0846	+/ 0.106	0.182	pCi/g		
Europium 155		U	0.0388	+/ 0.0957	0.0571	+/ 0.0957	0.118	pCi/g		
Lead 212			0.653	+/ 0.0873	0.0421	+/ 0.0873	0.0867	pCi/g		
Lead 214			0.650	+/ 0.128	0.0461	+/ 0.128	0.0961	pCi/g		
Manganese 54		U	0.0107	+/ 0.0383	0.0317	+/ 0.0383	0.0667	pCi/g		
Niobium 94		U	0.00394	+/ 0.0314	0.0261	+/ 0.0314	0.0548	pCi/g		
Potassium 40			12.4	+/ 1.25	0.228	+/ 1.25	0.501	pCi/g		
Radium 226			0.546	+/ 0.127	0.0561	+/ 0.127	0.117	pCi/g		
Silver 108m		U	0.00244	+/ 0.0267	0.023	+/ 0.0267	0.0481	pCi/g		
Thallium 208			0.229	+/ 0.0738	0.027	+/ 0.0738	0.0567	pCi/g		
Rad Gas Flow Pro	portional C	ountin	g							
GFPC, Sr90, soli	d ALL FSS									
Strontium 90		U	0.00298	+/ 0.0178	0.0193	+/ 0.0178	0.0437	pCi/g	BXF1 07/31	/06 1228 550820 2
The following Pro	ep Methods	were p	erformed							
Method	Description	1				Analyst	Date	Time	Prep Batch	
Dry Soil Prep	Dry Soil Pr	ep GL	RAD A 0	21		AXP2	07/21/0	06 1531	550552	
The following An	alytical Met	hods w	ere perfor	med						
	Description									
1	EML HASI	. 300, 4	.5.2.3							
2	EPA 905.0	Modifie	ed							
Surrogate/Tracer	recovery	Test	t			Recovery%	Acc	eptable Limits		

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Certificate of Analysis

Parameter		Qualifier Resu	llt Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sample ID Sample ID:):	9106 0015 167556014	007F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Project:	Soils PO# 002332							
	Contact:	East Hampton, Con Mr. Jack McCarthy	necticut 06424				1	Report Date: August 14,	2006
	Company : Address :	Connecticut Yanke 362 Injun Hollow F	e Atomic Power Rd						

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	50	(25% 125%)

Notes:

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- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

Certificate of Analysis

Company : Connecticut Yankee Atomic Power

Addr	ess: 3	62 Injun H	ollow Rd										
Conta	E act: M	ast Hampto	on, Connec Carthy	ticut 06424				Rep	oort Date: Au	gust 14,	2006		
Proje	ct: S	oils PO# 0	02332										
	C S N C N N	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ite: ate:		9106 00 1675560 SE 28 JUN 21 JUL Client 51.1%	015 008F 015 06 06		Proiect: Y Client ID: Y Vol. Recv.:	YANK01204 YANK001				
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time]	Batch M	 td
Rad Gamma Spec	Analysis	-							j-				_
Gamma,Solid F	SS GAM d	& ALL FSS	226 Ingro	wth									
Waived			U										
Actinium 228			0.605	+/ 0.173	0.048	+/ 0.173	0.101	pCi/g	MJH1	08/02/0	6 2321 :	551078	1
Americium 241		U	0.0586	+/ 0.115	0.0867	+/ 0.115	0.178	pCi/g					
Bismuth 212			0.410	+/ 0.217	0.100	+/ 0.217	0.211	pCi/g					
Bismuth 214			0.542	+/ 0.0813	0.0245	+/ 0.0813	0.051	pCi/g					
Cesium 134		UI	0.00	+/ 0.0246	0.0164	+/ 0.0246	0.0343	pCi/g					
Cesium 137			0.215	+/ 0.0393	0.0146	+/ 0.0393	0.0303	pCi/g					
Cobalt 60			0.349	+/ 0.0513	0.0129	+/ 0.0513	0.0277	pCi/g					
Europium 152		U	0.00521	+/ 0.0451	0.0359	+/ 0.0451	0.0743	pCi/g					
Europium 154		U	0.00882	+/ 0.054	0.0442	+/ 0.054	0.0937	pCi/g					
Europium 155			0.0782	+/ 0.0643	0.0369	+/ 0.0643	0.0756	pCi/g					
Lead 212			0.742	+/ 0.0872	0.0204	+/ 0.0872	0.0419	pCi/g					
Lead 214			0.612	+/ 0.0914	0.0262	+/ 0.0914	0.0541	pCi/g					
Manganese 54		U	0.0307	+/ 0.0243	0.0153	+/ 0.0243	0.032	pCi/g					
Niobium 94		U	0.00405	+/ 0.016	0.0132	+/ 0.016	0.0276	pCi/g					
Potassium 40			11.8	+/ 1.02	0.125	+/ 1.02	0.270	pCi/g					
Radium 226			0.542	+/ 0.0813	0.0245	+/ 0.0813	0.051	pCi/g					
Silver 108m		U	0.00592	+/ 0.0152	0.013	+/ 0.0152	0.0269	pCi/g					
Thallium 208			0.244	+/ 0.0493	0.0136	+/ 0.0493	0.0284	pCi/g					
Rad Gas Flow Pro	portiona	l Counting	ç										
GFPC, Sr90, soli	d ALL F	SS											
Strontium 90		U	0.0105	+/ 0.0168	0.0163	+/ 0.0168	0.0372	pCi/g	BXF1	07/31/0	6 1228 5	550820	2
The following Pro	ep Metho	ds were po	erformed										
Method	Descript	tion				Analyst	Date	Time	Prep Batc	h			
Dry Soil Prep	Dry Soil	Prep GL	RAD A 0	21		AXP2	07/21/0	06 1531	550552				
The following An	alytical N	1ethods w	ere perfor	med									
Method	Descript	ion	• • •										
1	EML HA	SL 300, 4	.5.2.3										
2	EPA 905	.0 Modifie	d										
Surrogate/Tracer	recovery	y Test				Recovery%	Acce	eptable Limits	•				

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C A	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power						
C	Contact:	East Hampto Mr. Jack Mc	n, Connec Carthy	ticut 06424				1	Report Date: August 14,	2006
Р	roject:	Soils PO# 00)2332							
		Client Sam Sample ID:	ple ID:		9106 0015 167556015	008F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	56	(25% 125%)	

Notes:

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- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

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

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Certificate of Analysis

Company: Connecticut Yankee Atomic Power

Address	: 362 Injun H	ollow Rd									
Contact	East Hampto Mr. Jack Mo	on, Connec Carthy	ticut 06424				Re	port Date: Au	gust 14,	2006	
Project:	Soils PO# 0	02332									
	Client Sam Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106 0015 167556016 SE 28 JUN 0 21 JUL 0 Client 27.5%	5 009F 5 06 6	P C V	roject: lient ID: ol. Recv.:	YANK01204 YANK001			
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time Batch	Mtd
Rad Gamma Spec A	nalysis										
Gamma,Solid FSS Waived	GAM & ALL FSS	226 Ingro	wth								
Actinium 228	П	0.768	+/ 0.163	0.0612 +	+/ 0.163	0.122	pCi/g	МЛНІ	08/03/0	6 0645 551078	. 1
Rismuth 212	0	0.0144	$\pm / 0.0040$	0.0497 +/	0.0040 F/ 0.212	0.0992	pCi/g				
Bismuth 212		0.502	+/0.0064	0.0292 +/	0.212	0.230	pCi/g				
Cesium 134	П	0.0282	+/0.0267	0.0205 +/	0.0267	0.0505	pCi/g				
Cesium 137	U U	0.0119	+/ 0.0201	0.0174 +/	0.0201	0.0348	pCi/g				
Cohalt 60	Ŭ	0.0323	+/ 0.0249	0.0194 +/	0.0249	0.0387	nCi/g				
Europium 152	Ŭ	0.00615	+/ 0.061	0.042 +	+/ 0.061	0.0839	nCi/g				
Europium 154	Ŭ	0.0311	+/0.0614	0.0486 +/	0.0614	0.0971	nCi/g				
Europium 155	Ŭ	0.0437	+/ 0.0523	0.0465 +/	0.0523	0.093	pCi/g				
Lead 212	-	0.730	+/ 0.0781	0.0244 +/	0.0781	0.0488	pCi/g				
Lead 214		0.591	+/ 0.0853	0.0314 +/	0.0853	0.0628	pCi/g				
Manganese 54	U	0.0323	+/ 0.0292	0.0172 +/	0.0292	0.0343	pCi/g				
Niobium 94	U	0.00976	+/ 0.0172	0.0154 +/	0.0172	0.0308	pCi/g				
Potassium 40		13.3	+/ 1.12	0.119	+/ 1.12	0.239	pCi/g				
Radium 226		0.517	+/ 0.0964	0.0292 +/	0.0964	0.0583	pCi/g				
Silver 108m	U	0.00821	+/ 0.0166	0.0146 +/	0.0166	0.0292	pCi/g				
Thallium 208		0.235	+/ 0.0438	0.0154 +/	0.0438	0.0309	pCi/g				
Rad Gas Flow Prope	ortional Counting	3									
GFPC, Sr90, solid	ALL FSS										
Strontium 90	U	0.0155	+/ 0.0187	0.0182 +/	0.0187	0.0402	pCi/g	BXF1	07/31/0	6 1228 550820	2 י
The following Prep	Methods were p	erformed									
Method D	escription				Analyst	Date	Time	Prep Batc	h		
Dry Soil Prep D	ry Soil Prep GL	RAD A (021		AXP2	07/21/06	5 1531	550552			
The following Analy Method D	ytical Methods w	ere perfor	med								
		5 7 7									
I E	ML HASL 300, 4	.3.2.3									
2 E	PA 905.0 Modifie	d									
Surrogate/Tracer re	ecovery Test			1	Recovery%	Accep	stable Limits	S			

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Certificate of Analysis

Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sam Sample ID:	ple ID:		9106 0015 167556016	009F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Contae Projec	et: et:	East Hampto Mr. Jack Mc Soils PO# 00	on, Connec Carthy)2332	cticut 06424				I	Report Date: August 14,	2006
Compa Addre	any : ess :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power						

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	68	(25% 125%)

Notes:

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- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power							
Contact:	East Hampto Mr. Jack Mo	on, Connec Carthy	ticut 06424				Re	eport Date: Augu	ıst 14, 2006	
Project:	Soils PO# 0	02332								
	Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	nple ID:): .te: ate:		9106 00 1675560 SE 28 JUN 21 JUL Client 24.9%	15 010F 17 06 06	Pr Cl Va	oject: ient ID: ol. Recv.:	YANK01204 YANK001		
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	Date Time Batch	Mtd
Rad Gamma Spec Analy	/sis	·		<u></u>						
Gamma,Solid FSS GAI Waived	M & ALL FSS	226 Ingro	wth							
Actinium 228		0.886	+/ 0.192	0.0637	+/ 0.192	0.127	pCi/g	MJH1 0	8/03/06 0646 551078	1
Americium 241	U	0.0804	+/ 0.0885	0.0709	+/ 0.0885	0.142	pCi/g			
Bismuth 212	UI	0.00	+/ 0.213	0.200	+/ 0.213	0.400	pCi/g			
Bismuth 214		0.490	+/ 0.113	0.035	+/ 0.113	0.070	pCi/g			
Cesium 134	UI	0.00	+/ 0.0357	0.0236	+/ 0.0357	0.0472	pCi/g			
Cesium 137		0.253	+/ 0.0477	0.0181	+/ 0.0477	0.0362	pCi/g			
Cobalt 60	UI	0.00	+/ 0.0301	0.0277	+/ 0.0301	0.0554	pCi/g			
Europium 152	U	0.00295	+/ 0.0908	0.0461	+/ 0.0908	0.0921	pCı/g			
Europium 154	U	0.0233	+/ 0.066	0.0572	+/ 0.066	0.114	pCi/g			
Europium 155	U	0.0607	+/ 0.0751	0.0475	+/ 0.0751	0.095	pCi/g			
Lead 212		0.830	+/ 0.0917	0.0274	+/ 0.0917	0.0548	pCi/g			
Lead 214	**	0.743	+/ 0.110	0.0343	+/ 0.110	0.0685	pCı/g			
Manganese 54	U	0.014	+/ 0.0226	0.0181	+/ 0.0226	0.0362	pCi/g			
Niobium 94	U	0.00115	+/ 0.0214	0.0179	+/ 0.0214	0.0357	pCi/g			
Potassium 40		13.4	+/ 1.20	0.178	+/ 1.20	0.355	pC1/g			
Kadium 220	TI	0.490	+/ 0.113	0.035	+/0.113	0.070	pCi/g			
Thallium 208	0	0.00373	± 0.018	0.0152	$\pm (0.018)$	0.0304	pCi/g			
Rad Gas Flow Proportio	onal Counting	0.279	+7 0.0337	0.0100	+/ 0.0337	0.0332	peng			
CEPC Sull and AL		5								
Strontium 90	U	0.00371	+/ 0.014	0.0149	+/ 0.014	0.0335	pCi/g	BXF1 0	7/31/06 1228 550820	2
The following Prep Me	thods were po	erformed								
Method Descr	ription				Analyst	Date	Time	e Prep Batch		
Dry Soil Prep Dry S	oil Prep GL	RAD A 0	21		AXP2	07/21/06	1531	550552		
The following Analytica	I Methods w	ere perfor	med							
Method Descr	iption									
1 EML	HASL 300, 4.	.5.2.3								
2 EPA 9	905.0 Modifie	d								
Surrogate/Tracer recov	ery Test				Recovery%	Accep	table Limits	5		

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Certificate of Analysis

ter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sam Sample ID	nple ID:):		9106 001 16755601	5 010F 7		Project: Client ID: Vol. Recv.	YANK01204 YANK001 :	
	Project:	Soils PO# 0	02332							
	Contact:	East Hampto Mr. Jack Mo	on, Connec Carthy	cticut 06424					Report Date: August 14	, 2006
	Company : Address :	Connecticut 362 Injun He	Yankee A ollow Rd	tomic Power						

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

Notes:

Parame

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

- < Result is less than value reported
- Result is greater than value reported >
- The TIC is a suspected aldol condensation product Α
- Target analyte was detected in the associated blank В
- BD Results are either below the MDC or tracer recovery is low
- С Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- Η Analytical holding time was exceeded
- Value is estimated J

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

		002 mjan m	ollow Ru									
Co	ontact:	East Hampto Mr. Jack Mo	on, Connec Carthy	ticut 06424				Re	port Date: Au	gust 14, 1	2006	
Pr	oject:	Soils PO# 0	02332									
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	nple ID:): te: ate:		9106 00 1675560 SE 28 JUN 21 JUL Client 26.9%	015 011F 018 06 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time Batch	Mtd
Rad Gamma Sp	ec Analy	sis										
Gamma,Solid	FSS GAN	A & ALL FSS	226 Ingro	wth								
Waived			-									
Actinium 22	8		0.811	+/ 0.213	0.0921	+/ 0.213	0.184	pCi/g	MJH1	08/03/0	6 0646 551078	31
Americium 2	241	U	0.0265	+/ 0.0368	0.0293	+/ 0.0368	0.0586	pCi/g				
Bismuth 212			0.541	+/ 0.298	0.165	+/ 0.298	0.330	pCi/g				
Bismuth 214			0.569	+/ 0.124	0.0405	+/ 0.124	0.0809	pCi/g				
Cesium 134		U	0.0423	+/ 0.0528	0.0283	+/ 0.0528	0.0566	pCi/g				
Cesium 137			0.493	+/ 0.0759	0.0257	+/ 0.0759	0.0513	pCi/g				
Cobalt 60			0.396	+/ 0.0728	0.0235	+/ 0.0728	0.047	pCi/g				
Europium 15	52	U	0.054	+/ 0.0716	0.0536	+/ 0.0716	0.107	pCi/g				
Europium 15	4	U	0.00904	+/ 0.0929	0.0781	+/ 0.0929	0.156	pCi/g				
Europium 15	5	U	0.0563	+/ 0.0579	0.0453	+/ 0.0579	0.0905	pCi/g				
Lead 212			0.721	+/ 0.086	0.0286	+/ 0.086	0.0571	pCi/g				
Lead 214			0.553	+/ 0.104	0.0404	+/ 0.104	0.0807	pCi/g				
Manganese 5	54	U	0.0238	+/ 0.0237	0.0246	+/ 0.0237	0.0492	pCi/g				
Niobium 94		U	0.00116	+/ 0.0261	0.0196	+/ 0.0261	0.0392	pCi/g				
Potassium 40)		11.2	+/ 0.982	0.201	+/ 0.982	0.402	pCi/g				
Radium 226			0.569	+/ 0.124	0.0405	+/ 0.124	0.0809	pCi/g				
Silver 108m		U	0.0109	+/ 0.0233	0.0194	+/ 0.0233	0.0387	pCi/g				
Thallium 20	5		0.222	+/ 0.0573	0.0235	+/ 0.0573	0.047	pCi/g				
Rad Gas Flow I	roportio	nal Counting	5									
GFPC, Sr90, s	olid ALL	, FSS										
Strontium 90)	U	0.0188	+/ 0.0204	0.019	+/ 0.0204	0.0428	pCi/g	BXF1	07/31/0	6 1228 550820) 2
The following	Prep Met	hods were pe	erformed									
Method	Descr	iption				Analyst	Date	Time	Prep Bate	h		
Dry Soil Prep	Dry S	oil Prep GL	RAD A 0	21		AXP2	07/21/0	06 1531	550552			
The following	Analytica	l Methods wa	ere perfor	med								
Method	Descri	iption										
1	EML I	HASL 300. 4	.5.2.3									
2	EPA 9	05.0 Modifie	d									
Surrogate/Tra	cer recov	ery Test				Recovery%	Acce	eptable Limits				

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6 (m		T 4			-					
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sam Sample ID:	ple ID:		9106 0015 167556018	011F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Contac Project	1 ct: 1 t: 1	East Hampto Mr. Jack Mc Soils PO# 00	on, Connec Carthy)2332	ticut 06424				F	Report Date: August 14,	2006
Compa Addres	any: ss: 3	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power						

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	55	(25% 125%)

Notes:

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- < Result is less than value reported
- > Result is greater than value reported
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- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/ RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded
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Company Address	y: Connecticu : 362 Injun H	t Yankee A Iollow Rd	tomic Power							
Contact:	East Hamp Mr. Jack M	ton, Connec cCarthy	ticut 06424				R	eport Date: Au	gust 14, 2	006
Project:	Soils PO# (002332								
	Client Sar Sample II Matrix: Collect D Receive D Collector: Moisture:	nple ID: D: ate: Date:		9106 00 1675560 SE 28 JUN 21 JUL Client 37.4%	015 012F 019 1 06 2 06	P C V	roiect: lient ID: 'ol. Recv.:	YANK01204 YANK001		
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time Batch Mt
Rad Gamma Spec An	alysis									
Gamma,Solid FSS (GAM & ALL FS	S 226 Ingro	wth							
Waived										
Actinium 228		0.545	+/ 0.190	0.073	+/ 0.190	0.155	pCi/g	MJH1	08/03/06	0749 551078
Americium 241	U	0.000712	+/ 0.135	0.0767	+/ 0.135	0.158	pCi/g			
Bismuth 212		0.495	+/ 0.270	0.156	+/ 0.270	0.331	pCi/g			
Bismuth 214		0.538	+/ 0.0906	0.0344	+/ 0.0906	0.0727	pCi/g			
Cesium 134	01	0.00	+/ 0.0327	0.0245	+/0.0327	0.0315	pCi/g			
Cobalt 60		0.547	+/ 0.0404	0.0191	+/ 0.0404	0.0403	pCi/g			
Euronium 152	TT	0.035	+/ 0.0758	0.0185	+/ 0.0758	0.0402	pCl/g			
Europium 152 Europium 154	U U	0.0204	+/ 0.0791	0.0554	+/ 0.0791	0.151	nCi/g			
Europium 157	U	0.0911	+/ 0.0754	0.0532	+/ 0.0754	0.110	nCi/g			
Lead 212	U	0.704	+/ 0.0622	0.0298	+/ 0.0622	0.0617	pCi/g			
Lead 214		0.608	+/ 0.0947	0.0394	+/ 0.0947	0.082	pCi/g			
Manganese 54	U	0.00361	+/ 0.0246	0.0205	+/ 0.0246	0.0435	pCi/g			
Niobium 94	Ū	0.000366	+/ 0.0209	0.0178	+/ 0.0209	0.0375	pCi/g			
Potassium 40		11.8	+/ 0.881	0.173	+/ 0.881	0.383	pCi/g			
Radium 226		0.538	+/ 0.0906	0.0344	+/ 0.0906	0.0727	pCi/g			
Silver 108m	U	0.00627	+/ 0.0213	0.0172	+/ 0.0213	0.036	pCi/g			
Thallium 208		0.255	+/ 0.0488	0.019	+/ 0.0488	0.0402	pCi/g			
Rad Gas Flow Propo	rtional Countin	g								
GFPC, Sr90, solid	ALL FSS									
Strontium 90	U	0.00327	+/ 0.016	0.0172	+/ 0.016	0.0388	pCi/g	BXF1	07/31/06	1228 550820
The following Prep !	Methods were p	performed								
Method De	escription				Analyst	Date	Tim	e Prep Batc	h	
Dry Soil Prep Dr	y Soil Prep GL	RAD A 0	021		AXP2	07/21/0	5 153	1 550552		
The following Analy	tical Methods v	vere perfor	med							
Method De	scription									
1 EN	/IL HASL 300, 4	4.5.2.3								
2 EP	A 905.0 Modifi	ed								
Surrogate/Tracer re	covery Tes	t			Recovery%	6 Accej	otable Limit	S		

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Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID: :		9106 0015 167556019	012F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	on, Connec Carthy 02332	ticut 06424				J	Report Date: August 14,	2006
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power					Demont Determined 14	2006

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	60	(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

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

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Certificate of Analysis

Co Ad	mpany : Idress :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power						
Co	ntact:	East Hampte Mr. Jack Me	on, Connec Carthy	ticut 06424				Re	port Date: August 1	4, 2006
Pr	oject:	Soils PO# 0	02332							
		Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ite: ate:		9106 00 1675560 SE 28 JUN 21 JUL Client 41.1%	015 013F 020 1 06 , 06	Pr Cl V	roiect: lient ID: ol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Dat	e Time Batch Mto
Rad Gamma Sp	ec Analy	/sis					÷			
Gamma, Solid	FSS GA	M & ALL FSS	226 Ingro	wth						
Waived										
Actinium 22	8		0.891	+/ 0.296	0.109	+/ 0.296	0.229	pCi/g	MJH1 08/0	3/06 0749 551078 1
Americium 2	241	U	0.0308	+/ 0.0435	0.0365	+/ 0.0435	0.075	pCi/g		
Bismuth 212			0.554	+/ 0.355	0.234	+/ 0.355	0.491	pCi/g		
Bismuth 214		•	0.659	+/ 0.156	0.051	+/ 0.156	0.107	pCi/g		
Cesium 134		U	0.0764	+/ 0.0633	0.037	+/ 0.0633	0.0775	pCi/g		
Cesium 137			0.443	+/ 0.0825	0.0307	+/ 0.0825	0.0644	pCi/g		
Cobalt 60	•		0.705	+/ 0.111	0.0289	+/ 0.111	0.0624	pCi/g		
Europium 13	2	U	0.0411	+/ 0.0808	0.06/5	+/ 0.0808	0.140	pCi/g		
Europium 15	94 : 5	U	0.0205	+/ 0.112	0.0911	+/0.112	0.194	pCi/g		
Lond 212	5	U	0.0149	+/0.0911	0.0303	± 0.0911	0.110	pCi/g		
Lead 212			0.709	+/ 0.0944	0.0432	± 0.0944	0.0928	pCi/g		
Manganese 4	54	II	0.083	+/0.113	0.0491	± 0.0125	0.102	pCi/g		
Niobium 94	7	U	0.0037	+/0.0323	0.0278	+/0.0323	0.072	pCi/g		
Potassium 4)	U	12.2	+/ 1 24	0.0270	+/ 1 24	0.635	nCi/g		
Radium 226	,		0.659	+/ 0156	0.051	+/0156	0.055	nCi/g		
Silver 108m		U	0.00193	+/0.0268	0.0231	+/0.0268	0.0482	nCi/g		
Thallium 20	8	C	0.222	+/ 0.080	0.0294	+/ 0.080	0.0616	pCi/g		
Rad Gas Flow I	- Proportio	onal Counting	2					F 8		
GEPC SrQ0	olid AL									
Strontium 90)	U	0.005	+/ 0.0179	0.0191	+/ 0.0179	0.0425	pCi/g	BXF1 07/3	1/06 1228 550820 2
The following	Prep Me	thods were p	erformed							
Method	Desc	ription				Analyst	Date	Time	Prep Batch	
Dry Soil Prep	Dry S	Soil Prep GL	RAD A 0	21		AXP2	07/21/06	1531	550552	
The following	Analytics	al Methods w	ere perfor	med						
Method	Desci	ription								
1	EML	HASL 300, 4	.5.2.3							
2	EPA	905.0 Modifie	d							
Surrogate/Tra	cer recov	very Test				Recovery%	б Ассер	table Limits	5	

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1 41 4115151	Quar		RESUIT	Uncertainty	LC	IPU	MDA	Units	Dr Analyst Date	ime Batch Mtd
Parameter	Qual	ifior	Decult	Uncontainty	IC	TDU	MDA		DE Ameleut Data	Time Detab Mark
	Clien Samp	t Samp le ID:	ple ID:		9106 001: 167556020	5 013F		Project: Client ID: Vol. Recv.	YANK01204 YANK001 :	
Contact: Project:	East H Mr. Ja Soils I	amptor ck McC PO# 002	n, Connec Carthy 2332	cticut 06424					Report Date: August 14	l, 2006
Compar Address	y: Conne : 362 In	cticut Y jun Hol	Yankee A llow Rd	tomic Power						

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

Notes:

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- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

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Company Address :	: Connecticut 362 Injun H	t Yankee A Iollow Rd	tomic Power						
Contact:	East Hampt Mr. Jack M	on, Connec cCarthy	cticut 06424				Rep	ort Date: Au	gust 14, 2006
Project:	Soils PO# 0	02332							
	Client San Sample II Matrix: Collect Da Receive D Collector: Moisture:	nple ID: D: ate: ate:		9106 00 1675560 SE 28 JUN 21 JUL Client 64.3%	015 014F 21 06 06		Project: Y Client ID: Y Vol. Recv.:	ANK01204 ANK001	
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date Time Batch Mtd
Rad Gamma Spec Ana	lysis						·		
Gamma,Solid FSS G2 Waived	AM & ALL FSS	S 226 Ingro	wth						
Actinium 228		0.857	+/ 0.320	0.114	+/ 0.320	0.236	pCi/g	МЈН1	08/03/06 2120 551081 1
Americium 241	U	0.014	+/ 0.0435	0.0317	+/ 0.0435	0.0646	pCi/g		
Bismuth 212		0.585	+/ 0.605	0.244	+/ 0.605	0.504	pCi/g		
Bismuth 214		0.756	+/ 0.167	0.0568	+/ 0.167	0.117	pCi/g		
Cesium 134	UI	0.00	+/ 0.0662	0.039	+/ 0.0662	0.0804	pCi/g		
Cesium 137	U	0.0443	+/ 0.0394	0.0328	+/ 0.0394	0.0676	pCi/g		
Cobalt 60	U	0.0432	+/ 0.0428	0.0365	+/ 0.0428	0.0762	pCi/g		
Europium 152	U	0.0422	+/ 0.0867	0.0654	+/ 0.0867	0.134	pCi/g		
Europium 154	U	0.103	+/ 0.118	0.0905	+/ 0.118	0.190	pCi/g		
Europium 155	U	0.066	+/ 0.0764	0.0567	+/ 0.0764	0.116	pCi/g		
Lead 212		1.01	+/ 0.0961	0.0357	+/ 0.0961	0.073	pCi/g		
Lead 214		0.850	+/ 0.139	0.0505	+/ 0.139	0.104	pCi/g		
Manganese 54	U	0.025	+/ 0.040	0.0305	+/ 0.040	0.0634	pCi/g		
Niobium 94	U	0.00255	+/ 0.0365	0.0289	+/ 0.0365	0.0597	pCi/g		
Potassium 40		13.2	+/ 1.43	0.284	+/ 1.43	0.601	pC1/g		
Radium 226		0.756	+/ 0.167	0.0568	+/ 0.167	0.117	pCı/g		
Silver 108m	U	0.0181	+/ 0.0311	0.0258	+/ 0.0311	0.053	pC1/g		
Inalitum 208 Red Cas Flow Properti		0.273	+/ 0.095	0.0298	+/ 0.095	0.0615	pCi/g		
Kau Gas riow Proporti	ionai Countinț	8							
GFPC, Sr90, solid Al	LL FSS								
Strontium 90	U	0.0222	+/ 0.0208	0.0191	+/ 0.0208	0.0428	pCi/g	BXF1	07/30/06 1114 550821 2
The following Prop M	othods wors -	orformed							
Method Desc	cription	eriorinea			Analyst	Date	Time	Prep Batc	h
Dry Soil Pren Dry	Soil Pren GI		121		BSW1	07/21/	06 1519	550554	
Siy son riep Diy	Sou i teh OF		- <u>-</u> 1			0//21/	00 1510	550554	

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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Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sam Sample ID	iple ID: :		9106 0015 167556021	5 014F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Project:	Soils PO# 00	02332							
	Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	ticut 06424				I	Report Date: August 14,	2006
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power						

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

- 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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Compa Addres	any: (ss: 2	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power						
Contac	zt:	East Hampto Mr. Jack Mo	on, Connec Carthy	ticut 06424				Ro	eport Date: Augus	t 14, 2006
Project	t: :	Soils PO# 0	02332							
		Client Sam Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): te: ate:		9106 00 1675560 SE 28 JUN 21 JUL Client 32.4%	015 016F 022 06 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Da	ate Time Batch M
Rad Gamma Spec	Analysi	is								
Gamma,Solid FS Waived	S GAM	& ALL FSS	226 Ingro	wth						
Actinium 228			0.817	+/ 0.201	0.0536	+/ 0.201	0.115	pCi/g	MJH1 08/	/03/06 1539 551081
Americium 241		U	0.0173	+/ 0.0759	0.0648	+/ 0.0759	0.134	pCi/g		
Bismuth 212		UI	0.00	+/ 0.345	0.123	+/ 0.345	0.263	pCi/g		
Bismuth 214			0.697	+/ 0.118	0.0324	+/ 0.118	0.0682	pCi/g		
Cesium 134		U	0.0299	+/ 0.023	0.0212	+/ 0.023	0.0448	pCi/g		
Cesium 137			0.302	+/ 0.0569	0.0174	+/ 0.0569	0.0369	pCi/g		
Cobalt 60			0.101	+/ 0.0393	0.0204	+/ 0.0393	0.0439	pCi/g		
Europium 152		U	0.00133	+/ 0.0618	0.0463	+/ 0.0618	0.0967	pCi/g		
Europium 154		U	0.0226	+/ 0.0617	0.0523	+/ 0.0617	0.113	pCi/g		
Europium 155		U	0.00/68	+/ 0.064	0.0541	+/ 0.064	0.112	pCi/g		
Lead 212			0.833	+/ 0.0921	0.0266	+/ 0.0921	0.0552	pCi/g		
Lead 214		TI	0.04/	+/ 0.110	0.0328	+/ 0.110	0.0685	pCI/g		
Nichium 04		U	0.00512	+/ 0.0208	0.0172	+/0.0208	0.0307	pCi/g		
Potossium 40		0	12 /	+/ 0.0184	0.0102	+/ 0.0184	0.0343	pCi/g		
Radium 226			0.607	+/ 0.118	0.120	+/0.118	0.282	pCi/g		
Silver 108m		П	0.0762	+/0.118	0.0324	+/0.0178	0.0002	pCi/g		
Thallium 208		U	0 252	+/ 0.0502	0.0177	+/0.0502	0.0374	nCi/g		
Rad Gas Flow Pror	ortion	al Counting	,	0.00002		0.00002	010071	P 8		
CEPC Sell rolid	1 ATT		-							
Strontium 90		U	0.00259	+/ 0.0179	0.0207	+/ 0.0179	0.0464	pCi/g	BXF1 07.	/30/06 1225 550821
The following Pre	p Meth	ods were p	erformed							
Method	Descrip	ption				Analyst	Date	Time	e Prep Batch	
Dry Soil Prep	Dry Soi	il Prep GL	RAD A 0	21		BSW1	07/21/0	06 1518	8 550554	
The following Ana	lytical	Methods w	ere perfor	med						
	Descrip							····· ·· ·· ·· ·· ··	<u>.</u>	
1]	EML H	ASL 300, 4	.5.2.3							
2 1	EPA 90	5.0 Modifie	d							
Surrogate/Tracer	recove	ry Test				Recovery%	Acce	ptable Limit	S	

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Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		
Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: August 14, 2006
Project:	Soils PO# 002332		
	Client Sample ID: Sample ID:	9106 0015 016F 167556022	Project: YANK01204 Client ID: YANK001 Vol. Recv.:

rarameter	Quanner	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time Batch	Mtd
Surrogate/Tracer recover	ry Test				Recovery%	Acce	ptable Limits				
Carrier/Tracer Recovery	GFPC	C, Sr90, so	lid ALL FSS		56	(2	5% 125%)				_

Notes:

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- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

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Certificate of Analysis

Compan Address	y: Connecticu : 362 Injun H	t Yankee A Iollow Rd	tomic Power						
Contact:	East Hamp Mr. Jack M	ton, Connec Carthy	ticut 06424				Re	eport Date: Augus	t 14, 2006
Project:	Soils PO# (002332							
	Client San Sample II Matrix: Collect D Receive I Collector: Moisture:	mple ID: D: ate: Date:		9106 00 1675560 SE 28 JUN 21 JUL Client 32.5%	015 017F 023 06 06	H (V	Project: Elient ID: Vol. Recv.:	YANK01204 YANK001	
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst D	ate Time Batch Mto
Rad Gamma Spec A	nalysis								<u></u>
Gamma,Solid FSS	GAM & ALL FS	S 226 Ingro	wth						
Waived		-							
Actinium 228		0.849	+/ 0.216	0.0965	+/ 0.216	0.193	pCi/g	MJH1 08	/03/06 1549 551081 1
Americium 241	U	0.0909	+/ 0.107	0.0747	+/ 0.107	0.149	pCi/g		
Bismuth 212		0.493	+/ 0.275	0.192	+/ 0.275	0.383	pCi/g		
Bismuth 214		0.503	+/ 0.103	0.043	+/ 0.103	0.0859	pCi/g		
Cesium 134	U	0.0541	+/ 0.0346	0.0323	+/ 0.0346	0.0645	pCi/g		
Cesium 137		0.474	+/ 0.0715	0.0241	+/ 0.0715	0.0482	pCi/g		
Cobalt 60		0.290	+/ 0.0732	0.0295	+/ 0.0732	0.0589	pCi/g		
Europium 152	U	0.0207	+/ 0.0897	0.0626	+/ 0.0897	0.125	pCi/g		
Europium 154	U	0.0229	+/ 0.0979	0.0808	+/ 0.0979	0.162	pCi/g		
Europium 155	U	0.0412	+/ 0.075	0.063	+/ 0.075	0.126	pCi/g		
Lead 212	UI	0.00	+/ 0.101	0.0367	+/ 0.101	0.0734	pCi/g		
Lead 214		0.663	+/ 0.129	0.0442	+/ 0.129	0.0884	pCi/g		
Manganese 54	U	0.00553	+/ 0.0317	0.0263	+/ 0.0317	0.0526	pCi/g		
Niobium 94	U	0.016	+/ 0.0283	0.0216	+/ 0.0283	0.0431	pCi/g		
Potassium 40		13.0	+/ 1.28	0.217	+/ 1.28	0.433	pCi/g		
Radium 226		0.503	+/ 0.103	0.043	+/ 0.103	0.0859	pCi/g		
Silver 108m	U	0.0122	+/ 0.0283	0.0228	+/ 0.0283	0.0457	pCi/g		
Thallium 208		0.278	+/ 0.0618	0.0209	+/ 0.0618	0.0417	pCi/g		
Rad Gas Flow Propo	rtional Countin	g							
GFPC. Sr90. solid	ALL FSS								
Strontium 90	U	0.00449	+/ 0.0181	0.0193	+/ 0.0181	0.0436	pCi/g	BXF1 07	/30/06 1225 550821 2
The following Prep	Methods were p	performed							
Method D	escription				Analyst	Date	Time	e Prep Batch	
Dry Soil Prep D	ry Soil Prep GL	RAD A 0	21		BSW1	07/21/0	6 1518	550554	
The following Analy	tical Methods v	vere perfor	med						
Method De	escription								
l El	ML HASL 300, 4	4.5.2.3							
2 EI	PA 905.0 Modifi	ed							
Surrogate/Tracer re	covery Tes	t			Recovery%	Acce	ptable Limit:	S	

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Parameter		Qualifier Result Uncertai	inty LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sample ID: Sample ID:	9106 0015 167556023	017F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Project:	Soils PO# 002332						
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy	1			1	Report Date: August 14,	2006
	Company : Address :	Connecticut Yankee Atomic Powe 362 Injun Hollow Rd	er					

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	59	(25% 125%)

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power

Addre	ess : 362	Injun H	lollow Rd							
Conta	East	Hampt Jack M	on, Connec cCarthy	ticut 06424				Re	port Date: Au	gust 14, 2006
Projec	et: Soils	s PO# (02332							
	Clic San Ma Col Rec Col Mo	ent Sar nple II trix: lect Da eive D lector: isture:	nple ID:): ate: vate:		9106 00 1675560 SE 28 JUN 21 JUL Client 61%	015 019F 024 1 06 - 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter	Qu	alifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	Date Time Batch Mt
Rad Gamma Spec	Analysis									
Gamma,Solid FS Waived	SS GAM & A	LL FSS	5 226 Ingro	wth						
Actinium 228 Americium 241 Bismuth 212		U	1.02 0.00165 0.713	+/ 0.176 +/ 0.133 +/ 0.308	0.0562 0.0887 0.131	+/ 0.176 +/ 0.133 +/ 0.308	0.117 0.181 0.271	pCi/g pCi/g pCi/g	MJH1	08/03/06 2120 551081
Bismuth 214 Cesium 134 Cesium 137		U	0.745 0.0417 0.0901	+/ 0.126 +/ 0.0377 +/ 0.0369	0.0324 0.0205 0.0172	+/ 0.126 +/ 0.0377 +/ 0.0369	0.0668 0.0423 0.0356	pCi/g pCi/g pCi/g		
Europium 152 Europium 154		U U	0.0236	+/ 0.0442 +/ 0.0532 +/ 0.0642	0.0163	+/ 0.0442 +/ 0.0532 +/ 0.0642	0.0345 0.088 0.111	pCi/g pCi/g pCi/g		
Lead 212 Lead 214		0	0.0030 1.14 0.884	+/ 0.103 +/ 0.072 +/ 0.0967	0.0483	+/ 0.072	0.0508	pCi/g pCi/g pCi/g		
Manganese 54 Niobium 94 Potassium 40		UI U	0.00 0.0232 16.7	+/ 0.0255 +/ 0.0205 +/ 0.832	0.0166 0.0153 0.141	+/ 0.0255 +/ 0.0205 +/ 0.832	0.0344 0.0317 0.299	pCi/g pCi/g pCi/g		
Radium 226 Silver 108m		U	0.745 0.00571	+/ 0.126 +/ 0.0182	0.0324 0.0148	+/ 0.126 +/ 0.0182	0.0668 0.0306	pCi/g pCi/g		
Rad Gas Flow Pro	portional C	ountin	0.273 g	-7 0.0313	0.0105	-7 0.0313	0.0341	pc1/g		
GFPC, Sr90, soli	d ALL FSS		8							
Strontium 90		U	0.00959	+/ 0.0191	0.0192	+/ 0.0191	0.0437	pCi/g	BXF1	07/30/06 1225 550821
The following Pre	p Methods	were p	erformed							
Method	Description	l				Analyst	Date	Time	Prep Batc	b
Dry Soil Prep	Dry Soil Pro	ep GL	RAD A 0	21		BSW1	07/21/0	06 15 1 8	550554	
The following Ana Method	alytical Met Description	hods w	ere perfori	ned					<u> </u>	
1	EML HASI	300 4	523						· · · ·	
2	EPA 905.0	Modifie	.3.2.3 ed							
Surrogate/Tracer	recovery	Test				Recovery%	Acce	ptable Limits		

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Certificate of Analysis

Parameter		Qualifier Result L	Incertainty	LC	TPU	MDA		DF Analyst Date	Time Batch Mtd
		Client Sample ID: Sample ID:		9106 0015 167556024	019F		Project: Client ID: Vol. Recy.:	YANK01204 YANK001	
	Project:	Soils PO# 002332							
	Contact:	East Hampton, Connection Mr. Jack McCarthy	ut 06424				F	Report Date: August 14,	2006
	Company : Address :	Connecticut Yankee Aton 362 Injun Hollow Rd	nic Power						

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	56	(25% 125%)

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
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N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

- R Sample results are rejected
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- UI Gamma Spectroscopy Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/ RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power

Report Date: August 14, 2006 Contact: W. Hack MCCartly Project: Solis POV 002332 Citicat: Sample ID: Sample ID: Collect Date: 9106 0015 020F 167556025 Project: Val. Recv: YANK01204 Chart ID: Val. Recv: Project: Collect Date: 28 JJUL 66 Collect/or: Client Divide Project: YANK01204 Chart ID: Val. Recv: Parametric Qualifier Result Uncertainty LC TPU MDA Uaits DF Analyst Date Time Batch Mrd Rad Gamma Spice Lange Qualifier Result Uncertainty LC TPU MDA Uaits DF Analyst Date Time Batch Mrd Rad Gamma Spice Lange Qualifier Prove Client Val. Recv: Yank0001 Gamma Solid CSS GM & ALL FSS 226 Ingrowth MGH1 08/03/06 2314 551081 1 Antericium 241 Qualifier + 0.022 0.0646 -/ 0.220 0.0135 CC/g Qualifier MJH1 08/03/06 2314 551081 1 Binsmuh 214 Qualifier + 0.022 0.0203 -/ 0.0203 Qualifier Qualifier Qualifier Qualifier Qualifier	Addr	ress :	362 Injun H	ollow Rd										
Ingent Sins FOW 00232 Client Sample ID: 107556025 Project: VANK01204 Start Start Start Start Start Receive Date: 25 JUN 06 First Vanktol Vanktol Collector: Client Start Vanktol Vanktol Moisture: S3% Client District Yanktol Receive Date: S3% Client District Yanktol Receive Date: S3% Client District Yanktol Gamma Spec Analysis Info Uncertainty LC TPU MDA Units DF Analyst Date Time Batch Mid Rared Americium 258 1.06 + 0.220 0.035 pC/y MJH 108/03/06 2314 551081 1 Americium 228 1.06 + 0.0220 0.0454 + 0.0220 0.0444 0.0425 0.0434 pC/y MJH 108/03/06 2314 551081 1 Bismuth 214 0.0341 + 0.0250 0.0214 + 0.0494 0.0405 pC/y MJH 108/03/06 2314 551081 1 Cesium 134	Cont	act:	East Hampto Mr. Jack Mc	on, Connec Carthy	ticut 06424				Rep	oort Date:	August 14	, 2006		
Sample D. 1107350013 0200° Client D. 147350013 0200° Vol. Recv:	Proje		Client Sem	02332		0106 0	015 0205		Project: N	ZANIZ012	14			
Matrix: SE Vol. Recv.: Collect Date: 28 JUN 06 Receive Date: 21 JUL 06 Collector: Client Moisture: 53% Parameter Qualifier Result Uncertainty LC TPU MDA Units DF Analyst Date Time Batch Mtd Rad Gamma Spect Analysis Gamma,Solid FSS GAM & ALL FSS 226 Ingrowth Kolinian Advisor			Sample ID			167556	015 020F		Client ID: Y	YANK012	94			
Collect Date: 28 JUN 06 Receive Pate: 21 JUL 06 Collector: Client Moisture: 53% Parameter Qualifier Result Uncertainty LC TPU MDA Units DF Analyst Date Time Batch Mid Red Gamma Spec Analysis Gamma, Solid FSS GAM & ALL FSS 226 Ingrowth Worked Americium Other State MUH1 08/03/06 2314 551081 1 Americium 228 1.06 +/0.220 0.0464 +/0.220 0.0414 pClig MUH1 08/03/06 2314 551081 1 Americium 211 0.0644 +/0.025 0.0434 pClig Clig			Matrix:			SE			Vol. Recv.:					
Receive Date: 21 10L 06 Collector: Client 53% Parameter Qualifier Result Uncertainty LC TPU MDA Units DF Analyst Date Time Batch Mid Gamma, Solid FSS GAM & ALL FSS 226 Ingrowth Gamma, Solid FSS GAM & ALL FSS 226 Ingrowth Value			Collect Da	te:		28 JUN	1 06							
Collector: Chent Moistre: 53% Parameter Qualifier Result Uncertainty LC TPU MDA Units DF Analyst Date Time Batch Mid Rad Gamma Spec Analysis Gamma, Solid FSS CM & & ALL FSS 226 hgrowth Waved Americium 228 1.06 +/ 0.220 0.0646 +/ 0.220 0.0434 pCl/g Bismuth 212 0.646 +/ 0.220 0.0341 +/ 0.0225 0.0434 pCl/g Cesium 134 U 0.0134 +/ 0.122 0.0714 pCl/g Cesium 137 0.0079 +/ 0.0444 0.0404 pCl/g Cesium 137 U 0.0323 +/ 0.0527 0.0444 0.0406 pCl/g Europium 152 U 0.0453 +/ 0.0528 0.0648 0.0717 +/ 0.127 pCl/g Europium 154 U 0.0234 +/ 0.0137 +/ 0.0234 +/			Receive Da	ate:		21 JUL	/ 06							
Moisture: 53% Parameter Qualifier Result Uncertainty LC TPU MDA Units DF Analyst Date Time Batch Mid Gamma, Solid FSS CAM & ALL FSS 226 Ingrowth Gamma, Solid FSS CAM & ALL FSS 226 Ingrowth More and the analyst Date Time Batch Mid Actinium 228 1.06 + / 0.220 0.0646 + / 0.220 0.135 pCl/g MJH1 08/03/06 2314 551081 1 Americium 212 0.646 + / 0.220 0.0344 + / 0.221 0.0714 pCl/g Bismuth 212 0.0475 + / 0.122 0.0344 + / 0.287 0.291 pCl/g Cesium 137 0.0979 + / 0.0509 0.0191 + / 0.0257 0.0444 + / 0.027 0.0915 pCl/g Cesium 152 U 0.0475 + / 0.0599 0.0648 0.07161 pCl/g Europium 154 U 0.0628 pCl/g Managasee Mold Mold <th></th> <th></th> <th>Collector:</th> <th></th> <th></th> <th>Client</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>			Collector:			Client								
Parameter Qualifie Result Uncertainty LC TPU MDA Units DF Analyst Date Time Bate h Med Radinama Seiva Status Status Status Status Status Note Note <td< th=""><th></th><th></th><th>Moisture:</th><th></th><th></th><th>53%</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>			Moisture:			53%								
Rad Gamma Spick ArLV, FSS 226 Ingrowth Gamma, Solid FSS GAM & ALL, FSS 226 Ingrowth Waived Milt Number of the state of the st	Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Ana	lyst Date	Time	Batch M	Itd
	Rad Gamma Spec	c Analys	sis											_
Actinium 228 1.06 +/ 0.220 0.0646 +/ 0.220 0.135 pCi/g MJH1 08/03/06 2314 551081 1 Americium 241 U 0.0148 +/ 0.226 0.0213 +/ 0.227 0.139 pCi/g Bismuth 212 0.646 +/ 0.122 0.0344 +/ 0.122 0.0714 pCi/g Cesium 134 U 0.0341 +/ 0.0490 0.0025 0.0400 pCi/g Cobalt 60 0.203 +/ 0.0490 0.0052 0.0915 pCi/g Europium 152 U 0.0643 +/ 0.0527 0.0915 pCi/g Europium 154 U 0.0644 +/ 0.0527 0.0915 pCi/g Europium 154 U 0.0644 +/ 0.0373 0.0648 0.0761 pCi/g Lead 212 1.09 +/ 0.137 0.0448 0.0761 pCi/g Europium 155 U 0.0623 +/ 0.0226 0.0311 pCi/g Manganese 54 U 0.0226 0.0179 +/ 0.0221 0.0399 pCi/g Radium 226 0.728 +/ 0.122 0.0714 pCi/g	Gamma,Solid F Waived	'SS GAN	1 & ALL FSS	226 Ingro	wth									
Americium 241 U 0.0148 +/ 0.0265 0.0213 +/ 0.0265 0.0434 pCt/g Bismuth 212 0.646 +/ 0.287 0.139 +/ 0.287 0.291 pCt/g Cesium 134 U 0.0341 +/ 0.122 0.0344 +/ 0.122 0.0714 pCt/g Cesium 134 U 0.0341 +/ 0.0494 0.0192 +/ 0.0405 0.0489 pCt/g Cesium 137 0.0979 +/ 0.0590 0.0191 +/ 0.0509 0.0406 pCt/g Europium 152 U 0.0444 +/ 0.0527 0.0444 +/ 0.0517 pCd/g Europium 154 U 0.0663 +/ 0.0221 0.0191 +/ 0.0648 0.0761 pCt/g Lead 212 I.09 +/ 0.137 0.0234 +/ 0.0320 0.0399 pCt/g Maganese 54 U 0.0221 0.0191 +/ 0.0226 0.0371 pCt/g Niobium 94 U 0.00245 +/ 0.0226 0.0174 +/ 0.026 0.0334 pCt/g Silver 108m U 0.00757 +/ 0.0226 0.0134 0.026	Actinium 228			1.06	+/ 0.220	0.0646	+/ 0.220	0.135	pCi/g	МЈ	[1 08/03/	06 2314	551081	1
Bismuth 212 0.646 +/ 0.287 0.139 +/ 0.287 0.291 pCl/g Bismuth 214 0.728 +/ 0.122 0.0344 +/ 0.122 0.0714 pCl/g Cesium 134 U 0.0371 +/ 0.0405 0.0236 +/ 0.0405 0.0408 pCl/g Cobalt 60 0.203 +/ 0.0509 0.0404 pCl/g pCl/g Europium 152 U 0.0475 +/ 0.0527 0.0915 pCl/g Europium 154 U 0.0684 +/ 0.0693 0.0127 pCl/g Europium 155 U 0.0634 +/ 0.0317 0.0488 pCl/g Lead 212 1.09 +/ 0.137 0.0244 +/ 0.130 0.0638 pCl/g Manganese 54 U 0.0226 1.079 +/ 0.0221 0.0399 pCl/g Potassium 40 14.7 +/ 1.23 0.170 +/ 1.23 0.364 pCl/g Radium 226 0.728 +/ 0.022 0.0179 +/ 0.022 0.0714 pCl/g Rad Gas Flow Proportional Counting GPPC, Sr-90, solid ALL FSS Strontium 90	Americium 241	1	U	0.0148	+/ 0.0265	0.0213	+/ 0.0265	0.0434	pCi/g					
Bismuth 214 0.728 +/ 0.023 +/ 0.023 +/ 0.044 +/ 0.023 +/ 0.0405 0.0236 +/ 0.0405 0.0236 +/ 0.0405 0.0236 +/ 0.0405 0.0236 +/ 0.0405 0.0236 +/ 0.0405 0.0236 +/ 0.0405 0.0236 +/ 0.0405 0.0236 +/ 0.0405 0.0236 +/ 0.0405 0.0406 pCi/g Cobalt 60 0.203 +/ 0.0577 0.0444 + 0.0527 0.0915 pCi/g Europium 152 U 0.0653 +/ 0.0664 0.0761 pCi/g Lead 212 1.09 +/ 0.137 0.048 pCi/g pCi/g Manganese 54 U 0.021 1.0191 + 0.122 0.0371 pCi/g Niobium 94 U 0.0226 0.0179 + 0.022 0.0374 + 0.122 0.0714 pCi/g Radium 226 0.728 + 0.122 0.0714 pCi/g pCi/g pCi/g pC	Bismuth 212			0.646	+/ 0.287	0.139	+/ 0.287	0.291	pCi/g					
Cesium 134 U 0.0341 +/ 0.0405 0.0248 pCi/g Cesium 137 0.0979 +/ 0.0494 0.0494 0.0400 pCi/g Cobalt 60 0.203 +/ 0.0509 0.0191 +/ 0.0509 0.0406 pCi/g Europium 152 U 0.0475 +/ 0.0527 0.0444 +/ 0.0577 pCi/g Europium 154 U 0.0684 +/ 0.0593 0.127 pCi/g Europium 155 U 0.0683 +/ 0.0648 0.0761 pCi/g Lead 212 1.09 +/ 0.137 0.0226 0.0399 pCi/g Manganese 54 U 0.0221 0.0191 +/ 0.0221 0.0191 +/ 0.0216 0.0718 pCi/g Niobium 94 U 0.00275 +/ 0.022 0.0719 +/ 0.026 0.0334 pCi/g Rad Gas Flow Proportional Counting GPFC, Sr90, solid ALL FSS Strontium 90 U 0.00828 +/ 0.0139 0.0175 +/ 0.0139 0.0366 <td>Bismuth 214</td> <td></td> <td></td> <td>0.728</td> <td>+/ 0.122</td> <td>0.0344</td> <td>+/ 0.122</td> <td>0.0714</td> <td>pCi/g</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Bismuth 214			0.728	+/ 0.122	0.0344	+/ 0.122	0.0714	pCi/g					
Cesium 137 0.0979 $+' 0.0494$ 0.0192 $+' 0.0494$ 0.0406 pCi/g Cobalt 60 0.203 $+' 0.0509$ 0.0191 $+' 0.0509$ 0.0406 pCi/g Europium 152 U 0.0475 $+' 0.0507$ 0.0444 $+' 0.0527$ 0.0915 pCi/g Europium 154 U 0.0633 $+' 0.0648$ 0.0761 pCi/g Europium 155 U 0.0633 $+' 0.0527$ 0.0448 0.0761 pCi/g Manganese 54 U 0.0224 $+' 0.0221$ 0.0399 pCi/g Niobium 94 U 0.0226 0.0179 $+' 0.0221$ 0.0399 pCi/g Radium 226 0.728 $+' 0.122$ 0.0714 pCi/g g Radium 226 0.728 $+' 0.122$ 0.0714 pCi/g g Radius 226 0.0757 $+' 0.026$ 0.0344 pCi/g g Rad Gas Flow Proportional Counting $GFPC, Sr90, solid ALL FSS$ Strontium 90 U 0.00828 $+' 0.0139$ 0.0396 pCi/g BXF1 $07/3$	Cesium 134		U	0.0341	+/ 0.0405	0.0236	+/ 0.0405	0.0489	pCi/g					
Cobalt 60 0.023 +/ 0.0509 0.0191 +/ 0.0527 0.0406 pCi/g Europium 152 U 0.0675 +/ 0.0527 0.0444 +/ 0.0527 0.0915 pCi/g Europium 154 U 0.0684 +/ 0.0527 0.0448 pCi/g pCi/g Lead 212 1.09 +/ 0.137 0.0448 pCi/g pCi/g Lead 214 0.920 +/ 0.0221 0.0191 +/ 0.0226 0.0371 pCi/g Manganese 54 U 0.0245 +/ 0.0221 0.0191 +/ 0.0226 0.0371 pCi/g Potassium 40 14.7 +/ 1.23 0.170 +/ 0.222 0.0114 pCi/g Radium 226 0.728 +/ 0.122 0.0162 +/ 0.026 0.0334 pCi/g Rad Gas Flow Proportional Counting GFPC, S+90, solid ALL FSS Strontium 90 U 0.00828 +/ 0.0139 0.0175 +/ 0.0139 0.0396 pCi/g BXF1 07/30/06 1226 550821 2 The following Prep Methods were performed	Cesium 137			0.0979	+/ 0.0494	0.0192	+/ 0.0494	0.040	pCi/g					
Europium 152 U 0.0475 +/ 0.0527 0.0444 +/ 0.0575 0.015 pCi/g Europium 154 U 0.0684 +/ 0.0693 0.127 pCi/g Europium 155 U 0.0683 +/ 0.0648 0.0761 pCi/g Lead 212 1.09 +/ 0.137 0.0234 +/ 0.0373 pCi/g Lead 214 0.920 +/ 0.021 0.0191 +/ 0.0221 0.0399 pCi/g Manganese 54 U 0.0226 0.0179 +/ 0.220 0.0371 pCi/g Nicbium 94 U 0.02245 +/ 0.0226 0.0179 +/ 0.220 0.0371 pCi/g Radium 226 0.728 +/ 0.022 0.0174 $+/$ 0.02675 0.0362 pCi/g Silver 108m U 0.00757 +/ 0.026 0.0162 +/ 0.0362 pCi/g Rad Gas Flow Proportional Counting GFPC, Sr90, solid ALL FSS Strontium 90 </td <td>Cobalt 60</td> <td></td> <td></td> <td>0.203</td> <td>+/ 0.0509</td> <td>0.0191</td> <td>+/ 0.0509</td> <td>0.0406</td> <td>pCi/g</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Cobalt 60			0.203	+/ 0.0509	0.0191	+/ 0.0509	0.0406	pCi/g					
Europium 154 U 0.0684 +/ 0.0693 0.060 +/ 0.0693 0.021 pCi/g Europium 155 U 0.0633 +/ 0.0648 0.0373 +/ 0.0648 0.0761 pCi/g Lead 212 1.09 +/ 0.137 0.0234 +/ 0.137 0.048 pCi/g Manganese 54 U 0.0221 0.0191 +/ 0.0221 0.0399 pCi/g Niobium 94 U 0.00245 +/ 0.0221 0.0399 pCi/g Radium 226 0.728 +/ 0.122 0.0179 +/ 0.226 0.0374 pCi/g Silver 108m U 0.00757 +/ 0.022 0.0174 pCi/g pCi/g Radium 226 0.728 +/ 0.122 0.0344 +/ 0.0675 0.0362 pCi/g Rad Gas Flow Proportional Counting GFPC, Sr90, solid ALL FSS Strontium 90 U 0.00828 +/ 0.0139 0.0396 pCi/g BXF1 07/30/06 1226 550821 2 The following Prep Methods were performed Image: provide the performed	Europium 152		U	0.0475	+/ 0.0527	0.0444	+/ 0.0527	0.0915	pCi/g					
Europium 155 U 0.0643 + / 0.0448 0.0761 pCi/g Lead 212 1.09 + / 0.137 0.0234 + / 0.137 0.048 pCi/g Lead 214 0.920 + / 0.130 0.031 + / 0.130 0.031 pCi/g Manganese 54 U 0.0221 + / 0.121 0.0191 + / 0.0221 0.0399 pCi/g Potassium 40 14.7 + / 1.23 0.170 + / 1.23 0.364 pCi/g Potassium 40 14.7 + / 1.23 0.170 + / 1.23 0.364 pCi/g Radium 226 0.728 + / 0.122 0.0344 + / 0.122 0.0714 pCi/g Silver 108m U 0.0675 0.0162 + / 0.026 0.0334 pCi/g Rad Gas Flow Proportional Counting GPPC, Sr90, solid ALL FSS Strontium 90 U 0.00828 + / 0.0139 0.0175 + / 0.0139 0.0396 pCi/g BXF1 07/30/06 1226 550821 2 The following Prep Methods were performed Method Description Analyst Date Time	Europium 154		U	0.0684	+/ 0.0693	0.060	+/ 0.0693	0.127	pCi/g					
Lead 212 1.09 +/ 0.137 0.048 pC//g Lead 214 0.920 +/ 0.137 0.048 pC//g Manganese 54 U 0.0221 0.0191 +/ 0.0226 0.0399 pCi/g Niobium 94 U 0.00245 +/ 0.0226 0.0371 pCi/g Potassium 40 14.7 +/ 1.23 0.364 pCi/g Radium 226 0.728 +/ 0.120 0.0344 +/ 0.123 0.070 Silver 108m U 0.00757 +/ 0.026 0.0362 pCi/g RdCas Flow Proportional Counting <i>GFPC, Sr90, solid</i> ALL FSS Strontium 90 U 0.00828 +/ 0.0175 +/ 0.0396 pCi/g BXF1 07/30/06 1226 550821 2 The following Prep Methods were performed Method Description Analyst Date Time Prep Batch Dry Soil Prep Dry Soil Prep GL RAD A 021 BSW1 07/21/06 1518 550554 The following Analytical Methods were performed 1 <	Europium 155		U	0.0653	+/ 0.0648	0.0373	+/ 0.0648	0.0761	pCi/g					
Lead 214 0.920 +/ 0.130 0.031 +/ 0.130 0.0638 pCi/g Manganese 54 U 0.0291 +/ 0.0221 0.0191 +/ 0.021 0.0399 pCi/g Niobium 94 U 0.0291 +/ 0.0226 0.0179 +/ 0.0226 0.0371 pCi/g Potassium 40 14.7 +/ 1.23 0.170 +/ 1.23 0.364 pCi/g Radium 226 0.728 +/ 0.026 0.0162 +/ 0.026 0.0314 pCi/g Silver 108m U 0.0075 +/ 0.026 0.0162 +/ 0.026 0.0362 pCi/g Rad Gas Flow Proportional Counting <i>GFPC</i> , <i>Sr90</i> , <i>solid ALL FSS</i> Strontium 90 U 0.00828 +/ 0.0139 0.0175 +/ 0.0139 0.0396 pCi/g BXF1 07/30/06 1226 550821 2 The following Prep Methods were performed Method Description Analyst Date Time Prep Batch Dry Soil Prep Dry Soil Prep GL RAD A 021 BSW1 07/21/06 1518 550554 The following Analytical Methods were performed <td>Lead 212</td> <td></td> <td></td> <td>1.09</td> <td>+/ 0.137</td> <td>0.0234</td> <td>+/ 0.137</td> <td>0.048</td> <td>pCi/g</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Lead 212			1.09	+/ 0.137	0.0234	+/ 0.137	0.048	pCi/g					
Marganese 54 U 0.0291 +/ 0.021 0.0191 +/ 0.021 0.039 pC/g Niobium 94 U 0.00245 +/ 0.022 0.0179 +/ 0.022 0.0311 pCi/g Potassium 40 14.7 +/ 1.23 0.170 +/ 1.23 0.364 pCi/g Silver 108m U 0.00757 +/ 0.026 0.0162 +/ 0.026 0.0334 pCi/g Rad Gas Flow Proportional Counting GFPC, Sr90, solid ALL FSS Strontium 90 U 0.00828 +/ 0.0139 0.0175 +/ 0.0139 pCi/g BXF1 07/30/06 1226 550821 2 The following Prep Methods were performed Method Description Analyst Date Time Prep Batch Divi/g Sto554 <td>Lead 214</td> <td></td> <td></td> <td>0.920</td> <td>+/ 0.130</td> <td>0.031</td> <td>+/ 0.130</td> <td>0.0638</td> <td>pCi/g</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Lead 214			0.920	+/ 0.130	0.031	+/ 0.130	0.0638	pCi/g					
Nicotum 94 U 0.00245 +/ 0.0226 0.0179 +/ 0.0226 0.0371 pC/rg Potassium 40 14.7 +/ 1.23 0.170 +/ 1.23 0.364 pC/rg Radium 226 0.728 +/ 0.122 0.0344 +/ 0.122 0.0714 pC/rg Silver 108m U 0.00757 +/ 0.026 0.0162 +/ 0.026 0.0334 pC/rg Rad Gas Flow Proportional Counting 0.306 +/ 0.0275 0.0174 +/ 0.026 0.0362 pCi/g <i>GFPC, Sr90, solid ALL FSS</i> 0.306 +/ 0.0139 0.0175 +/ 0.0139 0.0396 pCi/g BXF1 07/30/06 1226 550821 2 The following Prep Methods were performed	Manganese 54		U	0.0291	+/ 0.0221	0.0191	+/ 0.0221	0.0399	pCi/g					
Potassium 40 14./ +/ 1.23 0.170 +/ 1.23 0.304 pCi/g Radium 226 0.728 +/ 0.122 0.0344 +/ 0.264 pCi/g Silver 108m U 0.00757 +/ 0.026 0.0334 pCi/g Thallium 208 0.306 +/ 0.0675 0.0174 +/ 0.0362 pCi/g Rad Gas Flow Proportional Counting GFPC, Sr90, solid ALL FSS 0.0174 +/ 0.0675 0.0396 pCi/g BXF1 07/30/06 1226 550821 2 The following Prep Methods were performed	Niobium 94		U	0.00245	+/ 0.0226	0.0179	+/ 0.0226	0.0371	pCi/g					
Radium 226 0.728 +/ 0.122 0.00744 pCt/g Silver 108m U 0.00757 +/ 0.026 0.0162 +/ 0.026 0.0334 pCi/g Rad Gas Flow Proportional Counting 0.306 +/ 0.0675 0.0174 +/ 0.0675 0.0362 pCi/g GFPC, Sr90, solid ALL FSS Strontium 90 U 0.00828 +/ 0.0139 0.0175 +/ 0.0396 pCi/g BXF1 07/30/06 1226 550821 2 The following Prep Methods were performed Method Description Analyst Date Time Prep Batch Dry Soil Prep Dry Soil Prep GL RAD A 021 BSW1 07/21/06 1518 550554 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	Potassium 40			14./	+/ 1.23	0.170	+/ 1.23	0.364	pC1/g					
Silver 108in 0 0 0.00737 +7 0.026 0.0354 p.Crg Thallium 208 0.306 +7 0.0275 0.0174 +7 0.026 0.0354 p.Crg Rad Gas Flow Proportional Counting GFPC, Sr90, solid ALL FSS Strontium 90 U 0.00828 +7 0.0139 0.0396 p.Ci/g BXF1 07/30/06 1226 550821 2 The following Prep Methods were performed Method Description Analyst Date Time Prep Batch Dry Soil Prep Dry Soil Prep GL RAD A 021 BSW1 07/21/06 1518 550554 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	Radium 220		TI	0.728	+/ 0.122	0.0344	+/ 0.122	0.0714	pCI/g					
Thaining 200 0.0073 0.0174 47 0.0073 0.0302 pclig Rad Gas Flow Proportional Counting GFPC, Sr90, solid ALL FSS Strontium 90 U 0.00828 +/ 0.0139 0.0396 pCi/g BXF1 07/30/06 1226 550821 2 The following Prep Methods were performed Method Description Analyst Date Time Prep Batch Dry Soil Prep Dry Soil Prep GL RAD A 021 BSW1 07/21/06 1518 550554 The following Analytical Methods were performed Method Description 1 EML HASL 300, 4.5.2.3 2 2 EPA 905.0 Modified Surrogate/Tracer recovery Test Recovery% Acceptable Limits	Thellium 208		U	0.00757	± 0.020	0.0102	+/ 0.020	0.0354	pCi/g					
GFPC, Sr90, solid ALL FSS Strontium 90 U 0.00828 +/ 0.0139 0.0175 +/ 0.0139 0.0396 pCi/g BXF1 07/30/06 1226 550821 2 The following Prep Methods were performed Method Description Analyst Date Time Prep Batch Dry Soil Prep Dry Soil Prep GL RAD A 021 BSW1 07/21/06 1518 550554 The following Analytical Methods were performed Method Description Image: Colspan="4">Colspan="4"Colspan="4">Colspan="4"Colspan	Rad Gas Flow Pro	onortio	nal Counting	0.500 a	+7 0.0073	0.0174	+7 0.0075	0.0302	pel/g					
OFFC, 379, Solit ALL F33 Strontium 90 U 0.00828 +/ 0.0139 0.0396 pCi/g BXF1 07/30/06 1226 550821 2 The following Prep Methods were performed Method Description Analyst Date Time Prep Batch Dry Soil Prep Dry Soil Prep GL RAD A 021 BSW1 07/21/06 1518 550554 The following Analytical Methods were performed Method Description Image: Colspan="5">Colspan="5">Colspan="5">Colspan="5">Colspan= 5000 Colspan= 5000 Colspan="5">Colspan= 5000 Colspan= 5000 Cols	CEPC Sr00 col	id ATT	FCC	•										
The following Prep Methods were performedMethodDescriptionAnalystDateTimePrep BatchDry Soil PrepDry Soil Prep GL RAD A 021BSW107/21/061518550554The following Analytical Methods were performedMethodDescription1EML HASL 300, 4.5.2.3EPA 905.0 Modified2EPA 905.0 ModifiedRecovery%Acceptable Limits	Strontium 90	iu ALL	U	0.00828	+/ 0.0139	0.0175	+/ 0.0139	0.0396	pCi/g	BXI	F1 07/30/	06 1226	550821	2
MethodDescriptionAnalystDateTimePrep BatchDry Soil PrepDry Soil Prep GL RAD A 021BSW107/21/061518550554The following Analytical Methods were performedMethodDescription1EML HASL 300, 4.5.2.32EPA 905.0 ModifiedSurrogate/Tracer recoveryTestRecovery%Acceptable Limits	The following Pr	ep Met	hods were po	erformed										
Dry Soil Prep Dry Soil Prep GL RAD A 021 BSW1 07/21/06 1518 550554 Method 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	Method	Descri	iption				Analyst	Date	Time	Prep B	atch			
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	Dry Soil Prep	Dry So	oil Prep GL	RAD A C	21		BSW1	07/21/	06 1518	550554				
Method Description 1 EML HASL 300, 4.5.2.3 2 EPA 905.0 Modified Surrogate/Tracer recovery Test Recovery% Acceptable Limits	The following An	alytical	Methods w	ere perfor	med									
1 EML HASL 300, 4.5.2.3 2 EPA 905.0 Modified Surrogate/Tracer recovery Test Recovery% Acceptable Limits	Method	Descri	ption									· · · · ·		
2 EPA 905.0 Modified Surrogate/Tracer recovery Test Recovery% Acceptable Limits	1	EML I	HASL 300. 4	.5.2.3										
Surrogate/Tracer recovery Test Recovery% Acceptable Limits	2	EPA 9	05.0 Modifie	d										
•	Surrogate/Trace	r recove	ery Test				Recovery%	Acc	eptable Limits					

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Certificate of Analysis

Parameter		Qualifier Result Uncertainty	LC T	'PU MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sample ID: Sample ID:	9106 0015 0 167556025)20F	Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Project:	Soils PO# 002332					
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy			R	Report Date: August 14,	2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd					

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

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

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Certificate of Analysis

$\begin{array}{c c c c c c c c c c c c c c c c c c c $	(Company : Address :	Connecticut 362 Injun H	t Yankee A lollow Rd	tomic Power							
Project:Soils PO# 002332Client Sample ID: Matrix: Collect Date: Collect Date: Collect Date: Collect Date: Collect Date: Collect Date: Collect Date: Collect Date: 	(Contact:	East Hampt Mr. Jack M	on, Connec cCarthy	ticut 06424				Ro	eport Date: Aug	gust 14, 2006	
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$]	Project:	Soils PO# 0	02332								
Parameter Qualifier Result Uncertainty LC TPU MDA Units DF Analyst Date Time Bate Rad Gamma Spec Analysis Gamma,Solid FSS GAM & ALL FSS 226 Ingrowth Figure 1000000000000000000000000000000000000			Client Sar Sample II Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: Pate:		9106 00 1675560 SE 28 JUN 21 JUL Client 40.6%	15 005FS 26 06 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001		
Rad Gamma Spec Analysis Gamma, Solid FSS GAM & ALL FSS 226 Ingrowth Waived Attinium 228 0.841 +/ 0.177 0.0452 +/ 0.177 0.0951 pCi/g MJH1 08/03/06 2033 5510 Anerricium 241 U 0.000696 +/ 0.013 0.0865 +/ 0.177 0.0951 pCi/g MJH1 08/03/06 2033 5510 Bismuth 214 0.228 +/ 0.248 0.216 pCi/g	Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	Date Time Batch	Mtd
	Rad Gamma	Spec Analy	/sis									
Waived Actinium 228 0.841 +/ 0.177 0.0452 +/ 0.177 0.0951 pCi/g MJH1 08/03/06 2033 5510 Americium 241 U 0.000696 +/ 0.103 0.0865 +/ 0.103 0.177 pCi/g MJH1 08/03/06 2033 5510 Bismuth 212 0.288 +/ 0.248 0.0164 +/ 0.0248 0.216 pCi/g pCi/g Cesium 134 UI 0.000 +/ 0.0198 0.0173 +/ 0.0198 0.032 pCi/g Cobalt 60 0.0632 +/ 0.0438 0.0156 +/ 0.0388 0.0327 pCi/g Europium 152 U 0.0128 +/ 0.055 0.0917 pCi/g Lead 212 0.974 +/ 0.058 0.0373 +/ 0.058 0.0765 pCi/g Lead 214 0.6034 +/ 0.058 0.0374 +/ 0.056 0.0241 pCi/g Manganese 54 UI 0.0946 0.0264 +/ 0.0156 0.0266 pCi/g Niboium 94 U 0.00363	Gamma, Soli	id FSS GA	M & ALL FSS	5 226 Ingro	wth							
Actinium 228 0.841 $+'$ 0.177 0.0951 $pCi'g$ MJH1 $08/03/06$ 2033 5510 Americium 241 U 0.000696 $+'$ 0.103 0.0865 $+'$ 0.103 0.177 $pCi'g$ $pCi'g$ Bismuth 212 0.288 $+'$ 0.248 0.104 $+'$ 0.248 0.216 $pCi'g$ Bismuth 214 0.526 $+'$ 0.0834 0.0251 $+'$ 0.08434 0.052 $pCi'g$ Cesium 137 0.222 $+'$ 0.0438 0.0156 $+'$ 0.0366 $pCi'g$ Cobalt 60 0.0632 $+'$ 0.0366 0.0337 $pCi'g$ Europium 152U 0.0128 $+'$ 0.0469 0.0777 0.0768 $pCi'g$ Europium 154U 0.0345 $+'$ 0.055 0.0917 $pCi'g$ Lead 212 0.974 $+'$ 0.0946 0.0374 $+'$ 0.058 0.0765 Lead 214 0.689 $+'$ 0.0946 0.0264 $+'$ 0.944 $pCi'g$ Niobium 94U 0.00447 0.0128 $+'$ 0.0124 $pCi'g$ Niobium 94U 0.00987 $+'$ 0.0144 0.0254 $pCi'g$ Silver 108mU 0.0047 -1.20 1.028 -0.027 $pCi'g$ Radium 226 0.526 $+'$ 0.0128 $+'$ 0.0447 0.0224 $pCi'g$ Silver 108mU 0.0149 $+/$ 0.0128 $+'$ 0.0447	Waived											
Americum 241U0.000096+/0.1030.0865+/0.1030.17/pC//gBismuth 2120.288+/0.2480.1014+/0.2480.016pC//gBismuth 2140.526+/0.08340.0251+/0.0866pC//gCesium 134UI0.00+/0.0173+/0.01980.0366pC//gCosul 600.0632+/0.03660.0155+/0.04380.0322pC//gEuropium 152U0.0128+/0.0580.0373+/0.046690.0768pC//gEuropium 154U0.0345+/0.0580.0374+/0.0580.0776pC//gLead 2120.974+/0.0680.0264+/0.09460.0444pC//gManganese 54UI0.00363+/0.01560.0128+/0.0266pCi/gNiobium 94U0.00363+/0.0126+/0.0201+/0.0264pCi/gRadium 2260.526+/0.0124+/0.021+/0.0251pCi/gRad Gas Flow Proportional Counting <i>GFPC, Sr90, solid ALL FSS</i> Strontium 90U0.0149+/0.0128+/0.01990.0434pCi/gMethodDescriptionAnalystDateTimePrep BatchDry Soil PrepDry Soil Prep GL RAD A 021BSW107/21//61518550554	Actinium 2	228	•••	0.841	+/ 0.177	0.0452	+/ 0.177	0.0951	pCi/g	MJH1	08/03/06 2033 55108	1 1
Bismuth 212 0.288 +/ 0.248 0.104 +/ 0.248 0.216 p.C/g Bismuth 214 0.526 +/ 0.0834 0.0251 +/ 0.0284 0.0251 +/ 0.0438 0.032 p.C/g Cesium 134 UI 0.00 +/ 0.0198 0.0173 +/ 0.0438 0.0322 p.C/g Cobalt 60 0.0322 +/ 0.0438 0.0159 +/ 0.0438 0.0322 p.C/g Europium 152 U 0.0128 +/ 0.056 0.0197 p.C/g Europium 154 U 0.0354 +/ 0.055 0.0917 p.C/g Europium 155 U 0.0594 +/ 0.0588 0.0374 +/ 0.058 0.0374 p.O166 0.0121 p.C/g Lead 212 0.974 +/ 0.0166 0.02143 +/ 0.0229 0.0312 p.C/g Manganese 54 UI 0.00 +/ 0.0244 +/ 0.0229 0.0312 p.C/g Niobium 94 U 0.00363 +/ 0	Americium	1241	U	0.000696	+/ 0.103	0.0865	+/ 0.103	0.177	pCi/g			
Bismuth 214 0.326 +7 0.0834 0.0251 +7 0.0834 0.032 pC//g Cesium 134 UI 0.000 +7 0.0198 0.0173 +7 0.0366 pCi/g Cesium 137 0.222 +7 0.0366 0.0156 +7 0.0366 pCi/g Europium 152 U 0.0128 +7 0.0366 0.0337 pCi/g Europium 152 U 0.0124 +7 0.055 0.0434 +7 0.056 pCi/g Europium 155 U 0.0594 +7 0.058 0.0374 +7 0.058 pCi/g Lead 212 0.974 +7 0.056 0.0264 +7 0.056 0.0434 pCi/g Marganese 54 UI 0.068 +7 0.0946 0.0564 pCi/g Niobium 94 U 0.00363 +7 0.0156 0.0264 +7 0.0229 0.0312 pCi/g Niobium 94 U 0.00363 +7 0.0126 +7 0.0229 0.0312 pCi/g Radium 226 0.526 +7 0.0134 0.0251 +7 0.0244 0.0252 pCi/g Silver 108m U 0.00987 +7 0.0144 0.0123<	Bismuth 2	12		0.288	+/ 0.248	0.104	+/ 0.248	0.216	pCi/g			
Cesium 137 0.00 +7 0.0193 0.0156 +7 0.0132 pCu/g Cesium 137 0.222 +7 0.0438 0.0156 +7 0.0322 pCi/g Cobalt 60 0.0632 +7 0.0438 0.0156 +7 0.0432 pCi/g Europium 152 U 0.0128 +7 0.0436 0.0373 +7 0.0469 0.0768 pCi/g Europium 154 U 0.0385 0.0765 pCi/g Europium 155 U 0.0588 0.0765 pCi/g Lead 212 0.974 +7 0.0166 0.0264 +7 0.0260 pCi/g Manganese 54 U1 0.00 +7 0.029 0.0312 pCi/g Niobium 94 U 0.00363 +7 0.0156 +7 0.0291 pCi/g Radium 226 0.526 +7 0.084 0.0251 +7 0.0267 pCi/g Rad Gas Flow Proportional Counting 0.291 +7 0.0128 +7 0.0267 pCi/g GFPC, Sr90, solid ALL FSS 0.0149	Cosium 12	14 M	TT	0.520	$\pm / 0.0834$	0.0231	± 0.0834 ± 0.0108	0.032	pCi/g			
Coshift 157 0.0222 1 0.0433 0.0433 0.0333 pCi/g Coshift 60 0.0324 + 0.0366 0.0159 + 0.0366 0.0337 pCi/g Europium 152 U 0.0128 + 0.0366 0.0373 + 0.0566 pCi/g Europium 154 U 0.0345 + 0.0588 0.0374 + 0.055 pCi/g Lead 212 0.974 + 0.106 0.0201 + 0.1028 pCi/g Lead 214 0.689 + 0.0044 + 0.0229 0.0312 pCi/g Niobium 94 U 0.00363 + 0.0128 + 0.021 + 0.021 pCi/g Niobium 94 U 0.00363 + 0.0128 + 0.021 pCi/g Radium 226 0.526 + 0.0284 0.052 pCi/g pCi/g Silver 108m U 0.00987 + 0.0128 + 0.0267 pCi/g GFPC, Sr90, solid ALL FSS Strontium 90 U 0.0149<	Cesium 13	24 27	UI	0.00	$\pm / 0.0198$	0.0175	$\pm / 0.0198$	0.030	pCl/g			
Europium 152 U 0.0128 +/ 0.0469 0.0373 +/ 0.0469 0.0768 pCi/g Europium 154 U 0.0354 +/ 0.0558 0.0374 +/ 0.0588 pCi/g Europium 155 U 0.0594 +/ 0.0588 0.0374 +/ 0.0588 0.0765 pCi/g Lead 212 0.974 +/ 0.0669 0.0264 +/ 0.0946 0.0544 pCi/g Lead 214 0.689 +/ 0.0264 +/ 0.0946 0.0264 +/ 0.0212 pCi/g Manganese 54 UI 0.00 +/ 0.0229 0.015 +/ 0.0260 pCi/g Niobium 94 U 0.00363 +/ 0.0128 +/ 0.0126 pCi/g Radium 226 0.526 +/ 0.0264 +/ 0.0279 pCi/g Silver 108m U 0.00987 +/ 0.0144 0.0229 pCi/g Thallium 208 0.291 +/ 0.0128 +/ 0.0447 0.0267 pCi/g <tr< td=""><td>Cobalt 60</td><td>,</td><td></td><td>0.632</td><td>+/ 0.0366</td><td>0.0150</td><td>+/ 0.0366</td><td>0.0322</td><td>pCi/g</td><td></td><td></td><td></td></tr<>	Cobalt 60	,		0.632	+/ 0.0366	0.0150	+/ 0.0366	0.0322	pCi/g			
Europium 152 U 0.0345 + / 0.055 0.0434 + / 0.055 0.0917 pCi/g Europium 155 U 0.0545 + / 0.058 0.0374 + / 0.055 0.0917 pCi/g Lead 212 0.974 + / 0.106 0.0201 + / 0.106 0.0211 pCi/g Lead 214 0.689 + / 0.0946 0.0264 + / 0.029 0.0312 pCi/g Manganese 54 UI 0.00 + / 0.0156 0.0158 + / 0.0229 0.0312 pCi/g Niobium 94 U 0.00363 + / 0.0156 0.0128 + / 0.0156 0.0266 pCi/g Potassium 40 14.9 + / 1.20 0.126 + / 1.20 0.270 pCi/g Radium 226 0.526 + / 0.0134 0.0251 + / 0.0834 0.0251 pCi/g Silver 108m U 0.00987 + / 0.0144 0.0123 + / 0.0147 0.0267 pCi/g Rad Gas Flow Proportional Counting GFPC, Sr90, solid ALL FSS Strontium 90 U 0.0149 + / 0.0199 0.0434 pCi/g BXF1 07/30/06 1226 5508	Europium	152	IJ	0.0032	+/ 0.0469	0.0173	+/ 0.0469	0.0357	pCi/g			
Europian 151 U 0.0594 +/ 0.058 0.0374 +/ 0.055 00371 pci/g Europian 155 U 0.0594 +/ 0.058 0.0374 +/ 0.055 pCi/g Lead 212 0.974 +/ 0.106 0.0201 +/ 0.056 pCi/g Lead 214 0.689 +/ 0.0946 0.0264 +/ 0.0946 0.0544 pCi/g Manganese 54 UI 0.00 +/ 0.0229 0.015 +/ 0.0229 0.0312 pCi/g Niobium 94 U 0.00363 +/ 0.0128 +/ 0.0270 pCi/g Potassium 40 14.9 +/ 1.20 0.126 +/ 1.20 0.270 pCi/g Radium 226 0.526 +/ 0.0834 0.0251 +/ 0.0834 0.052 pCi/g Thallium 208 0.291 +/ 0.0144 0.0128 +/ 0.0267 pCi/g Rad Gas Flow Proportional Counting GFPC, Sr90, solid ALL FSS Strontium 90 U 0.0149 +/ <td>Europium</td> <td>152</td> <td>U U</td> <td>0.0120</td> <td>+/ 0.055</td> <td>0.0373</td> <td>+/ 0.055</td> <td>0.0917</td> <td>pCi/g</td> <td></td> <td></td> <td></td>	Europium	152	U U	0.0120	+/ 0.055	0.0373	+/ 0.055	0.0917	pCi/g			
Lead 212 0.074 +/ 0.106 0.0201 +/ 0.106 0.0412 pCi/g Lead 214 0.689 +/ 0.0946 0.0264 +/ 0.0946 0.0544 pCi/g Manganese 54 UI 0.00 +/ 0.0156 0.0128 +/ 0.0156 0.0266 pCi/g Niobium 94 U 0.00363 +/ 0.0156 0.0128 +/ 0.0156 0.0266 pCi/g Potassium 40 14.9 +/ 1.20 0.126 +/ 1.20 0.270 pCi/g Radium 226 0.526 +/ 0.0834 0.0521 pCi/g Eddeff Thallium 208 0.291 +/ 0.0144 0.0254 pCi/g Thallium 208 0.291 +/ 0.0147 0.0128 +/ 0.0147 0.0267 pCi/g Rad Gas Flow Proportional Counting GFPC, Sr90, solid ALL FSS Strontium 90 U 0.0149 +/ 0.0199 0.0434 pCi/g BXF1 07/30/06 1226 5508 The following Prep Methods were performed Image: provide the second	Europium	155	Ŭ	0.0594	+/0.0588	0.0374	+/ 0.0588	0.0765	pCi/g			
Lead 214 0.689 +/ 0.0946 0.0244 +/ 0.0946 0.0544 pCi/g Manganese 54 UI 0.00 +/ 0.0229 0.015 +/ 0.0266 pCi/g Niobium 94 U 0.00363 +/ 0.0156 0.0128 +/ 0.0266 pCi/g Potassium 40 14.9 +/ 1.20 0.270 pCi/g Radium 226 0.526 +/ 0.0834 0.0251 +/ 0.0267 pCi/g Silver 108m U 0.00987 +/ 0.0128 +/ 0.0267 pCi/g Rad Gas Flow Proportional Counting 0.291 +/ 0.0124 0.0254 pCi/g <i>GFPC</i> , <i>Sr90</i> , <i>solid ALL FSS</i> Strontium 90 U 0.0149 +/ 0.0199 0.0434 pCi/g BXF1 07/30/06 1226 5508 Method Description Analyst Date Time Prep Batch Dry Soil Prep Dry Soil Prep GL RAD A 021 BSW1 07/21/06 1518 550554	Lead 212	100	U	0.974	+/ 0.106	0.0201	+/ 0.106	0.0412	pCi/g			
Manganese 54 UI 0.00 +/ 0.0229 0.015 +/ 0.0229 0.0312 pCi/g Niobium 94 U 0.00363 +/ 0.0156 0.0128 +/ 0.0156 0.0266 pCi/g Potassium 40 14.9 +/ 1.20 0.126 +/ 1.20 0.270 pCi/g Radium 226 0.526 +/ 0.0834 0.0251 +/ 0.0834 0.052 pCi/g Silver 108m U 0.00987 +/ 0.0144 0.0128 +/ 0.0144 0.0267 pCi/g Rad Gas Flow Proportional Counting 0.291 +/ 0.0447 0.0128 +/ 0.0447 0.0267 pCi/g <i>GFPC, Sr90, solid ALL FSS</i> 0.0149 +/ 0.0199 0.0194 +/ 0.0199 0.0434 pCi/g BXF1 07/30/06 1226 5508 The following Prep Methods were performed Method Description Analyst Date Time Prep Batch Dry Soil Prep Dry Soil Prep GL RAD A 021 BSW1 07/21/06 1518 550554	Lead 214			0.689	+/ 0.0946	0.0264	+/ 0.0946	0.0544	pCi/g			
Niobium 94 U 0.00363 +/ 0.0156 0.0128 +/ 0.0156 0.0266 pCi/g Potassium 40 14.9 +/ 1.20 0.126 +/ 1.20 0.270 pCi/g Radium 226 0.526 +/ 0.0834 0.0251 +/ 0.0834 0.052 pCi/g Silver 108m U 0.00987 +/ 0.0144 0.0123 +/ 0.0144 0.0254 pCi/g Thallium 208 0.291 +/ 0.0447 0.0128 +/ 0.0267 pCi/g Rad Gas Flow Proportional Counting GFPC, Sr90, solid ALL FSS Strontium 90 U 0.0149 +/ 0.0199 0.0434 pCi/g BXF1 07/30/06 1226 5508 The following Prep Methods were performed Method Description Analyst Date Time Prep Batch Dry Soil Prep Dry Soil Prep GL RAD A 021 BSW1 07/21/06 1518 550554	Manganese	54	UI	0.00	+/ 0.0229	0.015	+/ 0.0229	0.0312	pCi/g			
Potassium 40 14.9 +/ 1.20 0.126 +/ 1.20 0.270 pCi/g Radium 226 0.526 +/ 0.0834 0.0251 +/ 0.0834 0.052 pCi/g Silver 108m U 0.00987 +/ 0.0144 0.0123 +/ 0.0144 0.0254 pCi/g Thallium 208 0.291 +/ 0.0447 0.0128 +/ 0.0267 pCi/g Rad Gas Flow Proportional Counting GFPC, Sr90, solid ALL FSS Strontium 90 U 0.0149 +/ 0.0199 0.0434 pCi/g BXF1 07/30/06 1226 5508 Strontium 90 U 0.0149 +/ 0.0199 0.0434 pCi/g BXF1 07/30/06 1226 5508 Method Description Analyst Date Time Prep Batch Dry Soil Prep Dry Soil Prep GL RAD A 021 BSW1 07/21/06 1518 550554	Niobium 9)4	U	0.00363	+/ 0.0156	0.0128	+/ 0.0156	0.0266	pCi/g			
Radium 226 0.526 +/ 0.0834 0.0251 +/ 0.0834 0.052 pCi/g Silver 108m U 0.00987 +/ 0.0144 0.0123 +/ 0.0144 0.0254 pCi/g Thallium 208 0.291 +/ 0.0447 0.0267 pCi/g Rad Gas Flow Proportional Counting GFPC, Sr90, solid ALL FSS Strontium 90 U 0.0149 +/ 0.0199 0.0434 pCi/g BXF1 07/30/06 1226 5508 The following Prep Methods were performed Method Description Analyst Date Time Prep Batch Dry Soil Prep Dry Soil Prep GL RAD A 021 BSW1 07/21/06 1518 550554	Potassium	40		14.9	+/ 1.20	0.126	+/ 1.20	0.270	pCi/g			
Silver 108m U 0.00987 +/ 0.0144 0.0123 +/ 0.0144 0.0254 pCi/g Thallium 208 0.291 +/ 0.0447 0.0128 +/ 0.0267 pCi/g Rad Gas Flow Proportional Counting GFPC, Sr90, solid ALL FSS Strontium 90 U 0.0149 +/ 0.0194 +/ 0.0199 0.0434 pCi/g BXF1 07/30/06 1226 5508 The following Prep Methods were performed Method Description Analyst Date Time Prep Batch Dry Soil Prep Dry Soil Prep GL RAD A 021 BSW1 07/21/06 1518 550554	Radium 22	26		0.526	+/ 0.0834	0.0251	+/ 0.0834	0.052	pCi/g			
Thallium 208 0.291 +/ 0.0447 0.0128 +/ 0.0267 pCi/g Rad Gas Flow Proportional Counting GFPC, Sr90, solid ALL FSS Strontium 90 U 0.0149 +/ 0.0194 +/ 0.0199 0.0434 pCi/g BXF1 07/30/06 1226 5508 The following Prep Methods were performed	Silver 108	m	U	0.00987	+/ 0.0144	0.0123	+/ 0.0144	0.0254	pCi/g			
Rad Gas Flow Proportional Counting GFPC, Sr90, solid ALL FSS Strontium 90 U 0.0149 +/ 0.0194 +/ 0.0199 0.0434 pCi/g BXF1 07/30/06 1226 5508 The following Prep Methods were performed Method Description Analyst Date Time Prep Batch Dry Soil Prep Dry Soil Prep GL RAD A 021 BSW1 07/21/06 1518 550554	Thallium 2	208		0.291	+/ 0.0447	0.0128	+/ 0.0447	0.0267	pCi/g			
GFPC, Sr90, solid ALL FSS Strontium 90 U 0.0149 +/ 0.0199 0.0434 pCi/g BXF1 07/30/06 1226 5508 The following Prep Methods were performed Method Description Analyst Date Time Prep Batch Dry Soil Prep Dry Soil Prep GL RAD A 021 BSW1 07/21/06 1518 550554	Rad Gas Flow	v Proportic	onal Countin	g								
Strontium 90 U 0.0149 +/ 0.0199 0.0194 +/ 0.0199 pCi/g BXF1 07/30/06 1226 5508 The following Prep Methods were performed Analyst Date Time Prep Batch Dry Soil Prep Dry Soil Prep GL RAD A 021 BSW1 07/21/06 1518 550554	GFPC, Sr90), solid AL	L FSS									
The following Prep Methods were performedMethodDescriptionAnalystDateTimePrep BatchDry Soil PrepDry Soil Prep GL RAD A 021BSW107/21/061518550554	Strontium	90	U	0.0149	+/ 0.0199	0.0194	+/ 0.0199	0.0434	pCi/g	BXF1	07/30/06 1226 55082	12
MethodDescriptionAnalystDateTimePrep BatchDry Soil PrepDry Soil Prep GL RAD A 021BSW107/21/061518550554	The followin	ıg Prep Me	thods were p	erformed								
Dry Soil Prep Dry Soil Prep GL RAD A 021 BSW1 07/21/06 1518 550554	Method	Desci	ription				Analyst	Date	Time	e Prep Batch]	
	Dry Soil Prep	Dry S	oil Prep GL	RAD A 0	21		BSW1	07/21/0	06 1518	3 550554		•
The following Analytical Methods were performed	The followin	g Analytica	l Methods w	ere perfor	med							
Method Description	Method	Descr	iption									
1 EML HASL 300, 4.5.2.3	1	EML	HASL 300, 4	.5.2.3								
2 EPA 905.0 Modified	2	EPA	905.0 Modifie	ed								
Surrogate/Tracer recovery Test Recovery% Acceptable Limits	Surrogate/T	racer recov	very Test	t			Recovery%	Acc	eptable Limit	s		_

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Surrogate/	Fracer recov	ery Test			I	Recovery%	A	cceptable Limi	ts	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID: :		9106 0015 167556026	5 005FS		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	on, Connec Carthy)2332	ticut 06424				H	Report Date: August 14	, 2006
	Company : Address :	362 Injun Ho	Yankee A ollow Rd	tomic Power						

63

(25% 125%)

Carrier/Tracer Recovery

Notes:

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

GFPC, Sr90, solid ALL FSS

- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low

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- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

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Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power								
Contact:	East Hampt Mr. Jack Me	on, Connec Carthy	ticut 06424				Re	port Date: Au	igust 14, 20	06	
Project:	Soils PO# 0	02332									
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106 00 1675560 SE 28 JUN 21 JUL Client 35.6%	015 012FS 027 1 06 2 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date 7	ime Batch N	
Rad Gamma Spec Anal	ysis								·		
Gamma,Solid FSS GA Waived	M & ALL FSS	226 Ingro	wth								
Actinium 228		0.760	+/ 0.213	0.0971	+/ 0.213	0.194	pCi/g	MJH1	08/03/06	1550 551081	1
Americium 241	U	0.0898	+/ 0.0992	0.082	+/ 0.0992	0.164	pCi/g				
Bismuth 212		0.493	+/ 0.353	0.168	+/ 0.353	0.336	pCi/g				
Bismuth 214	UI	0.00	+/ 0.114	0.0877	+/ 0.114	0.175	pCi/g				
Cesium 134	U	0.055	+/ 0.0454	0.0277	+/ 0.0454	0.0553	pCi/g				
Cesium 137		0.328	+/ 0.0634	0.0236	+/ 0.0634	0.0472	pCi/g				
Cobalt 60		0.626	+/ 0.0821	0.0189	+/ 0.0821	0.0379	pCı/g				
Europium 152	0	0.0189	+/ 0.0/95	0.0579	+/ 0.0/95	0.116	pCI/g				
Europium 154	U	0.0/18	+/ 0.08//	0.0791	+/ 0.08//	0.158	pCi/g				
Lend 212	U	0.0413	+/ 0.0/0/	0.0012	+/0.0707	0.122	pCI/g				
Lead 212		0.719	± 0.0934	0.0527	+/ 0.0934	0.0054	pCI/g				
Manganese 54	I	0.307	$\pm / 0.110$	0.045	+/0.110	0.080	pCI/g				
Nichium 94		0.00108	$\pm / 0.0317$	0.0208	+/0.0317	0.0330	pCi/g				
Potassium 40	U	12.4	+/ 1 26	0.0163	+/ 1 26	0.0375	pCl/g				
Radium 226		0.503	+/0.114	0.105	+/0114	0.0922	nCi/g				
Silver 108m	U	0.0149	+/0.0244	0.0214	+/0.0244	0.0428	nCi/g				
Thallium 208	Ū.	0.203	+/ 0.0574	0.0236	+/ 0.0574	0.0473	pCi/g				
Rad Gas Flow Proporti	onal Counting	5					F - 8				
GFPC Sr90 solid AL	L FSS										
Strontium 90	U	0.00815	+/ 0.0147	0.0147	+/ 0.0147	0.0332	pCi/g	BXF1	07/30/06	1226 550821	2
The following Prep Me	thods were p	erformed									
Method Desc	ription				Analyst	Date	Time	Prep Bate	h		
Dry Soil Prep Dry S	Soil Prep GL	RAD A 0	21		BSW1	07/21/0	06 1519	550554	<u></u>		
The following Analytic	al Methods w	ere perfor	med								
Method Desc	ription										
1 EML	HASL 300, 4	.5.2.3								_	
2 EPA	905.0 Modifie	d									
Surrogate/Tracer reco	very Test				Recovery%	Acce	eptable Limits	;			

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Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sample ID: Sample ID:			9106 0015 167556027	012FS		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Pro	Project: Soils PO# 002332									
Cor	ntact:	East Hampto Mr. Jack Mc	on, Connec Carthy	ticut 06424]	Report Date: August 14,	2006
Cor Add	npany : iress :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power						

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	73	(25% 125%)

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

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

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Compa Addres	ny: Com s: 362	necticut Injun H	Yankee A ollow Rd	tomic Power						
Contac	East t: Mr.	Hampto Jack Mo	on, Connec Carthy	ticut 06424				Re	port Date: Aug	ust 14, 2006
Project	: Soils	s PO# 0	02332							
	Clic San Mat Col Rec Col Mo	ent Sam nple ID trix: lect Da eive Da lector: isture:	nple ID:): nte: ate:		9106 00 1675560 SE 27 JUN 21 JUL Client 52.8%	015 018FS 028 06 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter	Qu	alifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	Date Time Batch
Rad Gamma Spec A	nalysis									
Gamma, Solid FSS	S GAM & A	LL FSS	226 Ingro	wth						
Waived										
Actinium 228			0.727	+/ 0.341	0.142	+/ 0.341	0.283	pCi/g	MJH1	08/03/06 1551 551081
Americium 241		U	0.0233	+/ 0.0517	0.0364	+/ 0.0517	0.0727	pCi/g		
Bismuth 212		U	0.576	+/ 0.466	0.289	+/ 0.466	0.577	pCi/g		
Bismuth 214			0.570	+/ 0.156	0.0628	+/ 0.156	0.126	pC1/g		
Cesium 134		U	0.0389	+/ 0.054	0.0427	+/ 0.054	0.0854	pC1/g		
Cesium 13/			0.398	+/ 0.0980	0.0407	+/ 0.0980	0.0813	pCl/g		
Codall ou		TI	0.0152	+/ 0.120	0.0241	± 0.120	0.0462	pCl/g		
Europium 152			0.0132	$\pm / 0.131$	0.0039	+/0.131	0.108	pCi/g		
Europium 154			0.0317	+/ 0.129	0.112	± 0.129	0.223	pCi/g		
Lead 212		0	0.00474	+/ 0.122	0.0040	+/0.122	0.129	pCi/g		
Lead 212			0.540	+/0.122	0.0394	+/0.122	0.0788	pCi/g		
Manganese 54		I	0.072	+/0.133	0.039	+/0.133	0.110	pCi/g		
Niohium 94		U U	0.022	+/0.0315	0.0422	+/0.0385	0.0688	nCi/g		
Potassium 40		U	13.2	+/ 1 54	0.0344	+/ 1 54	0.612	nCi/g		
Radium 226			0 570	+/ 0156	0.500	+/0156	0.126	nCi/g		
Silver 108m		П	0.0123	+/0.0354	0.0020	+/0.0354	0.0573	nCi/g		
Thallium 208		U	0.334	+/ 0.0879	0.0337	+/0.0879	0.0673	nCi/g		
Rad Gas Flow Prop	ortional C	ounting	2	., 0.0077	0.0557	., 0.0077	0.0075	perg		
GEPC Sr00 solid	ALL ESS		•							
Strontium 90		U	0.0146	+/ 0.0182	0.017	+/ 0.0183	0.039	pCi/g	BXF1	07/30/06 1226 550821
The following Prep	Methods	were p	erformed							
Method I	Description	n				Analyst	Date	Time	Prep Batch	l
Dry Soil Prep I	Dry Soil Pr	ep GL	RAD A 0	21		BSW1	07/21/0	06 1519	550554	
The following Anal	ytical Met	hods w	ere perfor	med						
Method I	Description	1								
1 E	EML HASI	. 300, 4	.5.2.3							
2 E	EPA 905.0	Modifie	d							
Surrogate/Tracer i	recovery	Test				Recovery%	Acc	eptable Limits		

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Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Samj Sample ID:	ple ID:		9106 001: 167556028	5 018FS		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Cor Pro	ntact: oject:	East Hampton Mr. Jack Mc Soils PO# 00	n, Connec Carthy 2332	ticut 06424				F	Report Date: August 14,	2006
Ade	mpany : dress :	362 Injun Ho	vankee At	tomic Power						

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	58	(25% 125%)	

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low

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- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

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Certificate of Analysis

$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power									
Project: Soils PO# 002332 Client Sample ID: Matrix: Collect Date: Collect Date: Collector: Collector: Collector: Moisture: 9106 0015 021F 167556029 Project: Collector: Collect	Contact:	East Hampto Mr. Jack Mo	on, Connec Carthy	cticut 06424				F	Report Date: Au	igust 14, 2	2006		
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Project:	Soils PO# 0	02332										
ParameterQualifierResultUncertaintyLCTPUMDAUnitsDFAnalyst DateTime Batch MuRed Alpha Spec Am241, Con, Solid ALLFSSAmericium 241U0.162 $+'$ 0.2210.311 $+'$ 0.2250.778pCi/gMXA08/01/06 0823552678Curium 242U0.0918 $+'$ 0.2850.255 $+'$ 0.2850.693pCi/g1Curium 243/244U0.287 $+'$ 0.3610.274 $+'$ 0.3640.705pCi/g1Plutonium 239/240U0.009 $+'$ 0.1140.120 $+'$ 0.1140.341pCi/g1Plutonium 239/240U0.009 $+'$ 0.7790.000 $+'$ 0.7790.101pCi/gPlutonium 239U0.009 $+'$ 0.7120.004 $+'$ 0.7290.101pCi/gJXG108/03/06RadGamma Spic AnspisGamma, SolidFSS GAM & ALL FSS 226 Ingrowth $+'$ 0.1720.0624 $+'$ 0.1720.136pCi/gMH108/03/06Marcicium 241U0.0198 $+'$ 0.01720.0624 $+'$ 0.1720.136pCi/gMH108/03/061646551081Gamma, SolidFSS GAM & ALL FSS226 Ingrowth $+'$ 0.0730.0518 $+'$ 0.0740.0244 $+'$ 0.074pCi/gGamma, SolidFSS GAM & ALL FSS $+'$ 0.0790.0624 $+'$ 0.0720.136pCi/g $+'$ 0.140.8/03/061646551081Gamma, SolidFSS GAM & ALL FSS $-'$ 0.079		Client Sam Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): .te: ate:		9106 00 16755602 SE 27 JUN 21 JUL Client 1.03%	15 021F 29 06 06		Project: Client ID; Vol. Recv.:	YANK01204 YANK001				
Rad Alpha Spec Analysis Alphaspec Am241 U 0.162 +/ 0.221 0.311 +/ 0.222 0.778 pCi/g MXA 08/01/06 0823 552678 Curium 242 U 0.0918 +/ 0.285 +/ 0.285 -/ 0.285 0.693 pCi/g 1 Alphaspec Pu, Solid ALL FSS Plutonium 243/244 U 0.0298 +/ 0.114 0.120 +/ 0.341 pCi/g JXG1 07/27/06 1535 550872 Plutonium 238 U 0.00298 +/ 0.114 0.120 +/ 0.341 pCi/g JXG1 07/27/06 1535 550872 Plutonium 238/240 U 0.00298 +/ 0.01729 0.101 pCi/g pCi/g JXG1 07/27/06 1535 550873 Plutonium 238 U 0.00298 +/ 0.729 0.001 +/ 0.729 0.001 pCi/g JXG1 08/03/06 0118 550873 Rd Gamma Solid FSS GAM & ALL FSS Plutonium 241 U 0.172 0.0624 +/ 0.172 0.136 pCi/g	Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time	Batch M	٧Itd
Alphaspec Am241, Cm, Solid ALL FSS Americium 241 U 0.162 +/ 0.221 0.311 +/ 0.222 0.778 pCi/g MXA 08/01/06 0823 552678 1 Curium 242 U 0.018 +/ 0.285 0.255 +/ 0.285 0.693 pCi/g I Curium 243/244 U 0.0287 +/ 0.361 0.274 +/ 0.364 0.705 pCi/g JXG1 07/27/06 1535 550872 : Plutonium 238 U 0.00298 +/ 0.114 0.120 +/ 0.014 pCi/g JXG1 07/27/06 1535 550872 : Plutonium 239/240 U 0.00298 +/ 0.172 0.0624 +/ 0.172 0.136 pCi/g JXG1 08/03/06 0118 550873 Rad Camma Solid FSS GAM & ALL FSS Plutonium 228 0.790 +/ 0.172 0.0624 +/ 0.136 pCi/g MJH1 08/03/06 1646 51081 Bismuth 212 0.359 +/ 0.298 0.0373 0.0762 pCi/g <th< td=""><td>Rad Alpha Spec Analys</td><td>is</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	Rad Alpha Spec Analys	is											
Americium 241U 0.162 $+/$ 0.221 0.311 $+/$ 0.222 0.778 pCi/gMXA $08/01/06$ 0823 552678 Curium 243/244U 0.287 $+/$ 0.361 0.274 $+/$ 0.285 0.693 pCi/gAlphaspec Pu, Solid ALL FSSPlutonium 238U 0.00298 $+/$ 0.114 0.120 $+/$ 0.311 pCi/gJutonium 239/240U 0.00 $+/$ 0.0729 0.00 $+/$ 0.0729 0.101 pCi/gLiquid Scint Pu241, Solid ALL FSSPlutonium 231U 4.29 $+/$ 8.51 7.32 $+/$ 8.52 15.3 pCi/gJXG1 $07/27/06$ 1535 550873 Rad Gamma Spec AnalysisGamma, Solid FSS GAM & ALL FSS 226 IngrowthWaivedActinium 228 0.790 $+/$ 0.172 0.0624 $+/$ 0.172 0.136 pCi/gMJH1 $08/03/06$ 118 550873 Americium 241U 0.0198 $+/$ 0.0143 $+/$ 0.172 0.1364 pCi/gMJH1 $08/03/06$ 1646 551081 Astinium 228 0.790 $+/$ 0.072 0.0028 $+/$ 0.0762 pCi/gMJH1 $08/03/06$ 1646 551081 Bismuth 212 0.358 $+/$ 0.0294 0.0208 $+/$ 0.0762 pCi/gpCi/gCesium 137 0.398 $+/$ 0.0294 $+/$ 0.0271 $+/$ 0.027	Alphaspec Am241, Cm,	Solid ALL FS	S										
$\begin{array}{cccc} Curium 242 & U & 0.0918 & +/ & 0.285 & 0.255 & +/ & 0.285 & 0.693 & pCi/g \\ Curium 243/244 & U & 0.287 & +/ & 0.361 & 0.274 & +/ & 0.364 & 0.705 & pCi/g \\ \hline \\ Alphaspec Pu, Solid ALL FSS \\ Plutonium 238 & U & 0.00298 & +/ & 0.114 & 0.120 & +/ & 0.114 & 0.341 & pCi/g \\ Plutonium 239/240 & U & 0.00 & +/ & 0.0729 & 0.00 & +/ & 0.0729 & 0.101 & pCi/g \\ \hline \\ Plutonium 241 & U & 4.29 & +/ & 8.51 & 7.32 & +/ & 8.52 & 15.3 & pCi/g \\ \hline \\ Rad Gamma Spec Analysis \\ \hline \\ Gamma, Solid FSS GAM & ALL FSS 226 Ingrowth \\ Waived \\ \hline \\ Actinium 228 & 0.790 & +/ & 0.172 & 0.0624 & +/ & 0.172 & 0.136 & pCi/g \\ \hline \\ Americium 241 & U & 0.0198 & +/ & 0.114 & 0.0743 & +/ & 0.114 & 0.154 & pCi/g \\ \hline \\ Bismuth 212 & 0.359 & +/ & 0.298 & 0.0133 & +/ & 0.298 & 0.307 & pCi/g \\ \hline \\ Bismuth 214 & 0.508 & +/ & 0.0957 & 0.0358 & +/ & 0.0957 & 0.0762 & pCi/g \\ \hline \\ Cesium 134 & U & 0.0251 & +/ & 0.0294 & 0.0447 & pCi/g \\ \hline \\ Casium 137 & 0.398 & +/ & 0.0607 & 0.0188 & +/ & 0.0607 & 0.0402 & pCi/g \\ \hline \\ Europium 152 & U & 0.0597 & +/ & 0.0714 & 0.0577 & +/ & 0.0714 & 0.127 & pCi/g \\ \hline \\ Europium 154 & U & 0.0284 & +/ & 0.0704 & 0.0617 & pCi/g \\ \hline \\ Europium 155 & U & 0.0771 & +/ & 0.0795 & 0.0358 & +/ & 0.0987 & 0.0739 & pCi/g \\ \hline \\ \\ Europium 154 & U & 0.0284 & +/ & 0.0714 & 0.0577 & +/ & 0.0714 & 0.127 & pCi/g \\ \hline \\ \\ Europium 155 & U & 0.0771 & +/ & 0.0795 & 0.0166 & pCi/g \\ \hline \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ $	Americium 241	U	0.162	+/ 0.221	0.311	+/ 0.222	0.778	pCi/g	MXA 1	08/01/0	6 0823	552678	1
Curium 243/244 U 0.287 $+/$ 0.361 0.274 $+/$ 0.364 0.705 pCi/g Alphaspec Pu, Solid ALL FSS Plutonium 238 U 0.00298 $+/$ 0.114 0.320 $+/$ 0.111 0.341 pCi/g JXG1 $07/27/06$ 1535 550872 Plutonium 239/240 U 0.00 $+/$ 0.729 0.00 $+/$ 0.729 0.101 pCi/g JXG1 $07/27/06$ 1535 550873 Rad Gamma Spec Analysis Gamma, Solid FSS GAM & ALL FSS 226 Ingrowth Kaived Actinium 228 0.790 $+/$ 0.172 0.0624 $+/$ 0.172 0.136 pCi/g MJH1 $08/03/06$ 1646 551081 Americum 241 U 0.0194 $+/$ 0.172 0.0624 $+/$ 0.172 0.136 pCi/g MJH1 $08/03/06$ 1646 551081 Americum 241 U 0.0172 0.054 $+/$ 0.014 0.154 pCi/g MJH1 $08/03/06$ 1646 551081	Curium 242	U	0.0918	+/ 0.285	0.255	+/ 0.285	0.693	pCi/g	-				
Alphaspec Pu, Solid ALL FSSPlutonium 238U0.00298+/0.120+/0.341pCi/gJXG107/27/061535550872Plutonium 239/240U0.00+/0.07290.101pCi/gJXG107/27/061535550872Plutonium 241U4.29+/8.517.32+/8.5215.3pCi/gJXG108/03/060118550873Rad Gamma Spec AnalysisGamma, Solid FSS GAM & ALL FSS 226 IngrowthMarcicium 241U0.0198+/0.1720.136pCi/gMJH108/03/061646551081Actinium 2280.790+/0.1720.0624+/0.1720.136pCi/gMJH108/03/061646551081Bismuth 2120.359+/0.2980.143+/0.2980.307pCi/gCi/gBismuth 2140.508+/0.02970.0358+/0.09570.0762pCi/gCesium 1370.358+/0.06070.0188+/0.0247pCi/gCobalt 60UI0.00771+/0.07750.108pCi/gEuropium 152U0.0597+/0.07350.108pCi/gLead 2120.668+/0.02970.07640.0617pCi/gLead 2140.668+/0.02980.0419pCi/gNobium 94U0.0046+/0.02520.039pCi/gNobium 94	Curium 243/244	U	0.287	+/ 0.361	0.274	+/ 0.364	0.705	pCi/g					
Plutonium 238U 0.00298 $+/$ 0.114 0.120 $+/$ 0.114 0.341 pCi/gJXG1 $07/27/06$ 1535 550872 110112 Plutonium 239/240U 0.00 $+/$ 0.0729 0.00 $+/$ 0.0729 0.101 pCi/gJXG1 $07/27/06$ 1535 550872 11112 Liquid Scint Pu241, Solid ALL FSSPlutonium 241U 4.29 $+/$ 8.51 7.32 $+/$ 8.52 15.3 pCi/gJXG1 $08/03/06$ 0118 550873 Rad Gamma Spec AnalysisGamma, Solid FSS GAM & ALL FSS 226 IngrowthWaived $-/$ 0.172 0.0624 $+/$ 0.172 0.136 pCi/gMJH1 $08/03/06$ 1646 551081 Actinium 228 0.790 $+/$ 0.172 0.0624 $+/$ 0.172 0.136 pCi/gMJH1 $08/03/06$ 1646 551081 Bismuth 212 0.359 $+/$ 0.298 0.307 pCi/g DCi/gDCi/gDCi/gBismuth 214 0.0251 $+/$ 0.0294 0.0447 pCi/g DCi/gCesium 137 0.398 $+/$ 0.0661 0.0192 $+/$ 0.0714 0.127 pCi/g Europium 154U 0.0284 $+/$ 0.0714 0.0777 $+/$ 0.0714 0.127 pCi/g Lead 214 0.668 $+/$ 0.0797 $+/$ 0.0714 0.0277 $+/$ 0.0238 0.0419 <	Alphaspec Pu, Solid A	LL FSS											
Plutonium 239/240U0.00+/0.07290.00+/0.07290.101pCi/gLiquid Scint Pu241, Solid ALL FSSPlutonium 241U4.29+/8.517.32+/8.5215.3pCi/gJXG108/03/06 0118 550873Rad Gamma Spee AnalysisGamma, Solid FSS GAM & ALL FSS 226 IngrowthWaivedActinium 2280.790+/0.1720.0624+/0.136pCi/gMJH108/03/06 1646 551081Americium 241U0.0198+/0.1140.0743+/0.1140.154pCi/gBismuth 2120.359+/0.2980.143+/0.09570.0762pCi/gCesium 134U0.0221+/0.0208+/0.09240.0447pCi/gCesium 1370.398+/0.06070.0188+/0.0427pCi/gEuropium 152U0.0577+/0.07140.127pCi/gEuropium 154U0.0284+/0.07350.108pCi/gLead 2140.668+/0.07040.0297+/0.0739pCi/gManganese 54U0.00723+/0.02380.0195+/0.02380.0419Nobium 94U0.0046+/0.02520.0388+/0.0330pCi/gNobium 94U0.0179+/0.05770.0358+/0.0330pCi/gNobium 94	Plutonium 238	U	0.00298	+/ 0.114	0.120	+/ 0.114	0.341	pCi/g	JXG1	07/27/0	6 1535	550872	2
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Plutonium 239/240	U	0.00	+/ 0.0729	0.00	+/ 0.0729	0.101	pCi/g					
Plutonium 241 U 4.29 +/ 8.51 7.32 +/ 8.52 15.3 pCi/g JXG1 08/03/06 0118 550873 Rad Gamma Spec Analysis Gamma, Solid FSS GAM & ALL FSS 226 Ingrowth Waived Actinium 228 0.790 +/ 0.172 0.0624 +/ 0.172 0.136 pCi/g MJH1 08/03/06 1646 551081 Americium 241 U 0.0198 +/ 0.114 0.0743 +/ 0.197 0.0364 +/ 0.298 0.307 pCi/g Bismuth 212 0.359 +/ 0.298 0.143 +/ 0.0294 0.0447 pCi/g Cesium 134 U 0.0251 +/ 0.0294 0.0294 0.0447 pCi/g Europium 152 U 0.0597 +/ 0.0735 0.108 pCi/g pCi/g Lead 212 0.668 +/ 0.0714 0.0294 0.0427 pCi/g Europium 154 U 0.0284 +/ 0.0714 0.0172 pCi/g pCi/g pCi/g pCi/g	Liquid Scint Pu241, Sol	lid ALL FSS											
Rad Gamma Spec Analysis Gamma, Solid FSS GAM & ALL FSS 226 Ingrowth Waived Actinium 228 0.790 +/ 0.172 0.0624 +/ 0.172 0.136 pCi/g MJH1 08/03/06 1646 551081 Actinium 228 0.790 +/ 0.172 0.0624 +/ 0.136 pCi/g MJH1 08/03/06 1646 551081 Americium 241 U 0.0198 +/ 0.198 +/ 0.197 0.0762 pCi/g Bismuth 214 0.508 +/ 0.0997 0.0328 +/ 0.0294 0.0447 pCi/g Cesium 134 U 0.0251 +/ 0.0294 0.0294 0.0447 pCi/g Cobalt 60 UI 0.00 +/ 0.0661 0.0427 pCi/g Europium 152 U 0.0597 +/ 0.0735 0.018 pCi/g Europium 154 U 0.0284 +/ 0.0795 0.116 pCi/g Lead 212 0.668 +/ 0.0797 +/ 0.0714 0.0277 pCi/g Manganese 54 U	Plutonium 241	U	4.29	+/ 8.51	7.32	+/ 8.52	15.3	pCi/g	JXG1	08/03/0	6 0118	550873	3
Gamma,Solid FSS GAM & ALL FSS 226 Ingrowth WaivedActinium 2280.790+/ 0.1720.0624+/ 0.1720.136pCi/gMJH108/03/061646551081Americium 241U0.0198+/ 0.1140.0743+/ 0.1140.154pCi/gBismuth 2120.359+/ 0.2980.143+/ 0.2980.307pCi/gBismuth 2140.508+/ 0.09570.0358+/ 0.09570.0762pCi/gCesium 134U0.0251+/ 0.02940.0208+/ 0.02940.0447pCi/gCobalt 60UI0.00+/ 0.06610.0192+/ 0.06610.0427pCi/gEuropium 152U0.0597+/ 0.07350.0515+/ 0.07350.108pCi/gEuropium 154U0.0284+/ 0.07140.577+/ 0.07140.127pCi/gLead 2120.668+/ 0.07040.0297+/ 0.07950.116pCi/gManganese 54U0.00723+/ 0.02380.0419pCi/gNiobium 94U0.0046+/ 0.02520.0183+/ 0.02520.039pCi/gNiobium 94U0.0046+/ 0.09570.0358+/ 0.09570.0358+/ 0.0354pCi/gNiobium 94U0.0179+/ 0.02510.0183+/ 0.02510.0358+/ 0.0354pCi/gSilver 108mU0.0179+/ 0.02110.0167+/ 0.02110.0354pCi/gSilver 108mU0.0179+/ 0.02110.0183 </td <td>Rad Gamma Spec Anal</td> <td>ysis</td> <td></td>	Rad Gamma Spec Anal	ysis											
Actinium 228 0.790 $+/$ 0.172 0.0624 $+/$ 0.172 0.136 pCi/gMJH108/03/061646551081Americium 241U 0.0198 $+/$ 0.114 0.0743 $+/$ 0.114 0.154 pCi/gBismuth 212 0.359 $+/$ 0.298 0.143 $+/$ 0.298 0.307 pCi/gBismuth 214 0.508 $+/$ 0.0957 0.0762 pCi/gCesium 134U 0.0251 $+/$ 0.0294 0.0208 $+/$ 0.0294 0.0447 Cesium 137 0.398 $+/$ 0.0607 0.0188 $+/$ 0.0607 0.0402 pCi/gCobalt 60UI 0.00 $+/$ 0.0661 0.0427 pCi/gEuropium 152U 0.0297 $+/$ 0.0735 0.108 pCi/gEuropium 154U 0.0284 $+/$ 0.0714 0.0775 0.116 pCi/gLead 212 0.668 $+/$ 0.0297 $+/$ 0.0795 0.116 pCi/gMaganese 54U 0.00723 $+/$ 0.0238 0.0419 pCi/gNiobium 9410.7 $+/$ 0.997 0.0358 $+/$ 0.997 0.0762 pCi/gPotassium 4010.7 $+/$ 0.997 0.0358 $+/$ 0.997 0.0762 pCi/gSilver 108mU 0.0179 $+/$ 0.0251 0.0183 $+/$ 0.0251 0.0354 pCi/gSilver 108mU	Gamma,Solid FSS GA Waived	M & ALL FSS	226 Ingro	wth									
Americium 241U 0.0198 +/ 0.114 0.0743 +/ 0.114 0.154 pCi/gBismuth 212 0.359 +/ 0.298 0.143 +/ 0.298 0.307 pCi/gBismuth 214 0.508 +/ 0.0957 0.0358 +/ 0.0957 0.0762 pCi/gCesium 134U 0.0251 +/ 0.0294 0.0447 pCi/gCesium 137 0.398 +/ 0.0607 0.0188 +/ 0.0294 0.0447 pCi/gCobalt 60UI 0.00 +/ 0.0661 0.0192 +/ 0.0661 0.0427 pCi/gEuropium 152U 0.0597 +/ 0.0735 0.0515 +/ 0.0775 0.108 pCi/gEuropium 154U 0.0294 +/ 0.0771 +/ 0.0777 +/ 0.0774 +/ 0.0617 pCi/gLead 212 0.668 +/ 0.0704 0.0297 +/ 0.0739 pCi/gManganese 54U 0.00723 +/ 0.0238 0.0195 +/ 0.0238 0.0419 pCi/gNiobium 94U 0.0046 +/ 0.0252 0.039 pCi/gpCi/gPotassium 40 10.7 +/ 0.957 0.0358 +/ 0.0957 0.0762 pCi/gSilver 108mU 0.0179 +/ 0.0211 0.0167 +/ 0.0252 0.039 pCi/gSilver 108mU 0.0259 +/ 0.0181 +/ $0.$	Actinium 228		0.790	+/ 0.172	0.0624	+/ 0.172	0.136	pCi/g	MJH1	08/03/0	6 1646	551081	4
Bismuth 212 0.359 $+/$ 0.298 0.143 $+/$ 0.298 0.307 pCi/gBismuth 214 0.508 $+/$ 0.0957 0.0358 $+/$ 0.0957 0.0762 pCi/gCesium 134U 0.0251 $+/$ 0.0294 0.0208 $+/$ 0.0294 0.0447 pCi/gCesium 137 0.398 $+/$ 0.0607 0.0188 $+/$ 0.0607 0.0402 pCi/gCobalt 60UI 0.00 $+/$ 0.0661 0.0192 $+/$ 0.0661 0.0427 pCi/gEuropium 152U 0.0597 $+/$ 0.0735 0.0515 $+/$ 0.0735 0.108 pCi/gEuropium 154U 0.0284 $+/$ 0.0771 $+/$ 0.0771 $-/$ 0.0771 $-/$ Lead 212 0.668 $+/$ 0.0704 0.0297 $+/$ 0.0739 pCi/gManganese 54U 0.00723 $+/$ 0.0238 $-/$ 0.0238 $-/$ 0.0739 pCi/gNiobium 94U 0.0046 $+/$ 0.0252 0.0338 $-/$ 0.0762 pCi/gPotassium 4010.7 $+/$ 0.957 0.0358 $+/$ 0.0957 0.0762 pCi/gSilver 108mU 0.0179 $+/$ 0.0252 0.0338 $+/$ 0.0252 0.039 pCi/gFatium 226 0.508 $+/$ 0.0957 0.0358 $+/$ 0.0957 0.0762 pCi/gSilver 108mU	Americium 241	U	0.0198	+/ 0.114	0.0743	+/ 0.114	0.154	pCi/g					
Bismuth 214 0.508 $+/$ 0.0957 0.0358 $+/$ 0.0957 0.0762 pCi/gCesium 134U 0.0251 $+/$ 0.0294 0.0208 $+/$ 0.0294 0.0447 pCi/gCesium 137 0.398 $+/$ 0.0607 0.0188 $+/$ 0.0607 0.0402 pCi/gCobalt 60UI 0.00 $+/$ 0.0661 0.0192 $+/$ 0.0661 0.0427 pCi/gEuropium 152U 0.0597 $+/$ 0.0735 0.0515 $+/$ 0.0735 0.108 pCi/gEuropium 154U 0.0284 $+/$ 0.0795 0.0714 0.127 pCi/gLead 212 0.668 $+/$ 0.0704 0.0297 $+/$ 0.0739 pCi/gLead 214 0.682 $+/$ 0.0987 0.0351 $+/$ 0.0739 pCi/gManganese 54U 0.00723 $+/$ 0.0252 0.0183 $+/$ 0.0252 0.039 pCi/gNiobium 94U 0.0466 $+/$ 0.0252 0.039 pCi/gpCi/gPotassium 40 10.7 $+/$ 0.957 0.0358 $+/$ 0.0957 0.0762 pCi/gSilver 108mU 0.0179 $+/$ 0.0251 0.0167 $+/$ 0.0251 pCi/gThallium 208 0.259 $+/$ 0.0181 $+/$ 0.05511 0.0356 pCi/g	Bismuth 212		0.359	+/ 0.298	0.143	+/ 0.298	0.307	pCi/g					
Cesium 134U 0.0251 $+/$ 0.0294 0.0208 $+/$ 0.0294 0.0447 pCi/g Cesium 137 0.398 $+/$ 0.0607 0.0188 $+/$ 0.0607 0.0402 pCi/g Cobalt 60UI 0.00 $+/$ 0.0661 0.0192 $+/$ 0.0661 0.0427 pCi/g Europium 152U 0.0597 $+/$ 0.0735 0.0515 $+/$ 0.0735 0.108 pCi/g Europium 154U 0.0284 $+/$ 0.0714 0.0577 $+/$ 0.0714 0.127 pCi/g Europium 155U 0.0771 $+/$ 0.0795 0.116 pCi/g Lead 212 0.668 $+/$ 0.0987 0.0794 0.0617 pCi/g Lead 214 0.682 $+/$ 0.0987 0.0739 pCi/g Manganese 54U 0.00723 $+/$ 0.0238 0.0195 $+/$ 0.0252 Niobium 94U 0.0046 $+/$ 0.0252 0.0183 $+/$ 0.0252 0.039 pCi/g Potassium 40 10.7 $+/$ 0.957 0.0358 $+/$ 0.0957 0.0762 pCi/g Silver 108mU 0.0179 $+/$ 0.0211 0.0167 $+/$ 0.0234 pCi/g Silver 108mU 0.0179 $+/$ 0.0251 0.0358 $+/$ 0.0254 pCi/g	Bismuth 214		0.508	+/ 0.0957	0.0358	+/ 0.0957	0.0762	pCi/g					
Cesium 137 0.398 $+/$ 0.0607 0.0188 $+/$ 0.0607 0.0402 pCi/g Cobalt 60UI 0.00 $+/$ 0.0661 0.0192 $+/$ 0.0661 0.0427 pCi/g Europium 152U 0.0597 $+/$ 0.0735 0.0515 $+/$ 0.0735 0.108 pCi/g Europium 154U 0.0284 $+/$ 0.0714 0.0577 $+/$ 0.0714 0.127 pCi/g Europium 155U 0.0771 $+/$ 0.0795 0.0563 $+/$ 0.0795 0.116 pCi/g Lead 212 0.668 $+/$ 0.0704 0.0297 $+/$ 0.0774 0.0617 pCi/g Lead 214 0.682 $+/$ 0.0987 0.0739 pCi/g Manganese 54U 0.00723 $+/$ 0.0238 0.0195 $+/$ 0.0238 0.0419 pCi/g Niobium 94U 0.0046 $+/$ 0.0252 0.0183 $+/$ 0.0252 0.039 pCi/g Potassium 40 10.7 $+/$ 0.957 0.0358 $+/$ 0.0957 0.0762 pCi/g Silver 108mU 0.0179 $+/$ 0.0211 0.0167 $+/$ 0.0234 pCi/g Thallium 208 0.259 $+/$ 0.0511 0.0167 $+/$ 0.0254 pCi/g	Cesium 134	U	0.0251	+/ 0.0294	0.0208	+/ 0.0294	0.0447	pCi/g					
Cobait 60U1 0.00 $+/$ 0.0661 0.0192 $+/$ 0.0661 0.0427 pCi/g Europium 152U 0.0597 $+/$ 0.0735 0.0515 $+/$ 0.0735 0.108 pCi/g Europium 154U 0.0284 $+/$ 0.0714 0.0577 $+/$ 0.0714 0.127 pCi/g Europium 155U 0.0771 $+/$ 0.0795 0.0563 $+/$ 0.0795 0.116 pCi/g Lead 212 0.668 $+/$ 0.0987 0.0704 0.0617 pCi/g Lead 214 0.682 $+/$ 0.0987 0.0739 pCi/g Manganese 54U 0.00723 $+/$ 0.0238 0.0195 $+/$ 0.0238 Niobium 94U 0.0046 $+/$ 0.0252 0.0183 $+/$ 0.0252 0.039 pCi/g Potassium 4010.7 $+/$ 0.959 0.144 $+/$ 0.959 0.330 pCi/g Silver 108mU 0.0179 $+/$ 0.0211 0.0167 $+/$ 0.0254 pCi/g Thallium 208 0.259 $+/$ 0.0511 0.0181 $+/$ 0.0254 pCi/g	Cesium 137		0.398	+/ 0.0607	0.0188	+/ 0.0607	0.0402	pCi/g					
Europium 152U 0.0397 $+7$ 0.0735 0.0515 $+7$ 0.0735 0.108 $pC1/g$ Europium 154U 0.0284 $+7$ 0.0714 0.0577 $+7$ 0.0714 0.127 pCi/g Europium 155U 0.0771 $+7$ 0.0795 0.0563 $+7$ 0.0795 0.116 pCi/g Lead 212 0.668 $+7$ 0.0704 0.0297 $+7$ 0.0704 0.0617 pCi/g Lead 214 0.682 $+7$ 0.0987 0.0739 pCi/g Manganese 54U 0.00723 $+7$ 0.0238 0.0195 $+7$ 0.0238 0.0419 pCi/g Niobium 94U 0.0046 $+7$ 0.0252 0.0183 $+7$ 0.0252 0.039 pCi/g Potassium 40 10.7 $+7$ 0.0957 0.0358 $+7$ 0.0957 0.0762 pCi/g Silver 108mU 0.0179 $+7$ 0.0211 0.0181 $+7$ 0.0234 pCi/g Thallium 208 0.259 $+7$ 0.0211 0.0181 $+7$ 0.0236 pCi/g	Cobalt 60	UI	0.00	+/ 0.0661	0.0192	+/ 0.0661	0.0427	pCi/g					
Europium 154U 0.0284 $+7$ 0.0714 0.0377 $+7$ 0.0714 0.127 pCi/g Europium 155U 0.0771 $+7$ 0.0795 0.0563 $+7$ 0.0795 0.116 pCi/g Lead 212 0.668 $+7$ 0.0797 0.0297 $+7$ 0.0704 0.0617 pCi/g Lead 214 0.682 $+7$ 0.0987 0.0739 pCi/g Manganese 54U 0.00723 $+7$ 0.0238 0.0195 $+7$ 0.0238 0.0419 pCi/g Niobium 94U 0.0046 $+7$ 0.0252 0.0183 $+7$ 0.0252 0.039 pCi/g Potassium 40 10.7 $+7$ 0.959 0.144 $+7$ 0.959 0.330 pCi/g Radium 226 0.508 $+7$ 0.0257 0.0358 $+7$ 0.0957 0.0762 pCi/g Silver 108mU 0.0179 $+7$ 0.0211 0.0167 $+7$ 0.0236 pCi/g Thallium 208 0.259 $+7$ 0.0211 0.0181 $+7$ 0.0236 pCi/g	Europium 152	U	0.0397	+/ 0.0735	0.0515	+/ 0.0735	0.108	pCi/g					
Europhum 13300.0771+/0.07930.0303+/0.07930.110pCl/gLead 2120.668+/0.09870.0297+/0.07040.0617pCi/gLead 2140.682+/0.09870.0351+/0.09870.0739pCi/gManganese 54U0.00723+/0.02380.0195+/0.02380.0419pCi/gNiobium 94U0.0046+/0.02520.0183+/0.02520.039pCi/gPotassium 4010.7+/0.9590.144+/0.9590.330pCi/gRadium 2260.508+/0.02110.0158+/0.0251pCi/gSilver 108mU0.0179+/0.02110.0181+/0.02110.0386pCi/gThallium 2080.259+/0.05110.0181+/0.02110.0386pCi/g	Europium 154	U	0.0284	+/0.0714	0.0577	+/0.0714	0.127	pCi/g					
Lead 2120.0001/ 0.07040.02011/ 0.07040.001/1pc/gLead 2140.682+/ 0.09870.0351+/ 0.09870.0739pCi/gManganese 54U0.00723+/ 0.02380.0195+/ 0.02380.0419pCi/gNiobium 94U0.0046+/ 0.02520.0183+/ 0.02520.039pCi/gPotassium 4010.7+/ 0.9590.144+/ 0.9590.330pCi/gRadium 2260.508+/ 0.09570.0358+/ 0.09570.0762pCi/gSilver 108mU0.0179+/ 0.02110.0167+/ 0.02110.0354pCi/gThallium 2080.259+/ 0.05110.0181+/ 0.05110.0386pCi/g	Lead 212	0	0.668	+/0.0793	0.0303	+/ 0.0793	0.110	pCi/g					
Manganese 54 U 0.00723 +/ 0.0238 0.0195 +/ 0.0238 0.0419 pCi/g Niobium 94 U 0.0046 +/ 0.0252 0.0183 +/ 0.0252 0.0399 pCi/g Potassium 40 10.7 +/ 0.959 0.144 +/ 0.959 0.330 pCi/g Radium 226 0.508 +/ 0.0957 0.0358 +/ 0.0957 0.0762 pCi/g Silver 108m U 0.0179 +/ 0.0211 0.0167 +/ 0.0354 pCi/g Thallium 208 0.259 +/ 0.0511 0.0181 +/ 0.0511 0.0386 pCi/g	Lead 212		0.682	+/ 0.0987	0.0251	+/ 0.0987	0.0017	nCi/g					
Niobium 94 U 0.0046 +/ 0.0252 0.039 pCi/g Potassium 40 10.7 +/ 0.959 0.144 +/ 0.959 0.330 pCi/g Radium 226 0.508 +/ 0.0957 0.0358 +/ 0.0957 0.0762 pCi/g Silver 108m U 0.0179 +/ 0.0211 0.0167 +/ 0.0211 0.0354 pCi/g Thallium 208 0.259 +/ 0.0511 0.0181 +/ 0.0511 0.0386 pCi/g	Manganese 54	U	0.00723	+/ 0.0238	0.0195	+/ 0.0238	0.0419	nCi/g					
Potassium 40 10.7 +/ 0.959 0.144 +/ 0.959 0.330 pCi/g Radium 226 0.508 +/ 0.0957 0.0358 +/ 0.0957 0.0762 pCi/g Silver 108m U 0.0179 +/ 0.0211 0.0167 +/ 0.0211 0.0354 pCi/g Thallium 208 0.259 +/ 0.0511 0.0181 +/ 0.0511 0.0386 pCi/g	Niobium 94	Ũ	0.0046	+/ 0.0252	0.0183	+/ 0.0252	0.039	pCi/g					
Radium 226 0.508 +/ 0.0957 0.0358 +/ 0.0957 0.0762 pCi/g Silver 108m U 0.0179 +/ 0.0211 0.0167 +/ 0.0211 0.0354 pCi/g Thallium 208 0.259 +/ 0.0511 0.0181 +/ 0.0511 0.0386 pCi/g	Potassium 40		10.7	+/ 0.959	0.144	+/ 0.959	0.330	pCi/g					
Silver 108m U 0.0179 +/ 0.0211 0.0167 +/ 0.0211 0.0354 pCi/g Thallium 208 0.259 +/ 0.0511 0.0181 +/ 0.0511 0.0386 pCi/g	Radium 226		0.508	+/ 0.0957	0.0358	+/ 0.0957	0.0762	pCi/g					
Thallium 208 0.259 +/ 0.0511 0.0181 +/ 0.0511 0.0386 pCi/g	Silver 108m	U	0.0179	+/ 0.0211	0.0167	+/ 0.0211	0.0354	pCi/g					
	Thallium 208		0.259	+/ 0.0511	0.0181	+/ 0.0511	0.0386	pCi/g					
Rad Gas Flow Proportional Counting	Rad Gas Flow Proportion	onal Counting	3										
GFPC, Sr90, solid ALL FSS	GFPC, Sr90, solid AL	L FSS											
Strontium 90 U 0.0117 +/ 0.0147 0.0189 +/ 0.0147 0.0418 pCi/g BXF1 07/30/06 1226 550821	Strontium 90	U	0.0117	+/ 0.0147	0.0189	+/ 0.0147	0.0418	pCi/g	BXF1	07/30/0	6 1226	550821	5
Rad Liquid Scintillation Analysis	Rad Liquid Scintillation	ı Analysis											

LSC, Tritium Dist, Solid HTD2, ALL FSS

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Certificate of Analysis

Connecticut Yankee Atomic Power Company : Address : 362 Injun Hollow Rd East Hampton, Connecticut 06424 Report Date: August 14, 2006 Contact: Mr. Jack McCarthy Project: Soils PO# 002332 **Client Sample ID:** 9106 0015 021F YANK01204 Project: Client ID: Sample ID: 167556029 YANK001 Vol. Recv.: Parameter Qualifier Result Uncertainty LC TPU MDA Units **DF** Analyst Date **Time Batch Mtd Rad Liquid Scintillation Analysis** LSC, Tritium Dist, Solid HTD2, ALL FSS Tritium U 1.36 +/ 6.20 5.10 +/ 6.20 11.0 pCi/g NXP1 08/02/06 1942 550850 6 Liquid Scint C14, Solid All,FSS Carbon 14 ATH2 07/29/06 0827 550851 7 U 0.049 +/ 0.124 0.105 +/ 0.124 0.213 pCi/g Liquid Scint Fe55, Solid ALL FSS Iron 55 U 0.0337 +/ 19.0 15.0 +/ 19.0 31.7 pCi/g MXP1 08/03/06 1159 550847 8 Liquid Scint Ni63, Solid ALL FSS Nickel 63 U 5.71 +/ 6.73 5.83 +/ 6.73 12.0 pCi/g MXP1 08/14/06 0806 556697 9 Liquid Scint Tc99, Solid ALL FSS Technetium 99 U 0.281 +/ 0.191 0.150 +/ 0.191 0.311 EGD1 08/03/06 1847 550849 11 pCi/g The following Prep Methods were performed Method Description Analyst Data Time Prop Ratch

Mittinu		Anaiysi	Dale	1 mie	T Tep Daten
Dry Soil Prep	Dry Soil Prep GL RAD A 021	BSW1	07/21/06	1519	550554

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	Alphaspec Am241, Cm, Solid ALL	53	(15% 125%)	
Plutonium 242	Alphaspec Pu, Solid ALL FSS	76	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid ALL FS	79	(25% 125%)	
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	69	(25% 125%)	

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Certificate of Analysis

Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power						
Contact: Project:	East Hampto Mr. Jack Mo Soils PO# 0	on, Connec Carthy 02332	eticut 06424			Report Date: August 14,	2006		
	Client San Sample ID	Client Sample ID: Sample ID:			5 021F 9		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
Carrier/Tracer Recovery	Liqu	id Scint Fe	55, Solid ALL	FS	95		(15% 125%)		
Carrier/Tracer Recovery	Liqu	id Scint Ni	63, Solid ALL	FS	82		(25% 125%)		

87

(15% 125%)

Notes:

Carrier/Tracer Recovery

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

Liquid Scint Tc99, Solid ALL FS

- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/ RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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Certificate of Analysis

Company Address :	Connecticut362 Injun H	Yankee A	tomic Power									
Contact:	East Hampt Mr. Jack Me	on, Connec cCarthy	cticut 06424				F	Report Date: Au	igust 14, 2	2006		
Project:	Soils PO# 0	02332										
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106 0 167556 SE 28 JUN 21 JUL Client 26.3%	015 004F 030 1 06 2 06	·	Project: Client ID: Vol. Recv.:	YANK01204 YANK001				
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time	Batch N	Atd
Rad Alpha Spec Anal	ysis											
Alphaspec Am241, C	m, Solid ALL FS	S										
Americium 241	U	0.0595	+/ 0.0921	0.136	+/ 0.0924	0.366	pCi/g	MXA 1	08/01/06	5 0823	552678	1
Curium 242	U	0.0864	+/ 0.0564	0.137	+/ 0.0574	0.382	pCi/g					
Curium 243/244	U	0.0859	+/ 0.207	0.189	+/ 0.208	0.472	pCi/g					
Alphaspec Pu, Solid	ALL FSS											
Plutonium 238	U	0.0291	+/ 0.0571	0.00	+/ 0.0572	0.079	pCi/g	JXG1	07/27/06	5 1535	550872	2
Plutonium 239/240	U	0.0373	+/ 0.0841	0.0575	+/ 0.0842	0.194	pCi/g					
Liquid Scint Pu241, S	Solid ALL FSS			*								
Plutonium 241	U	2.82	+/ 8.21	7.01	+/ 8.22	14.6	pCi/g	JXG1	08/03/06	5 0134	550873	3
Rad Gamma Spec An	alysis											
Gamma,Solid FSS (Waived	GAM & ALL FSS	5 226 Ingro	wth									
Actinium 228		0.767	+/ 0.182	0.0447	+/ 0.182	0.0973	pCi/g	MJH1	08/03/06	5 1646	551081	4
Americium 241	U	0.0267	+/ 0.103	0.0846	+/ 0.103	0.175	pCi/g					
Bismuth 212		0.408	+/ 0.269	0.120	+/ 0.269	0.256	pCi/g					
Bismuth 214		0.550	+/ 0.101	0.0271	+/ 0.101	0.0574	pCi/g					
Cesium 134	U	0.0201	+/ 0.0204	0.0189	+/ 0.0204	0.0402	pCi/g					
Cobalt 60	U	0.00830	$\pm (0.0183)$	0.0147	+/0.0183	0.0313	pCI/g					
Europium 152	U U	0.00974	+/ 0.0202	0.0177	+/0.0202	0.0364	pCi/g					
Europium 152	U	0.0107	+/ 0.0585	0.0375	+/ 0.0585	0.0820	nCi/g					
Europium 155	Ŭ	0.0755	+/ 0.0498	0.0468	+/ 0.0498	0.0964	pCi/g					
Lead 212	_	0.734	+/ 0.083	0.0227	+/ 0.083	0.0471	pCi/g					
Lead 214		0.653	+/ 0.0961	0.026	+/ 0.0961	0.0545	pCi/g					
Manganese 54	U	0.0198	+/ 0.0254	0.0151	+/ 0.0254	0.0324	pCi/g					
Niobium 94	U	0.0179	+/ 0.0169	0.0152	+/ 0.0169	0.032	pCi/g					
Potassium 40		13.2	+/ 1.21	0.144	+/ 1.21	0.319	pCi/g					
Radium 226		0.550	+/ 0.101	0.0271	+/ 0.101	0.0574	pCi/g					
Silver 108m	U	0.00388	+/ 0.014	0.0124	+/ 0.014	0.0261	pCi/g					
I hallium 208	tional Court	0.282	+/ 0.0555	0.0163	+/ 0.0555	0.0345	pCı/g					
RAU GAS FIOW PROPOR	uonai Countinț	5										
GFPC, Sr90, solid A	ALL FSS	0.0100		0 0 0			~		Am / a A / a			-
Strontium 90	U Amalusta	0.0198	+/ 0.0185	0.0167	+/ 0.0185	0.0377	pCi/g	BXF1	07/30/06	> 1226	550821	5
kau Liquid Scintillati	on Analysis											

LSC, Tritium Dist, Solid HTD2, ALL FSS

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power								
	Contact: Project:	East Hampto Mr. Jack Mo Soils PO# 0	on, Connec Carthy 02332	cticut 06424				Rep	oort Date: Au	gust 14, 2006		
		Client San Sample ID	nple ID:):		9106 00 1675560	015 004F 030	Pr Cl Vo	oject: Y ient ID: Y ol. Recv.:	7ANK01204 7ANK001			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date Time	Batch I	/Itd
Rad Liquid S	Scintillation	Analysis										
LSC, Tritiu	m Dist, Solid	HTD2,ALL	FSS									
Tritium		U	2.23	+/ 5.76	5.02	+/ 5.76	10.8	pCi/g	NXP1	08/02/06 1957	550850	6
Liquid Scin	t C14, Solid	All,FSS										
Carbon 14	4	U	0.00818	+/ 0.125	0.105	+/ 0.125	0.214	pCi/g	ATH2	07/29/06 1003	550851	7
Liquid Scin	t Fe55, Solid	ALL FSS										
Iron 55		U	14.1	+/ 21.5	16.4	+/ 21.7	34.7	pCi/g	MXP1	08/03/06 1216	550847	8
Liquid Scin Nickel 63	t Ni63, Solid	ALL FSS U	5.42	+/ 5.34	4.65	+/ 5.34	9.59	pCi/g	MXP1	08/14/06 0838	556697	9
Liquid Scin	t Tc99, Solid	ALL FSS										
rechnettur	n 99	0	0.178	+/ 0.190	0.133	+/ 0.190	0.317	pCi/g	EGDI	08/03/00 1940	550649	11
The followin	ng Prep Met	thods were p	erformed									
Method	Descr	iption				Analyst	Date	Time	Prep Bate	h		
Dry Soil Prep	Dry S	oil Prep GL	RAD A ()21		BSW1	07/21/06	1519	550554			
The followin	ig Analytica	l Methods w	ere perfor	med								
Methou	Desci											
1	DOE	EML HASL	300, Am	05 RC Modified								
2	DOE	EML HASL	300, Pu 1	1 RC Modified								
3	DOE	EML HASL	300, Pu 1	1 RC Modified								
4	EML	HASL 300, 4	.5.2.3									
5	EPA 9	05.0 Modifie	d									
6	EPAS	06.0 Modifie	d									
7	EPA I	SERFC OIN	lodified									
ð 0	DOE	KESL Fe 1, 1	viodified									
9 10	DOE	KESL NI 1, I	viodified									
10	DOE .	KESL NI 1, 1 EMI HASI	viodified	2 RC Modified								
C		Teres	500, 10 0	2 IC Mounicu		D	A	abla I !!!				
Surrogate/1	racer recov	ery lest	<u> </u>			Recovery%	Accept	able Limits				
Americium 2	243	Alph	aspec Am	241, Cm, Solid A	LL	78	(15	% 125%)				
Plutonium 2	42	Alph	haspec Pu.	Solid ALL FSS		89	(15)	% 125%)				

84

66

(25% 125%)

(25% 125%)

Liquid Scint Pu241, Solid ALL FS

GFPC, Sr90, solid ALL FSS

Carrier/Tracer Recovery

Carrier/Tracer Recovery

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Certificate of Analysis

Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power						
Contact: Project:	East Hampto Mr. Jack Mo Soils PO# 0	on, Connec cCarthy 02332	cticut 06424				I	Report Date: August 14,	2006
	Client San Sample ID	nple ID:):		9106 0015 167556030	004F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
Carrier/Tracer Recovery	Liou	id Scint Fe	55 Solid ALL	FS	91		(15% 125%)		

Carrier/Tracer Recovery	Liquid Scint Fe55, Solid ALL FS	91	(15% 125%)	· ·
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid ALL FS	95	(25% 125%)	
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid ALL FS	85	(15% 125%)	

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

R Sample results are rejected

- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/ RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

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<u>Certificate of Analysis</u>

Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power									
Contact: Project:	East Hampto Mr. Jack Mo Soils PO# 0	on, Connec cCarthy 02332	cticut 06424				F	Report Date: Au	gust 14,	2006		
	Client Sam Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID: D: nte: ate:		9106 0 1675560 SE 28 JUN 21 JUL Client 29.9%	015 015F 031 N 06 2 06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001				
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time	Batch N	/itd
Rad Alpha Spec Analysis	5											
Alphaspec Am241. Cm.	Solid ALL FS	s										
Americium 241	U	0.00402	+/ 0.0974	0.101	+/ 0.0974	0.287	pCi/g	MXA 1	08/01/0	6 0823	552678	1
Curium 242	U	0.0145	+/ 0.114	0.131	+/ 0.114	0.360	pCi/g					
Curium 243/244	U	0.0227	+/ 0.170	0.190	+/ 0.170	0.465	pCi/g					
Alphaspec Pu, Solid Al	LL FSS											
Plutonium 238	U	0.00829	+/ 0.0163	0.0394	+/ 0.0163	0.172	pCi/g	JXG1	07/27/0	6 1535	550872	2
Plutonium 239/240	U	0.0497	+/ 0.0398	0.0964	+/ 0.0401	0.286	pCi/g					
Liquid Scint Pu241, Soli	id ALL FSS											
Plutonium 241	U	4.09	+/ 8.10	6.97	+/ 8.11	14.5	pCi/g	JXG1	08/03/0	6 0150	550873	3
Rad Gamma Spec Analy	sis											
Gamma,Solid FSS GAI Waived	M & ALL FSS	5 226 Ingro	wth									
Actinium 228		0.747	+/ 0.157	0.0482	+/ 0.157	0.103	pCi/g	MJH1	08/03/0	6 1646	551081	4
Americium 241	U	0.021	+/ 0.108	0.0836	+/ 0.108	0.173	pCi/g					
Bismuth 212		0.427	+/ 0.259	0.108	+/ 0.259	0.229	pCi/g					
Bismuth 214		0.531	+/ 0.0855	0.0268	+/ 0.0855	0.0563	pCi/g					
Cesium 134	UI	0.00	+/ 0.0359	0.0195	+/ 0.0359	0.0408	pCi/g					
Cesium 137		0.208	+/ 0.0325	0.0153	+/ 0.0325	0.0321	pCi/g					
Cobalt 60		0.0707	+/ 0.0298	0.0144	+/ 0.0298	0.0311	pCi/g					
Europium 152	U	0.0367	+/ 0.0423	0.0355	+/ 0.0423	0.0742	pCi/g					
Europium 154	U	0.011	+/0.0501	0.0455	+/ 0.0361	0.0909	pCI/g					
Lead 212	U	0.0500	+/0.0709	0.0485	+/ 0.0709	0.0997	pCl/g					
Lead 214		0.637	+/ 0.0847	0.0267	+/ 0.0847	0.0558	pCi/g					
Manganese 54	UI	0.00	+/ 0.0203	0.0129	+/ 0.0203	0.0276	pCi/g					
Niobium 94	U	0.0205	+/ 0.0372	0.0134	+/ 0.0372	0.0281	pCi/g					
Potassium 40		13.8	+/ 0.775	0.120	+/ 0.775	0.263	pCi/g					
Radium 226		0.531	+/ 0.0855	0.0268	+/ 0.0855	0.0563	pCi/g					
Silver 108m	U	0.00734	+/ 0.0147	0.013	+/ 0.0147	0.0272	pCi/g					
Thallium 208		0.242	+/ 0.0419	0.0146	+/ 0.0419	0.0306	pCi/g					
Rad Gas Flow Proportio	nal Counting	g										
GFPC, Sr90, solid ALI	. FSS											
Strontium 90	U	0.0211	+/ 0.0182	0.0161	+/. 0.0182	0.0363	pCi/g	BXF1	07/30/0	6 1226	550821	5
Rad Liquid Scintillation	Analysis											
LSC, Tritium Dist, Solid	HTD2,ALL	FSS										

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Co A	ompany : ddress :	Connecticut 362 Injun He	Yankee Ar ollow Rd	tomic Power								
Co	ontact:	East Hampto Mr. Jack Mc	on, Connec Carthy	ticut 06424				R	eport Date: Au	gust 14, 2006		
Pr	oject:	Soils PO# 0	02332									
		Client Sam Sample ID	iple ID: :		9106 00 1675560	015 015F 31		Project: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	Date Tin	ie Batch !	Mtd
Rad Liquid Sci	ntillation	Analysis										
LSC, Tritium	Dist, Solid	HTD2,ALL	FSS									
Tritium		U	2.73	+/ 7.57	6.14	+/ 7.57	13.3	pCi/g	NXP1	08/02/06 201	3 550850	6
Liquid Scint C	CI4, Solid	411,FSS										
Carbon 14		U	0.124	+/ 0.124	0.106	+/ 0.124	0.216	pCi/g	ATH2	07/29/06 110	14 550851	7
Liquid Scint F	Fe55, Solid	ALL FSS										
Iron 55		U	3.86	+/ 16.9	13.2	+/ 16.9	27.8	pCi/g	MXP1	08/03/06 123	32 550847	8
Liquid Scint N	li63, Solid	ALL FSS										
Nickel 63		U	1.76	+/ 7.03	5.96	+/ 7.03	12.3	pCi/g	MXP1	08/14/06 090)9 556697	9
Liquid Scint T	c99, Solid	ALL FSS								•		
Technetium	99	U	0.175	+/ 0.186	0.150	+/ 0.186	0.311	pCi/g	EGD1	08/03/06 200)2 550849	11
The following	Prep Met	hods were pe	erformed									
Method	Descr	iption				Analyst	Date	Time	e Prep Batcl	h		
Dry Soil Prep	Dry Se	oil Prep GL	RAD A 0	21		BSW1	07/21/0	06 1519	550554			

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	Alphaspec Am241, Cm, Solid ALL	102	(15% 125%)	
Plutonium 242	Alphaspec Pu, Solid ALL FSS	78	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid ALL FS	83	(25% 125%)	
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	68	(25% 125%)	

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Certificate of Analysis

Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power								
Contact:	East Hampto Mr. Jack Mo	on, Connec Carthy	cticut 06424]	Report Date: August 14	, 2006		
Project:	Soils PO# 0	02332									
	Client San Sample ID	nple ID: ::		9106 0015 167556031	5 015F		Project: YANK01204 Client ID: YANK001 Vol. Recv.:				
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd		
Carrier/Tracer Recovery	Liqu	id Scint Fe	e55, Solid ALL	FS	97		(15% 125%)				
Carrier/Tracer Recovery	Liqu	id Scint Ni	i63, Solid ALL	FS	86		(25% 125%)				

87

(15% 125%)

Notes:

Carrier/Tracer Recovery

The Qualifiers in this report are defined as follows :

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Liquid Scint Tc99, Solid ALL FS

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- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/ RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded



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Client :	Connecticut Ya 362 Injun Hollo	nkee Atomic Power ow Rd	<u>QC</u>	Su Su	mmary			Report D	ate: August 14, 2006 Page 1 of 13	
Contact:	East Hampton, Mr. Jack McCa	Connecticut arthy								
Workorder:	167556									
Parmname		NOM	Sample (Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Alpha Spec Batch	550872			_						
QC120114192 Plutonium-238	28 167555016 DU	JP U Uncert:	0.00 +/-0.0636	U	0.00115	pCi/g	; 200		(0% - 100%) JXG1	07/27/06 15:35
Plutonium-239/2	240	U U Uncert: TPU:	+/-0.0638 -0.00648 +/-0.0721 +/-0.0721	U	+/-0.0623 -0.0195 +/-0.0665 +/-0.0665	pCi/g	; 100		(0% - 100%)	
QC120114192 Plutonium-238	30 LCS	Uncert:		U	-0.095 +/-0.103 +/-0.103	pCi/g	Ş		(75%-125%)	07/27/06 15:34
Plutonium-239/2	240	12.0 Uncert: TPU:			9.17 +/-1.01 +/-1.37	pCi/g	5	76	(75%-125%)	
QC120114192 Plutonium-238	27 MB	Uncert:		U	0.017 +/-0.0678 +/-0.0678	pCi/g	Ş			07/27/06 15:35
Plutonium-239/	240	Uncert: TPU:		U	0.0249 +/-0.066 +/-0.0661	pCi/g	Ş			
QC120114192 Plutonium-238	29 167555016 M	SU UUncert: TPU:	0.00 +/-0.0636 +/-0.0636	U	0.0791 +/-0.121 +/-0.121	pCi/g	ţ		(75%-125%)	
Plutonium-239/	240	12.3 U Uncert: TPU:	-0.00648 +/-0.0721 +/-0.0721		11.9 +/-1.26 +/-1.79	pCi/g	Ş	97	(75%-125%)	
Batch	550873									
QC12011419 Plutonium-241	32 167555016 DI	JP U Uncert: TPU:	-3.28 +/-7.74 +/-7.74	U	-3.69 +/-7.74 +/-7.75	pCi/g	g 0		(0% - 100%) JXG1	08/03/06 02:22
QC12011419 Plutonium-241	34 LCS	139 Uncert: TPU:			124 +/-12.3 +/-17.2	pCi/g	5	90	(75%-125%)	08/03/06 02:54
QC12011419 Plutonium-241	31 MB	Uncert: TPU:		U	-3.62 +/-8.07 +/-8.08	pCi/g	5			08/03/06 02:06
QC120114193 Plutonium-241	33 167555016 M	S 140 U Uncert:	-3.28 +/-7.74		133 +/-13.0	pCi/g	g	95	(75%-125%)	08/03/06 02:38

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QC Summary

			<u> </u>							
Workorder: 1	67556					Page 2 of 13				
Parmname		NOM	Sample (Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Alpha Spec										
Batch 550	0873									
		TPU:	+/-7.74		+/-18.3					
Batch 552	2678									
QC1201146078	167555016 DUP									
Americium-241		U	0.166	U	0.0987	pCi/g	g 51		(0% - 100%) A XA1	08/01/06 12:11
		Uncert:	+/-0.236		+/-0.149					
Curium 242		TPU:	+/-0.237	11	+/-0.149	-C://	- 141		(09/ 1009/)	
Curium-242		U	± 0.0107	U	0.0013	pC1/g	g 141		(0% - 100%)	
		Uncert:	$\pm / -0.0813$		$\pm / 0.0979$					
Curium_243/244		IPU:	+/-0.0814 0.0872	П	-7-0.0982	nCi/c	r 118		(0% - 100%)	
Cullum-245/244		U Uncert:	+/-0 181	U	+/-0 169	pent	5 110		(070 - 10070)	
		TPII	+/-0.181		+/-0 169					
OC1201146080	LCS	110.	., 0.101		.,					
Americium-241		13.3			16.6	pCi/g	g	125	(75%-125%)	
		Uncert:			+/-1.61					
		TPU:			+/-2.68					
Curium-242				U	0.00	pCi/g	3			
		Uncert:			+/-0.0807					
		TPU:			+/-0.0807					
Curium-243/244		16.2			16.8	pCi/g	g	104	(75%-125%)	
		Uncert:			+/-1.63					
		TPU:			+/-2.71					
QC1201146077	MB			••	0.0455	<u></u>				00/01/07 00 00
Americium-241		11		U	-0.0657	pC1/g	g			08/01/06 08:23
		Uncert:			+/-0.0872					
Curium-242		IPU:		T I	-0.0870	nCi/c	.			
Currum-242		Lincert.		0	+/-0.022	hens	5			
		TDU.			+/_0.022					
Curium-243/244		IFU.		U	0.0313	nCi/s	a.			
0411411 210/211		Uncert		Ŭ	+/-0 172	perg	5			
		TPU			+/-0.172					
OC1201146079	167555016 MS									
Americium-241		13.6 U	0.166		13.0	pCi/g	g	96	(75%-125%)	08/01/06 12:11
		Uncert:	+/-0.236		+/-1.30					
		TPU:	+/-0.237		+/-2.05					
Curium-242		U	0.0107	U	-0.00953	pCi/g	g			
		Uncert:	+/-0.0813		+/-0.0187					
		TPU:	+/-0.0814		+/-0.0187					
Curium-243/244		16.6 U	0.0872		17.7	pCi/į	B	107	(75%-125%)	
		Uncert:	+/-0.181		+/-1.52					
		TPU:	+/-0.181		+/-2.65					
Batch 551	1078									
QC1201142454	167556001 DUP									
Actinium-228			0.799		0.934	pCi/į	g 38		(0% - 100%) MJH1	08/03/06 07:50
		Uncert:	+/-0.156		+/-0.173					
		TPU:	+/-0.156		+/-0.173					

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QC Summary

Workorder:	167556				¥_	Page 3 of 13							
Parmname		NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time	
Rad Gamma Spo	ec												
Batch	551078												
Americium-24	1	U	0.0246	U	0.016	pCi/g	122		(0% - 100%))			
		Uncert:	+/-0.104		+/-0.113		•		· · · ·				
		TPU:	+/-0.104		+/-0.113								
Bismuth-212			0.457		0.333	pCi/g	; 32		(0% - 100%))			
		Uncert:	+/-0.238		+/-0.245								
		TPU:	+/-0.238		+/-0.245								
Bismuth-214		TT	0.612		0.623	pCi/g	; 1		(0% - 100%))			
		Uncert:	+/-0.0886		+/-0.0891								
Cosium 124		TPU:	+/-0.0886	TT	+/-0.0891	-Cila			(00/ 1000/)				
Cesiulii-154		U	±/ 0.0435	0	0.0442 ±/ 0.0223	perg	; 5		(0%) - 100%))			
		TPU-	+/-0.0355		+/-0.0223								
Cesium-137		110.	0.346		0.426	nCi/g	23		(0% - 100%))			
		Uncert:	+/-0.0445		+/-0.0418	P E	, 20		(0/0 100/0	,			
		TPU:	+/-0.0445		+/-0.0418								
Cobalt-60			0.697		0.882	pCi/g	20*		(0%-20%))			
		Uncert:	+/-0.0732		+/-0.0656								
		TPU:	+/-0.0732		+/-0.0656								
Europium-152		U	0.0354	U	-0.00721	pCi/g	; 2650		(0% - 100%))			
		Uncert:	+/-0.0503		+/-0.051								
		TPU:	+/-0.0503		+/-0.051								
Europium-154		U	-0.00728	UI	0.00	pCi/g	<u>,</u> 151		(0% - 100%))			
		Uncert:	+/-0.0592		+/-0.0/09								
Europium 155		TPU:	+/-0.0592	TI	+/-0.0/09	-Cila	. 12		(00/ 1000/)	`			
Lutoplum-155		U Lincert:	+/-0.0649	0	+/-0.0617	perg	; 42		(0% - 100%)	,			
			+/-0.0649		+/-0.0617								
Lead-212		110.	0.742		0.848	nCi/e	12		(0% - 20%))			
		Uncert:	+/-0.0572		+/-0.0639	P 2	,		(0/0 20/0)	, ,			
		TPU:	+/-0.0572		+/-0.0639								
Lead-214			0.625		0.666	pCi/g	; 5		(0% - 20%))			
		Uncert:	+/-0.0879		+/-0.0868								
		TPU:	+/-0.0879		+/-0.0868								
Manganese-54		U	0.022	U	0.00611	pCi/g	; 156		(0% - 100%))			
		Uncert:	+/-0.0235		+/-0.0227								
NY 11 04		TPU:	+/-0.0235		+/-0.0227								
Niobium-94		U	0.00715	U	0.0114	pCi/g	; 4 6		(0% - 100%))			
		Uncert:	+/-0.0183		+/-0.0172								
Potassium-40		IPU:	+/-0.0183		+/-0.0172	nCi/a	. 12		(00/ 200/)	`			
1 otassium-40		Uncert	+/-0 783		+/-0 877	peng	; 12		(076 - 2076))			
		TPU-	+/-0 783		+/-0.877								
Radium-226		110.	0.612		0.623	pCi/g	r 1		(0% - 100%))			
		Uncert:	+/-0.0886		+/-0.0891	r - " c	· -						
		TPU:	+/-0.0886		+/-0.0891								
Silver-108m		U	0.00466	U	-0.00177	pCi/g	; 424		(0% - 100%))			
		Uncert:	+/-0.0164		+/-0.0177								
		TPU:	+/-0.0164		+/-0.0177								

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		QC St	ummary							
Workorder: 167556							Page 4	of 13		
Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch 551078										
Thallium-208		0.219	0 243	pCi/	o 18		(0% - 100%)	`		
	Uncert:	+/-0.0428	+/-0.0419	Put	6		(0,0 100,0)	, ,		
	TPU:	+/-0.0428	+/-0.0419							
QC1201142455 LCS										
Actinium-228		U	0.0932	pCi/	g				08/03/0	6 07:51
	Uncert:		+/-0.385							
	TPU:		+/-0.385							
Americium-241	23.4		25.5	pCi/	g	109	(75%-125%))		
	Uncert:		+/-2.06							
	TPU:		+/-2.06							
Bismuth-212		U	-0.0457	pCi/	g					
	Uncert:		+/-0.703							
	TPU:		+/-0.703							
Bismuth-214		U	-0.0521	pCi/	g					
	Uncert:		+/-0.173							
	TPU:		+/-0.173	~						
Cesium-134		U	0.0241	pCi/	g					
	Uncert:		+/-0.0978							
G : 145	TPU:		+/-0.0978	~						
Cesium-137	9.60		10.7	pCı/	g	111	(75%-125%))		
	Uncert:		+/-0.956							
	TPU:		+/-0.956	<i></i>			(220) 1000			
Cobalt-60	14.7		15.2	pCı/	g	103	(75%-125%))		
	Uncert:		+/-0.948							
E	TPU:		+/-0.948	0.1						
Europium-152	The sector	0	-0.0199	pCi/	g					
	Uncert:		+/-0.228							
Europium 154	TPU:	TT	+/-0.228	-C:/	~					
Europium-134	Uncont	0	-0.00409	pCi/	g					
	TDU		+/-0.229							
Furonium-155	IPU:	TI	-0.0534	nCi/	a					
Europium-155	Uncert	0	+/-0 275	per,	Б					
			+/-0.275							
Lead-212	TFU.	I	0.131	nCi/	a					
Loud 212	Uncert	U	+/-0 129	per.	5					
	TPII-		+/-0 129							
Lead-214	110.	U	-0.0264	pCi/	a					
	Uncert:	Ų	+/-0.155	Per	6					
	TPU		+/-0.155							
Manganese-54		U	-0.0301	pCi/	g					
U U	Uncert:		+/-0.0923	r	0					
	TPU:		+/-0.0923							
Niobium-94		U	0.0336	pCi/	g					
	Uncert:		+/-0.0841		-					
	TPU:		+/-0.0841							
Potassium-40		U	0.279	pCi/	g					
	Uncert:		+/-0.767	-						

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QC Summary

Workorder: 167556					Page 5 of 13			
Parmname	NOM	Sample Qual	QC	Units RPD%	REC%	Range Anlst	Date Time	
Rad Gamma Spec								
Batch 551078								
	ТЫ		+/-0 767					
Radium-226	110.	U	-0.0521	nCi/g				
	Uncert:	Ũ	+/-0.173	P018				
	TPU		+/-0.173					
Silver-108m		U	0.0643	pCi/g				
	Uncert:		+/-0.0799	F 8				
	TPU:		+/-0.0799					
Thallium-208		U	0.0241	pCi/g				
	Uncert:		+/-0.0853	1 0				
	TPU:		+/-0.0853					
QC1201142453 MB								
Actinium-228		U	0.0428	pCi/g			08/03/06 07:50	
	Uncert:		+/-0.100					
	TPU:		+/-0.100					
Americium-241		U	-0.0272	pCi/g				
	Uncert:		+/-0.0189					
	TPU:		+/-0.0189					
Bismuth-212		U	0.0764	pCi/g				
	Uncert:		+/-0.150					
	TPU:		+/-0.150					
Bismuth-214		U	0.0338	pCi/g				
	Uncert:		+/-0.0366					
	TPU:		+/-0.0366					
Cesium-134		U	0.00494	pCi/g				
Cesium-137	Uncert:		+/-0.0199					
	TPU:		+/-0.0199					
		U	0.00159	pCi/g				
	Uncert:		+/-0.0169					
	TPU:		+/-0.0169					
Cobalt-60		UI	0.00	pCi/g				
	Uncert:		+/-0.0635					
	TPU:		+/-0.0635					
Europium-152		U	0.0138	pCi/g				
	Uncert:		+/-0.0386					
E 104	TPU:	••	+/-0.0386	<i></i>				
Europium-154		U	0.0793	pCı/g				
	Uncert:		+/-0.059					
P : 166	TPU:		+/-0.059	<u><u> </u></u>				
Europium-155		U	-0.0205	pC1/g				
	Uncert:		+/-0.0333					
Lead-212	TPU:		+/-0.0333	0.1				
	T.L	U	0.0209	pC1/g				
	Uncert:		+/-0.0501					
Lead 214	TPU:	T T	+/-0.0301	nCi/a				
	I Inconte	0	$\pm 0.010/$	pcvg				
	Uncert:		T/-0.0313					
Manganese-54	IPU:	TT	-0.0313	nCi/a				
1114115411000-J-T		U	-0.00140	hcn.R				

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QC Summary

Workorder: 167556							Page 6 of 13			
Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 551078										
	Uncert			+/-0.0166						
	TPI I-			+/-0.0166						
Niobium-94	110.		U	-0.00102	nCi/s	o				
	Uncert:		Ū	+/-0.0166	Port	5				
	TPU			+/-0.0166						
Potassium-40			U	0.127	pCi/s	g				
	Uncert:			+/-0.219	1 .					
	TPU:			+/-0.219						
Radium-226			U	0.0338	pCi/j	g				
	Uncert:			+/-0.0366		-				
	TPU:			+/-0.0366						
Silver-108m			U	-0.00435	pCi/j	g				
	Uncert:			+/-0.0144						
	TPU:			+/-0.0144						
Thallium-208			U	0.0137	pCi/g	g				
	Uncert:			+/-0.0191						
	TPU:			+/-0.0191						
Batch 551081										
QC1201142460 167556029 DUP										
Actinium-228		0.790		0.488	pCi/g	g 47		(0% - 100%) MJH1	08/03/06 20:35
	Uncert:	+/-0.172		+/-0.186						
	TPU:	+/-0.172		+/-0.186						
Americium-241	U	0.0198	U	0.00445	pCi/g	g 127		(0% - 100%))	
	Uncert:	+/-0.114		+/-0.037						
	TPU:	+/-0.114		+/-0.037						
Bismuth-212		0.359		0.753	pCi/g	g 71		(0% - 100%)	
	Uncert:	+/-0.298		+/-0.446						
	TPU:	+/-0.298		+/-0.446						
Bismuth-214		0.508		0.502	pCi/g	g 1		(0% - 100%))	
	Uncert:	+/-0.0957		+/-0.135						
0 : 104	TPU:	+/-0.0957		+/-0.135	~					
Cesium-134	U	0.0251	UI	0.00	pCi/g	g 108		(0% - 100%)	
	Uncert:	+/-0.0294		+/-0.0698						
Casime 127	TPU:	+/-0.0294		+/-0.0698	0.1			(00) 1000/	、 、	
Cesium-137	I In cont.	0.398		0.431	pC1/g	g ð		(0% - 100%))	
	Uncert:	+/-0.0607		+/-0.0855						
Cabalt 60	IPU:	+/-0.0607	п	+/-0.0855	-0:4	- 14		(09/ 1009/	、 、	
Coball-oo	Ul	+/ 0.0661	U	0.0491 ±/ 0.0506	pCV	g 14		(0%) - 100%))	
	TDU:	+/-0.0001		+/-0.0306						
Furonium-152	IPU:		TI	+/-0.0306	-Cil	~ 40		(00/ 1000/	`	
Europium-152	U Uncert:	+/-0.0735	0	+/-0.0735	pent	g 40		(070 - 10070)	
		+/_0 0735		+/_0 0735						
Europium-154	110. 11	-0 0284	U	-0.0666	nCi/	or 81		(0% - 100%)	
	Uncert:	+/-0 0714	U	+/-0.0761	Pent	5 01		10070 - 10070	,	
	TPI	+/-0.0714		+/-0.0761						
Europium-155	л.с. П	0.0771	U	0.0902	pCi/s	g 16		(0% - 100%)	
-	Uncert:	+/-0.0795		+/-0.0667	r · - 6	-			·	

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Workorder: 167556								Page 7	of 13		
Parmname	NOM	Sample ()ual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 551081											
	TPU:	+/-0.0795		+/-0.0667							
Lead-212		0.668		0.725	pCi/	g 8		(0% - 20%))		
	Uncert:	+/-0.0704		+/-0.115							
	TPU:	+/-0.0704		+/-0.115							
Lead-214		0.682		0.682	pCi/	g 0		(0% - 20%))		
	Uncert:	+/-0.0987		+/-0.145							
	TPU:	+/-0.0987		+/-0.145							
Manganese-54	U	-0.00723	U	-0.00539	pCi/	g 29		(0% - 100%))		
	Uncert:	+/-0.0238		+/-0.0291							
	TPU:	+/-0.0238		+/-0.0291							
Niobium-94	U	-0.0046	U	0.00917	pCi/	g 604		(0% - 100%))		
	Uncert:	+/-0.0252		+/-0.0277							
	TPU:	+/-0.0252		+/-0.0277							
Potassium-40		10.7		10.8	pCi/	g i		(0% - 20%))		
	Uncert:	+/-0.959		+/-1.39							
	TPU:	+/-0.959		+/-1.39							
Radium-226		0.508		0.502	pCi/j	g 1		(0% - 100%))		
	Uncert:	+/-0.0957		+/-0.135							
	TPU:	+/-0.0957		+/-0.135							
Silver-108m	U	-0.0179	U	-0.00479	pCi/	g 116		(0% - 100%))		
	Uncert:	+/-0.0211		+/-0.0252							
	TPU:	+/-0.0211		+/-0.0252							
Thallium-208		0.259		0.201	pCi/	g 25		(0% - 100%))		
	Uncert:	+/-0.0511		+/-0.0618							
	TPU:	+/-0.0511		+/-0.0618							
QC1201142461 LCS											
Actinium-228			U	0.679	pCı/	g				08/04/0	6 05:20
	Uncert:			+/-0.533							
	TPU:			+/-0.533							
Americium-241	23.4			23.9	pCı/	g	102	(75%-125%))		
	Uncert:			+/-0.486							
D: (1.010	TPU:			+/-0.486	0.1						
Bismuth-212	TT .		U	-0.492	pC1/	g					
	Uncert:			+/-0.975							
Dia	TPU:		T T	+/-0.975	C ''						
Bismuth-214	T Los a set a		U	0.0917	pC1/	g					
	Uncert:			+/-0.224							
Contact 124	TPU:		тт	+/-0.224	-0:/	_					
Cesium-134	T I		U	0.112	pCi/	g					
	Uncert:			+/-0.141							
Conium 127	TPU:			+/-0.141	-0:/	_	100	(750/ 1750/	、 、		
Cesium-137	9.60			10.4	pCi/	g	108	(/5%-125%))		
	Uncert:			+/-0.482							
Cobalt 60	TPU:			+/-0.482	-01	~	102	(750/ 1750/	`		
	14./			13.1	pC1/	g	103	(13%-123%))		
	Uncert:			+/-0.058							
Europium 152	TPU:		TT	+/-0.658		-					
Europium-152			U	0.251	pC1/	g					

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Parmname	NOM	Sample Qual	QC	Units RPD%	REC%	Range Anlst	Date Time
Rad Gamma Spec							
Batch 551081							
	Uncert:		+/-0.259				
	TPU:		+/-0.259				
Europium-154		U	-0.0933	pCi/g			
-	Uncert:		+/-0.284				
	TPU:		+/-0.284				
Europium-155		U	0.0511	pCi/g			
	Uncert:		+/-0.218				
	TPU:		+/-0.218				
Lead-212		U	0.0671	pCi/g			
	Uncert:		+/-0.143				
•	TPU:		+/-0.143				
Lead-214		U	0.0144	pCi/g			
	Uncert:		+/-0.186				
	TPU:		+/-0.186				
Manganese-54		U	0.0924	pCi/g			
	Uncert:		+/-0.120				
	TPU:		+/-0.120				
Niobium-94		U	0.0204	pCi/g			
	Uncert:		+/-0.114				
	TPU:		+/-0.114	<u></u>			
Potassium-40		υ	-0.16	pCı/g			
	Uncert:		+/-1.14				
	TPU:		+/-1.14	C :/			
Radium-226		U	0.0917	pCı/g			
	Uncert:		+/-0.224				
0.1 100	TPU:	T 7	+/-0.224	0.1			
Silver-108m		U	0.0594	pC1/g			
	Uncert:		+/-0.101				
TL-11: 200	TPU:	TT	+/-0.101	-0:/-			
I nainum-208		U	0.00785	pC1/g			
	Uncert:		+/-0.111				
OC1201142450 MB	TPU:		+/-0.111				
Actinium-228		П	0.0349	nCi/g			08/03/06 16:47
Rothhull 220	Uncert:	U	+/-0.092	pens			00/05/00 10.17
	TPI I-		+/-0.092				
Americium-241	110.	U	-0.0155	pCi/g			
	Uncert:	-	+/-0.0308	F 8			
	TPU		+/-0.0308				
Bismuth-212		U	-0.00927	pCi/g			
	Uncert:		+/-0.119	1 0			
	TPU:		+/-0.119				
Bismuth-214		U	0.000364	pCi/g			
	Uncert:	_	+/-0.0284				
	TPU:		+/-0.0284				
Cesium-134		U	-0.0203	pCi/g			
	Uncert:		+/-0.0167				
	TPU:		+/-0.0167				

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workorder: 167556								Page 9	9 of 13		
Parmname	NOM	Sample Qu	ıal	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma SpecBatch551081											
Cesium-137			U 0.	00632	pCi/g	z					
	Uncert:		+/-0	0.0155		-					
	TPU:		+/-0).0155							
Cobalt-60			U 0.	00791	pCi/g	g					
	Uncert:		+/-0	0.0133							
	TPU:		+/-0).0133							
Europium-152			U (0.0226	pCi/g	g					
	Uncert:		+/-0	0.0397							
	TPU:		+/-0	0.0397	~						
Europium-154			U -0	0.0169	pCi/g	5					
	Uncert:		+/-0	0.0349							
E 166	TPU:		+/-0).0349	0.1						
Europium-155	••		U 0.	00825	pCı/ş	5					
	Uncert:		+/-0	0.0314							
1 1 010	TPU:		+/-(0.0314	0.1						
Lead-212	T I			0.00	pC1/g	g					
	Uncert:		+/-0).0480 0.486							
Lend 214	TPU:			00204	-Cil	~					
Leau-214	Uncort		U U.	00294	pc1/§	S					
	TDI I.		-/-0 _//	0276							
Manganese-54	TPU:		-v-c	0.0576	nCi/	'n					
Wanganese-54	Uncert		+/-0	0.005	ben4	5					
	TDI I-		+/_0	0155							
Niohium-94	110.		U -0(00181	nCi/s	œ.					
	Uncert:		+/-0	0139	pont	5					
	TPU		+/-(0139							
Potassium-40	110.		U	0.133	pCi/s	σ					
	Uncert:		+/-	-0.157	P7	5					
	TPU		+/-	-0.157							
Radium-226			U 0.0	00364	pCi/s	g					
	Uncert:		+/-0	0.0284	r 6	5					
	TPU:		+/-0	0.0284							
Silver-108m			U (0.0148	pCi/g	g					
	Uncert:		+/-0	0.0137	- •	0					
	TPU:		+/-0	0.0137							
Thallium-208			U (0.0242	pCi/g	g					
	Uncert:		+/-0).0173							
	TPU:		+/-(0.0173							
Rad Gas Flow Batch 550820											
QC1201141/4/ 167556008 DUP Strontium-90		0.0129	11 04	00324	-C:/	~ ^		(00/ 1000/	DVE1	07/21/0	6 12.27
Suonnum-20	U	0.0120 +/ 0.0160	U -0.0 ⊥/ C	00320	pcivi	5 0		(070 - 100%)	DALI	07/31/0	0 12:27
	Uncert.	±/ 0.0109	-/-(/ C	0125							
0C1201141749 LCS	IPU:	7/-0.0109	++/ -(5.0133							
Strontium-90	1.48			1.27	nCi/o	g	86	(75%-125%)	07/31/0	6 14:58
	Uncert:		+/-().0879	PCI	0		(1070 12070	,	0,,01/0	1.50

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Workorder:	167556					<i>e</i>				Page 1	0 of 13		
Parmname			NOM	Sample (Oual	OC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow						<u> </u>							
Batch 55	0820												
			TPU			+/-0 0956							
QC1201141746	MB												
Strontium-90					U	-0.0183	pCi/	g				07/31/0	6 12:27
			Uncert:			+/-0.00866							
001201141748	167556000	MC	TPU:			+/-0.00868							
Strontium-90	107550008	MS	1.56 11	0.0128		1.27	pCi/	ø	82	(75%-125%))	07/31/0	6 14:58
			Uncert:	+/-0.0169		+/-0.0963	r	0		(,		
			TPU:	+/-0.0169		+/-0.104							
Batch 55	0821												
QC1201141751	167554004	DUP											
Strontium-90			U	-0.00221	U	-0.00355	pCi/	g 0		(0% - 100%) BXF1	07/30/0	6 12:41
			Uncert:	+/-0.0165		+/-0.0144							
			TPU:	+/-0.0165		+/-0.0144							
QC1201141753	LCS		1.52			1 55	-C:/	~	102	(750/ 1050/	、 、	07/20/0	6 17.02
Strontum-90			Lincert:			+/_0 101	pci/	g	102	(7370-12370))	07/30/0	0 17:23
			TPI I-			+/-0.111							
QC1201141750	MB		110.			., 0.111							
Strontium-90					U	-0.00113	pCi/	g				07/30/0	6 12:26
			Uncert:			+/-0.014							
			TPU:			+/-0.014							
QC1201141752	167554004	MS	1.54	0 00001		1.42	-0:4	_	02	(750/ 1050/		07/20/0	x 10.41
Suomum-90			I.34 U	-0.00221		+/-0.136	pCV.	g	93	(/3%-123%))	07/30/0	0 12:41
			TPI I.	+/-0.0105		+/-0.130							
Rad Liquid Scintill	ation		110.	17-0.0105		17 0.142							
Batch 55	0847												
OC1201141836	167555017	DUP											
Iron-55			U	8.69	U	0.0266	pCi/	g 0		(0% - 100%) MXP1	08/03/0	6 13:05
			Uncert:	+/-22.8		+/-15.1	-	•					
			TPU:	+/-22.9		+/-15.1							
QC1201141838	LCS						~						
Iron-55			580			449	pCı/	g	78	(75%-125%))	08/03/0	6 13:37
						+/-34.1							
OC1201141835	MB		110.			17-88.0							
Iron-55					U	5.19	pCi/	g				08/03/0	6 12:48
			Uncert:			+/-20.9	-	-					
			TPU:			+/-20.9							
QC1201141837	167555017	MS	(())	0.70			C ''			(250) 1050/		00/00/	
Iron-55			663 U	8.09		553	pCi/	g	83	(75%-125%)	08/03/0	6 13:21
				+/-22.8 +/-22.0		<i>⊤/-43.3</i> ∔/_110							
Batch 55	0849		110.	17-22.9									
001201141944	167556020	DUP											
Technetium-99	107330030	DUP	TT	0.178	IJ	0.247	nCi/	g N		(0% - 100%) EGD1	08/03/0)6 20·34
			Uncert:	+/-0.190	÷	+/-0.188	P.C.W	0 V		,0/0 100/0	,	00/00/0	
			TPU:	+/-0.190		+/-0.188							

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QC Summary

Workorder:	167556									Page 11 of 13	
Parmname			NOM	Sample	Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Liquid Scintilla Batch 55	ation 0849										
QC1201141846 Technetium-99	LCS		13.1 Uncert: TPU:			12.2 +/-0.459 +/-0.536	pCi/j	g	93	(75%-125%)	08/03/06 21:06
QC1201141843 Technetium-99	МВ		Uncert:		U	0.155 +/-0.172 +/-0.172	pCi/	g			08/03/06 20:18
QC1201141845 Technetium-99	167556030	MS	12.8 U Uncert: TPU:	0.178 +/-0.190 +/-0.190		11.9 +/-0.459 +/-0.532	pCi/j	g	92	(75%-125%)	08/03/06 20:50
Batch 55	0850										
QC1201141848 Tritium	167556031	DUP	U Uncert: TPU:	2.73 +/-7.57 +/-7.57	U	0.00 +/-6.18 +/-6.18	pCi/į	g O		(0% - 100%) NXP1	08/02/06 20:45
QC1201141850 Tritium	LCS		68.4 Uncert: TPU:			56.4 +/-12.5 +/-12.5	pCi/į	g	83	(75%-125%)	08/02/06 21:17
QC1201141847 Tritium	MB		Uncert: TPU:		U	3.69 +/-8.58 +/-8.58	pCi/į	g			08/02/06 20:29
QC1201141849 Tritium	167556031	MS	63.9 U Uncert: TPU:	2.73 +/-7.57 +/-7.57		55.0 +/-11.8 +/-11.9	pCi/j	g	86	(75%-125%)	08/02/06 21:01
Batch 55	0851										
QC1201141852 Carbon-14	167556029	DUP	U Uncert: TPU:	-0.049 +/-0.124 +/-0.124	U	-0.229 +/-0.108 +/-0.108	pCi/į	g 0		(0% - 100%) ATH2	08/03/06 00:16
QC1201141854 Carbon-14	LCS		7.10 Uncert: TPU:			6.83 +/-0.238 +/-0.261	pCi/į	g	96	(75%-125%)	07/29/06 16:11
QC1201141851 Carbon-14	MB		Uncert:		U	-0.157 +/-0.123 +/-0.123	pCi/į	g			07/29/06 13:08
QC1201141853 Carbon-14	167556029	MS	15.6 U Uncert:	-0.049 +/-0.124 +/-0.124		14.8 +/-0.514 +/-0 564	pCi/į	g	95	(75%-125%)	07/29/06 15:10
Batch 55	6697		11 0.	.,							
QC1201155544 Nickel-63	167555017	DUP	U	-2.07	U	-4.18	pCi/į	g 0		(0% - 100%) MXP1	08/14/06 10:13

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QC Summary

Workorder: 167556								Page 1	2 of 13		
Parmname	NOM	Sample (Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Liquid ScintillationBatch556697											
	Uncert:	+/-6.24		+/-5.43							
	TPU:	+/-6.24		+/-5.43							
QC1201155546 LCS											
Nickel-63	512			461	pCi/	g	90	(75%-125%)		08/14/0	6 11:16
	Uncert:			+/-15.9							
	TPU:			+/-21.7							
QC1201155543 MB											
Nickel-63			U	-3.67	pCi/	g				08/14/0	6 09:41
	Uncert:			+/-6.25							
	TPU:			+/-6.25							
QC1201155545 167555017 MS											
Nickel-63	551 U	-2.07		496	pCi/	g	90	(75%-125%)		08/14/0	6 10:44
	Uncert:	+/-6.24		+/-17.2							
	TPU:	+/-6.24		+/-23.7							

Notes:

The Qualifiers in this report are defined as follows:

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

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QC Summary

Workorder:	167556							Page 1	3 of 13		
Parmname		NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
N/A indicates t ** Indicates an	hat spike recovery lim alvte is a surrogate co	its do not apply whe	en sample concentration e	exceeds spi	ke conc. t	by a factor o	of 4 or more.				

[^] The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is

less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

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

1

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

Table of Contents

General Narrative	1
Chain of Custody and Supporting Documentation	4
Radiological Analysis Sample Data Summary Quality Control Data	8 13 23



CASE NARRATIVE For CONNECTICUT YANKEE RE: Soil PO# 002332 Work Order: 166655 SDG: MSR #06-0968

July 21, 2006

Laboratory Identification:

General Engineering Laboratories, LLC

Mailing Address:

P.O. Box 30712 Charleston, South Carolina 29417

Express Mail Delivery and Shipping Address:

2040 Savage Road Charleston, South Carolina 29407

Telephone Number:

(843) 556-8171

Summary:

Sample receipt

The sample(s) for this Project arrived at General Engineering Laboratories, LLC, (GEL) in Charleston, South Carolina on July 7, 2006. All sample containers arrived without any visible signs of tampering or breakage. The chain of custody contained the proper documentation and signatures.

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The laboratory received the following sample(s):

<u>Sample ID</u>	<u>Client Sample ID</u>
166655001	9106-0015-017A
166655002	9106-0015-017B
166655003	9106-0015-017C
166655004	9106-0015-017D

Items of Note:

There are no items of note.

Case Narrative:

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

Analytical Request:

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

Internal Chain of Custody:

Custody was maintained for the sample(s).

Data Package:

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

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

couply

Cheryl Jones Project Manager

Chain of Custody And Supporting Documentation

Health Physics Procedure

	Connecticut Y 362 Injun	ankee A	tomic Po East Hampton	wer C CT 06424	ompan 4	y Holol	54	5/.	Cha	ain of	Cu	stody Form	No. 2006-00449
ł	Project Name: Haddam N	860-26 leck Decom	missioning					Anal	yses Re	quested		Lap Use Only Service	
	Contact Name & Phone: Jack McCarthy 860-267	-3924										Compens	
	Analytical Lab (Name, Ci General Engineering Labo 2040 Savage Road. Charle 843 556 8171. Attn. Cher	ity, State) pratories eston SC. 29 ryl Jones	9407				SSGAM	FSSALL	Sr-90	Ni-63			
	Priority: 🔀 30 D. 🔀 14 1	D. 🗌 7 D.		Media	Sample	Container Size-							
	Sample Designation	Date	Time	Code	Code	Code						Comment, Preservation	Lab Sample ID.
[9106-0015-017A	6-28-06	16:55	SE	С	BP	X		X				
	9106-0015-017B	6-28-06	17:09	SE	С	BP	X		X				
	9106-0015-017C	6-28-06	17:21	SE	С	BP	X	<u> </u>	X				
	9106-0015-017D	6-28-06	16:11	SE	С	BP	X						
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		1	<u> </u>	<u> </u>				<u> </u>	L				
	NOTES: PO #: 002332	MSR #: 06-	096 <i>8</i> SSV	WP# NA	. 🛛	LTP QA		Radw	aste QA		Non Ç	A Sample's Shipped Via: Fed Ex UPS Hand	Internal Contain Temp Deg Clistochy Sealed
	1) Relinquined By		Date/Tin		2) Rece	ived By			6.	Date/	Fime	→ Other	Custody Seal Inte
	2) Palinguisted Py	¥	Deta/Ti-		U Para	C ruan	/		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Date/	<u>rano</u> Time	<u> </u>	YO NO
	S) Reinquisieu By	2		de C	4) Rece	A t	1-		\leq		ala	Bill of Lading #	
1	Univic MUMPAR		0-00/1	400	⊥ <u>∕</u> 4	fuia	aly	Joeg	THE R	-44	14	7919 8876 478.	J FORMAN STREET

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C....

	•		
Connecticut Yankee		CV ISC SOW	001
Statement of Work for Analytical Lab Se	rvices re 1. Sample Check-in L	ist	001
Date/Time Received: 77704	ç	<u></u>	 `
SDG#:		·	.:
Work Order Number: 166653 1	66655/1666	56	
79/9 8876 4 Shipping Container ID: 73/0 4024 29 Shipping Container ID: 73/0 4024 29	$783 - 23^{\circ}$ $37 - 22^{\circ}$ Chain of Cust	2006 - 00449 2006 - 00449 dy #	
1. Custody Seals on shipping contain	er intact?	2006 - 00452 Yes [-] No [T	
2. Custody Seals dated and signed?		Yes [] No []	
3. Chain-of-Custody record present?		Yes [] No []	
4. Cooler temperature 20	3" - 22"	- 23.2	• •
5. Vermiculite/packing materials is:		Wet [Dry []	-
6. Number of samples in shipping con	tainer: $(1)3$, (2)12 (3)9	
7. Sample holding times exceeded?		Yes [] No []	
8. Samples have			7
tane			
custody seels	nazard labels	♥.	ŀ
	appropriate sample labe	ls	
9. Samples are:			
in good condition	lcaking		•:
broken	have air bubbles		
			•
10. Were any anomalies identified in samp	ple receipt?	Yes [] No F	
11. Description of anomalics (include sam	ple numbers):		•
			•••
		•	•
Sample Custodian/Laboratory: Marian	Datters ,	Date: THINK AGAA	
Telephoned to:	OnBv	-1140p -14	
			•
	7		•



SAMPLE RECEIPT & REVIEW FORM

	PATORIES'				PM use only
k	Client: Consecticut D	ant	Kee	,	SDG/ARCOC/Work Order: 166653, 166655, 166656
h	Date Received: 7/7/06				PM(A) Review (ensure non-conforming items are resolved prior to signing):
h	Received By:			-	- Clipton
r		- 1	-		
	Sample Receipt Criteria	Vec			2 Comments/Qualifiers (Required for Non-Conforming Items)
ſ	Shipping containers received intaction and sealed?	:t	Τ	Τ	Circle Applicable: seals broken damaged container leaking container other (describe)
	Samples requiring cold 2 preservation within (4 +/- 2 C)? Record preservation method.				Circle Coolans // ice bags blue ice dry ice pone other describe)
Ŀ	Chain of custody documents included with shipment?				
Ľ	Sample containers intact and sealed?				Circle Applicable: seals broken damaged comfiner leaking container other (describe)
4	Samples requiring chemical preservation at proper pH?				Sample ID's, containers affected and observed pH:
6	VOA vials free of headspace (defined as < 6mm bubble)?				Sample ID's and containers affected:
7	Are Encore containers present? (If yes, immediately deliver to VOA laboratory)				
8	Samples received within holding time?				ld's and tests affected:
9	Sample ID's on COC match ID's on bottles?			\geq	Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?				Sample ID's affected:
11	Number of containers received match number indicated on COC?				Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?				
14	Air Bill, Tracking #'s, & Additional Comments				
	Suspected Hazard Information	Non- Regulated	Regulated	High Level	RSO RAD Receipt #
A	Radiological Classification?				Maximum Counts Observed*: 19m 40
B	PUB Regulated?				Comments:
2	Material? If yes, contact Waste Manager or ESH Manager.				Hazard Class Shipped: UN#:
]	PM (or PMA) review of Hazard classi	iticati	ion:		Initials Date: 7/7/06
					0



Radiochemistry Case Narrative Connecticut Yankee Atomic Power Co. (YANK) Work Order 166655

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:	546530
Prep Batch Number:	546300

Sample ID	Client ID
166655001	9106-0015-017A
166655002	9106-0015-017B
166655003	9106-0015-017C
166655004	9106-0015-017D
1201131807	Method Blank (MB)
1201131808	166655001(9106-0015-017A) Sample Duplicate (DUP)
1201131809	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 11.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC The following sample was used for QC: 166655001 (9106-0015-017A).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

Additional Comments

The sample and the duplicate, 1201131808 (9106-0015-017A) and 166655001 (9106-0015-017A), did not meet the relative percent difference requirement for Ra-226, however they do meet the relative error ratio requirement with value of 1.94.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to high peak width	Bismuth-212	166655002
UI	Data rejected due to low abundance	Cesium-134	166655003

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:	547395
Prep Batch Number:	546301
Dry Soil Prep GL-RAD-A-021 Batch Number:	546300

Sample ID	Client ID
166655001	9106-0015-017A
166655002	9106-0015-017B
166655003	9106-0015-017C
166655004	9106-0015-017D
1201133604	Method Blank (MB)
1201133605	166653016(9106-0012-004F) Sample Duplicate (DUP)
1201133606	166653016(9106-0012-004F) Matrix Spike (MS)
1201133607	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-004 REV# 10.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 166653016 (9106-0012-004F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Chemical Recoveries

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

Miscellaneous Information:

NCR Documentation

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

Additional Comments

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:

Kat Sallat

Reviewer/Date:



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Certificate of Analysis Report for

YANK001 Connecticut Yankee Atomic Power Co.

Client SDG: MSR#06-0968 GEL Work Order: 166655

The Qualifiers in this report are defined as follows:

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

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

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

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

Reviewed by

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

Certificate of Analysis

Com Addr	pany : ess :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power								
Cont	act:	East Hampto Mr. Jack Mc	on, Connec Carthy	ticut 06424				Rep	ort Date: Jul	y 21, 2006		
Floje	SCL.	50115 PO# 0	02332									
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	nple ID: : te: ate:		9106 00 1666550 SE 28 JUN 07 JUL Client 21.8%	15 017A 01 06 06		Project: Y Client ID: Y Vol. Recv.:	ANK01204 ANK001			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	lime Batch	/Itd
Rad Gamma Spec	: Analy	sis										
Gamma,Solid F. Waived	'SS GAN	M & ALL FSS	226 Ingro	wth								
Actinium 228			0.880	+/ 0.190	0.0701	+/ 0.190	0.148	pCi/g	MJH1	07/17/06	1826 546530	1
Americium 241	l	U	0.0144	+/ 0.0976	0.0798	+/ 0.0976	0.164	pCi/g				
Bismuth 212			0.586	+/ 0.272	0.126	+/ 0.272	0.266	pCi/g				
Bismuth 214			0.599	+/ 0.0901	0.0315	+/ 0.0901	0.066	pCi/g				
Cesium 134		U	0.0267	+/ 0.0293	0.0214	+/ 0.0293	0.0449	pCi/g				
Cesium 137			0.365	+/ 0.050	0.0181	+/ 0.050	0.038	pCi/g				
Cobalt 60			1.02	+/ 0.0748	0.0175	+/ 0.0748	0.038	pCi/g				
Europium 152		U	0.0287	+/ 0.0546	0.0456	+/ 0.0546	0.0946	pCi/g				
Europium 154		U	0.0179	+/ 0.0614	0.0526	+/ 0.0614	0.113	pCi/g				
Europium 155		U	0.0449	+/ 0.0829	0.0441	+/ 0.0829	0.0908	pCi/g				
Lead 212			0.818	+/ 0.0599	0.0252	+/ 0.0599	0.052	pCi/g				
Lead 214			0.731	+/ 0.087	0.0298	+/ 0.087	0.062	pCi/g				
Manganese 54		U	0.0186	+/ 0.0224	0.0194	+/ 0.0224	0.0406	pCi/g				
Niobium 94		U	0.0138	+/ 0.0188	0.0163	+/ 0.0188	0.0342	pCi/g				
Potassium 40			13.7	+/ 0.845	0.155	+/ 0.845	0.339	pCi/g				
Radium 226			0.599	+/ 0.0901	0.0315	+/ 0.0901	0.066	pCi/g				
Silver 108m		U	0.00949	+/ 0.0173	0.0153	+/ 0.0173	0.0318	pCi/g				
Thallium 208			0.265	+/ 0.0477	0.017	+/ 0.0477	0.0356	pCi/g				
Rad Gas Flow Pro	oportio	nal Counting	ţ									
GFPC. Sr90. soli	id ALL	FSS										
Strontium 90		U	0.0108	+/ 0.00917	0.00818 +	-/ 0.00918	0.0171	pCi/g	BXF1	07/14/06	2255 547395	2
The following Pr	ep Met	hods were pe	erformed			<u> </u>	D -4-	Time	Duor Dat-1	h		
	Descr	iption				Analyst	Date	11me	ггер васс	1		
Dry Soil Prep	Dry S	oil Prep GL 1	RAD A 0	21		LXM2	07/09/0	6 1715	546300			
The following An	alytica	l Methods we	ere perfor	med								
Method	Descri	iption										
1	EML I	HASL 300, 4.	5.2.3									

2 EPA 905.0 Modified

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Certificate of Analysis

Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID: :		9106 0015 166655001	017A		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Project:	Soils PO# 00	02332							
	Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	ticut 06424]	Report Date: July 21, 20	06
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power						

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	68	(25% 125%)

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

The above sample is reported on a dry weight basis.

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Certificate of Analysis

Con	npany :	Connecticut	Yankee A	tomic Power							
Add	iress :	362 Injun H	ollow Rd								
Con	itact:	East Hampto Mr. Jack Mo	on, Connec Carthy	ticut 06424				Re	eport Date: Jul	y 21, 2006	
Proj	ject:	Soils PO# 0	02332								
		Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106 00 1666550 SE 28 JUN 07 JUL Client 27.1%	015 017B 002 06 06		Project: Client ID; Vol. Recv.:	YANK01204 YANK001		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date Time Bate	h Mtd
Rad Gamma Spe	ec Analy	/sis									
Gamma,Solid Waived	FSS GAI	M & ALL FSS	226 Ingro	wth							
Actinium 228			0.747	+/ 0.273	0.096	+/ 0.273	0.192	pCi/g	MJH1	07/17/06 1847 5465	530 1
Americium 24	41.	U	0.0467	+/-0.101	0.0738	+/ 0.101	0.148	pCi/g			
Bismuth 212		UI	0.00	+/ 0.458	0.194	+/ 0.458	0.388	pCi/g			
Bismuth 214			0.726	+/ 0.124	0.042	+/ 0.124	0.084	pCi/g			
Cesium 134		U	0.0606	+/ 0.0415	0.0319	+/ 0.0415	0.0637	pCi/g			
Cesium 137			0.192	+/ 0.057	0.0269	+/ 0.057	0.0537	pCi/g			
Cobalt 60			0.357	+/ 0.0806	0.0313	+/ 0.0806	0.0626	pCi/g			
Europium 152	2	U	0.0185	+/ 0.107	0.0685	+/ 0.107	0.137	pCi/g			
Europium 154	1	U	0.00443	+/ 0.102	0.0838	+/ 0.102	0.168	pCi/g			
Europium 155	5	U	0.00816	+/ 0.0781	0.0634	+/ 0.0781	0.127	pCi/g			
Lead 212			0.818	+/ 0.102	0.0367	+/ 0.102	0.0734	pCi/g			
Lead 214			0.756	+/ 0.121	0.046	+/ 0.121	0.0919	pCi/g			
Manganese 54	4	U	0.0425	+/ 0.0386	0.0252	+/ 0.0386	0.0504	pCi/g			
Niobium 94		U	0.0111	+/ 0.0275	0.0226	+/ 0.0275	0.0451	pCi/g			
Potassium 40			12.8	+/ 1.41	0.216	+/ 1.41	0.431	pCi/g			
Radium 226			0.726	+/ 0.124	0.042	+/ 0.124	0.084	pCi/g			
Silver 108m		U	0.0101	+/ 0.0278	0.0235	+/ 0.0278	0.0469	pCi/g			
Thallium 208			0.309	+/ 0.067	0.0212	+/ 0.067	0.0424	pCi/g			
Rad Gas Flow P	roportio	onal Counting	5								
GFPC, Sr90, so	olid ALI	L FSS									
Strontium 90		U	0.00332	+/ 0.0102	0.00839	+/ 0.0102	0.0175	pCi/g	BXF1	07/14/06 2255 547	395 2
The following P	rep Me	thods were p	erformed								
Method	Descr	ription				Analyst	Date	Time	e Prep Batc	:h	
Dry Soil Prep	Dry S	oil Prep GL	RADAC	021		LXM2	07/09/0	6 1715	5 546300		
The following A	nalytica	l Methods w	ere perfor	med							
Method	Descr	iption						•			
											—

Surrogate/Tracer	recovery	Test	Recovery%	Acceptable Limits
2	EPA 905.0 M	odified		
1	EML HASL 3	00, 4.5.2.3		

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Certificate of Analysis

Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		
Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: July 21, 2006
Project:	Soils PO# 002332		
	Client Sample ID: Sample ID:	9106 0015 017B 166655002	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
Parameter	Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtd

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	66	(25% 125%)

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company Address :	: Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power						
Contact:	East Hampte Mr. Jack Me	on, Connec Carthy	ticut 06424				Re	eport Date: July 21,	2006
Project:	Soils PO# 0	02332							
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106 00 1666550 SE 28 JUN 07 JUL Client 28.2%	015 017C 003 06 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Dat	e Time Batch Mtd
Rad Gamma Spec Ana	lysis							·	······
Gamma, Solid FSS G	4M & ALL FSS	226 Ingro	wth						
Waived		0.000					C : 1		
Actinium 228		0.651	+/ 0.218	0.101	+/ 0.218	0.201	pCi/g	MJH1 07/1	7/06 1849 546530 1
Americium 241 Dismuth 212	U	0.0071	+/ 0.122	0.0913	+/ 0.122	0.182	pCi/g		
Bismuth 212		0.903	+/ 0.350	0.203	+/0.330	0.409	pCi/g		
Distituti 214	TT	0.307	+/ 0.142	0.0430	± 0.142	0.0911	pCI/g		
Cesium 134	UI	0.00	± 0.0758	0.0328	± 0.0758	0.0030	pCI/g		
Cobalt 60		0.195	+/ 0.0403	0.0240	+/ 0.0403	0.0490	pCi/g		
Europium 152	TI	0.243	+/ 0.0399	0.0122	+/ 0.0399	0.0243	pCi/g		
Europium 152	U U	0.0437	+/ 0.0883	0.0010	+/0.0883	0.125	pCl/g		
Europium 155	U U	0.0373	$\pm / 0.0932$	0.075	$\pm / 0.0932$	0.136	pCi/g		
Lead 212	0	0.0405	+/ 0.0012	0.0002	+/0.0312	0.130	pCl/g		
Lead 214		0.653	+/ 0.142	0.0350	+/0.0977	0.0712	pCi/g		
Manganese 54	П	0.055	+/0.0318	0.0407	+/0.0318	0.0529	pCl/g		
Niohium 94	U U	0.00007	+/0.0313	0.0203	+/0.0311	0.0522	pCi/g		
Potassium 40	0	11 1	+/ 1 28	0.0201	+/128	0.559	pCi/g		
Radium 226		0 567	+/0.142	0.0456	+/0.142	0.0011	pCi/g		
Silver 108m	IJ	0.0232	+/ 0.0269	0.0436	+/0.142	0.0273	pCi/g		
Thallium 208	0	0.0252	+/ 0.0661	0.0237	+/ 0.0207	0.0473	pCi/g		
Rad Gas Flow Proport	ional Counting	2	0.0001	0.0257	17 0.0001	0.0475	peng		
GFPC. Sr90. solid A	LL FSS	-							
Strontium 90	U	0.00484	+/ 0.00887	0.00724	+/ 0.00887	0.0151	pCi/g	BXF1 07/1	4/06 2256 547395 2
The following Prep M	ethods were p	erformed							
Method Des	cription				Analyst	Date	Time	e Prep Batch	
Dry Soil Prep Dry	Soil Prep GL	RAD A 0	21		LXM2	07/09/0	06 1715	5 546300	
The following Analytic	cal Methods w	ere perfor	med				<u></u>		
Method Dese	ription								
1 EMI	L HASL 300, 4	.5.2.3							
2 EPA	905.0 Modifie	d							
Surrogate/Tracer reco	overy Test				Recovery%	Acce	eptable Limits	s	

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Compa Addres	ny : Connect ss : 362 Inju	icut Yankee A n Hollow Rd	Atomic Power						
Contac	East Har t: Mr. Jack	npton, Conne McCarthy	cticut 06424				F	Report Date: July 21, 20	06
Project	:: Soils PC	# 002332							
	Client Sample	Sample ID: ID:		9106 0015 166655003	017C		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter	Qualifi	er Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	80	(25% 125%)	

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

The above sample is reported on a dry weight basis.

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Certificate of Analysis

Com Addi	ipany : ress :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power									
Cont	haot:	East Hampto	on, Connec	ticut 06424				Re	eport Date:	July 21, 20	006		
Proje	ect:	Soils PO# 0	02332										
1.01		501151 011 0	02352										
		Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): .te: ate:		9106 00 1666550 SE 28 JUN 07 JUL Client 19.5%	015 017D 04 06 06		Project: Client ID: Vol. Recv.:	YANK0120 YANK001)4			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Ana	yst Date	Time	Batch	Mtd
Rad Gamma Spec	c Analys	sis											
Gamma,Solid F Waived	SS GAM	1 & ALL FSS	226 Ingro	wth									
Actinium 228			0.566	+/ 0.242	0.103	+/ 0.242	0.220	pCi/g	МЈН	[1 07/17/	06 1854	546530	/ 1
Americium 24	1	U	0.0677	+/ 0.107	0.0878	+/ 0.107	0.182	pCi/g					
Bismuth 212			0.686	+/ 0.349	0.195	+/ 0.349	0.417	pCi/g					
Bismuth 214			0.582	+/ 0.125	0.0395	+/ 0.125	0.0849	pCi/g					
Cesium 134		U	0.0273	+/ 0.0482	0.030	+/ 0.0482	0.064	pCi/g					
Cesium 137			0.313	+/ 0.064	0.0255	+/ 0.064	0.0544	pCi/g					
Cobalt 60			0.895	+/ 0.107	0.0205	+/ 0.107	0.0466	pCı/g					
Europium 152		U	0.0387	+/ 0.0717	0.0607	+/ 0.0717	0.128	pCi/g					
Europium 154		U	0.0601	+/ 0.0784	0.0729	+/ 0.0784	0.161	pCi/g					
Europium 155		U	0.0863	+/ 0.0665	0.0608	+/ 0.0665	0.126	pCi/g					
Lead 212			0.804	+/ 0.0801	0.0309	+/ 0.0801	0.0648	pCi/g					
Lead 214			0.709	+/ 0.124	0.0385	+/ 0.124	0.0817	pCi/g					
Manganese 54		U	0.00366	+/ 0.0295	0.0247	+/ 0.0295	0.0533	pCi/g					
Niobium 94		U	0.01	+/ 0.0236	0.019	+/ 0.0236	0.0411	pCi/g					
Potassium 40			12.2	+/ 1.12	0.185	+/ 1.12	0.427	pCi/g					
Radium 226			0.582	+/ 0.125	0.0395	+/ 0.125	0.0849	pCi/g					
Silver 108m		U	0.00728	+/ 0.0225	0.0199	+/ 0.0225	0.0423	pCi/g					
Thallium 208			0.228	+/ 0.0512	0.0214	+/ 0.0512	0.0459	pCi/g					
Rad Gas Flow Pro	oportior	iai Counting	5										
GFPC, Sr90, sol	id ALL	FSS											
Strontium 90		U	0.00367	+/ 0.00821	0.00707 -	+/ 0.00821	0.0148	·pCi/g	BXF	1 07/14/	06 2256	547395	2
The following Pr	rep Metl	hods were po	erformed										
Method	Descri	ption				Analyst	Date	Time	e Prep Ba	ıtch			
Dry Soil Prep	Dry Sc	il Prep GL	RAD A 0	21		LXM2	07/09/0	06 1715	5 546300				
The following An	nalytical	Methods w	ere perfor	med									
Method	Descri	ption	R										

Mictilua	Description		
1	EML HASL 300, 4.5.2.3		
2	EPA 905.0 Modified		
Surrogate/Trace	r recovery Test	Recovery%	Acceptable Limits

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Surrogate/	Fracer recov	ery Test			F	Recovery%	Ac	ceptable Limi	its		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF A	Analyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID:		9106 0015 166655004	017D		Project: Client ID: Vol. Recv.:	YANKO YANKO)1204)01	
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	on, Connec Carthy)2332	ticut 06424				I	Report Date	e: July 21, 20	06
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power							

68

(25% 125%)

		<u> </u>			
~ .	_		-		
('arrier.	/ 'r	2005	Rec	OVER	v
cariton		acci	1000	0,01	y

Notes:

The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria

GFPC, Sr90, solid ALL FSS

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- > Result is greater than value reported
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- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

The above sample is reported on a dry weight basis.



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			QC	: Su	<u>mmary</u>			Report Date: July 21, 2006	
Client :	Connecticut Yankee 362 Injun Hollow Rd	Atomic Power						Page 1 of 5	
Contact:	East Hampton, Conn Mr. Jack McCarthy	ecticut							
Workorder:	166655								
Parmname		NOM	Sample (Qual	QC	Units	RPD%	REC% Range Anl	st Date Time
Rad Gamma Spe Batch	e 546530								
QC12011318	08 166655001 DUP						_		
Actinium-228			0.880		0.785	pCi/g	g 7	(0% - 100%) MJH	11 07/17/06 19:00
		Uncert:	+/-0.190		+/-0.261				
		TPU:	+/-0.190		+/-0.261	0.1		(00/ 1000/)	
Americium-24		U	0.0144	0	+/ 0.0531	pC1/§	y 44	(0% - 100%)	
		TDLL	+/-0.09/0		+/-0.0519				
Bismuth-212		IPU:	-7-0.0970		+/-0.0319	nCi/c	. 67*	(0% - 100%)	
Disiliuul-212		Uncert	+/-0 272		+/-0 597	PCDE	5 07	(070 - 10070)	
		TPI I.	+/-0.272		+/-0 597				
Bismuth-214		110.	0.599		0.695	nCi/s	32	(0% - 100%)	
		Uncert:	+/-0.0901		+/-0.165	P 6	,	(0.00 100.00)	
		TPU:	+/-0.0901		+/-0.165				
Cesium-134		U	0.0267	U	0.035	pCi/g	g 24	(0% - 100%)	
		Uncert:	+/-0.0293		+/-0.0628				
		TPU:	+/-0.0293		+/-0.0628				
Cesium-137			0.365		0.359	pCi/g	g 1	(0% - 100%)	
		Uncert:	+/-0.050		+/-0.0764				
		TPU:	+/-0.050		+/-0.0764				
Cobalt-60			1.02		0.828	pCi/g	g 20	(0% - 20%)	
		Uncert:	+/-0.0748		+/-0.132				
		TPU:	+/-0.0748		+/-0.132				
Europium-152		U	0.0287	U	0.0537	pCi/g	g 56	(0% - 100%)	
		Uncert:	+/-0.0546		+/-0.0862				
		TPU:	+/-0.0546		+/-0.0862	0.1			
Europium-154		U U	0.0179	U	0.127	pC1/g	g 361	(0% - 100%)	
		Uncert:	+/-0.0614		+/-0.129				
Europium 155		IPU:	+/-0.0614	п	+/-0.129	-Cile	24	(00/ 1000/)	
Europium-155		U Uncert:	±/ 0.0920	U	+/ 0 109	pens	<u> </u>	(078 - 10078)	
			+/-0.0829		+/-0.109				
Lead-212		110.	0.818		0 756	nCi/s	5 6	(0% - 20%)	
		Uncert:	+/-0.0599		+/-0.0927	P0#8	5	(0/0 =0/0)	
		TPU:	+/-0.0599		+/-0.0927				
Lead-214			0.731		0.694	pCi/s	g 4	(0% - 20%)	
		Uncert:	+/-0.087		+/-0.121		-	· · · ·	
		TPU:	+/-0.087		+/-0.121				
Manganese-54		U	0.0186	U	0.0308	pCi/g	g 49	(0% - 100%)	
		Uncert:	+/-0.0224		+/-0.0506				
		TPU:	+/-0.0224		+/-0.0506				
Niobium-94		U	0.0138	U	0.00511	pCi/g	g 15	(0% - 100%)	
		Uncert:	+/-0.0188		+/-0.0378				
		TPU:	+/-0.0188		+/-0.0378				

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Workorder: 166655								Page 2	of 5	
Parmname	NOM	Sample (Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 546530										
Potassium-40		13.7		12.6	pCi/	'g 5		(0% - 20%))	
	Uncert:	+/-0.845		+/-1.23	F	8		(, ,	
	TPU:	+/-0.845		+/-1.23						
Radium-226		0.599		0.695	pCi/	g 32		(0% - 100%))	
	Uncert:	+/-0.0901		+/-0.165	•	0		,	·	
	TPU:	+/-0.0901		+/-0.165						
Silver-108m	U	0.00949	U	0.00566	pCi/	g 71		(0% - 100%)	
	Uncert:	+/-0.0173		+/-0.0494	•	0			·	
	TPU:	+/-0.0173		+/-0.0494						
Thallium-208	•	0.265		0.271	pCi/	g 6		(0% - 100%))	
	Uncert:	+/-0.0477		+/-0.0726	-	•				
	TPU:	+/-0.0477		+/-0.0726						
OC1201131809 LCS										
Actinium-228			U	0.160	pCi/	g				07/17/06 19:01
	Uncert:			+/-0.545	•	-				
	TPU:			+/-0.545						
Americium-241	23.4			24.4	pCi/	g	104	(75%-125%))	
	Uncert:			+/-0.599	1	0		、 · · · · · ·	•	
	TPU			+/-0.599						
Bismuth-212	11 0.		U	-0.135	nCi/	ø				
	Uncert:		-	+/-1.00	r	0				
	TPII			+/-1.00						
Bismuth-214	110.		U	-0.106	nCi/	'g				
	Uncert:		Ũ	+/-0.219	por	5				
	TPU			+/-0 219						
Cesium-134	110.		U	-0.0105	nCi/	σ				
	Uncert		U	+/-0 149	por	Б				
	TPL			+/-0 149						
Cesium-137	961			10.8	pCi/	a	112	(75%-125%)	`	
	Uncert			+/-0 468	por	Б	112	(1570-12570	,	
	TPI I-			+/-0.468						
Cobalt-60	14.8			15.5	nCi/	σ	105	(75%-125%)	`	
	Uncert			+/-0 660	por	6	105	(1370 12370	,	
	TDI I.			+/-0.660						
Furonium-152	IFU.		п	0.0804	nCi/	/a				
	Uncert		U	+/-0.281	per	5				
	TDI I			+/-0.281						
Furonium-154	IFU.		п	0.0001	nCi/	/a				
Europium-194	Uncert		U	+/_0 201	per	8				
				+/ 0.291						
Furonium-155	IFU.		TI.	0.0661	nCi/	/a				
Europium-195	Uncert		0	+/ 0 236	per	Б				
				+/-0.230						
Lead-212	190:		I I	T/-U.230	-C:/	a				
LVuu ⁻ 212	I Incont.		0	1.00003 1/ 0 144	per	Б				
	Uncen.			+/-0.144						
Lead-214	IPU:		11		-C:/	10				
Lvau-214	T T		U	-0.0928	pC1/	Б				
	Uncert:			T/-U.19/						

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Workorder: 166655			Page 3 of 5							
Parmname	NOM	Sample Qual	QC	Units R	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch 546530										
	TPLE		+/-0 197							
Manganese-54	110.	U	-0.0301	pCi/g						
C C	Uncert:		+/-0.142	1.9						
	TPU:		+/-0.142							
Niobium-94		U	-0.105	pCi/g						
	Uncert:		+/-0.119							
	TPU:		+/-0.119							
Potassium-40		U	0.577	pCi/g						
	Uncert:		+/-1.17							
	TPU:		+/-1.17							
Radium-226		U	-0.106	pCi/g			(75%-125%)		
	Uncert:		+/-0.219							
	TPU:		+/-0.219							
Silver-108m		U	-0.0449	pCi/g						
	Uncert:		+/-0.101							
	TPU:		+/-0.101							
Thallium-208		U	-0.0572	pCi/g						
	Uncert:		+/-0.118							
	TPU:		+/-0.118							
QC1201131807 MB				~						
Actinium-228		U	0.0538	pCı/g					07/17/0	6 18:57
	Uncert:		+/-0.0733							
	TPU:		+/-0.0733	<u></u>						
Americium-241	T.T.	U	0.0126	pC1/g						
	Uncert:		+/-0.0946							
Discust 212	TPU:		+/-0.0946	0.1						
Bismuth-212	TT	0	-0.0364	pC1/g						
	Uncert:		+/-0.125							
Diamuth 214	TPU:	TI	+/-0.125	-0:/-						
Bishium-214	T In cont.	0	0.00552	pC1/g						
	Uncen:		+/-0.0416							
Cesium-134	TPU:	т	+/-0.0416	nCi/a						
Cesium-154	Uncert	0	$\pm / 0.00873$	peng						
	TDU.		+/ 0.0182							
Cesium-137	IFU.	TI	-0.000566	nCi/a						
Costum-157	Uncert:	0	$+/_0.000300$	peng						
			+/-0.0173							
Cobalt-60	110.	U	-0.015	nCi/g						
coour oo	Uncert	0	+/-0.0194	peng						
			+/-0.0194							
Europium-152	110.	п	0.0584	pCi/ø						
·····	Uncert:	U	+/-0.053	PC"B						
	TPI		+/-0.053							
Europium-154	110.	U	0.0222	pCi/g						
*	Uncert:	0	+/-0.0583	r0						
	TPU:		+/-0.0583							
Europium-155		U	-0.0079	pCi/g						

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QC Summary

Workorder: 166655						Page 4 of 5					
Parmname	NOM	Sample Qu	al	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 546530											
	Uncert:			+/-0.0403							
	TPU:			+/-0.0403				•			
Lead-212		I	U	0.0336	pCi/	g					
	Uncert:			+/-0.0283							
	TPU:			+/-0.0283							
Lead-214		١	U	0.0301	pCi/	g					
	Uncert:			+/-0.0341							
	TPU:			+/-0.0341							
Manganese-54		1	U	0.0139	pCi/	g					
	Uncert:			+/-0.0175							
	TPU:			+/-0.0175							
Niobium-94		I	U	-0.0065	pCi/	g					
	Uncert:			+/-0.0171							
	TPU:			+/-0.0171							
Potassium-40		1	U	0.122	pCi/	g					
	Uncert:			+/-0.188							
	TPU:			+/-0.188							
Radium-226		I	U	0.00552	pCi/	g					
	Uncert:			+/-0.0416							
	TPU:			+/-0.0416							
Silver-108m		I	U	-0.00533	pCi/	g					
	Uncert:			+/-0.0176	-						
	TPU:			+/-0.0176							
Thallium-208		1	U	0.000666	pCi/	g					
	Uncert:			+/-0.0172	-	•					
	TPU:			+/-0.0172							
Rad Gas Flow											
Batch 547395											
001201122605 166652016	DUD										
Strontium-90	DOF	-0 00300	TI I	-0.00417	nCi/	a 0		(0% - 100%)	BYEI	07/14/0	6 22.56
Suomum-90	U Uncert:	$\pm /_{-0.003}$	U .	+/_0 00812	per	5 0		(070-10070	, DAI I	0//14/0	0 22.50
		+/-0.0104	-	+/-0.00812							
OC1201133607 LCS	110.	17-0.0104		-0.00012							
Strontium-90	1.50			1.45	nCi/	ø	97	(75%-125%))	07/14/0	6 22:56
	Uncert:			+/-0.104	Per	8		(101012010)	,		
	TPII			+/-0 110							
OC1201133604 MB				.,							
Strontium-90		1	U	-0.00607	pCi/	g				07/14/0	6 22:56
	Uncert:			+/-0.0062	1	0					
	TPU			+/-0.0062							
QC1201133606 166653016	MS										
Strontium-90	1.52 U	-0.00399		1.24	pCi/	g	81	(75%-125%))	07/14/0	6 22:55
	Uncert:	+/-0.0104		+/-0.0934	-	-					
	TPU:	+/-0.0104		+/-0.0986							

Notes:

The Qualifiers in this report are defined as follows:

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QC Summary

Workor	der:	166655							Page :	5 of 5		
Parmnan	me		NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
*	A qualit	y control analyte r	recovery is outside of	specified acceptance crit	teria							
<	Result is	less than value re	eported									
>	Result is	greater than valu	e reported									
Α	The TIC	is a suspected ald	lol-condensation prod	uct								
В	Target a	nalyte was detecte	ed in the associated bl	ank								
BD	Results a	are either below th	ne MDC or tracer reco	very is low								
С	Analyte	has been confirme	ed by GC/MS analysis	3								
D	Results a	are reported from	a diluted aliquot of the	e sample								
Н	Analytic	al holding time w	as exceeded									
J	Value is	estimated										
N/A	Spike re	covery limits do n	ot apply. Sample con	centration exceeds spike	e concentra	tion by 43	C or more					
R	Sample	results are rejected	đ									
U	Analyte	was analyzed for,	but not detected abov	e the MDL, MDA, or L	OD.							
UI	Gamma	SpectroscopyUr	ncertain identification									
Х	Consult	Case Narrative, D	ata Summary package	e, or Project Manager co	ncerning th	is qualifie	er					
Y	QC Sam	ples were not spil	ked with this compour	ıd								
^	RPD of	sample and duplic	ate evaluated using +	-RL. Concentrations are	e <5X the H	AT 17						
h	Preparat	ion or preservatio	n holding time was ex	ceeded								
N/A indi ** Indica ^ The Re sample is	icates that ates analy elative Pe s greater t	spike recovery li te is a surrogate c rcent Difference (than five time	mits do not apply whe ompound. RPD) obtained from t es (5X) the contract re	n sample concentration he sample duplicate (DI quired detection limit (F	exceeds spi JP) is evalu L). In case	ike conc. I lated agai s where e	by a factor of a f	of 4 or more. ptence criter mple or dupl	ia when the icate value	e is		

less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

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

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


GENERAL ENGINEERING LABORATORIES, LLC

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

October 31, 2006

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

Re: Soils PO# 002332 Work Order: 174791 SDG: MSR#06-0730

Dear Mr. McCarthy:

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

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

Sincerely,

Cheryl Jones Project Manager

Purchase Order: 002332 Chain of Custody: 2006-00362 Enclosures Connecticut Yankee Atomic Power Co. Soils PO# 002332 Work Order: 174791 SDG: MSR#06-0730

 Laboratory ID
 Client ID

 174791001
 9106-0007-017F

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Radiological Analysis Sample Data Summary Quality Control Data	13 27 32

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General Narrative for Connecticut Yankee Atomic Power Co. Work Order: 174791 SDG: MSR#06-0730

October 31, 2006

Laboratory Identification:

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

Summary

Sample receipt

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

Sample Identification The laboratory received the following sample:

Laboratory	Sample
Identification	Description
174791001	9106-0007-017F

Items of Note

Dale Roberts requested via email on 10/24/06, to analyze this sample for FSSALL minus gamma and Sr-90.

Case Narrative

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

Analytical Request

One soil sample was reanalyzed for FSSALL, minus gamma and Sr-90. See attached email.

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.

Cu Cheryl Jones

Project Manager

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

List of current GEL Certifications as of 31 October 2006

Chain of Custody and Supporting Documentation

Health Physics Procedure

	Connecticut Y	ankee At	omic Po	wer C	ompan	.y	<u> </u>		Cha	in of C	Custody	y Form	No. 2006-00362
	362 Injun F	Iollow Road, E 860-267	ast Hampton, -2556	CT 06424	t	1630	626	0/.		17	4791	Relog	
	Project Name: Haddam No	eck Decomn	nissioning					Anal	yses Rec	quested	E	Deepute 7	
	Contact Name & Phone: Jack McCarthy 860-267-	2556 Ext. (3024								Cor		
	Analytical Lab (Name, Cit General Engineering Labor 2040 Savage Road. Charle 843 556 8171. Attn. Cherg	y, State) ratories ston SC. 294 yl Jones	407				FSSGAM	FSSALL	FSSALL Sr-90				
	Priority: 🛛 30 D. 🗌 14 D	D. [] 7 D.		Media	Sample Type	Container Size- &Type							
	Sample Designation	Date	Time	Code	Code	Code						Comment, Preservation	
١	9106-0007-016F	5/10/06	14:54	SE	C	BP	X		X		Tran	sferred from COC 2006-00343	
1	9106-0007-017F	5/11/06	10:39	SE	C	BP	X		X		Tran	sferred from COC 2006-00345	
Ъ	9106-0007-001F	5/11/06	09:43	SE	_C	BP		X			Tran	sferred from COC 2006-00345	
2	9106-0007-002F	5/08/06	13:27	SE_	C	BP		X			Tran	isferred from COC 2006-00329	
1	9106-0007-003F	5/08/06	13:53	SE	C	BP	X		X		Tran	sferred from COC 2006-00329	
	9106-0007-004F	5/08/06	14:13	SE	C	BP	X		X		Trar	Isferred from COC 2006-00329	
1	9106-0007-004FS	5/08/06	14:13	SE_	C	BP	X		X		Trac	sferred from COC 2006-00329	
۰١	9106-0007-005F	5/08/06	14:32	SE	C	BP	X		X		Trar	sferred from COC 2006-00329	
1	9106-0007-006F	5/08/06	14:52	SE	C	BP	X		X		Tra	sferred from COC 2006-00329	
NOTES: PO #: 002332 MSR #: 06-0730 SSWP#NA 🖾 LTP QA 🗌 Radwaste QA 🗌 Non QA Samples Shipped Via:										Internation Containing Terripis Dig (Gügredy:Stealbor Y 15 149			
	1) Relinquished By 3) Relinquished By	- 5	Date/Tim 2306 Date/Tim	10 085 1e	2) Rece 4) Rece	ived By	P		. Spa	Date/Tin Date/Tin	ne i 3D ne	Other	Claroffy Seal Indei Y DI N D
1		<u> </u>	<u></u>		<u> </u>							Bill of Lading # 1921 0573 5432	

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Connecticut	Yankee At	omic Po	wer C	ompan	у			Cha	in of C	Cust	ody Form	No. 2006-00363
362 Inju	n Hollow Road, E 860-267	East Hampton, 7-2556	, CT 0642	1		163	3620	e /.				· · · · · · · · · · · · · · · · · · ·
Project Name: Haddam	Neck Decomm	nissioning					Anal	yses Req	uested	Attail a	EAD USE COUL	
Contact Name & Phone: Jack McCarthy 860-26	57-2556 Ext.	3024									Comments:	
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones					FSSGAM	FSSALL	Sr-90					
Priority: 🔀 30 D. 🗌 14	I D. 🗌 7 D.		Madia	Sample	Container Size-							
Sample Designation	Date	Time	Code	Code	Code						Comment, Preservation	in the second for
9106-0007-007F	5/08/06	15:11	SE	С	BP	X		X			Transferred from COC 2006-00329	
9106-0007-008F	5/09/06	10:39	SE	С	BP	X		X			Transferred from COC 2006-00334	
9106-0007-011F	5/09/06	09:43	SE	С	BP	X		X			Transferred from COC 2006-00334	
9106-0007-012F	5/09/06	13:27	SE	С	BP	X	Γ	X			Transferred from COC 2006-00334	
9106-0007-013F	5/09/06	13:53	SE	C	BP	X		X			Transferred from COC 2006-00334	
9106-0007-013FS	5/09/06	14:13	SE	С	BP	X		X			Transferred from COC 2006-00334	
9106-0007-014F	5/09/06	14:13	SE	C	BP	X		X			Transferred from COC 2006-00334	
9106-0007-015F	5/16/06	07:56	SE	C	BP	X		X			Transferred from COC 2006-00353	76 36 26 /Se
NOTES: PO #: 002332	MSR #: 06-	0730 SST	WP# NA Y <i>31/06</i>		LTP QA		Radwa	aste QA		on QA	Samples Shipped Via: Fed Ex UPS Hand	Automaticontante DennoDeo Actino des Soned ?
1) Relinquished an	. 5.2	Date/Tim 3-06 0	1e 1875	2) Rocei	ived By		-6	124/04	Date/Tin 093	ne D	Other	Cintody Sell Intac
3) Relinquished By		Date/Tim	1e	4) Rece	ived By			/	Date/Tin	ne	Bill of Lading # 7921 0573 544	3 X M

7

Subject: 9106-0007-017F, FSSALL request From: "Dale Randall" <randall@cyapco.com> Date: Tue, 24 Oct 2006 14:02:27 -0400 To: "Cheryl Jones" <cj@gel.com> CC: "Arthur L. Hammond" <Hammond@CYAPCO.com>, "John McCarthy" <McCarthy@CYAPCO.com>

Cheryl:

We need sample 9106-0007-017F, initially sent as part of MSR#06-0730, to be analysed to the FSSALL protocol. It has already been measured for FSSGAM and Sr-90. Once you have had an opportunity to verify that you have enough sample aliquot and can estimate the turn around time (TAT) please call or e-mail me at your earliest convenience.

Thank You,

Dale

(860) 267-3133



SAMPLE RECEIPT & REVIEW FORM

"ATORIES'				PM use only		
Client: Cono Manrol				SDG/ARCOC/Work Order: 103024		
Date Received: 6 21/06				PM(A) Review (ensure non-conforming items are resolved prior to signing):		
Pageired Bry						
Received By:			_			
Sample Receipt Criteria	Yes	NA	No.	Comments/Qualifiers (Required for Non-Conforming Items)		
1 Shipping containers received intact and sealed?	/			Circle Applicable: seals broken damaged container leaking container other (describe)		
Samples requiring cold 2 preservation within (4 +/- 2 C)? Record preservation method.		/		Circle Coolant # ice bags blue ice dry ice hone other describe)		
3 Chain of custody documents included with shipment?	/					
4 Sample containers intact and sealed?	/			Circle Applicable: seals broken damaged container leaking container other (describe)		
5 Samples requiring chemical preservation at proper pH?		/		Sample ID's, containers affected and observed pH:		
6 VOA vials free of headspace (defined as < 6mm bubble)?		/		Sample ID's and containers affected:		
Are Encore containers present? 7 (If yes, immediately deliver to VOA laboratory)			/			
8 Samples received within holding time?	1			Id's and tests affected:		
9 Sample ID's on COC match ID's on bottles?				Sample ID's and containers affected:		
10 Date & time on COC match date & time on bottles?				Sample ID's affected:		
11 Number of containers received match number indicated on COC?	/			Sample ID's affected:		
12 COC form is properly signed in relinquished/received sections?	/					
14 Air Bill, Tracking #'s, & Additional Comments	7	90	27	0673 5432		
Suspected Hazard Information	Non- Regulated	Regulated	High Level	RSO RAD Receipt #		
A Kadiological Classification?	mkx	V		Maximum Counts Observed*: COM LO		
B PUB Regulated?	Z			Comments:		
C Material? If yes, contact Waste Manager or ESH Manager	1			Hazard Class Shipped: UN#:		
PM (or PMA) services of Honord -						
A MI (OF I MAY IEVIEW OF HAZAI' Clas	snicati	on:	ي مي ا	Initials Date: 5/24/06		

· · · ·	Cannecticut Yankee CY-ISC-SOW-001
	Statement of Work for Analytical Lab Services
	Figure 1. Sample Check-in List
	Barrived SI24100 0930
	Date Time Received $m \leq R \pm 0.6 - 0.730$
	SDG#:
· · ·	Work Order Number: 163426
•	Shipping Container ID: 1981 (9) 15 5-02 Chain of Custody # 100
· · · · · · · ·	1. Custody Seals on shipping container intact?
	2. Custody Seals dated and signed? Yes [1] No []
,	3. Chain-of-Custody record present? Yes [/] No []
• • • •	4. Cooler temperature 19°C
•	5. Vermiculite/packing materials is: Wet [] Dry [] NA
• . : •	6. Number of samples in shipping container:
· . ·.	7. Sample holding times exceeded? Yes [] No [/
•	
•	8. Samples have:
-	hazard labels
	custody sealsappropriate sample labels
. '	
	9. Sampies are:
•	in good conditionleaking
• •	brokenhave air bubbles
· · .	10 Were any anomalies identified in sample receive? Var 1/ No. ()
	1. The state of th
•	
	Sample Custodian/Laboratory: Kusdull Ath Date: 50406
. • •	Telephoned to:OnBy
• • • •	
	10
	~ ~

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</p>
- 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.



Radiochemistry Case Narrative Connecticut Yankee Atomic Power Co. (YANK) Work Order 174791

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:	582798
Prep Batch Number:	582531
Dry Soil Prep GL-RAD-A-021 Batch Number:	582530

Sample ID	Client ID
174791001	9106-0007-017F
1201215730	Method Blank (MB)
1201215731	174791001(9106-0007-017F) Sample Duplicate (DUP)
1201215732	174791001(9106-0007-017F) Matrix Spike (MS)
1201215733	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 14.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 174791001 (9106-0007-017F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

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:	582799
Prep Batch Number:	582531
Dry Soil Prep GL-RAD-A-021 Batch Number:	582530

Sample ID	Client ID
174791001	9106-0007-017F
1201215734	Method Blank (MB)
1201215735	174791001(9106-0007-017F) Sample Duplicate (DUP)
1201215736	174791001(9106-0007-017F) Matrix Spike (MS)
1201215737	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 14.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 174791001 (9106-0007-017F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples 1201215734 (MB) and 174791001 (9106-0007-017F) were recounted due to detector error.

Miscellaneous Information:

NCR Documentation

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

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:	582800
Prep Batch Number:	582531
Dry Soil Prep GL-RAD-A-021 Batch Number:	582530

Sample ID	Client ID
174791001	9106-0007-017F
1201215738	Method Blank (MB)
1201215739	174791001(9106-0007-017F) Sample Duplicate (DUP)
1201215740	174791001(9106-0007-017F) Matrix Spike (MS)
1201215741	Laboratory Control Sample (LCS)

SOP Reference

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

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 174791001 (9106-0007-017F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

SDG.

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Liquid Scint Tc99, Solid-ALL FSS				
Analytical Method:	DOE EML HASL-300, Tc-02-RC Modified				
Analytical Batch Number:	582788				

Sample ID	Client ID
174791001	9106-0007-017F
1201215687	Method Blank (MB)
1201215688	174791001(9106-0007-017F) Sample Duplicate (DUP)
1201215689	174791001(9106-0007-017F) Matrix Spike (MS)
1201215690	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-005 REV# 13.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC The following sample was used for QC: 174791001 (9106-0007-017F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples were recounted due to a suspected blank false positive.

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Liquid Scint Fe55, Solid-ALL FSS				
Analytical Method:	DOE RESL Fe-1, Modified				
Prep Method:	Ash Soil Prep				
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep				
Analytical Batch Number:	582786				
Prep Batch Number:	582531				
Dry Soil Prep GL-RAD-A-021 Batch Number:	582530				

Sample ID	Client ID
174791001	9106-0007-017F
1201215679	Method Blank (MB)
1201215680	174791001(9106-0007-017F) Sample Duplicate (DUP)
1201215681	174791001(9106-0007-017F) Matrix Spike (MS)
1201215682	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-040 REV# 3.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 174791001 (9106-0007-017F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

SDG.

Additional Comments

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:	582787					
Prep Batch Number:	582531					
Dry Soil Prep GL-RAD-A-021 Batch Number:	582530					

Sample ID	Client ID
174791001	9106-0007-017F
1201215683	Method Blank (MB)
1201215684	174791001(9106-0007-017F) Sample Duplicate (DUP)
1201215685	174791001(9106-0007-017F) Matrix Spike (MS)
1201215686	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-022 REV# 8.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 174791001 (9106-0007-017F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	LSC, Tritium Dist, Solid-HTD2,ALL FSS
Analytical Method:	EPA 906.0 Modified

Analytical Batch Number: 582789

Sample ID	Client ID
174791001	9106-0007-017F
1201215691	Method Blank (MB)
1201215692	174791001(9106-0007-017F) Sample Duplicate (DUP)
1201215693	174791001(9106-0007-017F) Matrix Spike (MS)
1201215694	Laboratory Control Sample (LCS)

SOP Reference

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

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 174791001 (9106-0007-017F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

SDG.

Additional Comments

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:	582790				

Sample ID	Client ID
174791001	9106-0007-017F
1201215695	Method Blank (MB)
1201215696	174791001(9106-0007-017F) Sample Duplicate (DUP)
1201215697	174791001(9106-0007-017F) Matrix Spike (MS)
1201215698	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-003 REV# 8.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 174791001 (9106-0007-017F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

Additional Comments

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:

annels Welliam 11/0/07 **Reviewer/Date:**



GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis Report for

YANK001 Connecticut Yankee Atomic Power Co.

Client SDG: MSR#06-0730 GEL Work Order: 174791

The Qualifiers in this report are defined as follows:

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

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

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

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

annthe William

Reviewed by

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

Certificate of Analysis

Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power									
Contact: Project:	East Hampte Mr. Jack Me Soils PO# 0	on, Connec Carthy 02332	ticut 06424				R	eport Date: 1	November	· 3, 2006		
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): nte: ate:		9106 00 1747910 TS 11 MA 24 MA Client 38.1%	007 017F 001 Y 06 Y 06		Project: Client ID: Vol. Recv.:	YANK0120 YANK001	4			
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Anal	yst Date	Time	Batch N	/Itd
Rad Alpha Spec Analysi	s					·						
Alphaspec Am241, Cm,	Solid ALL FS	S										
Americium 241	U	0.00318	+/ 0.0201	0.00	+/ 0.0201	0.0896	pCi/g	MXA 1	10/27/	06 0938	582798	1
Curium 242	U	0.0163	+/ 0.137	0.061	+/ 0.137	0.306	pCi/g					
Curium 243/244	U	0.0591	+/ 0.0945	0.0302	+/ 0.0947	0.151	pCi/g					
Alphaspec Pu, Solid Al	LL FSS						~		10.000			•
Plutonium 238	U	0.0128	+/ 0.133	0.106	+/ 0.133	0.309	pCi/g	MX/ 1	A 10/28/	06 1032	582799	2
Plutonium 239/240	U	0.0469	+/ 0.129	0.0844	+/ 0.129	0.265	pCi/g					
Liquid Scint Pu241, Sol	id ALL FSS											
Plutonium 241	U	1.93	+/ 6.47	5.51	+/ 6.47	11.6	pCi/g	MXA 1	A 10/31/	06 0217	582800	3
Rad Liquid Scintillation	Analysis							1				
LSC, Tritium Dist, Solia	l HTD2,ALL	FSS										
Tritium	U	2.94	+/ 7.03	5.68	+/ 7.03	12.3	pCi/g	MXI	P1 10/26/	06 2118	582789	4
Liquid Scint C14, Solid	All,FSS						<i></i>		0.10/00	0 6 0 0 0 1	500500	-
Carbon 14		0.0304	+/ 0.120	0.0999	+/ 0.120	0.205	pC1/g	AXL	02 10/28/	06 0831	582790	2
Liquid Scint Fe55, Solid	I ALL FSS	7.05	+/ 245	26.2	1/ 2/ 5	55.0	nCi/a	MYI	01 10/31/	06 1634	582786	6
Liquid Soint Ni63 Solid		7.05	+/ 34.3	20.2	-7 54.5	55.0	pC//g	IVLAI	1 10/51/	00 1034	562760	U
Nickel 63	U	2.73	+/ 9.43	7.78	+/ 9.43	16.4	pCi/g	MXI	21 11/02/	06 0756	582787	7
Liauid Scint Tc99. Solia	I ALL FSS	•					r8					-
Technetium 99	U	0.120	+/ 0.236	0.194	+/ 0.236	0.404	pCi/g	KXR	1 11/02/	06 1009	582788	8

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The following Prep Methods were performed										
Method	Description	Analyst	Date	Time	Prep Batch					
Dry Soil Prep	Dry Soil Prep GL RAD A 021	MXP2	10/24/06	1704	582530					
The following A	Analytical Methods were performed									
Method	Description									
1	DOE EML HASL 300, Am 05 RC Modified									
2	DOE EML HASL 300, Pu 11 RC Modified									

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Certificate of Analysis

(Company : Address :	Connectic 362 Injun	ut Yankee A Hollow Rd	tomic Power								
1	Contact: Project:	East Hampton, Connecticut 06424 Report Date: November 3, 2006 Mr. Jack McCarthy Soils PO# 002332										3, 2006
		Client Sa Sample I	mple ID: D:		9106 0007 174791001	7 017F		Project: Client II Vol. Rec	D: cv.:	YANK YANK	01204 001	
Parameter		Qualifie	r Result	Uncertainty	LC	TPU	MDA	Unit	ts	DF	Analyst Date	Time Batch Mtd
3	DOE E	ML HASI	. 300, Pu 1	1 RC Modified								
4	EPA 9	06.0 Modif	ied									
5	EPA E	ERFC 01	Modified									
6	DOE R	ESL Fe 1	, Modified									
7	DOE R	ESL Ni 1	, Modified									
8	DOE E	ML HASI	. 300, Tc 0	2 RC Modified								
9	DOE E	ML HASI	. 300, Tc 0	2 RC Modified								
Surrogate/T	racer recove	ry Te	st		I	Recovery%	Ac	cceptable L	imits			
Americium 2	43	Al	phaspec Am	241, Cm, Solid A	ALL	85		(15% 125	5%)			
Plutonium 24	12	Δ1	nhasnec Pu	Solid ALL ESS		01		(15% 125	(%)			

Americium 243	Alphaspec Am241, Cm, Solid ALL	85	(15% 125%)	
Plutonium 242	Alphaspec Pu, Solid ALL FSS	91	(15% 125%)	
Plutonium 241	Liquid Scint Pu241, Solid ALL FS	100	(25% 125%)	
Iron 55	Liquid Scint Fe55, Solid ALL FS	54	(15% 125%)	
Nickel 63	Liquid Scint Ni63, Solid ALL FS	84	(25% 125%)	
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid ALL FS	84	(25% 125%)	
Technetium 99	Liquid Scint Tc99, Solid ALL FS	75	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid ALL FS	75	(15% 125%)	

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- The TIC is a suspected aldol condensation product Α
- Target analyte was detected in the associated blank В
- 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
- Н Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy Uncertain identification
- Х Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ۸ RPD of sample and duplicate evaluated using +/ RL. Concentrations are <5X the RL

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Certificate of Analysis

Parameter		Qualifier Result Uncertainty	LC 7	ТРИ	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sample ID: Sample ID:	9106 0007 174791001	017F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Р	roject:	Soils PO# 002332						
C	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy				F	Report Date: November	3, 2006
C A	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd						

h Preparation or preservation holding time was exceeded The above sample is reported on a dry weight basis.

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Client :	Connecticut 362 Injun H	necticut Yankee Atomic Power Injun Hollow Rd						Report Date: November 3, 2006 Page 1 of 5			
Contact:	East Hamp Mr. Jack M	ton, Connecticut cCarthy									
Workorder:	174791										
Parmname		NOM	Samp	ole Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time	
Rad Alpha Spec Batch	582798										
QC12012157 Americium-241	31 174791001	DUP	U 0.003	318 U	0.0674	pCi/g	182		(0% - 100%) Л ХА1	10/27/06 09:38	
0.1.040		TPL	J: +/-0.02	201 201	+/-0.103	0.1			(00/ 1000/)		
Cunum-242		Uncert	U -0.01 : +/-0.1	63 U 137 137	0.0722 +/-0.142 +/-0.142	pC1/g	317		(0% - 100%)		
Curium-243/24	4	Uncert	U 0.05 : +/-0.09	591 U 945	0.090 +/-0.124	pCi/g	41		(0% - 100%)		
OC12012157	33 LCS	TPU): +/-0.09	14/	+/-0.124						
Americium-241		13.5 Uncert	:		11.7 +/-1.32	pCi/g		87	(75%-125%)		
Curium-242		TPL	J:	U	+/-1.99 0.00 +/-0.0764	pCi/g					
Curium-243/24	4	TPL 16.3	J:		+/-0.0764 15.5	pCi/g		95	(75%-125%)		
		Uncert TPL	: J:		+/-1.52 +/-2.49						
Americium-241	30 MB	T la contra	_	U	0.0124	pCi/g					
Curium 242		TPL	: J:	TI	+/-0.0448	•Ci/o					
Currum-242		Uncert TPI	:	0	+/-0.0827	pc#g					
Curium-243/24	4	Uncert	; ;	U	-0.0201 +/-0.0868	pCi/g					
QC12012157 Americium-241	32 174791001	MS 13.5	U 0.003	318	+/-0.0869	pCi/g		98	(75%-125%)		
~		Uncert TPL	: +/-0.02 J: +/-0.02	201 201	+/-1.30 +/-2.06						
Curium-242		Uncert	U -0.01 : +/-0.1	63 U 37	-0.0163 +/-0.137 +/-0.137	pCi/g					
Curium-243/24	4	16.6 Uncert	U 0.05	591 945	15.2 +/-1.40	pCi/g		92	(75%-125%)		
Batch	582799	TPL	J: +/-0.09	47	+/-2.32						
QC12012157 Plutonium-238	35 174791001	DUP	U 0.01	128 U	-0.0132	pCi/g	13000		(0% - 100%) / IXA1	10/27/06 09:37	
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QC Summary

Workorder: 174791							Page 2 of 5					
Parmname	NOM	Sample (Qual	QC	Units	RPD%	REC%	Range A	nlst Date Time			
Rad Alpha Spec												
Batch 582799												
	Uncert:	+/-0.133		+/-0.057								
	TPU:	+/-0.133		+/-0.057								
Plutonium-239/240	U	0.0469	U	0.0208	pCi/j	g 77		(0% - 100%)				
	Uncert:	+/-0.129		+/-0.0553	_	-						
	TPU:	+/-0.129		+/-0.0553								
QC1201215737 LCS												
Plutonium-238			U	0.0489	pCi/	g		(75%-125%)	10/27/06 09:37			
	Uncert:			+/-0.0966								
	TPU:			+/-0.0967	C 11			(770) 1070()				
Plutonium-239/240	12.5			10.1	pCı/	g	81	(75%-125%)				
	Uncert:			+/-1.03								
	TPU:			+/-1.53								
QC1201215734 MB Plutonium 238			TI	0.0402	nCi/	~			10/28/06 10:32			
Flutomum-258	Unconti		U	-0.0402	pCu;	g			10/28/00 10.32			
	TDU.			+/-0.117								
Plutonium-230/240	IPU:		τī	-0.00717	nCi/	a						
1 Iutoinum-239/240	Uncert		0	+/-0.0798	per	Б						
				+/-0.0798								
OC1201215736 174791001 MS	110.											
Plutonium-238	U	0.0128		0.0824	pCi/	g		(75%-125%)	10/27/06 09:37			
	Uncert:	+/-0.133		+/-0.0933	• •	0		, ,				
	TPU:	+/-0.133		+/-0.0938								
Plutonium-239/240	12.5 U	0.0469		12.7	pCi/	g	102	(75%-125%)				
	Uncert:	+/-0.129		+/-1.15	•	-		. ,				
	TPU:	+/-0.129		+/-1.84								
Batch 582800												
OC1201215739 174791001 DUP												
Plutonium-241	Ţ	-1.93	U	-2.07	pCi/	g 0		(0% - 100%) A	XA1 10/31/06 02:49			
	Uncert:	+/-6.47	-	+/-6.94	r	0		(,,				
	TPU:	+/-6.47		+/-6.94								
QC1201215741 LCS												
Plutonium-241	144			134	pCi/	g	· 93	(75%-125%)	10/31/06 03:21			
	Uncert:			+/-12.2								
	TPU:			+/-17.8								
QC1201215738 MB												
Plutonium-241			U	-2.88	pCi/	g			10/31/06 02:33			
	Uncert:			+/-6.98								
	TPU:			+/-6.98								
QC1201215740 174791001 MS	1.47	1.02		121		с.	00	(750/ 1750/)	10/21/06 02:04			
Plutonium-241	14/ U	-1.93		131	pCi/	g	90	(75%-125%)	10/31/06 03:03			
	Uncert:	+/-6.47		+/-12.2								
	TPU:	+/-0.4/		+/-1/.5								
Batch 582786												
QC1201215680 174791001 DUP												
Iron-55	U	-7.05	U	-26.2	pCi/	g 0		(0% - 100%) M	XP1 10/31/06 17:07			
	Uncert:	+/-34.5		+/-29.4								
				+/-29.4								

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QC Summary

Workorder:	174791					/				Page 3 c	of 5		
Parmname			NOM	Sample (Dual	OC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Liquid Scintilla	ation					\							
Batch 58	2786												
			тры	+/-34 5									
OC1201215682	LCS		110.	·/-J-1.J									
Iron-55			679			624	pCi/	g	92	(75%-125%)		10/31/0	6 17:40
			Uncert:			+/-48.6							
			TPU:			+/-72.2							
QC1201215679	MB				11	7.04	-C:/	~				10/21/0	16.50
Iron-55			Uncort		U	/.04 ⊥/.29.0	pCI	g				10/31/0	0 10:50
			TDI I			+/-28.0							
OC1201215681	174791001	MS	IFU.			1/-20.0							
Iron-55			763 U	-7.05		681	pCi/	g	89	(75%-125%)		10/31/0	6 17:23
			Uncert:	+/-34.5		+/-57.0		-					
			TPU:	+/-34.5		+/-86.9							
Batch 58	2787												
QC1201215684	174791001	DUP											
Nickel-63			U	2.73	U	5.54	pCi/	g 0	1	(0% - 100%)	MXP1	11/02/0	6 08:28
			Uncert:	+/-9.43		+/-9.33							
			TPU:	+/-9.43		+/-9.33						×	
QC1201215686	LCS		572			470	-C:/	~	04	(750/ 1250/)		11/02/0	× 00.01
NICKEI-05			J/J Uncert:			4/9 +/-74 2	pCI/2	В	04	(7376-12376)		11/02/0	0 09:01
			TPI I.			+/-29.7							
OC1201215683	MB		110.			1 20.1							
Nickel-63					U	-0.527	pCi/j	g				11/02/0	6 08:12
			Uncert:			+/-9.21							
			TPU:			+/-9.21							
QC1201215685	174791001	MS	501				C :1			(7.5) (1.6,5) ()		11/00/	00 45
Nickel-63			581 U	2.73		433	pCi/	g	78	(75%-125%)		11/02/0	16 08:45
				+/-9.43		+/-23.3							
Batch 58	2788		IPU:	T/-9.43		T/-20.7							
0.0100101000													
QCI201215688 Technetium.00	174791001	DUP	* 1	0.120	П	0 108	nCi/	~ 0	1	(0% - 100%)	KYRI	11/02/0)6 10·42
Technetium-33			U Uncert:	+/-0 236	U	+/-0 241	pen	5 0	,	(070 - 10070)		11/02/0	10.42
			TPU-	+/-0 236		+/-0.241							
QC1201215690	LCS												
Technetium-99			12.8			11.6	pCi/	g	91	(75%-125%)		11/02/0)6 11:14
			Uncert:			+/-0.496							
			TPU:			+/-0.559							
QC1201215687	MB				11	0.0646	-Cil	~				11/02/0	x 10.76
Technedium-99			Uncort		U	0.0040 ⊥/0.215	pCi/	g				11/02/0	0 10:20
			TDI I.			+/_0.215							
OC1201215689	174791001	MS	IFU.			17-0.213							
Technetium-99			12.8 II	0.120		11.3	pCi/	g	88	(75%-125%)		11/02/0)6 10:58
			Uncert:	+/-0.236		+/-0.548		-					
			TPU:	+/-0.236		+/-0.604							

Batch 582789

QC1201215692 174791001 DUP

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QC Summary

Workorder: 174791							Page 4 of 5						
Parmname	NOM	Sample (Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time		
Rad Liquid Scintillation Batch 582789													
Tritium	U Uncert:	2.94 +/-7.03 +/ 7.03	U	2.89 +/-6.93	pCi/g	g O		(0% - 100%)	MXP1	10/26/0	6 21:50		
QC1201215694 LCS	IPU:	+/-1.03		+/-0.93	-01	_	00	(750/ 1050/)		10/20/0	(
Intium	Uncert:			56.6 +/-10.2 +/-10.3	pC1/j	g	99	(75%-125%)		10/26/0	6 22:22		
QC1201215691 MB Tritium	110.		U	3.92	pCi/j	g				10/26/0	6 21:34		
	Uncert: TPU:			+/-6.59 +/-6.59									
QC1201215693 174791001 MS Tritium	66.9 U Uncert:	2.94 +/-7.03		62.5 +/-11.9	pCi/g	g	94	(75%-125%)		10/26/0	6 22:06		
Batch 582790	TPU:	+/-7.03		+/-11.9									
QC1201215696 174791001 DUP Carbon-14	T	0 0304	П	0.0477	nCi/	α ()		(0% - 100%)	4 X D 2	10/28/0	6 10:05		
	Uncert: TPU:-	+/-0.120	U	+/-0.113	pen	5 0		(070 - 10070)	MDZ	10/20/0	0 10.05		
QC1201215698 LCS Carbon-14	6.70	.,		6.44	pCi/j	g	96	(75%-125%)		10/28/0	6 11:40		
	Uncert: TPU:			+/-0.228 +/-0.249	-	-							
QC1201215695 MB Carbon-14			U	-0.0883	pCi/p	g				10/28/0	6 09:18		
001001016/07 17/701001 100	Uncert: TPU:			+/-0.109 +/-0.109									
Carbon-14	12.8 U Uncert:	0.0304 +/-0.120		12.2 +/-0.433	pCi/j	g	95	(75%-125%)		10/28/0	6 10:53		
	TPU:	+/-0.120		+/-0.473									

Notes:

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B Target analyte was detected in the associated blank

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

H Analytical holding time was exceeded

J Value is estimated

Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workor	der: 17479	91							Page 5	5 of 5		
Parmna	me		NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
N/A												
R	Sample result	s are rejected										
U	Analyte was a	nalyzed for, but	not detected abov	e the MDL, MDA, or LO	DD.							
UI	Gamma Spect	troscopyUncerta	ain identification									
х	Consult Case	Narrative, Data S	Summary package	e, or Project Manager co	ncerning th	is qualifie	er					
Y	QC Samples	were not spiked w	vith this compoun	d								
^	RPD of samp	le and duplicate e	valuated using +/	-RL. Concentrations are	e <5X the I	۲L						
h	Preparation of	r preservation hol	ding time was ex	ceeded								
N/A ind ** Indic	icates that spike ates analyte is a	e recovery limits a surrogate comp	do not apply whe ound.	n sample concentration	exceeds spi	ke conc. l	by a factor of	of 4 or more.				
^ The Re sample i less than	elative Percent s greater than 1 5X the RL, a c	Difference (RPD five times (5 control limit of +/) obtained from the X) the contract re - the RL is u	he sample duplicate (DU quired detection limit (R sed to evaluate the DUP	JP) is evalu L). In case result.	ated agains where e	nst the acce ither the sam	ptence criter nple or dupli	ia when the cate value	e is		

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

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

CASE NARRATIVE For CONNECTICUT YANKEE RE: Soil PO# 002332 Work Order: 170683 SDG: 170683

September 6, 2006

Laboratory Identification: General Engineering Laboratories, LLC

Mailing Address: P.O. Box 30712

Charleston, South Carolina 29417

Express Mail Delivery and Shipping Address:

2040 Savage Road Charleston, South Carolina 29407

Telephone Number:

(843) 556-8171

Summary:

Sample receipt

The sample(s) for this Project arrived at General Engineering Laboratories, LLC, (GEL) in Charleston, South Carolina on August 17, 2006, July 07, 2006, July 13, 2006, July 21, 2006 and June 21, 2006. All sample containers arrived without any visible signs of tampering or breakage. The chain of custody contained the proper documentation and signatures.

The laboratory received the following sample(s):

<u>Sample ID</u>	<u>Client Sample ID</u>
170683001	9106-0011-018F
170683002	9106-0012-005F
170683003	9106-0012-014F
170683004	9106-0013-006F
170683005	9106-0013-005F
170683006	9106-0014-012F
170683007	9106-0014-033F
170683008	9106-0015-018F

GENERAL ENGINEERING LABORATORIES, LLC

a Member of THE GEL GROUP, INC. P.O. Box 30712 • Charleston, SC 29417 • 2040 Savage Road (29407) Phone (843) 556-8171 • Fax (843) 766-1178 • www.gel.com

170683009	9106-0015-002F
170683010	9106-0001-132F

Items of Note:

At the request of Dale Randall on August 31, 2006, the samples listed above were relogged for various analyses. A list of Sample ID's and requested tests follows.

Case Narrative:

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

Analytical Request:

Ten soil samples were analyzed for various analyses included in the FSSALL suite.

Internal Chain of Custody:

Custody was maintained for the sample(s).

Data Package:

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

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

Chylfm

Cheryl Jones Project Manager

Analysis requ	lest - 8/31/06		Done					To be done	•		·	<u>. </u>	
Previous GEL ID	CY sample location IDs	FSS Gam	Sr-90	Ni-63	Am	Pu	Sr90	Pu241	Fe55	Ni63	Tc99	НЗ	C14
165614006	9106-0011-018F	x		X	X	X	X	X	X		X	X	X
166653003	9106-0012-005F	×			X	X	X	X	X	X	X	X	X
166653010	9106-0012-014F	×			X	X	X	X	X	X	X	X	X
167555007	9106-0013-005F	x			X	X	X	X	X	X	X	X	X
167555001	9106-0013-006F	×			X	X	X	X	X	X	X	X	X
167014026	9106-0014-012F	×			X	X	X	X	X	X	X	Х	X
167014042	9106-0014-033F	×			X	X	X	X	X	X	X	X	X
167556010	9106-0015-002F	X	x		X	X		X	X	Х	X	X	X
167556007	9106-0015-018F	x	x		X	X		X	X	X	X	X	X
169489001	9106-0001-132F	x			X	X	X	X	X	X	X	X	X

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RELOGGED AS 170683

State	Certification
Alaska	UST-062
Arizona	AZ0668
Arkansas	88-0651
CLIA	42D0904046
California	01151CA
Colorado	GenEngLabs
Connecticut	PH-0169
Dept. of Navy	NFESC 413
EPA	WG-15J
Florida/NELAP	E87156
Georgia	E87156 (FL/NELAP)
Idaho	N/A
Illinois	200029
Indiana	C-SC-01
Kansas	E-10332
Kentucky	90129
Maryland	270
Massachusetts	M-SC012
Michigan	9903
Nevada	SC12
New Jersey	SC002
New York	11501
North Carolina	233
North Carolina Drinking W	45709
North Dakota	R-158
Oklahoma	9904
Pennsylvania	68-485
South Carolina	10120001/10585001/10120002
Tennessee	02934
Texas	TX213-2006A
U.S. Dept. of Agriculture	S-52597
US Army Corps of Engineer	N/A
Utah	8037697376 GEL
Vermont	N/A
Virginia	00151
Washington	C223

List of current GEL Certifications as of 06 September 2006

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Chain of Custody And Supporting Documentation

170683

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

Health Physics Procedure

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Connecticut Y 362 Injun	Yankee At Hollow Road, E 860-267	Comic Po Cast Hampton, 7-2556	wer C , CT 0642	ompan 4	y			Ch	ain of	f Custody	y Form	No. 2006-00413
Project Name: Haddam N	Neck Decomm	nissioning					A	nalyses	Request	ted	Laboreony	
Contact Name & Phone: Jack McCarthy 860-267	7-2556 Ext. 2	3024									Comments ***	
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones		407				SSGAM	FSSALL	Ni-63				
Priority: 🔲 30 D. 🔀 14 D. 🗌 7 D.			Media	Sample	Container Size-							
Sample Designation	Date	Time	Code	Code	Code						Comment, Preservation	al de Sample Des
9106-0011-011F	5/17/06	08:15	SE	C	BP	X		X			Transferred from COC 2006-00356	
9106-0011-012F	5/17/06	08:41	SE	C	BP	X		X			Transferred from COC 2006-00356	
9106-0011-012FS	5/17/06	08:41	SE	С	BP	X		X			Transferred from COC 2006-00356	
9106-0011-014F	5/17/06	09:34	SE	С	BP	X		X			Transferred from COC 2006-00356	
9106-0011-015F	5/17/06	09:12	SE	C	BP	X		X			Transferred from COC 2006-00356	情况最多了这个。"
9106-0011-018F	5/17/06	10:01	SE	C	BP	X		X			Transferred from COC 2006-00356	
9106-0011-002F	5/15/06	14:33	SE	С	BP	X		X			Transferred from COC 2006-00352	
9106-0011-003F	5/15/06	14:58	SE	С	BP		X				Transferred from COC 2006-00352	and the second second
				L	L	L	L					Martin Carlos and
NOTES: PO #: 002332 MSR #: 06- SSWP# NA 🛛 LTP QA 🗌 Radwaste QA 🗌 Non QA 🖾 🖾 🖾 🖾 🖾 🖾 🖾 🖾 🖾 🖾 🗠 CAforn 4/21/06											Samples Shipped Via: Fed Ex UPS Hand	Internal Container Tourne 24 Dage C Contage Scateor Contage Scateor
1) Relinquished By		Date/Tim	e	2) Recei	ved By	1			Date/I	lime		i Custody Seal
JAIME RICARTE	6-20	1-06/110	U	AMar 42/06 0930							☐ Other	i i siniici?
3) Relinquished By		Date/Tim	e	4) Recei	ved By	7			Date/T	ſime	Bill of Lading #	NO.
5) Relinquished By		Date/Tim	e	6) Recei	ved By				Date/T	Fime	7910 2328 7540	



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SAMPLE RECEIPT & REVIEW FORM

	"TORIC"				PM use only									
Client: CONN ATOMIC XANKEE SDG/ARCOC/Work Order: 16.5614														
Date R	eceived: 1-21-06				PM(A) Review (consure non-conforming items are resolved prior to signing):									
Receiv	ed By: ACM				Clivit									
L		1	<u> </u>											
	Sample Receipt Criteria	Yes	NA	ž	Comments/Qualifiers (Required for Non-Conforming Items)									
I Shi	pping containers received intac I sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)									
San 2 pre Rec	nples requiring cold servation within (4 +/- 2 C)? cord preservation method.		1		Circle Coolann # ice bags blue ice dry ice other describe)									
3 Ch inc	ain of custody documents luded with shipment?	1												
4 San	nple containers intact and led?	1			Circle Applicable: seals broken damaged container leaking container other (describe)									
5 San	nples requiring chemical servation at proper pH?				Sample ID's, containers affected and observed pH:									
vo و	A vials free of headspace				Sample ID's and containers affected:									
(de	fined as < 6mm bubble)?	 												
7 (lf	Encore containers present? yes, immediately deliver to A laboratory)			1										
8 San	aples received within holding	1			Id's and tests affected:									
9 San	aple ID's on COC match ID's pottles?	1			Sample ID's and containers affected:									
10 Date & ti	e & time on COC match date me on bottles?				Sample ID's affected: TIME DATES WERE WIPED OFF									
	nber of containers received ch number indicated on COC?	1			Sample ID's affected:									
12 COO relin	C form is properly signed in quished/received sections?	1												
14 Air Add	Bill ,Tracking #'s, & itional Comments		791	ð	2328 7542									
Sus	pected 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 nvestigation.									
A Radi	ological Classification?		X	N	Maximum Counts Observed*: CAM 60									
BIPCB	Kegulated?	X		9	Comments:									
Snip C Mate Man	erial? If yes, contact Waste ager or ESH Manager.	×		H	lazard Class Shipped: IN#:									
PM (or PMA) review of Hazard class	ificatio	on:	_	Initials Date: 6/21/06									
					0 1 1									

		·. ·		
Connecticut Yankee Statement of Work for An	alytical Lab Services		CY-ISC-SOW-	001
	Figure 1. Sample C	heck-in List		·········
Date/Time Received:	6-21-06 09	30	· · , ·	
SDG#·	MSR#	26 - 0877		
Work Order Number:	1656141.		····	
Shipping Container ID:	10 2328 2540 Cha	in of Custody # 200	6 - 00413	
1. Custody Scals on	shipping container intact?	Yes	4] No []	· · ·
2. Custody Seals dat	ed and signed?	Yes (] No [4	
3. Chain-of-Custody	record present?	Yes [A] No []	.
4. Cooler temperatur	e24°C			·· 、 ·
5. Vermiculite/packi	ng materials is:	Wet	∦ Dry [∖]	•
6. Number of sample	s in shipping container: <u>8</u>	1		
7. Sample holding tin	nes exceeded?	Yes J	J No []	
8. Samples have:				7
	t hazard lahal	la .	· . 	
	s <u>x</u> appropriate	sample labels	2	
9. Samala and				
3. Samples are:				
	ditionleaking		· · · · · · · · · · · · · · · · · · ·	
oroken	have air t	bubbles		
10. Were any anomalie	s identified in sample receipt?	Yes []	No K]	
11. Description of anor	nalies (include sample numbers):		
			•	
		4		-
Sample Custodian/Laborato	ry ANwy	Date: L	21/06 0930	-
Telephoned to:	On	By		-
				-
Page 9 of 108			e e e e e e e e e e e e e e e e e e e	

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Connecticut N 362 Injun	Yankee A1 Hollow Road, H 860-267	tomic Po East Hampton 7-2556	wer C , CT 0642	ompan 4	iy 161	06	53-,	Ch /.	ain o	f Custo	dy Form	No. 2006-0045 1	
Project Name: Haddam N	Neck Decomm	nissioning					An	alyses	Request	ed	Lab Use Only		
Contact Name & Phone: Jack McCarthy 860-267	-2556 Ext.	3924									Comments:		
Analytical Lab (Name, Ci General Engineering Lab 2040 Savage Road Charl 843 556 8171. Attn. Cher	ity, State) oratories eston SC. 294 ryl Jones	407				SSGAM	ESSALL						
Priority: 🗌 30 D. 🕅 14 1	D. 🗍 7 D.		Madia	Sample	Container Size-	H							
Sample Designation	Date	Time	Code	Code	Code		ļ				Comment, Preservation	Lab Sample ID	
9106-0012-002F	6/23/06	08:56	SE	С	BP	X					Transferred from COC 2006-00436	001	
9106-0012-003F	6/23/06	08:39	SE	С	BP	X					Transferred from COC 2006-00436	002	
9106-0012-004F	6/23/06	09:32	SE	C	BP		X				Transferred from COC 2006-00436	016	
9106-0012-005F	6/23/06	09:56	SE	C	BP	X					Transferred from COC 2006-00436	003	
9106-0012-006F	6/23/06	13:07	SE	C	BP	X					Transferred from COC 2006-00436	014	
9106-0012-010F	6/23/06	11:08	SE	С	BP		X				Transferred from COC 2006-00436	017	
9106-0012-013F	6/23/06	10:56	SE	C	BP	X					Transferred from COC 2006-00436	005	
9106-0012-013FS	6/23/06	10:56	SE	C	BP	X					Transferred from COC 2006-00436	0000	
NOTES: PO #: 002332 MSR #: 06-9967 SSWP# NA 🖾 LTP QA 🗌 Radwaste QA 🗌 Non QA Samples Shipped Via: Int											Internal Container Temp.: Deg. Custody Sealed?		
1) Relinquished By		Date/Tim	e	2) Rodei	ved By			·	Date/1	Time		Custody Seal	
JAME RICARTS	7	-6-06 /1	400.	MA.	in F	\leq	har		7/1/	06 9ni	Other	Intact?	
3) Relinquished By		Date/Tim	e	4) Recei	4) Received By Date/Time Bill of Lading #								
5) Relinquished By		Date/Tim	e	6) Recei	ved By								

Health Physics Procedure

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Connecticut Y 362 Injun F	ankee At Hollow Road, E 860-267	comic Po Sast Hampton, 7-2556	wer C , CT 0642	ompan 4	y 160	oles	534	Cha	ain of Cus	stody	7 Form	No. 2006-00452
Project Name: Haddam N	eck Decomn	nissioning					Ana	lyses Re	equested	L	b Use Only	
Contact Name & Phone: Jack McCarthy 860-267-	-2556 Ext. 3	3924								C	omments:	
Analytical Lab (Name, Cit General Engineering Labo 2040 Savage Road. Charle 843 556 8171. Attn. Cher	ty, State) ratories ston SC. 294 yl Jones	407				SSGAM	FSSALL					
Priority: 🗌 30 D. 🔀 14 D). 🗌 7 D.		Madia	Sample	Container Size-							
Sample Designation	Date	Time	Code	Code	Code						Comment, Preservation	Lab Sample ID
9106-0012-007F	6/21/06	09:32	SE	С	BP	X	1			Tr	unsferred from COC # 2006-00433	607
9106-0012-008F	6/21/06	09:00	SE	C	BP	x	1			Tr	insferred from COC # 2006-00433	108
9106-0012-012F	6/21/06	09:19	SE	C	BP	X	1			Tr	ansferred from COC # 2006-00433	019
9106-0012-014F	6/21/06	10:05	SE	С	BP	X	1			Tr	ansferred from COC # 2006-00433	010
9106-0012-011F	6/21/06	09:51	SE	C	BP	X				Tr	ansferred from COC # 2006-00433	01
9106-0012-015F	6/21/06	14:24	SE	C	BP	X				Tr	ansferred from COC # 2006-00433	012
9106-0012-009F	6/23/06	10:33	SE	C	BP	X				Tr	ansferred from COC # 2006-00436	013
9106-0012-009FS	6/23/06	10:33	SE	C	BP	X				Tr	ansferred from COC # 2006-00436	014
9106-0012-001F	6/23/06	09:18	SE	C	BP	X				Tr	ansferred from COC # 2006-00436	015
NOTES: PO #: 002332 N	MSR #: 06-4	9467 SSWI	P# NA	🛛 LTP	QA 🗌	Radw	vaste QA	A 🗆	Non QA		Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: Deg. C Custody Sealed?
					1.0	-		<u> </u>	-Dete/Time		4	Custody Seal
1) Relinquished By JAIME REARTE	7-6	Date/1'im 6-06/14	e 00	2) Recei		\mathbb{R}	the		T T DID	900	🗋 Other	Intact?
3) Relinquished By	<u></u>	Date/Tim	e	4) Recei	yed By	~	V		Date/Time		Bill of Lading #	YO NO
5) Relinquished By	ved By				Date/Time		7927 8782 3129	~				



SAMPLE RECEIPT & REVIEW FORM

	"ATORIES"					PM use only						
ſ	lient: (moderficiet)	last	Ker	,		SDG/ARCOC/Work Order: 16653, 16655, 166656						
	ate Received: 7/7/0/					PM(A) Review (ensure non-conforming items are resolved prior to signing):						
	ereived By:					Cluston						
	citized by:			_								
ľ		1.			•							
	Sample Receipt Criteria			Ž	ž	Comments/Qualifiers (Required for Non-Conforming Items)						
h	Shipping containers received inta	CI		T		Circle Applicable: seals broken damaged container leaking coatainer other (describe)						
Ľ	and sealed?											
Γ	Samples requiring cold	T		Τ		Circle Coolant // ice bags blue ice dry ice pone other describe)						
12	preservation within $(4 + / - 2 C)$?											
L	Record preservation method.	_	_									
13	Chain of custody documents											
L	included with shipment?		_									
	Sample containers intact and	1				Circle Applicable: seals broken damaged constiner leaking container other (describe)						
	sealed?											
5	Samples requiring chemical					Sample ID's, containers affected and observed pH:						
┝	preservation at proper pH?	_			_							
6	VOA vials free of headspace					Sample ID's and cookulars intervel:						
	(defined as < 6mm bubble)?		-									
۱ ـ	Are Encore containers present?	1	Í		- [
ľ	(If yes, ininectately deliver to											
-	Semiples received within holding	+	┥		-	Id's and tests afferred:						
8	time?											
-	Sample ID's on COC match ID's				Å	Sample ID's and containers affected:						
9	on boules?	1		\mathbf{V}		•						
•	Date & time on COC match date					Sample ID's affected:						
10	& time on bottles?		1		1	· · · ·						
	Number of containers received	\overline{V}	1		Ś	ample ID's affected:						
11	match number indicated on COP?	1										
_	COC form is properly signed in				+							
12	relinguished/received sections?											
					بمالي							
• •	Air Bill ,Tracking #'s, &											
14	Additional Comments											
			_									
	-	E .	3	Ī	R	SO RAD Receipt #						
	Suspected Hazard Information		Ā	15		If > x2 area background is observed on samples identified as "non-						
	•	2 8	2	2		gulatewhon-randacuve, contact the Radiation Safety group for hirder						
Ā	Radiological Classification?		Ē	F	T _M	faximum Counts Observed*: 1000						
в	PCB Regulated?	\sim	E		С	ommenta:						
	Shipped as DOT Hazardous				ц	ezerd Class Shinped						
C.	Material / II yes, contact Waste				U	N/:						
DM (or DMA) review of Upperd of the set												
.]	PM (or PMA) review of Hazard class	sificati	ion:			Initials (10) Date: 7/7/06						
						U ·						

	Connecticut Yankee	•	•
	Statement of Work for Analytical Lab Services	<u> </u>	<u>01</u>
	Figure 1. Sample Check-in List		•
	Date/Time Received: //7/06		_ · · ·
•	SDG#:		- -
	Work Order Number: 166653 166655 1106656	0	
	79/4 3376 4783 - 33°C Shipping Container ID: 79/7 8782 29 57 - 22°C Chain of Custody	2006 - 00449 # 3006 - 0044 0 # 3006 - 0044 0	
	1. Custody Seals on shipping container intact?	2006 - 004502 Yes [-] No [-]	- · · .
	2. Custody Seals dated and signed?	Yes [] No []	
	3. Chain-of-Custody record present?	Yes [] No []	;
	4. Cooler temperature $23^{\circ c} - 22^{\circ c}$ -	- 23.2	• * - ;+
	5. Vermiculite/packing materials is:	Wet [4] Dry [1]	
	6. Number of samples in shipping container: (1) 3 . Q	712 (2) 9	•
R	7. Sample holding times exceeded?	Yes [] No []	•
	8. Samples have:		
· · ·]	tape		•
	custoriy sealsappropriate sample labels		
	9. Samples are:		
	in good condition		. ·
	broken		•
L	have air bubbles		•
10	Were any anomalias ideation to		· .
	Y anomalies identified in sample receipt?	es [] No F	
31.	Description of anomalies (include sample numbers):		•
			••••
		•	
San	nple Custodian/Laboration		•••••
Tcic	phoned to	- T/1/06 0900	
	OnBy	v <i>i</i>	•
			,
• • • •			•
•		-	,

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1107555 **Chain of Custody Form** No. 2006-00434 **Connecticut Yankee Atomic Power Company** 362 Injun Hollow Road, East Hampton, CT 06424 860-267-2556 Lab Use Only Project Name: Haddam Neck Decommissioning Analyses Requested Comments: Contact Name & Phone: Jack McCarthy 860-267-2556 Ext. 3924 Analytical Lab (Name, City, State) FSSGAM General Engineering Laboratories FSSALL 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones Priority: 30 D. 14 D. 7 D. Container Sample Size-Media Турс &Type Comment, Preservation Lab Sample ID Sample Designation Time Date Code Code Code 56 9106-0013-006F 6/21/06 10:33 SE Ĉ BP X 152 9106-0013-003F 6/21/06 10:51 SÈ C BP x 703 9106-0013-002F X 6/21/06 10:19 SE Ĉ BP 9106-0013-002FS C X 6/21/06 10:19 SE BP 105 9106-0013-010F C BP X 6/21/06 13:56 SĒ No 9106-0013-010FS 6/21/06 13:56 SE C BP X 57 9106-0013-005F 6/21/06 14:40 SE C BP X 208 9106-0013-011F C BP X 6/21/06 13:35 SE Samples Shipped Via: Internal Container NOTES: PO #: 602332 MSR #: 06-1034 SSWP# NA 🛛 LTP QA 🗌 Radwaste QA Non QA Fed Ex UPS Temp.: Q | Deg. C Hand Custody Sealed? ΥD NØ Custody Seal Intact? 1) Relinquished By Date/Time Date/Time 2) Received By Other JAIME RIANTE 7-20-01 /1445 7121 10,0930 NΠ ΥD 3) Relinquished By 4) Received By Date/Time Date/Time Bill of Lading # 7910-5711-1264 5) Relinquished By Date/Time 6) Received By Date/Time

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167555 Page **Chain of Custody Form** No. 2006-00444 **Connecticut Yankee Atomic Power Company** 15 of 108 362 Injun Hollow Road, East Hampton, CT 06424 860-267-2556 Analyses Requested Lab Use Only Project Name: Haddam Neck Decommissioning Comments: Contact Name & Phone: Jack McCarthy 860-267-3924 Analytical Lab (Name, City, State) FSSGAM FSSALL General Engineering Laboratories 2040 Savage Road, Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones Priority: 30 D. 🛛 14 D. 🗌 7 D. Container Sample Size-Media Type &Type Comment, Preservation Lab Sample ID Sample Designation Date Time Code Code Code 19 9106-0013-007F 6-27-06 10:58 SE C BP X 9106-0013-014F 6-27-06 09:22 SE C BP X [0] Transferred from COC 2006-00438 9106-0013-015F SE C BP X 6-26-06 15:06 Transferred from COC 2006-00437 9106-0013-001F 6-23-06 13:32 SE C BP X Transferred from COC 2006-00437 9106-0013-004F 6-23-06 13:51 SE C BP X ib Transferred from COC 2006-00437 Х 9106-0013-009F 6-23-06 14:08 SE C BP 1 Transferred from COC 2006-00437 9106-0013-013F 6-23-06 14:38 SE C BP X Transferred from COC 2006-00438 9106-0013-008F 6-26-06 11:11 SE C BP X Transferred from COC 2006-00438 9106-0013-012F 6-26-06 12:35 SĒ Ĉ BP Х Samples Shipped Via: Internal Container NOTES: PO #: 002332 MSR #: 06-JO36 SSWP# NA 🖾 LTP QA 🗌 Radwaste QA Non OA Fed Ex UPS Hand Temp.: 21 Deg. C Custody Sealed? YONE Custody Seal Intact? 1) Relinquished By Date/Time Date/Time 2) Received By Other HS 7/20/00 0930 7.20-06 /14 45 JATME RICARTS YO NO 3) Relinquished By Date/Time 4) Received By Date/Time Bill of Lading #

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Health Physics Procedure

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SAMPLE RECEIPT & REVIEW FORM

AITORIES'					PM are anly
Client: Conn. Yank.					SDG/ARCOC/Work Order: 167554, 167555, 16755
Date Received: 7/21/06					PM(A) Review (ensure non-conforming freque are resolved prior to signing):
Received By:					Cliston
Sample Receipt Criteria	•	Ύε	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
Shipping containers received initiand sealed?	lact	/			Circle Applicable: seals broken damaged compliner leaking container other (describe)
Samples requiring cold 2 preservation within (4 +/- 2 C) Record preservation method.	,	/			Circle Cuolant / ice bags blue ice dry ice none other describe)
3 Chain of custody documents included with shipment?	T	/		·	
4 Sample containers intact and sealed?	1,	$\langle \rangle$			Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?	T	ľ	1		Sample ID's, containers affected and observed pH:
6 VUA vials free of headspace (defined as < 6mm bubble)?		_	1		Sample ID's and containers affected:
7 (If yes, immediately deliver to VOA laboratory)				/	
8 Samples received within holding time?	/				d's and lesis affected:
9 Sample ID's on COC match ID's on bottles?				/ ^s	ample ID's and considers affected: See Cont. Shoot
Date & time on COC match date & time on bottles?	/			S	ample ID's affected:
Number of containers received match number indicated on COC?	1			S	imple ID's affected:
2 COC form is properly signed in relinquished/received sections?	1			Ι	
Air Bill , Tracking #'s, & Additional Comments	3.	لو	9	رق م	t
Suspected Hazard Information	Non- Regulated	Regulated	High Level	RS *If reg	O RAD Receipt / > x2 area background is observed on samples identified as "non- ulated/non-radioactive", contact the Radiation Safety group for further restigation.
PCB Regulated?	\angle			Ma	ximum Counts Observed*: COND 1/2
Shipped as DOT Hazardans	-/-			Cod	naments:
Material? If yes, contact Waste Manager or ESH Manager.	1			Haz UN	eard Class Shipped:
PM (or PMA) review of Hazard class	sitical	on:		L	Initials Art Date 21-11



SAMPLE RECEIPT & REVIEW FORM CONTINUATION FORM

Fed ex #'s	# ch Containe	es Coc #
7910 5711 1209 - 21 C	<u> </u>	2004-00
13:01 - 22°C	8	2006-0044
1194 - 21.0	10	2006-0044
1286 - 21.6	8	2006-0043
1220 - 23°C	9	2004-0044
(12104) 1 Coder Wout Feder #	- 21C B	2004-00-4900
Chain # 2006-00444: Sample # 9106-0013-00	out actually rec	2d S
9106-0013-1	204FS	
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والمساوية فالمتحاد المراجع المراجع المراجع المراجع المراجع المتحادي المتحاص المراجع المحاد ومراجع المراجع والمراجع والمراجع		

Page 17 of 108

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				• •. •
Connecticut Yankee Statement of Work for A	nalytical Lab Services	•	CY-ISC-SOW-00	L
	Figure 1. Sample C	Check-in List		•
Dete (Time Received)	712100003			• •
ALS R # O/2	-1035 MCR#06-10	36 MCR#DL-1		. •
	11.15551		<u></u>	
	republic for the sheet of		ad shall	
Smpping Container ID;	<u>Recurrence</u> r Chi	un of Custody #_ <u>See_</u> _	COT SIRET	
L. Custody Seals on	shipping container intact?	Yes []	No [/]	•
2. Custody Seals dat	ted and signed?	Yes []	No [] NA	
6. Chain-of-Custody	record present?	Yes	No []	•
Cooler temperatu	re See cont She	<u></u>		
. Vermiculite/packi	ng materials is:	Wet []	Dry [] MA	•
Number of sample	es in shipping container: <u>Sec</u>	cont Sheet	<i>t</i>	·
. Sample holding ti	mes exceeded?	Yes []	No LY	• .
8. Samples have:				
tape	hazard lahe	le		
custody seal		comula latata		
		sample labels	1	
9. Samples are:				
in good cor	iditionleaking			· .
broken	have air l	pubbles		
. were any anomalie	s identified in sample receipt?	Yes [] N	0.[]	•
. Description of anon	nalies (include sample numbers)):		
				••.
		•		
mple Custodian/Laborato	v:K. Whight	Date: 73	100	
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lephoned to:	On	By		

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Page 19 of	Connecticut Y 362 Injun	Yankee At Hollow Road, E 860-267	omic Po ast Hampton,	wer C CT 0642	ompan 4	у			Ch	ain of Cu	istody	7 Form	No. 2006-00456
10	Project Name: Haddam N	Neck Decomm	nissioning					Ana	lyses R	lequested	34	Use Only	
œ	Contact Name & Phone: Jack McCarthy 860-267	7-2556 Ext. 3	3924									imments:	
	Analytical Lab (Name, C General Engineering Lab 2040 Savage Road. Charl 843 556 8171. Attn. Cher	ity, State) oratories eston SC. 294 ryl Jones	107				SSGAM	FSSALL					
	Priority: 🗌 30 D. 🔀 14 1	D. 🗌 7 D.		Media	Sample Type	Container Size- &Type							
	Sample Designation	Date	Time	Code	Code	Code						Comment, Preservation	Lab Sample ID
NI	9106-0014-021F	6/15/06	10:50	SE	С	BP	X		ļ	<u> </u>	Tra	ansferred from COC 2006-00407	
si	9106-0014-030F	6/15/06	11:20	SE	C	BP	X			<u> </u>	Tn	ansferred from COC 2006-00407	
063	9106-0014-032F	6/15/06	09:31	SE	С	BP	X				Tri	ansferred from COC 2006-00407	
ost	9106-0014-043F	6/16/06	08:45	SE	С	BP	X				Tr	ansferred from COC 2006-00409	
05	9106-0014-010F	6/12/06	14:23	SE	<u> </u>	BP	X			<u> </u>	Tr	ansferred from COC 2006-00391	
056	9106-0014-016F	6/12/06	14:51	SE	С	BP	X				Tr	ansferred from COC 2006-00391	
007	9106-0014-022F	6/12/06	15:12	SE	С	BP	X				Tr	ansferred from COC 2006-00391	
int	9106-0014-013F	6/13/06	15:06	SE	C	BP	X				Tr	ansferred from COC 2006-00394	
mil	9106-0014-024F	6/07/06	09:58	SE	C	BP	X				Tr	ansferred from COC 2006-00385	
00.	NOTES: PO #: 002332	MSR #: 06- <i>04\$5</i>	,SSWP#N	A 🛛 1	LTP QA	🗌 Rad	waste	QA		on QA		Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp: Deg C Oustrody Sealed?
	1) Relinquished By JAIME RICARTE	7-1;	Date/Tim 2-06 /12	e 20	2) Recent	ved By	5	the		Date/Time 7/13/06	945	Other	Custody Seal Infract?
	3) Kelinquished By		Date/Tim	e	4) Becci	ved By				Date/Time		Bill of Lading #	
	5) Relinquished By		Date/Tim	e	6) Recei	ved By				Date/Time 792 4950 3			

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Page 20 of	Connecticut Y 362 Injun	Yankee At Hollow Road, E 860-267	comic Po Cast Hampton	wer C , CT 0642	ompan 4	y			Ch	ain o	f Cu	stod	y Form	No. 2006-00457
10	Project Name: Haddam N	Neck Decomn	nissioning	[Ana	lyses R	equeste	d		ab Use Only	
8	Contact Name & Phone: Jack McCarthy 860-267	-2556 Ext. 3	3924						·			ſ	Comments:	
	Analytical Lab (Name, Ci General Engineering Labo 2040 Savage Road. Charl 843 556 8171. Attn. Cher	ity, State) oratories eston SC. 294 ryl Jones	407				SSGAM	FSSALL						Х
	Priority: 🗌 30 D. 🔀 14 I	D. 🗌 7 D.		Madia	Sample	Container Size-		· · ·						
	Sample Designation	Date	Time	Code	Code	Code			_				Comment, Preservation	Lab Sample ID
610	9106-0014-025F	6/7/06	10:18	SE	С	BP	X						Fransferred from COC 2006-00387	
oi(9106-0014-031F	6/7/06	10:44	SE	С	BP	X						Transferred from COC 2006-00387	
012	9106-0014-017F	6/9/06	07:39	SE	С	BP	X						Fransferred from COC 2006-00387	
013	9106-0014-023F	6/9/06	08:23	SE	C	BP	X						Transferred from COC 2006-00387	
614	9106-0014-035F	6/9/06	09:03	SE	С	BP	X						Fransferred from COC 2006-00387	
NAS	9106-0014-038F	6/9/06	10:59	SE	С	BP		X					Transferred from COC 2006-00387	
SIS	9106-0014-039F	6/9/06	09:28	SE	C	BP	X						Transferred from COC 2006-00387	
dle	9106-0014-042F	6/9/06	09:53	SE	С	BP	X						Transferred from COC 2006-00387	
	9106-0014-034F	6/9/06	10:11	SE	С	BP	X	1					Transferred from COC 2006-00387	
01	NOTES: PO #: 002332	MSR #: 06- ତ ዒ ጎ	SSW] §\$	P#NA	🛛 LTP	QA 🗌	Radw	aste QA		Non ()A		Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: Deg. C Custody Sealed?
	1) Relinquished By		Date/Tim		2) Recei	Ad By		<u>+</u>		 Date/			-1	Custody Seal Intact?
	AIME ALARTE	7.	12-06/11	10		A	$\overline{\mathbf{n}}$	NH.	5	7/1		0,1	Other	
	3) Relinquished By		Date/Tim	e	4) Regi	ved By		<u>NE</u> C		Date/	l'ime	725	Bill of Lading #	YO NO
	5) Relinquished By	· · · · · · · · · · · · · · · · · · ·	Date/Tim	e	6) Recei	ved By				Date/	ſime		7921 4950 3984	

Health Physics Procedure

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Health Physics Procedure GPP-GGGR-R5104-003-Attachment B-CY-001 Major Page **Chain of Custody Form** No. 2006-00458 **Connecticut Yankee Atomic Power Company** 21 362 Injun Hollow Road, East Hampton, CT 06424 of 860-267-2556 801 Lab Use Only Project Name: Haddam Neck Decommissioning Analyses Requested Comments: Contact Name & Phone: Jack McCarthy 860-267-2556 Ext. 3924 Analytical Lab (Name, City, State) FSSGAM FSSALL General Engineering Laboratories 2040 Savage Road, Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones Priority: 30 D. 🛛 14 D. 🗍 7 D. Container 2 Sample Size-Media Type &Type Comment, Preservation Lab Sample ID Sample Designation Date Time Code Code Code ХĽ 9106-0014-029F 6/09/06 08:42 SE С BP Х Transferred from COC 2006-00387 ЯŶ 9106-0014-009F 6/13/06 08:44 SE C BP X Transferred from COC 2006-00392 9106-0014-028F 6/13/06 08:08 SE C BP X Transferred from COC 2006-00392 yp 9106-0014-028FS Ĉ BP X 6/13/06 08:08 SE Transferred from COC 2006-00392 52 X 9106-0014-036F C BP Transferred from COC 2006-00392 6/13/06 09:38 SE 9106-0014-037F SE Ĉ ΒP Х Transferred from COC 2006-00392 6/13/06 09:12 9106-0014-040F 6/13/06 10:42 SE C BP X Transferred from COC 2006-00392 Ĉ BP X Transferred from COC 2006-00392 9106-0014-041F 6/13/06 SE 10:13 C X Transferred from COC 2006-00392 9106-0014-041FS 6/13/06 10:13 SE BP Samples Shipped Via: Internal Container SSWP# NA 🛛 LTP QA 🗌 Radwaste QA 🗌 Non QA NOTES: PO #: 002332 MSR #: 06-0984 Fed Ex UPS Hand Temp.: Deg. C Custody Sealed? YE NO Custody Seal Intact? 1) Relinquished By Date/Time 2) Received By Date/Time Other JAIME RICARTE 7-12-06/1200 7/13/0m 94K ΥΩ ΝΟ 3) Relinquished By Date/Time 4) Received By Date/Time Bill of Lading # 5) Relinquished By Date/Time 6) Received By Date/Time 7921 4950 4014

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Page 22 of	Connecticut Y 362 Injun 1	ankee At Hollow Road, E 860-267	omic Po ast Hampton -2556	wer C , CT 0642	ompan 4	у			Ch	ain of (Custo	ody Form	No. 2006-00459
108	Project Name: Haddam N	leck Decomm	issioning					Anal	yses R	equested		Lab User Inty	
æ	Contact Name & Phone: Jack McCarthy 860-267	-2556 Ext. 3	1924										
	Analytical Lab (Name, Cit General Engineering Labo 2040 Savage Road. Charles 843 556 8171. Attn. Cher	ty, State) pratories eston SC. 294 ryl Jones	07				FSSGAM	FSSALL					
	Priority: [] 30 D. [X] 14 L			Media	Sample Type	Container Size- &Type		Ŧ				Comment Preservation	
	Sample Designation	Date	Time	Code	Code	Code	37					The Constant of COC 2006 00284	
040	9106-0014-012F	6/06/06	12:47	<u>SE</u>	<u> </u>	<u></u>	<u> </u>					Transferred from COC 2006-00384	
115	9106-0014-018F	6/06/06	14:45	SE SE			v					Transferred from COC 2006-00384	A CARLENT CONTRACTOR
124	9106-0014-0198	6/06/06	14:25	SE		BP						Transferred from COC 2006-00384	
378	9106-0014-001F	6/09/06	13:37	SE								Transferred from COC 2006-00392	
0	9106-0014-002F	6/09/06	14:40	SE SE		BP		<u> </u>		┝╍╍╌┠╍		Transferred from COC 2006-00392	
530	9106-0014-002F5	6/09/06	14:40	SE				┠_───┤				Transferred from COC 2006-00392	
581	9106-0014-005F	6/09/06	14:12	SE				┟╼╾╌┥		├ ─── ├ ──		Transferred from COC 2006-00392	
032	9106-0014-006F	6/09/06	13:07	SE OF			<u> ^</u>			┟━┅═┼═		Transferred from COC 2006-00392	
26	9106-0014-011F	6/09/06	12:44	<u>SE</u>	<u> </u>	BP	[I ransienten from COC 2008-00392	
	NOTES: PO #: 002332	MSR #: 06- ማኒ	SSWI FF	P# NA	🛛 LTP	QA 🗌	Radw	aste QA		Non QA		Samples Shipped Via: Fed Ex UPS Hand	Stringen (Company) Terris Gesettersteiner Date Stringen
	1) Relinguished By		Date/Tim	e	2) Recei	ed By	7	I.a.		Date/Tir	me		Autor Sat linet
	SAIME RIADTE	チレ	2-06/12	.00	N	Ain.	5	OF		7/13/	he as	Other	
	3) Relinquished By		Date/Tim	6	4) Rocki	ved By	(-	Date/Tir	me	Bill of Lading #	N
l	5) Relinquished By	e	6) Received By Date/Time 792/ 4950 3990										

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Page 23 c	Connecticut 1 362 Injun	Yankee At	omic Po	wer C , CT 0642	ompan 4	у			Ch	ain of Cu	istody	Form	No. 2006-00460
of 1	Project Name: Haddam 1	Neck Decom	nissioning	<u> </u>				Ana	lyses Requested			DISCOUV	
80	Contact Name & Phone: Jack McCarthy 860-267	act Name & Phone: McCarthy 860-267-2556 Ext. 3924									e	prometris:	
	Analytical Lab (Name, C General Engineering Lab 2040 Savage Road. Charl 843 556 8171. Attn. Che	ity, State) oratories leston SC. 294 eryl Jones	407				SSGAM	FSSALL					
	Priority: 🗌 30 D. 🔀 14	D. 🗌 7 D.		Madia	Sample	Container Size-	, l	.2					
	Sample Designation	Date	Time	Code	Code	Code					LE	Comment, Preservation	Part Second Second
047	9106-0014-003F	6/14/06	08:46	SE	С	BP		X			Tr	ansferred from COC 2006-00396	
033	9106-0014-007F	6/14/06	09:13	SE	C	BP	X				Tr	ansferred from COC 2006-00396	
034	9106-0014-008F	6/14/06	07:34	SE	C	BP	X				- Ti	ransferred from COC 2006-00396	
035	9106-0014-008FS	6/14/06	07:34	SE	С	BP	X				T	ransferred from COC 2006-00396	
126	9106-0014-014F	6/14/06	10:23	SE	C	BP	X					ransferred from COC 2006-00396	
••						L		L					
		_		L		<u> </u>	L			↓			
				L]					L	╺┥┈┤╌		
				<u> </u>	L								
	NOTES: PO #: 002332	MSR #: 06-	SSW) is s	P# NA	🛛 LTP	QA 🗌	Radw	vaste QA] Non QA		Samples Shipped Via: Fed Ex UPS Hand	Anternal Container Tentral 24 Deg of Sectors Sector?
	1) Relinquished By JAIME RIGHTE	7-12	Date/Tim 2-06/120	10 10	2) Recei	yed By	6) Stra	>	Date/Time	084	- Other	
	3) Relinquished By		Date/Tim	le	4) Rocoi	wed By	7			Date/Time		Bill of Lading #	
	5) Relinquished By		Date/Tim	ne	6) Recei	ived By		<u></u>		Date/Time		792/ 4950 3978	

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Page 24 (Connecticut 362 Injun	Yankee At 1 Hollow Road, E 860-267	omic Po ast Hampton	wer C , CT 0642	ompan 4	y			Ch	ain of	Custo	ody	Form	No. 20	006-00461
of 1	Project Name: Haddam 1	Neck Decomn	nissioning					Ana	yses R	lequested		L	Manager and a second		
80	Contact Name & Phone: Jack McCarthy 860-26	7-2556 Ext. 3	3924												
	Analytical Lab (Name, C General Engineering Lab 2040 Savage Road. Charl 843 556 8171. Attn. Che	ity, State) poratories leston SC. 294 eryl Jones	y, State) ratories ston SC. 29407 yl Jones				SSGAM	FSSALL							
	Priority: 🗌 30 D. 🔀 14	D. 🗌 7 D.		Media	Sample	Container Size- &Type	щ								
	Sample Designation	Date	Time	Code	Code	Code							Comment, Preservation	公共 主	
031	9106-0014-015F	6/14/06	11:39	SE	C	BP	X					Тп	insferred from COC 2006-00396	17.20	
05	9106-0014-020F	6/14/06	13:10	SE	C	BP	X					Tr	insferred from COC 2006-00396		
639	9106-0014-026F	6/14/06	13:53	SE	C	BP	X					Tn	unsferred from COC 2006-00396		
046	9106-0014-027F	6/14/06	14:26	SE	C	BP	X					Tr	insferred from COC 2006-00396		
6A	9106-0014-027FS	6/14/06	14:26	SE	С	BP	X					Tr	insferred from COC 2006-00396		
00	9106-0014-033F	6/14/06	15:04	SE	C	BP	X								
V ••				[141	
											· .				
	NOTES: PO #: 002332	MSR #: 06- <i>0</i> 92	SSWI 78	P# NA	🛛 LTP	QA 🗌	Radw	vaste QA] Non Q/	A		Samples Shipped Via: Fed Ex UPS Hand		nel Container
							\sim	`							
	1) Relinquished By JAIME RIVARTE	7-12	Date/Tim -06/120	ie O	2) Reo	ved By	6	the		Date/Ti	ime 106 0	945	Other		dy Soul Litact?
	3) Relinquished By	e	4) Becei	Date/Time				ime		Bill of Lading #		N N D			
	5) Relinquished By	e	6) Recei	ved By	Date/Time			ime		7921 4950 3978					



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SAMPLE RECEIPT & REVIEW FORM

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"PITORIES"				PM use only							
Client: YANK				SDG/ARCOC/Work Order: 16704							
Date Received: 7/13/06	L			PM(A) Review (ensure non-conforming items are resolved prior to signing):							
Received By:				1 auth							
Sample Receipt Criteria	Yes	NA	°N	Comments/Qualifiers (Required for Non-Conforming Items)							
1 Shipping containers received intac and sealed?	-1		·	Circle Applicable: seals broken damaged container leaking container other (describe)							
Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.				Circle Coolant # ice bags blue ice dry ice none other describe)							
3 Chain of custody documents included with shipment?											
4 Sample containers intact and sealed?			1	Circle Applicable: seats broken damaged container teaking container other (describe)							
5 Samples requiring chemical preservation at proper pH?		T	5	Sample ID's, containers affected and observed pH:							
6 VOA vials free of headspace (defined as < 6mm bubble)?		Τ	s	ample ID's and containers affected:							
Are Encore containers present? (If yes, immediately deliver to VOA laboratory)			T								
Samples received within holding time?		·	7	and tests affected:							
Sample ID's on COC match ID's on bottles?			Sa	mple ID's and containers affected:							
Date & time on COC match date & time on bottles?			Sa	mple ID's affected:							
Number of containers received match number indicated on COC?			Sar	npie ID's affected:							
COC form is properly signed in relinquished/received sections?			\uparrow								
Air Bill , Pracking #'s, & Additional Comments			~!								
Suspected Hazard Information	Regulated Regulated	High Level	RSC +If regu	D RAD Receipt #							
CB Regulated?		<u> </u>	Max	intern Counts Observate:							
hipped as DOT Harandow	A		Com	iments:							
Aaterial? If yes contact Water											
Anager or ESU Manager	$1 \mid$		Haza	rd Class Shipped:							
M (or PMA) residence and				·							
(or Finite) review of Hazard classifi	cation:			Initials AAA							
Page 25 of 108				vare: 7/ 3/06							

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· · · · · · ·			
Connecticut Yankee Statement of Work for Analytical Lab Serv	rices	•	CY-ISC-SOW-001
Figure	1. Sample Check-in Li	st .	
Date/Time Received: 7/13/06	0945.		······
sDG#:	SR#06-0988	2	· · · · · · · · · · · · · · · · · · ·
Work Order Number: 1670	<u>(</u> 4		
Shipping Container ID: 7921 49503	289 Chain of Cust	ody #_ <u>200</u>	6-00456
1. Custody Seals on shipping containe	r intact?	Yes [] N	Ĩo []
2. Custody Seals dated and signed?		Yes [] N	10 []
3. Chain-of-Custody record present?		Yes [] N	ſo []
4. Cooler temperature 24°	2		
5. Vermiculite/packing materials is:		Wet []1	איל ()
 Number of samples in shipping cont Semple holding the samples in the same set of the	ainer:9		
. Sample holding times exceeded?		Yes HTN	0[]
8. Samples have:			
tape	_hazard labels		
custody seals	_appropriate sample lab	els	
9. Samples are:			
in good condition	leaking		
broken	have air bubbles	•	
Description of ensure the first start	ple receipt?	Yes [] No	H-
	ple numbers):		<u> </u>
		•	
mple Custodian/Laboratory:		1	
lephoned to:	_On	_ Date:	3/06 0945
	- D		

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	Connecticut Yankee
· ·	Statement of Work for Analytical Lab Services CY-ISC-SOW-001
•	Figure 1. Sample Check-in List
•••	Date/Time Received: 7/13/06 0945
	SDG#:MSR#06-0988
• .	Work Order Number: 167014
	7921 4950 3978 Shipping Container ID: 2006 - 00457 Chain of Custody # 2006 - 00457
· • •	1. Custody Seals on shipping container intact? Yes [TNo []
	2. Custody Seals dated and signed? Yes [1] No []
	3. Chain-of-Custody record present? Yes [] No []
	4. Cooler temperature $24^{\circ}l$
•	5. Vermiculite/packing materials is: Wet HDry [1]
	6. Number of samples in shipping container:
· · ·	7. Sample holding times exceeded? Yes LYNo []
•	
- ,	8. Samples have:
	hazard labels
	appropriate sample labels
	 Custody sealsappropriate sample labels Samples are:
	9. Samples are:
	9. Samples are: in good conditionleaking
	9. Samples are: in good conditionleaking brokenhave air bubbles
	 9. Samples are: in good conditionleakingbrokenhave air bubbles 0. Were any anomalies identified in sample receipt?
	9. Samples are: in good conditionleakingbrokenhave air bubbles 0. Were any anomalies identified in sample receipt? Yes [] No H 1. Description of anomalies (include sample number)
1	9. Samples are: in good conditionleakingbrokenhave air bubbles 0. Were any anomalies identified in sample receipt? Yes [] No [] 1. Description of anomalies (include sample numbers):
	9. Samples are: in good conditionleakingbrokenhave air bubbles 0. Were any anomalies identified in sample receipt? Yes [] No [] 1. Description of anomalies (include sample numbers):
1	9. Samples are: in good conditionleaking broken have air bubbles 0. Were any anomalies identified in sample receipt? Yes [] No [] 1. Description of anomalies (include sample numbers):
li I: Sa Te	Custody sealsappropriate sample labels 9. Samples are:in good conditionleakingbrokenhave air bubbles 0. Were any anomalies identified in sample receipt? Yes [] No [] 1. Description of anomalies (include sample numbers): I. Description of anomalies (include sample numbers): I. Description of anomalies (include sample numbers):
l I Sa Te	Custody seals
l I Sa Te	

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	Figure 1. Sample Check-in Li	ist
Date/Time Received:	7/13/06 0945	
SDG#:	MSR#06-0988	
Work Order Number:	167014	
Shipping Container ID: 72	2 <u>4450 5967</u> Chain of Cust	ody #_2006-00458
. Custody Seals on shi	ipping container intact?	Yes [] No []
Custody Seals dated	and signed?	Yes [/ No []
. Chain-of-Custody re	cord present?	Yes [/ No []
. Cooler temperature _	24%	· · ·
. Vermiculite/packing	materials is:	Wet [] Dry []
Number of samples in	a shipping container:9	
Sample holding times	; exceeded?	Yes [] No []
	-	
8. Samples have:		
8. Samples have:	hazard laholo	
8. Samples have: 	hazard labels	÷
8. Samples have: 	hazard labels appropriate sample labe	* cls
 8. Samples have: tape custody seals 9. Samples are: 	hazard labels appropriate sample lab	els
 8. Samples have: tape custody seals 9. Samples are: in good condition 	hazard labels appropriate sample lab	els
 8. Samples have: tape custody seals 9. Samples are: in good conditionbroken 	hazard labels appropriate sample labels onleaking have air bubbles	els
 8. Samples have: tape custody seals 9. Samples are: in good condition broken 	hazard labels appropriate sample labels Onleaking have air bubbles	els
 8. Samples have: tape custody seals 9. Samples are: in good condition broken Were any anomalies identifies 	hazard labels appropriate sample lab onleaking have air bubbles satified in sample receipt?	els Yes [] No []
 8. Samples have: tape custody seals 9. Samples are: in good condition broken Were any anomalies ide Description of anomalies 	hazard labels appropriate sample lab onleaking have air bubbles entified in sample receipt?	els Yes [] No [J
 8. Samples have: tape custody seals 9. Samples are: in good condition broken Were any anomalies ide broken 	hazard labels appropriate sample lab onleaking have air bubbles entified in sample receipt? es (include sample numbers):	els Yes [] No L
 8. Samples have: 	hazard labels appropriate sample lab onleaking have air bubbles entified in sample receipt? es (include sample numbers):	els Yes [] No L

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Statement of Work for An	alytical Lad Services		/
	Figure 1. Sample Check	-in List	· · .
Date/Time Received:	7/13/06 094	15	
SDG#:	MSR#06-0988		
Work Order Number:	167014		·· · ·
Shipping Container ID:	7921 4950 3990 Chain of	Custody #_2006-004	59
1. Custody Seals on	shipping container intact?	Yes [/ No []	
2. Custody Seals dat	ed and signed?	Yes [] No []	
3. Chain-of-Custody	record present?	Yes [] No []	
4. Cooler temperatur	re	· · · ·	· · · · ·
5. Vermiculite/packi	ng materials is:	Wet [/ Dry []]	•
6. Number of sample	es in shipping container:		
7. Sample holding tu	mes exceeded?	Yes [7] No []	
	hazard labels	e. ple labels	
9. Samples are:			
in good cor	ndition leaking		
broken	have air bubb	les	
0. Were any anomalie	es identified in sample receipt?	Yes [] No []	
	maines (include sample numbers):		
			
	N. F. SIF		· · · · · ·
ample Custodian/Laborato	ry: 11 oun an Aller	Date: 7/13/06	0945
	On	By	

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Connecticut Yankee Statement of Work for Analytical Lab Services CY-ISC-SOW-00 Figure 1. Sample Check-in List 7945 Date/Time Received USR#06-0988 SDG#: 16704 Work Order Number STROY Chain of Custody # 2006-00460 Shipping Container ID -004 Custody Seals on shipping container intact? Ł Yes [No [] 2. Custody Seals dated and signed? Yes [] No [] Chain-of-Custody record present? 3. Yes LINO [] 2.8°2 4. Cooler temperature 5. Vermiculite/packing materials is: Wet HDry [] Number of samples in shipping container: б. 7. Sample holding times exceeded? Yes [+ No [] 8. Samples have: tape hazard labels custody seals appropriate sample labels 9. Samples are: in good condition leaking broken have air bubbles Were any anomalies identified in sample receipt? 10. Yes [] No [4 Description of anomalies (include sample numbers): П. Sample Custodian/Laboratory: Telephoned to

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

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Connecticu 362 Ir	t Yankee A ajun Hollow Road, 860-26	tomic Po East Hampton	ower (n, CT 064	Compar 24			Ch	ain o	of C	No. 2006-00443			
Project Name: Haddar	n Neck Decom	missioning	1	T	1	1	Anal	vses Re	aueste	d		Lab Use Only	
Contact Name & Phon Jack McCarthy 860-2	e: 267-3924		1					Ĭ				Comments:	· · ·
Analytical Lab (Name, General Engineering L 2040 Savage Road. Ch 843 556 8171. Attn. C	, City, State) aboratories arleston SC. 29 theryl Jones	9407				SSGAM	SSALL	Sr-90	Ni-63				
Priority: 🗌 30 D. 🕅 1	4 D. 🗌 7 D.	·····	- Media	Sample Type	Container Size- &Type	i i i	H	1					
Sample Designation	Date	Time	Code	Code	Code		ŀ					Comment, Preservation	Lab Sample ID
9106-0015-022F	6-27-06	16:24	SE	C	BP	X		X					
9106-0015-023F	6-27-06	16:03	SE	C	BP	X		X					
<u>9106-0015-024F</u>	6-27-06	15:42	SE	C	BP	X		X					
9106-0015-026F	6-27-06	14:58	SE	С	BP	X		X					
9106-0015-027F	6-27-06	15:17	SE	Ċ	BP	X		X					
9106-0015-028F	6-27-06	14:31	SE	C	BP	X		X					
9106-0015-018F	6-27-06	17:18	SE	С	BP	X		X					
9106-0015-025F	6-27-06	16:43	SE	C	BP	X		X					
9106-0015-021F	6-27-06	17:01	SE	C	BP		X	ļ					
NOTES: PO #: 002332	 2 MSR #: 06-/	1037 ssv	VP# NA	×	LTP QA		Radwa	ste QA		Non	QA	Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: <u>32</u> Deg. C Custody Sealed?
1) Relinquished By JAIME RACART	7-2	Date/Tim 2-06/14	e 1 4 5	2) Receiv	ved By	int		Tlailt	Date/	Time	ېن	Other	Custody Seal Intact?
3) Relinquished By		Date/Tim	e	4) Receiv	ved By	5			Date/	Time		Bill of Lading #	YO NO

Health Physics Procedure

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Health Physics Procedure

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

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Page 32 o	Connecticut 362 Inju	Yankee At n Hollow Road, I 860-26	tomic Po East Hampton 7-2556	wer C , CT 0642	ompan 4	y			Ch	ain o	f Cı	istoc	ly Form	No. 2006-00448
Ť	Project Name: Haddam	Neck Decomr	nissioning					Anal	yses Re	questeo	1		nuce on v	
80	Contact Name & Phone: Jack McCarthy 860-26	57-3924]									intents.	
	Analytical Lab (Name, C General Engineering Lal 2040 Savage Road. Char 843 556 8171. Attn. Ch	City, State) boratories rleston SC. 29 eryl Jones	407				SSGAM	FSSALL	Sr-90					
	Priority: 🗌 30 D. 🛛 14	D. [] 7 D.		Media	Sample Type	Container Size- &Type								
	Sample Designation	Date	Time	Code	Code	Code	('				┢╍╍┥		Comment, Preservation	Lab sample ID
8	9106-0015-011F	6-28-06	14:39	SE		BP		 	X	ļ	┟──┤			
٩	9106-0015-012F	6-28-06	10:58	SE OF	C			 	X		╀┈┥			
Ø	9100-0015-013F	6-28-06	10:04	SE GE						<u> </u>	╂			
N	9100-0015-014F	0-28-00	09:05	SE					<u> </u>		╀┈┥			
51	9100-0013-015F	6 28 06	08:25	SE		BP				 	┟─┤			
	0106_0015_017F	6 28.06	00:40	SE SE			+		┝╤╴	 	╉──┤			
	9106-0015-019F	6-28-06	09:47	SE			\downarrow		A V		╉╍╌┨			
	9106-0015-020F	6-28-06	07.59	SE		RP	$\frac{1}{2}$		+ Â		┼──┨			
0			01.07		⊢ Ŭ					 	╂──┤		······	
	NOTES: PO #: 002332	MSR #: 06-	1037 ssv	VP# NA		LTP QA		Radwa	aste QA		Non	QA	Samples Shipped Via: Fed Ex UPS Hand	Internal Container Terno 21 Deg C Custods Seales?
	1) Relinquished By		Date/Tim	e	2) Received By Date/Time								Gustody Seal Intact?	
	JAIME KILANTE	7-	10-06/14	45	T X 7	elsie	<u>sh y</u>	<u> </u>	Mail	100	<u> 93</u>	<u>ں</u>	U Other	
	3) Relinquished By		Date/Tim	e	4) Received By Date/Time								Bill of Lading # 1910 57 11 1286	YOND

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

Page 55 0	Connecticut 362 Inju	Yankee At	tomic Po East Hamptor	wer Company , CT 06424 Chain of Custod								y Form	No. 2006-00447	
I I	Project Name: Haddam N	eck Decommiss	ioning	T	T	T	1	Anal	vses Re	auested		La	Use Only	
SC	Contact Name & Phone: Jack McCarthy 860-267-	-3924		1								Co	nments	
	Analytical Lab (Name, Cit General Engineering Labor 2040 Savage Road. Charle 843 556 8171. Attn. Chery	y, State) ratories ston SC. 29407 yl Jones					FSSGAM	FSSALL	Sr-90				анан (тр. 1997) 19 аны - Санан (тр. 1997) 19 аны - Санан (тр. 1997)	
	Priority: 🗌 30 D. 🕅 14	D. 🗌 7 D.		Media	Sample Type	Container Size- &Type								
	Sample Designation	Date	Time	Code	Code	Code		• •					Comment, Preservation	Jab Sample ID
A	9106-0015-001F	6-28-06	13:36	SE	С	BP	X		X					
٥	9106-0015-002F	6-28-06	14:15	SE	С	BP	X		X					
11	9106-0015-003F	6-28-06	13:15	SE	C	BP	X		X					
ø	9106-0015-004F	6-28-06	12:54	SE	C	BP		X						
'2	9106-0015-005F	6-28-06	15:47	SE	C	BP	X		X				· · · · · · · · · · · · · · · · · · ·	
13	9106-0015-006F	6-28-06	16:10	SE	C	BP	X		X					
4	9106-0015-007F	6-28-06	11:33	SE	C	BP	X		X			_		
5	9106-0015-008F	6-28-06	11:10	SE	С	BP	X		X					
6	9106-0015-009F	6-28-06	10:25	SE	С	BP	X		X					
7	9106-0015-010F	6-28-06	15:17	SE	C	BP	X		X					
	NOTES: PO #: 002332	MSR #: 06- <i>*</i>	557 SST	WP# NA		LTP QA		Radwa	aste QA		Non Ç	QA	Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp: <u>23</u> Deg. C Custody Senied?
	1) Relinquished By SAIME REANTE. 3) Relinquished By	7.20	Date/Tim Date/Tim Date/Tim	ne 45 ne	2) Recei 4) Recei	ived By	nt		74	Date/ Date/ Date/	Fime	30_	Other	Custody Seal Intact?
					<u> </u>	·		<u>.</u>					- 7910 5711 (220	

Health Physics Procedure
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	Health Physics Proc	cedure	167.	556	./						GPP	-GGG	R-R5104-003-Attachment B	-CY-001 Major	
Page 34	Connecticut Yankee Atomic Power Company 362 Injun Hollow Road, East Hampton, CT 06424								Chain of Custody Form						
<u>5</u>	Project Name: Haddam	Neck Decomn	nissioning					Anal	yses Re	quested			Intuition of the second se		
8	Contact Name & Phone: Jack McCarthy 860-26	7-3924											Shurens		
	Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 2 843 556 8171. Attn. Cheryl Jones		ne, City, State) ; Laboratories Charleston SC. 29407 . Cheryl Jones					SSGAM	FSSALL	Sr-90					
	Priority: 🗌 30 D. 🔀 14	D. 🗌 7 D.		Mcdia	Sample Type	Container Size- &Type									
_	Sample Designation	Date	Time	Code	Code	Code	۲ 					_	Comment, Preservation	Lab Sample ID	
24	9106-0015-005FS	6-28-06	15:47	SE	C	BP	X		X				<u></u>		
24	9106-0015-012FS	6-28-06	10:58	SE		BP	X	ļ							
ᇥ	9100-0013-018FS	- 0-2/-00	17:18	SE		BP			^						
				<u> </u>											
			···						<u> </u>						
	· · · · · · · · · · · · · · · · · · ·								+						
								<u>+</u> ,-							
									1				·····		
	NOTES: PO #: 002332	MSR #: 06- /	037 ssv	VP# NA		LTP QA		Radwa	aste QA		Non	QA	Samples Shipped Via: Fed Ex UPS Hand	Diteriul Container Temp 24 Deg C 2 V Custody Sealed? X □ N 7	
	1) Relinquished By JAIME RUARTE	7.	Date/Tim 20-06/1	e 445	2) Recei	ved By	A	-1	zilor	Date/	Time)	Other	Custody Seal Intact	
	3) Relinquished By		Date/Tim	e	4) Recei	vedBy				Date/	Time		Bill of Lading #	YO ND	



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SAMPLE RECEIPT & REVIEW FORM

- (- **)**

OPATORIES,				PM use only
Client: Conn. Vank.	<u> </u>			SDG/ARCOC/Work Order: 167554.167555.16755
Date Received: 712100				PM(A) Review (ensure non-conforming tens are resolved prior to signing):
Received By:		-		auth
Sample Receipt Criteria	Vas	NA	°Z,	Comments/Qualifiers (Required for Non-Conforming Items)
Shipping containers received int and sealed?	act			Circle Applicable: seals broken damaged constiner leaking costainer other (describe)
Samples requiring cold 2 preservation within (4 +/- 2 C) Record preservation method.	?].	·		Circle Coolans / ice bags blue ice dry ice none other describe)
3 Chain of custody documents included with shipment?	[/			
4 Sample containers intact and sealed?	17			Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?		\angle		Sample ID's, containers affected and observed pH:
6 VUA viais free of headspace (defined as < 6mm bubble)? Are Encore containers present?	+	\square		Sample ID's and containers affected:
7 (If yes, immediately deliver to VOA laboratory)			/	
B Samples received within holding time?	/		. h	d's and resss affected:
Sample ID's on COC match ID's on bottles?			/ ^s	ample ID's and coussiners affected: BCE CONT. Sheet
Date & time on COC match date & time on bottles?	/		Si	unple ID's affected:
Number of containers received match number indicated on COC?			Sa	mple ID's affected:
COC form is properly signed in relinquished/received sections?	\angle			
Air Bill , Tracking #'s, & Additional Comments	Se	e E	the	t
Suspected Hazard Information	Non- Regulated	Regulated	RS *If reg	O RAD Receipt # > x2 area background is observed on samples identified as "non- ulated/non-radioactive", contact the Radiation Safety group for further estigation.
Radiological Classification?	\angle		Ma	ximum Counts Observed*: COVA 40
Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.	/		Co Haz UN	ard Class Shipped:
PM (or PMA) review of Hazard class	ificatio	n:		Initials AVI- Day 21-1-
Page 35 of 108				Date: 7/21/06

• • •	Connecticut Yankee		•
	Statement of Work for Analytical Lab Services	CY-ISC-SOW-00	<u>.</u> ,
• • • •	Figure 1. Sample Check-in List		
· · · ·	Date/Time Received: 7121/00 0930.		
	SDG#: MSR#06-1035 MSR#06-1036 MSR	#06-1037	
•	Work Order Number: 167556		· · ·
•	Shipping Container ID: See COAL Sheet Chain of Custody	# See Cont. Sheet	, . , •
· · · · · ·	1. Custody Seals on shipping container intact?	Yes [] No [/]	· .
	2. Custody Seals dated and signed?	Yes [] No [] NA	
	3. Chain-of-Custody record present?	Yes [/ No []	, ,
	4. Cooler temperature <u>See Cont</u> Sheet.	1	• : :• •
	5. Vermiculite/packing materials is:	Wet [] Dry [] NA	
	6. Number of samples in shipping container: See Cont	Sheef.	
•	7. Sample holding times exceeded?	Yes [] No []	
•	R Samulan hauss		
. ·	hazard labels		·.
	appropriate sample labels		
	9. Samples are:		
	in good conditionleaking		· . ·
• •	brokenhave air bubbles		. ••
ł			· ·
	10. Were any anomalies identified in sample receipt?	Yes [] No []	
•	11. Description of anomalies (include sample numbers):		
-			
S	ample Custodian/Laboratory: K. Lifteant	Date: 7 21 06	
า	clephoned to:OnBy_		
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SAMPLE RECEIPT & REVIEW FORM CONTINUATION FORM

Fed ex #'s	# ch containers	
7910 5711 1209 - 21.5	<u>q</u>	2006-00-44
1301 - 22.0	8	2006-0448
1194 - 21.0	10	2006-00447
1286 - 21.6	8	2006-00434
1220 - 23'C	9	2000-00443
(12104) 1 Coder Wout Feder # -	21.0 8	2004-00-418/00441
Chain # 2006-00444:		
Sample # 9106-0013-004	F actually reads	
9106-0013-00	4FS	
······································		·
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Nana		
- <u></u>		
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Connecticut Ya 362 Injun H	ankee At ollow Road, E 860-267	omic Pov ast Hampton, -2556	wer Co CT 06424	ompan;	у			Cha	ain of	f Custo	ody Form	No. 2006-00496
Project Name: Haddam Ne	ck Decomn	nissioning					An	alyses R	lequeste	ed be	Let Use Only	
Contact Name & Phone: Jack McCarthy 860-267-2	3924									Comments		
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones						SSGAM	SSALL					
Priority: 30 D. 14 D. 7 D. 3 D.] 3 D.		Samula	Container	Ĥ						169489 /.
Sample Designation	Date	Time	Media Code	Sample Type Code	Size- &Type Code						Comment, Preservation	Lao Sample ID
9106-0001-132F			SE	С	BP	X						
9106-0001-112F			SE	С	BP	X						
9106-0001-132A			SE	С	BP	X	Ľ.					
9106-0001-132B			SE	C	BP	X						
9106-0001-132C			SE	C	BP	X						
9106-0001-132D			SE	С	BP	X						
9106-0001-112A			SE	С	BP	X						
9106-0001-112B			SE	С	BP	X						
9106-0001-112C			SE	С	BP	X						
NOTES: PO #: 002332 MSR #: 06- 1130 SSWP# NA 🛛 LTP QA 🗌 Radwaste QA 🗌 Non QA 🔤 Fed E 🔄 UPS									Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp: Deg. Custody Spaled? Y N		
1) Relinquished By Date/Tim			e	2) Recei	ved By			,	Date/1	Time		Custody Seal
JAIME RILARTE	8-1.	6-06/115	<u>フ</u>	C.L	Juni a	*		8/n/o	6/91	SA	Other	lintaot?
3) Relinquished By	Date/Time			4) Received By Date/Tir				Date/	Time	Bill of Lading #	XD NG	
5) Relinquished By	Relinquished By Date/Time			6) Received By Date/Time					792/ 8130 340	82.		

Conn
Project Name:
Contact Name Jack McCarthy
Analytical Lab General Engin 2040 Savage R 843 556 8171.
Priority: 🔲 30

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Connecticut Y 362 Injun F	ankee At Iollow Road, F 860-267	comic Po East Hampton, 7-2556	wer C , CT 06424	ompan 1	у			Cha	ain o	f Custod	y Form	No. 2006-00497
Project Name: Haddam No	ck Decom	nissioning					An	alyses H	Request	ed	Lakuseony	
Contact Name & Phone: Jack McCarthy 860-267-2556 Ext. 3924											Essamenta s	
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones						SSGAM	SSALL					
Priority: 🗍 30 D. 📄 14 D. 📄 7 D. 🖾 3 D.					Container	Ę	L H					
Sample Designation	Date	Time	Media Code	Sample Type Code	Size- &Type Code						Comment, Preservation	Left Sample ID
9106-0001-112D			SE	C	BP	Х						
	<u> </u>		ļ									
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NOTES: PO #: 002332 MSR #: 06- 1130 SSWP# NA 🛛 LTP QA 🗌 Radwaste QA									Non QA	Samples Shipped Via: Fed Ex UPS Hand	hierität Container Fortp: Deg Custoriy Spated? YO N D	
1) Relinquished By Date/Tin			e	2) Recei	ved By				Date/	Time	1_	Custody Seal
JAIME RICARTE. 8-16-06/115			5	C.A	ini cot			8	7/06	@915+	Other	intact?
3) Relinquished By	3) Relinquished By Date/Time			4) Received By Date/Time						Bill of Lading #	YOND	
5) Relinquished By Date/Tim			e	6) Received By Date/Time						79,21 8130 3482		

Connecticut Yankee Statement of Work for Analys	tical Lab Services	CY-ISC-S	<u>0W-001</u>
	Figure 1. Sample Check	t-in List	
Date/Time Received:	117/04 Q 915A.		· · ·
SDG#:	MSR#06-1130)	**
Work Order Number:	169489%		·
Shipping Container ID: 792	16130 3482 Chain of	Custody #	2
1. Custody Seals on ship	ping container intact?	Yes [] No [4]	•••••
2. Custody Seals dated a	nd signed?	Yes [] No []	
3. Chain-of-Custody reco	ord present?	Yes [] No []	
4. Cooler temperature	26.0	· · · · · · · · · · · · · · · · · · ·	
5. Vermiculite/packing m	naterials is:	Wet [Y Dry [,]	•
6. Number of samples in	shipping container:10	Sampks	· · · · ·
7. Sample holding times e	exceeded?	Yes [] No []	
8. Samples have:			
tane	hazard labala		· . [.
custody seals		9. 1- 1-1 - 1-	
9. Samples are:			
in good condition	nleaking		
broken	have air bubble	ES	
0. Were any anomalies ider	ntified in memole ways to a		
I. Description of anomalies	(include sample t	Yes [] No [4	
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SAMPLE RECEIPT & REVIEW FORM CONTINUATION FORM

- Connecticut Vankee Atomic Power Company -
[Date] É [.TIME]
9106132F 8-7-06 É 14:09
9106132C 8-11-06 É 12:58
9106-132B B-11-06 É 10:56
9106-132A 8.11-06 É 10:05
9106-132D 8-11-06 É 1340
9106112F 8-2-06 É 13:54
9106112 C 8-15-06 & 07:43
9106112B 8-14-06 & 14:55
9106112A 8-14-06 é 14:23
9106 112 D 8-15-06 608:47
* COC# 2006-00498 *
9106001 SUR 8-10-06 & 10:14
9104== 002 SUR 8-10-06 & 09:35
9106003 SUR 8-10-06 É 10:53
9106 004SUR 8-10-06 & 12:53
9106005SUR 8-10-06 2 14:09
9106006 SUR 8-10-00 & 14:35



Radiochemistry Case Narrative Connecticut Yankee Atomic Power Co. (YANK) Work Order 170683

Method/Analysis Information

Product:Alphaspec Am241, Cm, Solid ALL FSSAnalytical Method:DOE EML HASL-300, Am-05-RC ModifiedPrep Method:Ash Soil PrepDry Soil Prep GL-RAD-A-021 Method:Dry Soil PrepAnalytical Batch Number:565213Prep Batch Number:564526Dry Soil Prep GL-RAD-A-021 Batch Number:564525

Sample ID	Client ID
170683004	9106-0013-006F
170683005	9106-0013-005F
170683008	9106-0015-018F
170683009	9106-0015-002F
170683010	9106-0001-132F
1201175602	Method Blank (MB)
1201175603	170683004(9106-0013-006F) Sample Duplicate (DUP)
1201175604	170683004(9106-0013-006F) Matrix Spike (MS)
1201175605	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 14.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 170683004 (9106-0013-006F).

QC Information

All of the QC samples met the required acceptance limits.

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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

The sample and the duplicate, 1201175603 (9106-0013-006F) and 170683004 (9106-0013-006F), did not meet the relative percent difference requirement, however they do meet the relative error ratio requirement with value of 2.11.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Alphaspec Am241, Cm, Solid ALL FSS
Analytical Method:	DOE EML HASL-300, Am-05-RC Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	567705
Prep Batch Number:	564526
Dry Soil Prep GL-RAD-A-021 Batch Number:	564525

Sample ID	Client ID
170683001	9106-0011-018F

1,0000001	
170683002	9106-0012-005F
170683003	9106-0012-014F
170683006	9106-0014-012F
170683007	9106-0014-033F
1201181287	Method Blank (MB)
1201181288	170683003(9106-0012-014F) Sample Duplicate (DUP)
1201181289	170683003(9106-0012-014F) Matrix Spike (MS)
1201181290	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering

Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 14.

<u>Calibration Information:</u>

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: 170683003 (9106-0012-014F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Batch reprepped due to Thorium interference.

Miscellaneous Information:

NCR Documentation

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The sample and the duplicate,1201181288 (9106-0012-014F) and 170683003 (9106-0012-014F), did not meet the Am-241 relative percent difference requirement, however they do meet the relative error ratio requirement with a value of 0.512.

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 ModifiedPrep Method:Ash Soil PrepDry Soil Prep GL-RAD-A-021 Method:Dry Soil PrepAnalytical Batch Number:565210Prep Batch Number:564526Dry Soil Prep GL-RAD-A-021 Batch Number:564525

Sample ID	Client ID
170683001	9106-0011-018F
170683002	9106-0012-005F
170683003	9106-0012-014F
170683006	9106-0014-012F
170683007	9106-0014-033F
1201175591	Method Blank (MB)
1201175592	170683001(9106-0011-018F) Sample Duplicate (DUP)
1201175593	170683001(9106-0011-018F) Matrix Spike (MS)
1201175594	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 14.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 170683001 (9106-0011-018F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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.

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:	565214
Prep Batch Number:	564526
Dry Soil Prep GL-RAD-A-021 Batch Number:	564525

Sample ID Client ID

170683004	9106-0013-006F
170683005	9106-0013-005F
170683008	9106-0015-018F
170683009	9106-0015-002F
170683010	9106-0001-132F
1201175606	Method Blank (MB)
1201175607	170683004(9106-0013-006F) Sample Duplicate (DUP)
1201175608	170683004(9106-0013-006F) Matrix Spike (MS)
1201175609	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 14.

<u>Calibration Information:</u>

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: 170683004 (9106-0013-006F).

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.

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:	565216
Prep Batch Number:	564526
Dry Soil Prep GL-RAD-A-021 Batch Number:	564525

Sample ID	Client ID
170683004	9106-0013-006F
170683005	9106-0013-005F
170683008	9106-0015-018F
170683009	9106-0015-002F
170683010	9106-0001-132F
1201175614	Method Blank (MB)
1201175615	170683004(9106-0013-006F) Sample Duplicate (DUP)

1201175616	170683004(9106-0013-006F) Matrix Spike (MS)
1201175617	Laboratory Control Sample (LCS)

SOP Reference

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

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 170683004 (9106-0013-006F).

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 1201175614 (MB), 1201175615 (9106-0013-006F), 170683004 (9106-0013-006F), 170683005 (9106-0013-005F), 170683008 (9106-0015-018F), 170683009 (9106-0015-002F) and 170683010 (9106-0001-132F) were recounted due to high MDAs.

Miscellaneous Information:

NCR Documentation

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

Manual Integration

No manual integrations were performed on data in this batch.

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:	567883
Prep Batch Number:	564526
Dry Soil Prep GL-RAD-A-021 Batch Number	: 564525

Sample ID	Client ID
170683001	9106-0011-018F
170683002	9106-0012-005F
170683003	9106-0012-014F
170683006	9106-0014-012F
170683007	9106-0014-033F
1201181751	Method Blank (MB)
1201181752	170683001(9106-0011-018F) Sample Duplicate (DUP)
1201181753	170683001(9106-0011-018F) Matrix Spike (MS)
1201181754	Laboratory Control Sample (LCS)

SOP Reference

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

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 170683001 (9106-0011-018F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

The batch was reprepped due to high MDAs.

Miscellaneous Information:

NCR Documentation

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

Manual Integration

No manual integrations were performed on data in this batch.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	GFPC, Sr90, solid-ALL FSS
Analytical Method:	EPA 905.0 Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	565250
Prep Batch Number:	564526
Dry Soil Prep GL-RAD-A-021 Batch Number:	564525

Sample ID	Client ID
170683001	9106-0011-018F
170683002	9106-0012-005F
170683003	9106-0012-014F
170683006	9106-0014-012F
170683007	9106-0014-033F
1201175679	Method Blank (MB)
1201175680	170683002(9106-0012-005F) Sample Duplicate (DUP)
1201175681	170683002(9106-0012-005F) Matrix Spike (MS)
1201175682	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-004 REV# 10.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 170683002 (9106-0012-005F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples 170683001 (9106-0011-018F) and 170683006 (9106-0014-012F) were recounted due to high MDAs.

Chemical Recoveries

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

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Samples were dried and reweighed due to low matrix spike recovery.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	GFPC, Sr90, solid-ALL FSS
Analytical Method:	EPA 905.0 Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	565253
Prep Batch Number:	564526
Dry Soil Prep GL-RAD-A-021 Batch Number	: 564525

Sample ID	Client ID
170683004	9106-0013-006F
170683005	9106-0013-005F
170683010	9106-0001-132F

1201175686	Method Blank (MB)
1201175687	170683005(9106-0013-005F) Sample Duplicate (DUP)
1201175688	170683005(9106-0013-005F) Matrix Spike (MS)
1201175689	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-004 REV# 10.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 170683005 (9106-0013-005F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

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.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:Liquid Scint Tc99, Solid-ALL FSSAnalytical Method:DOE EML HASL-300, Tc-02-RC Modified

Analytical Batch Number: 564445

Sample ID	Client ID
170683004	9106-0013-006F
170683005	9106-0013-005F
170683008	9106-0015-018F
170683009	9106-0015-002F
1201173840	Method Blank (MB)
1201173841	170544018(9304-0002-005F) Sample Duplicate (DUP)
1201173842	170544018(9304-0002-005F) Matrix Spike (MS)
1201173843	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-005 REV# 13.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 170544018 (9304-0002-005F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

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:	564623

Sample ID Client ID

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170683001	9106-0011-018F
170683002	9106-0012-005F
170683003	9106-0012-014F
170683006	9106-0014-012F
170683007	9106-0014-033F
1201174253	Method Blank (MB)
1201174254	170683001(9106-0011-018F) Sample Duplicate (DUP)
1201174255	170683001(9106-0011-018F) Matrix Spike (MS)
1201174256	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-005 REV# 13.

<u>Calibration Information:</u>

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: 170683001 (9106-0011-018F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Sample 1201174254 (9106-0011-018F) was recounted due to high MDA.

Miscellaneous Information:

NCR Documentation

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

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:	565648

Sample ID Client ID

170683010	9106-0001-132F
1201176786	Method Blank (MB)
1201176787	170683010(9106-0001-132F) Sample Duplicate (DUP)
1201176788	170683010(9106-0001-132F) Matrix Spike (MS)
1201176789	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-005 REV# 13.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 170683010 (9106-0001-132F).

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.

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:	565287
Prep Batch Number:	564526
Dry Soil Prep GL-RAD-A-021 Batch Number	: 564525

Sample ID	Client ID
170683001	9106-0011-018F
170683002	9106-0012-005F
170683003	9106-0012-014F
170683006	9106-0014-012F
170683007	9106-0014-033F
1201175808	Method Blank (MB)
1201175809	170683006(9106-0014-012F) Sample Duplicate (DUP)
1201175810	170683006(9106-0014-012F) Matrix Spike (MS)
1201175811	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-040 REV# 3.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 170683006 (9106-0014-012F).

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 1201175810 (9106-0014-012F), 170683001 (9106-0011-018F), 170683002 (9106-0012-005F) and 170683006 (9106-0014-012F) were recounted due to the quench number being outside 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. The following NCR was generated for this SDG:

NCR 356906 was generated due to Container scanning event for custody missed. 1. The analyst did not scan the sample 170683001 into the batch prior to analysis, however the samples did remain in their custody at all times. 1. The error has been corrected and the analyst has been instructed on the proper scanning procedures. Reporting results.

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:	565291
Prep Batch Number:	564526

Dry Soil Prep GL-RAD-A-021 Batch Number: 564525

Sample ID	Client ID
170683004	9106-0013-006F
170683005	9106-0013-005F
170683008	9106-0015-018F
170683009	9106-0015-002F
170683010	9106-0001-132F
1201175818	Method Blank (MB)
1201175819	170683004(9106-0013-006F) Sample Duplicate (DUP)
1201175820	170683004(9106-0013-006F) Matrix Spike (MS)
1201175821	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-040 REV# 3.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 170683004 (9106-0013-006F).

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 170683004 (9106-0013-006F) and 170683009 (9106-0015-002F) were recounted due to the quench number being outside 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.

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:	565289
Prep Batch Number:	564526
Dry Soil Prep GL-RAD-A-021 Batch Number:	564525

Sample ID	Client ID
170683002	9106-0012-005F
170683003	9106-0012-014F
170683006	9106-0014-012F
170683007	9106-0014-033F
1201175814	Method Blank (MB)
1201175815	170683006(9106-0014-012F) Sample Duplicate (DUP)
1201175816	170683006(9106-0014-012F) Matrix Spike (MS)
1201175817	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-022 REV# 8.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 170683006 (9106-0014-012F).

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.

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:	565293
Prep Batch Number:	564526
Dry Soil Prep GL-RAD-A-021 Batch Numb	per: 564525

Sample ID	Client ID
170683004	9106-0013-006F
170683005	9106-0013-005F
170683008	9106-0015-018F
170683009	9106-0015-002F
170683010	9106-0001-132F
1201175822	Method Blank (MB)
1201175823	170683004(9106-0013-006F) Sample Duplicate (DUP)
1201175824	170683004(9106-0013-006F) Matrix Spike (MS)
1201175825	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-022 REV# 8.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 170683004 (9106-0013-006F).

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.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	LSC, Tritium Dist, Solid-HTD2, ALL FSS
Analytical Method:	EPA 906.0 Modified
Analytical Batch Number:	564447

Sample ID	Client ID
170683004	9106-0013-006F
170683005	9106-0013-005F
170683008	9106-0015-018F
170683009	9106-0015-002F
1201173844	Method Blank (MB)
1201173845	170544018(9304-0002-005F) Sample Duplicate (DUP)
1201173846	170544018(9304-0002-005F) Matrix Spike (MS)
1201173847	Laboratory Control Sample (LCS)

SOP Reference

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

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 170544018 (9304-0002-005F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples 1201173846 (9304-0002-005F) and 1201173847 (LCS) were recounted due to low/high recovery.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. The following NCR was generated for this SDG:

NCR 356177 was generated due to Container scanning event for custody missed. 1. Container scanning event for custody missed: The analyst did not scan the samples into the batch prior to analysis, however the samples did remain in their custody at all times. 1. The error has been corrected and the analyst has been instructed on proper scanning procedures. Reporting results

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	LSC, Tritium Dist, Solid-HTD2, ALL FSS
Analytical Method:	EPA 906.0 Modified

Analytical Batch Number: 564514

Sample ID	Client ID
170683001	9106-0011-018F
170683002	9106-0012-005F
170683003	9106-0012-014F
170683006	9106-0014-012F
170683007	9106-0014-033F
1201174038	Method Blank (MB)
1201174039	170683006(9106-0014-012F) Sample Duplicate (DUP)
1201174040	170683006(9106-0014-012F) Matrix Spike (MS)
1201174041	Laboratory Control Sample (LCS)

SOP Reference

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

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 170683006 (9106-0014-012F).

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.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:LSC, Tritium Dist, Solid-HTD2,ALL FSSAnalytical Method:EPA 906.0 ModifiedAnalytical Batch Number:565650

Sample ID Client ID

170683010	9106-0001-132F
1201176794	Method Blank (MB)
1201176795	170683010(9106-0001-132F) Sample Duplicate (DUP)
1201176796	170683010(9106-0001-132F) Matrix Spike (MS)
1201176797	Laboratory Control Sample (LCS)

SOP Reference

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

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 170683010 (9106-0001-132F).

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.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:Liquid Scint C14, Solid All,FSSAnalytical Method:EPA EERF C-01 ModifiedAnalytical Batch Number:564449

Sample ID	Client ID
170683004	9106-0013-006F
170683005	9106-0013-005F
170683008	9106-0015-018F
170683009	9106-0015-002F
1201173848	Method Blank (MB)
1201173849	170544019(9304-0002-008F) Sample Duplicate (DUP)
1201173850	170544019(9304-0002-008F) Matrix Spike (MS)
1201173851	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-003 REV# 8.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 170544019 (9304-0002-008F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Sample 1201173849 (9304-0002-008F) was recounted due to a negative result greater than three times the error. Samples 170683008 (9106-0015-018F) and 170683009 (9106-0015-002F) were recounted to verify results. Second counts being reported.

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.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:Liquid Scint C14, Solid All,FSSAnalytical Method:EPA EERF C-01 ModifiedAnalytical Batch Number:564520

Sample ID	Client ID
170683001	9106-0011-018F
170683002	9106-0012-005F
170683003	9106-0012-014F
170683006	9106-0014-012F
170683007	9106-0014-033F
1201174056	Method Blank (MB)
1201174057	170683007(9106-0014-033F) Sample Duplicate (DUP)
1201174058	170683007(9106-0014-033F) Matrix Spike (MS)
1201174059	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-003 REV# 8.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 170683007 (9106-0014-033F).

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.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:Liquid Scint C14, Solid All,FSSAnalytical Method:EPA EERF C-01 ModifiedAnalytical Batch Number:565649

Sample ID Client ID

-	
170683010	9106-0001-132F
1201176790	Method Blank (MB)
1201176791	170683010(9106-0001-132F) Sample Duplicate (DUP)
1201176792	170683010(9106-0001-132F) Matrix Spike (MS)
1201176793	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-003 REV# 8.

<u>Calibration Information:</u>

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: 170683010 (9106-0001-132F).

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.

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:	Lunch 9/13/06									
	V									
	COMPANY - WIDE NONCONFORMANCE REPORT									
--	---	--	----------------------	--	--	--	--	--	--	--
Mo.Day Yr. 11-SEP-06	Division: Radiochemistry	Quality Criteria: Specifications	Type: Process							
Instrument Type: LSC	Test / Method: DOE RESL Fe-1, Modified	Matrix Type: Solid	Client Code: YANK							
Batch ID: 565287	Sample Numbers: See Below									
Potentially affected work orde Application Issues: Container scanning event for cu	r (s)(SDG): 170683 stody missed									
Specification and Requirement Nonconformance Description	nts :	NRG Disposition:								
1. The analyst did not scan the analysis, however the samples	e sample 170683001 into the batch prior to did remain in their custody at all times.	 The error has been corrected and the analyst has been instructed on the proper scanning procedures. Reporting results. 								
Originator's Name:		Data Validator/Group Lea	ıder:							
Melanie Aycock 11-SEP	2-06	Heather Anderson 1	1-SEP-06							

Quality Review:

Director:

COMPANY - WIDE NONCONFORMANCE REPORT										
Mo.Day Yr. 08-SEP-06	Division: Radiochemistry	Quality Criteria: Specifications	Type: Process							
Instrument Type: LSC	Test / Method: EPA 906.0 Modified	Matrix Type: Solid	Client Code: YANK							
Batch ID: 564447	Sample Numbers: See Below									
Potentially affected work order(s)(SDG): 170543(MSR#06-1172),170544(MSR#06-1174),170683								
Application Issues:										
Container scanning event for custody	y missed									
Specification and Requirements Nonconformance Description:		NRG Disposition:								
1. Container scanning event for cus the samples intot he batch prior to a remain in their custody at all times.	tody missed: The analyst did not scan analysis, however the samples did	1. The error has been correcte proper scanning procedures. F	d and the analyst has been instructed on teporting results							
Originator's Name:		Data Validator/Group Leader	:							
Kenshalla Oston 08-SEP-06		Melanie Aycock 08-S	EP-06							

Quality Review:

Director:



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Certificate of Analysis Report for

YANK001 Connecticut Yankee Atomic Power Co.

Client SDG: 170683 GEL Work Order: 170683

The Qualifiers in this report are defined as follows:

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

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

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

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

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

(md

Reviewed by

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

Certificate of Analysis

Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power										
Contact: Project:	East Hampte Mr. Jack Me Soils PO# 0	on, Connec cCarthy 02332	eticut 06424				I	Report Date:	Sep	otember	18, 200	16	
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID: D: ate: ate:		9106 00 1706830 SE 17 MA 21 JUN Client 36.3%	011 018F 001 Y 06 I 06		Project: Client ID: Vol. Recv.:	YANK01 YANK00	204 1				
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF An	alys	t Date	Time	Batch !	Mtd
Rad Alpha Spec Analysi	s												
Alphaspec Am241, Cm,	Solid ALL FS	S											
Americium 241	U	0.0277	+/ 0.0418	0.0128	+/ 0.042	0.0643	pCi/g	тс	21	09/14/0	6 0931	567705	1
Curium 242	U	0.00666	+/ 0.0505	0.037	+/ 0.0505	0.138	pCi/g						
Curium 243/244	U	0.0167	+/ 0.0348	0.0388	+/ 0.0349	0.117	pCi/g						
Alphaspec Pu, Solid Al	LL FSS												
Plutonium 238	U	0.148	+/ 0.269	0.289	+/ 0.270	0.795	pCi/g	M 1	XA	09/11/0	6 0919	565210	3
Plutonium 239/240	U	0.00321	+/ 0.174	0.144	+/ 0.174	0.505	pCi/g						
Liquid Scint Pu241, Sol	id ALL FSS												
Plutonium 241	U	9.87	+/ 11.1	8.90	+/ 11.1	18.6	pCi/g	TC	21	09/17/0	6 0214	567883	4
Rad Gas Flow Proportio	nal Counting	g											
GFPC, Sr90, solid ALI	L FSS												
Strontium 90	U	0.00422	+/ 0.0151	0.0123	+/ 0.0151	0.0271	pCi/g	KS	SD1	09/11/0	6 1917	565250	6
Rad Liquid Scintillation	Analysis												
LSC, Tritium Dist, Solia	l HTD2,ALL	FSS											
Tritium	U	3.33	+/ 6.35	5.16	+/ 6.35	10.9	pCi/g	DI	FA1	09/05/0	6 1123	564514	7
Liquid Scint C14, Solid	All,FSS												
Carbon 14	U	0.00	+/ 0.0818	0.0686	+/ 0.0818	0.140	pCi/g	AZ	KD2	09/06/0	6 0035	564520	8
Liquid Scint Fe55, Solia	I ALL FSS												
Iron 55	U	0.852	+/ 61.3	41.7	+/ 61.3	86.4	pCi/g	M	XP1	09/10/0	6 1419	565287	9
Liquid Scint Tc99, Solia	ALL FSS												
Technetium 99	U	0.341	+/ 0.291	0.235	+/ 0.291	0.485	pCi/g	K	KR1	09/06/0	6 1232	564623	10

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL RAD A 021	AXP2	09/01/06	1328	564525

The following Analytical Methods were performed

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

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Certificate of Analysis

	Company : Address :	Connecticu 362 Injun H	t Yankee Ate Iollow Rd	omic Power								
	Contact:	East Hamp Mr. Jack M	ton, Connect Carthy	icut 06424				I	Report Da	te: September	18, 2006	
	Project:	Soils PO# (002332									
		Client Sar Sample II	mple ID: D:		9106 0011 170683001	018F		Project: Client ID: Vol. Recv.:	YANK YANK	01204 001		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time Batch	Mtd
3	DOE	EML HASL	300, Pu 11	RC Modified					· .			
4	DOE	EML HASL	300, Pu 11	RC Modified								
5	DOE	EML HASL	300, Pu 11	RC Modified								
6	EPA 9	05.0 Modifi	ed									
7	EPA 9	06.0 Modifi	ed									
8	EPA I	EERF C 01 I	Modified									
9	DOE	RESL Fe 1,	Modified									
10	DOE	EML HASL	300, Tc 02	RC Modified								

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Americium 243	Alphaspec Am241, Cm, Solid ALL	89	(15% 125%)	
Plutonium 242	Alphaspec Pu, Solid ALL FSS	38	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid ALL FS	89	(25% 125%)	
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	51	(25% 125%)	
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid ALL FS	75	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid ALL FS	78	(15% 125%)	

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- The TIC is a suspected aldol condensation product Α
- В 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
- Н Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy Uncertain identification
- Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier Х
- 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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Parameter		Qualifier Result Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sample ID: Sample ID:	9106 0011 170683001	018F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Project:	Soils PO# 002332						
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy				F	Report Date: September	18, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd						

The above sample is reported on a dry weight basis.

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Certificate of Analysis

Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power									
East Hampto Mr. Jack Mo	on, Connec cCarthy	ticut 06424				R	eport Date: Sep	otember 1	8, 2006	5	
Soils PO# 0	02332										
Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): nte: ate:		9106 00 1706830 SE 23 JUN 07 JUL Client 23.4%	012 005F 002 1 06 , 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001				
Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time	Batch N	Atd
6											
Solid ALL FS	S		0.01.00			<i></i>		00/14/0			
U	0.00725	+/ 0.0262	0.0156	+/ 0:0262	0.0644	pCi/g	101	09/14/06	5 0931	567705	I
U	0.00	+/ 0.0343	0.00	+/0.0343	0.04/4	pCI/g					
U	0.00297	+/ 0.0249	0.0111	+/ 0.023	0.0337	pci/g					
L FSS U	0.0214	+/ 0.203	0.159	+/ 0.203	0.498	pCi/g	MXA 1	09/11/06	5 0919	565210	3
U	0.120	+/ 0.237	0.134	+/ 0.238	0.449	pCi/g					
d ALL FSS											
U	10	+/ 8.47	7.55	+/ 8.47	15.8	pCi/g	TC1	09/17/06	5 0230	567883	4
nal Counting	3										
FSS U	0.00415	+/ 0.016	0.0141	+/ 0.016	0.0332	pCi/g	KSD1	09/08/00	5 1803	565250	6
Analysis											
HTD2,ALL	FSS										_
U	4.39	+/ 5.57	4.46	+/ 5.57	9.42	pCi/g	DFA1	09/05/06	5 1155	564514	7
4 <i>11,FS</i> S	0.0071	. /	0.0004		0.141	0.1		00/07/0	(0252	564520	0
U	0.0271	+/ 0.0822	0.0694	+/ 0.0822	0.141	pC1/g	AXD2	09/06/06	3 02 5 3	564520	ð
ALL FSS	2 71		24.5		71 (- 0:1-	MYDI	00/10/0	C 1 4 2 5	565207	0
U	3.71	+/ 50.4	34.5	+/ 50.4	/1.0	pC1/g	MAPI	09/10/00	5 1455	303287	9
ALL FSS	5.04		(20	11 7 62	12.0	- C :/-	MVD1	00/00/0.	6 0025	565300	10
0	5.04	+/ /.63	0.28	+/ /.03	12.9	pCI/g	MAPI	09/08/00	3 0033	303289	10
ALL FSS U	0.057	+/ 0.270	0.225	+/ 0.270	0.464	pCi/g	KXR1	09/06/00	6 1249	564623	11
	Connecticut 362 Injun H East Hampte Mr. Jack Me Soils PO# 0 Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture: Qualifier Solid ALL FSS U U U L FSS U U d ALL FSS U ALL FSS U ALL FSS U ALL FSS U	Connecticut Yankee A 362 Injun Hollow Rd East Hampton, Connect Mr. Jack McCarthy Soils PO# 002332 Client Sample ID: Sample ID: Matrix: Collect Date: Receive Date: Collector: Moisture: Qualifier Result Solid ALL FSS U 0.00725 U 0.00725 U 0.00297 L FSS U 0.0214 U 0.120 d ALL FSS U 0.00415 Analysis HTD2, ALL FSS U 4.39 All, FSS U 5.04 ALL FSS U 5.04 ALL FSS	Connecticut Yankee Atomic Power 362 Injun Hollow Rd East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332 Client Sample ID: Sample ID: Matrix: Collect Date: Receive Date: Collector: Moisture: Qualifier Result Uncertainty Solid ALL FSS U 0.00725 +/ 0.0262 U 0.00 +/ 0.0343 U 0.00297 +/ 0.0249 L FSS U 0.0214 +/ 0.203 U 0.120 +/ 0.237 d ALL FSS U 0.120 +/ 0.237 d ALL FSS U 0.00415 +/ 0.016 Analysis HTD2,ALL FSS U 4.39 +/ 5.57 4ll,FSS U 0.0271 +/ 0.0822 ALL FSS U 3.71 +/ 50.4 ALL FSS U 5.04 +/ 7.63 ALL FSS U 0.057 +/ 0.270	Connecticut Yankee Atomic Power 362 Injun Hollow Rd East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332 Client Sample ID: 9106 00 Sample ID: 1706830 Matrix: SE Collect Date: 23 JUN Receive Date: 07 JUL Collector: Client Moisture: 23.4% Qualifier Result Uncertainty LC Solid ALL FSS U 0.00725 +/ 0.0262 0.0156 U 0.00297 +/ 0.0249 0.0111 L FSS U 0.0214 +/ 0.203 0.159 U 0.120 +/ 0.237 0.134 d ALL FSS U 0.0214 +/ 0.237 0.134 d ALL FSS U 0.00415 +/ 0.016 0.0141 Analysis HTD2, ALL FSS U 0.0271 +/ 0.0822 0.0694 ALL FSS U 3.71 +/ 50.4 34.5 ALL FSS U 0.057 +/ 0.270 0.225	Connecticut Yankee Atomic Power 362 Injun Hollow Rd East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332 Client Sample ID: 9106 0012 005F Sample ID: 170683002 Matrix: SE Collect Date: 23 JUN 06 Receive Date: 07 JUL 06 Collector: Client Moisture: 23.4% Qualifier Result Uncertainty LC TPU Solid ALL FSS U 0.00725 +/ 0.0262 0.0156 +/ 0.0262 U 0.00 +/ 0.0343 0.00 +/ 0.0343 U 0.00297 +/ 0.0249 0.0111 +/ 0.025 L FSS U 0.0214 +/ 0.203 0.159 +/ 0.203 U 0.120 +/ 0.237 0.134 +/ 0.238 d ALL FSS U 0.00415 +/ 0.016 0.0141 +/ 0.016 Analysis HTD2,ALL FSS U 0.0271 +/ 0.0822 0.0694 +/ 0.0822 ALL FSS U 0.0271 +/ 0.0822 0.0694 +/ 0.0822 ALL FSS U 3.71 +/ 50.4 34.5 +/ 50.4 ALL FSS U 5.04 +/ 7.63 6.28 +/ 7.63 ALL FSS U 0.057 +/ 0.270 0.225 +/ 0.270	Connecticut Yankee Atomic Power 362 Injun Hollow Rd East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332 Client Sample ID: 9106 0012 005F Sample ID: 170683002 Matrix: SE Collect Date: 23 JUN 06 Receive Date: 07 JUL 06 Collector: Client Moisture: 23.4% Qualifier Result Uncertainty LC TPU MDA Solid ALL FSS U 0.00725 +/ 0.0262 0.0156 +/ 0.0262 0.0644 U 0.00 +/ 0.0343 0.00 +/ 0.0343 0.0474 U 0.00297 +/ 0.0249 0.0111 +/ 0.025 0.0557 LFSS U 0.0214 +/ 0.203 0.159 +/ 0.203 0.498 U 0.120 +/ 0.237 0.134 +/ 0.238 0.449 d ALL FSS U 0.00415 +/ 0.016 0.0141 +/ 0.016 0.0332 Analysis HTD2,ALL FSS U 0.0271 +/ 0.0822 0.0694 +/ 0.0822 0.141 ALL FSS U 0.0271 +/ 0.0822 0.0694 +/ 0.0822 0.141 ALL FSS U 5.04 +/ 7.63 6.28 +/ 7.63 12.9 ALL FSS U 0.057 +/ 0.270 0.225 +/ 0.270 0.464	Connecticut Yankee Atomic Power 362 Injun Hollow Rd East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332 Client Sample ID: 9106 0012 005F Sample ID: 170683002 Matrix: SE Collect Date: 23 JUN 06 Receive Date: 07 JUL 06 Collector: Client Moisture: 23.4% Qualifier Result Uncertainty LC TPU MDA Units Solid ALL FSS U 0.00275 +/ 0.0262 0.0156 +/ 0.0262 0.0644 pCi/g U 0.00297 +/ 0.0249 0.0111 +/ 0.025 0.0557 pCi/g LFSS U 0.0214 +/ 0.203 0.159 +/ 0.203 0.498 pCi/g U 0.0214 +/ 0.237 0.134 +/ 0.238 0.449 pCi/g Matrix: PSS U 0.00415 +/ 0.016 0.0141 +/ 0.016 0.0332 pCi/g HID2.ALL FSS U 0.0271 +/ 0.0822 0.0694 +/ 0.0822 0.141 pCi/g Analysis HID2.ALL FSS U 0.0271 +/ 0.0822 0.0694 +/ 0.0822 0.141 pCi/g ALL FSS U 0.0271 +/ 0.0822 0.0694 +/ 0.0822 0.141 pCi/g ALL FSS U 0.0271 +/ 0.0822 0.0694 +/ 0.822 0.141 pCi/g ALL FSS U 0.0271 +/ 0.0822 0.0694 +/ 0.822 0.141 pCi/g ALL FSS U 0.0271 +/ 0.0822 0.0694 +/ 0.822 0.141 pCi/g ALL FSS U 0.0271 +/ 0.0822 0.0694 +/ 0.822 0.141 pCi/g ALL FSS U 0.0271 +/ 0.0822 0.0694 +/ 0.822 0.141 pCi/g ALL FSS U 0.057 +/ 0.270 0.225 +/ 0.270 0.464 pCi/g	Connecticut Yanke Atomic Power 362 Injun Hollow Rd East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332 Client Sample ID: 9106 0012 005F Sample ID: 170683002 Matrix: SE Collect Date: 23 JUN 06 Receive Date: 07 JUL 06 Collector: Client Moisture: 23.4% Qualifier Result Uncertainty LC TPU MDA Units DF Analysi Solid ALL FSS U 0.00275 +/ 0.0262 0.0156 +/ 0.0262 0.0644 pCi/g TC1 U 0.00297 +/ 0.0249 0.0111 +/ 0.025 0.0557 pCi/g LFSS U 0.0214 +/ 0.203 0.159 +/ 0.203 0.498 pCi/g MXA 1 U 0.120 +/ 0.237 0.134 +/ 0.238 0.449 pCi/g 1 U 0.00415 +/ 0.016 0.0141 +/ 0.016 0.0332 pCi/g KSD1 Analysi FSS U 0.00415 +/ 0.016 0.0141 +/ 0.016 0.0332 pCi/g KSD1 Analysi HTD2.ALL FSS U 0.0271 +/ 0.0822 0.0694 +/ 0.0822 0.141 pCi/g AXD2 ALL FSS U 0.0271 +/ 0.0822 0.0694 +/ 0.0822 0.141 pCi/g MXP1 ALL FSS U 0.0271 +/ 0.0822 0.0694 +/ 0.0822 0.141 pCi/g MXP1 ALL FSS U 0.0271 +/ 0.822 0.0694 +/ 0.822 0.141 pCi/g MXP1 ALL FSS U 0.0271 +/ 0.822 0.494 +/ 0.822 0.141 pCi/g MXP1 ALL FSS U 0.0271 +/ 0.822 0.494 +/ 0.822 0.141 pCi/g MXP1 ALL FSS U 0.0057 +/ 0.270 0.225 +/ 0.270 0.464 pCi/g KXR1	Connecticut Yanke Atomic Power 362 Injun Hollow Rd East Hampton, Connecticut 06424 Mr. Jack McCarhy Soils PO# 002332 Client Sample ID: 170683002 Matrix: SE Collect Date: 23 JUN 06 Receive Date: 07 JUL 06 Collector: Client Moisture: 23.4% Qualifier Result Uncertainty LC TPU MDA Units DF Analyst Date Solid ALL FSS U 0.00725 +/ 0.0262 0.0156 +/ 0.0262 0.0644 pCi/g TC1 09/14/00 U 0.00297 +/ 0.0249 0.0111 +/ 0.025 0.0557 pCi/g L FSS U 0.0214 +/ 0.203 0.159 +/ 0.203 0.498 pCi/g MXA 09/11/00 L FSS U 0.0214 +/ 0.237 0.134 +/ 0.238 0.449 pCi/g 1 U 0.0204 +/ 0.237 0.134 +/ 0.238 0.449 pCi/g 1 U 0.0204 +/ 0.0343 0.004 +/ 0.0342 0.449 pCi/g 1 U 0.0204 +/ 0.0217 0.134 +/ 0.238 0.449 pCi/g 1 U 0.0204 +/ 0.0217 0.134 +/ 0.238 0.449 pCi/g 1 U 0.0216 +/ 0.237 0.134 +/ 0.238 0.449 pCi/g 1 U 0.0217 +/ 0.0217 0.134 +/ 0.238 0.449 pCi/g 1 U 0.0211 +/ 0.016 0.0141 +/ 0.016 0.0332 pCi/g KSD1 09/08/00 Analysis HTD2,ALL FSS U 0.0271 +/ 0.0822 0.0694 +/ 0.0822 0.141 pCi/g AXD2 09/06/00 ALL FSS U 0.0271 +/ 0.0822 0.0694 +/ 0.0822 0.141 pCi/g AXD2 09/06/00 ALL FSS U 3.71 +/ 50.4 34.5 +/ 50.4 71.6 pCi/g MXP1 09/10/00 ALL FSS U 0.057 +/ 0.270 0.225 +/ 0.270 0.464 pCi/g KXR1 09/06/00	Connecticut Yankce Atomic Power 362 Injun Hollow Rd East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332 Client Sample ID: 170683002 Sample ID: 170683002 Matrix: SE Collect Date: 23 JUN 06 Receive Date: 07 JUL 06 Collector: Client Moisture: 23.4% Qualifier Result Uncertainty LC TPU MDA Units DF Analyst Date Time Solid ALL FSS U 0.00275 +/ 0.0262 0.0156 +/ 0.0262 0.0644 pCi/g TC1 09/14/06 0931 U 0.00297 +/ 0.0249 0.0111 +/ 0.025 0.0557 pCi/g LFSS U 0.00214 +/ 0.203 0.159 +/ 0.203 0.498 pCi/g MXA 09/11/06 0919 U 0.120 +/ 0.237 0.134 +/ 0.238 0.449 pCi/g 1 U 0.120 +/ 0.237 0.134 +/ 0.238 0.449 pCi/g 1 U 0.120 +/ 0.237 0.134 +/ 0.238 0.449 pCi/g 1 U 0.00415 +/ 0.016 0.0141 +/ 0.016 0.0332 pCi/g KSD1 09/08/06 1803 Analysis HTD2.ALL FSS U 0.00415 +/ 0.016 0.0141 +/ 0.016 0.0332 pCi/g KSD1 09/08/06 1803 Analysis HTD2.ALL FSS U 0.0271 +/ 0.0822 0.0694 +/ 0.0822 0.141 pCi/g AXD2 09/06/06 1253 ALL FSS U 3.71 +/ 5.04 34.5 +/ 5.04 71.6 pCi/g MXP1 09/08/06 1353 ALL FSS U 5.04 +/ 7.63 6.28 +/ 7.63 12.9 pCi/g MXP1 09/08/06 035 ALL FSS U 0.057 +/ 0.270 0.225 +/ 0.270 0.464 pCi/g KXR1 09/06/06 1249	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL RAD A 021	AXP2	09/01/06	1328	564525
The following	Analytical Methods were performed				
3.6 - 41 - 3	Description				
Nietnoa	Description				

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power 362 Injun Hollow Rd Address : East Hampton, Connecticut 06424 Report Date: September 18, 2006 Mr. Jack McCarthy Contact: Project: Soils PO# 002332 **Client Sample ID:** 9106 0012 005F **YANK01204** Project: Client ID: YANK001 Sample ID: 170683002 Vol. Recv.: Parameter Qualifier Result Uncertainty LC TPU MDA Units **DF** Analyst Date **Time Batch Mtd** DOE EML HASL 300, Am 05 RC Modified DOE EML HASL 300, Pu 11 RC Modified DOE EML HASL 300, Pu 11 RC Modified DOE EML HASL 300, Pu 11 RC Modified EPA 905.0 Modified EPA 906.0 Modified EPA EERF C 01 Modified DOE RESL Fe 1, Modified DOE RESL Ni 1, Modified DOE EML HASL 300, Tc 02 RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Americium 243	Alphaspec Am241, Cm, Solid ALL	90	(15% 125%)	
Plutonium 242	Alphaspec Pu, Solid ALL FSS	47	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid ALL FS	78	(25% 125%)	
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	99	(25% 125%)	
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid ALL FS	67	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid ALL FS	85	(25% 125%)	
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid ALL FS	82	(15% 125%)	

Notes:

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The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- The TIC is a suspected aldol condensation product Α
- Target analyte was detected in the associated blank B
- BD Results are either below the MDC or tracer recovery is low
- Analyte has been confirmed by GC/MS analysis С
- D Results are reported from a diluted aliquot of the sample
- Н Analytical holding time was exceeded
- Value is estimated I
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy Uncertain identification
- Х Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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Certificate of Analysis

Parameter		Qualifier Result Uncortainty		MDA Unite DE Analyst Data Time Potch Me
		Client Sample ID: Sample ID:	9106 0012 005F 170683002	Project: YANK01204 Client ID: YANK001 Vol. Recy.:
	Project:	Soils PO# 002332		
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: September 18, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

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 : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power									
Contact:	East Hampte Mr. Jack Me	on, Connec cCarthy	eticut 06424				R	Report Date: Sep	otember	18, 2000	5	
Project:	Soils PO# 0	02332										
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): nte: nate:		9106 00 1706830 SE 21 JUN 07 JUL Client 24.1%	012 014F 003 1 06 2 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001				
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time	Batch N	Atd
Rad Alpha Spec Analysis	s											
Alphaspec Am241, Cm,	Solid ALL FS	S										
Americium 241	U	0.012	+/ 0.0233	0.00	+/ 0.0234	0.032	pCi/g	TC1	09/14/0)6 0931	567705	1
Curium 242 Curium 242/244	U	0.00814	+/ 0.0351	0.0215	+/0.0351	0.089	pCi/g					
Alphaanaa Du Salid Al		0.00371	+/ 0.0240	0.0151	+/ 0.0240	0.0024	pC//g					
Plutonium 238	U U	0.00589	+/ 0.322	0.272	+/ 0.322	0.744	pCi/g	MXA 1	09/11/()6 0919	565210	3
Plutonium 239/240	U	0.0588	+/ 0.218	0.147	+/ 0.218	0.494	pCi/g	-				
Liquid Scint Pu241, Soli	id ALL FSS											
Plutonium 241	U	4.22	+/ 11.5	9.47	+/ 11.5	19.8	pCi/g	TC1	09/17/0	06 0246	567883	4
Rad Gas Flow Proportio	nal Counting	g										
GFPC, Sr90, solid ALL	L FSS											
Strontium 90	U	0.0176	+/ 0.0191	0.0133	+/ 0.0191	0.0316	pCi/g	KSD1	09/08/()6 1803	565250	6
Rad Liquid Scintillation	Analysis											
LSC, Tritium Dist, Solid	HTD2,ALL	FSS										
Tritium	U	1.38	+/ 6.13	5.08	+/ 6.13	10.7	pCi/g	DFA1	09/05/0	36 1226	564514	7
Liquid Scint C14, Solid	All,FSS					 .	<i></i>		00 10 4 1			
Carbon 14	U	0.00209	+/ 0.0745	0.0625	+/ 0.0745	0.127	pCı/g	AXD2	09/06/0	J6 0501	564520	8
Liquid Scint Fe55, Solia	I ALL FSS	12.0				50 7	<u> </u>	L GYD1	00/07/		565007	0
Iron 55	U	13.9	+/ 36./	24.3	+/ 36.7	50.7	pC1/g	MXPI	09/07/0	JO 2253	565287	9
Liquid Scint Ni63, Solid	ALL FSS	4.24	1/ 0 00	6 70	1/ 0 20	12.0		MVD1	00/09/	06 0106	565700	10
		4.20	+/ 8.20	0.78	+/ 8.20	13.9	pCI/g	IVLXPT	09/08/0	00100	303289	10
Liquia Scint Te99, Solid Technetium 99	<i>ALL FSS</i> U	0.269	+/ 0.281	0.228	+/ 0.281	0.470	pCi/g	KXR1	09/06/0	06 1305	564623	11

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL RAD A 021	AXP2	09/01/06	1328	564525
The following A	Analytical Methods were performed				
The following A Method	Analytical Methods were performed Description				

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power 362 Injun Hollow Rd Address : Report Date: September 18, 2006 East Hampton, Connecticut 06424 Contact: Mr. Jack McCarthy Soils PO# 002332 Project: Client Sample ID: 9106 0012 014F **YANK01204** Project: Client ID: 170683003 Sample ID: YANK001 Vol. Recv.: Parameter Qualifier Result LC Uncertainty TPU MDA Units **DF** Analyst Date Time Batch Mtd

2	DOE EML HASL 300, Am 05 RC Modified
3	DOE EML HASL 300, Pu 11 RC Modified
4	DOE EML HASL 300, Pu 11 RC Modified
5	DOE EML HASL 300, Pu 11 RC Modified
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	Alphaspec Am241, Cm, Solid ALL	95	(15% 125%)	
Plutonium 242	Alphaspec Pu, Solid ALL FSS	44	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid ALL FS	84	(25% 125%)	
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	100	(25% 125%)	
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid ALL FS	70	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid ALL FS	79	(25% 125%)	
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid ALL FS	81	(15% 125%)	

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

•	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: September 18, 2006
	Project:	Soils PO# 002332		
		Client Sample ID: Sample ID:	9106 0012 014F 170683003	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
Parameter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtd

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/ RL. Concentrations are <5X the RL

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power									
Contact:	East Hampt Mr. Jack Me	on, Connec cCarthy	cticut 06424				R	eport Date: Sej	ptember	18, 200	6	
Project:	Soils PO# 0	02332										
	Client San Sample ID Matrix: Collect Da Receive D Collector:	nple ID:): nte: ate:		9106 00 1706830 SE 21 JUN 21 JUL Client	013 006F 004 1 06 2 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001				
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time	Batch r	Mtd
Rad Alpha Spec Analysis	s											
Alphaspec Am241, Cm, Americium 241	Solid ALL FS	S 0.187	+/ 0.170	0.0339	+/ 0.172	0.170	pCi/g	MXA	09/12/0	6 0844	565213	1
Curium 242 Curium 243/244	U U	0.0387 0.00608	+/ 0.0438 +/ 0.118	0.0836 0.102	+/ 0.0442 +/ 0.118	0.313 0.308	pCi/g pCi/g	ľ				
Alphaspec Pu, Solid Al Plutonium 238	<i>LL FSS</i> U	0.012	+/ 0.0236	0.045	+/ 0.0236	0.226	pCi/g	MXA 1	09/11/0	6 0919	565214	2
Plutonium 239/240 Liquid Scint Pu241, Sola	U id ALL FSS	0.0601	+/ 0.0526	0.100	+/ 0.0531	0.337	pCi/g					
Plutonium 241	U	16.2	+/ 13.4	10.8	+/ 13.5	22.3	pCi/g	MXA 1	09/12/0	6 2245	565216	3
Rad Gas Flow Proportio	nal Counting	g										
GFPC, Sr90, solid ALL Strontium 90 Rad Liquid Scintillation	L FSS U Analysis	0.000813	+/ 0.0187	0.0156	+/ 0.0187	0.036	pCi/g	KSD1	09/08/0	6 1932	565253	4
LSC, Tritium Dist, Solid	t HTD2,ALL	FSS										
Tritium	U	0.997	+/ 4.80	3.98	+/ 4.80	8.39	pCi/g	DFA1	09/05/0	6 1847	564447	5
Liquid Scint C14, Solid Carbon 14	All,FSS U	0.0199	+/ 0.109	0.0921	+/ 0.109	0.192	pCi/g	AXD2	09/06/0)6 0955	564449	6
Liquid Scint Fe55, Solid Iron 55	I ALL FSS U	33.7	+/ 51.9	34.2	+/ 52.0	71.2	pCi/g	MXP1	09/11/0)6 1150	565291	7
Liquid Scint Ni63, Solid Nickel 63	U ALL FSS	0.395	+/ 9.40	7.88	+/ 9.40	16.2	pCi/g	MXP1	09/08/0)6 2220	565293	8
<i>Liquid Scint Tc99, Solid</i> Technetium 99	I ALL FSS U	0.0409	+/ 0.273	0.231	+/ 0.273	0.475	pCi/g	KXR1	09/06/0)6 1637	564445	9

The following Analytical Methods were performed

Method I	Description
1 I	DOE EML HASL 300, Am 05 RC Modified
2 I	DOE EML HASL 300, Pu 11 RC Modified
3 I	DOE EML HASL 300, Pu 11 RC Modified
4 I	EPA 905.0 Modified

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power 362 Injun Hollow Rd Address : East Hampton, Connecticut 06424 Report Date: September 18, 2006 Contact: Mr. Jack McCarthy Project: Soils PO# 002332 Client Sample ID: 9106 0013 006F YANK01204 Project: Client ID: 170683004 YANK001 Sample ID: Vol. Recv.: Parameter Qualifier Result Uncertainty LC TPU MDA Units **DF** Analyst Date **Time Batch Mtd** EPA 906.0 Modified EPA EERF C 01 Modified DOE RESL Fe 1, Modified DOE RESL Ni 1, Modified DOE EML HASL 300, Tc 02 RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Americium 243	Alphaspec Am241, Cm, Solid ALL	86	(15% 125%)	
Plutonium 242	Alphaspec Pu, Solid ALL FSS	60	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid ALL FS	72	(25% 125%)	
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	100	(25% 125%)	
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid ALL FS	70	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid ALL FS	43	(25% 125%)	
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid ALL FS	79	(15% 125%)	

Notes:

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The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- The TIC is a suspected aldol condensation product Α
- Target analyte was detected in the associated blank B
- BD Results are either below the MDC or tracer recovery is low
- Analyte has been confirmed by GC/MS analysis С
- Results are reported from a diluted aliquot of the sample D
- Η Analytical holding time was exceeded
- Value is estimated J

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy Uncertain identification
- Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier Х
- 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 an "as received" basis.

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Certificate of Analysis

Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power									
Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	eticut 06424				R	eport Date: Sej	otember	18, 200	6	
Project:	Soils PO# 00)2332										
	Client Sam Sample ID Matrix: Collect Dat Receive Da Collector:	ple ID: : te: tte:		9106 00 1706830 SE 21 JUN 21 JUL Client	013 005F 005 06 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001				
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time	Batch]	Mtd
Rad Alpha Spec Analysis												
Alphaspec Am241, Cm, S Americium 241	Solid ALL FSS	S 0.505	+/ 0.295	0.0542	+/ 0.304	0.224	pCi/g	MXA 1	09/12/0	6 0844	565213	1
Curium 242 Curium 243/244	U U	0.00 0.0327	+/ 0.119 +/ 0.0868	0.00 0.0387	+/ 0.119 +/ 0.0869	0.165 0.194	pCi/g pCi/g	•				
<i>Alphaspec Pu, Solid AL</i> Plutonium 238	<i>L FSS</i> U	0.008	+/ 0.0157	0.0299	+/ 0.0157	0.150	pCi/g	MXA	09/11/0)6 0919	565214	2
Plutonium 239/240	U	0.0399	+/ 0.035	0.0668	+/ 0.0352	0.224	pCi/g					
Liquid Scint Pu241, Solid	d ALL FSS											
Plutonium 241	U	7.84	+/ 13.5	11.1	+/ 13.5	22.8	pCi/g	MXA 1	09/12/0	16 2332	565216	3
Rad Gas Flow Proportion	nal Counting							I				
GFPC, Sr90, solid ALL Strontium 90 Rad Liquid Scintillation A	FSS U (Analysis	0.000759	+/ 0.0157	0.0133	+/ 0.0157	0.0313	pCi/g	KSD1	09/08/0)6 1932	565253	4
LSC, Tritium Dist, Solid	HTD2,ALL	FSS										
Tritium	U	0.175	+/ 4.77	4.01	+/ 4.77	8.45	pCi/g	DFA1	09/05/0	6 1919	564447	5
Liquid Scint C14, Solid A Carbon 14	a <i>ll,FSS</i> U	0.0246	+/ 0.107	0.0905	+/ 0.107	0.188	pCi/g	AXD2	09/06/0)6 1027	564449	6
<i>Liquid Scint Fe55, Solid</i> Iron 55	ALL FSS U	8.33	+/ 39.2	26.6	+/ 39.2	55.3	pCi/g	MXP1	09/08/0)6 0121	565291	7
<i>Liquid Scint Ni63, Solid</i> Nickel 63	ALL FSS U	1.92	+/ 5.36	4.55	+/ 5.36	9.32	pCi/g	MXP1	09/08/0)6 2323	565293	8
<i>Liquid Scint Tc99, Solid</i> Technetium 99	ALL FSS U	0.0807	+/ 0.273	0.227	+/ 0.273	0.468	pCi/g	KXR1	09/06/0)6 1654	564445	9

The following Analytical Methods were performed

MethodDescription1DOE EML HASL 300, Am 05 RC Modified2DOE EML HASL 300, Pu 11 RC Modified3DOE EML HASL 300, Pu 11 RC Modified4EPA 905.0 Modified

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Certificate of Analysis

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

Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332			J	Report Date:	September 18, 2006
	Client Sample ID: Sample ID:	9106 0013 00 170683005)5F	Project: Client ID: Vol. Recv.:	YANK012 YANK001	204 I

Parameter	Qualifier Result Uncer	ainty LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
5	EPA 906.0 Modified						
6	EPA EERF C 01 Modified						
7	DOE RESL Fe 1, Modified						
8	DOE RESL Ni 1, Modified						
9	DOE EML HASL 300, Tc 02 RC M	odified					

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Americium 243	Alphaspec Am241, Cm, Solid ALL	68	(15% 125%)	
Plutonium 242	Alphaspec Pu, Solid ALL FSS	86	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid ALL FS	71	(25% 125%)	
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	101	(25% 125%)	
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid ALL FS	71	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid ALL FS	72	(25% 125%)	
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid ALL FS	.80	(15% 125%)	

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

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

The above sample is reported on an "as received" basis.

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Certificate of Analysis

Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power									
Contact: Project:	East Hampto Mr. Jack Mo Soils PO# 0	on, Connec cCarthy 02332	eticut 06424				F	Report Date: S	eptember	18, 200	6	
	Client San Sample ID Matrix: Collect Da Receive D Collector:	nple ID:): nte: ate:		9106 00 1706830 SE 06 JUN 13 JUL Client	014 012F 006 1 06 , 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	4			
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analy	st Date	Time	Batch M	vItd
Rad Alpha Spec Analysis	s											
Alphaspec Am241, Cm, Americium 241 Curium 242 Curium 243/244	Solid ALL FS U	S 0.0945 0.0191 0.0473	+/ 0.0698 +/ 0.0374 +/ 0.0497	0.0158 0.00	+/ 0.0709 +/ 0.0375 +/ 0.050	0.0654 0.0517 0.0567	pCi/g pCi/g pCi/g	TCI	09/14/	06 0931	567705	1
Alphaspec Py Solid Al	ULESS	0.0175	., 0.0197	0.0115	17 0.050	0.0007	peng					
Plutonium 238	U	0.113	+/ 0.329	0.328	+/ 0.330	0.930	pCi/g	MXA 1	09/11/	06 0919	565210	3
Plutonium 239/240 Liauid Scint Pu241, Soli	U id ALL FSS	0.097	+/ 0.0951	0.181	+/ 0.0963	0.637	pCi/g	-				
Plutonium 241 Rad Gas Flow Proportio	U nal Counting	4.84 g	+/ 11.6	9.54	+/ 11.6	20.0	pCi/g	TCI	09/17/	06 0302	567883	4
GFPC, Sr90, solid ALL Strontium 90 Rad Liquid Scintillation	L FSS U Analysis	0.00246	+/ 0.00901	0.00776	+/ 0.00901	0.0169	pCi/g	KSDI	09/11/	06 1917	565250	6
<i>LSC, Tritium Dist, Solid</i> Tritium	<i>HTD2,ALL</i> U	FSS 3.44	+/ 6.25	5.07	+/ 6.25	10.7	pCi/g	DFA1	09/05/	06 1258	564514	7
Liquid Scint C14, Solid. Carbon 14	<i>All,FSS</i> U	0.0486	+/ 0.0773	0.064	+/ 0.0773	0.130	pCi/g	AXD	2 09/06/	06 0635	564520	8
Liquid Scint Fe55, Solid Iron 55	<i>ALL FSS</i> U	12.6	+/ 44.5	30.6	+/ 44.5	63.6	pCi/g	МХР	1 09/10/	06 1451	565287	9
Liquid Scint Ni63, Solid Nickel 63	ALL FSS U	4.82	+/ 7.80	6.44	+/ 7.80	13.2	pCi/g	МХР	1 09/08/	06 0138	565289	10
<i>Liquid Scint Tc99, Solid</i> Technetium 99	ALL FSS U	0.0865	+/ 0.281	0.234	+/ 0.281	0.481	pCi/g	KXR	1 09/06/	06 1321	564623	11

MethodDescription1DOE EML HASL 300, Am 05 RC Modified2DOE EML HASL 300, Am 05 RC Modified3DOE EML HASL 300, Pu 11 RC Modified4DOE EML HASL 300, Pu 11 RC Modified5DOE EML HASL 300, Pu 11 RC Modified6EPA 905.0 Modified

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power 362 Injun Hollow Rd Address : Report Date: September 18, 2006 East Hampton, Connecticut 06424 Contact: Mr. Jack McCarthy Soils PO# 002332 Project: Client Sample ID: 9106 0014 012F YANK01204 Project: Client ID: YANK001 170683006 Sample ID: Vol. Recv.: Parameter Qualifier Result Uncertainty LC TPU **MDA** Units **DF** Analyst Date **Time Batch Mtd** EPA 906.0 Modified EPA EERF C 01 Modified DOE RESL Fe 1, Modified

10 DOE RESL Ni 1, Modified

11 DOE EML HASL 300, Tc 02 RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Americium 243	Alphaspec Am241, Cm, Solid ALL	93	(15% 125%)	
Plutonium 242	Alphaspec Pu, Solid ALL FSS	33	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid ALL FS	84	(25% 125%)	
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	91	(25% 125%)	
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid ALL FS	74	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid ALL FS	80	(25% 125%)	
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid ALL FS	79	(15% 125%)	

Notes:

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The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- Α The TIC is a suspected aldol condensation product
- Target analyte was detected in the associated blank В
- BD Results are either below the MDC or tracer recovery is low
- Analyte has been confirmed by GC/MS analysis С
- D Results are reported from a diluted aliquot of the sample
- Η 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 Sample results are rejected R

- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy Uncertain identification
- Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier Х
- Y QC Samples were not spiked with this compound
- Λ 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 an "as received" basis.

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

Certificate of Analysis

Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power									
Contact: Project:	East Hampto Mr. Jack Mo Soils PO# 0	on, Connec Carthy 02332	cticut 06424				F	Report Date:	Septembe	r 18, 200	6	
	Client San Sample ID Matrix: Collect Da Receive D Collector:	nple ID:): ute: ate:		9106 00 1706830 SE 14 JUN 13 JUL Client	014 033F 007 1 06 2 06		Project: Client ID: Vol. Recv.:	YANK012 YANK001	04			
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Ana	lyst Date	Time	Batch N	٧Itd
Rad Alpha Spec Analysis	5											
Alphaspec Am241, Cm,	Solid ALL FS	S										
Americium 241		0.0906	+/ 0.0692	0.0118	+/ 0.0703	0.0594	pCi/g	TC	09/14	/06 0931	567705	1
Curium 242	U	0.0195	+/ 0.0383	0.00	+/ 0.0384	0.053	pCi/g					
Curium 243/244		0.0799	+/ 0.0639	0.00	+/ 0.0648	0.0361	pCi/g					
Alphaspec Pu, Solid AL	L FSS											
Plutonium 238	U	0.0396	+/ 0.254	0.229	+/ 0.254	0.638	pCi/g	MX 1	A 09/11	/06 0919	565210	3
Plutonium 239/240	U	0.203	+/ 0.182	0.244	+/ 0.184	0.666	pCi/g	1				
Liquid Scint Pu241, Soli	d ALL FSS											
Plutonium 241	U	4.34	+/ 11.1	9.14	+/ 11.1	19.2	pCi/g	TC	09/17	/06 0319	567883	4
Rad Gas Flow Proportion	nal Counting	3										
GFPC, Sr90, solid ALL	FSS	0.00.411		0.0100		0.001.6	0.1			06 1000	666060	,
Strontium 90 Red Liquid Scintillation	U A molecula	0.00411	+/ 0.016/	0.0133	+/ 0.0167	0.0316	pC1/g	KSI	JI 09/08	/06 1803	565250	0
		700										
LSC, Iritium Dist, Solia	HIDZ,ALL	1 1 2	1/ 5 10	4 1 2	1/ 5 10	0 71	-Ci/a	DE	1 00/05	106 1220	561511	7
		5.15	7/ 5.10	4.12	+/ 5.10	0.71	peng	DI	11 09/03	/00 1550	504514	'
Liquia Scint C14, Solia I	<i>All,F</i> 55	0.0005	1/ 0.0019	0.075	1/ 0.0019	0.152	-Ci/a	۸V	00/06	106 0007	564520	0
Carbon 14		0.0993	+/ 0.0918	0.075	+/ 0.0918	0.155	pCl/g	Ал	DZ 09/00	/00 0807	504520	0
Liquid Scint Fe55, Solid	ALL FSS	10.2	1/ 27.0	24.0	1/ 27.0	51 0			D1 00/07	106 2226	565207	0
Iron 55		19.3	+/ 37.9	24.9	+/ 37.9	51.8	pCI/g	IVLA	PI 09/07	/00 2320	303287	9
Liquid Scint Ni63, Solid	ALL FSS	1 (2)	1/ 714	E 00	1/ 714	10.1	-Cila	1.40	D1 00/00	106 0200	565700	10
INICKEL 03	U	4.62	+/ /.14	5.88	+/ /.14	12.1	pC1/g	IVLX	FI 09/08	/00/0209	505289	10
Liquid Scint Tc99, Solid	ALL FSS	0.00	1/ 0.000	0.00	1/ 0 000	0.407	-0:1-	77	01 00/07	106 1220	561600	11
recnnetium 99	U	0.00	+/ 0.282	0.236	+/ 0.282	0.48/	pC1/g	KX	KI U9/00	/00 1338	504023	11

The following Analytical Methods were performed

Method Description

1	DOE EML HASL 300, Am 05 RC Modified
2	DOE EML HASL 300, Am 05 RC Modified
3	DOE EML HASL 300, Pu 11 RC Modified
4	DOE EML HASL 300, Pu 11 RC Modified
5	DOE EML HASL 300, Pu 11 RC Modified
6	EPA 905.0 Modified

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Certificate of Analysis

- Connecticut Yankee Atomic Power Company : 362 Injun Hollow Rd Address : East Hampton, Connecticut 06424 Report Date: September 18, 2006 Contact: Mr. Jack McCarthy Project: Soils PO# 002332 Client Sample ID: 9106 0014 033F **YANK01204** Project: Client ID: Vol. Recv.: 170683007 YANK001 Sample ID: Parameter Qualifier Result Time Batch Mtd Uncertainty LC TPU MDA Units **DF** Analyst Date EPA 906.0 Modified EPA EERF C 01 Modified
- 9 DOE RESL Fe 1, Modified 10 DOE RESL Ni 1, Modified
- 11 DOE EML HASL 300, Tc 02 RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Americium 243	Alphaspec Am241, Cm, Solid ALL	87	(15% 125%)	
Plutonium 242	Alphaspec Pu, Solid ALL FSS	41	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid ALL FS	89	(25% 125%)	
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	99	(25% 125%)	
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid ALL FS	76	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid ALL FS	84	(25% 125%)	
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid ALL FS	78	(15% 125%)	

Notes:

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The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- Α The TIC is a suspected aldol condensation product
- Target analyte was detected in the associated blank B
- BD Results are either below the MDC or tracer recovery is low
- Analyte has been confirmed by GC/MS analysis С
- Ð Results are reported from a diluted aliquot of the sample
- Analytical holding time was exceeded Н
- Value is estimated I

N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more

- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy Uncertain identification
- Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier Х
- Y QC Samples were not spiked with this compound
- Λ 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 an "as received" basis.

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

Certificate of Analysis

Company Address :	: Connecticut 362 Injun He	Yankee A ollow Rd	tomic Power									
Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	on, Connec Carthy 02332	cticut 06424	Report Date: September 18, 2006								
	Client Sam Sample ID Matrix: Collect Da Receive Da Collector:	nple ID: : te: ate:		9106 0 1706830 SE 27 JUN 21 JUL Client	015 018F 008 N 06 , 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001				
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date '	Time I	Batch I	Mtd
Rad Alpha Spec Analy	sis										-	
Alphaspec Am241, Cm	ı, Solid ALL FS	S										
Americium 241		0.193	+/ 0.166	0.00	+/ 0.168	0.101	pCi/g	MXA 1	09/12/06	0844 5	565213	1
Curium 242	U	0.0784	+/ 0.147	0.0655	+/ 0.147	0.271	pCi/g	1				
Curium 243/244	U	0.0942	+/ 0.129	0.0474	+/ 0.130	0.196	pCi/g					
Alphaspec Pu, Solid	ALL FSS											
Plutonium 238	U	0.0325	+/ 0.0637	0.00	+/ 0.0638	0.0881	pCi/g	MXA 1	09/11/06	0919 :	565214	2
Plutonium 239/240	U	0.0013	+/ 0.0705	0.0582	+/ 0.0705	0.204	pCi/g	1				
Liquid Scint Pu241, Sc	olid ALL FSS											
Plutonium 241	U	7.19	+/ 12.0	9.91	+/ 12.1	20.4	pCi/g	MXA	09/13/06	0019 :	565216	3
Rad Liquid Scintillatio	n Analysis							1				
LSC, Tritium Dist, Sol	id HTD2,ALL	FSS										
Tritium	U	0.686	+/ 5.32	4.50	+/ 5.32	9.48	pCi/g	DFA1	09/05/06	1950 :	564447	4
Liquid Scint C14, Soli	d All,FSS											
Carbon 14	U	0.0572	+/ 0.114	0.0942	+/ 0.114	0.193	pCi/g	AXD2	09/09/06	0331 :	564449	5
Liquid Scint Fe55, Sol Iron 55	<i>id ALL FSS</i> U	7.27	+/ 37.9	25.6	+/ 37.9	53.2	pCi/g	MXP1	09/08/06	0137	565291	6
Liquid Scint Ni63, Sol	id ALL FSS											
Nickel 63	U	2.39	+/ 7.60	6.43	+/ 7.60	13.2	pCi/g	MXP1	09/09/06	0025	565293	7
Liquid Scint Tc99, Sol Technetium 99	id ALL FSS U	0.132	+/ 0.270	0.223	+/ 0.270	0.460	pCi/g	KXR1	09/06/06	1710	564445	8

Method	Description
1	DOE EML HASL 300, Am 05 RC Modified
2	DOE EML HASL 300, Pu 11 RC Modified
3	DOE EML HASL 300, Pu 11 RC Modified
4	EPA 906.0 Modified
5	EPA EERF C 01 Modified
6	DOE RESL Fe 1, Modified
7	DOE RESL Ni 1, Modified

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Certificate of Analysis

Company Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		
Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: September 18, 2006
Project:	Soils PO# 002332		
	Client Sample ID: Sample ID:	9106 0015 018F 170683008	Project: YANK01204 Client ID: YANK001 Vol. Recv.:

.. . .

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
8	DOE EML HASL	300. Tc 0	2 RC Modified						

Test	Recovery%	Acceptable Limits	
Alphaspec Am241, Cm, Solid ALL	78	(15% 125%)	
Alphaspec Pu, Solid ALL FSS	86	(15% 125%)	
Liquid Scint Pu241, Solid ALL FS	79	(25% 125%)	
Liquid Scint Fe55, Solid ALL FS	79	(15% 125%)	
Liquid Scint Ni63, Solid ALL FS	47	(25% 125%)	
Liquid Scint Tc99, Solid ALL FS	82	(15% 125%)	
	Alphaspec Am241, Cm, Solid ALL Alphaspec Pu, Solid ALL FSS Liquid Scint Pu241, Solid ALL FS Liquid Scint Fe55, Solid ALL FS Liquid Scint Ni63, Solid ALL FS Liquid Scint Tc99, Solid ALL FS	TestRecovery%Alphaspec Am241, Cm, Solid ALL78Alphaspec Pu, Solid ALL FS86Liquid Scint Pu241, Solid ALL FS79Liquid Scint Fe55, Solid ALL FS79Liquid Scint Ni63, Solid ALL FS47Liquid Scint Tc99, Solid ALL FS82	Recovery% Acceptable Limits Alphaspec Am241, Cm, Solid ALL 78 (15% 125%) Alphaspec Pu, Solid ALL FS 86 (15% 125%) Liquid Scint Pu241, Solid ALL FS 79 (25% 125%) Liquid Scint Fe55, Solid ALL FS 79 (15% 125%) Liquid Scint Ni63, Solid ALL FS 47 (25% 125%) Liquid Scint Tc99, Solid ALL FS 82 (15% 125%)

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- Result is greater than value reported >
- Α The TIC is a suspected aldol condensation product
- Target analyte was detected in the associated blank В
- BD Results are either below the MDC or tracer recovery is low
- Analyte has been confirmed by GC/MS analysis С
- Results are reported from a diluted aliquot of the sample D
- Analytical holding time was exceeded Η
- Value is estimated J
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- Sample results are rejected R
- Analyte was analyzed for, but not detected above the MDL, MDA, or LOD. U
- 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

Preparation or preservation holding time was exceeded h

The above sample is reported on an "as received" basis.

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Certificate of Analysis

Company : Address :	Connecticut 362 Injun He	Yankee A ollow Rd	tomic Power									
Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	on, Connec Carthy 02332	cticut 06424				F	Report Date: Sep	otember 1	8, 2006		
	Client Sam Sample ID Matrix: Collect Da Receive Da Collector:	nple ID: : te: ate:		9106 00 1706830 SE 28 JUN 21 JUL Client	015 002F 009 1 06 , 06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001				
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time J	Batch I	Mtd
Rad Alpha Spec Analysis	5											
Alphaspec Am241, Cm,	Solid ALL FS	S										
Americium 241		0.292	+/ 0.213	0.0479	+/ 0.217	0.198	pCi/g	MXA 1	09/12/06	0844 5	565213	1
Curium 242	U	0.0522	+/ 0.102	0.00	+/ 0.103	0.141	pCi/g					
Curium 243/244	U	0.0289	+/ 0.0766	0.0341	+/ 0.0767	0.171	pCi/g					
Alphaspec Pu, Solid AL	LL FSS											
Plutonium 238	U	0.0352	+/ 0.0798	0.0658	+/ 0.0798	0.231	pCi/g	MXA 1	09/11/06	0919 :	565214	2
Plutonium 239/240	U	0.019	+/ 0.0758	0.0465	+/ 0.0758	0.192	pCi/g					
Liquid Scint Pu241, Soli	d ALL FSS											
Plutonium 241	U	24.6	+/ 16.2	13.0	+/ 16.5	26.7	pCi/g	MXA 1	09/13/06	0106 5	565216	3
Rad Liquid Scintillation	Analysis											
LSC, Tritium Dist, Solid	HTD2,ALL	FSS										
Tritium	U	1.6	+/ 7.22	6.13	+/ 7.22	12.9	pCi/g	DFA1	09/05/06	2022 5	564447	4
Liquid Scint C14, Solid A	All,FSS											
Carbon 14		0.207	+/ 0.113	0.0898	+/ 0.113	0.185	pCi/g	AXD2	09/09/06	0418 5	564449	5
Liquid Scint Fe55, Solid	ALL FSS	10.8	+/ 47 1	31.3	+/ 47 1	65.2	nCi/a	MYPI	00/11/06	1206 4	565201	6
Liquid Saint Ni63 Solid		10.0	·/ ·/.1	51.5	•/ •/.1	05.2	peng		07/11/00	12.00	<i>JUJ27</i> 1	U
Nickel 63	<i>ны гоз</i> П	3.07	+/ 678	5.76	+/ 678	11.8	nCi/g	MXP1	09/09/06	i 0127 (565293	7
Liquid Scint Tc00 Solid	ALLESS	5.07	., 0.,0	2.70	., 0.,0	11.0	Pon P					,
Technetium 99	U U	0.390	+/ 0.283	0.227	+/ 0.283	0.468	pCi/g	KXR1	09/06/06	1726	564445	8

The following Analytical Methods were performed Method Description

1	DOE EML HASL 300, Am 05 RC Modified
2	DOE EML HASL 300, Pu 11 RC Modified
3	DOE EML HASL 300, Pu 11 RC Modified
4	EPA 906.0 Modified
5	EPA EERF C 01 Modified
6	DOE RESL Fe 1, Modified
7	DOE RESL Ni 1, Modified

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Certificate of Analysis

Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		
Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332		Report Date: September 18, 2006
	Client Sample ID: Sample ID:	9106 0015 002F 170683009	Project: YANK01204 Client ID: YANK001 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
8	DOE EML HASL	300, Tc 0	2 RC Modified						

DOD DATE TITAL STO

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Americium 243	Alphaspec Am241, Cm, Solid ALL	78	(15% 125%)	
Plutonium 242	Alphaspec Pu, Solid ALL FSS	79	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid ALL FS	75	(25% 125%)	
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid ALL FS	74	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid ALL FS	55	(25% 125%)	
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid ALL FS	80	(15% 125%)	

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power								
Contact:	East Hampto Mr. Jack Mo	on, Connec Carthy	ticut 06424				F	Report Date: Sept	ember 18, 2006		
Project:	Soils PO# 0	02332									
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): hte: ate:		9106 00 1706830 SE 07 AU 17 AU Client 23.8%	001 132F 010 G 06 G 06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	Date Time Ba	atch M	1td
Rad Alpha Spec Analys	lis										
Alphaspec Am241, Cm,	, Solid ALL FS	S					~				
Americium 241		0.160	+/ 0.147	0.0296	+/ 0.148	0.148	pCi/g	MXA (9/12/06 0844 56	5213	1
Curium 242	U	0.00	+/ 0.0754	0.00	+/ 0.0754	0.104	pCi/g	•			
Curium 243/244		0.132	+/ 0.130	0.00	+/ 0.131	0.0896	pCi/g				
Alphaspec Pu, Solid A	LL FSS										
Plutonium 238	U	0.0279	+/ 0.0954	0.0976	+/ 0.0955	0.306	pCi/g	MXA (9/11/06 0919 56	5214	2
Plutonium 239/240	U	0.0591	+/ 0.0934	0.0903	+/ 0.0934	0.292	pCi/g	•			
Liquid Scint Pu241, So	lid ALL FSS										
Plutonium 241	U	14.0	+/ 14.7	12.0	+/ 14.8	24.6	pCi/g	MXA (9/13/06 0153 56	55216	3
Rad Gas Flow Proporti	onal Counting	3						ı			
GFPC, Sr90, solid AL	L FSS										
Strontium 90	U	0.00619	+/ 0.0168	0.0131	+/ 0.0168	0.0311	pCi/g	KSD1 (9/08/06 1932 56	55253	4
Rad Liquid Scintillation	n Analysis										
LSC, Tritium Dist, Soli	d HTD2,ALL	FSS	1 / 7 02	<i>E E E</i>	1 7 00	12.0	-C:/a	A TELLO (0/07/06 0102 54		£
Intium Linuid Spint CIA, Splin	U ATLESS	4.94	+/ /.02	5.55	+/ 7.02	12.0	pC1/g	ATH2 (19/0//06 0102 50)2020	3
Carbon 14	I AII,F 33	0 324	+/ 0115	0 0889	+/0.115	0 183	nCi/g	AXD2 (9/08/06 0456 56	65649	6
Liquid Scint Fe55, Soli	d ALL FSS	0.521	., 0.115	0.0009	., 0.115	0.105	peng			,001,	Ŭ
Iron 55	U	1.92	+/ 38.0	25.9	+/ 38.0	53.9	pCi/g	MXP1 (9/08/06 0210 56	55291	7
Liquid Scint Ni63, Soli	d ALL FSS										
Nickel 63	U	0.735	+/ 5.83	4.88	+/ 5.83	10.0	pCi/g	MXP1 (9/09/06 0229 50	55293	8
Liquid Scint Tc99, Soli	d ALL FSS								-		~
Technetium 99	U	0.0126	+/ 0.193	0.161	+/ 0.193	0.330	pCi/g	KXR1 (09/12/06 1349 50	55648	9

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL RAD A 021	JMB1	09/05/06	1736	565454
The following A	Analytical Methods were performed				
Method	Description	,			

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power							
	Contact:	East Hampte Mr. Jack Me	on, Connec cCarthy	cticut 06424				F	Report Da	ate: September	18, 2006
	Project:	Soils PO# 0	02332								
		Client San Sample ID	nple ID:):		9106 0001 170683010	132F		Project: Client ID: Vol. Recv.:	YANK YANK	C01204 C001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time Batch Mtd
1	DOE	EML HASL	300, Am (05 RC Modified	1						
2	DOE	EML HASL	300, Pu 1	1 RC Modified							
3	DOE	EML HASL	300, Pu 1	1 RC Modified							
4	EPA 9	05.0 Modifie	d								
5	EPA 9	06.0 Modifie	d								
6	EPA I	EERF C 01 N	Iodified								
7	DOE	RESL Fe 1, !	Modified								
8	DOE	RESL Ni 1, I	Modified								
9	DOE	EML HASL	300, Tc 0	2 RC Modified							

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Americium 243	Alphaspec Am241, Cm, Solid ALL	87	(15% 125%)	
Plutonium 242	Alphaspec Pu, Solid ALL FSS	66	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid ALL FS	66	(25% 125%)	
Carrier/Tracer Recovery	GFPC, Sr90, solid ALL FSS	100	(25% 125%)	
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid ALL FS	76	(15% 125%)	
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid ALL FS	72	(25% 125%)	
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid ALL FS	72	(15% 125%)	

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

Comp Addr	pany : ress :	Connecticut Y 362 Injun Hol	ankee A llow Rd	tomic Power						
Conta	act:	East Hampton Mr. Jack McC	n, Connec Carthy	ticut 06424				ŀ	Report Date: Septemb	per 18, 2006
Proje	ect:	Soils PO# 002	2332							
		Client Samp Sample ID:	ole ID:		9106 0001 170683010	132F		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Dat	te Time Batch Mtd

^ 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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Client :	Connecticut 362 Injun H	t Yankee Atomic Power follow Rd	<u>QC</u>	<u>Su</u>	mmary			Report D	ate: September 18, 2 Page 1 of 10	006
Contact:	East Hampt Mr. Jack M	con, Connecticut cCarthy								
Workorder:	170683									
Parmname		NOM	Sample (Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Alpha Spec			_	•						
Batch	565210									
QC12011755	92 170683001	DUP								
Plutonium-238		U	-0.148	U	0.137	pCi/g	5180		(0% - 100%) / IXA1	09/11/06 09:19
		Uncert:	+/-0.269		+/-0.303					
		TPU:	+/-0.270		+/-0.304					
Plutonium-239/	/240	U	0.00321	U	-0.215	pCi/g	206		(0% - 100%)	
		Uncert:	+/-0.174		+/-0.181					
0010011766	A 1 00	TPU:	+/-0.174		+/-0.183					
QC12011/55 Plutonium-238	94 LCS			I I	-0.0564	nCi/g			(75%-125%)	
i lutoinum-256		Uncert		U	+/-0 446	peng			(7570-12570)	
		TPU			+/-0.446					
Plutonium-239/	240	12.3			9.42	pCi/g		77	(75%-125%)	
		Uncert:			+/-1.98					
		TPU:			+/-2.49					
QC12011755	91 MB									
Plutonium-238				U	0.117	pCi/g				
		Uncert:			+/-0.220					
Distantion 220	240	TPU:			+/-0.221	0.1				
Plutonium-239/	240	I Tu a auto		U	0.0802	pC1/g				
		Uncert:			+/-0.226					
OC12011755	93 170683001	MS			+/-0.220					
Plutonium-238		U	-0.148	U	0.110	pCi/g			(75%-125%)	
		Uncert:	+/-0.269		+/-0.175					
		TPU:	+/-0.270		+/-0.176					
Plutonium-239/	240	12.5 U	0.00321		11.8	pCi/g		94	(75%-125%)	
		Uncert:	+/-0.174		+/-1.70					
Detab	5(5010	TPU:	+/-0.174		+/-2.29					
Daten	303213									
QC12011756	03 170683004	DUP								
Americium-241			0.187		0.163	pCi/g	14		(0% - 100%) AXA l	09/12/06 08:44
		Uncert:	+/-0.170		+/-0.149					
Curium 242		TPU:	+/-0.1/2		+/-0.151	-Cila	249		(00/ 1000/)	
Curium-242		Uncert	-0.0387		+/-0.143	peng	540		(0% - 100%)	
			+/-0.0442		+/-0.163					
Curium-243/24	4	110. II	-0.00608	U	-0.0487	pCi/g	156		(0% - 100%)	
	-	Uncert:	+/-0.118	•	+/-0.0768	P			(0/0 100/0)	
		TPU:	+/-0.118		+/-0.0769					
QC12011756	05 LCS									
Americium-241		13.5			12.8	pCi/g		95	(75%-125%)	
		Uncert:			+/-1.24					
		TPU:			+/-2.12					

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Workorder: 170683								Page 2 of 10	
Parmname	NOM	Sample Q)ual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Alpha Spec									
Batch 565213									
Curium-242			U	0.00	pCi/s	2			
	Uncert:		-	+/-0.0625	F C	2			
	TPU:			+/-0.0625					
Curium-243/244	16.4			15.1	pCi/g	g	92	(75%-125%)	
	Uncert:			+/-1.35					
	TPU:			+/-2.44					
QC1201175602 MB									
Americium-241			U	0.0812	pCi/g	g			09/12/06 08:44
	Uncert:			+/-0.107					
	TPU:			+/-0.108	C ''				
Curium-242	••		U	0.0664	pC1/g	g			
	Uncert:			+/-0.106					
Curium 242/244	TPU:		TT	+/-0.10/	-0:4	~			
Cunum-243/244	Unconti		U	-0.00880	pci/j	g			
	Uncent.			+/-0.0744					
OC1201175604 170683004 MS	TPU:			+/-0.0743					
Americium-241	13.7	0.187		14.1	pCi/s	Ø	102	(75%-125%)	09/12/06 08:44
	Uncert:	+/-0.170		+/-1.41	P4	5		()	
	TPU	+/-0.172		+/-2.41					
Curium-242		-0.0387		0.209	pCi/j	g			
	Uncert:	+/-0.0438		+/-0.205		-			
	TPU:	+/-0.0442		+/-0.207					
Curium-243/244	16.7 U	-0.00608		16.2	pCi/g	g	97	(75%-125%)	
	Uncert:	+/-0.118		+/-1.52					
	TPU:	+/-0.118		+/-2.71					
Batch 565214									
OC1201175607 170683004 DUP									
Plutonium-238	U	-0.012	U	-0.0415	pCi/	g 110		(0% - 100%) <i>4</i> XA1	09/11/06 09:19
	Uncert:	+/-0.0236		+/-0.0941					
	TPU:	+/-0.0236		+/-0.0941					
Plutonium-239/240	U	-0.0601	U	-0.0311	pCi/	g 64		(0% - 100%)	
	Uncert:	+/-0.0526		+/-0.0917					
	TPU:	+/-0.0531		+/-0.0917					
QC1201175609 LCS			TI	0.00142	-0:4	~		(750/ 1750/)	
Plutonium-238	I In cont.		0	+/ 0.0772	per	g		(7370-12370)	
	Uncert:			+/-0.0772					
Plutonium 230/240	12.5			+/-0.0772	nCi/	a	86	(75%-125%)	
Futomum-239/240	Lincert:			+/-1 21	per	Б	00	(7570-12570)	
				+/-1.21					
OC1201175606 MB	11 U.			., 1.00					
Plutonium-238			U	-0.0382	pCi/	g			
	Uncert:			+/-0.113	•	-			
	TPU:			+/-0.113					
Plutonium-239/240			U	-0.0891	pCi/	g			
	Uncert:			+/-0.066					
	TPU:			+/-0.0669					
QC1201175608 170683004 MS									

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Washandan 170(03														
workorder: 1/0683								Page 3 d	of 10					
Parmname	NOM	Sample Q)ual	QC	Units	RPD%	REC%	Range	Anist	Date Time				
Rad Alpha SpecBatch565214														
Plutonium-238	U	-0.012	U	0.0632	pCi/j	g		(75%-125%)						
	Uncert:	+/-0.0236		+/-0.143		-								
	TPU:	+/-0.0236		+/-0.143										
Plutonium-239/240	12.6 U	-0.0601		10.9	pCi/g	g	87	(75%-125%)						
	Uncert:	+/-0.0526		+/-1.20										
D ()	TPU:	+/-0.0531		+/-1.66										
Batch 565216														
QC1201175615 17068300	4 DUP				~									
Plutonium-241	U	16.2	U	5.89	pCi/	g 0		(0% - 100%)	AXAI	09/13/06 03:26				
	Uncert:	+/-13.4		+/-12.7										
00120112012	TPU:	+/-13.5		+/-12.7										
Plutonium-241	341			310	nCi/	σ	91	(75%-125%)		09/12/06 11:20				
Tutomum-241	Uncert:			+/-32.9	per	Б	71	(1570-12570)						
	TPU			+/-45.2										
OC1201175614 MB	110.			., 13.2										
Plutonium-241			U	5.70	pCi/	g				09/13/06 02:39				
	Uncert:			+/-12.7										
	TPU:			+/-12.7										
QC1201175616 17068300	4 MS													
Plutonium-241	344 U	16.2		341	pCi/	g	99	(75%-125%)		09/12/06 11:10				
	Uncert:	+/-13.4		+/-51.8										
Batch 567705	IPU:	+/-13.5		+/-00./										
OC1201181288 17068300	B DUP													
Americium-241	U	0.012		0.120	pCi/	g 164		(0% - 100%)	TC1	09/14/06 09:3				
	Uncert:	+/-0.0233		+/-0.0804										
	TPU:	+/-0.0234		+/-0.082										
Curium-242	U	-0.00814	U	0.00	pCi/	g 200		(0% - 100%)						
	Uncert:	+/-0.0351		+/-0.0381										
	TPU:	+/-0.0351		+/-0.0381										
Curium-243/244	U	-0.00571	U	-0.0196	pCi/	g 110		(0% - 100%)						
	Uncert:	+/-0.0246		+/-0.031										
001201181200 1.00	TPU:	+/-0.0246		+/-0.031										
Americium-241	5 23			5 41	nCi/	σ	103	(75%-125%)						
/ monenum-2+1	Uncert:			+/-0.508	peu	5	105	(1570 12570)						
	TPU			+/-0.878										
Curium-242			U	0.00	pCi/	g								
	Uncert:			+/-0.0244	-	•								
	TPU:			+/-0.0244										
Curium-243/244	6.31			6.40	pCi/	g	101	(75%-125%)						
	Uncert:			+/-0.553										
	TPU:			+/-1.01										
QC1201181287 MB										00/14/02 00 0				
Americium-241	. .		U	0.00039	pCi/	g				09/14/06 09:3				
	Uncert:			+/-0.00421										
	TPU:			+/-0.00421										

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Workorder: 170683							Page 4 of 10				
Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch 567705											
Curium-242			U	0.00902	pCi/g	g					
	Uncert:			+/-0.0239		-					
	TPU:			+/-0.0239							
Curium-243/244			U	-0.00283	pCi/g	g					
	Uncert:			+/-0.0238							
	TPU:			+/-0.0238							
QC1201181289 170683003	MS										
Americium-241	5.27 L	J 0.012		5.58	pCi/g	g	106	(75%-125%)		09/14/0	6 09:31
	Uncert:	+/-0.0233		+/-0.524							
Q 1 343	TPU:	+/-0.0234		+/-0.908	0.1						
Curium-242	I I	J -0.00814	U	0.0183	pC1/g	5					
	Uncert:	+/-0.0351		+/-0.0359							
C	TPU:	+/-0.0351		+/-0.036	-C://	-	115	(750/ 1250/)			
Cunum-243/244	0.41 [J -0.003/1		/.30	pC1/§	9	115	(73%-123%)			
	Uncert.	+/-0.0246		+/-0.003							
Batch 567883	IPU:	+/-0.0240		₹/-1.15							
20000											
QC1201181752 170683001	DUP	0.07		2.04	.0:4			(00/ 1000/)	TC1	00/17/0	02.51
Plutonium-241	[Linearte	J 9.8/	U	-3.06	pC1/g	g U		(0% - 100%)	ICI	09/1//0	0 03:51
	Uncert:	+/-11.1		+/-10.4							
001201181754 1.05	IPU:	+/-11.1		+/-10.4							
Plutonium-241	135			120	nCi/s	σ	89	(75%-125%)		09/17/0	6 04:24
	Uncert:			+/-16.2	P	Ð		(/0/0/120/0)			
	TPU			+/-19.8							
OC1201181751 MB											
Plutonium-241			U	1.78	pCi/g	g				09/17/0	6 03:35
	Uncert:			+/-9.61		-					
	TPU:			+/-9.61							
QC1201181753 170683001	MS										
Plutonium-241	142 (J 9.87		113	pCi/g	g	80	(75%-125%)		09/17/0	6 04:08
	Uncert:	+/-11.1		+/-15.8							
	TPU:	+/-11.1		+/-19.1							
Rad Gas Flow											
Batch 565250											
QC1201175680 170683002	DUP										
Strontium-90	ι	J -0.00415	U	0.000131	pCi/g	g 0		(0% - 100%)	KSD1	09/08/0)6 18:03
	Uncert:	+/-0.016		+/-0.0253							
	TPU:	+/-0.016		+/-0.0253							
QC1201175682 LCS	156			1.62	-0://	~	105	(750/ 1750/)		00/00/0	10.04
Suomuum-90	1.JU			+/ 0 151	pent	B	105	(7370-12370)		09/00/0	0 18.02
	Uncert:			±/-0.131 ±/-0.155							
OC1201175670 MB	IPU:			T/-0.133							
Strontium-90			II	-0 00458	nCi/e	ø				09/08/0)6 18·0 [:]
	Uncert		U	+/-0.018	PCD	D				02/00/0	
	трі.			+/-0.018							
QC1201175681 170683002	2 MS										
Strontium-90	3.13 [J -0.00415		2.38	pCi/g	g	76	(75%-125%)	l.	09/08/0)6 18:03

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				1 +								
Workorder: 170683								Page 5 of 10				
Parmname			NOM	Sample (Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time	
Rad Gas Flow												
Batch 56:	5250											
			Uncert:	+/-0.016		+/-0.249						
			TPU:	+/-0.016		+/-0.253						
Batch 563	5253											
QC1201175687	170683005	DUP										
Strontium-90			U	-0.000759	U	-0.000963	pCi/	g 0		(0% - 100%) KSD	09/08/06 19:32	
			Uncert:	+/-0.0157		+/-0.0166						
			TPU:	+/-0.0157		+/-0.0166						
QC1201175689	LCS						<u> </u>				00/00/06 10 0	
Strontium-90			1.57			1.20	pCi/	g	77	(75%-125%)	09/09/06 12:26	
			Uncert:			+/-0.113						
001001176(0)) (D		TPU:			+/-0.118						
QC1201175686 Strontium 90	мв				II	0.0216	nCi/	a			00/08/06 10:37	
Subilium-90			Uncert		U	+/_0.00002	pen,	B			09/08/00 19.52	
			TDI I.			+/-0.00992						
OC1201175688	170683005	MS	IFO.			17-0.00772						
Strontium-90	110005005	MO	3.14 H	-0.000759		2.77	pCi/	g	88	(75%-125%)	09/08/06 19:31	
			Uncert:	+/-0.0157		+/-0.189	•	0		、 ,		
			TPU:	+/-0.0157		+/-0.205						
Rad Liquid Scintilla	ation											
Batch 564	4445											
OC1201173841	170544018	DUP										
Technetium-99		201	U	0.128	U	0.0496	pCi/	g 0		(0% - 100%) KXR	09/06/06 17:59	
			Uncert:	+/-0.272		+/-0.251	-			, ,		
			TPU:	+/-0.272		+/-0.251						
QC1201173843	LCS											
Technetium-99			12.7			13.0	pCi/	g	103	(75%-125%)	09/06/06 18:32	
			Uncert:			+/-0.501						
			TPU:			+/-0.582						
QC1201173840	мв				TI	0.0001	-0:/	~			00/06/06 17.42	
rechnetium-99			Unconti		U	+/ 0 242	pCi/	g			09/06/06 17:43	
			Uncert.			+/-0.243						
001201173842	170544018	MS	IPU:			+/-0.245						
Technetium-99	170344010	IVIG	13.1 11	0.128		13.3	pCi/	g	102	(75%-125%)	09/06/06 18:15	
			Uncert:	+/-0.272		+/-0.540	Per	6		(1010 12010)		
			TPU:	+/-0.272		+/-0.620						
Batch 564	4447											
OC1201173845	170544018	DUP										
Tritium			U	1.53	U	0.760	pCi/	g 0		(0% - 100%) DFA	09/05/06 21:25	
			Uncert:	+/-6.54		+/-5.24	-	-				
			TPU:	+/-6.54		+/-5.24						
QC1201173847	LCS											
Tritium			46.9			44.3	pCi/	g	95	(75%-125%)	09/07/06 11:21	
			Uncert:			+/-8.94						
			TPU:			+/-8.98						
QC1201173844	MB				T T	0.40	-01	~			00/05/07 20-54	
inuum					υ	-0.43	pCi/	g			09/05/06 20:54	

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Parmname			NOM	Sample (Dual	OC	Units	RPD%	REC%	Range Anist	Date Time		
Rad Liquid Scintilla	ation				2	<u> </u>	0 1110	102/0					
Batch 56	4447												
			Uncert:			+/-4.67							
			TPU:			+/-4.67							
QC1201173846	170544018	MS											
Tritium			54.5 U	1.53		57.4	pCi/	g	105	(75%-125%)	09/07/06 11:05		
			Uncert:	+/-6.54		+/-10.7							
Batch 56	4449		IPU:	+/-0.34		+/-10.7							
001201172940	170544010	DI ID											
Carbon-14	170344019	DOF	П	-0.0997	U	-0.0804	pCi/s	g 0		(0% - 100%) AXD2	09/09/06 05:04		
			Uncert:	+/-0.0966		+/-0.108	F 4	5		(
			TPU:	+/-0.0966		+/-0.108							
QC1201173851	LCS												
Carbon-14			6.66			6.26	pCi/j	g	94	(75%-125%)	09/06/06 13:38		
			Uncert:			+/-0.258							
001201172040	M		TPU:			+/-0.276							
Carbon-14	MB				П	-0.0326	nCi/s	o			09/06/06 12:02		
Curton II			Uncert:		Ŭ	+/-0.102	Per	5			0,00,00 12.02		
			TPU:			+/-0.102							
QC1201173850	170544019	MS											
Carbon-14			6.86 U	-0.0997		6.85	pCi/	g	100	(75%-125%)	09/06/06 13:07		
			Uncert:	+/-0.0966		+/-0.273							
Detal 60	4514		TPU:	+/-0.0966		+/-0.293							
Batch 50	4514												
QC1201174039	170683006	DUP		• • •			<i></i>						
Tritium			U	3.44	U	1.46	pCı/	g O		(0% - 100%) DFA1	09/05/06 14:33		
			Uncert:	+/-0.25		+/-5.79							
OC1201174041	LCS		IPU:	+/-0.23		-7-3.19							
Tritium	200		48.4			53.7	pCi/	g	111	(75%-125%)	09/05/06 15:36		
			Uncert:			+/-7.25		0					
			TPU:			+/-7.31							
QC1201174038	MB												
Tritium					U	0.308	pCi/	g			09/05/06 14:01		
			Uncert:			+/-4.66							
001201174040	170492004	MS	TPU:			+/-4.66							
Tritium	1/0083000	NIS	49 .1 II	3.44		61.1	pCi/	ø	124	(75%-125%)	09/05/06 15:05		
			Uncert:	+/-6.25		+/-7.58	P01	8		(/////			
			TPU:	+/-6.25		+/-7.65							
Batch 56	4520												
QC1201174057	170683007	DUP											
Carbon-14			U	0.0995	U	0.0741	pCi/	g 0		(0% - 100%) AXD2	09/06/06 10:24		
			Uncert:	+/-0.0918		+/-0.118							
			TPU:	+/-0.0918		+/-0.118							
QC1201174059	LCS		6 58			6 51	-C:/	a	00	(750/ 1250/)	00/06/06 11.70		
			Uncert			+/_0 263	per/	Б	77	(13/0-12370)	09/00/00 11:28		
			TPU-			+/-0 282							

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Parmname			NOM	Sample (Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time		
Rad Liquid Scintilla	ation												
Batch 564	4520												
QC1201174056	MB												
Carbon-14					U	-0.0231	pCi/	g			09/06/06 09:53		
			Uncert:			+/-0.105							
			TPU:			+/-0.105							
QC1201174058	170683007	MS	7.10	0.0005		(10	0.1	-	00	(750/ 1050/)	00/06/06 10 56		
Carbon-14			7.19 U	0.0995		0.42	pC1/	g	89	(/5%-125%)	09/06/06 10:56		
			Uncert:	+/-0.0918		+/-0.270							
Batch 56	4623		IPU:	+/-0.0918		+/-0.293							
Duton 50	1025												
QC1201174254	170683001	DUP		0.241		0.107				(00/ 1000/) (ZVD1	00/00/06 10 40		
Technetium-99			U	0.341	U	0.187	pCi/	g U		(0% - 100%) KXRI	09/08/06 19:42		
			Uncert:	+/-0.291		+/-0.211							
001201174256	1.05		IPU:	+/-0.291		+/-0.211							
Technetium-99	LCS		13.0			12.2	nCi/	σ	94	(75%-125%)	09/06/06 14:43		
			Uncert:			+/-0 490	per	6	<i>,</i> ,	(1270 12570)	0,100,00 11.15		
			TPU			+/-0 566							
OC1201174253	MB					0.000							
Technetium-99					U	0.151	pCi/	g			09/06/06 13:54		
			Uncert:			+/-0.247	-	•					
			TPU:			+/-0.247							
QC1201174255	170683001	MS											
Technetium-99			13.0 U	0.341		12.9	pCi/	g	99	(75%-125%)	09/06/06 14:27		
			Uncert:	+/-0.291		+/-0.547							
			TPU:	+/-0.291		+/-0.623							
Batch 56:	5287												
QC1201175809	170683006	DUP											
Iron-55			U	-12.6	U	38.3	pCi/	g 0		(0% - 100%) MXP1	09/07/06 23:59		
			Uncert:	+/-44.5		+/-41.2							
			TPU:	+/-44.5		+/-41.2							
QC1201175811	LCS		(20)			(12	0.1		00	(750/ 1050/)	00/00/06 00 01		
Iron-55			628			613	pCi/	g	98	(/5%-125%)	09/08/06 00:31		
			Uncert:			+/-56.2							
001201175909	MD		TPU:			+/-6/.5							
Iron-55	MD				U	10.2	nCi/	a			09/07/06 23:42		
non 55			Uncert:		U	+/-35.9	per	5			0/10/100 25.42		
			TPI			+/-35.9							
OC1201175810	170683006	MS	110.			., 55.9							
Iron-55			746 U	-12.6		675	pCi/	g	91	(75%-125%)	09/10/06 15:07		
			Uncert:	+/-44.5		+/-60.5	-	-					
			TPU:	+/-44.5		+/-73.4							
Batch 56	5289												
QC1201175815	170683006	DUP											
Nickel-63			U	4.82	U	6.11	pCi/	g 0		(0% - 100%) MXP1	09/08/06 03:13		
			Uncert:	+/-7.80		+/-9.03	-						
			TPU:	+/-7.80		+/-9.03							
QC1201175817	LCS												
Nickel-63			512			443	pCi/	g	87	(75%-125%)	09/08/06 04:16		
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Parmname			NOM	Sample (Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Liquid Scintilla Batch 565	t ion 5289												
			Uncert: TPU:			+/-15.2 +/-20.8							
QC1201175814	MB					5 (7		·				00/09/0	6 02.41
Nickel-63			Uncont		U).0/ 1/7/4	pC1/	g				09/08/0	0 02:41
			TPI I			+/-7 44							
OC1201175816	170683006	MS				1/-/.44							
Nickel-63			572 U	4.82		475	pCi/	g	83	(75%-125%))	09/08/0	6 03:44
			Uncert:	+/-7.80		+/-15.4							
			TPU:	+/-7.80		+/-22.2							
Batch 563	5291												
QC1201175819	170683004	DUP											
Iron-55			U	33.7	U	-4.73	pCi/	g 0		(0% - 100%)) MXP1	09/08/0	6 02:42
			Uncert:	+/-51.9		+/-40.3							
001201175821	1.05		IPU:	+/-52.0		+/-40.5							
Iron-55	LCS		628			652	pCi/	g	104	(75%-125%))	09/08/0	6 03:15
			Uncert:			+/-52.2	•	U					
			TPU:			+/-64.9							
QC1201175818	MB												
Iron-55					U	-26.7	pCi/	g				09/08/0	6 02:26
			Uncert:			+/-35.6							
001201175920	170692004	MC	TPU:			+/-35.0							
Iron-55	170083004	N15	711 11	33.7		744	pCi/	'g	105	(75%-125%))	09/08/0	6 02:59
non pp			Uncert:	+/-51.9		+/-60.1	Por	0		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,		
			TPU:	+/-52.0		+/-75.2							
Batch 563	5293												
QC1201175823	170683004	DUP											
Nickel-63			U	0.395	U	0.122	pCi/	ʻg 0		(0% - 100%)) MXP1	09/09/0	6 04:34
			Uncert:	+/-9.40		+/-7.25							
			TPU:	+/-9.40		+/-7.25							
QC1201175825 Nickel-63	LCS		512			467	nCi/	/a	Q1	(75%-125%)	`	09/09/0	6 06.38
Nickel-05			Uncert:			+/-154	per	5	71	(1570-12570	,	07/07/0	0 00.50
			TPU			+/-21.5							
QC1201175822	MB												
Nickel-63					U	-2.47	pCi/	'g				09/09/0	06 03:32
			Uncert:			+/-5.58							
			TPU:			+/-5.58							
QC1201175824	170683004	MS	521	0 205		575	-Ci	10	101	(750/ 1750/	、 、	00/00/0	6 05.26
Nickei-03			Jon Juncent:	0.393 +/ 0.40			per	g	101	(7370-12370)	09/09/0	0 05.50
			TPU-	+/-9.40		+/-21.0							
Batch 56	5648		110.	.,-,		.,							
OC1201176787	170683010	DUP											
Technetium-99	170000010	501	U	0.0126	U	0.0841	pCi	/g 0		(0% - 100%) KXRI	09/12/0	6 14:53
			Uncert:	+/-0.193		+/-0.206	•	-					
			TPU:	+/-0.193		+/-0.206							

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Workorder:	170683									Page 9	of 10	
Parmname			NOM	Sample (Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid ScintillBatch56	ation 5648											
QC1201176789 Technetium-99	LCS		13.1			13.2	pCi/s	g	101	(75%-125%)		09/12/06 15:56
			Uncert: TPU:			+/-0.349 +/-0.480		-				
QC1201176786 Technetium-99	MB		110.		U	0.00238	pCi/į	g				09/12/06 14:21
			Uncert: TPU:			+/-0.154 +/-0.154						
QC1201176788 Technetium-99	170683010	MS	13.0 U	0.0126		12.1	pCi/į	g	93	(75%-125%)		09/12/06 15:24
			Uncert: TPU:	+/-0.193 +/-0.193		+/-0.383 +/-0.489						
Batch 56	5649											
QC1201176791 Carbon-14	170683010	DUP		0.324		0.204	pCi/į	g 46		(0% - 100%)	AXD2	09/08/06 07:38
			Uncert: TPU:	+/-0.115 +/-0.115		+/-0.112 +/-0.112						
QC1201176793 Carbon-14	LCS		7.27			8.39	pCi/p	g	115	(75%-125%)		09/08/06 09:12
001101176700	MD		TPU:			+/-0.238						
Carbon-14	мв		Uncert:		U	0.0136 +/-0.109	pCi/j	g				09/08/06 06:51
OC1201176792	170683010	MS	TPU:			+/-0.109						
Carbon-14			7.22 Uncert:	0.324 +/-0.115		7.14 +/-0.239	pCi/	g	94	(75%-125%)		09/08/06 08:25
Batch 56	5650		IPU:	+/-0.115		+/-0.204						
OC1201176795	170683010	DUP										
Tritium			U Uncert:	4.94 +/-7.02	U	7.42 +/-7.37	pCi/	g 0		(0% - 100%)	ATH2	09/07/06 01:36
QC1201176797	LCS		TPU:	+/-7.02		+/-7.37	<u> </u>			(70) 1000		00/07/07 00 00
Tritium			64.5 Uncert:			64.9 +/-10.8	pC1/	g	101	(/5%-125%)		09/07/06 02:09
QC1201176794	MB		TPU:		T 1	+/-10.8	-C:/	` _				00/07/06 01.10
Innum			Uncert:		U	4.33	pC1/	g				09/07/06 01:19
0C1201176796	170683010	MS	TPU:			+/-6.8/						
Tritium	170005010		64.7 U Uncert:	4.94 +/-7.02		67.5 +/-10.9	pCi/	g	104	(75%-125%)		09/07/06 01:52
			TPU:	+/-7.02		+/-10.9						

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Worker	dor: 170683										
** OF KOF	uer: 1/0005		Page 10 of 10								
Parmna	me	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Notes: The Qu	alifiers in this report are d	efined as follows:									
*	A quality control analyte	recovery is outside of	specified acceptance crit	eria							
<	Result is less than value	reported									
>	Result is greater than val	ue reported									
Α	The TIC is a suspected a	Idol-condensation prod	uct								
В	Target analyte was detec	ted in the associated bla	ank								
BD	Results are either below	the MDC or tracer reco	very is low								
С	Analyte has been confirm	ned by GC/MS analysis	:								
D	Results are reported from	n a diluted aliquot of the	e sample								
Н	Analytical holding time	was exceeded									
J	Value is estimated										
N/A	Spike recovery limits do	not apply. Sample con	centration exceeds spike	e concentra	tion by 43	C or more					
R	Sample results are reject	ed									
U	Analyte was analyzed fo	r, but not detected abov	e the MDL, MDA, or L	OD.							
UI	Gamma SpectroscopyU	Incertain identification									
х	Consult Case Narrative,	Data Summary package	e, or Project Manager co	ncerning th	nis qualifie	er					
Y	QC Samples were not sp	iked with this compour	d								
^	RPD of sample and dupl	icate evaluated using +	-RL. Concentrations ar	e < 5X the 1	RL						
h	Preparation or preservati	on holding time was ex	ceeded								
N/A ind ** Indic ^ The Re	icates that spike recovery ates analyte is a surrogate elative Percent Difference	limits do not apply whe compound. (RPD) obtained from t	n sample concentration he sample duplicate (D	exceeds sp UP) is eval	ike conc. I uated agai	by a factor on a factor of a f	of 4 or more. ptence criter	ia when the	e		

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.

RELEASE RECORD

Attachment 2b Split Sample Assessment Forms (3 Pages)

Connecticut Yankee Decommissioning Project Health Physics Procedure

			Split Sa	mple Assess	ment Fo	rm		
Survey Area #:	9106	Survey Unit #:	15 Surv Unit	vey Name: Dis	charge Ca	nal		
Sample Plan	or WPIR#:	2006-02 1	·			SML #:	9106-0015-	005FS
Sample Descr using gamm the comparis	ription: Con a spectros son sample	nparison of s copy by an was <u>9106-0</u>	plit sample off-site ver 015-005FS	s collected fr ndor laborat 3.	om sample ory. The	e measureme standard sa	ent location <u>#</u> ample was <u>}</u>	<u>#05</u> and analyzed 9106-0015-005F
		STANDAR	D	· · · ·		C	OMPARISO	N
RadionuclideActivityStandardResolutionAgreementValueErrorRange						y Standard Error	Comparison Ratio	Acceptable (Y/N)
Cs-137	5.89E-02	1.68E-02	4	0.5 2.00	2.22E-0	1 2.19E-02	3.77	N
Co-60	9.29E-04	1.40E-02	0	NONE	6.32E-0	2 1.83E-02	68.03	N/A
Sr-90	1.33E-02	9.00E-03	1	NONE	1.49E-0	2 9.95E-03	1.12	N/A
K-40 1.42E+01 5.20E-01 27 0.75 1.33					1.49E+0	1 6.00E-01	1.05	Y
.		· .		-				
Comments/Co Sr-90 results,	orrective A guidance f	ctions: In con or agreement	nsideration of ranges, obtained	of the Co-60 ained from	& Table is to asses	s provided to s split samp	show accep les.	tance criteria used
USNRC Insp resolution rat	ios less that	edure 84/50, n 4. therefore	does not ad	aress ation of	Re	solution	Agree	ement Range
acceptability	for such rat	tions cannot b	e made. Si	nce Cs-137 h	as 4	7	0.50	2.00
a likelyhood	to be tightly	/ bound to or	ganic mater	in the sample	8	15	0.60	1.66
homogenuou	slv mixed i	f processing of	of the sample	e-split aligot	is	50	0.75	1.33
not effective	in dispersin	g organic ma	terial unifor	mly through	51	200	0.80	1.25
the sample al	iqot. Since	K-40 was fo	und to be pr	esent at an		> 200	0.85	1.18
	ver of agree	inoni, no run		, warrantoo.				
Performed B	y:		Date	e:	Review	ed By:		Date:
Rherte	h.M	NI	-	-13-06	Ē	E fa	2	"/13/06

WPIR – Work Plan and Inspection Record SML – Sample Measurement Location designation

Connecticut Yankee Decommissioning Project Health Physics Procedure

			Split	Sam	ple As	sessn	nent Forn	n		
Survey Area#:	9106	Survey Unit #:	15 P	Surve Name	ey Unit e:	Disch	arge Cana	1		
Sample Plan	or WPIR#:	2006-0021						SML #:	9106-0015-	012FS
Sample Desc using gamma comparison s	ription: Con a spectrosco ample was	mparison of opy by an c 9106-0015-0	split san off-site v <u>12FS</u> .	nples vendo	collect or labor	ed fro ratory.	m sample The star	measurem ndard sam	ent location ple was <u>91(</u>	<u>#12</u> and analyzed)6-0015-012F, the
		STANDAR	D					CC	MPARISO	 V
Radionuclide	Activity Value	Standard Error	Resolut	tion	Agree Ran	ment ge	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)
Cs-137	3.47E-01	2.32E-02	15		0.6	1.66	3.28E-01	3.17E-02	0.95	Y
<u> </u>	6.55E-01	3.79E-02	17		0.75	1.33	6.26E-01	4.11E-02	0.96	Y
Sr-90	3.27E-03	8.00E-03	0		NONE		8.15E-03	7.35E-03	2.49	N/A
<u>K-40</u>	1.18E+01	4.41E-01	27		0.75	1.33	1.24E+01	6.30E-01	1.05	Y
	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·								
	·									
Comments/C results, guida	orrective A	ctions: In cor	s, obtain	on of ned fr	the Sr-	90 NRC	Table is p to assess	provided to split sampl	show accep es.	tance criteria used
Inspection Pr	ocedure 84	750, does not letermination	address	reso. ntahil	lution r lity for	atios such	Reso	lution	Agree	ement Range
rations canno	ot be made.	Since Cs-13	7, Co-60	and	K-40 w	as	4	7	0.50	2.00
found to be p	present at an	acceptable le	evel of a	greer	nent, no	0	8	15	0.60	1.66
further action	i is warrante	ed.					16	50	0.75	1.33
							51	200	0.80	1.25
							>	200	0.85	1.18
Performed B	y:	~ 11	.]	Date:			Reviewed	l By:	<u>、</u>	Date:
1/oper				11-	-13-0	6		Z JE	×.	"/13/06

SML – Sample Measurement Location designation

Connecticut Yankee Decommissioning Project Health **Physics Procedure**

_	<u>.</u>		Split Samj	ple Assessme	ent Form			
Survey Area#:	9106	Survey Unit #:	15 Surv Nam	vey Unit ne: Disc	harge Cana	1		
Sample Plan	or WPIR#:	2006-002 1				SMIL #:	9106-0015-0)18FS
Sample Desc analyzed usin 018F, the cor	cription: Cong gamma s nparison sa	omparison of spectroscopy mple was <u>910</u>	f split samp by an off-s)6-0015-018	oles collected ite vendor lab <u>FS</u> .	from sam oratory. T	ple measu he standar	rement loca d sample wa	tion <u>#18</u> and s <u>9106-0015-</u>
		STANDAR	D			COM	IPARISON	
Radionuclide	Activity Value	Standard Error	Resolution	Agreement Range	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)
Cs-137	3.54E-01	2.76E-02	13	0.60 1.66	3.98E-01	4.93E-02	1.12	Y
Co-60	1.16E+00	5.00E-02	23	0.75 1.33	1.09E+00	6.00E-02	0.94	Y
Sr-90	-1.15E-02	6.80E-03	-2	NONE	1.46E-02	9.10E-03	-1.27	N/A
K-40	1.27E+01	5.45E-01	23	0.75 1.33	1.32E+01	7.70E-01	1.04	Y
Comments/C	corrective A	ctions: In cor	sideration o	of the Sr-90	Table is	provided to	show accep	tance criteria
results, guida	ance for agr	eement range	s, obtained i	from USNRC	used to a	ssess split	samples.	
less than 4, t	herefore, a	determination	of acceptab	bility for such	Reso	olution	Agreem	ent Range
rations canno	ot be made.	Since Cs-13	7, Co-60 and	l K-40 was	4	7	0.50	2.00
found to be p	present at ar	acceptable l	evel of agree	ement, no	8	15	0.60	1.66
further action	n is warrant	ed.			16	50	0.75	1.33
					51	200	0.80	1.25
					>	· 200	0.85	1.18
Performed B	y: יז	Λ	Date	e:	Reviewe	d By:	\overline{Q}	Date:
16her	Ś	V/	//	1-13-06	E	E fla		13/06
WPIR - Wor	k Plan and I	Inspection Re	cord		/			

SML – Sample Measurement Location designation

Page 1 of 1

RELEASE RECORD

Attachment 2c Preliminary Data Forms (2 Pages) 7.

RANGE

Preliminary Data Review Form - Samples for the Sign Test

Survey Unit: 9106-15 Survey Unit Name: Discharge Canal

Classification:	2
Survey Media:	Water
Type of Survey:	Final Status Survey
Type of Measurement:	Radionuclide Specific
Number of Measurements:	28
Operational DCGL:	1

BASIC STATISTICAL QUANTITIES

Cs-137	Co-60	Sr-90
-8.56E-03	-3.79E-03	-1. 88E-02
5.22E-01	1.1 6E+00	2.52E-02
2.26E-01	2.96E-01	5.37E-03
2.63E-01	1.41E-01	4.75E-03
1.69E-01	3.57E-01	1.25E-02
	Cs-137 -8.56E-03 5.22E-01 2.26E-01 2.63E-01 1.69E-01	Cs-137Co-60-8.56E-03-3.79E-035.22E-011.16E+002.26E-012.96E-012.63E-011.41E-011.69E-013.57E-01

		ADIONUCLII	DE CONCENTRATION (pCi/g)	
NUMBER	Cs-137	Co-60	Sr-90	
9106-0015-001F	2.56E-02	1.20E-02	2.48E-02	
9106-0015-002F	5.22E-01	1.11E+00	-1.88E-02	
9106-0015-003F	4.67E-02	1.42E-01	-3.33E-03	
9106-0015-004F	-8.56E-03	9.74E-03	1.98 E-02	
9106-0015-005F	5.89E-02	9.29E-04	1.33E-02	
9106-0015-006F	3.22E-01	3.50E-01	8.64E-03	
9106-0015-007F	2.85E-01	3.55E-01	2.98E-03	
9106-0015-008F	2.15E-01	3.49E-01	1.05E-02	
9106-0015-009F	1.19E-02	3.23E-02	1.55E-02	
9106-0015-010F	2.53E-01	0.00E+00	3.71E-03	
9106-0015-011F	4.93E-01	3.96E-01	1.88E-02	
9106-0015-012F	3.47E-01	6.55E-01	3.27E-03	
9106-0015-013F	4.43E-01	7.05E-01	5.00E-03	
9106-0015-014F	4.43E-02	4.32E-02	2.22E-02	
9106-0015-015F	2.08E-01	7.07E-02	2.11E-02	
9106-0015-016F	3.02E-01	1.01E-01	-2.59E-03	
9106-0015-017F	4.74E-01	2.90E-01	4.49E-03	
9106-0015-018F	3.54E-01	1.16E+00	-1.15E-02	
9106-0015-019F	9.01E-02	2.38E-01	9.59E-03	
9106-0015-020F	9.79E-02	2.03E-01	-8.28E-03	
9106-0015-021F	3.98E-01	0.00E+00	-1.17E-02	
9106-0015-022F	3.46E-01	6.97E-01	2.53E-03	
9106-0015-023F	3.28E-01	1.06E+00	-1.20E-02	
9106-0015-024F	6.71E-02	1.15E-01 Page	2.52E-02 1 of 2	

9106-0015-025F	1.17E-02	-3.63E-03	1.28E-02
9106-0015-026F	3.23E-01	5.75E-02	6.51E-03
9106-0015-027F	2.73E-01	1.39E-01	3.14E-03
9106-0015-028F	4.90E-03	-3.79E-03	-1.53E-02

Performed By: Ocl Rentall endent Review: Tofert Independent Review:

Date: <u>//-/3-06</u> Date: <u>//-/3-06</u>

RELEASE RECORD

Attachment 2d Graphical Representation of Data (6 Pages)

Health Physics Procedure



Cs-137	Rank	Percentage	Cs-137	Rank	Percentage
-8.56E-03	1	2 %	2.73E-01	15	52 %
4.90E-03	2	5 %	2.85E-01	16	55 %
1.17E-02	3	9 %	3.02E-01	17	59 %
1.19E-02	4	13 %	3.22E-01	18	63 %
2.56E-02	5	16 %	3.23E-01	19	66 %
4.43E-02	6	20 %	3.28E-01	20	70 %
4.67E-02	7	23 %	3.46E-01	21	73 %
5.89E-02	8	27 %	3.47E-01	22	77 %
6.71E-02	9	30 %	3.54E-01	23	80 %
9.01E-02	10	34 %	3.98E-01	24	84 %
9.79E-02	11	38 %	4.43E-01	25	88 %
2.08E-01	12	41 %	4.74E-01	26	91 %
2.15E-01	13	45 %	4.93E-01	27	95 %
2.53E-01	14	48 %	5.22E-01	28	98 %

Prepared By: Reviewed By:

Date: 11/13/06 Date:

Health Physics Procedure

-2.00E-01

80

100

Quantile Plot For Cobalt - 60



-								
Р	e	r	Ĉ	e	n	ta	α	e

60

Co-60	Rank	Percentage	Co-60	Rank	Percentage
-3.79E-03	1	2 %	1.42E-01	15	52 %
-3.63E-03	2	5 %	2.03E-01	16	55 %
0.00E+00	3	9 %	2.38E-01	17	59 %
0.00E+00	4	13 %	2.90E-01	18	63 %
9.29E-04	5	16 %	3.49E-01	19	66 %
9.74E-03	6	20 %	3.50E-01	20	70 %
1.20E-02	7	23 %	3.55E-01	21	73 %
3.23E-02	8	27 %	3.96E-01	22	77 %
4.32E-02	9	30 %	6.55E-01	23	80 %
5.75E-02	10	34 %	6.97E-01	24	84 %
7.07E-02	11	38 %	7.05E-01	25	88 %
1.01E-01	12	41 %	1.06E+00	26	91 %
1.15E-01	13	45 %	1.11E+00	27	9 5 %
1.39E-01	14	48 %	1.16E+00	28	98 %

Prepared By: Och Rulall Reviewed By: F. Masser, H Wing

Date: <u>Z-26-07</u> Date: <u>Z-26-07</u>

Quantile Plot For Strontium - 90

Survey Unit: 9106-15 Survey Unit Name: Discharge Canal





Sr-90	Rank	Percentage	Sr-90	Rank	Percentage
-1.88E-02	1	2 %	5.00E-03	15	52 %
-1.53E-02	2	5 %	6.51E-03	16	55 %
-1.20E-02	3	9 %	8.64E-03	17	59 %
-1.17E-02	4	13 %	9.59E-03	18	63 %
-1.15E-02	5	16 %	1.05E-02	19	66 %
-8.28E-03	6	20 %	1.28E-02	20	70 %
-3.33E-03	7	23 %	1.33E-02	21	73 %
-2.59E-03	8	27 %	1.55E-02	22	77 %
2.53E-03	9	30 %	1.88E-02	23	80 %
2.98E-03	10	34 %	1.98E-02	24	84 %
3.14E-03	11	38 %	2.11E-02	25	88 %
3.27E-03	12	41 %	2.22E-02	26	91 %
3.71E-03	13	45 %	2.48E-02	27	95 %
4.49E-03	14	48 %	2.52E-02	28	98 %

Prepared By: <u>Del Rudent</u> Reviewed By: <u>R. M.Assengill</u>

Date: <u>Z-26-07</u>

Date: 2-26-07

Frequency Plot For Cesium - 137

Survey Unit: 9106-15 Survey Unit Name: Discharge Canal



Upper End Value	Observation Frequency	Observation Frequency
0.1	11	39%
0.2	0	0%
0.3	5	18%
0.4	8	29%
0.5	3	11%
0.6	1	4%
Total	28	100%

Date: 11-13-06

Prepared By: Oal Randall Reviewed By: Ret M Reviewed By:

Date: 11-13-04

Frequency Plot For Cobalt - 60

Survey Unit: 9106-15 Survey Unit Name: Discharge Canal



Upper End Value	Observation Frequency	Observation Frequency
0.20	15	47%
0.40	7	22%
0.60	0	0%
0.80	3	9%
1.00	0	0%
1.20	3	9%
Total	28	88%

Prepared By: Reviewed By:

Date:

11-13-06 Date:

Frequency Plot For Strontium - 90

Survey Unit: 9106-15 Survey Unit Name: Discharge Canal



Upper End	Observation	Observation
Value	Frequency	Frequency
0.000	8	25%
0.005	6	19%
0.010	4	13%
0.015	3	9%
0.020	3	9%
0.025	3	9%
0.030	1	3%
Total	28	88%

Prepared By: Reviewed By:

13-06 Date:

11/13/06 Date:

RELEASE RECORD

Attachment 2e Sign Test Calculation (2 Pages)

Sign Test Calculation Sheet For Multiple Radionuclisdes

Sarvey Onic Hame	. IS MOUTHINE COUNTRIL		·······		
WP&IR#	: 2006-021				
Classification	: 1	TYPE I (α error):0.05	TYPE I (β error):0.05		
	Radionuclides:	Cs-137	Co-60	Sr-90	H
Survey De	sign DCGL (pCi/g):	6.01	2.9	1.18	
Results Cs-137	Results Co-60	Results Sr-90	Results other HTDs	DCGL-Result	S
2.56E-02	1.20E-02	2.48E-02	3.10E-02	9.40E-01	
5.22E-01	1.11E+00	-1.88E-02	1.41E-01	4.05E-01	
4.67E-02	1.42E-01	-3.33E-03	3.10E-02	9.15E-01	
-8.56E-03	9.74E-03	1.98E-02	1.90E-03	9.80E-01	
5.89E-02	9.29E-04	1.33E-02	3.10E-02	9.48E-01	
3.22E-01	3.50E-01	8.64E-03	3.10E-02	7.87E-01	
2.85E-01	3.55E-01	2.98E-03	3.10E-02	7.97E-01	
2.15E-01	3.49E-01	1.05E-02	3.10E-02	8.04E-01	
1.19E-02	3.23E-02	1.55E-02	3.10E-02	9.43E-01	
2.53E-01	0.00E+00	3.71E-03	3.10E-02	9.24E-01	
4.93E-01	3.96E-01	1.88E-02	3.10E-02	7.35E-01	
3.47E-01	6.55E-01	3.27E-03	3.10E-02	6.83E-01	
4.43E-01	7.05E-01	5.00E-03	3.10E-02	6.48E-01	
4.43E-02	4.32E-02	2.22E-02	3.10E-02	9.28E-01	
2.08E-01	7.07E-02	2.11E-02	-2.88E-02	9.52E-01	
3.02E-01	1.01E-01	-2.59E-03	3.10E-02	8.86E-01	
4.74E-01	2.90E-01	4.49E-03	3.10E-02	7.86E-01	
3.54E-01	1.16E+00	-1.15E-02	2.32E-02	5.28E-01	
9.01E-02	2.38E-01	9.59E-03	3.10E-02	8.64E-01	
9.79E-02	2.03E-01	-8.28E-03	3.10E-02	8.90E-01	
3.98E-01	0.00E+00	-1.17E-02	1.79E-02	9.26E-01	
3.46E-01	6.97E-01	2.53E-03	3.10E-02	6.69E-01	
3.28E-01	1.06E+00	-1.20E-02	3.10E-02	5.59E-01	
6.71E-02	1.15E-01	2.52E-02	3.10E-02	8.97E-01	
1.17E-02	-3.63E-03	1.28E-02	3.10E-02	9.58E-01	
3.23E-01	5.75E-02	6.51E-03	3.10E-02	8.90E-01	
2./3E-01	1.39E-01	3.14E-03	3.10E-02	8.73E-01	
4.90E-03	-3.79E-03	-1.53E-02	3.10E-02	9.82E-01	

Critical Value:	18	Survey Unit:	Meets Acceptance	Criterion
Performed By:	Del	Romball	Date:	11-20-06
Independent Review:	Robert	A	Date:	11-20-06
	O			

RELEASE RECORD

Attachment 2f COMPASS DQA Surface Soil Report with Retrospective Power Curve (5 Pages)



Assessment Summary

Site:	9106-0015 (19mren	n/yr) w/HTDs	
Planner(s):	Dale Randall		
Survey Unit Name:	9106-0015		
Report Number:			
Survey Unit Samples:	28		
Reference Area Samples:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	Reject Null Hypoth	esis (Survey Unit PASS	SES)

Retrospective Power Curve





Survey Unit Data

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

Sample Number	Туре	Am-241 (pCi/g)	C-14 (pCi/g)	Co-60 (pCi/g)
9106-0015-001F	S	0.1	0.1	0.01
9106-0015-002F	S	0.29	0.21	1.11
9106-0015-003F	S	0.1	0.1	0.14
9106-0015-004F	S	0	0.01	0.01
9106-0015-005F	S	0.1	0.1	0
9106-0015-006F	S	0.1	0.1	0.35
9106-0015-007F	S	0.1	0.1	0.36
9106-0015-008F	S	0.1	0.1	0.35
9106-0015-009F	S	0.1	0.1	0.03
9106-0015-010F	S	0.1	0.1	0
9106-0015-011F	S	0.1	0.1	0.4
9106-0015-012F	s	0.1	0.1	0.66
9106-0015-013F	s	0.1	0.1	0.7
9106-0015-014F	ŝ	0.1	0.1	0.04
9106-0015-015E	ŝ	0	-0 12	0.07
9106-0015-016E	ŝ	01	0.1	01
9106-0015-017E	Š	0.1	0.1	0.29
9106-0015-018E	s	0.19	0.06	1 16
9106-0015-019E	ŝ	0.1	0.00	0.24
9106-0015-015	ŝ	0.1	0.1	0.24
9106-0015-0201	5	0.1	-0.05	0.2
0406 0015-022	5	01	-0.05	07
9100-0015-022F	5	0.1	0.1	1.06
9100-0015-023F	3	0.1	0.1	0.12
9100-0015-024	5	0.1	0.1	0.12
9100-0015-025F	5	0.1	0.1	0.06
9100-0015-020F	5	0.1	0.1	0.00
9106-0015-027F	5	0.1	0.1	0.14
9106-0010-026F	5	0.1	0.1	U
Sample Number	Туре	Cs-137 (pCi/g)	Pu-241 (pCi/g)	SrY-90 (pCi/g)
9106-0015-001F	S	0.03	4.92	0.02
9106-0015-002F	S	0.52	24.6	-0.02
9106-0015-003F	S	0.05	4.92	0
9106-0015-004F	S	-0.01	0	0.02
9106-0015-005F	S	0.06	4.92	0.01
9106-0015-006F	S	0.32	4.92	0.01
9106-0015-007F	S	0.28	4.92	0
9106-0015-008F	S	0.22	4.92	0.01
9106-0015-009F	S	0.01	4.92	0.02
9106-0015-010F	S	0.25	4.92	0
9106-0015-011F	S	0.49	4.92	0.02
9106-0015-012F	S	0.35	4.92	0
9106-0015-013F	S	0.44	4.92	0
9106-0015-014F	S	0.04	4.92	0.02
9106-0015-015F	S	0.21	0	0.02
9106-0015-016F	S	0.3	4.92	0
9106-0015-017F	S	0.47	4.92	0
9106-0015-018F	S	0.35	0	-0.01
9106-0015-019F	S	0.09	4.92	0.01
9106-0015-020F	S	0.1	4.92	-0.01
9106-0015-021F	S	0.4	0	-0.01



Survey Unit Data

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

Sample Number	Туре	Cs-137 (pCi/g)	Pu-241 (pCi/g)	SrY-90 (pCi/g)
9106-0015-022F	S	0.35	4.92	0
9106-0015-023F	S	0.33	4.92	-0.01
9106-0015-024F	S	0.07	4.92	0.03
9106-0015-025F	S	0.01	4.92	0.01
9106-0015-026F	S	0.32	4.92	0.01
9106-0015-027F	S	0.27	4.92	0
9106-0015-028F	S	0	4.92	-0.02
Sample Number	Туре	Tc-99 (pCi/g)		
9106-0015-001F	S	0.13		
9106-0015-002F	S	0.39		
9106-0015-003F	S	0.13		
9106-0015-004F	S	0		
9106-0015-005F	S	0.13		
9106-0015-006F	S	0.13		
9106-0015-007F	S	0.13		
9106-0015-008F	S	0.13		
9106-0015-009F	S	0.13		
9106-0015-010F	S	0.13		
9106-0015-011F	S	0.13		
9106-0015-012F	S	0.13		
9106-0015-013F	S	0.13		
9106-0015-014F	S	0.13		
9106-0015-015F	S	0		
9106-0015-016F	S	0.13		
9106-0015-017F	S	0.13		
9106-0015-018F	S	0		
9106-0015-019F	S	0.13		
9106-0015-020F	S	0.13		
9106-0015-021F	S	0.28		
9106-0015-022F	S	0.13		
9106-0015-023F	S	0.13		
9106-0015-024F	S	0.13		
9106-0015-025F	S	0.13		
9106-0015-026F	S	0.13	·	
9106-0015-027F	S	0.13		
9106-0015-028F	S	0.13		



Modified Data (Unity Rule SOR)

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

Sample Number	Туре	Sum-of-Ratios (SOR)
9106-0015-001F	S	0.08
9106-0015-002F	S	0.59
9106-0015-003F	S	0.1
9106-0015-004F	S	0.02
9106-0015-005F	S	0.07
9106-0015-006F	S	0.23
9106-0015-007F	S	0.22
9106-0015-008F	S	0.21
9106-0015-009F	S	0.08
9106-0015-010F	S	0.09
9106-0015-011F	S	0.28
9106-0015-012F	S	0.34
9106-0015-013F	S	0.37
9106-0015-014F	S	0.09
9106-0015-015F	S	0.05
9106-0015-016F	S	0.13
9106-0015-017F	S	0.23
9106-0015-018F	S	0.47
9106-0015-019F	S	0.15
9106-0015-020F	S	0.13
9106-0015-021F	S	0.07
9106-0015-022F	S	0.35
9106-0015-023F	S	0.46
9106-0015-024F	S	0.12
9106-0015-025F	S	0.06
9106-0015-026F	S	0.13
9106-0015-027F	S	0.15
9106-0015-028F	S	0.04



Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	28	N/A	N=15
Mean (SOR)	0.19	N/A	0.21
Median (SOR)	0.13	N/A	N/A
Std Dev (SOR)	0.15	N/A	0.29
High Value (SOR)	0.59	N/A	N/A
Low Value (SOR)	0.02	N/A	N/A

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