Book 7 of 17



Final Status Survey Final Report Phase IV

Appendix A6 Survey Unit Release Record 9106-0006, Discharge Canal



November 2006

CYAPCO FINAL STATUS SURVEY RELEASE RECORD DISCHARGE CANAL SURVEY UNIT 9106-0006

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Revision 0

RELEASE RECORD

TABLE OF CONTENTS

1.	SURVEY UNIT DESCRIPTION	3
2.	CLASSIFICATION BASIS	3
3.	DATA QUALITY OBJECTIVES (DQO)	5
4.	SURVEY DESIGN	8
5.	SURVEY IMPLEMENTATION	.11
6.	SURVEY RESULTS	.12
7.	QUALITY CONTROL	.13
8.	INVESTIGATIONS AND RESULTS	.14
9.	REMEDIATION AND RESULTS	.15
10.	CHANGES FROM THE FINAL STATUS SURVEY PLAN	. 15
11.	DATA QUALITY ASSESSMENT (DQA)	.15
12.	ANOMALIES	.16
13.	CONCLUSIONS	.16
14.	ATTACHMENTS	.17
	Attachment 1 – Figures (6 pages including cover)	
	Attachment 2 – Sample and Statistical Data (273 pages including	
	covers)	

RELEASE RECORD

1. SURVEY UNIT DESCRIPTION

Survey Unit 9106-0006 (Discharge Canal) is designated as Final Status Survey (FSS) Class 2 and consists of approximately 9,716 m² (2.40 acres) of water covered sediment in an area located approximately 0.68 miles from the reference coordinate system benchmark used at the Haddam Neck Plant (HNP) (see Attachment 1, Figure 1). The Discharge Canal is a man-made mile long waterway that runs parallel to, and ultimately communicates with the Connecticut River. The Discharge Canal is subdivided into fifteen (15) survey units including two (2) permanent wetland areas for FSS purposes. The survey unit is bounded as follows: Discharge Canal Survey Unit 9106-0005 is to the north (called north as orientated with the north to south flow of the Connecticut River), land surface area Survey Unit 9521 is to the east, Discharge Canal Survey Unit 9106-0007 is to the south and Discharge Canal area 9106-0012 (formerly a part of 9530) is to the west. The survey unit comprises the canal sediments to the deeper of three (3) feet or the original construction depth and it extends up the canal banks to the mean high water level.

The reference coordinates associated with this survey unit are E026 through E032 by S120 through S133 (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 9106-0006 as Class 2 in May 2006.

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

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

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

3

RELEASE RECORD

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

A final characterization was performed by Site Closure personnel in April and May of 2004. Six (6) sediment samples were taken. All of the samples were analyzed by gamma spectroscopy, Sr-90 and tritium. Additionally, Hard-to-Detect (HTD) analyses were performed on one (1) sample. The radionuclides of concern identified in the sample data for FSS planning purposes were Cesium-137, Cobalt-60 and Sr-90. All other positively detected isotopes could be screened out based on the 5%/10% rule of Section 5 of the LTP. The statistics for each of the radionuclides of concern are listed in Table 1.

Table 1 – Basic Statistical Quantities for Cs-137, Co-60 and Sr-90 from the Characterization Survey										
Parameter	Cs-137 (pCi/g)	SCo-60 (pCi/g)	Sr-90 (pCi/g)							
Minimum Value:	-7.59E-04	8.61E-03	1.14E-02							
Maximum Value:	2.22E-01	6.14E-01	7.16E-02							
Mean:	1.29E-01	2.76E-01	4.17E-02							
Median:	1.64E-01	2.73E-01	3.94E-02							
Standard Deviation:	1.02E-01	2.67E-01	2.50E-02							
NOTE: The Operational DCGLs 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 achie	eve 19 mrem/yr							
TEDE										

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

Based upon the historical information and the results of radiological surveys performed during characterization, it was concluded that there was a low probability for residual radioactivity to be present in this survey unit in concentrations greater than the Operational DCGLs justifying a final survey unit classification of Class 2 (refer to Section 3).

RELEASE RECORD

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 9106-0006 did not exceed the release criteria specified in the LTP and that the potential dose from residual radioactivity is As Low As Reasonably Achievable (ALARA).

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

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

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

Equation 1:

RELEASE RECORD

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

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

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

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.

RELEASE RECORD

Table 2 – Radionuclide Specific Base Case Soil DCGL, Operational DCGLs											
and	and Required Minimum Detectable Concentrations										
Radionuclide ⁽¹⁾	Base Case Soll DCCL $(nCi/a)^{(2)}$	(pCi/g) ⁽³⁾	(pCi/g) ⁽⁴⁾								
Н-3	4.12E+02	$2 12 \Sigma + 02$	1.65E+01								
<u> </u>	5.66E+00	3.13E+02	2.26E.01								
C-14	5.00E+00	4.30E+00	2.20E-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. The radiological data that was used to support the DQO process, was provided by the characterization surveys performed in 2004 and 2006, as discussed in Section 2. Cs-137, Co-60 and Sr-90 were found to be the predominate radionuclides of concern. The basic statistical quantities (i.e., mean, standard deviation, median) for Cs-137, Co-60 and Sr-90 are provided in Table 1.

As part of the DQOs applied to laboratory processes, analysis results were reported as actual calculated results. Results reported as less than Minimum

RELEASE RECORD

Detectable Concentration (<MDC) were not accepted for FSS. Sample report summaries included unique sample identification, analytical method, radionuclide, result, and uncertainty to two (2) standard deviations, laboratory data qualifiers, units, and the required and observed MDC.

4. SURVEY DESIGN

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

This survey was initially designed to ten (10) mrem/yr TEDE. At the time when the survey was designed, the dose contribution for existing and future groundwater had not yet been determined. Consequently, a conservative value was chosen for the Operational DCGL. This approach is no longer required as the total dose from existing and future groundwater has been established. The dose for soil used for this survey unit to demonstrate compliance with the LTP criteria is nineteen (19) mrem/yr TEDE, as discussed in Section 2 of this Release Record.

The DQO process determined that Cs-137, Co-60 and Sr-90 were the radionuclides of concern (refer to Section 3). The sum of fractions or unity rule was used with the individual Operational DCGLs because multiple radionuclides (Cs-137, Co-60 and Sr-90) were considered in the survey design.

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

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

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

The number of soil samples for FSS was determined in accordance with Procedure RPM 5.1-12, "Determination of the Number of Samples for Final

8

RELEASE RECORD

Status Survey." The Lower Bound of the Gray Region (LBGR) was set in accordance with Procedure RPM 5.1-11 to 0.5 to maintain the relative shift (Δ/σ) in the range of 1 and 3. The resulting relative shift was 2.7. A Prospective Power Curve was generated using COMPASS, a software package developed under the sponsorship of the United States Nuclear Regulatory Commission (USNRC) for implementation of the MARSSIM in support of the decommissioning license termination rule (10 CFR 20, Subpart E). The result of the COMPASS computer run showed adequate power for the survey design. This indicates that the survey unit has a high probability of rejecting the null hypothesis, assuming that the characterization data are representative of the FSS results. Survey design specified fifteen (15) sediment core samples for non-parametric statistical testing.

The grid pattern and locations of the soil samples were determined using Visual Sample Plan (VSP) in accordance with Procedure RPM 5.1-14, "*Identifying, and Marking Surface Sample Locations for Final Status Survey.*" Visual Sample Plan was created by Pacific Northwest National Laboratory (PNNL) for the United States Department of Energy. A systematic triangular grid pattern with a random starting point was selected for sample design, which is appropriate for a Class 2 area.

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 Measurem	ent Locations with Ass	ociated GPS Coordinates 🔬
Designation	Northing	Easting
9106-0006-001F	235490.83	671656.84
9106-0006-003F	235412.87	671611.83
9106-0006-004F	235412.87	671701.85
9106-0006-005F	235412.87	671791.88
9106-0006-006F	235412.87	671881.90
9106-0006-007F	235334.91	671746.86
9106-0006-008F	235334.91	671836.89
9106-0006-009F	235334.91	671926.91
9106-0006-010F	235334.91	672016.94
9106-0006-011F	235334.91	672106.96
9106-0006-012F	235334.91	672196.99
9106-0006-014F	235256.94	672061.95
9106-0006-015F	235256.94	672151.98
9106-0006-017F	235206.44	672120.54
9106-0006-018F	235420.43	671845.27
9106-0006-019F	235364.94	671732.17
9106-0006-020F	235253.59	672053.62

RELEASE RECORD

The sample location designations of Table 3 are not sequentially inclusive because of the necessity to relocate some samples due to the inaccessibility of the original sample locations. Grid Sample locations 9106-0006-002F and 9106-0006-013F were found to be on dry land. This was also the case for biased sample location 9106-0006-16F. Consequently, the grid sample locations were randomly re-located using the VSP software to two (2) new locations designated as 9106-0006-019F and 9106-0006-020F. Biased sample 9106-0006-016F was relocated to location 9106-0006-018F, a location that also was in the vicinity of the outfall that was of interest.

Three (3) sediment samples were analyzed for the full suite of radionuclides specified in Table 1, exceeding the requirement to analyze 5% of the sample population for HTD analysis specified in procedure RPM 5.1-11. Two (2) samples were randomly selected for HTD radionuclide analysis using the Microsoft Excel "RAND" functions. In addition, the two (2) samples, which were determined to contribute the greatest dose based on gamma only analyses, were also selected for HTD analyses. Coincidentally, one of these (sample 9106-0006-010F) was selected in the earlier random selections, so only one additional sample was analyzed based on the gamma results

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

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

RELEASE RECORD

Table 4 – Synopsis of the Survey Design ⁽¹⁾									
Feature	Design Criteria	Basis							
Survey Unit	9.716 m^2	Based on AutoCAD-LT and Visual							
Land Area	9,710 m	Sample Plan calculations							
		Type 1 and Type 2 errors were 0.05,							
Number of	15	sigma was 0.183 the LBGR was set to 0.5							
Measurements	15	to maintain Relative Shift in the range of							
		1 and 3, Relative Shift was 2.7							
Grid Spacing	27.4 m	Based on triangular grid							
	3.16 pCi/g Cs-137								
Design DCGL	1.52 pCi/g Co-60	To achieve ten (10) mrem/yr TEDE							
	0.62 pCi/g Sr-90								
Onerational	6.01 pCi/g Cs-137	To achieve nineteen (19) mrem/yr							
DCCI	2.90 ρCi/g Co-60	TEDE ⁽²⁾ to demonstrate compliance with							
DCOL	1.18 ρCi/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								
Investigation	2.90 pCi/g Co-60	The Operational DCGL meets the LTP							
Level	1.18 ρCi/g Sr-90	criteria for a Class 2 survey unit							

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

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

5. SURVEY IMPLEMENTATION

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

Measurement locations were identified in North American Datum (NAD) 1927 coordinates that were supplied to the sampling vendor, Ocean 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

Revision 0

RELEASE RECORD

locations were accomplished using a GPS interfaced with a navigation and data logging system.

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

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

Three (3) samples (9106-0006-005F, 9106-0006-009F and 9106-0006-010F) were selected for HTD radionuclide analysis by the off-site laboratory

The implementation of quality control measures included the collection of two (2) split samples at locations 9106-0006-007F and 9106-0006-018F for "split sample" analysis by the off-site laboratory.

6. SURVEY RESULTS

The off-site laboratory employed for the radiological analyses of samples was General Engineering Laboratories (GEL) – Charleston, South Carolina. The laboratory analyzed the fifteen (15) samples taken for non-parametric statistical testing and the associated duplicates using gamma spectroscopy. Sr-90 was analyzed by gas flow proportional counting. All analyses were performed to the required MDC.

Cesium-137 was identified in ten (10), Co-60 was identified in nine (9) and Sr-90 in one (1) of the fifteen (15) samples.

Several other radionuclides which were positively identified (i.e., a result greater than two (2) standard deviations uncertainty) could be de-selected or excluded using the 5% and 10% rule described in Section 5.4.7.2 of the LTP.

The off-site laboratory also processed three (3) samples for full HTD analysis as required by the sample plan. The requested analyses included alpha spectroscopy and liquid scintillation depending upon the radionuclide and the measurement method. All analyses were performed to the required MDC. Two (2) of the HTD radionuclides met the accepted criteria for detection (i.e., a result greater than two standard deviations uncertainty) in more than one (1)

RELEASE RECORD

sample; however, each of the positive results for HTD radionuclides could be de-selected based on the 5% and 10% rules.

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

Table 5- Summary of Soil Sample Results									
Sample Number	Cs-137 pCi/g	Co-60 pCi/g	Sr-90 pCi/g	Fraction of the Operational DCGL					
9106-0006-001F	-7.55E-04	-3.31E-03	5.37E-04	-8.12E-04					
9106-0006-003F	1.70E-01	7.22E-01	1.45E-02	2.90E-01					
9106-0006-004F	9.60E-02	4.38E-02	4.27E-03	3.47E-02					
9106-0006-005F	4.09E-01	1.94E+00	1.95E-02	7.54E-01					
9106-0006-006F	1.30E-01	2.41E-01	7.50E-04	1.05E-01					
9106-0006-007F	1.38E-02	1.58E-02	-1.00E-02	-7.30E-04					
9106-0006-008F	2.95E-01	6.35E-01	4.02E-03	2.71E-01					
9106-0006-009F	2.26E-01	1.02E-01	7.88E-03	7.95E-02					
9106-0006-010F	5.20E-01	6.31E-01	7.15E-03	3.10E-01					
9106-0006-011F	3.12E-03	4.70E-02	1.49E-02	2.94E-02					
9106-0006-012F	2.71E-02	6.08E-03	-2.02E-03	4.89E-03					
9106-0006-014F	1.79E-01	4.86E-01	-1.04E-03	1.96E-01					
9106-0006-015F	3.43E-01	2.21E-01	-3.81E-03	1.30E-01					
9106-0006-019F	-2.82E-02	-1.34E-02	1.67E-03	-7.90E-03					
9106-0006-020F	1.28E-02	7.34E-02	-5.59E-03	2.27E-02					

(1) 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 19 mrem/yr TEDE

(2) These values represent only the identified radionuclides

Two (2) biased samples were required by the sample plan. These samples were designated as sample locations 9106-0006-017F and 9106-0006-018F. The sample results are presented in Table 6 below.

and the second	Table 6 – E	Biased Sampl	e Result	
Sample Number	Cs-137	Co-60	Sr-90	Fraction of the Operational
Sumple Mumber	pCi/g	pCi/g	pCi/g	DCGL ⁽¹⁾
9106-0006-017F	2.34E-02	1.44E-02	-3.21E-03	6.14E-03
9106-0006-018F	5.69E-02	1.20E-01	2.23E-03	5.27E-02

(1) 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

7. QUALITY CONTROL

The off-site laboratory processed the split samples and performed gamma spectroscopy analysis. Two (2) of the samples were selected for analysis, which

Revision 0

RELEASE RECORD

exceeds the 5% minimum required by the LTP. The data were evaluated using USNRC acceptance criteria specified in Inspection Procedure 84750 and as detailed in HNP Procedure RPM 5.1-24, "*Split Sample Assessment for Final Status Survey*." For one (1) of the split-sample comparisons (9106-0005-018F/S), Cs-137 was found to not meet the comparison criterion; however, this nuclide may not be present in a particulate form and, therefore, is not necessarily an indicator of a non-homogenous mixing of the soil matrix. K-40, a natural radioisotope, was also found not to be present at an acceptable level of agreement, so the comparison issue was dispositioned to the Condition Report (CR) process, to resolve the issue. The issue is not believed to affect the outcome of the FSS for the following reasons:

- The other quality control split sample comparison (9106-0006-007F/S) was found to meet the agreement criteria.
- The balance of quality control samples for the discharge canal area numbering some thirty-six (36) samples were found to be in acceptable agreement.
- The sediment samples were found to be at approximately fifteen (15) percent of the nineteen (19) mrem/yr DCGL.

The sample analysis vendor, General Engineering Laboratories (GEL) – Charleston, South Carolina, maintained quality control and quality assurance plans as part of normal operation. Refer to Attachment 2 for data and data quality analysis results.

8. INVESTIGATIONS AND RESULTS

One (1) sample result was found to exceed the design DCGL, but was below the nineteen (19) mrem/yr operational DCGL, as specified in Table 4. Confirmatory samples were collected to determine the extent of contamination. The area extent was bounded by taking four (4) confirmatory samples, one (1) in each direction of the compass, two (2) meters distant from the elevated sample location. The gamma spectroscopy and Sr-90 results are included in Table 10.

	Table	e 6- Confirn	natory Samj	ole Results	
Original	Sample				Fraction of the
Sample	Number	Cs-137	Co-60	Sr-90	Operational
Location	(9106-	pCi/g	pCi/g	pCi/g	DCGL ⁽¹⁾
	0006)				in the second
	005A	6.66E-02	1.04E-01	2.54E-02	7.66E-02
0055	005B	1.14E-01	4.36E-01	5.01E-03	1.94E-01
0051	005C	3.17E-01	8.21E-01	7.38E-03	3.83E-01
	005D	1.03E-01	1.48E-01	4.46E-04	7.67E-02

(1) 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

RELEASE RECORD

The confirmatory results demonstrate that no measurements exceed the nineteen (19) mrem/yr operational DCGL, indicating that no further actions are warranted.

9. **REMEDIATION AND RESULTS**

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

10. CHANGES FROM THE FINAL STATUS SURVEY PLAN

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

11. DATA QUALITY ASSESSMENT (DQA)

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

Documentation was complete and legible. Surveys and sample collection were consistent with the DQOs and were sufficient to ensure that the survey unit was properly designated as Class 2.

The preliminary data review consisted of calculating basic statistical quantities (e.g., mean, median, standard deviation).

The sample standard deviation was slightly more than the value used for the survey design. This is represented by the shift in the retrospective power curve as shown in Attachment 2f. This would indicate a change to the original LBGR to maintain the number of samples at fifteen (15) to meet the Operational DCGL. However, the value of LBGR is less of a critical issue as the survey unit has passed the statistical test, and the mean and median values are well below the Operational DCGL when used in conjunction with the unity rule. Also, the retrospective power curve shows that a sufficient number of samples were collected to achieve the desired power. Therefore, the survey unit meets the release criteria with adequate power as required by the DQOs.

RELEASE RECORD

The range of the data, about 3.8 standard deviations, was not unusually large. The difference between the mean and median was 34% 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 2.14.

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

12. ANOMALIES

The anomalies associate with the disagreement between the field splits at sample location (9106-0006-018F) has been discussed in Section 7. The issue was referred to Condition Report (CR-06-0223).

No other anomalies were identified for this survey unit.

13. CONCLUSIONS

Survey Unit 9106-0006 has met the final DQOs of the FSS. The ALARA criteria for soils as specified in Chapter 4 of the LTP were achieved. Elevated Measurement Comparison and remediation was not required.

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

The dose contribution from sediment is 2.8 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 existing 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 that from sediment, will not exceed 2.8 mrem/yr Total Effective Dose Equivalent (TEDE).

RELEASE RECORD

14. ATTACHMENTS

14.1 Attachment 1 – Figures

14.2 Attachment 2 – Sample and Statistical Data

RELEASE RECORD

Attachment 1 Figures (5 pages)











RELEASE RECORD

Attachment 2 Sample and Statistical Data

RELEASE RECORD

Attachment 2a Sample Data (253Pages)

Table of Contents

General Narrative	1
Chain of Custody and Supporting Documentation	4
Radiological Analysis Sample Data Summary Quality Control Data	11 31 73



CASE NARRATIVE For CONNECTICUT YANKEE RE: Sediment PO# 002332 Work Order: 162850 SDG: MSR #06-0687

June 7, 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 Laboratorics, LLC, (GEL) in Charleston, South Carolina on May 12, 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>
162850001	9106-0006-011F
162850002	9106-0006-014F
162850003	9106-0006-015F
162850004	9106-0006-018F
162850005	9106-0006-018FS
162850006	9106-0006-019F
162850007	9106-0006-001F
162850008	9106-0006-003F

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 • Fa2 (843) 766-1178 • www.gel.com

<u>Sample ID</u>	<u>Client Sample ID</u>
162850009	9106-0006-008F
162850010	9106-0006-009F
162850011	9106-0006-010F
162850012	9106-0006-020F
162850013	9106-0006-004F
162850014	9106-0006-005F
162850015	9106-0006-006F
162850016	9106-0006-007F
162850017	9106-0006-007FS
162850018	9106-0006-012F
162850019	9106-0006-017F

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:

Seventeen sediment samples were analyzed for FSSGAM and Sr-90. Two sediment samples were analyzed for FSSALL.

Internal Chain of Custody:

Custody was maintained for the sample(s).

Data Package:

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

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

cupp

Cheryl Jones Project Manager

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 • Fa (843) 766-1178 • www.gel.com

Chain of Custody and Supporting Documentation

Health Physics Procedure

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	Connecticut Y 362 Injun	ankee At Hollow Road, E 860-267	omic Por Cast Hampton, V-2556	wer C CT 06424	ompan 4	у			Cha	ain of (Custo	ody Form	No. 2006-00330
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	Contact Name & Phone: Jack McCarthy 860-267	-2556 Ext. 3	3024		. •						a a a a a a a a a a a a a a a a a a a	20mments:	
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				Media	Type	&Type		1			1		
	Sample Designation	Date	Time	Code	Code	Code					,	Comment, Preservation	
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	9106-0006-013F	5/01/06	09:07				$\frac{1}{v}$	<u> </u>	$\frac{\Lambda}{V}$		╌╂╌╌╂╴	Transferred from COC 2006-00322	
	9106-0006-018FS	5/01/06	09.58	SE	$\frac{c}{c}$	BP			$\frac{\Lambda}{X}$			Transferred from COC 2006-00322	
	9106-0006-019F	5/01/06	09.32	SE	$-\frac{c}{c}$	BP	X		X	⊢} -		Transferred from COC 2006-00322	
			07.02		<u> </u>		1	 					
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						1					-+-+	····	
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Health Physics Procedure

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

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Health Physics Procedure

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Contact Name & Phone Jack McCarthy 860-20	: 67-2556 Ext.	3024									Comments:	
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9106-0006-005F	4/28/06	13:03	SE	С	BP	X	<u> </u>	X		_	Transferred from COC 2006-00317	
9106-0006-006F	4/28/06	13:22	SE	C	BP	X]	X	<u> </u> −−−	-	Transferred from COC 2006-00317	
9106-0006-007F	4/28/06	13:41	SE	C	BP	X		X			Transferred from COC 2006-00317	
9106-0006-007FS	4/28/06	13:41	SE	C	BP	X		X			Transferred from COC 2006-00317	
9106-0006-012F	5/01/06	13:40	SE	C	BP	X		X			Transferred from COC 2006-00317	
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3) Relinquished By		Date/Tim	e	4) Recei	ived By				Date/Ti	me	Bill of Lading # 7 920- 9480- 6688	YUND

	Connecticut Yankee Statement of Work for Analytical Lab Services CY-ISC-SOW-001
	Figure 1. Sample Check-in List Date/Time Received: 5/10/00 @ 0920
	SDG#:
	Work Order Number: 162850 /
	Shipping Container ID: See (on't sheet Chain of Custody # See (on't sheet
	1. Custody Seals on shipping container intact? Yes [] No [KD]
	2. Custody Seals dated and signed? Yes [] No KD
	3. Chain-of-Custody record present? Yes U(T) No [1]
I	4. Cooler temperature 1700
	5. Vermiculite/packing materials is:
	6. Number of samples in shipping container Deli (On t Short
	7. Sample holding times exceeded? Yes [] No [
	 Samples have: <u>b</u>tapehazard labels <u>b</u>custody sealsappropriate sample labels
	9. Samples are:
·	<u>D</u> in good condition
	leaking brokenhave air bubbles
	10. Were any anomalies identified in sample receipt? Yes [] No (C)
	11. Description of anomalies (include sample numbers):
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	Sample Cuntodia II I
	Telephoned to
	OnBy
1	



SAMPLE RECEIPT & REVIEW FORM

Client: VanKal: SDG/ARCOC/Work Order: (L2832, /L2850) Date Received: 5/12/00 PM(A) Review (ensure non-conforming items are resolved prior to signing): Received By: C. (Dextineche) PM(A) Review (ensure non-conforming items are resolved prior to signing): Sample Receipt Criteria 3 2 2 I Shipping containers received intact and sealed? Circle Applicable: seals broken damaged container leaking container other (describe) Samples requiring cold preservation method. Circle Coolant // ice bags blue ice dry ice none other describe? 3 Chain of custody documents included with shipment? Circle Applicable: seals broken damaged container ice (describe) bu 5t 20 0.0 // // TQ20 94 EC verget 5 Samples requiring chemical preservation at proper pH? Sample ID's and containers affected: 857 6 (defined as < 6mm bubble)? Sample ID's and containers affected: 887 8 Samples required within holding lime? Sample ID's and containers affected: 10's and containers affected: 9 Sample ID's on COC match date date date date date date date date	TATORIES'
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match number indicated on COC?	ber of containers received the number indicated on COC?
2 COC form is properly signed in relinquished/received sections?	form is properly signed in quished/received sections?
Air Bill, Tracking #'s, & Additional Comments Fed EX #'s See continuation Sheet	Bill , Tracking #'s, & itional Comments
Suspected Hazard Information Suspected Hazard Information	ected Hazard Information
Radiological Classification? Maximum Counts Observed*: 40 CPM	ological Classification?
PCB Regulated? Comments:	Regulated?
Material? If yes, contact Waste Manager or ESH Manager. Manager Manager.	red as DOT Hazardous rial? If yes, contact Waste ager or ESH Manager.
PM (or PMA) review of Hazard classification: Initials Adv Date: State	or PMA) review of Hazard classif


SAMPLE RECEIPT & REVIEW FORM CONTINUATION FORM

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Fid Ex Tek#	(00#	# of containers
7920 9480 6688	2006-00332	(7) seven
6611	2006-00331	(0) Six
6655	2006 - 00 330	(6) Six
7919 3895 8881	20010 - 00336	(9) nine
8892	2006-00337	(9) nine
(this cooler had a	· · · · · · · · · · · · · · · · · · ·	
busted sample		
COOLER & COC is W/RSO		
Emily Martin)		
J 500001- 19106-0004-014F		
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RADIOLOGICAL ANALYSIS

Radiochemistry Case Narrative Connecticut Yankee Atomic Power Co. (YANK) Work Order 162850

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:	533471
Prep Batch Number:	529740
Dry Soil Prep GL-RAD-A-021 Batch Number:	529739

Sample ID	Client ID
162850010	9106-0006-009F
162850011	9106-0006-010F
1201101117	Method Blank (MB)
1201101118	162485017(9106-0005-005F) Sample Duplicate (DUP)
1201101119	162485017(9106-0005-005F) Matrix Spike (MS)
1201101120	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: 162485017 (9106-0005-005F).

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.

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:	533472
Prep Batch Number:	529740
Dry Soil Prep GL-RAD-A-021 Batch Number:	529739

Sample ID	Client ID
162850010	9106-0006-009F
162850011	9106-0006-010F
1201101121	Method Blank (MB)
1201101122	162485017(9106-0005-005F) Sample Duplicate (DUP)
1201101123	162485017(9106-0005-005F) Matrix Spike (MS)
1201101124	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: 162485017 (9106-0005-005F).

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.

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:	533473
Prep Batch Number:	529740
Dry Soil Prep GL-RAD-A-021 Batch Number:	529739

Sample ID	Client ID
162850010	9106-0006-009F
162850011	9106-0006-010F
1201101125	Method Blank (MB)
1201101126	162485017(9106-0005-005F) Sample Duplicate (DUP)
1201101127	162485017(9106-0005-005F) Matrix Spike (MS)
1201101128	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: 162485017 (9106-0005-005F).

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

The tracer yield for sample 1201101127 (9106-0005-005F) was recounted due to poor resolution.

Miscellaneous Information:

NCR Documentation

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

referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Product:	Gamma,Solid-FSS GAM & ALL FSS
Analytical Method:	EML HASL 300, 4.5.2.3
Prep Method:	Dry Soil Prep
Analytical Batch Number:	529777
Prep Batch Number:	529739

Sample ID	Client ID
162850001	9106-0006-011F
162850002	9106-0006-014F
162850003	9106-0006-015F
162850004	9106-0006-018F
162850005	9106-0006-018FS
162850006	9106-0006-019F
162850007	9106-0006-001F
162850008	9106-0006-003F
162850009	9106-0006-008F
162850010	9106-0006-009F
162850011	9106-0006-010F
162850012	9106-0006-020F
162850013	9106-0006-004F
162850014	9106-0006-005F
162850015	9106-0006-006F
162850016	9106-0006-007F
162850017	9106-0006-007FS
162850018	9106-0006-012F
162850019	9106-0006-017F
1201092335	Method Blank (MB)
1201092336	162850001(9106-0006-011F) Sample Duplicate (DUP)
1201092337	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: 162850001 (9106-0006-011F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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 did not meet the relative percent difference requirement for Bi-212, Ra-226 and Th-208, however they do meet the relative error ratio requirement with value of 2.26 for Bi-212, 1.99 for Ra-226 and 2.72 for Th-208.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to interference.	Europium-155	162850007
			162850009
			162850014
			162850016
			162850017
		Manganese-54	162850017
UI	Data rejected due to low abundance.	Bismuth-214	1201092336
		Cesium-134	162850004
			162850005
			162850006
			162850007
			162850009
			162850012
			162850013
			162850015
			162850016
			162850017
			162850019
			1201092336

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:	534447
Prep Batch Number:	529740
Dry Soil Prep GL-RAD-A-021 Batch Number:	529739

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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: 162850003 (9106-0006-015F).

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

Samples 162850010 (9106-0006-009F) and 162850011 (9106-0006-010F) were recounted due to high MDAs. Sample 1201103433 (LCS) was recounted due to low/high recovery.

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

The blank, 1201103430 (MB), did not meet the detection limit due to keeping the blank volume consistent with the other sample aliquots. All other samples met the detection limits.

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:	531704					

 Sample ID
 Client ID

 162850010
 9106-0006-009F

 162850011
 9106-0006-010F

 1201096867
 Method Blank (MB)

 1201096868
 162583001(NOL-02-02-005-F-S) Sample Duplicate (DUP)

 1201096869
 162583001(NOL-02-02-005-F-S) Matrix Spike (MS)

 1201096870
 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: 162583001 (NOL-02-02-005-F-S).

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:	531618
Prep Batch Number:	529740
Dry Soil Prep GL-RAD-A-021 Batch Number:	529739

Sample ID	Client ID
162850010	9106-0006-009F
162850011	9106-0006-010F
1201096631	Method Blank (MB)
1201096632	163173001(9304-0000-063RACR) Sample Duplicate (DUP)
1201096633	163173001(9304-0000-063RACR) Matrix Spike (MS)
1201096634	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: 163173001 (9304-0000-063RACR).

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:	531622
Prep Batch Number:	529740
Dry Soil Prep GL-RAD-A-021 Batch Number:	529739

Sample ID	Client ID
162850010	9106-0006-009F
162850011	9106-0006-010F
1201096644	Method Blank (MB)
1201096645	163173001(9304-0000-063RACR) Sample Duplicate (DUP)
1201096646	163173001(9304-0000-063RACR) Matrix Spike (MS)
1201096647	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: 163173001 (9304-0000-063RACR).

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 - 1 to 2 pCi/g
Analytical Method:	EPA 906.0 Modified
Analytical Batch Number:	531705

Sample ID	Client ID
162850010	9106-0006-009F
162850011	9106-0006-010F
1201096877	Method Blank (MB)
1201096878	162583001(NOL-02-02-005-F-S) Sample Duplicate (DUP)
1201096879	162583001(NOL-02-02-005-F-S) Matrix Spike (MS)
1201096880	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# 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: 162583001 (NOL-02-02-005-F-S).

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 1201096877 (MB), 162850010 (9106-0006-009F) and 162850011 (9106-0006-010F) were recounted due to high MDAs.

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

<u>Oualifier information</u>

Manual qualifiers were not required.

Product:

Liquid Scint C14, Solid All,FSS

Analytical Method: EPA EERF C-01 Modified

Analytical Batch Number: 534984

Sample ID	Client ID
162850010	9106-0006-009F
162850011	9106-0006-010F
1201104745	Method Blank (MB)
1201104746	163173001(9304-0000-063RACR) Sample Duplicate (DUP)
1201104747	163173001(9304-0000-063RACR) Matrix Spike (MS)
1201104748	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: 163173001 (9304-0000-063RACR).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples were reprepped due to low/high recovery.

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Certification Statement

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

Review Validation:

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

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

<u>-</u>6/9/06 AS 6MS

Reviewer/Date:



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#06-0687 GEL Work Order: 162850

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 reporting limit.

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

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

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

Reviewed by

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

Certificate of Analysis

Com Add	npany : ress :	Connecticut 362 Injun H	t Yankee A Iollow Rd	tomic Power								
Con	tact:	East Hampt Mr. Jack M	ton, Connec cCarthy	cticut 06424	Report Date: June 9, 2006						06	
Ргој	ect:	Soils PO# 0	02332									
		Client Sar Sample II Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: Date:		9106-0006-011F 162850001 SE 01-MAY-06 12-MAY-06 Client 42.1%			Project: YANK01204 Client ID: YANK001 Vol. Recv.:				
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time Batch	Mtd
Rad Gamma Spe	c Analy	sis										
Gamma,Solid–F	FSS GAI	M & ALL FSS	5									
Actinium-228			0.908	+/-0.297	0.130	+/0.297	0.273	pCi/g	MJH1	06/05/0	06 2340 529773	/ 1
Americium-24	1	U	-0.0354	+/-0.0542	0.0432	+/-0.0542	0.0886	pCi/g				
Bismuth-212		U	0.292	+/-0.518	0.297	+/-0.518	0.620	pCi/g				
Bismuth-214			0.606	+/-0.164	0.0639	+/-0.164	0.133	pCi/g				
Cesium-134		U	0.0697	+/-0.0502	0.0444	+/-0.0502	0.0927	pCi/g				
Cesium-137		U	0.00312	+/-0.0432	0.0361	+/-0.0432	0.0754	pCi/g				
Cobalt-60		U	0.04/	+/-0.0461	0.0412	+/-0.0461	0.0875	pCi/g				
Europium-152		U	0.0184	+/-0.100	0.0827	+/-0.100	0.171	pCi/g				
Europium-154		U	-0.039	+/0.132	0.108	+/-0.132	0.229	pCI/g				
Europium-155		U	0.0878	+/-0.0891	0.0733	± -0.0891	0.151	pCi/g				
Lead-212			0.070	+/-0.111	0.0522	+/-0.100	0.107	pCi/g				
Manganese-54		П	0.458	+/-0.0728	0.0014	+/-0.0728	0.0816	pCi/g				
Niobium-94		U-	-0.000518	+/0.0403	0.0333	+/-0.0403	0.0616	pCi/g				
Potassium-40		U	16.0	+/-1.34	0.318	+/-1.34	0.0020	pCi/g				
Radium-226			0.606	+/-0.164	0.0639	+/-0.164	0.133	pCi/g				
Silver-108m		U	-0.0164	+/-0.0372	0.0294	+/-0.0372	0.0611	pCi/g				
Thallium-208		-	0.422	+/-0.0918	0.0358	+/-0.0918	0.0747	pCi/g				
Rad Gas Flow Pr	oportio	nal Counting	g									
GEPC Sr90 sol	- lid–ALI	ESS										
Strontium-90		U	0.00244	+/-0.00747	0.00618 -	⊦/0.00747	0.0128	pCi/g	BXF1	06/02/0	06 2018 534447	2
The following Pr	rep Met	thods were p	erformed									
Method	Descr	iption				Analyst	Date	Time	Prep Batc	h		
Ash Soil Prep	Ash S	oil Prep, GL-	-RAD-A-	021B		MXP2	05/15/0	6 0853	529740			
Dry Soil Prep	Dry S	oil Prep GL-	RAD-A-0	21		LXM2	05/14/0	6 1558	529739			
The following Ar	nalytica	l Methods w	ere <u>p</u> erfor	med								
Method	Descr	iption										
1	EML	HASL 300. 4	.5.2.3					•••				

2 EPA 905.0 Modified

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# 00	on, Connec Carthy 02332	eticut 06424			Report Date: June 9, 2006					
	Client Sample ID: Sample ID:			9106-0006-011F 162850001			Project: YANK01204 Client ID: YANK001 Vol. Recv.:				
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd		
Surrogate/Tracer reco	very Test				Recovery%	Acc	ceptable Limits				
Carrier/Tracer Recovery	GFP	C, Sr90, so	lid-ALL FSS		74		(25%-125%)				

(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
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- 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

- 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
- \wedge RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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

Certificate of Analysis

Cor Ado	mpany : dress :	 y: Connecticut Yankee Atomic Power : 362 Injun Hollow Rd 											
Cor	ntact:	East Hampt Mr. Jack M	on, Connec cCarthy	cticut 06424	Report Date: June 9, 2)6		
Pro	ject:	Soils PO# (02332										
		Client Sar Sample II Matrix: Collect Da Receive D Collector: Moisture:	nple ID: D: ate: bate:		9106-00 1628500 SE 01-MA 12-MA Client 31%	006-014F 002 Y-06 Y-06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001				
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time Batch	Mtd	
Rad Gamma Spo	ec Analy	sis											
Gamma,Solid-	FSS GA	M & ALL FSS	5										
Actinium-228			1.02	+/-0.295	0.127	+/-0.295	0.254	pCi/g	MJH1	06/05/0	6 1716 529777	1	
Americium-24	41	U	0.0071	+/-0.136	0.0958	+/-0.136	0.192	pCi/g					
Bismuth-212			1.12	+/-0.502	0.248	+/-0.502	0.496	pCi/g					
Bismuth-214			0.548	+/-0.173	0.0714	+/-0.173	0.143	pCi/g					
Cesium-134		U	0.0645	+/-0.0518	0.0479	+/-0.0518	0.0957	pCi/g					
Cesium-137			0.179	+/-0.0779	0.0345	+/-0.0779	0.0689	pCi/g					
Cobalt-60			0.486	+/-0.119	0.0396	+/-0.119	0.0791	pCi/g					
Europium-152	2	U	0.00309	+/-0.142	0.0883	+/-0.142	0.177	pCi/g					
Europium-154	1	U	0.0957	+/-0.139	0.124	+/-0.139	0.248	pCi/g					
Europium-155	5	U	0.00678	+/-0.105	0.0839	+/-0.105	0.168	pCi/g					
Lead-212			0.568	+/-0.151	0.0586	+/-0.151	0.117	pCi/g					
Lead-214			0.767	+/0.176	0.0653	+/-0.176	0.131	pCi/g					
Manganese-54	4	U	-0.0368	+/-0.046	0.0349	+/-0.046	0.0698	pCi/g					
Niobium-94		U	0.0384	+/-0.0389	0.0353	+/-0.0389	0.0705	pCi/g					
Potassium-40			12.9	+/-1.66	0.282	+/-1.66	0.564	pCi/g					
Radium-226			0.548	+/-0.173	0.0714	+/-0.173	0.143	pCi/g					
Silver-108m		U	-0.00315	+/-0.0373	0.0302	+/-0.0373	0.0603	pCi/g					
Thallium-208			0.249	+/-0.0836	0.0351	+/-0.0836	0.0702	pCi/g					
Rad Gas Flow P	roportio	nal Countin	g										
GFPC, Sr90, so	olid–ALI	. FSS											
Strontium-90		U	-0.00104	+/-0.00595	0.00504 -	+/-0.00595	0.0105	pCi/g	BXF1	06/02/0	6 2018 534447	2	
The following P	rep Met	hods were p	erformed										
Method	Descr	iption				Analyst	Date	Time	Prep Batcl	h			
Ash Soil Prep	Ash S	oil Prep, GL-	-RAD-A-(021B		MXP2	05/15/0	6 0854	529740				
Dry Soil Prep	Dry S	oil Prep GL-	RAD-A-0	21		LXM2	05/14/0	6 1558	529739				
The following A	nalytica	l Methods w	ere nerfor	med									
Method	Descr	iption	ere periori										
1	EML	- HASI 300 4	523										
י ר	EDV 0	05 0 Made											
Z	EPA 9	US.U MODITIE	a		•								

Test Surrogate/Tracer recovery

Recovery%

Acceptable Limits

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Certificate of Analysis

Surrogate/7	racer recov	ery Test				Recovery%	Acc	eptable Limit	s		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd	
		Client Sample ID: Sample ID:			9106-0006-014F 162850002			Project: YANK01204 Client ID: YANK001 Vol. Recv.:			
	Project:	Soils PO# 00	02332								
	Contact:	East Hampto Mr. Jack Mc	n, Connec Carthy	ticut 06424	Report Date: June 9, 2006						
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power							

84

(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
- 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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	Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power								
	Contact:	East Hampto Mr. Jack Mo	on, Connec Carthy	ticut 06424				R	eport Date: Ju	ne 9, 200)6	
	Project:	Soils PO# 0	02332									
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	nple ID:): ite: ate:		9106-00 1628500 SE 01-MA 12-MA Client 20.2%	006-015F 003 Y-06 Y-06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time Batch	Mtd
Rad Gamma	Spec Analy	sis										
Gamma,Soli	id–FSS GAI	M & ALL FSS										
Actinium-2	228		0.650	+/-0.227	0.0899	+/-0.227	0.180	pCi/g	MJH1	06/05/0	6 1716 529777	1
Americium	-241	U	0.0935	+/-0.109	0.091	+/-0.109	0.182	pCi/g				
Bismuth-2	12		0.475	+/-0.429	0.155	+/-0.429	0.309	pCi/g				
Bismuth-2	14		0.435	+/-0.114	0.0453	+/-0.114	0.0905	pCi/g				
Cesium-13	4	U	0.0461	+/-0.0384	0.0306	+/-0.0384	0.0611	pCi/g				
Cesium-13	7		0.343	+/-0.0587	0.0222	+/-0.0587	0.0444	pCi/g				
Cobalt-60			0.221	+/-0.0669	0.0215	+/-0.0669	0.0429	pCi/g				
Europium-	152	U	-0.0894	+/-0.0921	0.054	+/-0.0921	0.108	pCi/g				
Europium-	154	U	-0.00226	+/-0.0861	0.0725	+/-0.0861	0.145	pCi/g				
Europium-	155	U	0.0459	+/-0.0737	0.0674	+/-0.0737	0.135	pCi/g				
Lead-212			0.650	+/-0.0936	0.0352	+/0.0936	0.0703	pCi/g				
Lead-214			0.500	+/-0.121	0.0424	+/-0.121	0.0848	pCi/g				
Manganese	-54	U-	0.000117	+/-0.0312	0.0235	+/-0.0312	0.0469	pCi/g				
Niobium-9	4	U	-0.0154	+/-0.029	0.0208	+/-0.029	0.0416	pCi/g				
Potassium-	-40		10.6	+/-1.19	0.199	+/-1.19	0.398	pCi/g				
Radium-22	26		0.435	+/-0.114	0.0453	+/-0.114	0.0905	pCi/g				
Silver-108	m	U·	-0.00346	+/-0.0254	0.0213	+/-0.0254	0.0426	pCi/g				
Thallium-2	208		0.223	+/-0.0637	0.0243	+/-0.0637	0.0485	pCi/g				
Rad Gas Flow	v Proportio	nal Counting	5									
GFPC, Sr90	, solid-ALL	. FSS										
Strontium-	90	U ·	-0.00381	+/-0.00625	0.00542 -	+/-0.00626	0.0113	pCi/g	BXF1	06/02/0	6 2018 534447	2
The followin	g Prep Met	hods were pe	erformed							_		
Method	Descr	iption				Analyst	Date	Time	Prep Batc	h		
Ash Soil Prep	Ash S	oil Prep, GL-	RAD-A-()21B		MXP2	05/15/0	06 0854	529740			
Dry Soil Prep	Dry S	oil Prep GL-I	RAD-A-0	21		LXM2	05/14/0	6 1558	529739			
The following	g Analytica	l Methods we	ere perfori	ned								
Method	Descr	iption										
1	EML	HASL 300. 4.	5.2.3									
2	EPA 9	05.0 Modified	d									
-	~~~~ /		-									

Test Surrogate/Tracer recovery

Recovery%

Acceptable Limits

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Surrogate/	Tracer recov	ery Test				Recovery%	Acc	eptable Limit	S			
Parameter	·····	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd		
		Client Sam Sample ID	ple ID:		9106–000 16285000	06-015F 03						
	Contact: Project:	Mr. Jack Mc Soils PO# 00	Carthy 02332									
		East Hampto	n, Connec	ticut 06424	Report Date: June 9, 2006							
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power								

99

(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
- BD Results are either below the MDC or tracer recovery is low
- Analyte has been confirmed by GC/MS analysis C
- Results are reported from a diluted aliquot of the sample D
- Analytical holding time was exceeded Н
- 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
 X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- \wedge 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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Comp Addre	any : ss :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power								
Conta	ct:	East Hampt Mr. Jack M	on, Connec cCarthy	ticut 06424				Re	eport Date: Ju	ine 9, 200)6	
Projec	:t:	Soils PO# 0	02332									
		Client Sam Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106-00 1628500 SE 01-MA 12-MA Client 21.4%	006-018F 004 Y-06 Y-06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001	1		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analy	st Date	Time Ba	tch Mtd
Rad Gamma Spec	Analys	is										
Gamma,Solid–FS	S GAM	& ALL FSS	7									
Actinium-228			1.49	+/-0.159	0.0473	+/-0.159	0.0996	pCi/g	MJH1	06/05/0	6 1918 529	9777 1
Americium-241		U	-0.0253	+/-0.103	0.0885	+/-0.103	0.182	pCi/g				
Bismuth-212			0.829	+/-0.238	0.110	+/-0.238	0.231	pCi/g				
Bismuth-214			0.901	+/-0.086	0.028	+/-0.086	0.0582	pCi/g				
Cesium-134		UUI	0.00	+/-0.0254	0.0201	+/-0.0254	0.0417	pCi/g				
Cesium-137			0.0569	+/-0.0266	0.0162	+/-0.0266	0.0336	pCi/g				
Cobalt-60			0.120	+/-0.0383	0.0138	+/-0.0383	0.0294	pCi/g				
Europium-152		U	0.0162	+/-0.0445	0.0407	+/-0.0445	0.084	pCi/g				
Europium-154		U	0.0154	+/-0.0549	0.0466	+/-0.0549	0.0982	pCi/g				
Europium-155		U	0.0679	+/-0.0806	0.0521	+/-0.0806	0.107	pCi/g				
Lead-212			1.58	+/-0.0659	0.024	+/0.0659	0.0494	pCi/g				
Lead-214			1.06	+/-0.0843	0.0272	+/-0.0843	0.0564	pCi/g				
Manganese-54		U	0.0075	+/-0.0214	0.0134	+/-0.0214	0.0282	pCi/g				
Niobium-94		U	-0.00961	+/-0.0163	0.0132	+/-0.0163	0.0275	pCi/g				
Potassium-40			17.4	+/-0.786	0.133	+/0.786	0.284	pCi/g				
Radium-226			0.901	+/-0.086	0.028	+/-0.086	0.0582	pCi/g				
Silver-108m		U	0.00355	+/-0.0145	0.013	+/-0.0145	0.0269	pCi/g				
Thallium-208			0.529	+/-0.043	0.0139	+/-0.043	0.029	pCi/g				
Rad Gas Flow Prop	oortion	al Counting	Ş									
GFPC, Sr90, solid	-ALL	FSS										
Strontium-90		U	0.00223	+/-0.00863	0.00716+	-/-0.00863	0.0148	pCi/g	BXF1	06/02/0	6 2018 534	447 2
The following Pre	p Meth	ods were p	erformed			A	D-4-	T'-	Due D-4			
iviethoa	Descrip					Analyst	Date	1 ime	Prep Bate	:n		
Ash Soil Prep	Ash So	il Prep, GL-	RAD-A-(021B		MXP2	05/15/0	6 0854	529740			
Dry Soil Prep	Dry So	il Prep GL-	RAD-A-0	21		LXM2	05/14/0	6 1558	529739			
The following Ana	lytical	Methods w	ere nerfori	med								

Method	Description			
1	EML HASL 300, 4.5.2.3	1999 Million Processo		_
2	EPA 905.0 Modified			
Surrogate/T	racer recovery Test	Recovery%	Acceptable Limits	

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Surrogate/	Tracer recov	ery Test				Recovery%	Ac	ceptable Limi	its			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time Batch Mtd	
		Client Sam Sample ID	ple ID: :		9106-000 16285000	06018F 04	Project: YANK01204 Client ID: YANK001 Vol. Recv.:					
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	eticut 06424			Report Date: June 9, 2006						
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power								

86

(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
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- 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

- R Sample results are rejected
- Analyte was analyzed for, but not detected above the MDL, MDA, or LOD. U
- Ul Gamma Spectroscopy—Uncertain identification
 X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y OC Samples were not spiked with this compound
- Λ 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 a dry weight basis.

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A	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd											
C	Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	ticut 06424				R	eport Date: Jui	ne 9, 200	16		
Р	roject:	Soils PO# 00	02332										
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	nple ID: : te: ate:		9106-0006-018FS 162850005 SE 01-MAY-06 12-MAY-06 Client 16.8%		Proiect: Client II Vol. Rec		t: YANK01204 ID: YANK001 leev.:				
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time Batch	Mtd	
Rad Gamma S	Spec Analy	sis				······································							
Gamma,Solia	I-FSS GA	M & ALL FSS											
Actinium-2	28		1.50	+/-0.193	0.0586	+/-0.193	0.124	pCi/g	MJH1	06/07/0	6 1941 52977	71	
Americium-	-241	U	0.0164	+/-0.0929	0.0802	+/-0.0929	0.164	pCi/g					
Bismuth-21	2		1.06	+/-0.269	0.130	+/-0.269	0.273	pCi/g					
Bismuth-21	4		0.811	+/-0.0973	0.0345	+/-0.0973	0.0719	pCi/g					
Cesium-134	1	UUI	0.00	+/0.0365	0.0256	+/-0.0365	0.0532	pCi/g					
Cesium-137	7	U	0.0247	+/-0.023	0.0183	+/-0.023	0.0384	pCi/g					
Cobalt-60			0.0993	+/-0.0313	0.0164	+/-0.0313	0.0354	pCi/g					
Europium-1	52	U	0.0167	+/-0.0526	0.0474	+/-0.0526	0.098	pCi/g					
Europium-1	54	U	-0.0286	+/-0.0637	0.0524	+/-0.0637	0.112	pCi/g					
Europium-1	55	U	0.00	+/-0.0557	0.053	+/-0.0557	0.108	pCi/g					
Lead-212			1.33	+/-0.0744	0.0276	+/-0.0744	0.0568	pCi/g					
Lead-214			1.03	+/-0.107	0.0316	+/-0.107	0.0656	pCi/g					
Manganese-	-54	U	0.0176	+/-0.0296	0.0187	+/-0.0296	0.0392	pCi/g					
Niobium-94	1	U -	-0.00731	+/-0.0193	0.0165	+/-0.0193	0.0345	pCi/g					
Potassium-4	40		11.3	+/-0.853	0.149	+/-0.853	0.325	pCi/g					
Radium-220	5		0.811	+/-0.0973	0.0345	+/-0.0973	0.0719	pCi/g					
Silver-108n	1	U	0.0175	+/-0.01/9	0.0163	+/-0.0179	0.0338	pCi/g					
Thallium-20	J8 D		0.467	+/-0.0504	0.0178	+/-0.0504	0.0372	pCi/g					
Rad Gas Flow	Proportio	nai Counting											
GFPC, Sr90, Strontium–9	solid-ALL 00	LFSS U	0.00318	+/-0.0075	0.00614	+/-0.0075	0.0129	pCi/g	BXF1	06/02/0	6 2018 534447	2	
The following	g Prep Met	hods were pe	erformed										
Method	Descr	iption				Analyst	Date	Time	Prep Batel	h			
Ash Soil Prep	Ash S	oil Prep, GL-	RAD-A-(021B		MXP2	05/15/0	6 0854	529740				
Dry Soil Prep	Dry S	oil Prep GL-F	RAD-A-0	21		LXM2	05/14/0	6 1558	529739				
The following	Analytica	l Methods we	ere perfori	med									
Method	Descr	iption								•			
1	EML	HASL 300, 4.:	5.2.3										
2	EPA 9	05.0 Modified	đ										

Test Surrogate/Tracer recovery

Recovery%

Acceptable Limits

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Surrogate/]	Fracer recov	ery Test				Recovery%	Acc	ceptable Limi	ts		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd	
	Client Sample ID: Sample ID:					06-018FS 05	Project: YANK01204 Client ID: YANK001 Vol. Recv.:				
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	on, Connec Carthy)2332	ticut 06424				F	Report Date: June 9, 200	96	
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power			Penert Date: June 0, 2006				

79

(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
- 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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Compa Addres	any:	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power							
Contac	t:	East Hampt Mr. Jack M	on, Connec cCarthy	ticut 06424				R	eport Date: Jui	ne 9, 2006	
Project	t:	Soils PO# 0	02332								
		Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): nte: ate:		9106-0 162850 SE 01-MA 12-MA Client 34%	006-019F 006 Y-06 Y-06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date Time Batch	Mtd
Rad Gamma Spec A	Analysi	is									
Gamma,Solid–FSS	S GAM	& ALL FSS	3								
Actinium-228			0.743	+/-0.243	0.0838	+/-0.243	0.180	pCi/g	MJH1	06/06/06 0018 529777	1
Americium-241			0.190	+/-0.136	0.0836	+/-0.136	0.174	pCi/g			
Bismuth-212			0.577	+/0.509	0.177	+/-0.509	0.378	pCi/g			
Bismuth-214			0.438	+/-0.106	0.0462	+/-0.106	0.0973	pCi/g			
Cesium-134		UUI	0.00	+/-0.056	0.0325	+/-0.056	0.0685	pCi/g			
Cesium-137		U	-0.0282	+/-0.028	0.0208	+/-0.028	0.0444	pCi/g			
Cobalt-60		U	-0.0134	+/-0.0294	0.0227	+/-0.0294	0.0501	pCi/g			
Europium-152		U	-0.106	+/-0.0751	0.0531	+/-0.0751	0.112	pCi/g			
Europium-154		U	-0.0332	+/-0.0894	0.0705	+/-0.0894	0.154	pCi/g			
Europium-155		U	0.00	+/-0.0752	0.0641	+/-0.0752	0.132	pCi/g			
Lead-212			0.907	+/-0.115	0.0322	+/-0.115	0.0669	pCi/g			
Lead-214			0.546	+/-0.133	0.0396	+/-0.133	0.0832	pCi/g			
Manganese-54		U	0.0171	+/-0.0293	0.0245	+/-0.0293	0.0523	pCi/g			
Niobium-94		U	0.0284	+/-0.0406	0.0216	+/0.0406	0.0458	pCi/g			
Potassium-40			14.5	+/1.48	0.227	+/-1.48	0.502	pCi/g			
Radium-226			0.438	+/-0.106	0.0462	+/-0.106	0.0973	pCi/g			
Silver-108m		U	-0.021	+/-0.0229	0.0179	+/-0.0229	0.0378	pCi/g			
Thallium–208			0.291	+/-0.0645	0.0219	+/0.0645	0.0466	pCi/g			
Rad Gas Flow Prop	ortion	al Counting	ξ.								
GFPC, Sr90, solid-	-ALL I	FSS									
Strontium-90		U	0.00167	+/0.007	0.00579	+/-0.007	0.0121	pCi/g	BXF1	06/02/06 2018 534447	2
The following Pren) Meth	ods were po	erformed								
Method I	Descrip	otion				Analyst	Date	Time	e Prep Batcl	h	
Ash Soil Prep A	Ash Soi	il Prep, GL-	RAD-A-(021B		MXP2	05/15/0	06 0854	529740	· · · · · · · · · · · · · · · · · · ·	
Dry Soil Prep I	Dry Soi	l Prep GL-	RAD-A-0	21		LXM2	05/14/0)6 1558	529739		
The following Anal	lytical]	Methods w	ere perfori	med							

Method	Description										
1	EML HASL 300, 4.5.2.3										
2	EPA 905.0 Modified	EPA 905.0 Modified									
Surrogate/T	racer recovery Test	Recovery%	Acceptable Limits								

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Surrogate/	Fracer recov	ery Test				Recovery%	Ac	ceptable Limi	ts			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time Batch Mtd	
		Client Sam Sample ID:	ple ID:		9106-0006-019F 162850006			Project: YANK01204 Client ID: YANK001 Vol. Recv.:				
	Contact: Project:	Mr. Jack Mc Soils PO# 00	Carthy 02332									
		East Hampto	n, Connec	ticut 06424				R	eport Da	ate: June 9, 200	6	
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power								

84

(25%-125%)

Carrier/Trace	r Recovery

Notes:

Paran

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
- 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
- Analytical holding time was exceeded Н
- 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

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

- 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 a dry weight basis.

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Certificate of Analysis

Co: Ad	mpany : dress :	Connecticu 362 Injun H	t Yankee A Iollow Rd	tomic Power								
Co	ntact:	East Hampt Mr. Jack M	on, Connec cCarthy	ticut 06424				R	eport Date: Ju	ine 9, 200	6	
Pro	oject:	Soils PO# (002332									
		Client Sar Sample II Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: bate:		9106-00 1628500 SE 28-APF 12-MA Client 22.9%	006-001F 007 R-06 Y-06	P C V	roiect: lient ID: ol. Recv.:	YANK01204 YANK001	t at Data Time Database		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	st Date	Time Batc	h Mtd
Rad Gamma Sp	ec Analy	ysis										
Gamma,Solid-	FSS GA	M & ALL FSS	5									
Actinium-228	3		1.47	+/-0.330	0.114	+/-0.330	0.242	pCi/g	MJH1	06/07/0	6 1942 5297	77 1
Americium-2	41	U	0.0322	+/-0.0555	0.0457	+/-0.0555	0.0937	pCi/g				
Bismuth-212			1.38	+/-0.604	0.224	+/-0.604	0.475	pCi/g				
Bismuth-214			0.999	+/-0.151	0.0546	+/-0.151	0.115	pCi/g				
Cesium-134		UUI	0.00	+/-0.0794	0.0426	+/-0.0794	0.089	pCi/g				
Cesium-137		U-	-0.000755	+/-0.039	0.0336	+/-0.039	0.0705	pCi/g				
Cobalt-60		U	-0.00331	+/-0.0373	0.0313	+/-0.0373	0.0675	pCi/g				
Europium-15	2	U	-0.00151	+/-0.083	0.0715	+/-0.083	0.149	pCi/g				
Europium-15	4	U	0.0214	+/-0.108	0.093	+/-0.108	0.199	pCi/g				
Europium-15	5	UUI	0.00	+/0.131	0.0701	+/-0.131	0.144	pCi/g				
Lead-212			1.43	+/-0.0989	0.0413	+/-0.0989	0.0856	pCi/g				
Lead-214			1.07	+/-0.144	0.0506	+/-0.144	0.106	pCi/g				
Manganese-5	4	U	0.0269	+/-0.0563	0.0317	+/-0.0563	0.0671	pCı/g				
Niobium-94		U	-0.0231	+/-0.0315	0.0258	+/-0.0315	0.0545	pCi/g				
Potassium-40			18.5	+/-1.23	0.229	+/-1.23	0.506	pCi/g				
Radium-220		TT	0.999	+/-0.151	0.0546	+/-0.151	0.115	pCi/g				
Sliver-Tusm		U	0.00089	+/-0.0322	0.02/0	+/-0.0322	0.0575	pCi/g				
Pad Cas Flow P	ronortio	nal Countin	0.524	+/-0.0833	0.0280	+/-0.0833	0.0603	pCi/g				
Rau Gas Flow F			5									
GFPC, Sr90, so Strontium–90	ona–ALI	U FSS	0.000537	+/-0.00804	0.00672 -	+/-0.00804	0.0141	pCi/g	BXF1	06/02/00	5 2018 5344	47 2
The following F	Prep Met	thods were p	erformed							-		_
Method	Descr	ription				Analyst	Date	Time	Prep Bate	h		
Ash Soil Prep	Ash S	oil Prep, GL-	-RAD-A-()21B		MXP2	05/15/06	0854	529740			_
Dry Soil Prep	Dry S	oil Prep GL-	RAD-A-0	21		LXM2	05/14/06	1558	529739			
The following A	nalytics	d Methods w	ere perfor	med								
Method	Descr	iption	<u></u>								······································	-
1	EMI	HAST 200 4	523								· · · · · · ·	-
1		11A3L 300, 4	.5.2.5									
2	EPA 9	JUS.U Modifie	a									

Surrogate/Tracer recovery Test Recovery%

Acceptable Limits
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Surrogate/	Tracer recov	ery Test				Recovery%	Acc	eptable Limit	\$		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID:		9106-000 16285000	06-001F 07		Proiect: Client ID: Vol. Recv.:	YANK Yank	X01204 X001	
	Contact: Project:	Mr. Jack Mc Soils PO# 00	Carthy)2332						•		
		East Hampto	on, Connec	ticut 06424				R	eport Da	ate: June 9, 200	6
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power							

78

(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
- 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</p>
- h Preparation or preservation holding time was exceeded

Certificate of Analysis

Comp Addr	pany : ess :	Connecticut 362 Injun H	t Yankee A Iollow Rd	tomic Power									
Conta	act:	East Hampt Mr. Jack M	on, Connec cCarthy	ticut 06424				R	eport Date:	June 9, 20	06		
Proje	ect:	Soils PO# 0	02332						·				
		Client Sar Sample II Matrix: Collect Da Receive D Collector: Moisture:	nple ID: D: ate: ate:		9106-00 1628500 SE 28-APF 12-MA Client 24.9%	006-003F 008 R-06 Y-06		Proiect: Client ID: Vol. Recv.:	YANK012 YANK002	204			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF An	alyst Date	Time	Batch	Mtd
Rad Gamma Spec	Analy	sis											
Gamma,Solid-F.	SS GAN	M & ALL FSS	5										
Actinium-228			0.846	+/-0.189	0.0734	+/-0.189	0.156	pCi/g	MJ	H1 06/07/0	06 1942	529777	/ 1
Americium-241	l	U	-0.0495	+/-0.0853	0.0742	+/-0.0853	0.153	pCi/g					
Bismuth-212			0.789	+/-0.301	0.153	+/-0.301	0.323	pCi/g					
Bismuth-214			0.475	+/-0.0869	0.0338	+/-0.0869	0.0714	pCi/g					
Cesium-134		U	0.0421	+/0.027	0.0246	+/-0.027	0.0517	pCi/g					
Cesium-137			0.170	+/-0.0418	0.0201	+/-0.0418	0.0423	pCi/g					
Cobalt-60			0.722	+/-0.0687	0.0165	+/-0.0687	0.0364	pCi/g					
Europium-152		U	-0.00848	+/-0.0547	0.0472	+/-0.0547	0.0985	pCi/g					
Europium-154		U	0.00912	+/-0.0/08	0.0597	+/-0.0708	0.129	pCi/g					
Europium-155		U	0.0826	+/0.0933	0.04 /4	+/-0.0933	0.0979	pCi/g					
Lead-212			0.800	+/-0.0645	0.0282	+/0.0645	0.0583	pCi/g					
Lead-214			0.019	+/-0.0893	0.0349	+/0.0893	0.0728	pCi/g					
Manganese-54		U	0.0175	+/-0.020 +/-0.0373	0.0181	+/-0.020	0.0380	pCi/g					
Potessium-40		U	12.5	+/-0.946	0.017	+/-0.0373	0.0339	pCi/g					
Radium-226			0.475	+/-0.0869	0.139	+/-0.0869	0.0714	pCi/g					
Silver-108m		U	0.0119	+/-0.0191	0.0169	+/-0.0191	0.0353	pCi/g					
Thallium-208		0	0.304	+/-0.0506	0.0169	+/-0.0506	0.0358	pCi/g					
Rad Gas Flow Pro	portio	nal Counting	2					F 0					
GEPC Sr90 soli	• id AII	FSS	2										
Strontium-90		U	0.0145	+/0.020	0.0198	+/-0.020	0.0439	pCi/g	BX	F1 06/03/0)6 0903	534447	2
The following Pre	en Met	hods were n	erformed										
Method	Descr	iption				Analyst	Date	Time	e Prep B	atch			
Ash Soil Pren	Ash S	oil Pren GL -	-RAD-A-()21B		MXP2	05/15/(0854	52974(
Dry Soil Prep	Dry S	oil Prep GL-	RAD-A-0	21		LXM2	05/14/0)6 1558	529739 529739				
			-										
I he following An: Method	aiytica Descri	i Methods w	ere perfor	nea			<u></u>						
1	EMI	TAST 200 4	5 7 7							. <u> </u>			
1		1745L 300, 4.	.5.2.5										
2	EPA 9	05.0 Modifie	a										

Surrogate/Tracer recovery Test Recovery%

Acceptable Limits

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Certificate of Analysis

Company Address	y: Co : 362	nnecticut 2 Injun H	Yankee A ollow Rd	tomic Power						
Contact:	Eas Mr	st Hampto . Jack Mo	on, Connec Carthy	cticut 06424				Re	port Date: June 9, 200	6
Project:	Soi	ls PO# 0	02332							
	Cl Sa	ient San mple ID	ple ID:		9106-00 1628500	06003F 08		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter	Q	ualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
Surrogate/Tracer re	covery	Test				Recovery%	A	cceptable Limits		
Carrier/Tracer Recovery GFPC, Sr90, solid-ALL FSS					79		(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
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- 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
- 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
- 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

Cor Ado	mpany : 0 dress : 0	Connecticu 362 Injun F	t Yankee A Iollow Rd	tomic Power						
	j	East Hamp	ton, Connec	cticut 06424				Re	port Date: June 9, 20	06
Cor	ntact:	Mr. Jack M	cCarthy					×		
Pro	ject:	Soils PO# (002332							
		Client Sar Sample II Matrix: Collect Da Receive D Collector: Moisture:	nple ID: D: ate: Date:		9106-00 1628500 SE 28-APF 12-MA Client 36.9%	006-008F 009 R-06 Y-06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
Rad Gamma Spe	ec Analysi	is					. ·			
Gamma,Solid–	FSS GAM	& ALL FSS	S							
Actinium-228	}		0.967	+/-0.174	0.0502	+/-0.174	0.104	pCi/g	MJH1 06/07/	06 2201 529777 1
Americium-24	41	U	0.0139	+/-0.0656	0.0488	+/0.0656	0.0996	pCi/g		
Bismuth-212			0.752	+/-0.257	0.110	+/-0.257	0.227	pCi/g		
Bismuth-214		*	0.659	+/-0.102	0.0267	+/-0.102	0.0551	pCi/g		
Cesium-134		UUI	0.00	+/-0.0255	0.0174	+/-0.0255	0.036	pCi/g		
Cesium-137			0.295	+/-0.0447	0.0133	+/-0.0447	0.0275	pCi/g		
Cobalt-60			0.635	+/-0.0601	0.0139	+/-0.0601	0.0293	pCi/g		
Europium-152	2	U	-0.0188	+/-0.0427	0.0349	+/-0.0427	0.0717	pCi/g		
Europium-154	4	U	0.0145	+/-0.0503	0.0415	+/-0.0503	0.087	pCi/g		
Europium-155	5	UUI	0.00	+/-0.0655	0.0379	+/-0.0655	0.0773	pCi/g		
Lead-212			1.02	+/-0.0932	0.0194	+/-0.0932	0.0398	pCi/g		
Lead-214			0.812	+/-0.105	0.025	+/-0.105	0.0514	pCi/g		
Manganese-54	4	U	0.000653	+/-0.018	0.015	+/-0.018	0.0311	pCi/g		
Niobium-94		U	0.00784	+/-0.0151	0.013	+/-0.0151	0.0268	pCi/g		
Potassium-40			16.9	+/-1.20	0.107	+/-1.20	0.229	pCi/g		
Radium-226			0.659	+/-0.102	0.0267	+/-0.102	0.0551	pCi/g		
Silver-108m		U	0.00921	+/-0.0145	0.0121	+/-0.0145	0.025	pCi/g		
Thallium-208			0.294	+/-0.0457	0.0147	+/0.0457	0.0304	pCi/g		
Rad Gas Flow P	roportion	al Countin	g							
GFPC, Sr90, so	olid–ALL I	FSS								
Strontium-90		U	0.00402	+/-0.0162	0.0172	+/-0.0162	0.0388	pCi/g	BXF1 06/03/	06 0904 534447 2
			" -							
The following P Method	rep Metho Descrin	ods were p ition	erformed	<u></u> .		Analyst	Date	Time	Prep Batch	

	-	•			-	
Ash Soil Prep	Ash Soil Prep, GL-RAD-A-021B	MXP2	05/15/06	0854	529740	
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	05/14/06	1558	529739	
The following A	Analytical Methods were performed					
Method	Description					
1	EML HASL 300, 4.5.2.3					
2	EPA 905.0 Modified					
Surrogate/Trac	cer recovery Test	Recovery%	Acceptab	le Limits		

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Surrogate/	Tracer recov	ery Test				Recovery%	Ace	ceptable Limi	ts		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF An	alyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID:		9106-000 16285000	06-008F 09		Project: Client ID: Vol. Recv.:	YANK01 YANK00	204 1	
	Project:	Soils PO# 00)2332								
	Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	cticut 06424				F	Report Date:	June 9, 200	06
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power							

69

(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
- 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
- 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, b
- 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	t Yankee A Iollow Rd	tomic Power									
Contact:	East Hampt Mr. Jack M	on, Connec cCarthy	cticut 06424				Į	eport Date: Ju	ne 9, 2006			
Project:	Soils PO# 0	02332										
	Client Sar Sample II Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: Pate:		9106-00 1628500 SE 28-APF 12-MA Client 28.3%	006-009F)10 R-06 Y-06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001				
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time	Batch	Mtd
Rad Alpha Spec Analy	sis											
Alphaspec Am241, Cn	n, Solid ALL FS	55										
Americium-241	U	-0.03	+/-0.065	0.0367	+/0.065	0.161	pCi/g	LCWI	05/30/06	1156	533471	1
Curium-242	υ	0.00	+/-0.0725	0.00	+/-0.0725	0.100	pCi/g					
Curium-243/244	U	0.0246	+/-0.0651	0.0368	+/-0.0652	0.161	pCi/g					
Alphaspec Pu, Solid-A	ALL FSS											
Plutonium-238	U	-0.015	+/-0.0648	0.0505	+/-0.0649	0.186	pCi/g	LCW1	05/30/06	2129	533472	2 2
Plutonium-239/240	U	0.00	+/-0.0614	0.00	+/-0.0614	0.0848	pCi/g					
Liquid Scint Pu241, Se	olid-ALL FSS											
Plutonium-241	U	-1.47	+/-7.89	6.69	+/-7.89	13.9	pCi/g	LCW1	06/03/06	0646	533473	3 3
Rad Gamma Spec Ana	lysis											
Gamma,Solid–FSS G Waiwad	AM & ALL FSS	5 226 Ingro	wth									
Actinium-228		0.716	+/-0.183	0.0686	+/-0.183	0.148	nCi/g	MJH1	06/05/06	2158	529777	74
Americium-241	U	-0.0471	+/-0.110	0.0853	+/-0.110	0.177	pCi/g					
Bismuth-212		0.609	+/-0.323	0.121	+/-0.323	0.263	pCi/g					
Bismuth-214		0.393	+/-0.0985	0.0311	+/-0.0985	0.0666	pCi/g					
Cesium-134	U	0.0223	+/-0.0286	0.0231	+/-0.0286	0.0494	pCi/g					
Cesium-137		0.226	+/-0.0658	0.0156	+/-0.0658	0.0339	pCi/g					
Cobalt-60		0.102	+/-0.0359	0.0208	+/-0.0359	0.0458	pCi/g					
Europium-152	U	-0.0219	+/-0.0519	0.0425	+/-0.0519	0.0901	pCi/g					
Europium-154	U	-0.0215	+/-0.0704	0.0575	+/-0.0704	0.126	pCi/g					
Europium-155	U	0.0924	+/-0.0906	0.0494	+/-0.0906	0.103	pCi/g					
Lead-212		0.660	+/-0.0803	0.0262	+/-0.0803	0.0548	pCi/g					
Lead-214		0.545	+/-0.09/	0.033	+/-0.097	0.0696	pCi/g					
Manganese-54	U	0.0121	± -0.022	0.0194	+/-0.022	0.0419	pCi/g					
Niodium-94 Potossium-40	U	0.00465	+/-0.0183	0.0101	± -0.0183	0.0340	pCi/g					
Radium-226		0 393	+/0.0985	0.134	+/-0.0985	0.549	pCi/g					
Silver-108m	11	-0.01	+/-0.0175	0.0311	+/-0.0175	0.0319	nCi/g					
Thallium-208	Ũ	0.197	+/-0.0465	0.018	+/-0.0465	0.0385	pCi/g					
Rad Gas Flow Proport	ional Counting	2					r 0					
CEPC Sx00 solid = () 025 nCi/a	5										
Strontium-90	<i>25 p</i> c#g	0.00788	+/0 00962	0 00977 -	+/0 00962	0.0208	nCi/a	RXF1	06/05/06	2116	534447	5
Rad Liquid Scintillatio	n Analysis	0.00700	17 0.00702	0.00777	0.00702	0.0200	P⊂n B	BATT	00/00/00	2110	55447	5
ISC Tuitium Dist Sal	d = 1 to $2 = 0$	lila										
LSC, Irilium Disi, Sol	a = 1 to 2 pC	.#g 0.17	+/0 519	0 420	+/-0 519	0 005	nCi/a	NIVD1	06/02/04	0204	531705	۲
i ritium	U	-0.17	T/-0.318	0.438	+/-0.318	0.893	pci/g	INAPI	00/03/06	0204	221/02	0

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Certificate of Analysis

Co Ao	ompany : ddress :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power									
Co Pr	ontact: roject:	East Hampte Mr. Jack Me Soils PO# 0	on, Connec cCarthy 02332	ticut 06424				Re	eport Date: Jur	ne 9, 2006	5		
		Client San Sample ID	nple ID:):		9106-00 1628500	006-009F)10	Pr Cl V	roiect: lient ID: ol. Recv.:	YANK01204 YANK001				
Parameter	· · ·	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time	Batch]	Mtd
Rad Liquid Sci	intillation	Analysis		· · · ·						·			
Liquid Scint C	CI4, Solid	All,FSS											
Carbon-14		U	0.133	+/-0.102	0.0817	+/-0.102	0.169	pCi/g	ATH2	06/04/06	5 0142	534984	7
Liquid Scint F	e55, Solid	t-ALL FSS											
Iron-55		U	15.5	+/-22.8	16.4	+/-22.8	34.4	pCi/g	SLNI	05/29/06	5 1615	531618	9
Liquid Scint N	li63, Solia	-ALL FSS						 .					
Nickel-63		U	-4.06	+/-3.35	2.89	+/-3.35	5.89	pCi/g	SLNI	05/27/06	5 0221	531622	10
Liquid Scint T	c99, Solia	I-ALL FSS	0.0504	1/ 0.251	0.200	1/ 0.251	0.422	-Cila	SVEI	05/20/04	(2205	621704	
Technetium-	-99	U	0.0304	<i>∓/−</i> 0.231	0.209	+/-0.231	0.432	pCI/g	SACI	03/30/00	5 2 5 0 5	551704	11
The following	Prep Met	thods were p	erformed										
Method	Descr	ription				Analyst	Date	Time	Prep Batcl	h			
Ash Soil Prep	Ash S	oil Prep, GL-	-RAD-A-0)21B		MXP2	05/15/06	0854	529740				
Dry Soil Prep	Dry S	oil Prep GL-	RAD-A-0	21		LXM2	05/14/06	1558	529739				
The following	Analytica	1 Mothode w	ana narfar	mod									
Method	Descr	iption	ere periori						· · · · · · · · · · · · · · · · · · ·				
	DOF	- FML HASI –		5-BC 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 9	05.0 Modifie	d										
6	EPA 9	06.0 Modifie	d										
7	EPA I	EERF C-01 M	1odified										
8	EPA B	EERF C-01 M	1odified										
9	DOE	RESL Fe-1, N	Modified										
10	DOE	RESL Ni-1, N	Modified										
11	DOE	EML HASL-	300, Tc-02	RC Modified									
Surrogate/Tra	cer recov	ery Test				Recoverv%	Accept	able Limits					
Americium-747	3	- Alnh	aspec Am?	41. Cm. Solid A	LI	90	(159	%-125%)	<u></u>				
Plutonium-243	, ,	Alnh	aspec Pu S	Solid-ALL FSS		74	(15)	%-125%)					
Carrier/Tracer R	Recoverv	Lim	id Scint Pu	241. Solid-ALL	FS	93	(259	%-125%)					
Carrier/Tracer R	Recovery	GFP	C, Sr90, so	lid – 0.025 pCi/s	2	74	(259	%-125%)					

Liquid Scint Fe55, Solid-ALL FS

83

(15%-125%)

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 Carthy 02332	eticut 06424				R	eport Date: June 9, 200)6				
noject.	Project: Soils PO# 002332 Client Sample ID: Sample ID:)6-009F 10		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 N	63, Solid-ALL	FS	87		(25%-125%)						
Carrier/Tracer Recovery Liquid Scint Tc99, Solid-ALL F				FS	75		(15%-125%)						

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- Results are reported from a diluted aliquot of the sample D
- Analytical holding time was exceeded Н
- 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
 X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- QC Samples were not spiked with this compound Y
- RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL \wedge
- Preparation or preservation holding time was exceeded h

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Certificate of Analysis

Company Address :	: Connectio 362 Injun	cut Yankee A Hollow Rd	Atomic Power									
Contact: Project:	East Ham Mr. Jack Soils PO#	pton, Conne McCarthy # 002332	cticut 06424				F	Report Date:	June 9, 200	16		
	Client S Sample Matrix: Collect I Receive Collecto Moistur	ample ID: ID: Date: Date: r: e:		9106-0 162850 SE 28-APF 12-MA Client 28.2%	006-010F 011 R-06 Y-06		Proiect: Client ID: Vol. Recv.:	YANK012 YANK001	04			
Parameter	Qualifie	r Result	Uncertainty	LC	TPU	MDA	Units	DF Ana	lyst Date	Time	Batch	Mtd
Rad Alpha Spec Analy	sis											
Alphaspec Am241, Cn	n, Solid ALL	FSS										
Americium-241	τ	U 0.0541	+/-0.0719	0.00	+/-0.0723	0.0675	pCi/g	LC	W1 05/30/0	6 1155	533471	1
Curium-242	ı	U 0.0217	+/-0.0576	0.0326	+/-0.0577	0.143	pCi/g					
Curium-243/244	ι	U -0.012	+/-0.0517	0.0402	+/-0.0517	0.148	pCi/g					
Alphaspec Pu, Solid	ALL FSS											
Plutonium-238	I	U 0.00	+/-0.0691	0.00	+/-0.0691	0.0955	pCi/g	LC	W1 05/30/0	6 2129	533472	2
Plutonium-239/240	ι	U 0.0352	+/-0.069	0.00	+/-0.0692	0.0955	pCi/g					
Liquid Scint Pu241, S	olid–ALL FS	S										
Plutonium-241	τ	U -7.44	+/-7.73	6.81	+/-7.77	14.2	pCi/g	LC	W1 06/03/0	6 0702	533473	3
Rad Gamma Spec Ana	lysis											
Gamma,Solid–FSS G. Waived	AM & ALL F	SS 226 Ingra	owth (1997)									
Actinium-228		0.673	+/-0.182	0.0618	+/-0.182	0.132	pCi/g	MJI	11 06/06/0	6 0657	529777	4
Americium-241	ι	J 0.0697	+/-0.0798	0.0686	+/-0.0798	0.141	pCi/g					
Bismuth-212		0.401	+/-0.307	0.137	+/-0.307	0.289	pCi/g					
Bismuth-214		0.472	+/-0.0976	0.0323	+/-0.0976	0.0679	pCi/g					
Cesium-134	l	0.0462	+/-0.039	0.0234	+/-0.039	0.0493	pCi/g					
Cesium-137		0.520	+/-0.054/	0.0150	+/-0.054/	0.0332	pCi/g					
Cobalt=00	1	0.031	+/0.0088	0.0107	+/-0.0088 +/-0.051	0.0305	pCi/g					
Europium-152	L L L L L L L L L L L L L L L L L L L	J = 0.00328	+/-0.051	0.0441	+/-0.051	0.0919	pCi/g					
Europium-157	ĩ	J 0.00807	+/-0.0505	0.0451	+/-0.0505	0.0929	pCi/g					
Lead-212		0.596	+/-0.0621	0.0256	+/-0.0621	0.0531	pCi/g					
Lead-214		0.541	+/-0.0872	0.0305	+/-0.0872	0.0637	pCi/g	•				
Manganese-54	ι	J 0.0149	+/-0.0228	0.0201	+/-0.0228	0.0425	pCi/g					
Niobium-94	τ	J 0.00627	+/-0.0196	0.0172	+/-0.0196	0.0361	pCi/g					
Potassium-40		10.1	+/0.812	0.149	+/-0.812	0.329	pCi/g					
Radium-226	_	0.472	+/-0.0976	0.0323	+/-0.0976	0.0679	pCi/g					
Silver-108m	t	J -0.00817	+/-0.0176	0.0146	+/-0.0176	0.0306	pCi/g					
Thallium-208		0.208	+/-0.0559	0.0168	+/-0.0559	0.0355	pC1/g					
Rad Gas Flow Proport	ional Counti	ng										
GFPC, Sr90, solid – ().025 pCi/g			0.00-0			~					
Strontium-90		J 0.00715	+/0.00615	0.00584 -	+/-0.00616	0.0127	pCi/g	BXI	1 06/05/0	6 2117 :	534447	5
Rad Liquid Scintillatio	n Analysis											
LSC, Tritium Dist, Sol	id – 1 to 2 j	pCi/g										
Tritium	ι	J 0.118	+/-0.491	0.410	+/0.491	0.837	pCi/g	NXI	P1 06/03/0	6 0338 :	531705	6

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Certificate of Analysis

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

Contact	East Hampton, Connecticut 06424
Comaci.	WII. Jack MicCaliny
Project:	Soils PO# 002332

Report Date: June 9, 2006

	Client Sam Sample ID	nple ID: :		9106-0006-010F 162850011			Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time I	Batch N	/Itd
Rad Liquid Scintillation	Analysis										
Liquid Scint C14, Solid	All,FSS										
Carbon-14	U	0.161	+/-0.109	0.0867	+/-0.109	0.179	pCi/g	ATH2 06/04/	06 0345 5	534984	7
Liquid Scint Fe55, Solid	-ALL FSS										
Iron-55	U	12.3	+/-21.9	. 16.0	+/-21.9	33.7	pCi/g	SLN1 05/29/	06 1632 5	531618	9
Liquid Scint Ni63, Solia	I-ALL FSS										
Nickel-63	U	0.00	+/-4.14	3.47	+/-4.14	7.07	pCi/g	SLN1 05/27/	06 0322 5	531622	10
Liquid Scint Tc99, Solid	-ALL FSS										
Technetium-99	U	0.0163	+/-0.271	0.227	+/-0.271	0.469	pCi/g	SXE1 05/30/	06 2321 5	531704	11

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Ash Soil Prep	Ash Soil Prep, GL-RAD-A-021B	MXP2	05/15/06	0854	529740
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	05/14/06	1558	529739

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Americium-243	Alphaspec Am241, Cm, Solid ALL	87	(15%-125%)	
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	61	(15%-125%)	
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	94	(25%-125%)	
Carrier/Tracer Recovery	GFPC, Sr90, solid – 0.025 pCi/g	100	(25%-125%)	
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	71	(15%-125%)	

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun He	Yankee A ollow Rd	tomic Power								
	Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	cticut 06424]	Report Date: June 9, 200)6		
	Project:	Soils PO# 00	02332									
		Client Sarr Sample ID	ple ID: :		9106-000 16285001	06-010F 1		Project: YANK01204 Client ID: YANK001 Vol. Recv.:				
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd		
Carrier/Trace	r Recovery	Liqui	id Scint Ni	63, Solid-ALL	FS	86		(25%-125%)				
Carrier/Tracer Recovery Liquid Scint Tc99, Solid-ALL FS					FS	69 (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
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- Results are reported from a diluted aliquot of the sample D
- Н 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
- Sample results are rejected R
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
 X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- QC Samples were not spiked with this compound Y
- $^{\sim}$ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- Preparation or preservation holding time was exceeded h

Certificate of Analysis

Con Add	npany : iress :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power									
Con	itact:	East Hampte Mr. Jack Me	on, Connec cCarthy	ticut 06424				Report Date: June 9, 2006					
Proj	ject:	Soils PO# 0	02332										
		Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID: D: ate: ate:		9106-00 1628500 SE 01-MA 12-MA Client 28.9%	006-020F 012 Y-06 Y-06		Proiect: Client ID: Vol. Recv.:	YANK YANK	K01204 K001			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time Batch	Mtd	
Rad Gamma Spe	ec Analy	sis											
Gamma,Solid–1	FSS GAN	M & ALL FSS	7										
Actinium-228			0.844	+/-0.136	0.0584	+/-0.136	0.125	pCi/g		MJH1 06/06	/06 0657 529773	71	
Americium-24	\$1	U	0.0189	+/-0.128	0.0762	+/-0.128	0.156	pCi/g					
Bismuth-212			0.614	+/-0.281	0.110	+/-0.281	0.236	pCi/g					
Bismuth-214			0.558	+/-0.0775	0.0315	+/-0.0775	0.0663	pCi/g					
Cesium-134		UUI	0.00	+/-0.0331	0.0228	+/-0.0331	0.048	pCi/g					
Cesium-137		U	0.0128	+/-0.0392	0.0172	+/-0.0392	0.0362	pCi/g					
Cobalt-60			0.0734	+/-0.0396	0.0183	+/-0.0396	0.0395	pCi/g					
Europium-152	<u>^</u>	U	0.0104	+/-0.0337 +/-0.0762	0.0401	+/-0.0337	0.0959	pCi/g					
Europium-134	ł	U	0.0337	+/-0.0702	0.0570	+/-0.0782	0.124	pCi/g					
Land-212	,	0	0.00	+/-0.0589	0.0334	+/-0.0589	0.110	pCi/g					
Lead 212			0.609	+/-0.0333	0.028	+/-0.0754	0.0577	pCi/g					
Manganese-54	1	11	-0.00567	+/-0.0206	0.0172	+/-0.0206	0.0365	pCi/g					
Niobium-94	•	Ŭ	-0.00247	+/-0.0182	0.0155	+/-0.0182	0.0328	pCi/g					
Potassium-40		U	13.8	+/-0.850	0.143	+/-0.850	0.316	pCi/g					
Radium-226			0.558	+/-0.0775	0.0315	+/-0.0775	0.0663	pCi/g					
Silver-108m		U	0.000505	+/-0.0175	0.0147	+/-0.0175	0.0308	pCi/g					
Thallium-208			0.223	+/-0.0431	0.0165	+/-0.0431	0.0347	pCi/g					
Rad Gas Flow Pr	roportio	nal Counting	ç.										
GFPC, Sr90, so	lid-ALL	. FSS											
Strontium-90		U	-0.00559	+/-0.0104	0.0131	+/-0.0104	0.030	pCi/g		BXF1 06/03/	06 0904 534447	2	
The following P	rep Met	hods were pe	erformed										
Method	Descr	iption				Analyst	Date	Time	Pr	ep Batch	·		
Ash Soil Prep	Ash S	oil Prep, GL-	RAD-A-()21B		MXP2	05/15/0	06 0854	52	9740			
Dry Soil Prep	Dry S	oil Prep GL-I	RAD-A-0	21		LXM2	05/14/0	6 1558	52	9739			

The following Analytical Methods were performed

Method	Description		
1	EML HASL 300, 4.5.2.3	n-+tu, <u>a - </u>	
2	EPA 905.0 Modified		
Surrogate/Trace	r recovery Test	Recovery%	Acceptable Limits

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power								
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	on, Connec Carthy)2332	cticut 06424				J	Report Date: June 9, 20	06		
		Client Sam Sample ID	ple ID:		9106-000 16285001	06–020F 2		Project: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd		
Surrogate/	Tracer recov	ery Test		•		Recovery%	Ac	ceptable Lim	its			

94

(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
- 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

Co Ad	mpany : dress :	Connecticut 362 Injun H	t Yankee A Iollow Rd	tomic Power						
Co	ntact:	East Hampt Mr. Jack M	on, Connec cCarthy	cticut 06424				Re	port Date: June 9,	2006
Pro	oject:	Soils PO# 0	02332							
	Client Sample ID: Sample ID: Matrix: Collect Date: Receive Date: Collector: Moisture: arameter Qualifier Result Uncertainty				9106-00 1628500 SE 28-APF 12-MA Client 26%	006-004F 013 R-06 Y-06				
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Da	te Time Batch Mtd
Rad Gamma Sp	ec Analy	sis								
- Gamma.Solid-	FSS GAN	M & ALL FSS	3							
Actinium-228	3		0.972	+/-0.265	0.0864	+/-0.265	0.187	pCi/g	MJH1 06/	07/06 1944 529777 1
Americium-2	41	U	0.00641	+/-0.0402	0.0335	+/-0.0402	0.0691	pCi/g		
Bismuth-212			0.604	+/-0.395	0.204	+/-0.395	0.435	pCi/g		
Bismuth-214			0.723	+/-0.124	0.0437	+/-0.124	0.0933	pCi/g		
Cesium-134		UUI	0.00	+/-0.0507	0.0309	+/-0.0507	0.0661	pCi/g		
Cesium-137			0.096	+/-0.057	0.0264	+/-0.057	0.0562	pCi/g		
Cobalt-60		U	0.0438	+/-0.0445	0.0276	+/-0.0445	0.0608	pCi/g		
Europium-15	2	U	-0.0561	+/-0.0636	0.0536	+/-0.0636	0.113	pCi/g		
Europium-15	4	U	-0.0703	+/-0.0848	0.064	+/-0.0848	0.143	pCi/g		
Europium-15	5	U	0.00	+/-0.0611	0.0566	+/-0.0611	0.117	pCi/g		
Lead-212			0.912	+/-0.0781	0.0347	+/-0.0781	0.0721	pCi/g		
Lead-214			0.716	+/-0.117	0.0425	+/-0.117	0.0895	pCi/g		
Manganese-5	4	U	0.00792	+/-0.0311	0.0264	+/-0.0311	0.0568	pCi/g		
Niobium-94		U	0.00282	+/-0.02///	0.0236	+/-0.0277	0.0502	pCi/g		
Potassium-40			11.5	+/-1.08	0.174	+/-1.08	0.402	pCi/g		
Radium-226		• •	0.723	+/-0.124	0.0437	+/-0.124	0.0933	pCi/g		
Silver-108m		U	-0.0131	+/-0.0229	0.0193	+/-0.0229	0.0409	pCi/g		
I nallium-208	monontio	nal Counting	0.300	+/-0.0505	0.0262	+/-0.0365	0.0557	pCi/g		
Rad Gas Flow F	roportio	nar Counting	\$							
GFPC, Sr90, so Strontium–90	olid–ALL	U U	0.00427	+/-0.015	0.0158	+/-0.015	0.0358	pCi/g	BXF1 06/0	03/06 0904 534447 2
The following I	Prep Met	hods were <u>p</u> e	erformed							
Method	Descr	iption				Analyst	Date	Time	Prep Batch	
Ash Soil Prep	Ash S	oil Prep, GL-	-RAD-A-6	021B		MXP2	05/15/0	6 0854	529740	
Dry Soil Prep	Dry Se	oil Prep GL-i	RAD-A-0	21		LXM2	05/14/0	6 1558	529739	
The following A	nalytica	l Methods w	ere perfor	med						
Method	Descri	ption	F01						R	. <u> </u>
1	EML I	-IASL 300, 4.	5.2.3			·			····	

2 EPA 905.0 Modified

Test Surrogate/Tracer recovery

1

Recovery%

Acceptable Limits

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Certificate of Analysis

Surrogate/	Tracer recov	ery Test				Recoverv%	Ace	ceptable Limit	ts	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	e Time Batch Mtd
		Client Sam Sample ID	ple ID:		9106-000 16285001	06-004F 3		Project: Client ID: Vol. Recv.:		
	Project:	Soils PO# 00)2332							
	Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	ticut 06424				R	Report Date: June 9, 2	006
	Company : Address :	Connecticut 362 Injun He	Yankee A ollow Rd	tomic Power						

82

(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
- 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

Surrogate/Tracer recovery

Test

Co	ompany : ddress :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power		,							
Co	ontact:	East Hampt Mr. Jack Me	on, Connec cCarthy	ticut 06424				Re	port Date: Ju	ne 9, 200)6		
Pr	oject:	Soils PO# 0	02332										
	Client Sample ID: Sample ID: Matrix: Collect Date: Receive Date: Collector: Moisture: arameter Qualifier Result Uncertaint				9106-00 1628500 SE 28-APF 12-MA Client 15.8%	006-005F 014 R-06 Y-06	Project: YANK01204 Client ID: YANK001 Vol. Recv.:						
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time Ba	tch 🛛	Atd
Rad Gamma S	pec Analy	/sis											
Gamma,Solid [.]	-FSS GA	M & ALL FSS	7										
Actinium-22	28		1.02	+/-0.249	0.0817	+/-0.249	0.172	pCi/g	MJH1	06/06/0	06 0916 52	9777	1
Americium-2	241	U	-0.0104	+/-0.116	0.0918	+/-0.116	0.189	pCi/g		•			
Bismuth-212	2		0.766	+/-0.337	0.182	+/-0.337	0.379	pCi/g					
Bismuth-214	1		0.842	+/-0.119	0.0381	+/-0.119	0.0796	pCi/g					
Cesium-134		U	0.00	+/-0.0423	0.0291	+/-0.0423	0.0607	pCi/g					
Cesium-137			0.409	+/-0.0547	0.0203	+/0.0547	0.0425	pCi/g					
Cobalt-60			1.94	+/-0.162	0.0189	+/-0.162	0.041	pCi/g					
Europium-15	52	U	-0.0232	+/-0.0626	0.0519	+/-0.0626	0.108	pCi/g					
Europium-15	54	U	0.0616	+/-0.0724	0.0653	+/-0.0724	0.139	pCi/g					
Europium-15	55	UUI	0.00	+/-0.0885	0.0533	+/0.0885	0.110	pCi/g					
Lead-212			1.15	+/-0.112	0.0295	+/-0.112	0.0609	pCi/g					
Lead-214	5 4		0.982	+/-0.133	0.0367	+/-0.133	0.0761	pCI/g					
Manganese-	54	U	0.000439	+/-0.0292	0.0244	+/-0.0292	0.0511	pCi/g					
Njobium-94	۵	0	12.8	+/-0.0232	0.0190	+/-0.0232	0.0409	pCi/g					
Potassium-226	0		0.842	+/0 119	0.145	+/-0.119	0.322	pCi/g					
Silver-108m		II.	-0.042	+/-0.0202	0.0174	+/-0.0202	0.0750	pCi/g					
Thallium-20	8	U	0.319	+/-0.0531	0.021	+/-0.0531	0.0302	pCi/g					
Rad Gas Flow	_ Proportio	nal Counting	2	,			010100	P0.8					
CEPC SHOO	nolid_ALI		•										
Strontium-90)	U	0.0195	+/-0.0222	0.0214	+/-0.0222	0.0475	pCi/g	BXF1	06/03/0	6 1010 534	1447	2
The following	Prep Met	hods were p	erformed										
Method	Descr	iption				Analyst	Date	Time	Prep Bate	h			
Ash Soil Prep	Ash S	oil Prep, GL-	RAD-A-()21B		MXP2	05/15/0	6 0854	529740				
Dry Soil Prep	Dry S	oil Prep GL-	RAD-A-0	21		LXM2	05/14/0	6 1558	529739				
The following	Analytica	I Methods w	ere perfori	med									
Method	Descr	iption											
1	EML	HASL 300. 4	5.2.3										
2	EPA 9	05.0 Modifie	d										

Recovery%

Acceptable Limits

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Certificate of Analysis

Surrogate/	Tracer recov	ery Test				Recovery%	Acc	eptable Limit	s	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sample ID: Sample ID:			9106-000 16285001	06–005F 4				
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	on, Connec Carthy)2332	ticut 06424				R	eport Date: June 9, 200	06
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power						

78

(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
- 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

Co Ao	ompany : idress :	Connecticut 362 Injun H	t Yankee A follow Rd	tomic Power										
Co	ontact:	East Hampt Mr. Jack M	on, Connec cCarthy	ticut 06424				R	eport Date:	Jun	e 9, 200	6		
Pr	oject:	Soils PO# 0	02332											
	Client Sample ID: Sample ID: Matrix: Collect Date: Receive Date: Collector: Moisture: Parameter Oualifier Result Uncertainty				9106-00 1628500 SE 28-APF 12-MA Client 21.3%	006-006F 015 R-06 Y-06	Project: YANK01204 Client ID: YANK001 Vol. Recv.:							
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF A	nalyst	t Date	Time	Batch	Mtd
Rad Gamma S	oec Analy	sis .												
Gamma.Solid-	-FSS GAI	M & ALL FSS	3											
Actinium-22	8		1.76	+/-0.238	0.0865	+/-0.238	0.181	pCi/g	М	JHI	06/06/0	6 0916	52977	/ 1
Americium-2	241	U	-0.0427	+/-0.0394	0.0364	+/-0.0394	0.0741	pCi/g						
Bismuth-212	2		1.15	+/-0.400	0.173	+/-0.400	0.361	pCi/g						
Bismuth-214	Ļ		1.23	+/-0.120	0.0445	+/-0.120	0.0924	pCi/g						
Cesium-134		UUI	0.00	+/-0.0387	0.0341	+/-0.0387	0.0706	pCi/g						
Cesium-137			0.130	+/-0.0546	0.026	+/-0.0546	0.0539	pCi/g						
Cobalt-60			0.241	+/-0.0752	0.0248	+/-0.0752	0.0525	pCi/g						
Europium-1	52	U	-0.0519	+/-0.0676	0.0583	+/-0.0676	0.120	pCi/g						
Europium-1	54	U	-0.0354	+/-0.0796	0.0664	+/-0.0796	0.141	pCi/g						
Europium-1	5	U	0.00	+/-0.106	0.0577	+/-0.106	0.118	pCi/g						
Lead-212			1.70	+/-0.0823	0.0341	+/-0.0823	0.0701	pCi/g						
Lead=214	5.4	TT	0.0212	+/-0.114 +/-0.0470	0.0420	+/-0.114 +/-0.0479	0.0879	pCI/g						
Nichium-04	94	U U	0.0312	+/-0.04/9	0.0271	+/-0.0479	0.0304	pCi/g						
Potassium_4	า	0	11.4	+/-0.851	0.0229	+/-0.851	0.0475	pCi/g						
Radium-226	5		1 23	+/-0.120	0.0445	+/-0.120	0.924	pCi/g						
Silver-108m		U	-0.0111	+/-0.0244	0.0208	+/-0.0244	0.043	nCi/g						
Thallium-20	8	÷	0.544	+/-0.0672	0.0236	+/-0.0672	0.0491	pCi/g						
Rad Gas Flow I	Proportio	nal Counting	2					1 0						
GEPC Sr90	olid-ALI	ESS	-											
Strontium-90)	U	0.00075	+/-0.0155	0.0173	+/-0.0155	0.0389	pCi/g	BZ	XF1	06/03/0	6 1010	534447	2
The following	Prep <u>Met</u>	hods were p	erformed											
Method	Descr	iption				Analyst	Date	Time	Prep	Batch	1 			·
Ash Soil Prep	Ash S	oil Prep, GL-	RAD-A-()21B		MXP2	05/15/0	6 0854	52974	10			<u> </u>	
Dry Soil Prep	Dry S	oil Prep GL–	RAD-A-0	21		LXM2	05/14/0	6 1558	52973	39				
The following	Analytica	l Methods w	ere nerfori	med										
Method	Descr	iption	ere periori											
1	EMI	- HASI 200 4	5 2 2											
1	ENL	11713L 300, 4.	. <i>J.L.J</i>											
2	EPAS	vus.u Modifie	u											

Test Surrogate/Tracer recovery

Recovery%

Acceptable Limits

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Certificate of Analysis

Surrogate/]	Fracer recov	ery Test				Recovery%	Acc	eptable Limit	ts	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID:		9106-000 16285001)6-006F 5		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	n, Connec Carthy)2332	ticut 06424				R	leport Date: June 9, 200)6
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power						

80

(25% - 125%)

Carrier/Tracer Recovery

Notes:

Para

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
- 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
- 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

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

Certificate of Analysis

Add	npany : ress :	Connecticut 362 Injun H	Yankee A	tomic Power									
Con	tact:	East Hampto Mr. Jack Mo	on, Connec cCarthy	cticut 06424				R	eport Date:	June 9, 200)6		
Proj	ect:	Soils PO# 0	02332										
		Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106-00 1628500 SE 28-APF 12-MA Client 24.4%	006-007F 016 R-06 Y-06		Proiect: Client ID: Vol. Recv.:	YANK012 YANK001	204			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Ana	alyst Date	Time	Batch	Mtd
Rad Gamma Spe	c Analy	rsis											
Gamma.Solid-H	FSS GAI	M & ALL FSS	3										
Actinium-228			0.883	+/-0.156	0.0431	+/-0.156	0.0917	pCi/g	MJ	H1 06/06/0	06 0917	529777	<i>י</i> 1
Americium-24	1	·U	-0.0496	+/-0.0591	0.0507	+/-0.0591	0.104	pCi/g				525777	•
Bismuth-212	•	U	0.618	+/-0.216	0.104	+/-0.216	0.219	pCi/g					
Bismuth-214			0.548	+/-0.0897	0.0246	+/-0.0897	0.0516	pCi/g					
Cesium-134		UDI	0.00	+/-0.0306	0.0171	+/-0.0306	0.0358	pCi/g					
Cesium-137		U	0.0138	+/-0.0171	0.0143	+/-0.0171	0.0299	pCi/g					
Cobalt-60		Ŭ	0.0158	+/-0.0167	0.0149	+/-0.0167	0.0317	pCi/g					
Europium-152		Ŭ	0.0103	+/-0.041	0.0357	+/-0.041	0.0743	pCi/g					
Europium-154		Ū	-0.0167	+/-0.0529	0.0424	+/-0.0529	0.0903	pCi/g					
Europium-155		UUĪ	0.00	+/-0.0724	0.0418	+/-0.0724	0.0859	pCi/g					
Lead-212			0.850	+/-0.0823	0.0214	+/-0.0823	0.0441	pCi/g					
Lead-214			0.640	+/-0.0887	0.0241	+/-0.0887	0.0503	pCi/g					
Manganese-54		U	-0.00885	+/-0.0179	0.0148	+/-0.0179	0.0312	pCi/g					
Niobium-94		Ŭ	0.00505	+/-0.0151	0.0133	+/-0.0151	0.0278	pCi/g					
Potassium-40			14.7	+/-1.11	0.120	+/-1.11	0.260	pCi/g					
Radium-226			0.548	+/-0.0897	0.0246	+/-0.0897	0.0516	pCi/g					
Silver-108m		U	-0.0163	+/-0.0138	0.0109	+/-0.0138	0.0229	pCi/g					
Thallium-208			0.253	+/-0.0445	0.0136	+/-0.0445	0.0285	pCi/g					
Rad Gas Flow Pr	oportio	nal Counting	z										
GEPC SrOO so	• lid= 41 1	FSS											
Strontium-90		U	-0.01	+/-0.0125	0.0165	+/-0.0125	0.0372	pCi/g	BX	F1 06/03/0	6 1011	534447	2
The following P	rep Met	hods were p	erformed										
Method	Descr	iption				Analyst	Date	Time	Prep B	atch			
Ash Soil Prep	Ash S	oil Prep. GL-	-RAD-A-	021B		MXP2	05/15/0)6 0854	529740				
Dry Soil Prep	Dry S	oil Prep GL-	RAD-A-0	21		LXM2	05/14/0)6 1558	529739	I			
The following A	nalytica	l Methods w	ere perfor	med									
Method	Descri	iption	ere perior			<u>-</u>							
1	EML	HASL 300. 4.	.5.2.3										
2	EPA 9	05.0 Modifie	d										

Surrogate/Tracer recovery Test

Recovery%

Acceptable Limits

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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	ticut 06424				R	eport Date: June 9, 20	06
	Project:	Soils PO# 00)2332							
		Client Sam Sample ID	ple ID:		9106-000 16285001	6–007F 6				
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
Surrogate/	Tracer recov	ery Test				Recovery%	Acc	eptable Limit	S	······································

80

(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

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- Result is greater than value reported >
- A The TIC is a suspected aldol-condensation product
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- 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

- R Sample results are rejected
- 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
- QC Samples were not spiked with this compound Y
- 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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Certificate of Analysis

Co Ad	mpany : dress :	Connecticut 362 Injun H	t Yankee A ollow Rd	tomic Power									
Co	ntact:	East Hampt Mr. Jack Me	on, Connec Carthy	ticut 06424				R	eport Date: Ju	ne 9, 200)6		
Pro	oject:	Soils PO# 0	02332										
		Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106-0 162850 SE 28-APF 12-MA Client 42.2%	006-007FS 017 R-06 Y-06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001				
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	at Date	Time Bat	tch M	td
Rad Gamma Sp	ec Analy	sis											
Gamma,Solid–	FSS GA	M & ALL FSS	7										
Actinium-228	3		0.869	+/-0.188	0.0734	+/-0.188	0.160	pCi/g	MJH1	06/07/0)6 1946 529	777	1
Americium-2	41	U	-0.00837	+/-0.0303	0.0252	+/-0.0303	0.0522	pCi/g					
Bismuth-212			0.699	+/-0.376	0.151	+/-0.376	0.328	pCi/g					
Bismuth-214			0.660	+/-0.110	0.0369	+/-0.110	0.0792	pCi/g					
Cesium-134		UUI	0.00	+/-0.0383	0.0291	+/-0.0383	0.0621	pCi/g					
Cesium-137		U	0.0098	+/-0.0244	0.0211	+/-0.0244	0.0455	pCi/g					
Cobalt-60		U	0.0327	+/-0.0271	0.0259	+/-0.0271	0.057	pCi/g					
Europium-15	2	U	-0.0156	+/-0.0607	0.049	+/-0.0607	0.104	pCi/g					
Europium-15	4	U	0.0509	+/-0.0832	0.0738	+/-0.0832	0.162	pCi/g					
Europium-15	5	UUI	0.00	+/-0.0737	0.0371	+/-0.0737	0.0775	pCi/g					
Lead-212			0.968	+/-0.0713	0.0265	+/-0.0713	0.0556	pCi/g					
Lead-214			0.689	+/-0.110	0.0335	+/-0.110	0.0712	pCi/g					
Manganese-5	4	001	0.00	+/-0.0239	0.0231	+/-0.0239	0.0497	pCi/g					
Niobium-94		U	-0.0162	+/-0.0253	0.0199	+/-0.0253	0.0425	pCi/g					
Potassium-40 Dodium-226			12.8	± -1.08	0.217	$\pm /-1.08$	0.484	pCi/g					
Silver-108m		II	0.000	+/-0.110	0.0309	+/-0.0202	0.0792	pCi/g					
Thallium-208	1	0	0.000845	+/-0.0202	0.0205	+/-0.0517	0.0373	pCi/g					
Rad Gas Flow P	Proportio	nal Counting	2	0.0017		., 0.0517	0.0155	peng					
GFPC, Sr90, se	• olid–ALI	FSS	, ,										
Strontium-90		U	0.0067	+/-0.0171	0.0175	+/-0.0171	0.0401	pCi/g	BXF1	06/03/0	6 1011 534	447	2
The following I	Dron Mad	hade ware n	rformed										
Method	Descr	iption	citormed			Analyst	Date	Time	e Prep Batc				
Ash Soil Prep	Ash S	oil Prep, GL-	RAD-A-)21B		MXP2	05/15/0	06 0854	529740				
Dry Soil Prep	Dry S	oil Prep GL-l	RAD-A-0	21		LXM2	05/14/0	6 1558	529739				

Method	Description			
1	EML HASL 300, 4.5.2.3			
2	EPA 905.0 Modified			
Surrogate/T	racer recovery Test	Recovery%	Acceptable Limits	

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Certificate of Analysis

Surrogate/	Fracer recov	ery Test				Recovery%	Ac	ceptable Limit	s				
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time Batch Mtd		
Project:		Client Sam Sample ID	ple ID:		9106-000 16285001	06–007FS 7		Proiect: Client ID: Vol. Recv.:	YANK YANK	201204 2001			
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	on, Connec Carthy)2332	eticut 06424				R	eport Da	ite: June 9, 200	96		
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power									

70

(25% - 125%)

Carrier/Tracer Recovery

Notes:

Pa

The Qualifiers in this report are defined as follows :

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

Certificate of Analysis

Joz injun i	i nonow ita								
East Hamp Mr. Jack M Soils PO# (npton, Connec McCarthy # 002332	cticut 06424				R	eport Date: June 9,	2006	
Client Sar Sample II Matrix: Collect Da Receive D Collector: Moisture:	Sample ID: ID: Date: Date: or: e:		9106-00 1628500 SE 01-MA 12-MA Client 24.1%	9106-0006-012F 162850018 SE 01-MAY-06 12-MAY-06 Client 24.1%			YANK01204 YANK001 '.:		
Qualifier	er Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Da	te Time Batch Mtd	
ysis									
M & ALL FS	-SS								
	0.800	+/-0.102	0.0385	+/-0.102	0.0815	pCi/g	MJH1 06/	06/06 1110 529777 1	
U	U 0.0264	+/-0.0785	0.0714	+/-0.0785	0.147	pCi/g			
	0.580	+/-0.210	0.0896	+/-0.210	0.188	pCi/g			
	0.592	+/-0.0649	0.0225	+/-0.0649	0.0469	pCi/g			
U	U 0.0206	+/-0.0197	0.0149	+/-0.0197	0.0311	pCi/g			
	0.0271	+/-0.0198	0.0115	+/-0.0198	0.0242	pCi/g			
U	U 0.00608	+/-0.0124	0.0109	+/-0.0124	0.0234	pCi/g			
U	U -0.012	+/-0.0336	0.0303	+/-0.0336	0.0631	pCi/g			
U	U -0.00336	+/-0.0442	0.0368	+/-0.0442	0.0781	pCi/g			
U	U 0.0694	+/-0.0419	0.0419	+/-0.0419	0.0861	pCi/g			
	0.771	+/-0.046	0.0191	+/-0.046	0.0393	pCi/g			
	0.623	+/-0.0595	0.0223	+/-0.0595	0.0463	pCi/g			
U	U 0.0055	+/-0.0156	0.0134	+/-0.0156	0.028	pCi/g			
U	U -1.810E- 05	+/-0.0129	0.011	+/-0.0129	0.0229	pCi/g			
	13.4	+/-0.624	0.0852	+/-0.624	0.187	pCi/g			
	0.592	+/-0.0649	0.0225	+/-0.0649	0.0469	pCi/g			
U	U -0.0103	+/-0.0116	0.00996	+/-0.0116	0.0208	pCi/g			
	0.248	+/-0.0304	0.011	+/-0.0304	0.0231	pCi/g			
onal Countin	ing								
L FSS									
U	U -0.00202	+/-0.0133	0.0154	+/-0.0133	0.0352	pCi/g	BXF1 06/0	03/06 1011 534447 2	
enal L FS	Count SS ds were	0.592 U -0.0103 0.248 Counting SS U -0.00202	0.592 +/-0.0649 U -0.0103 +/-0.0116 0.248 +/-0.0304 Counting SS U -0.00202 +/-0.0133	0.592 +/-0.0649 0.0225 U -0.0103 +/-0.0116 0.00996 0.248 +/-0.0304 0.011 Counting SS U -0.00202 +/-0.0133 0.0154 ds were performed	0.592 +/-0.0649 0.0225 +/-0.0649 U -0.0103 +/-0.0116 0.00996 +/-0.0116 0.248 +/-0.0304 0.011 +/-0.0304 Counting SS U -0.00202 +/-0.0133 0.0154 +/-0.0133 ds were performed	0.592 +/-0.0649 0.0225 +/-0.0649 0.0469 U -0.0103 +/-0.0116 0.00996 +/-0.0116 0.0208 0.248 +/-0.0304 0.011 +/-0.0304 0.0231 Counting SS U -0.00202 +/-0.0133 0.0154 +/-0.0133 0.0352 ds were performed	0.592 +/-0.0649 0.0225 +/-0.0649 0.0469 pCi/g U -0.0103 +/-0.0116 0.00996 +/-0.0116 0.0208 pCi/g 0.248 +/-0.0304 0.011 +/-0.0304 0.0231 pCi/g Counting SS U -0.00202 +/-0.0133 0.0154 +/-0.0133 0.0352 pCi/g	0.592 +/-0.0649 0.0225 +/-0.0649 0.0469 pCi/g U -0.0103 +/-0.0116 0.00996 +/-0.0116 0.0208 pCi/g 0.248 +/-0.0304 0.011 +/-0.0304 0.0231 pCi/g Counting SS U -0.00202 +/-0.0133 0.0154 +/-0.0133 0.0352 pCi/g BXF1 06/0 ds were performed	

Method	Description	Analyst	Date	Time	Prep Batch
Ash Soil Prep	Ash Soil Prep, GL–RAD–A–021B	MXP2	05/15/06	0854	529740
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	05/14/06	1558	529739
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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Surrogate/	Tracer recov	ery Test				Recovery%	Ac	ceptable Limi	ts		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time Batch Mtd
	-	Client Sample ID: Sample ID: Oualifier Result			9106-000 1628500	06-012F 18		Proiect: Client ID: Vol. Recv.:	YANK Yank	201204 2001	
	Contact: Project:	Mr. Jack Mc Soils PO# 00	Carthy								
	C	East Hampto	on, Connec	ticut 06424				I	Report Da	ate: June 9, 200)6
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power							

81

(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
- 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	any: C ss: 30	onnecticut 52 Injun H	Yankee A ollow Rd	tomic Power						
Contac	E st: M	ast Hampte Ir. Jack Me	on, Connec cCarthy	ticut 06424				R	eport Date: June 9,	2006
Projec	t: Se	oils PO# 0	02332							
	C S M C R C N	Client San ample ID Matrix: Collect Da eceive D Collector: Moisture:	nple ID:): ate: ate:		9106-00 1628500 SE 01-MA 12-MA Client 29.2%	006-017F 019 Y-06 Y-06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter	(Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Da	te Time Batch Mtd
Rad Gamma Spec A	Analysis									
Gamma,Solid-FS	S GAM &	ALL FSS								
Actinium-228			0.885	+/-0.134	0.0432	+/-0.134	0.0917	pCi/g	MJH1 06/	06/06 1729 529777 1
Americium-241		U	-0.00501	+/-0.119	0.082	+/-0.119	0.169	pCi/g		
Bismuth-212			0.680	+/-0.230	0.105	+/-0.230	0.220	pCi/g		
Bismuth-214			0.665	+/-0.0788	0.026	+/-0.0788	0.0543	pCi/g		
Cesium-134		UUI	0.00	+/-0.0291	0.0175	+/-0.0291	0.0367	pCi/g		
Cesium-137		U	0.0234	+/-0.0159	0.0131	+/-0.0159	0.0275	pCi/g		
Cobalt-60		Û	0.0144	+/-0.0182	0.016	+/-0.0182	0.0339	pCi/g		
Europium-152		Ū	0.0204	+/-0.0405	0.0369	+/-0.0405	0.0767	pCi/g		
Europium-154		Ŭ	0.0238	+/-0.053	0.0454	+/-0.053	0.0962	pCi/g		
Europium-155		Ū	0.00	+/-0.053	0.0507	+/-0.053	0.104	pCi/g		
Lead-212			0.952	+/-0.0553	0.0227	+/-0.0553	0.0468	pCi/g		
Lead-214			0.777	+/-0.0713	0.0242	+/-0.0713	0.0504	nCi/g		
Manganese-54		U	0.00158	+/-0.0195	0.0136	+/-0.0195	0.0288	pCi/g		
Niobium-94		Ū	0.00894	+/-0.0154	0.0133	+/-0.0154	0.0277	pCi/g		
Potassium-40		•	15.4	+/-0.723	0.109	+/-0.723	0.237	pCi/g		
Radium-226			0.665	+/-0.0788	0.026	+/-0.0788	0.0543	nCi/g		
Silver-108m		U	-0.00124	+/-0.0142	0.0123	+/-0.0142	0.0257	nCi/g		
Thallium-208		0	0.279	+/-0.0412	0.0127	+/-0.0412	0.0266	nCi/g		
Rad Gas Flow Pron	ortional	Counting	,	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0101.	010112	0.0200	peng		
CEDC S-00 antid		 20	•							
Strontium-90	-ALL F.	U U	-0.00321	+/-0.0118	0.014	+/-0.0118	0.0318	pCi/g	BXF1 06/0	03/06 1011 534447 2
The following Prep	o Metho	ds were pe	erformed							
Method I	Descript	ion				Analyst	Date	Time	e Prep Batch	
Ash Soil Prep	Ash Soil	Prep, GL-	RAD-A-()21B		MXP2	05/15/0	6 0854	4 529740	
Dry Soil Prep I	Dry Soil	Prep GL-l	RAD-A-0	21		LXM2	05/14/0	6 1558	8 529739	
The following Anal	lytical M	lethods we	ere perfor	med						
	Jeseripu	011								
1 H	EML HA	SL 300, 4.	5.2.3							
2 F	EPA 905.	0 Modifie	d							
-										
Surrogate/Tracer 1	recovery	Test				Recovery%	Acce	ptable Limit	s	

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Surrogate/	Tracer recov	ery Test				Recovery%	Acc	eptable Limit	ts	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID:		9106-000 16285001	06–01 7 F 9		Project: Client ID: Vol. Recv.:		
	Project:	Soils PO# 00)2332							
	Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	ticut 06424				R	eport Date: June 9, 200	
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power						

95

(25%-125%)

Carrier/Tracer Recovery

Notes:

The Qualifiers in this report are defined as follows :

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GFPC, Sr90, solid-ALL FSS

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- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- 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



			00	l Su	mmarv					
Client :	Connecticut Ya 362 Injun Hollo	nkee Atomic Power w Rd	<u>x</u> .		<u></u>			Report E	Date: June 9, 2006 Page 1 of 9	
Contact:	East Hampton, Mr. Jack McCa	Connecticut arthy								
Workorder:	162850									
Parmname		NOM	Sample (Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Alpha Spec Batch 5	33471									
QC120110111	8 162485017 DU	IP								
Americium-241		U	-0.0415	U	-0.00249	pCi/g	g 177		(0% - 100%) LCW1	05/30/06 11:55
		Uncert:	+/-0.0591		+/-0.0219					
G : 242		TPU:	+/-0.0591		+/-0.0219	0.1	246		(00/ 1000/)	
Curium-242		U	$-0.00/35$ ± 0.0634	U	0.0283	pCi/g	g 346		(0% - 100%)	
		TPU	+/ 0.0634		+/ 0.0555					
Curium-243/244		IFU.	0.00112	U	0.0131	nCi/a	, 168		(0% - 100%)	
Currum-245/244		Uncert:	+/-0.0607	U	+/-0.0521	pene	, 100		(0/0 100/0)	
		TPU:	+/-0.0607		+/-0.0521					
QC120110112	0 LCS									
Americium-241		12.2			10.8	pCi/g	ŗ.	89	(75%-125%)	05/30/06 11:55
		Uncert:			+/-0.975					
		TPU:			+/-1.73					
Curium-242				U	-0.0056	pCi/g	ç.			
		Uncert:			+/-0.047					
C		TPU:			+/-0.04/1	-0:/-		07	(750/ 1750/)	
Curium-243/244		14.9 Uncorti			12.4 ±/1.04	pCi/g	5	83	(75%-125%)	
					+/-1.04					
OC120110111	7 MB	IFU.			17-1.95					
Americium-241	,			U	-0.00902	pCi/g	Ţ			05/30/06 11:55
		Uncert:			+/-0.019					
		TPU:			+/-0.019					
Curium-242				U	0.0399	pCi/g				
		Uncert:			+/-0.0638					
		TPU:			+/-0.064					
Curium-243/244				U	0.0392	pCi/g				
		Uncert:			+/-0.0626					
00120110111	A 1/2495017 MC	TPU:			+/-0.0628					
Americium-241	9 162485017 MS	127 11	-0.0415		12.5	pCi/g		98	(75%-125%)	05/30/06 11:55
		Uncert:	+/-0.0591		+/-1.06	P0#6		20	(7570 12570)	00/00/00 11:00
		TPU:	+/-0.0591		+/-1.96					
Curium-242		IJ	-0.00755	U	0.00	pCi/g				
		Uncert:	+/-0.0634		+/-0.0517					
		TPU:	+/-0.0634		+/-0.0517					
Curium-243/244		15.5 U	0.00112		12.6	pCi/g		81	(75%-125%)	
		Uncert:	+/-0.0607		+/-1.06					
		TPU:	+/-0.0607		+/-1.98					
Batch 5	33472									
QC1201101122	2 162485017 DU	Р.								
Plutonium-238		Ū	0.0261	U	0.00	pCi/g			(0% - 100%) LCW1	05/30/06 21:29

QC Summary

Workorder: 162850							Page 2 of 9				
Parmname	NOM	Sample (Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time		
Rad Alpha Spec											
Batch 533472											
	Uncert:	+/-0.0511		+/-0.0498							
	TPU:	+/-0.0512		+/-0.0498							
Plutonium-239/240	U	0.0459	U	-0.00609	pCi/s	g 261		(0% - 100%)			
	Uncert:	+/-0.0733		+/-0.0511		-					
	TPU:	+/-0.0734		+/-0.0512							
QC1201101124 LCS											
Plutonium-238				0.216	pCi/g	g		(75%-125%)	05/30/06 21:29		
	Uncert:			+/-0.181							
	TPU:			+/-0.182							
Plutonium-239/240	11.3			10.3	pCi/g	g	91	(75%-125%)			
	Uncert:			+/-1.21							
	TPU:			+/-1.76							
QC1201101121 MB				0.00/22	0.1				05/21/04 07 44		
Plutonium-238			U	-0.00623	pC1/g	g			05/31/06 07:44		
	Uncert:			+/-0.0692							
DI 4	IPU:			+/-0.0693	-Cile						
Plutonium-239/240	I la a sate		U	-0.0274	pC1/g	5					
	Uncert:			+/-0.100							
OC1201101122 162495017 MS	IPU:			+/-0.100							
Plutonium-238	I.	0.0261	IJ	0.0634	nCi/s	7		(75%-125%)	05/30/06 21.29		
Thioman 250	Uncert [.]	+/-0.0511	Ũ	+/-0.0787	pene	>		(1370 12370)	05/50/00 21.29		
	TPU	+/-0.0512		+/-0.079							
Plutonium-239/240	11.7 п	0.0459		10.7	nCi/s	7	92	(75%-125%)			
	Uncert:	+/-0.0733		+/-0.971	P 2			()			
	TPU	+/-0.0734		+/-1.52							
Batch 533473											
OC1201101127 1/2495017 DUP											
Plutonium-241	T.	-8 66	U	-6.36	nCi/g	, 0		(0% - 100%) [·] CW1	06/03/06 07:35		
	Uncert:	+/-8 72	Ŭ	+/-6 79	p0./g	, v		(0/0 100/0) 50 01	00/05/00 01.55		
	TPLI	+/-8 77		+/-6.82				•			
OC1201101128 LCS	110.			11-0.02							
Plutonium-241	131			106	pCi/g	g	81	(75%-125%)	06/03/06 08:07		
	Uncert:			+/-12.3	1 5						
	TPU:			+/-16.4							
QC1201101125 MB											
Plutonium-241			U	-1.18	pCi/g	ş			06/03/06 07:18		
	Uncert:			+/-9.02							
	TPU:			+/-9.02							
QC1201101127 162485017 MS											
Plutonium-241	135 U	-8.66		146	pCi/g	5	108	(75%-125%)	06/03/06 07:51		
	Uncert:	+/-8.72		+/-14.7							
	TPU:	+/-8.77		+/-20.1							
Rad Gamma Spec											
Batch 529777											
QC1201092336 162850001 DUP											
Actinium-228		0.908		0.991	pCi/g	g 9		(0% - 100%) MJH1	06/06/06 17:30		
	Uncert:	+/-0.297		+/-0.200							
				+/-0.200							

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QC Summary

Westendam 1(3050												
Workorder: 162850						Page 3 of 9						
Parmname	NOM	Sample Qual	QC	Units 1	RPD%	REC% Range Anlst	Date Time					
Rad Gamma Spec Batch 529777												
	TDIL	±/ 0 207										
Americium-241	IFU.	-0.0354	-0.0552	nCi/a	44	(0% - 100%)						
Americani-241	U Uncert:	+/-0.0542	+/-0.0552	peng		(0/0 - 100/0)						
	TPI I-	+/-0.0542	+/-0.0664									
Bismuth-212	11	0 292	0.971	nCi/a	108*	(0% - 100%)						
Distingui 212	U Uncert:	+/-0 518	+/-0.279	pene	100	(0/0 100/0)						
	TPU-	+/-0 518	+/-0.279									
Bismuth-214	110.	0.606 UUI	0.00	nCi/g	37*	(0% - 100%)						
	Uncert	+/-0.164	+/-0.0897	1018	÷.,	(1)0 10,0,0)	•					
	TPU	+/-0 164	+/-0.0897									
Cesium-134	но. П	0.0697 UUI	0.00	pCi/g	25	(0% - 100%)						
	Uncert:	+/-0.0502	+/-0.0372	1 - 0								
	TPU:	+/-0.0502	+/-0.0372									
Cesium-137	IJ	0.00312 U	0.00796	pCi/g	87	(0% - 100%)						
	Uncert:	+/-0.0432	+/-0.0195			. , ,						
	TPU:	+/-0.0432	+/-0.0195									
Cobalt-60	U	0.047 U	0.00696	pCi/g	148	(0% - 100%)						
	Uncert:	+/-0.0461	+/-0.0198									
	TPU:	+/-0.0461	+/-0.0198									
Europium-152	U	0.0184 U	-0.0069	pCi/g	440	(0% - 100%)						
	Uncert:	+/-0.100	+/-0.0474									
	TPU:	+/-0.100	+/-0.0474									
Europium-154	U	-0.039 U	-0.0214	pCi/g	59	(0% - 100%)						
	Uncert:	+/-0.132	+/-0.0542									
	TPU:	+/-0.132	+/-0.0542									
Europium-155	Ū	0.0871 U	0.00	pCi/g	27	(0% - 100%)						
	Uncert:	+/-0.0891	+/-0.0568									
	TPU:	+/-0.0891	+/-0.0568									
Lead-212		0.878	0.940	pCi/g	7	(0% - 20%)						
	Uncert:	+/-0.106	+/-0.0945									
	TPU:	+/-0.106	+/-0.0945									
Lead-214		0.438	0.476	pCi/g	8	(0% - 100%)						
	Uncert:	+/-0.111	+/-0.0881									
	TPU:	+/-0.111	+/-0.0881									
Manganese-54	U	0.029 U	0.0167	pCi/g	54	(0% - 100%)						
	Uncert:	+/-0.0728	+/-0.0198									
	TPU:	+/-0.0728	+/-0.0198									
Niobium-94	U	-0.000518 U	0.000452	pCi/g	2970	(0% - 100%)						
	Uncert:	+/-0.0403	+/-0.0174									
	TPU:	+/-0.0403	+/-0.0174	~~~	-							
Potassium-40		16.0	15.9	pCı/g	I	(0% - 20%)						
	Uncert:	+/-1.34	+/-1.25									
P. 11. 007	TPU:	+/-1.34	+/-1.25	0.1		(00/ 1000/)						
Kadium-226	T T .	0.606	0.416	pC1/g	51	(0% - 100%)						
	Uncert:	+/-0.164	+/-0.0897									
Cilcum 108m	TPU:	+/-0.164	+/-0.0897	-01	1.5	(00/ 1000/)						
Silver-108m	U	-0.0104 U	-0.0141	pC1/g	15	(0% - 100%)						
	Uncert:	+/-0.0372	+/-0.0100									

QC Summary

Workorder: 162850				Page 4 of 9						
Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec									,	
Batch 529777										
	TPU:	+/-0.0372	+/-0.0155							
Thallium-208		0.422	0.278	pCi/g	g 41*					
	Uncert:	+/-0.0918	+/-0.0482		•					
	TPU:	+/-0.0918	+/-0.0482							
QC1201092337 LCS										
Actinium-228		U	0.194	pCi/g	3				06/05/0	6 18:10
	Uncert:		+/-0.588							
	TPU:		+/-0.588							
Americium-241	23.4		21.6	pCi/g	3	92	(75%-125%)			
	Uncert:		+/-1.42							
	TPU:		+/-1.42							
Bismuth-212		U	-0.294	pCi/g	3					
	Uncert:		+/-1.10							
	TPU:		+/-1.10							
Bismuth-214		U	-0.0783	pCi/g	5					
	Uncert:		+/-0.242							
	TPU:		+/-0.242							
Cesium-134		U	0.0415	pCi/g	3					
	Uncert:		+/-0.146							
	TPU:		+/-0.146							
Cesium-137	9.64		9.61	pCi/g	5	100	(75%-125%)			
	Uncert:		+/-0.473							
	TPU:		+/-0.473				·			
Cobalt-60	15.1		15.5	pCi/g	5	103	(75%-125%)			
	Uncert:		+/-0.684							
E 160	TPU:	.,	+/-0.684	0.1						
Europium-152		0	0.587	pCi/g	5					
	Uncert:		+/-0.340							
R : 164	TPU:		+/-0.340	0.1						
Europium-154		0	-0.109	pCi/g	5					
	Uncert:		+/-0.334							
Francism 165	TPU:	TI	+/-0.334	- C:/-						
Europium-155	Uncert	U	0.422	pC//g	5					
·	Uncen:		+/-0.417							
T and 212	IPU:	T I	+/-0.41/	·C:/a						
Lead-212	Unaarti	U	-0.0019	pc1/g						
	Uncen:		+/-0.187							
T == 1 214	IPU:	11	+/-0.18/	-Cila						
Lead-214	Uncerte	U	0.114	pC//g						
	Uncert:		+/-0.234							
Managanosa 54	IPU:	I I	+/-0.234	-Cila						
manganese-14	Incont	U	U.U4U8	per/g	•					
	Uncert:		+/-0.146							
Nichium-94	IPU:	IT	T/-U.140	-Cil-						
1110014[11*74	Uncert	U	1,121 10,120	pCi/g	•					
			+/_0.200							
Potassium-40	IFU:	II	17-0.208 0 364	nCi/a						
i olassium to		0	0.004	PC18						

		<u>Yes</u>	<u></u>						
Workorder: 162850						Page	5 of 9		
Parmname	NOM	Sample Qual	QC	Units RPI	D% REC	C% Range	Anlst	Date	Time
Rad Gamma Spec									
Batch 529///									
	Uncert:		+/-1.23						
	TPU:		+/-1.23						
Radium-226		U	-0.0783	pCi/g		(75%-125%)		
	Uncert:		+/-0.242						
	TPU:		+/-0.242						
Silver-108m		U	0.00944	pCi/g					
	Uncert:		+/-0.139						
	TPU:		+/-0.139	<u></u>					
Thallium-208		U	0.0562	pCı/g					
	Uncert:		+/-0.135						
0.01201002226 MD	TPU:		+/-0.135						
QC1201092335 MB		Ĩ	0.122	nCi/a				06/06/0	6 17.20
Actinium-228	Uncert:	0	$+/_{-0}$ 141	pc#g				00/00/0	517.29
	TPI I-		+/-0.141						
Americium-241	110.	П	0.0315	nCi/g					
	Uncert	Ũ	+/-0.0307	pe#s					
			+/-0.0307						
Bismuth-212	110.	. U	0.0765	pCi/g					
	Uncert:	-	+/-0.193	P 8					
	TPU:		+/-0.193						
Bismuth-214		U	0.0567	pCi/g					
	Uncert:		+/-0.0537	1 0					
	TPU:		+/-0.0537						
Cesium-134		U	0.022	pCi/g					
	Uncert:		+/-0.0291						
	TPU:		+/-0.0291						
Cesium-137		U	-0.00274	pCi/g					
	Uncert:		+/-0.0276						
	TPU:		+/-0.0276						
Cobalt-60		U	0.0134	pCi/g					
	Uncert:		+/-0.0252						
	TPU:		+/-0.0252						
Europium-152		U	0.0132	pCi/g					
	Uncert:		+/-0.0615						
	TPU:		+/-0.0615						
Europium-154	• •	U	0.0414	pCi/g					
	Uncert:	,	+/-0.0762						
D	TPU:		+/-0.0762	<i></i>					
Europium-155	• •	0	0.0411	pCı/g					
	Uncert:		+/-0.0525						
L and 212	IPU:	11	+/-0.0525	-Cil-					
LCau-212	I Incont.	U	U.UJI	pCi/g					
	Uncen:		-/-0.0308 ±/ 0.0369						
Lead-214	IPU:	TI	0.0556	nCi/a					
2000 211	Uncert:	0	+/-0 0473	P~"5					
	трі і-		+/-0 0473						
			, 0.01/5						

OC Summary

				QC	C Su	mmary					
Workorder: 162850											
Parmname			NOM	Sample	Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Gamma Spec Batch 52	9777										
Manganese-54					U	0.00722	pCi/	/g			
0			Uncert:			+/-0.0283	•	C			
			TPU:			+/-0.0283					
Niobium-94					U	0.0168	pCi/	g			
			Uncert:			+/-0.0246		,			
			TPU:			+/-0.0246					
Potassium-40					U	0.159	pCi/	g			
			Uncert:			+/-0.284					
			TPU:			+/-0.284					
Radium-226					U	0.0567	pCi/	g			
			Uncert:			+/-0.0537					
			TPU:			+/-0.0537					
Silver-108m				U	0.00464	pCi/	g				
			Uncert:			+/-0.0224					
			TPU:			+/-0.0224					
Thallium-208				U	0.0292	pCi/	g				
			Uncert:			+/-0.0271					
			TPU:			+/-0.0271					
Rad Gas Flow Batch 53	4447										
QC1201103431	162850003	DUP									
Strontium-90			U	-0.00381	U	0.00938	pCi/	g 0		(0% - 100%) BXF1	06/03/06 14:46
			Uncert:	+/-0.00625		+/-0.0172					
	,		TPU:	+/-0.00626		+/-0.0172					
QC1201103433	LCS										
Strontium-90			1.09			0.819	pCi/	g	76	(75%-125%)	06/05/06 21:17
			Uncert:			+/-0.0656					
			TPU:			+/-0.070					
QC1201103430	MB					0.00120	0.1				0610210611446
Strontium-90					U	0.00139	pCi/	g			06/03/06 14:46
			Uncert:			+/-0.0121					
001201102422	142950002	MC	IPU:			.+/-0.0121					
QC1201103432 Strontium 90	162850003	MS	143 11	-0.00381		1 34	nCi/	a	03	(75%-125%)	06/03/06 14:46
Strontum-90			Uncert:	+/-0.00501		+/-0 0899	pen.	5	,,	(7570-12570)	00/05/00 14.40
			TPU:	+/-0.00626		+/-0.0952					
Rad Liquid Scintilla	ation		110.	.7 0.00020		(7 0.0)52					
Batch 53	1618										
QC1201096632	163173001	DUP									
Iron-55			U	10.3	U	5.38	pCi/	g 0		(0% - 100%) SLN1	05/31/06 12:49
			Uncert:	+/-20.1		+/-18.0					
			TPU:	+/-20.1		+/-18.1					
QC1201096634	LCS		427				<u> </u>			(950) 1950	0.5/0.1/0.5 - 5 - 5
Iron-55			437			428	pCi/	g	98	(75%-125%)	05/31/06 13:22
			Uncert:			+/-40.6					
00100	100		TPU:			+/-62.3					
QC1201096631 Iron-55	мв				U	3.58	pCi/j	g			05/31/06 12:32

Iron-55

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QC Summary

Workorder:	162850					A/				Page 7	of 9		
Parmname			NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Liquid Scintill	ation												
Batch 52	51018												
			Uncert:			+/-24.7							
			TPU:			+/-24.7							
QC1201096633	163173001	MS	560 11	10.3		544	nCi/	a	06	(75% 125%)		05/21/0	6 12.05
11011-35			Uncert:	+/-20.1		+/_39 3	pen;	g	90	(7376-12376)		03/31/0	5 15.05
			три-	+/-20.1		+/-69.3							
Batch 53	31622			., 20.1		., 05.5							
QC1201096645	163173001	DUP											
Nickel-63			U	-6.64	U	-5.49	pCi/	g 0		(0% - 100%)	SLNI	05/28/0	6 01:38
			Uncert:	+/-7.30		+/-4.33							
			TPU:	+/-7.31		+/-4.33							
QC1201096647	LCS		262			201	-0:4	_	07	(750/ 1250/)		05/20/0	C 02.40
NICKEI-63			302			301	pC1/	g	83	(75%-125%)		05/28/04	5 03:40
			Uncert.			+/-/.49							
0C1201096644	MB		IPU:			7/-11.1							
Nickel-63	mb				U	-1.66	pCi/g	g				05/28/0	6 00:37
			Uncert:			+/-3.41		5					
			TPU:			+/-3.41							
QC1201096646	163173001	MS											
Nickel-63			460 U	-6.64		395	pCi/g	g	86	(75%-125%)		05/28/0	5 02:39
			Uncert:	+/-7.30		+/-9.22							
Datah 62	1704		TPU:	+/-7.31		+/-14.9							
Batch 55	1/04												
QC1201096868	162583001	DUP		0.171	• •	0.000	<u> </u>	0		(0.0.(10.00.()	0.V.D.	0.5/0.1/0	
Technetium-99			U	0.161	U	0.239	pCi/g	g U		(0% - 100%)	SXEI	05/31/00	5 00:27
			Uncert:	+/-0.234		+/-0.273							
OC1201096870	LCS		IFU.	+7-0.255		+1-0.213							
Technetium-99	LCS		12.5			11.1	pCi/s	2	89	(75%-125%)		05/31/06	5 01:00
			Uncert:			+/-0.474							
			TPU:			+/-0.545							
QC1201096867	MB												
Technetium-99					U	0.163	pCi/g	3				05/31/06	o 00:11
			Uncert:			+/-0.214							
0.00000000000			TPU:			+/-0.214							
QC1201096869	162583001	MS	13.1 1	0.161		11.6	nCi/c		80	(750/ 1250/)		05/21/04	\$ 00.44
recimentum-99			Uncert:	+/-0 254		+/_0 583	peng	5	09	(7570-12576)		03/31/00	00.44
			TPU	+/-0.255		+/-0.649							
Batch 53	1705			., 0.200		., 0.01)							
0C1201096878	162583001	DUP											
Tritium	10200001	50.	U	1.17	U	6.01	pCi/g	g 0		(0% - 100%) 1	NXPI	05/28/06	5 09:10
			Uncert:	+/-4.09		+/-4.70		•		,			
			TPU:	+/-4.09		+/-4.70							
QC1201096880	LCS												
Tritium			41.4			44.8	pCi/g	ş	108	(75%-125%)		05/28/06	10:14
			Uncert:			+/-5.68							
			TPU:			+/-5.73							

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		<u>QC</u>	mmary										
Workorder: 162850								Page 8 of 9					
Parmname	NOM	Sample (Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time		
Rad Liquid Scintillation Batch 531705													
QC1201096877 MB					~								
Tritium			U	0.0641	pCi/	g				06/03/0	6 05:11		
	Uncert:			+/-0.533									
	TPU:			+/-0.533									
QC1201096879 162583001 MS													
Tritium	45.7 U	1.17		52.3	pCi/	g	114	(75%-125%)		05/28/0	6 09:42		
	Uncert:	+/-4.09		+/-6.44									
	TPU:	+/-4.09		+/-6.50									
Batch 534984													
QC1201104746 163173001 DUP													
Carbon-14	U	0.00714	U	0.00246	pCi/	g 0		(0% - 100%) A	ATH2	06/05/0	6 03:00		
	Uncert:	+/-0.0996		+/-0.103									
	TPU:	+/-0.0996		+/-0.103									
QC1201104748 LCS													
Carbon-14	12.1			11.3	pCi/	g	94	(75%-125%)		06/05/0	6 05:20		
	Uncert:			+/-0.855									
	TPU:			+/-0.873									
QC1201104745 MB													
Carbon-14			U	-0.0368	pCi/	g				06/05/0	6 00:57		
	Uncert:			+/-0.101									
	TPU:			+/-0.101									
QC1201104747 163173001 MS													
Carbon-14	12.9 U	0.00714		12.1	pCi/	g	94	(75%-125%)		06/05/0	6 05:02		
	Uncert:	+/-0.0996		+/-0.917									
	TPU:	+/-0.0996		+/-0.936									

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
- 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
 Preparation or preservation holding time was exceeded
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			<u>QC Sun</u>	<u>imary</u>							
Workorder:	162850	· .						Page 9	of 9	•	
Parmname		NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
h											

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

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the 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.

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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 Dpcumentation	5
Radiological Analysis Sample Data Summary Quality Control Data	12 18 60



CASE NARRATIVE For CONNECTICUT YANKEE RE: Soil PO# 002332 Work Order: 170256 SDG: MSR #06-1160

September 6, 2006

Laboratory Identification: General Engineering Laboratories, LLC

<u>Mailing Address:</u> 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 25, 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>
170256001	9106-0006-005A
170256002	9106-0006-005B
170256003	9106-0006-005C
170256004	9106-0006-005D
170256005	9106-0005-010A
170256006	9106-0005-010B
170256007	9106-0005-010C
170256008	9106-0005-010D
170256009	9106-0014-033A

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 243) 766-1178 • www.gel.com

170256010	9106-0014-033B
170256011	9106-0014-033C
170256012	9106-0014-033D
170256013	9106-0004-013A
170256014	9106-0004-013B
170256015	9106-0004-013C
170256016	9106-0004-013D
170256017	9106-0004-005A
170256018	9106-0004-005B
170256019	9106-0004-005C
170256020	9106-0004-005D

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 soil samples were analyzed for FSSGAM and Sr-90.

Internal Chain of Custody:

Custody was maintained for the sample(s).

Data Package:

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

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

Cheryl Jones Project Manager

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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	<u>S-52597</u>
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

Chain of Custody And Supporting Documentation

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

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Connecticut 362 Injur	Yankee A h Hollow Road, 860-26	tomic Po East Hampton, 7-2556	wer C , CT 0642	ompan 4	y			Ch	ain o	f Cu	istod	y Form	No. 2006-00511
Project Name: Haddam	Neck Decom	missioning			<u> </u>		Anal	yses Re	quested	1	La	b Use Only	
Contact Name & Phone: Jack McCarthy 860-26	7-3924				-					-	Co	mments:	
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	D. 🗌 7 D.		Media	Sample	Container Size-							1702	2561.
Sample Designation	Date	Time	Code	Code	Code							Comment, Preservation	Lab Sample ID
9106-0006-005A	8/8/06	14:35	SE	C	BP	X		X			Tra	isferred from COC # 2006-00488	
9106-0006-005B	8/8/06	15:08	SE	С	BP	X		X			Trar	nsferred from COC # 2006-00488	
9106-0006-005C	8/9/06	07:46	SE	C	BP	X		X			Trar	asferred from COC # 2006-00307	
9106-0006-005D	8/9/06	08:18	<u>SE</u>	<u> </u>	BP	X	 	X			Trar	Isferred from COC # 2006-00307	
NOTES: PO #: 002332	MSR #: 06-	1160 SSV	VP# NA	\boxtimes	LTP QA		Radwa	iste QA		Non (QA	Samples Shipped Via: ⊠ Fed Ex □ UPS	Internal Container Temp.: Deg. C
												Hand	Custody Sealed?
1) Relinquished By Date/Tim JAIME RICARST E 8-24-06/13			e 0	2) Recei	ved By /	alt	ert	8/20	Date/1 5/06	Time 09	00	C Other	Y D N D Custody Seal Intact?
3) Relinquished By		Date/Tim	e	4) Recei	ved By	· ·	-22-		Date/	Fime		Bill of Lading # 7900 4639 6427	YC NO

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

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Connecticut Yankee Atomic Power Company 362 Injun Hollow Road, East Hampton, CT 06424 860-267-2556								Ch	ain o	of Cu	stod	y Form No. 2006-0051		
Project Name: Haddam	Neck Decom	missioning					Anal	yses R	queste	d	La	b Use Only		
Contact Name & Phone Jack McCarthy 860-26	: 57-3924										Co	mments:		
Analytical Lab (Name, City, State) General Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones					-	SSGAM	FSSALL	Sr-90						
Priority: 30 D. 🛛 14 D. 🗌 7 D.			Media	Sample Type	Container Size-	I								
Sample Designation	Date	Time	Code	Code	Code						_	Comment, Preservation	Lab Sample ID	
9106-0005-010A	8/9/06	09:03	SE	C	BP	X		X			Trar	sferred from COC # 2006-00489		
9106-0005-010B	8/9/06	09:33	SE	C	BP	X		X			Tra	sferred from COC # 2006-00489		
9106-0005-010C	8/9/06	10:04	SE	C	BP	X		x			Trat	isferred from COC # 2006-00489		
9106-0005-010D	8/9/06	10:56	<u>SE</u>	<u> </u>	BP	x		X		$\left\{ - \right\}$	Trar	isferred from COC # 2006-00489		
								<u> </u>		┟╌╺╀╴			<u> </u>	
		<u>}</u>					<u> </u>					······································		
NOTES: PO #: 002332	MSR #: 06-	1160 SSV	VP# NA	\boxtimes	LTP QA		Radwa	iste QA		Non Q	ŅΑ	Samples Shipped Via:	Internal Container Temp.: Deg. (Custody Sealed?	
1) Relinquished By JAME RACAPTE	8-24	Date/Tim -06 /1340	e	2) Recei	ved By			 >	Date/	Time	900	Other	Y C N C Custody Seal Intact	
3) Relinquished By Date/Tim			e	4)Recei	ved By			· · ·	Date	Time		Bill of Lading #	YO NO	

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Chain of Custody Form No. 2006-00513 **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 860-267-3924 Analytical Lab (Name, City, State) FSSGAM FSSALL General Engineering Laboratories Sr-90 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones Priority: 30 D. X 14 D. 7 D. Container Sample Size-Media &Type Type Sample Designation Date Time Comment, Preservation Lab Sample ID Code Code Code 9106-0014-033A Transferred from COC # 2006-00493 8/11/06 07:58 SE С BP Х X Transferred from COC # 2006-00493 9106-0014-033B 8/11/06 08:24 SE C BP X X 9106-0014-033C Х X Transferred from COC # 2006-00493 8/11/06 08:45 SE С BP 9106-0014-033D X X Transferred from COC # 2006-00493 SE С 8/11/06 **BP** 09:16 Samples Shipped Via: NOTES: PO #: 002332 MSR #: 06-1160 SSWP# NA LTP QA Radwaste QA Internal Container Non QA Fed Ex UPS Hand Temp.: Deg. C Custody Sealed? Y D Ň D 1) Relinquished By 2) Received By Custody Seal Intact? Date/Time Date/Time 8-24-06/1340 Other JAIME RICARTE 25106 NGUO 3) Relinquished By Date/Time 4) Received By Date/Time YO NO Bill of Lading # 7900 4639 6449

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

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Connecticut 362 Injur	Yankee At 1 Hollow Road, I 860-26'	tomic Po East Hampton 7-2556	wer C , CT 0642	ompan 4	y			Ch	ain o	of Cu	stod	y Form	No. 2006-00520
Project Name: Haddam	Neck Decomr	nissioning					Anal	yses Re	queste	d	Lat	Use Only	
Contact Name & Phone: Jack McCarthy 860-26	Contact Name & Phone: Jack McCarthy 860-267-3924										Co	mments:	
Analytical Lab (Name, City, State)General Engineering Laboratories2040 Savage Road. Charleston SC. 29407843 556 8171. Attn. Cheryl JonesPriority: 30 D. X 14 D. 7 D.			Sample	Container Size-	FSSGAM	FSSALL	Sr-90						
Sample Designation	Date	Time	Media Code	Type Code	&Type Code		i					Comment, Preservation	Lab Sample ID
9106-0004-013A	8/9/06	12:53	SE	Ċ	BP	x	<u> </u>	x		┟──┼╴	Tran	sferred from COC 2006-00490	
9106-0004-013B	8/9/06	13:27	SE	C	BP	$\frac{\pi}{X}$	f	x	···	╆╌╌┼╴	Tran	sferred from COC 2006-00490	<u> </u>
9106-0004-013C	8/9/06	13:57	SE	C	BP	X	┣	X			Tran	sferred from COC 2006-00490	+
9106-0004-013D	8/9/06	14:28	SE	Ċ	BP	X	┢───	X		+	Tran	sferred from COC 2006-00490	
9106-0004-005A	8/9/06	14:58	SE	Ċ	BP	X	<u> </u>	X		┼─┼╴	Tran	sferred from COC 2006-00490	<u> </u>
9106-0004-005B	8/10/06	07:41	SE	Ċ	BP	X		<u> </u>		<u>+ - +</u> -	Tran	sferred from COC 2006-00491	<u> </u>
9106-0004-005C	8/10/06	08:09	SE	C	BP	X		X	}		Tran	sferred from COC 2006-00491	†
9106-0004-005D	8/10/06	08:49	SE	C	BP	X	 	X			Ттап	sferred from COC 2006-00491	
NOTES: PO #: 002332	MSR #: 06-	160 ssw	P# NA		LTP QA	I I	Radwas	te QA]	Non Q/	A	Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: Deg. C Custody Sealed?
1) Relinquished By Date/Tim JAIME RIGARTE 8-24-06/134 3) Relinquished By Date/Tim			e e	2) Rechi Addrecei	ved By ved By	- Sal I	news		Date/	Time	1900	Bill of Lading #	Y II N II Custody Seal Intact? Y II N II

	Connecticut Yankee Statement of Work for Analytical Lab Services	CY-ISC-SOW-001	•
• •	Figure 1. Sample Check-in List		
• .	Date/Time Received:	<u> </u>	
••	SDG#:USR#O6-1160	1.	•••
•	Work Order Number:170256		
•	Shipping Container ID: 7200 4639 6449 Chain of Custody # 2006-00	515,00520	
· · .	1. Custody Seals on shipping container intact? Yes Ly No	[] ·	
	2. Custody Seals dated and signed? Yes LINo		
	3. Chain-of-Custody record present? Yes 170	1.]	
•	4. Cooler temperature		•
•	5. Vermiculite/packing materials is: Wet LT Do	v h 1	
	6. Number of samples in shipping container:		
•••	7. Sample holding times exceeded?		· .
· ·			•
	8. Samples have:		
	hazard labels	· · .	•
·	tustody seals anoronriate cample labels		
			•
	9. Samples are:		
·	in good conditionleaking		•
•	brokenhave air bubbles	• .	
L			
1	0. Were any anomalies identified in sample receipt? Yes [] No [-		
· 1	1. Description of anomalies (include sample numbers):		
· 			••
. S	ample Custodian/I aboratory MALL'AL	KI.	••
۲	elephoned to:	100 0900	
	OnBy		•
			•
••		•	

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· . ·.	Connecticut Yankee Statement of Work for Analytical Lab Services	• • • •	CY-ISC-SOW-(
	Figure 1. Sample Check-in List			•
•	Date/Time Received: 8/25/06			·
· ·	SDG#:USR#06-1160		 	· .
	Work Order Number:170256	•		
•	Shipping Container ID: 79004639 649 Chain of Custody	7006-	00511	. .
	1. Custody Scals on shipping container intact?	Yes [-] No	[]	· .
•	2. Custody Seals dated and signed?	Yes No	[]	. •* .
مر .	3. Chain-of-Custo dy record present?	Yes I No	[]	
;	4. Cooler temperature <u>22°</u>			· .
-	5. Vermiculite/packing materials is:	Wet & Dr	()	·
	6. Number of samples in shipping container:			_
. •	7. Sample holding times exceeded?	Yes (JNo	()	• .
	8. Samples have:			1
	tape hazard labels			į.
	0. Samulas ani			
	5. Dampies are:	-		
	leaking			
	have air bubbles			
1	0. Were any anomalies identified in sample receipt?	Yes M No []	9
· 1	1. Description of anomalies (include sample numbers): ZD#	9/06-0005	-10D was	Leakin
a	and had a hole in the bag	·····		7
S	ample Custodian/Laboratory: Mai an atter	Date: 8/25/	De near	•••
T	elephoned to:OnBv	7.7.7		
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Radiochemistry Case Narrative Connecticut Yankee Atomic Power Co. (YANK) Work Order 170256

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:	563436
Prep Batch Number:	562444

Sample ID	Client ID
170256001	9106-0006-005A
170256002	9106-0006-005B
170256003	9106-0006-005C
170256004	9106-0006-005D
170256005	9106-0005-010A
170256006	9106-0005-010B
170256007	9106-0005-010C
170256008	9106-0005-010D
170256009	9106-0014-033A
170256010	9106-0014-033B
170256011	9106-0014-033C
170256012	9106-0014-033D
170256013	9106-0004-013A
170256014	9106-0004-013B
170256015	9106-0004-013C
170256016	9106-0004-013D
170256017	9106-0004-005A
170256018	9106-0004-005B
170256019	9106-0004-005C
170256020	9106-0004-005D
1201171525	Method Blank (MB)
1201171526	170256001(9106-0006-005A) Sample Duplicate (DUP)
1201171527	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# 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: 170256001 (9106-0006-005A).

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 170256007 (9106-0005-010C), 170256016 (9106-0004-013D) and 170256019 (9106-0004-005C) were recounted due to high MDAs.

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to high counting uncertainty	Bismuth-212	170256009
UI	Data rejected due to interference.	Europium-155	170256003
			170256009
			170256019
			170256020
UI	Data rejected due to low abundance.	Bismuth-214	170256008
		Cesium-134	170256005
			170256007
			170256008
			170256012
			170256013
			170256019
			1201171526
		Europium-155	170256018

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:	562563
Prep Batch Number:	562478
Dry Soil Prep GL-RAD-A-021 Batch Number:	562444

Sample ID	Client ID
170256001	9106-0006-005A
170256002	9106-0006-005B
170256003	9106-0006-005C
170256004	9106-0006-005D
170256005	9106-0005-010A
170256006	9106-0005-010B
170256007	9106-0005-010C
170256008	9106-0005-010D
170256009	9106-0014-033A
170256010	9106-0014-033B
170256011	9106-0014-033C
170256012	9106-0014-033D
170256013	9106-0004-013A
170256014	9106-0004-013B
170256015	9106-0004-013C
170256016	9106-0004-013D
170256017	9106-0004-005A
170256018	9106-0004-005B
170256019	9106-0004-005C
170256020	9106-0004-005D
1201169421	Method Blank (MB)
1201169422	170256002(9106-0006-005B) Sample Duplicate (DUP)
1201169423	170256002(9106-0006-005B) Matrix Spike (MS)
1201169424	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: 170256002 (9106-0006-005B).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples were recounted due to low/high recovery.

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:

Syll st 9/8/2

Reviewer/Date:



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#06-1160 GEL Work Order: 170256

The Qualifiers in this report are defined as follows:

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

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

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

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

Reviewed by

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

Certificate of Analysis

Company : Address :	Connecticut 362 Injun H	t Yankee A Iollow Rd	tomic Power								
Contact	East Hampt Mr. Jack M	on, Connec cCarthy	ticut 06424				R	leport Da	ite: Septem	ber 8, 2006	
Project:	Soils PO# 0	002332									
	Client Sar Sample II Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: bate:		9106-00 1702560 SE 08-AU 25-AU Client 15.8%	006-005A 001 G-06 G-06		Project: Client ID: Vol. Recv.:	YANK YANK	201204 2001		
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Da	te Time Bato	h Mtd
Rad Gamma Spec Analy	sis							. ,			
Gamma,Solid–FSS GA	M & ALL FSS	5 226 Ingro	wth								
Waived											
Actinium-228		0.966	+/-0.192	0.0743	+/-0.192	0.149	pCi/g		MJH1 09/0	1/06 1057 5634	436 1
Americium-241	U	0.0375	+/-0.0387	0.0329	+/0.0387	0.0658	pCi/g				
Bismuth-212		0.366	+/-0.306	0.175	+/-0.306	0.350	pCi/g				
Bismuth-214		0.650	+/-0.135	0.042	+/-0.135	0.0839	pCi/g				
Cesium-134	U	0.0366	+/-0.0355	0.0288	+/-0.0355	0.0576	pCi/g				
Cesium-137		0.0666	+/-0.0355	0.0236	+/-0.0355	0.0472	pCi/g				
Cobalt-60		0.104	+/-0.0726	0.0286	+/-0.0726	0.0573	pCi/g				
Europium-152	U	0.00636	+/-0.0728	0.0538	+/-0.0728	0.108	pCi/g				
Europium-154	U	-0.0788	+/-0.0938	0.0718	+/-0.0938	0.143	pCi/g				
Europium-155	U	0.0672	+/-0.0554	0.0518	+/-0.0554	0.104	pCi/g				
Lead-212		0.871	+/0.0971	0.0305	+/-0.0971	0.061	pCi/g				
Lead-214		0.727	+/-0.105	0.0379	+/-0.105	0.0757	pCi/g				
Manganese-54	U	-0.00916	+/-0.0319	0.0232	+/-0.0319	0.0465	pCi/g				
Niobium-94	U	0.0101	+/-0.0244	0.0223	+/-0.0244	0.0445	pCi/g				
Potassium-40		11.3	+/-0.986	0.201	+/-0.986	0.403	pCi/g				
Radium-226		0.650	+/-0.135	0.042	+/-0.135	0.0839	pCi/g				
Silver-108m	U	-0.0067	+/-0.0208	0.018	+/-0.0208	0.036	pCi/g				
Thallium–208		0.283	+/-0.0618	0.0212	+/0.0618	0.0423	pCi/g				
Rad Gas Flow Proportio	nal Counting	g									
GFPC, Sr90, solid–ALI	L FSS										
Strontium-90	U	0.0254	+/-0.0193	0.0126	+/-0.0193	0.0298	pCi/g		KSD1 09/0	7/06 1742 5625	63 2

The following	The following Prep Methods were performed											
Method	Description	Analyst	Date	Time	Prep Batch							
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/27/06	1545	562444							
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

Surrogate/	Tracer recov	ery Test				Recovery%	Ac	ceptable Limit	s	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID:		9106-000 17025600)6-005A)1		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Project:	Soils PO# 00)2332							
	Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	cticut 06424				R	eport Date: September	8, 2006
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power						

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(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
- 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 :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power						
	Contact:	East Hampto Mr. Jack Mo	on, Connec cCarthy	eticut 06424				R	eport Date: Septembe	r 8, 2006
	Project:	Soils PO# 0	02332							
		Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID: b: ate: ate:		9106-00 1702560 SE 08-AU 25-AU Client 14.4%	006-005B 002 G-06 G-06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt
Rad Gamma	a Spec Analy	sis								
Gamma,So	lid–FSS GA	M & ALL FSS	226 Ingro	wth						
Waived										
Actinium-	-228		0.606	+/-0.152	0.0599	+/-0.152	0.131	pCi/g	MJH1 09/01/	06 1220 563436 1
Americiur	m-241	U	0.101	+/-0.114	0.0861	+/-0.114	0.179	pCi/g		
Bismuth-	212		0.685	+/-0.232	0.134	+/-0.232	0.290	pCi/g		
Bismuth-	214		0.435	+/-0.0852	0.0332	+/-0.0852	0.0708	pCi/g		
Cesium-1	34	U	0.0313	+/-0.0286	0.0238	+/-0.0286	0.0507	pCi/g		
Cesium-1	37		0.114	+/-0.0348	0.0206	+/-0.0348	0.0438	pCi/g		
Cobalt-60)		0.436	+/-0.0586	0.0151	+/-0.0586	0.0345	pCi/g		
Europium	-152	U	-0.0448	+/-0.0525	0.0416	+/-0.0525	0.0882	pCi/g		
Europium	-154	U	-0.0186	+/-0.0685	0.0562	+/-0.0685	0.124	pCi/g		
Europium	-155	U	0.0423	+/0.0579	0.0552	+/-0.0579	0.114	pCi/g		
Lead-212			0.643	+/-0.0623	0.0268	+/-0.0623	0.056	pCi/g		
Lead-214			0.462	+/-0.0885	0.033	+/-0.0885	0.0696	pCi/g		
Manganes	se-54	U	-0.0167	+/-0.0261	0.0174	+/-0.0261	0.0377	pCi/g		
Niobium-	-94	U	0.00909	+/-0.0195	0.0173	+/-0.0195	0.0369	pCi/g		
Potassium	-40		11.1	+/-0.983	0.179	+/-0.983	0.399	pCi/g		
Radium-2	226		0.435	+/-0.0852	0.0332	+/-0.0852	0.0708	pCi/g		
Silver-10	8m	U	-0.00194	+/-0.0168	0.0149	+/-0.0168	0.0317	pCi/g		
Thallium-	-208		0.243	+/-0.0457	0.0176	+/-0.0457	0.0377	pCi/g		
Rad Gas Flo	w Proportio	nal Counting	Ş							
GFPC, Sr9	0, solid–ALL	L FSS								
Strontium	-90	U	0.00501	+/-0.0149	0.0117	+/-0.0149	0.0278	pCi/g	KSD1 09/07/	06 1742 562563 2
The followi	ng Prep Met	hods were pe	erformed							
Method	Descr	iption				Analyst	Date	Time	Prep Batch	
Dry Soil Prep	p Dry S	oil Prep GL-I	RAD-A-0	21		LXM2	08/27/0	6 1545	562444	
The followi	ng Analytica	l Methods we	ere perfor	med						
Method	Descr	iption								
1	EML	HASL 300, 4.	5.2.3							
2	EPA 9	05.0 Modified	d							
Surrogate/7	Fracer recov	ery Test				Recovery%	Acce	ptable Limits	5	

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Certificate of Analysis

eter		Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtd
		Client Sample ID: Sample ID:	9106-0006-005B 170256002	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
	Project:	Soils PO# 002332		
	Contact	East Hampton, Connecticut 06424		Report Date: September 8, 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	101	(25%-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
- 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

Addre	ess :	362 Injun H	ollow Rd	tomic Power								
Conta	ct:	East Hampte Mr. Jack Me	on, Connec cCarthy	ticut 06424				R	eport Date: Se	eptember 8	3, 2006	
Projec	et:	Soils PO# 0	02332									
		Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): nte: ate:		9106-00 1702560 SE 09-AU 25-AU Client 31.7%	006-005C 003 G-06 G-06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001	ŀ		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analy	st Date	Time Batc	h Mtd
Rad Gamma Spec	Analy	sis										
Gamma,Solid–FS	S GAN	1 & ALL FSS	5 226 Ingro	wth								
Waived												
Actinium-228			1.07	+/-0.284	0.101	+/-0.284	0.215	pCi/g	MJH1	09/01/06	5 1221 5634	36 1
Americium-241		U	0.0251	+/-0.0367	0.0332	+/-0.0367	0.0683	pCi/g				
Bismuth-212			0.684	+/-0.424	0.178	+/-0.424	0.383	pCi/g				
Bismuth-214			0.673	+/-0.121	0.0445	+/-0.121	0.0947	pCi/g				
Cesium-134		U	0.0516	+/-0.0548	0.0344	+/-0.0548	0.0729	pCi/g				
Cesium-137			0.317	+/-0.0544	0.0247	+/-0.0544	0.0528	pCi/g				
Cobalt-60			0.821	+/-0.0911	0.0294	+/-0.0911	0.064	pCi/g				
Europium–152		U	-0.049	+/-0.0652	0.0539	+/-0.0652	0.114	pCi/g				
Europium-154		0	0.0883	+/-0.0913	0.0839	+/-0.0913	0.182	pCi/g				
Europium-155		UI	0.00	+/-0.0926	0.0506	+/-0.0926	0.105	pCi/g		•		
Lead-212			1.01	+/0.0819	0.0329	+/-0.0819	0.0685	pC1/g				
Lead-214			0.828	+/-0.11/	0.0423	+/-0.11/	0.089	pCI/g				
Manganese-54		U	-0.0228	+/-0.0296	0.0238	+/-0.0296	0.0513	pCi/g				
Niobium-94		0	-0.0353	+/-0.02/9	0.0205	+/-0.02/9	0.044	pCl/g				
Potassium-40			12.4	+/-1.15	0.189	+/-1.15	0.431	pCl/g				
Kadium-226		11	0.073	$\pm 1 - 0.121$	0.0445	+/-0.121	0.0947	pCI/g				
Thallium-208		U	0.00475	± -0.0203	0.0227	+/-0.0263	0.0477	pCi/g				
Pad Cas Flow Prop	nortia	al Counting	0.362	1 0.0507	0.02-12	17 0.0507	0.0515	pc1/g				
	, ,,,	ran Counting	5									
GFPC, Sr90, solid	<i>I</i> -ALL	F33	0.00720	+/-0.0142	0.0107	1/ 0.01/2	0.0255	-Cila	KEDI	00/07/06	1745 5675	(2, 2)
Suontium-90		0	0.00738	17-0.0142	0.0107	+7-0.0142	0.0255	peng	K3D1	09/07/00	1745 5025	03 2
The following Pre	p Met	hods were po	erformed						n			_
Nethod	Descri	ption				Analyst	Date	Time	Prep Bate	:n		_
Dry Soil Prep	Dry So	oil Prep GL-	RAD-A-0	21		LXM2	08/27/0	6 1545	562444			
The following Ana	lytical	Methods we	ere perfor	med								_
Method	Descri	ption										-
1	EML H	IASL 300, 4.	.5.2.3									-

2 EPA 905.0 Modified

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Surrogate/Tracer recovery Test

Recovery% Acceptable Limits

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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				I	Report Date: September	8, 2006
		Client Sam Sample ID	nple ID:		9106-000 17025600)6-005C)3		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	104	(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

Cor Ade	npany : dress :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power							
Со	ntact:	East Hampto Mr. Jack Mo	on, Connec cCarthy	ticut 06424				Re	port Date: Septem	ber 8, 2006	
Pro	ject:	Soils PO# 0	02332								
		Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): hte: ate:		9106-00 1702560 SE 09-AU 25-AU Client 28.2%	006-005D 004 G-06 G-06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Da	te Time Batch	Mtd
Rad Gamma Sp	ec Analy	/sis								<u></u>	
Gamma,Solid-	FSS GA	M & ALL FSS	226 Ingro	wth							
Waived			_								
Actinium-228			1.01	+/-0.197	0.0659	+/-0.197	0.143	pCi/g	MJH1 09/	01/06 1221 563436	5 1
Americium-24	41	U	0.0605	+/-0.132	0.088	+/-0.132	0.182	pCi/g			
Bismuth-212			0.534	+/0.328	0.168	+/0.328	0.358	pCi/g			
Bismuth-214			0.594	+/-0.105	0.0384	+/-0.105	0.0813	pCi/g			
Cesium-134		U	0.0478	+/-0.046	0.0253	+/-0.046	0.0537	pCi/g			
Cesium-137			0.103	+/-0.0401	0.0181	+/-0.0401	0.0389	pCi/g			
Cobalt-60			0.148	+/-0.0644	0.0204	+/-0.0644	0.045	pCi/g			
Europium-152	2	U	0.00143	+/-0.0589	0.0517	+/-0.0589	0.109	pCi/g			
Europium-154	ļ .	U	0.0154	+/-0.0766	0.0653	+/-0.0766	0.142	pCi/g			
Europium-15:	5	U	0.0625	+/-0.0643	0.0586	+/-0.0643	0.121	pCi/g			
Lead-212			0.900	+/0.0831	0.0345	+/-0.0831	0.0714	pCi/g			
Lead-214			0.854	+/-0.106	0.0372	+/-0.106	0.078	pCi/g			
Manganese-54	4	U	-0.013	+/-0.0244	0.0203	+/-0.0244	0.0434	pCi/g			
Niobium-94		U	0.0144	+/-0.022	0.0192	+/0.022	0.0408	pCi/g			
Potassium-40			11.6	+/-0.886	0.177	+/-0.886	0.396	pCi/g			
Radium-226			0.594	+/-0.105	0.0384	+/-0.105	0.0813	pCi/g			
Silver-108m		U	0.0118	+/-0.0187	0.0169	+/-0.0187	0.0357	pCi/g			
Thallium–208			0.310	+/-0.0591	0.0199	+/-0.0591	0.0422	pCi/g			
Rad Gas Flow P	roportio	nal Counting	Ş								
GFPC, Sr90, so	lid–ALI	L FSS									
Strontium-90		U	0.000446	+/-0.0198	0.0166	+/-0.0198	0.0376	pCi/g	KSD1 09/0	07/06 1740 562563	2
The following P	rep Me	thods were pe	erformed								
Method	Descr	iption				Analyst	Date	Time	Prep Batch		
Dry Soil Prep	Dry S	oil Prep GL-1	RAD-A-0	21		LXM2	08/27/0	1545	562444		
<u>The following A</u>	nalytica	l Methods w	ere perfor	med							
Method	Descr	iptio n									
1	EML	HASL 300, 4.	.5.2.3								
2	EPA 9	05.0 Modifie	d								
Surrogate/Trac	er recov	ery Test				Recovery%	Acce	ptable Limits			

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	Company : Address :	Connectice 362 Injun	ut Yankee A Hollow Rd	tomic Power								
	Contact:	East Hamp Mr. Jack N	oton, Conne AcCarthy	cticut 06424				Re	port D	ate: September	8, 2006	
	Project:	Soils PO#	002332									
		Client Sa Sample I	mple ID: D:		9106-00 1702560	06-005D 04		Project: Client ID: Vol. Recv.:	YANI YANI	(01204 (001		
meter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time Batch	Mtd
ogate/]	Fracer recov	ery Tes	st			Recovery%	А	cceptable Limits				
er/Trace	er Recovery	GF	PC, Sr90, so	olid-ALL FSS		50		(25%-125%)				•

Carrier/Tracer Recovery

Notes:

Para Surr

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
- С 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

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

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

Com Add	ipany : ress :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power									
Cont	tact:	East Hampto Mr. Jack Mo	on, Connec Carthy	ticut 06424				Re	eport Date: Se	ptember	8, 2006		
Proj	ect:	Soils PO# 0	02332										
·		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	nple ID: : te: ate:		9106-00 1702560 SE 09-AU 25-AU Client 60.7%	005-010A 005 G-06 G-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 Spe	c Analy	'sis											
Gamma,Solid–F	FSS GAI	M & ALL FSS	226 Ingro	wth									
Waived													
Actinium-228			1.22	+/-0.394	0.120	+/-0.394	0.255	pCi/g	MJH1	09/01/0	6 1221	563436	1
Americium-24	1	U	0.0503	+/0.0522	0.0424	+/-0.0522	0.0872	pCi/g					
Bismuth-212			0.628	+/-0.54/	0.277	+/-0.54/	0.584	pCi/g					
Bismuth=214			0.834	+7-0.100	0.0033	+/-0.160	0.133	pCl/g					
Cesium-134			0.00	+/-0.0832 +/-0.0542	0.0429	+/-0.0832 +/-0.0542	0.0903	pCi/g					
Cestuin=157		U	0.0403	+/0.0516	0.0333	+/-0.0542	0.0703	pCi/g					
Europium-152		U U	0.077	+/-0.0958	0.0472	+/-0.0958	0.160	pCi/g					
Europium-152		U-	0.000512	+/-0.129	0.0917	+/-0.129	0.100	pCi/g					
Europium-155		U	0.0659	+/-0.115	0.0674	+/-0.115	0.139	nCi/g					
Lead-212		U	0.933	+/-0.111	0.0593	+/-0.111	0.122	pCi/g					
Lead -214			0.787	+/-0.146	0.0602	+/-0.146	0.125	pCi/g					
Manganese-54		U	-0.0199	+/-0.0442	0.0342	+/-0.0442	0.0725	pCi/g					
Niobium-94		Ŭ	-0.0359	+/-0.0364	0.0275	+/-0.0364	0.0583	pCi/g					
Potassium-40			20.0	+/-1.50	0.288	+/-1.50	0.634	pCi/g					
Radium-226			0.834	+/-0.160	0.0633	+/~0.160	0.133	pCi/g					
Silver-108m		U	-0.00415	+/-0.0338	0.0282	+/-0.0338	0.0591	pCi/g					
Thallium-208			0.347	+/-0.0918	0.0332	+/-0.0918	0.0698	pCi/g					
Rad Gas Flow Pr	oportio	nal Counting											
GFPC, Sr90, sol	lid–ALI	L FSS											
Strontium-90		U	0.00442	+/-0.0146	0.0116	+/-0.0146	0.0274	pCi/g	KSD1	09/07/0	6 1745	562563	2
The following Pr	rep Met	thods were pe	erformed										
Method	Descr	ription				Analyst	Date	Time	Prep Batc	h		-	
Dry Soil Prep	Dry S	oil Prep GL-I	RAD-A-0	21		LXM2	08/27/0	06 1545	562444				
The following Ar	nalytica	l Methods we	ere perfor	med									
Method	Descr	iption											
1	EML	HASL 300, 4.	5.2.3								***		
2	EPA 9	005.0 Modifie	d										
Surrogate/Trace	er recov	ery Test				Recovery%	Acce	eptable Limits					

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Surrogate/7	Fracer recov	ery Test				Recovery%	Ac	ceptable Limi	ts		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID:		9106-000 17025600	5-010A 5		Project: Client ID: Vol. Recv.:	YANK YANK	.01204 .001	
	Contact: Project:	Mr. Jack Mc Soils PO# 00	Carthy 02332	alcut 00+2+						ie. September	8, 2000
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power				1	Renort Da	te: September	8 2006

103

(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
- 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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	Company : Address :	Connecticut 362 Injun H	Yankee A	tomic Power					·			
	Contact:	East Hampt Mr. Jack Me	on, Connec cCarthy	cticut 06424				Re	eport Date: Sep	tember 8	, 2006	
	Project:	Soils PO# 0	02332									
		Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID: D: ate: ate:		9106-04 1702566 SE 09-AU 25-AU Client 61.3%	005-010B 006 G-06 G-06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	Date	Time Batch]	Mtd
Rad Gamma	a Spec Analy	ysis										
Gamma,So Waived	olid–FSS GA	M & ALL FSS	5 226 Ingro	wth								
Actinium	-228		1.10	+/-0.245	0.0778	+/-0.245	0.168	pCi/g	MJH1	09/01/06	5 1221 563436	1
Americiu	m-241	U	-0.00576	+/-0.0366	0.0263	+/-0.0366	0.0543	pCi/g				
Bismuth-	-212		0.760	+/-0.351	0.189	+/-0.351	0.402	pCi/g				
Bismuth-	-214		0.576	+/-0.139	0.0442	+/-0.139	0.0936	pCi/g				
Cesium-1	134	U	0.0332	+/-0.0438	0.0314	+/-0.0438	0.0665	pCi/g				
Cesium-1	137		0.0908	+/-0.0468	0.0231	+/-0.0468	0.0493	pCi/g				
Cobalt-60	0		0.115	+/-0.0522	0.0225	+/-0.0522	0.0499	pCi/g				
Europium	-152	U	0.00833	+/-0.068	0.0546	+/-0.068	0.115	pCi/g				
Europium	154	U	-0.0828	+/-0.106	0.0808	+/-0.106	0.175	pCi/g				
Europium	-155	U	0.0871	+/-0.0391	0.0504	+/0.0591	0.104	pCi/g				
Lead-212			1.08	+/-0.07/8	0.0306	+/-0.0778	0.0636	pCi/g				
Lead-214	+ 10 5 4	TT	0.812	+/-0.0928	0.0385	+/-0.0928	0.081	pCi/g				
Nichium-	-04	U	0.0143	+/-0.0313 +/-0.0271	0.0202	+/-0.0313 +/-0.0271	0.0337	pCi/g				
Potassium	-40	0	193	+/1 35	0.0220	+/-1 35	0.0479	pCi/g				
Radium-2	776	·	0 576	+/-0.139	0.230	+/-0.139	0.0936	pCi/g				
Silver-10	8m	T	-0.00887	+/-0.0232	0.0191	+/-0.0232	0.0403	pCi/g				
Thallium-	-208	Ũ	0.282	+/-0.0641	0.0224	+/-0.0641	0.0475	pCi/g				
Rad Gas Flo	w Proportio	nal Counting	!					1 - 8				
GEPC Sr	00 solid-ALI	- FSS	•									
Strontium	-90	U	-0.00561	+/0.0185	0.0162	+/-0.0185	0.0368	pCi/g	KSD1	09/07/06	1746 562563	2
The followi	ing Prep Met	thods were pe	erformed									
Method	Descr	iption				Analyst	Date	Time	Prep Batch			
Dry Soil Pre	p Dry S	oil Prep GL-	RAD-A-0	21		LXM2	08/27/0	1545	562444			
The followi	ng Analytica Descr	I Methods we	ere perfor	med								
TATELLION	Descr	ihrinii										
1	EML	HASL 300, 4.	.5.2.3									
2	EPA 9	05.0 Modifie	d									
Surrogate/]	Fracer recov	ery Test				Recovery%	6 Acce	ptable Limits	i			

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	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power						
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	on, Connec Carthy 02332	cticut 06424				R	eport Date: Septembe	r 8, 2006
		Client Sam Sample ID	ple ID:		9106-000 17025600)5-010B)6		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
Surrogate/	Tracer recov	ery Test				Recovery%	Acc	eptable Limit	S	

89

(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
- 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

Compan Address	y: Connecticut : `362 Injun H	Yankee A ollow Rd	tomic Power						
Contact:	East Hampto Mr. Jack Mo	on, Connec Carthy	ticut 06424				Re	port Date: September	r 8, 2006
Project:	Soils PO# 0	02332							
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID: :: .te: ate:		9106-00 1702560 SE 09-AU 25-AU Client 49.2%	005-010C 007 G-06 G-06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mt
Rad Gamma Spec Ar	nalysis								
Gamma,Solid-FSS	GAM & ALL FSS	226 Ingro	wth						
Waived									-
Actinium-228		1.05	+/-0.196	0.0698	+/-0.196	0.148	pCi/g	MJH1 09/05/	06 2124 563436
Americium-241	U	0.00111	+/-0.108	0.0862	+/-0.108	0.177	pCi/g		
Bismuth-212		0.539	+/-0.392	0.142	+/-0.392	0.300	pCi/g		
Bismutn-214	I II	0.620	+/-0.101 +/-0.0218	0.0371	+/-0.101	0.0775	pCI/g		
Cesium-134	UI	0.00	+/-0.0318 +/-0.0408	0.023	+/-0.0318 +/-0.0408	0.0324	pCi/g		
Cobalt=60		0.192	+/-0.0408	0.0197	+/-0.0408	0.0414	pCi/g		
Euronium-152	U	-0.0379	+/-0.0596	0.0211	± -0.0596	0.0966	nCi/g		
Europium-152	Ŭ	-0.0318	+/-0.0732	0.0585	+/-0.0732	0.020	pCi/g		
Europium-155	Ŭ	0.0641	+/-0.0925	0.0488	+/-0.0925	0.120	pCi/g		
Lead-212		1.14	+/-0.0696	0.0264	+/-0.0696	0.0544	pCi/g		
Lead-214		0.753	+/-0.0911	0.0337	+/-0.0911	0.070	pCi/g		
Manganese-54	U	0.0134	+/-0.0217	0.0193	+/-0.0217	0.0408	pCi/g		
Niobium-94	U	0.0073	+/-0.0216	0.0181	+/-0.0216	0.038	pCi/g		
Potassium-40		17.9	+/-1.02	0.190	+/-1.02	0.412	pCi/g		
Radium-226		0.626	+/-0.101	0.0371	+/-0.101	0.0775	pCi/g		
Silver-108m	U	0.00496	+/-0.0191	0.0165	+/0.0191	0.0344	pCi/g		
Thallium-208		0.354	+/-0.0504	0.0183	+/-0.0504	0.0384	pCi/g		
Rad Gas Flow Propo	rtional Counting	, ,							
GFPC, Sr90, solid	ALL FSS								
Strontium-90	U	0.00471	+/-0.0144	0.0114	+/-0.0145	0.027	pCi/g	KSD1 09/07/0	06 1758 562563 2
The following Prep	Methods were pe	erformed							
Method De	escription				Analyst	Date	Time	Prep Batch	
Dry Soil Prep Dr	y Soil Prep GL-I	RAD-A-0	21		LXM2	08/27/0	6 1545	562444	
The following Analy	tical Methods we	ere perfor	med						
Method De	escription								
1 EN	AL HASL 300, 4.	5.2.3							
2 EP	A 905.0 Modifie	d							
Surrogate/Tracer re	covery Test				Recovery%	Acce	ptable Limits		

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Surrogate/	Fracer recov	ery Test				Recovery%	Ac	ceptable Limi	ts		
Parameter	a	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID: :		9106-000 17025600	05–010C 07		Project: Client ID: Vol. Recv.:	YANI YANI	K01204 K001	
	Project:	Soils PO# 00	02332								
	Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	ticut 06424				ł	Report Da	ate: September	8, 2006
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power							

101

(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
- 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 : Connecticut Yankee Atomic Power

Addr	ress : 36	2 Injun H	Iollow Rd							
Cont	Ea act: Mr	st Hampt r. Jack M	on, Connec cCarthy	cticut 06424				Re	port Date: Septemb	per 8, 2006
Proje	ect: So	ils PO# 0	02332							
	Cl Sa M Ca Ra Ca M	lient Sar ample II atrix: ollect Da eceive D ollector: loisture:	nple ID:): ate: Date:		9106-00 1702560 SE 09-AU 25-AU Client 58.1%	005-010D 008 G-06 G-06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter	Q	ualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Dat	e Time Batch Mtd
Rad Gamma Spec	: Analysis									<u> </u>
Gamma,Solid–F Waived	SS GAM &	ALL FSS	5 226 Ingro	wth						
Actinium-228			0.920	+/-0.431	0.163	+/0.431	0.345	pCi/g	MJH1 09/0	1/06 1222 563436 1
Americium-24	l	U	0.159	+/-0.0868	0.0423	+/-0.0868	0.0871	pCi/g		
Bismuth-212			0.975	+/-0.615	0.310	+/-0.615	0.654	pCi/g		
Bismuth-214		UI.	0.00	+/-0.170	0.126	+/-0.170	0.259	pCi/g		
Cesium-134		UI	0.00	+/-0.0619	0.0563	+/-0.0619	0.118	pCi/g		
Cesium-137			0.630	+/-0.105	0.037	+/-0.105	0.0784	pCi/g		
Cobalt-60			2.24	+/-0.161	0.0361	+/-0.161	0.0793	pCi/g		
Europium-152		U	0.0801	+/0.100	0.0874	+/-0.100	0.182	pCi/g		
Europium-154		U	0.159	+/-0.180	0.124	+/-0.180	0.267	pCi/g		
Europium-155		U	0.0923	+/-0.11/	0.0649	+/-0.117	0.134	pCı/g		
Lead-212			1.10	+/-0.108	0.0414	+/-0.108	0.086	pCi/g		
Lead-214			0.707	+/-0.194	0.0578	+/-0.194	0.121	pCi/g		
Manganese-54		U	0.0291	+/-0.050	0.0419	+/-0.050	0.0886	pCi/g		
Niobium-94		U	0.0114	+/-0.0446	0.0367	+/-0.0446	0.0774	pCi/g		
Potassium-40			10.4	+/-1.5/	0.341	+/-1.57	0.753	pCi/g		
Radium-226			0.701	+/-0.170	0.0744	+/-0.1/0	0.156	pCi/g		
Silver-108m		U	0.00643	+/-0.0377	0.0316	+/-0.03/7	0.0662	pCi/g		
Thailium-208			0.390	+/-0.103	0.0362	+/-0.103	0.0763	pC1/g		
Rad Gas Flow Pro	oportional	Counting	5							
GFPC, Sr90, soli	id–ALL FS	S								
Strontium-90		U	0.0219	+/-0.0196	0.0135	+/-0.0196	0.0315	pCi/g	KSD1 09/07	7/06 1805 562563 2
The following Pr	ep Method	s were p	erformed							
Method	Descriptio	on				Analyst	Date	Time	Prep Batch	·
Dry Soil Prep	Dry Soil P	rep GL-	RAD-A-0	21		LXM2	08/27/0	6 1545	562444	
<u>The following An</u> Method	alytical Me Descriptio	ethods w	ere perfor	med						
1	EMI HAS	SI 300 4	523							<u> </u>
2	EPA 905 0) Modifie	.5.2.5 d							
<u> </u>	LI /1 70J.U	, mounte	u							
Surrogate/Tracer	recovery	Test				Recovery%	Acce	ptable Limits		
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Surrogate/	Tracer recov	ery Test				Recovery%	Ac	ceptable Limit	s			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd		
	Client Sa Sample II		ple ID:		9106-000 17025600	05-010D 08		Project: Client ID: Vol. Recv.:	YANK01204 YANK001			
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	on, Connec Carthy)2332	cticut 06424				8, 2006				
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power								

97

(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
- 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 Hampt Mr. Jack Me	on, Connec cCarthy	ticut 06424				Re	eport Date: September	8, 2006
Project:	Soils PO# 0	02332							
	Client San Sample IE Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106-0014-033A 170256009 SE 11-AUG-06 25-AUG-06 Client 26.2%		Project: YANK01204 Client ID: YANK001 Vol. Recv.:		YANK01204 YANK001	
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mto
Rad Gamma Spec Ana	lysis			· ·					
Gamma,Solid–FSS G	4M & ALL FSS	226 Ingro	wth						
Waived		-							
Actinium-228		1.28	+/-0.272	0.0796	+/-0.272	0.171	pCi/g	MJH1 09/01/0	06 1223 563436 1
Americium-241	U	0.0199	+/-0.0632	0.0541	+/-0.0632	0.112	pCi/g		
Bismuth-212	UI	0.00	+/-0.484	0.171	+/-0.484	0.363	pCi/g		
Bismuth-214		0.920	+/-0.139	0.0421	+/-0.139	0.089	pCi/g		
Cesium-134	U	0.0188	+/-0.0338	0.0298	+/0.0338	0.0628	pCi/g		
Cesium-137		0.709	+/-0.0983	0.0246	+/-0.0983	0.0519	pCi/g		
Cobalt-60		0.697	+/-0.0935	0.0267	+/-0.0935	0.0577	pCi/g		
Europium-152	U	-0.0119	+/-0.0643	0.0538	+/-0.0643	0.113	pCi/g		
Europium-154	U	0.0763	+/-0.0741	0.0675	+/-0.0741	0.147	pCi/g		
Europium-155	UI	0.00	+/-0.0951	0.052	+/-0.0951	0.108	pCi/g		
Lead-212		1.13	+/-0.134	0.0457	+/-0.134	0.0938	pCi/g		
Lead-214		1.04	+/-0.151	0.0416	+/-0.151	0.0871	pCi/g		
Manganese-54	U	-0.0049	+/-0.0275	0.023	+/-0.0275	0.049	pCi/g		
Niobium-94	U	0.014	+/-0.0236	0.0211	+/-0.0236	0.0446	pCi/g		
Potassium-40		14.3	+/-1.30	0.185	+/-1.30	0.412	pCi/g		
Radium-226		0.920	+/-0.139	0.0421	+/-0.139	0.089	pCi/g		
Silver-108m	U3	.080E-05	+/-0.0263	0.0202	+/-0.0263	0.0424	pCi/g		
Thallium-208		0.405	+/-0.066	0.0235	+/-0.066	0.0495	pCi/g		
Rad Gas Flow Proport	ional Counting	g							
GFPC, Sr90, solid-Al	LL FSS								
Strontium-90		0.0366	+/-0.0205	0.0124	+/-0.0205	0.0291	pCi/g	KSD1 09/07/0	06 1807 562563 2
The following Prep M	ethods were pe	erformed					6-19-18		
Method Des	cription				Analyst	Date	Time	Prep Batch	
Dry Soil Prep Dry	Soil Prep GL-	RAD-A-0	21		LXM2	08/27/0	1545	562444	
The following Analytic	al Methods w	ere perfori	ned						
Method Desc	ription				_	,			
I EMI	HASL 300, 4	5.2.3						· · · · · · · · · · · · · · · · · · ·	
2 EPA	905.0 Modifie	d							
Surrogate/Tracer reco	very Test				Recovery%	Acce	ptable Limits		

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Surrogate/	Tracer recov	recovery Test				Recovery%	Ac	ceptable Limi	ts		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF A	nalyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID:		9106-001 17025600	4-033A 99	Project: YANK01204 Client ID: YANK001 Vol. Recv.:				
	Project: Mr. Jack McCarthy Project: Soils PO# 002332										
	Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	cticut 06424			e: September	8, 2006			
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power							

99

(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
- 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

Add	ress : 362	2 Injun H	lollow Rd									
Cont Proje	Eas tact: Mr. ect: Soi	st Hamp . Jack M ls PO# (ton, Connec (cCarthy)02332	eticut 06424				Report Date: September 8, 2006				
	Cl Sa Co Re Co Mu	ient Sar mple II atrix: ollect D ceive D ollector: oisture:	mple ID: D: ate: Date:		9106-0014-033B 170256010 SE 11-AUG-06 25-AUG-06 Client 16.3%			Project: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter	Q	ualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd		
Rad Gamma Spe	c Analysis											
Gamma,Solid–F Waiwad	FSS GAM & .	ALL FS	S 226 Ingro	wth								
Waived Actinium-228 Americium-24 Bismuth-212 Bismuth-214 Cesium-134 Cesium-137 Cobalt-60 Europium-152 Europium-155 Lead-212 Lead-214 Manganese-54 Niobium-94 Potassium-40 Radium-226 Silver-108m Thallium-208 Rad Gas Flow Pr <i>GFPC, Sr90, sol</i> Strontium-90	1 oportional (id–ALL FSS	U U U U U Countin S U	1.03 0.037 0.897 0.681 0.062 0.862 0.944 0.00733 0.00812 0.0592 0.896 0.773 -0.0465 0.00334 11.6 0.681 -0.00313 0.278 g 0.00794	+/-0.272 +/-0.0519 +/-0.563 +/-0.143 +/-0.0748 +/-0.117 +/-0.113 +/-0.118 +/-0.115 +/-0.0677 +/-0.0677 +/-0.0487 +/-0.0487 +/-0.0333 +/-1.25 +/-0.143 +/-0.0324 +/-0.0682	0.113 0.0353 0.237 0.057 0.0371 0.0301 0.0281 0.0695 0.0959 0.0595 0.0377 0.0491 0.032 0.029 0.247 0.057 0.0274 0.0296	+/-0.272 +/-0.0519 +/-0.563 +/-0.0748 +/-0.113 +/-0.113 +/-0.115 +/-0.0677 +/-0.09 +/-0.141 +/-0.0487 +/-0.0333 +/-1.25 +/-0.143 +/-0.0682 +/-0.015	0.225 0.0705 0.473 0.114 0.0742 0.0601 0.0562 0.139 0.192 0.119 0.0754 0.0981 0.0639 0.0579 0.494 0.114 0.0548 0.0592	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	MJH1 09/01/ KSD1 09/07/4	06 1559 563436 1 06 1807 562563 2		
The following Pr	ep Methods	s were p	erformed									
Method	Descriptio	n				Analyst	Date	Time	Prep Batch			
Dry Soil Prep	Dry Soil Pi	rep GL-	RAD-A-0	21		LXM2	08/27/0)6 1545	562444			
The following An Method	nalytical Me Descriptio	thods w n	ere perfor	med								
1	EML HAS	L 300, 4	.5.2.3									
2	EPA 905.0	Modifie	ed									
Surrogate/Trace	r recovery	Test	:			Recovery%	Acce	ptable Limits				

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Surrogate/	Tracer recov	ery Test				Recovery%	Ac	ceptable Limi	ts	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
	Client Sample ID: Sample ID:			9106-0014-03 170256010			Project: Client ID: Vol. Recv.:	YANK01204 YANK001		
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	on, Connec Carthy)2332	ticut 06424				F.	Report Date: Septembe	r 8, 2006
	Company : Address :	Connecticut 362 Injun He	Yankee A ollow Rd	tomic Power						

103

(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
- 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

 $^{\circ}$ 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 follow Rd	tomic Power								
Contact: Project:	East Hampto Mr. Jack Mo Soils PO# 0	on, Connec cCarthy 02332	eticut 06424				F	Report Date: Septembe	r 8, 2006		
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): hte: ate:		9106-0014-033C 170256011 SE 11-AUG-06 25-AUG-06 Client 14.2%			Project: YANK01204 Client ID: YANK001 Vol. Recv.:				
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd		
Rad Gamma Spec Ana	lysis										
Gamma,Solid–FSS G/ Waived	AM & ALL FSS	5 226 Ingro	wth								
Actinium-228		0.841	+/-0.277	0.100	+/-0.277	0.212	pCi/g	MJH1 09/01/	/06 1829 563436 1		
Americium-241	U	0.028	+/-0.048	0.0331	+/-0.048	0.068	pCi/g				
Bismuth-212		0.476	+/-0.345	0.223	+/-0.345	0.468	pCi/g				
Bismuth-214		0.628	+/-0.128	0.0439	+/-0.128	0.0928	pCi/g				
Cesium-134	U	0.0398	+/-0.0385	0.0344	+/-0.0385	0.0721	pCi/g				
Cesium-137		0.609	+/-0.0698	0.0277	+/-0.0698	0.0581	pCi/g				
Cobalt-60		0.916	+/-0.0989	0.0255	+/-0.0989	0.0552	pCi/g				
Europium-152	U	-0.0803	+/-0.0732	0.0581	+/0.0732	0.121	pCi/g				
Europium-154	U	-0.0175	+/-0.0895	0.0738	+/0.0895	0.159	pCi/g				
Europium-155	U	0.0335	+/-0.0642	0.0553	+/-0.0642	0.114	pCi/g				
Lead-212		0.710	+/-0.0819	0.0392	+/-0.0819	0.0808	pCi/g				
Lead-214		0.810	+/-0.110	0.0428	+/-0.110	0.0895	pCi/g				
Manganese-54	U	-0.0149	+/-0.0338	0.0272	+/-0.0338	0.0575	pCi/g				
Niobium-94	U	-0.00772	+/0.0304	0.0254	+/-0.0304	0.0533	pCı/g				
Potassium-40		11.0	+/-1.00	0.220	+/-1.00	0.484	pCi/g				
Radium-226		0.628	+/-0.128	0.0439	+/-0.128	0.0928	pCi/g				
Silver-108m	U	0.0295	+/-0.0254	0.0239	+/-0.0254	0.0499	pCi/g				
Thallium-208		0.237	+/-0.0761	0.0244	+/0.0761	0.0513	pCi/g				
Rad Gas Flow Proporti	ional Counting	5									
GFPC, Sr90, solid–Al	LL FSS										
Strontium-90	U	-0.0326	+/-0.013	0.0158	+/-0.013	0.0359	pCi/g	KSD1 09/07/	06 1842 562563 2		

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/27/06	1545	562444
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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ogate/	Tracer recov	ery Test				Recovery%	Ac	ceptable Limit	ts		
meter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID: :		9106-001 17025601	4–033C 1		Project: Client ID: Vol. Recv.:	YANK Yank	C01204 C001	
	Project:	Soils PO# 00	02332								
	Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	ticut 06424				R	eport Da	ate: September	8, 2006
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power							

90

(25%-125%)

Carrier/Tracer Recovery

Notes:

Para Surr

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
- 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
- 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

R Sample results are rejected

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

 \wedge RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL

Preparation or preservation holding time was exceeded h

Company : Address :		Connecticut 362 Injun H	t Yankee A Iollow Rd	tomic Power								
Conta	act:	East Hampt Mr. Jack Mo	on, Connec cCarthy	cticut 06424				R	eport Date: Sep	otember 8,	2006	
Projec	ct:	Soils PO# 0	02332									
		Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID: D: ate: ate:		9106-0 170256 SE 11-AU 25-AU Client 11.9%	014-033D 012 G-06 G-06	Project: YANK01204 Client ID: YANK001 Vol. Recv.:					
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	t Date	Fime Batch	Mtd
Rad Gamma Spec	Analys	sis					· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·			
Gamma,Solid-FS	SS GAM	1 & ALL FSS	5 226 Ingro	wth								
Waived			0.000		0.0504		0.105	<u><u> </u></u>		00105105		
Actinium-228			0.800	+/-0.169	0.0584	+/-0.169	0.125	pCi/g	MJHI	09/05/06	0531 563436	1
Americium-241		U	-0.00/5/	+/-0.0849	0.0733	+/-0.0849	0.151	pCi/g				
Bismuth-212			0.514	+/-0.239	0.125	+/-0.239	0.265	pCi/g				
Bismuth-214			0.496	+/-0.0/9	0.0289	+/-0.079	0.0614	pCi/g				
Cesium=134		01	0.00	+/-0.0333	0.0213	+/-0.0333	0.0434	pCi/g				
Cobalt=60			0.240	+/-0.0616	0.0172	+/-0.0400	0.0303	pCi/g				
Europium-152		П	-0.0221	+/0.047	0.0139	+/-0.047	0.0349	pCi/g				
Europium-152		· 11	-0.0221	+/-0.0651	0.0418	+/0.0651	0.0373	pCi/g				
Europium-155		U	0.0277	+/-0.050	0.0464	+/-0.050	0.0959	nCi/g				
Lead-212		0	0.618	+/-0.0549	0.0246	+/-0.0549	0.0511	nCi/g				
Lead-214			0.582	+/-0.0773	0.0304	+/-0.0773	0.0635	pCi/g				
Manganese-54		IJ	0.0209	+/-0.0191	0.0165	+/-0.0191	0.0352	pCi/g				
Niobium-94		Ŭ	0.0124	+/-0.0174	0.0157	+/-0.0174	0.0331	pCi/g				
Potassium-40			10.8	+/-0.796	0.144	+/-0.796	0.320	pCi/g				
Radium-226			0.496	+/-0.079	0.0289	+/-0.079	0.0614	pCi/g				
Silver-108m		U	-0.00363	+/-0.0168	0.0148	+/-0.0168	0.0312	pCi/g				
Thallium-208			0.222	+/-0.040	0.0156	+/-0.040	0.033	pCi/g				
Rad Gas Flow Pro	portion	al Counting	ş									
GFPC, Sr90, solid	d-ALL	FSS				•						
Strontium-90		U	0.020	+/-0.0174	0.0117	+/-0.0174	0.0276	pCi/g	KSD1	09/07/06	1842 562563	2
The following Pre	ep Metł	10ds were pe	erformed									
Method	Descri	ption				Analyst	Date	Time	Prep Batch	1		
Dry Soil Prep	Dry So	il Prep GL-I	RAD-A-0	21		LXM2	08/27/0	6 1545	562444			
The following Ana	alytical	Methods we	ere perfor	med								
Method	Descri	ption										
1	EML H	IASL 300, 4.	.5.2.3									
2	EPA 90)5.0 Modifie	d									
Surrogate/Tracer	recove	ry Test				Recovery%	Accej	ptable Limits	;			

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power							
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	on, Connec Carthy 02332	cticut 06424			8, 2006				
	Floject:	Client Sam Sample ID	ple ID:		9106-0014-033D 170256012			Proiect: YANK01204 Client ID: YANK001 Vol. Recv.:			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd	
Surrogate/	Tracer recov	ery Test				Recovery%	Ac	ceptable Limits			
Carrier/Trac	er Recovery	GFPG	C. Sr90, sc	lid-ALL FSS		103		(25%-125%)			

(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
- 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
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- Λ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- Preparation or preservation holding time was exceeded h

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Company : Address :	Connecticut 362 Injun H	t Yankee A Iollow Rd	tomic Power									
Contact: Project:	East Hampt Mr. Jack M Soils PO# 0	on, Connec cCarthy 002332	eticut 06424			Report Date: September 8, 2006						
	Client San Sample II Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: vate:		9106-0004-013A 170256013 SE 09-AUG-06 25-AUG-06 Client 17.1%			Project: Client ID: Vol. Recv.:	YANK01204 YANK001				
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time Ba	tch N	1td
Rad Gamma Spec Anal	ysis											
Gamma,Solid–FSS GA	M & ALL FSS	5 226 Ingro	wth									
Waived		~										
Actinium-228		1.15	+/-0.162	0.0511	+/-0.162	0.109	pCi/g	MJH1	09/01/0	06 1830 56	3436	1
Americium-241	U	0.0596	+/-0.0865	0.0665	+/-0.0865	0.136	pCi/g					
Bismuth-212		0.731	+/-0.295	0.115	+/0.295	0.242	pCi/g					
Bismuth-214		0.959	+/-0.0845	0.0284	+/0.0845	0.0597	pCi/g					
Cesium-134	UI	0.00	+/-0.0287	0.0195	+/-0.0287	0.041	pCi/g					
Cesium-137	U	-0.00113	+/-0.0196	0.0162	+/-0.0196	0.034	pCi/g					
Cobalt-60	U	-0.00569	+/-0.0174	0.0139	+/-0.0174	0.0301	pCi/g					
Europium-152	U	-0.0275	+/-0.0539	0.0402	+/-0.0539	0.0837	pCi/g					
Europium-154	U	-0.0292	+/-0.0495	0.0385	+/-0.0495	0.0835	pCi/g					
Europium-155	U	0.0375	+/-0.0594	0.0534	+/-0.0594	0.110	pCi/g					
Lead-212		1.19	+/-0.0671	0.0261	+/-0.0671	0.0537	pCi/g					
Lead-214		1.08	+/-0.090	0.0305	+/-0.090	0.0634	pCi/g					
Manganese-54	U	0.0199	+/-0.0202	0.0165	+/-0.0202	0.0347	pCi/g					
Niobium-94	U ·	-6.020E-	+/-0.0164	0.0143	+/-0.0164	0.030	pC1/g					
Potassium-40		14.3	+/-0 771	0 130	+/0 771	0.283	nCi/a					
Padium-226		0 0 5 0	+/0.0845	0.150	+/-0.0845	0.285	pCi/g					
Silver-108m	I I	-0.00566	+/-0.0152	0.0204	+/-0.0152	0.0397	pCi/g					
Thallium-208	0	0.00300	+/-0.0539	0.0120	+/-0.0539	0.0200	pCi/g					
Pad Cas Flow Propertie	onal Counting	0.425	0.0557	0.0142	0.0557	0.050	peng					
	L ECC	5										
GFPC, Sr90, solid-AL	L F35	0.00001		0.0121		0.0004	0.1	VODI	00.00			
Strontium-90	U	-0.00331	+/-0.0151	0.0131	+/-0.0151	0.0304	pCi/g	KSDI	.09/07/(16 1842 562	2563	2
The following Prep Me	thods were p	ertormed										

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/27/06	1545	562444
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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Surrogate/	Fracer recov	ery Test				Recovery%	Ac	ceptable Limi	its	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Dat	e Time Batch Mtd
		Client Sam Sample ID	ple ID: :		9106-000 17025601	04-013A 13		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Contact: Project:	Mr. Jack Mc Soils PO# 00	Carthy 02332							,
	Company : Address :	Connecticut 362 Injun Ho East Hampto	Yankee A ollow Rd on, Connec	tomic Power ticut 06424				I	Report Date: Septemb	per 8, 2006

101

(25%-125%)

Carrier/	Fracer	Recovers	,

Notes:

Para

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
- 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
- Results are reported from a diluted aliquot of the sample D
- 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

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

h Preparation or preservation holding time was exceeded

Certificate of Analysis

Con Add	npany : ress :	Connecticut 362 Injun H	t Yankee A ollow Rd	tomic Power							
Con	tact:	East Hampt Mr. Jack M	on, Connec cCarthy	cticut 06424				Rep	port Date: Septemb	per 8, 2006	
Proj	ect:	Soils PO# 0	02332								
		Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106-00 1702560 SE 09-AU 25-AU Client 19.6%	004-013B 014 G-06 G-06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Dat	e Time Batch M	 Itd
Rad Gamma Spe	c Analy	sis									
Gamma,Solid–I	FSS GAI	M & ALL FSS	226 Ingro	wth							
Waived											
Actinium-228			1.23	+/-0.302	0.0948	+/-0.302	0.190	pCi/g	MJH1 09/0	1/06 2110 563436	1
Americium-24	1	U	0.0581	+/-0.0456	0.0383	+/-0.0456	0.0765	pCi/g			
Bismuth-212			0.606	+/-0.361	0.199	+/-0.361	0.399	pCi/g			
Bismuth-214			0.990	+/-0.154	0.046	+/-0.154	0.0919	pCi/g			
Cesium-134		U	0.0447	+/-0.0383	0.033	+/-0.0383	0.066	pCi/g			
Cesium-137			0.0831	+/-0.037	0.0286	+/-0.037	0.0571	pCi/g			
Cobalt-60			0.196	+/-0.0645	0.0258	+/-0.0645	0.0515	pCi/g			
Europium-152		U	0.0248	+/-0.116	0.061	+/-0.116	0.122	pCi/g			
Europium-154		U	0.0401	+/-0.106	0.0809	+/-0.106	0.162	pCi/g			
Europium-155		U	0.067	+/-0.0826	0.0584	+/-0.0826	0.117	pCi/g			
Lead-212			1.32	+/-0.136	0.0337	+/-0.136	0.0674	pCi/g			
Lead-214			0.989	+/-0.153	• 0.0431	+/-0.153	0.0862	pCi/g			
Manganese-54		U	-0.00696	+/-0.0306	0.0262	+/-0.0306	0.0523	pCi/g			
Niobium-94		U	0.00306	+/-0.0256	0.0228	+/-0.0256	0.0455	pCi/g			
Potassium-40			9.89	+/-0.996	0.207	+/-0.996	0.414	pCi/g			
Radium-226			0.990	+/-0.154	0.046	+/-0.154	0.0919	pCi/g			
Silver-108m		U	-0.017	+/-0.0253	0.0211	+/0.0253	0.0422	pCi/g			
Thallium-208			0.450	+/-0.084	0.0255	+/-0.084	0.0505	pCI/g			
Rad Gas Flow Pr	oportio	nai Counting	\$								
GFPC, Sr90, so	id–ALL	. FSS									
Strontium-90		U	0.00221	+/-0.0172	0.0143	+/-0.0172	0.0316	pCi/g	KSD1 09/01	7/06 1843 562563	2
The following P	rep Met	hods were p	erformed								
Method	Descr	iption				Analyst	Date	Time	Prep Batch		
Dry Soil Prep	Dry S	oil Prep GL-	RAD-A-0	21		LXM2	08/27/0	06 1545	562444		
The following A	alytica	l Methods w	ere perfori	med							
Method	Descri	iption					<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>				
1	EML I	HASL 300, 4	.5.2.3								
2	EPA 9	05.0 Modifie	d								
Surrogate/Trace	r recov	ery Test				Recovery%	Acce	ptable Limits			

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Surrogate/	Tracer recov	ery Test				Recovery%	Ace	ceptable Limi	its	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID: :		9106-000 17025601	94–013B 4		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Contact: Project:	Mr. Jack Mc Soils PO# 00	Carthy 02332	areur 00424					Report Date. September	8, 2006
	Company : Address :	Connecticut 362 Injun He	Yankee A ollow Rd	tomic Power					Ranat Data, Santanhar	P 2004

103

(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 >
- The TIC is a suspected aldol-condensation product А
- B Target analyte was detected in the associated blank
- 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 Н
- 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

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

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

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

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Company Address :	2: Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power								
Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	ticut 06424				R	eport Date: Sep	otember 8, 2006		
Project:	Soils PO# 00	02332									
	Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	nple ID: :: te: ate:		9106-00 1702560 SE 09-AU 25-AU Client 17.3%	004-013C 015 G-06 G-06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst	Date Time	Batch M	Mtd
Rad Gamma Spec Ana	alysis										
Gamma,Solid–FSS G	AM & ALL FSS	226 Ingro	wth								
Waived											
Actinium-228		1.07	+/-0.236	0.0703	+/-0.236	0.154	pCi/g	MJH1	09/01/06 2118 3	563436	1
Americium-241	U·	-0.00337	+/-0.0367	0.034	+/-0.0367	0.0701	pCi/g				
Bismuth-212		0.808	+/-0.311	0.157	+/-0.311	0.341	pCi/g				
Bismuth-214		0.614	+/-0.118	0.0422	+/-0.118	0.0899	pCi/g				
Cesium-134	υ	0.0481	+/-0.0502	0.033	+/-0.0502	0.0699	pCi/g				
Cesium-137		0.0789	+/-0.0569	0.0226	+/-0.0569	0.0484	pCi/g				
Cobalt-60		0.074	+/-0.0564	0.0239	+/-0.0564	0.0531	pCi/g				
Europium-152	U	-0.0203	+/-0.0622	0.0547	+/-0.0622	0.115	pCi/g				
Europium-154	U	-0.0129	+/-0.0828	0.0688	+/0.0828	0.152	pCi/g				
Europium-155	U	0.0479	+/-0.0527	0.0529	+/-0.0527	0.109	pCi/g				
Lead-212		0.903	+/-0.0714	0.0332	+/-0.0714	0.069	pCi/g				
Lead-214		0.651	+/-0.103	0.0431	+/-0.103	0.0904	pCi/g				
Manganese-54	U	-0.0163	+/-0.0298	0.0235	+/-0.0298	0.0506	nCi/g				
Niobium-94	Ŭ	-0.022	+/-0.0284	0.0226	+/-0.0284	0.0481	pCi/g				
Potassium-40	Ũ	12.9	+/-1.11	0.250	+/-1.11	0.553	pCi/g				
Radium-226		0.614	+/-0.118	0.0422	+/-0.118	0.0899	nCi/g				
Silver-108m	U	0.00256	+/-0.0199	0.0177	+/-0.0199	0.0378	nCi/g				
Thallium-208	Ũ	0 248	+/-0.0569	0.0239	+/-0.0569	0.0508	nCi/g				
Rad Gas Flow Propert	tional Counting	0.210		010209	0.0505	0.0000	P08				
CEPC Sull colid_A	II ECC										
Strontium-90	U -	-0.00157	+/-0.0143	0.0123	+/-0.0143	0.0289	pCi/g	KSD1	09/07/06 1845 5	62563	2
The following Prep N	lethods were pe	erformed						D D. (1			
	scription				Analyst	Date	I Ime	е Ргер Ватси	l 		
Dry Soil Prep Dry	Soil Prep GL-F	RAD-A-0	21		LXM2	08/27/0	6 1545	562444			
The following Analyti Method Des	ical Methods we	ere perfori	ned								
I EM	L HASL 300, 4.	5.2.3									
2 EP/	A 905.0 Modified	d									
Surrogate/Tracer rec	overy Test				Recovery%	Acce	ptable Limits	i .			

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Surrogate/7	Fracer recov	ery Test				Recovery%	Acc	eptable Limit	\$	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID: :		9106-000 1702560	04–013C 15		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	on, Connec Carthy 02332	eticut 06424				R	eport Date: September	8, 2006
	Company : Address :	Connecticut 362 Injun He	Yankee A ollow Rd	tomic Power						

98

(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
- 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

E Contact: M Project: S Project: S Parameter Rad Gamma Spec Analysis Gamma, Solid–FSS GAM Waived Actinium–228 Americium–241 Bismuth–212 Bismuth–214 Cesium–134	East Hampte Mr. Jack Me Soils PO# 0	on, Connec cCarthy	ticut 06424							
Project: S Project: S Parameter Rad Gamma Spec Analysis Gamma,Solid-FSS GAM Waived Actinium-228 Americium-241 Bismuth-212 Bismuth-214 Cesium-134	Soils PO# 0						Rej	port Date: September	8, 2006	
Parameter Rad Gamma Spec Analysis Gamma, Solid–FSS GAM Waived Actinium–228 Americium–241 Bismuth–212 Bismuth–214 Cesium–134		02332								
Parameter Rad Gamma Spec Analysis Gamma, Solid-FSS GAM Waived Actinium-228 Americium-241 Bismuth-212 Bismuth-214 Cesium-134	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106-00 1702560 SE 09-AU 25-AU Client 25.9%	004-013D 016 G-06 G-06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001		
Rad Gamma Spec Analysis Gamma, Solid-FSS GAM Waived Actinium-228 Americium-241 Bismuth-212 Bismuth-214 Cesium-134	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch M	td
Gamma, Solid-FSS GAM Waived Actinium-228 Americium-241 Bismuth-212 Bismuth-214 Cesium-134	5							· · · · · · · · · · · · · · · · · · ·		
Waived Actinium-228 Americium-241 Bismuth-212 Bismuth-214 Cesium-134	& ALL FSS	226 Ingro	wth							
Actinium-228 Americium-241 Bismuth-212 Bismuth-214 Cesium-134		0								
Americium-241 Bismuth-212 Bismuth-214 Cesium-134		1.03	+/-0.160	0.0664	+/-0.160	0.142	pCi/g	MJH1 09/05/0	06 0521 563436	1
Bismuth-212 Bismuth-214 Cesium-134	U	0.0216	+/-0.0981	0.0845	+/-0.0981	0.174	pCi/g			
Bismuth-214 Cesium-134		0.420	+/-0.350	0.142	+/-0.350	0.301	pCi/g			
Cesium-134		0.689	+/-0.0898	0.0339	+/-0.0898	0.0715	pCi/g			
	U	0.0488	+/-0.0307	0.0247	+/-0.0307	0.0519	pCi/g			
Cesium–137		0.170	+/-0.0491	0.019	+/-0.0491	0.0402	pCi/g			
Cobalt-60		0.566	+/-0.0694	0.0198	+/-0.0694	0.0431	pCi/g			
Europium-152	U	0.0265	+/-0.0524	0.0453	+/0.0524	0.0946	pCi/g			
Europium-154	U	0.0628	+/-0.0639	0.0591	+/-0.0639	0.127	pCi/g			
Europium-155	U	0.0541	+/-0.0561	0.0528	+/-0.0561	0.109	pCi/g			
Lead-212		0.958	+/-0.0653	0.0265	+/-0.0653	0.055	pCi/g			
Lead-214		0.784	+/-0.0896	0.0297	+/-0.0896	0.0623	pCi/g			
Manganese-54	U	0.00917	+/-0.0221	0.019	+/0.0221	0.0403	pCi/g			
Niobium-94	U	0.0056	+/-0.019	0.0164	+/-0.019	0.0347	pCi/g			
Potassium-40		12.6	+/-0.931	0.166	+/-0.931	0.367	pCi/g			
Radium-226		0.689	+/-0.0898	0.0339	+/-0.0898	0.0715	pCi/g			
Silver-108m	U	-0.00656	+/-0.0175	0.0151	+/-0.0175	0.0318	pCi/g			
Thallium-208		0.314	+/-0.0426	0.0189	+/-0.0426	0.0398	pCi/g			
Rad Gas Flow Proportiona	l Counting	Ş								
GFPC. Sr90. solid-ALL F	SS									
Strontium-90	U	0.00738	+/0.0147	0.0112	+/-0.0147	0.0265	pCi/g	KSD1 09/07/0	06 1846 562563	2
The following Prep Metho	ods were pe	erformed				· · · · · · · · · · · · · · · · · · ·				
Method Descrip	tion	•			Analyst	Date	Time	Prep Batch		
Dry Soil Prep Dry Soil	Prep GL-	RAD-A-0	21		LXM2	08/27/0	6 1545	562444		
The following Analytical M	Aethods wo	ere perfori	ned							
Method Descript	tion									
1 EML HA	ASL 300, 4.	.5.2.3						·····		
2 EPA 905	5.0 Modifie	d								
Surrogate/Tracer recovery	m ² 4									

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Surrogate/	Fracer recov	ery Test				Recovery%	Ac	ceptable Limit	s	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sam Sample ID:	ple ID:		9106-000 17025601)4–013D 6		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Project:	Soils PO# 00	02332							
	Contact:	East Hampto Mr. Jack Mc	n, Connec Carthy	ticut 06424				R	eport Date: Septembe	er 8, 2006
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power						

106

(25%-125%)

Carrier/Tracer Recovery

Notes:

Para

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 >
- 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
- 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
- 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

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
- Λ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded

Compare Address	ny : Connec s : 362 Inju	ticut ` 1n Ho	Yankee At llow Rd	tomic Power								
Contact	East Ha	mptor k Mc(n, Connec Carthy	ticut 06424				Re	port Date: Sej	ptember	8, 2006	
Project:	Soils P	O# 00	2332									
	Client Sampl Matrix Collec Receiv Collec Moist	Samj e ID: t Dat t Dat tor: ure:	ple ID: e: te:		9106-00 1702560 SE 09-AU 25-AU Client 17.9%	004-005A 017 5-06 5-06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter	Qualif	ier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time Batch	Mtd
Rad Gamma Spec A	nalysis						•					
Gamma,Solid–FSS	GAM & ALL	FSS 2	226 Ingrov	wth								
Waived			-									
Actinium-228			0.975	+/-0.164	0.0814	+/-0.164	0.174	pCi/g	MJH1	09/01/0	06 2119 563436	1
Americium-241		U	0.0504	+/-0.0306	0.030	+/-0.0306	0.0616	pCi/g				
Bismuth-212			0.804	+/-0.393	0.165	+/-0.393	0.351	pCi/g				
Bismuth-214			0.647	+/-0.112	0.0371	+/-0.112	0.0787	pCi/g				
Cesium-134		U	0.0288	+/-0.0288	0.0271	+/-0.0288	0.0574	pCi/g				
Cesium-137			0.249	+/-0.0491	0.0255	+/-0.0491	0.0537	pCi/g				
Cobalt-60			0.682	+/0.0884	0.0206	+/-0.0884	0.0453	pCi/g				
Europium-152		U	0.0893	+/-0.0683	0.0526	+/-0.0683	0.110	pCi/g				
Europium-154		U	0.0167	+/0.0707	0.0611	+/-0.0707	0.134	pCi/g				
Europium-155		U	0.00619	+/-0.0524	0.0476	+/-0.0524	0.0982	pCi/g				
Lead-212			0.912	+/-0.0658	0.0281	+/-0.0658	0.0584	pCi/g				
Lead-214			0.747	+/-0.0939	0.036	+/-0.0939	0.0755	pCi/g				
Manganese-54		U	0.0235	+/-0.0494	0.0228	+/-0.0494	0.0486	pCi/g				
Niobium-94		U –	0.00608	+/-0.0244	0.0201	+/-0.0244	0.0426	pCi/g				
Potassium-40			10.5	+/-0.910	0.155	+/-0.910	0.351	pCi/g				
Radium-226			0.647	+/-0.112	0.0371	+/-0.112	0.0787	pCi/g				
Silver-108m		U	0.00189	+/0.0202	0.0178	+/-0.0202	0.0376	pCi/g				
Thallium-208			0.322	+/-0.0462	0.0209	+/0.0462	0.0442	pCı/g				
Rad Gas Flow Propo	ortional Cour	iting										
GFPC, Sr90, solid-	ALL FSS											
Strontium-90		U -	0.00262	+/-0.0137	0.012	+/-0.0137	0.0286	pCi/g	KSDI	09/07/0	6 1857 562563	2
The following Prep	Methods we	re pei	rformed									
Method D	escription					Analyst	Date	Time	Prep Batcl	1		
Dry Soil Prep D	ry Soil Prep (GL-R	AD-A-02	21		LXM2	08/27/0	1545	562444			
The following Analy	tical Method	ls wei	re perforr	ned								
Method D	escription											
1 E	ML HASL 30	0, 4.5	5.2.3								<u> </u>	
2 E!	PA 905.0 Mo	dified										

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meter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client San Sample ID	nple ID: 9:		9106-000 17025601	04-005A 7		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Contact: Project:	Mr. Jack Mo Soils PO# 0	cCarthy 02332							
		East Hampte	on, Connec	cticut 06424				F	Report Date: September	8, 2006
	Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power						

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	92	(25%-125%)	

Notes:

Para

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	y: Connecticut : 362 Injun H	Yankee A ollow Rd	tomic Power						
Contact:	East Hampto Mr. Jack Mo	on, Connec Carthy	cticut 06424				Re	port Date: September	8, 2006
Project:	Soils PO# 0	02332							
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID: v: te: ate:		9106-0 170256 SE 10-AU 25-AU Client 14%	004-005B 018 G-06 G-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 An	alysis							····	
Gamma,Solid-FSS (GAM & ALL FSS	226 Ingro	wth						
Waived		0 787	+/0 187	0.0725	+/0 187	0.153	nCi/a	MIH1: 09/02/	06 1713 563436 1
Americium-241	I	0.759	+/-0.0649	0.0725	+/-0.0649	0.155	pCi/g		JO 1715 J05450 1
Rismuth-212	U	0.0759	+/-0.233	0.0582	+/-0.233	0.0782	pCi/g		
Bismuth-214		0.636	+/-0.108	0.0306	+/-0.108	0.0647	pCi/g		
Cesium-134	U	0.0378	+/-0.0274	0.0229	+/-0.0274	0.0482	pCi/g		
Cesium-137	-	0.181	+/-0.0421	0.019	+/-0.0421	0.040	pCi/g		
Cobalt-60		0.710	+/-0.0716	0.0155	+/-0.0716	0.034	pCi/g		
Europium-152	U	0.0183	+/-0.0466	0.0421	+/-0.0466	0.0881	pCi/g		
Europium-154	U	0.0204	+/-0.0516	0.0449	+/-0.0516	0.0982	pCi/g		
Europium-155	UI	0.00	+/-0.0804	0.0458	+/-0.0804	0.0944	pCi/g		
Lead-212		0.722	+/-0.086	0.0317	+/0.086	0.0651	pCi/g		
Lead-214		0.832	+/-0.115	0.0288	+/-0.115	0.0605	pCi/g		
Manganese-54	U	0.0204	+/-0.0232	0.0192	+/-0.0232	0.0406	pCi/g		
Niobium-94	U	0.0129	+/-0.0173	0.0161	+/-0.0173	0.0339	pCi/g		
Potassium-40		9.30	+/-0.895	0.130	+/-0.895	0.291	pCi/g		
Radium-226		0.636	+/-0.108	0.0306	+/-0.108	0.0647	pCi/g		
Silver-108m	U	0.0081	+/-0.0194	0.0154	+/-0.0194	0.0324	pCi/g		
Thallium-208		0.299	+/-0.0505	0.0157	+/-0.0505	0.0332	pCi/g		
Rad Gas Flow Propor	rtional Counting	;							
GFPC, Sr90, solid-7	ALL FSS	0.0100		0.0122		0.0000	0.1	KGD1 00/07/	
Strontium-90	U	0.0109	+/-0.016/	0.0123	+/-0.016/	0.0293	pCi/g	KSD1 09/07/0	16 1857 562563 2
The following Prep M	Methods were pe	erformed							
Method De	scription				Analyst	Date	Time	Prep Batch	
Dry Soil Prep Dr	y Soil Prep GL-I	RAD-A-0	21		LXM2	08/27/0	1545	562444	
The following Analyt	tical Methods we	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				Recoverv%	Acce	ptable Limits		

Recovery%

Acceptable Limits

Surrogate/Tracer recovery

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Cor Ada	npany : iress :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power						
Con Pro	ntact: ject:	East Hampto Mr. Jack Mc Soils PO# 00	on, Connec Carthy 02332	cticut 06424				Re	eport Date: September	8, 2006
		Client Sam Sample ID	ple ID:		9106-00 1702560	04-005B 18		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
Surrogate/Trac	er recove	ery Test				Recovery%	Ac	cceptable Limits	;	_
Carrier/Tracer Re	covery	GFPG	C, Sr90, sc	lid-ALL FSS		95		(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
- < Result is less than value reported
- > Result is greater than value reported
- The TIC is a suspected aldol-condensation product Ά
- 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
- Results are reported from a diluted aliquot of the sample D
- Analytical holding time was exceeded Н
- 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
- QC Samples were not spiked with this compound Y
- \wedge RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded

.

Con Ada	npany : lress :	Connecticut 362 Injun H	t Yankee A Iollow Rd	tomic Power								
Cor	ntact:	East Hampt Mr. Jack M	on, Connec cCarthy	ticut 06424				Rep	port Date: Se	ptember	8, 2006	
Pro	ject:	Soils PO# 0	02332									
		Client Sar Sample II Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106-00 1702560 SE 10-AU0 25-AU0 Client 24.6%	004-005C 019 G-06 G-06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time Ba	tch Mto
Rad Gamma Spe	ec Analy	sis										
Gamma,Solid-1	FSS GAN	A & ALL FSS	5 226 Ingro	wth								
Waived												
Actinium-228			0.810	+/-0.116	0.0431	+/-0.116	0.090	pCi/g	MJH1	09/05/0	6 2143 563	3436 1
Americium-24	41	U	0.0147	+/-0.0176	0.0169	+/-0.0176	0.0345	pCi/g				
Bismuth-212			0.365	+/-0.171	0.099	+/-0.171	0.206	pCi/g				
Bismuth-214			0.623	+/-0.0633	0.0212	+/-0.0633	0.044	pCi/g				
Cesium-134		UI	0.00	+/-0.0297	0.0166	+/-0.0297	0.0343	pCi/g				
Cesium-137			0.113	+/0.0242	0.0124	+/-0.0242	0.0257	pCi/g				
Cobalt-60			0.268	+/-0.0379	0.012	+/-0.0379	0.0254	pCi/g				
Europium-152	2	U	-0.00617	+/-0.0317	0.0284	+/-0.0317	0.0585	pCı/g				
Europium-154	 -	U	-0.0248	+/-0.041/	0.0337	+/-0.0417	0.0714	pCi/g				
Europium-155)	UI	0.00	+/-0.040/	0.0265	+/-0.040/	0.054	pCi/g				
Lead-212			0.840	+/-0.0404	0.0162	+/-0.0404	0.0332	pCi/g				
Lead-214	1		0.080	+/-0.0505	0.0197	+/-0.0505	0.0406	pCi/g				
Niabium-04	ł	0	0.00300	+/-0.0143	0.0127	± -0.0143	0.0205	pCi/g				
Retensium-40		0	10.0033	+/-0.013 +/-0.535	0.0112	+/-0.013	0.0232	pCi/g				
Potassium-40 Podium-226			0.623	+/0.555	0.0857	$\pm /-0.0533$	0.180	pCi/g				
Silver-108m		П	-0.023	± -0.0033	0.0212	$\pm /-0.0113$	0.044	pCi/g				•
Thallium-208		U	0.0071	+/0.031	0.00971	+/-0.031	0.0201	pCi/g				
Pad Cas Flow Pi	ronartia	nal Counting	0.200	17 0.031	0.0115	17 0.031	0.0239	peng				
CEDG 8 00		Foo	5									
Strontium-90	nia-ALL	755 U	0.0082	+/-0.0158	0.012	+/-0.0158	0.0284	pCi/g	KSDI	09/07/0	6 1857 562	2563 2
The following P	rep Met	hods were p	erformed									
Method	Descr	iption				Analyst	Date	Time	Prep Bate	h		
Dry Soil Prep	Dry So	oil Prep GL-	RAD-A-0	21		LXM2	08/27/0	1545	562444			
The following A	nalytica	l Methods w	ere perfor	ned		. <u>.</u>			···· · · · · · · · · · · · · · · · · ·			_
Method	Descri	ption										
1	EML I	HASL 300, 4	.5.2.3									
2	EPA 9	05.0 Modifie	d									
Surrogate/Trace	er recov	ery Test				Recovery%	Acce	ptable Limits				

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Surrogate/	Fracer recov	ery Test				Recovery%	Acc	eptable Limi	ts	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID:		9106-000 17025601	94–005C 9		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	on, Connec Carthy 02332	cticut 06424				F	Report Date: Septembe	r 8, 2006
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power						

96

(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
- 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

Co: Ad	mpany : dress :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power								
Co	ntact:	East Hampto Mr. Jack Mo	on, Connec Carthy	ticut 06424				Re	eport Date: Se	ptember	8, 2006	
Pro	ject:	Soils PO# 0	02332									
		Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	nple ID: : te: ate:		9106-00 1702560 SE 10-AU 25-AU Client .19.1%	004-005D 020 G-06 G-06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time Ba	tch Mtd
Rad Gamma Sp	ec Analy	'sis										
Gamma,Solid–	FSS GA	M & ALL FSS	226 Ingro	wth								
Waived												
Actinium-228	3		0.995	+/-0.411	0.146	+/-0.411	0.291	pCi/g	MJH1	09/02/0	06 1725 56	3436 1
Americium-2	41	U	0.0557	+/-0.0479	0.0365	+/-0.0479	0.0729	pCi/g				
Bismuth-212			0.635	+/-0.589	0.261	+/-0.589	0.521	pCi/g				
Bismuth-214			0.760	+/-0.165	0.0601	+/-0.165	0.120	pCi/g				
Cesium-134		U	0.0627	+/~0.0504	0.0463	+/-0.0504	0.0926	pCi/g				
Cesium-137			0.503	+/-0.0894	0.0338	+/-0.0894	0.0676	pCi/g				
Cobalt-60	n	11	1.72	+/-0.132	0.0307	+/-0.132	0.0614	pCl/g				
Europium-15	2	U	0.00205	± -0.0988	0.0743	$\pm /-0.0988$	0.149	pCi/g				
Europium-15	+ 5		0.0558	+/-0.114 +/-0.119	0.0990	+/-0.114	0.199	pCi/g				
Lead-212	5	UI UI	1.00	+/-0.126	0.0391	+/-0.119	0.118	pCi/g				
Lead-212			0.802	+/-0.120	0.0580	+/-0.120	0.0772	pCi/g				
Manganese-5	4	I	0.002	+/-0.0434	0.0383	+/-0.0434	0.105	pCi/g				
Niobium-94	•	U	-0.0168	+/-0.0366	0.0309	+/-0.0366	0.0618	nCi/g				
Potassium-40		U	10.7	+/1 11	0 276	+/-1 11	0.551	nCi/g				
Radium-226			0.760	+/-0.165	0.0601	+/-0.165	0.120	pCi/g				
Silver-108m		U	-0.021	+/-0.0301	0.0247	+/-0.0301	0.0494	pCi/g				
Thallium-208		-	0.343	+/-0.0887	0.0298	+/-0.0887	0.0595	pCi/g				
Rad Gas Flow P	roportio	nal Counting	Į					1 0				
GEPC SHOD S	alid-ALI	F55	,									
Strontium-90		U -	-0.00322	+/-0.0146	0.0127	+/-0.0146	0.0299	pCi/g	KSDI	09/07/0	6 1857 562	2563 2
The following I	rep Met	thods were pe	erformed								- <u> </u>	
Method	Descr	iption				Analyst	Date	Time	Prep Batcl	h		
Dry Soil Prep	Dry S	oil Prep GL-I	RAD-A-0	21		LXM2	08/27/0	06 1545	562444			
The following A	nalytica	l Methods we	ere perfor	ned					<u></u>			
Method	Descr	iption										
1	EML	HASL 300, 4.	5.2.3							_		
2	EPA 9	05.0 Modifie	d									
Surrogate/Trac	er recov	ery Test				Recovery%	Acce	eptable Limits				

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Surrogate/	Tracer recov	ery Test				Recovery%	Ac	ceptable Limi	ts		
Parameter_		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Ar	nalyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID:		9106-000 17025602	04-005D		Project: Client ID: Vol. Recv.:	YANK01 YANK00	204 01	
	Project:	Soils PO# 00)2332								
	Contact	East Hampto	on, Connec	cticut 06424				I	Report Date:	September	8, 2006
	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power							

99

(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 >
- 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
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- 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

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

- QC Samples were not spiked with this compound Y
- ^ 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

Client :

Connecticut Yankee Atomic Power

Report Date: September 8, 2006 Page 1 of 5

	362 Injun Hollow Rd							rage 1 of 5	
Contact:	East Hampton, Connec Mr. Jack McCarthy	ticut							
Workorder:	170256								
Parmname		NOM	Sample	Qual	QC	Units	RPD%	REC% Range Anist	Date Time
Rad Gamma Spe Batch	ec 563436								
QC12011715 Actinium-228	26 170256001 DUP	• •	0.966		1.01	pCi/g	4	(0% - 100%) MJH1	09/02/06 17:26
Americium-24	l	TPU:	+/-0.192 +/-0.192 0.0375	U	+/-0.200 +/-0.200 0.0258	pCi/g	37	. (0% - 100%)	
Bismuth-212		TPU:	+/-0.0387 +/-0.0387 0.366		+/-0.075 +/-0.075 0.592	pCi/g	47	(0% - 100%)	
Bismuth-214		Uncert: TPU:	+/-0.306 +/-0.306 0.650		+/-0.276 +/-0.276 0.690	pCi/g	6	(0% - 100%)	
Cesium-134		Uncert: TPU: U	+/-0.135 +/-0.135 0.0366	UI	+/-0.0955 +/-0.0955 0.00	pCi/g	56	(0% - 100%)	
Cesium-137		Uncert: TPU:	+/-0.0355 +/-0.0355 0.0666		+/-0.035 +/-0.035 0.0611	pCi/g	9	(0% - 100%)	
Cobalt-60		TPU:	+/-0.0355 +/-0.0355 0.104 +/-0.0726		+/-0.0415 .+/-0.0415 0.159 +/-0.0325	pCi/g	41	(0% - 100%)	
Europium-152		TPU: U Uncert:	+/-0.0726 0.00636 +/-0.0728	U	+/-0.0325 -0.00858 +/-0.0624	pCi/g	1350	(0% - 100%)	
Europium-154		TPU: U Uncert:	+/-0.0728 -0.0788 +/-0.0938	U	+/-0.0624 0.00919 +/-0.0602	pCi/g	253	(0% - 100%)	
Europium-155		TPU: U Uncert:	+/-0.0938 0.0672 +/-0.0554	U	+/-0.0602 0.0817 +/-0.0557	pCi/g	20	(0% - 100%)	
Lead-212		TPU: Uncert:	+/-0.0554 0.871 +/-0.0971		+/-0.0557 0.847 +/-0.0867	pCi/g	3	(0% - 20%)	
Lead-214		TPU: Uncert:	+/-0.0971 0.727 +/-0.105		+/-0.0867 0.699 +/-0.102	pCi/g	4	(0% - 20%)	
Manganese-54		TPU: U Uncert:	+/-0.105 -0.00916 +/-0.0319	U	+/-0.102 -0.00665 +/-0.0225	pCi/g	32	(0% - 100%)	
Niobium-94		TPU: U Uncert:	+/-0.0319 0.0101 +/-0.0244	U	+/-0.0225 -0.00339 +/-0.0176	pCi/g	402	(0% - 100%)	
		TPU:	+/-0.0244		+/-0.0176				

QC Summary

Workorder: 170256				•/				Page 2 of 5	
Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range Anl	st Date Time
Rad Gamma Spec									
Balen 303430									
Potassium-40		11.3		11.7	pCi/	g 3		(0% - 20%)	
	Uncert:	+/-0.986		+/-1.03					
	TPU:	+/-0.986		+/-1.03	~ ~ ~			(00)	
Radium-226	•••	0.650		0.690	pCı/	g 6		(0% - 100%)	
	Uncert:	+/-0.135		+/-0.0955					
C ¹ 100	TPU:	+/-0.135	• •	+/-0.0955	0.1	201		(00/ 1000/)	
Silver-108m	U	-0.0067	U	0.000104	pCi/j	g 206		(0% - 100%)	
	Uncert:	+/-0.0208		+/-0.018					
TI 11: 200	TPU:	+/-0.0208		+/-0.018	0.1	0		(00/ 1000/)	
I naihum-208	The second	0.283		0.283	pCi/j	g U		(0% - 100%)	
	Uncen:	+/-0.0018		+/-0.048					
001201171627 1.05	TPU:	+/-0.0618		+/-0.048					
Actinium-228			11	0 254	nCi/	.			00/03/06 22:31
Actinium-226	Uncert:		U	+/-0.565	pent	5			09/05/00 22.51
	TPL			+/-0.565					
Americium-241	23.4			24.1	nCi/u	,	103	(75%-125%)	
	Uncert:			+/-1 28	por e	2	105	(15/0 125/0)	
	TPU			+/-1 28					
Bismuth-212			U	0.575	nCi/s	y .			
	Uncert:		-	+/-0.944	P	-			
	TPU			+/-0.944					
Bismuth-214			U	0.0248	pCi/s	2			
	Uncert:			+/-0.213	1 1	, ,			
	TPU:			+/-0.213					
Cesium-134			U	0.00032	pCi/s	2 ·			
	Uncert:			+/-0.147	1.	, ,			
	TPU:			+/-0.147					
Cesium-137	9.58			9.84	pCi/≨	3	103	(75%-125%)	
	Uncert:			+/-0.487				. ,	
	TPU:			+/-0.487					
Cobalt-60	14.5			14.7	pCi/g	Ş	101	(75%-125%)	
	Uncert:			+/-0.660					
	TPU:			+/-0.660					
Europium-152			U	0.125	pCi/g	ţ.			
	Uncert:			+/-0.292					
	TPU:			+/-0.292					
Europium-154			U	0.0779	pCi/g	5			
	Uncert:			+/-0.277					
	TPU:			+/-0.277					
Europium-155			U	-0.0876	pCi/g	;			
	Uncert:			+/-0.277					
	TPU:			+/-0.277					
Lead-212			U	0.0524	pCi/g	5			
	Uncert:			+/-0.155					
	TPU:			+/-0.155					
Lead-214			U	-0.103	pCi/g	i			
	Uncert:			+/-0.212					

		QC Su	mmary			
Workorder: 170256					Page 3 of 5	
Parmname	NOM	Sample Qual	QC	Units RPD%	REC% Range Anlst	Date Time
Rad Gamma Spec Batch 563436						
	TPU:		+/-0.212			
Manganese-54		U	0.0306	pCi/g		
	Uncert:		+/-0.135			
	TPU:		+/-0.135			
Niobium-94		U	-0.0513	pCi/g		
	Uncert:		+/-0.115			
	TPU:		+/-0.115			
Potassium-40		U	0.769	pCi/g		
	Uncert:		+/-1.10			
	TPU:		+/-1.10			
Radium-226		U	0.0248	pCi/g	(75%-125%)	
	Uncert:		+/-0.213			
	TPU:		+/-0.213			
Silver-108m		U	0.0782	pCi/g		
	Uncert:		+/-0.105			
	TPU:		+/-0.105			
Thallium-208		U	0.180	pCi/g		
	Uncert:		+/-0.177			
	TPU:		+/-0.177			
QC1201171525 MB				~		
Actinium-228		U	0.0216	pCı/g		09/02/06 17:16
	Uncert:		+/-0.0479	•		
	TPU:		+/-0.0479	~		
Americium-241		U	-0.0654	pCı/g		
	Uncert:		+/-0.0396			
	TPU:	• •	+/-0.0396	<u></u>		
Bismuth-212	**	U	0.110	pCı/g		
	Uncert:		+/-0.0705			
	TPU:		+/-0.0705	<i>a</i> :/		
Bismuth-214	I I	U	0.00843	pCI/g		
	Uncert:		+/-0.0317			
Caria 124	TPU:	11	+/-0.031/	0.1		
Cesium-134	T la santa	U	-0.00203	pC1/g		
	Uncert:		+/-0.012			
Cogium 127	IPU:	T	+/-0.012	nCi/a	•	
Cesium-137	Uncort	U	± 0.00737	peng		
			+/-0.0117			
Cobalt 60	IPU:	T		nCi/a		
Cobalt-00	Uncert	0	+/0.00389	peng		
	TDU.		+/ 0.0128			
Europium 157	IPU:	I I	-0.0128	pCi/a		
Europium-152	Uncert	U	+/ 0.0308	peng		
	TDI I.		+/-0.0300			
Europium-154	IFU:	II	0.0000	nCi/a		
Lutopium-154	Incart	U	+/-0 0305	heng		
	TDI I.		+/_0.0305			
Furonium-155	ITU.	I	-0 00342	nCi/g		

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			$\underline{\mathbf{v}}$	Du	<u>ANDALIGUI y</u>							
Workorder:	170256								Page 4	t of 5		
Parmname		NOM	Sample (Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spe	c											
Batch	563436											
		Uncert:			+/-0.0294							
		TPU:			+/-0.0294							
Lead-212				Ú	0.0151	pCi/y	g					
		Uncert:			+/-0.028		5					
		TPU:			+/-0.028							
Lead-214				U	0.00738	pCi/į	g					
		Uncert:			+/-0.0252							
		TPU:			+/-0.0252							
Manganese-54				U	0.0127	pCi/g	g					
		Uncert:			+/-0.0111							
		TPU:			+/-0.0111							
Niobium-94				U	-0.00293	pCi/į	g					
		Uncert:			+/-0.012							
		TPU:			+/-0.012							
Potassium-40				U	0.112	pCi/Į	g					
		Uncert:			+/-0.173							
		TPU:			+/-0.173							
Radium-226				U	0.00843	pCi/Į	g					
		Uncert:			+/-0.0317							
G ¹		TPU:			+/-0.0317	0.1						
Silver-108m		¥ 1 .		U	0.00354	pC1/g	g					
		Uncert:			+/-0.0115							
The 11 200		TPU:			+/-0.0115	Cit						
Thainum-208		Lincort		U	-0.011	pC1/§	g					
		Uncen:			+/-0.0157							
		IPU:			+/-0.015/							
Rad Gas Flow	567567											
Datch .	502505											
QC120116942	22 170256002 DUP											
Strontium-90		U	0.00501	U	0.00534	pCi/g	g 0		(0% - 100%)	KSD1	09/07/06	5 18:59
		Uncert:	+/-0.0149		+/-0.0155							
		TPU:	+/-0.0149		+/-0.0155							
QC120116942	4 LCS	1.74			1.57	-Cila		00	(750/ 1250/)		00/07/0/	10.10
Suonnum-90		L./4			+/ 0.140	pc1/g	5	90	(7370-12370)	•	09/07/00) 19:10
		TDU.			$\pm / 0.140$							
00120116942	1 MB	IPU:			+/-0.14/							
Strontium-90				U	0.0172	nCi/e	r				09/07/06	i 18·59
		Uncert:			+/-0.0185	P 0. 2	2				0,70,700	
		TPU			+/-0.0185							
QC120116942	3 170256002 MS											
Strontium-90	-	1.74 U	0.00501		1.32	pCi/g		76	(75%-125%)		09/07/06	i 19:16
		Uncert:	+/-0.0149		+/-0.124				,			
		TPU:	+/-0.0149		+/-0.130							

QC Summary

Notes:

The Qualifiers in this report are defined as follows:

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QC Summary

Workor	der:	170256							Page	5 of 5		
Parmnan	me		NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
*	A quali	ty control analyte r	ecovery is outside of s	specified acceptance crit	teria							
<	Result i	is less than value re	ported									
>	Result i	is greater than valu	e reported									
Α	The TIG	C is a suspected ald	lol-condensation produ	ict								
В	Target a	analyte was detecte	d in the associated bla	nk								
BD	Results	are either below th	e MDC or tracer reco	very is low								
С	Analyte	e has been confirme	ed by GC/MS analysis									
D	Results	are reported from	a diluted aliquot of the	e sample								
Н	Analyti	cal holding time w	as exceeded									
J	Value i	s estimated										
N/A	Spike r	ecovery limits do n	ot apply. Sample con	centration exceeds spike	e concentrat	ion by 4X	C or more					
R	Sample	results are rejected	l									
U	Analyte	e was analyzed for,	but not detected abov	e the MDL, MDA, or LO	OD.							
UI	Gamma	a SpectroscopyUn	certain identification									
Х	Consult	t Case Narrative, D	ata Summary package	, or Project Manager con	ncerning th	is qualifie	r					
Y	QC San	nples were not spik	ed with this compoun	d								
~	RPD of	sample and duplic	ate evaluated using +/	-RL. Concentrations are	e <5X the F	RL .						
h	Prepara	tion or preservation	n holding time was exe	ceeded								
N/A indi ** Indica ^ The Re	icates that ates anali- elative Po	at spike recovery lin yte is a surrogate co ercent Difference ()	nits do not apply whe ompound. RPD) obtained from th	n sample concentration on the sample duplicate (DI	exceeds spi JP) is evalu	ke conc. t	by a factor c	of 4 or more.	ia when the	- -		
sample is less than	s greater 5X the J	than five time RL, a control limit	es (5X) the contract re- of +/- the RL is us	quired detection limit (R sed to evaluate the DUP	L). In case result.	s where e	ither the sar	nple or dupli	icate value	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.



Page 1 of 105

CASE NARRATIVE For CONNECTICUT YANKEE RE: Soil PO# 002332 Work Order: 168404 SDG: MSR #06-0652, 06-0675, 06-0687, 06-0688, 06-0707, 06-0743, 06-0755

August 15, 2006

Laboratory Identification:

General Engineering Laboratories, LLC

Mailing Address:

P.O. Box 30712 Charleston, South Carolina 29417

Express Mail Delivery and Shipping Address:

2040 Savage Road Charleston, South Carolina 29407

Telephone Number:

(843) 556-8171

Summary:

Sample receipt

The sample(s) for this Project arrived at General Engineering Laboratories, LLC, (GEL) in Charleston, South Carolina on May 5, May 9, May 12, May 17, May 26, June 2, June 8, 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>
168404001	9106-0002-007F
168404002	9106-0002-011F
168404003	9106-0003-004F
168404004	9106-0003-015F
168404005	9106-0004-005F
168404006	9106-0004-015F
168404007	9106-0005-010F
168404008	9106-0005-014F
168404009	9106-0006-005F

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Page 2 of 105

168404010	9106-0008-006F
168404011	9106-0008-008F
168404012	9106-0009-002F
168404013	9106-0009-017F
168404014	9106-0010-001F
168404015	9106-0010-012F

Items of Note:

At the request of Dale Randall on July 20, 2006, GEL analyzed the above samples according to the spreadsheet in the attached email.

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:

Seven soil samples were reanalyzed for FSSALL, except gamma and Sr-90. Four soil samples were reanalyzed for FSSALL, except gamma and Ni-63. Two soil samples were reanalyzed for FSSALL, except gamma. Two soil samples were reanalyzed for FSALL, except gamma, Sr-90 and Ni-63.

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.

aughten

Cheryl Jones Project Manager

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1684041.

Subject: Additional HTD analyses From: "Dale Randall" <randall@cyapco.com> Date: Thu, 20 Jul 2006 11:04:54 -0400 To: "Cheryl Jones" <cj@gel.com> CC: "Clyde Newson" <Newson@CYAPCO.com>, "John McCarthy" <McCarthy@CYAPCO.com>

Cheryl:

Per our earlier discussion, attached is a list of samples that we would like to have analyzed to the FSSALL protocol. I have included a list of test protocols performed on each sample to date. Once you have had an opportunity to determine our options for each sample please call or e-mail me at your convenience.

Thank You,

Dale

(860) 267-3133

	Content-Description: GEL FSSALL analyses request.xls					
GEL FSSALL analyses request.xls	Content-Type:	application/vnd.ms-excel				
:	Content-Encoding:	base64				

·

Previous GEL ID CY sample log			Done		To be done								
	CY sample location (Ds	FSS Gam	Sr-90	Ni-63	Am	Pu	Sr90	Pu241	Fe55	Ni63	Tc99	H3	C14
164220008	9106-0002-007F	X	x	, 	x	X		X	X	x	x	X	X
164220012	9106-0002-011F	x	X		<u>х</u>	X		x	X	x	x	X	X
162335004	9106-0003-004F	x			x	X	X	x	X	x	X	X	X
162335014	9106-0003-015F	x			X	X	X	X	X	x	x	X	X
162832015	9106-0004-005F	x	X		X	X		x	X	x	x	X	X
162832009	9106-0004-015F	x	X		X	x		x	x	x	x	X	X
162485008	9106-0005-010F	x	X		X	X		X	X	x	X	X	<u> </u>
162485011	9106-0005-014F	X	X		X	X		x	X	X	x	x	X
162850014	9106-0006-005F	x	X		X	X		x	X	X	x	x	<u>x</u>
163741005	9106-0008-006F	X	X	X	X	x		x	X		_x	X	X
163741009	9106-0008-008F	X	X	X	X	X		x	x		x	<u>x</u>	X
164542008	9106-0009-002F	X		X	X	х	x	x	X		X	<u>x</u>	X
164542003	9106-0009-017F	X	_	X	X	X	X	x	X		X	X	X
163105009	9106-0010-001F	X		X	X	X	X	x	X		x	X	X
163105016	9106-0010-012F	X		X	X	x	X	X	×		x	x	X
Chain of Custody and Supporting Documentation

Page 6 of 105

Relog 168404

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

Page 7 of	Connecticut Y: 362 Injun H	ankee At Iollow Road, E 860-267	omic Por ast Hampton, -2556	wer C CT 06424	ompan	у			Cha	ain of (Custody	Form _{No.}	2006-00371
01.	Project Name: Haddam Ne	eck Decomm	issioning					A	alyses	Requeste	1	Lab Use Only	
15	Contact Name & Phone: Jack McCarthy 860-267-2	2556 Ext. 3	024									Comments:	
	Analytical Lab (Name, City General Engineering Labor 2040 Savage Road. Charles 843 556 8171. Attn. Chery	y, State) ratories ston SC. 294 /l Jones	07				SSGAM	FSSALL	Sr-90				
	Priority: 🛛 30 D. 🗍 14 D). 🗌 7 D.			Sample	Container Size-			01			164	220%
	Sample Designation	Date	Time	Media Code	Type Code	& Type Code						Comment, Preservation	Lab Sample ID
ł	9106-0002-001F	5/17/06	10:42	SE	C	BP	X		X			Transferred from COC 2006-00357	
	9106-0002-002F	5/18/06	09:43	SE	Ċ	BP	<u> </u>	X				Transferred from COC 2006-00361	
	9106-0002-003F	5/18/06	10:14	SE	Ĉ	BP	x	<u> </u>	X			Transferred from COC 2006-00361	
	9106-0002-004F	5/18/06	10:39	SE	C	BP	X		X			Transferred from COC 2006-00361	
:	9106-0002-005F	5/18/06	12:49	SE	C	BP	X		X	1		Transferred from COC 2006-00364	
	9106-0002-006F	5/18/06	13:14	SE	С	BP	X		X	1		Transferred from COC 2006-00364	
ļ	9106-0002-006FS	5/18/06	13:14	SE	C	BP	X	1	X			Transferred from COC 2006-00364	
	9106-0002-007F	5/18/06	13:37	SE	C	BP	X	1	X			Transferred from COC 2006-00364	
	9106-0002-008F	5/18/06	14:04	SE	С	BP	X		X			Transferred from COC 2006-00364	
	NOTES: PO #: 002332 N	MSR #: 06- いっ 5 5	SSWP# N 5	AX	LTP QA		lwaste	QA		on QA		Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: Deg. C Custody Sealed?
	1) Relinquished By 3) Relinquished By	61	Date/Tim <u> Date/Tim</u>	e 18/5 e	2) Recei 4) Recei	ived By YIIIA ived By		6	02.	Date/Tip 06 Date/Tip	me 9'.20 me	D Other	Custody Seal Intact? Y 🗆 N 🗆
	5) Relinquished By		Date/Tim	e	6) Recei	ived By				Date/Ti	me	7909 4145 5710	

بيها والمتعاقفين الموالي الموالي

Page 8 n	Connecticut Y 362 Injun H	ankee At Hollow Road, E 860-267	omic Po ast Hampton,	wer C	ompan	y			Cha	ain of	Custody	Form No.	2006-00372
ž)	Project Name: Haddam No	eck Decomn	nissioning	1	7			A	nalvses	Request	ed	Lab Use Only	
5	Contact Name & Phone: Jack McCarthy 860-267-	2556 Ext. 3	3024							1		Comments:	
	Analytical Lab (Name, Cit General Engineering Labor 2040 Savage Road. Charle 843 556 8171. Attn. Chery Priority: 2 30 D. 14 D	y, State) ratories ston SC. 294 yl Jones D. 7 D.	407		Sample	Container Size-	FSSGAM	FSSALL	Sr-90				
ſ	Sample Designation	Date	Time	Media Code	Type Code	& Type Code						Comment, Preservation	Lab Sample ID
	9106-0002-009F	5/18/06	14:28	SE	С	BP		X				Transferred from COC 2006-00364	
ł	9106-0002-010F	5/18/06	14:50	SE	C	BP	X		X			Transferred from COC 2006-00364	
	9106-0002-011F	5/19/06	08:10	SE	С	BP	X	[X	11		Transferred from COC 2006-00365	
	9106-0002-012F	5/19/06	08:31	SE	C	BP	X		X			Transferred from COC 2006-00365	
	9106-0002-013F	5/19/06	09:00	SE	C	BP	X		X			Transferred from COC 2006-00365	
Ì	9106-0002-014F	5/19/06	09:58	SE	С	BP	X		X			Transferred from COC 2006-00365	
ł	9106-0002-014FS	5/19/06	09:58	SE	C	BP	X		X	11		Transferred from COC 2006-00365	
	9106-0002-015F	5/19/06	10:29	SE	C	BP	X		X			Transferred from COC 2006-00365	
ł	9106-0002-016F	5/19/06	13:19	SE	c	BP	x	<u> </u>	X			Transferred from COC 2006-00365	1
	NOTES: PO #: 002332 1	MSR #: 06- 0755	SSWP# N	A 🛛	LTP QA	C Rad	lwaste	QA		on QA		Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: Deg. C Custody Sealed?
	1) Relinguished By	2 6	Date/Tim	e 875	2) Recei	ived By		(p-2.06	Date 9	rime 120	Other	Custody Seal Intact?
	3) Relinquished By		Date/Tim	e	4) Recei	ived By				Date/	Time	Bill of Lading #	Y D N D
	5) Relinquished By		Date/Tim	e	6) Rece	ived By				Date/	Time		

Connecticut Yankee С Statement of Work for Analytical Lab Services CY-ISC-SOW-001 Figure 1. Sample Check-in List Date/Time Received:_ 0 SR#06-07 SDG#: 'n., 42201 Work Order Number: 51/0 2006 109 Shipping Container ID: Chain of Custody # Yes [X] No [Custody Seals on shipping container intact? 1. 2. Custody Seals dated and signed? Yes 🖌 No [3. Chain-of-Custody record present? Yes [/ No [4. Cooler temperature 5. Vermiculite/packing materials is: Wet [] Dry [] 10 6. Number of samples in shipping container: 7. Sample holding times exceeded? Yes [] No X] 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 [] Description of anomalies (include sample numbers): 11. Sample Custodian/Laboratory:_ 62.06 Date: Telephoned to: On

Page 9 of 105

Connecticut Yankee Statement of Work for Analytical Lab Services CY-ISC-SOW-001 S Figure 1. Sample Check-in List Date/Time Received MSR # 06 - 0755SDG# 164220% Work Order Number: Chain of Custody # 2006 - 00372 Shipping Container ID: 1909 4 5709 Yes [No [] Custody Seals on shipping container intact? 1. Yes [] No [] 2. Custody Seals dated and signed? 3. Chain-of-Custody record present? Yes 🚺 No [] O 4. Cooler temperature Wet [] Dry [] hopockins botwet 5. Vermiculite/packing materials is: Number of samples in shipping container: 6. 7. Sample holding times exceeded? Yes [] No M 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 [Description of anomalies (include sample numbers): 11. Sample Custodian/Laboratory: 6-206 **NUA** Date: Telephoned to: On Ŕ۱ Page 10 of 105



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SAMPLE RECEIPT & REVIEW FORM

WORIC				PM use only
client: Connecticut Yonk	pe			SDG/ARCOC/Work Order: 164220
Date Received: 6. 2.06				PM(A) Review (ensure non-conforming items are resolved prior to signing):
Received By:				Clive for
	- <u>-</u>	T	T	
Sample Receipt Criteria	Yes	NA	ź	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received inta and sealed?	ct	Τ	Γ	Circle Applicable: seals broken damaged container leaking container other (describe)
Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.	T	Τ		Circle Coolant # ice bags blue ice dry ice none other describe
Chain of custody documents included with shipment?				
Sample containers intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
Samples requiring chemical preservation at proper pH?				Sample ID's, containers affected and observed pH:
VOA vials free of headspace (defined as < 6mm bubble)?		Ł		Sample ID's and containers affected:
Are Encore containers present? (If yes, immediately deliver to VOA laboratory)	T			
Samples received within holding time?				Id's and rests affected:
Sample ID's on COC match ID's on bottles?			ľ	Sample ID's and containers affected:
Date & time on COC match date & time on bottles?			s	ample ID's affected:
Number of containers received match number indicated on COC?			S	ample ID's affected:
COC form is properly signed in relinguished/received sections?				$C_{0} = 2006 - 00371$
Air Bill, Tracking #'s, & Additional Comments		,		
Suspected Hazard Information	Regulated	Regulated	RS RS *I	SO RAD Receipt # f > x2 area background is observed on samples identified as "non- gulated/non-radioactive", contact the Radiation Safety group for further vestigation.
CB Regulated?		4	Me	iximum Counts Observed*: 26 CPM
hipped as DOT Hazardour	1	_	Co	mments:
Aaterial? If yes, contact Waste Aanager or ESH Manager.			Ha: UN	zard Class Shipped: #:
M (or PMA) review of Hazard alar	ication			



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SAMPLE RECEIPT & REVIEW FORM

	PATORIES,				PM use only
6	lient: Connenticut Unite	<u> </u>			SDG/ARCOC/Work Order: 164220
Ê	hate Received: (*)+06	<u> </u>			PM(A) Review (ensure non-conforming items are resolved prior to signing):
Ë	ale Received. 6 dr 0 2				Clipt
Ľ	Received By:				
Γ					<u> </u>
	Sample Receipt Criteria	Ye	Ż		Z Comments/Qualifiers (Required for Non-Conforming Items)
ſ	Shipping containers received intac	t			Circle Applicable: seals broken damaged container leaking container other (describe)
	and sealed?				Circle Coolant # ice/hags blue ice dry ice none other describe)
I	Samples requiring cold				
	Record preservation method	1			
\mathbf{F}	Chain of custody documents	+			/
	included with shipment?				
Γ	Sample containers intact and				Circle Applicable: seals broken damaged container leaking container other (describe)
Ľ	sealed?	_			
Γ	Samples requiring chemical	1			Sample ID's, containers affected and observed pH:
F	preservation at proper pH?			\downarrow	Samala ID's and gostalizers offered
	(defined as < 6mm hubble)?			1	
F	Are Encore containers present?				
1 :	(If yes, immediately deliver to	/			
	VOA laboratory)	<u> </u>			
8	Samples received within holding				ld's and tests affected:
Ľ	time?	<u> </u>			
9	Sample ID's on COC match ID's				Sample ID's and containers affected:
-	Date & time on COC metch data			-	Sample ID's affected
10	& time on bottles?				
	Number of containers received				Sample ID's affected:
	match number indicated on COC?				
12	COC form is properly signed in				4 00372
*4	relinquished/received sections?				(oc = 2006 - 00371 - 047 6/2/06
	/ Air Dill Tracking #10 P				
14	Additional Comments				
	Controller Controllers				
		g	g	vel	RSO RAD Receipt #
	Suspected Hazard Information	- ulat	ulat	Ĩ	*If > x2 area background is observed on samples identified as "non-
	•	Z Š	Reg	Iigh	regulated/non-radioactive", contact the Radiation Safety group for further
A	Radiological Classification?		F		Maximum Counts Observed*
B	PCB Regulated?				Comments:
	Shipped as DOT Hazardous	Τ			Hazard Chee Shimod
Ľ	Manager or FSH Manager				UN#:
1	PM (or PMA) review of Hazard class				
	the cost many review of mazard classi	ncatio	<u>)n:</u>		Initials USY Date: 6206
	Page 12 of 105				U \cdot \cdot $$

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Page 13	Connecticut Y 362 Injun H	ankee Ate Iollow Road, Ea 860-267-	omic Por ast Hampton, -2556	wer C CT 06424	ompan	y	+6,	233	Ch: 347-	ain o /(f Cus ,233	stod 5 :/:	y Form CD 5/8/04	No. 2006-00312
of	Project Name: Haddam Ne	eck Decomm	issioning					Ana	lyses Re	equeste	d		ab Use Only	
105	Contact Name & Phone: Jack McCarthy 860-267-	2556 Ext. 3	8024									<u>]</u>	Comments:	
	Analytical Lab (Name, Cit General Engineering Labor 2040 Savage Road. Charles 843 556 8171. Attn. Chery	y, State) ratories ston SC. 294 yl Jones	107				FSSGAM	FSSALL	Sr-90					
	Priority: 🔀 30 D. 🗌 14 D	0. 🗍 7 D.		Matte	Sample	Container Size-								
	Sample Designation	Date	Time	Code	Code	Code						$ \Gamma$	Comment, Preservation	Lab Sample ID
6	9106-0003-001F	4/24/06	14:13	SE	С	BP	X						Fransferred from COC2006-00221	
02	9106-0003-002F	4/24/06	14:39	SE	C	BP	x	<u>├</u> ───	†		+	+-+-	Transferred from COC2006-00221	
03	9106-0003-003F	4/24/06	15:01	SE	C	BP	X		1		1	<u>+</u> -†-	Transferred from COC2006-00221	
NH	9106-0003-004F	4/25/06	08:41	SE	C	BP	X	1			1		Transferred from COC2006-00223	
65	9106-0003-004FS	4/25/06	08:41	SE	C	BP	X					ŢŢ.	Transferred from COC2006-00223	
ole	9106-0003-005F	4/25/06	09:21	SE	C	BP	X						Transferred from COC2006-00223	
à	9106-0003-006F	4/25/06	09:46	SE	C	BP	X						Transferred from COC2006-00223	
UD	9106-0003-007F	4/25/06	10:28	SE	C	BP	X						Transferred from COC2006-00223	
DI C	9106-0003-008F	4/25/06	11:15	SE	C	BP		X					Transferred from COC2006-00223	
•	NOTES: PO #: 002332 N Combined samples 9106-0003-003F	MSR #: 06- Staken on 4/25/06	5 @08:19 and 9	WP# NA 9106-0003-	003FB taken	OTP QA on 4/25/06@	□ R } 08:19 ii	adwast n order to	e QA have suffi	Cient sam	lon QA ple for cou	unting.	Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp. Deg. C Custody Sealed?
	1) Relinquished By JAINE RICARTE.	5-4	Date/Tim	ie 3 <i>D</i>	2) Rece	ived By	tto		5/5	Date	(Time 1015	5	Other	Custody Seal Intact?
	3) Relinquished By		Date/Tim	ie	4) Rece	ived By			r -	Date	/Time		Bill of Lading #	YO NO
	5) Relinquished By		Date/Tim	e	6) Rece	ived By			· · · · · · · · · · · · · · · · · · ·	Date	/Time		7920-8920-02-10	

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Page 14 of	Connecticut Y 362 Injun F	ankee At Hollow Road, E 860-267	omic Po ast Hampton -2556	wer C , CT 0642	ompan 4	у		161	Ch:	ain of 44.	f Cı 16	istod 233	y Form ५५%	No. 2006-00313
10	Project Name: Haddam No	eck Decomn	nissioning					Anal	yses Re	quested		La	v Use Only	
5	Contact Name & Phone: Jack McCarthy 860-267-	2556 Ext.	3024									Co	mments:	
	Analytical Lab (Name, Cit General Engineering Labor 2040 Savage Road. Charles 843 556 8171. Attn. Chery	y, State) ratories ston SC. 294 yl Jones	407				SSGAM	SSALL	Sr-90					
	Priority: 🛛 30 D. 🗌 14 D). 🗌 7 D.		Media	Sample	Container Size-	E E							
	Sample Designation	Date	Time	Code	Code	Code	ł						Comment, Preservation	Lab Sample ID
w٩	9106-0003-009F	4/25/06	13:00	SE	С	BP	X				-+	Tra	sferred from COC 2006-00236	
010	9106-0003-010F	4/25/06	13:23	SE	С	BP	X				+	Trar	sferred from COC 2006-00236	
011	9106-0003-010FS	4/25/06	13:23	SE	C	BP	X		1			Trai	nsferred from COC 2006-00236	
012	9106-0003-012F	4/25/06	15:12	SE	C	BP	X		[Trai	nsferred from COC 2006-00236	
00	9106-0003-013F	4/25/06	14:21	SE	C	BP	X		1			Trai	nsferred from COC 2006-00236	
219	9106-0003-014F	4/25/06	14:48	SE	C	BP		X				Тта	nsferred from COC 2006-00236	
olt	9106-0003-015F	4/26/06	08:16	SE	С	BP	X	1		[Tra	nsferred from COC 2006-00237	
'nΣ	9106-0003-016F	4/26/06	09:41	SE	C	BP	X		1			Tra	nsferred from COC 2006-00237	
NIC	9106-0003-017F	4/26/06	09:18	SE	C	BP	X	1	1			Trai	nsferred from COC 2006-00237	
617	-9106-0003-018F	4/26/06	08:59	SE	C	BP	X	1	1			Tra	nsferred from COC 2006-00237	
	NOTES: PO #: 002332 N	MSR #: 06- ⁰	96 52. SSV	VP# NA	\boxtimes	LTP QA		Radwa	iste QA		Non	QA	Samples Shipped Via: Fed Ex UPS Hand	futernal Container. Temp :Deg C
	1) Relinquished By JANNE RUARTE. 3) Relinquished By	5-1	Date/Tim -06 /13 Date/Tim	e 8 <i>0</i> e	2) Recei 4) Recei	ved By Derri ved By	cc th	2	5/5/	Date/	Гіте 101 Гіте	5	D Other Bill of Lading #	
													7920-8920-0261	Example 1 - Sector 1 Sector 2 Sector 2

2	¥	4	×	y	1

Unery1 16232

	Connecticut Yankee Statement of Work for Analytical Lab Services	CY-ISC-SOW-001
	Figure 1. Sample Check-in List	
	Date/Time Received: 504 1015,	
· · · · · · · · · · · · · · · · · · ·	SDG#:MSR#06-0652	
	Work Order Number: 162335	
÷ •	Shipping Container ID: 7920 8920 0261 Chain of Custody	# 2006-00312
`+ ··.	1. Custody Seals on shipping container intact?	2006 - 00313 Yes [] No M
	2. Custody Seals dated and signed?	Yes [] No M
	3. Chain-of-Custody record present?	Yes 🗶 No []
:	4. Cooler temperature] q e C	
•	5. Vermiculite/packing materials is:	Wet [] Dry [] 0/A-
· · · · ·	6. Number of samples in shipping container: [10:]ten	[19] nine
<u>.</u> .	7. Sample holding times exceeded?	Yes [] No X
	hazard labels custody sealsappropriate sample labels	
	9. Samples are:	
	in good conditionleaking	
	brokenhave air bubbles	
. 1	0. Were any anomalies identified in sample manint	
. 1	1. Description of anomalies (include one of the	es [] No [X]
• ,		
- 2	ample Quetodies / about 110	
T.	blephoned to	te: <u>5/5/06</u>
	. OnBy	
•	Page 15 of 105	
	1 450 15 01 105	



SAMPLE RECEIPT & REVIEW FORM

PATORIES'				PM use only 162335
Client: YANKER				SDG/ARCOC/Work Order:
Date Received: (a)A 5/5/	56			PM(A) Review (ensure non-conforming items are resolved prior to signing):
Pereived By:	Cal	(1	 ,	Canth
		<u><u>*</u></u>		
Sample Receipt Criteria	Kes	Z	2	Comments/Qualifiers (Required for Non-Conforming Items)
Shipping containers received intac	:1	\mathbf{F}		Circle Applicable: seals broken damaged container leaking container other (describe)
and sealed?	V			
Samples requiring cold	T	T^-		Circle Coolant # ice bags blue ice dry ice none other describe
2 preservation within $(4 + / - 2 C)$?		1./	Ł	
Record preservation method.		ľ		1900 Peaputts
Chain of custody documents	1./		1	
included with shipment?	<u> </u>			
A Sample containers intact and				Circle Applicable: seals broken damaged container leaking container other (describe)
sealed?				
5 Samples requiring chemical			ł	Sample ID's, containers affected and observed pH:
preservation at proper pH?	4	12		
6 VOA vials free of headspace		11	1	Sample ID's and containers affected:
(defined as < 6mm bubble)?	_			
Are Encore containers present?				
V(A laboratory)		ļ	$\vee \mid$	
Somples received within holding	+			Id's and tests affected:
8 sime?				
Earnia IDia an COC match IDia				Sample ID's and containers affected
9 on bottles?				
Date & time on COC match date				Sample ID's affected:
10 & time on bottles?				
Number of containers received				Sample ID's affected:
11 match number indicated on COC?	\bigvee			
COC form is properly signed in			{	
12 relinguished/received sections?			ļ	j
	E.	JF	$\overline{\mathbf{v}}$	1
Air Bill, Tracking #'s, &	112	uc	~~~	7970 8920 0261
Additional Comments	ł			07.40
	L			
	5	g	1 8	RSO RAD Receipt #
Suspected Hazard Information	r on	ulat	2	If $> x^2$ area background is observed on samples identified as "non-
-	Z 20	Reg		egulated/non-radioactive", contact the Radiation Safety group for further
A Radiological Classification?		ᆉ	h	Aaximum Counts Observed*: 3/1 / DHA
B PCB Regulated?				Comments:
Shipped as DOT Hazardous				
C Material? If yes, contact Waste			ŀ	tazard Class Shipped:
Manager or ESH Manager.	Ň		Ľ	
PM (or PMA) review of Hazard class	sificati	on:		Initials Date: 515 06

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Page 16 of 105

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Connecticut Y 362 Injun	Yankee At Hollow Road, F 860-26	omic Po East Hampton, 7-2556	wer C , CT 06424	ompan 4	y			Cha	ain o	f C	ustody	Form	No. 2006-00336
Project Name: Haddam 1	Neck Decomr	nissioning	_				Anal	yses Re	quested	l	Lab	Use Onlys	
Contact Name & Phone: Jack McCarthy 860-26	7-2556 Ext.	3024									Cor	ments	
Analytical Lab (Name, C General Engineering Lab 2040 Savage Road. Char 843 556 8171. Attn. Che	ity, State) oratories leston SC. 29 ryl Jones	407				FSSGAM	FSSALL	Sr-90					
Priority: 🛛 30 D. 🗌 14	D. 🗌 7 D.		Media	Sample Type	Container Size-								
Sample Designation	Date	Time	Code	Code	Code					1		Comment, Preservation	te Larsandia II.
9106-0004-001F	05/3/06	09:37	SE	С	BP		X	X			Tran	sferred from COC 2006-00316	
9106-0004-002F	05/3/06	09:56	SE	C	BP	X		X			Tran	sferred from COC 2006-00316	
9106-0004-003F ·	05/3/06	10:28	SE	C	BP	X		X			Tran	sferred from COC 2006-00316	
9106-0004-004F	05/3/06	10:48	SE	C	BP	X		X			Tran	sferred from COC 2006-00316	
9106-0004-004FS·	05/3/06	10:48	SE	C	BP	X		X			Tran	sferred from COC 2006-00316	
9106-0004-005F	05/3/06	11:07	SE	C	BP	X		X			Tran	sferred from COC 2006-00316	
9106-0004-006F	05/3/06	12:46	SE	C	BP	X	1	X	ļ		Tran	sferred from COC 2006-00317	
9106-0004-007F	05/4/06	07:55	SE	C	BP	X		X	1	T	Tran	sferred from COC 2006-00320	
9106-0004-017F	05/4/06	09:27	SE	C	BP	X		X			Tran	sferred from COC 2006-00320	
NOTES: PO #: 002332	 MSR #: 06-	L	J P# NA		LTP QA		LRadwas	ste QA		Non (1 QA	Samples Shipped Via: Fed Ex UPS Hand	Anternal Container Temp 72 Des C Gostody Sealed
1) Relinquished By		Date/Tim	ie 	2) Recei	ived By Deni (otb			Date	Time Oio	0970	Other	Constory Seal Integet
3) Relinquished By		Date/Tim	le	4) Rece	ved By				Date	/Time		Bill of Lading # 7919-3895-8881	

GPP-GGGR-R5104-003-Attachment B-CY-001 Major Health Physics Procedure 13 A. H. -**Chain of Custody Form** No. 2006-00337 **Connecticut Yankee Atomic Power Company** 362 Injun Hollow Road, East Hampton, CT 06424 860-267-2556 Project Name: Haddam Neck Decommissioning Analyses Requested Contact Name & Phone: Jack McCarthy 860-267-2556 Ext. 3024 Analytical Lab (Name, City, State) FSSGAM FSSALL General Engineering Laboratories Sr-90 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 - Geb Sample ID Comment, Preservation Sample Designation Time Date Code Code Code Transferred from COC 2006-00320 11月21日1月22 9106-0004-008F 5/04/06 08:58 SE C BP Х X Transferred from COC 2006-00320 E 151 1 1 1 X Х 9106-0004-009F 5/04/06 08:23 SE Ċ BP Transferred from COC 2006-00317 9106-0004-010F X Х 5/03/06 SE C BP 15:11 Transferred from COC 2006-00317 9106-0004-010F8 5/03/06 SE C BP X Х 15:11 Transferred from COC 2006-00317 13. **19.** E.L. M. X 9106-0004-011F· 5/03/06 13:08 SE C BP X Transferred from COC 2006-00317 X X 9106-0004-012F 5/03/06 13:33 SE С BP Transferred from COC 2006-00317 9106-0004-013F 5/03/06 BP X X Sec. A new Y SE C 13:54 Transferred from COC 2006-00317 9106-0004-014F ~ 5/03/06 14:43 BP SE С Х Х Transferred from COC 2006-00317 X 9106-0004-015F 🖌 5/03/06 14:18 SE C BP X Internal Container Samples Shipped Via: Radwaste OA NOTES: PO #: 002332 MSR #: 06-0689 SSWP# NA 🖾 LTP OA □ Non OA Fed Ex UPS emo. A Deg. C Hand Custody Seal-Ditact? 1) Relinquished By Date/Time Date/Time 2) Received By Other 512.04 09.20 3) Relinquished By Received By Date/Time Date/Time Bill of Lading # 7919 3895 8892

Connecticut Yankee Statement of Work for Analytical Lab Services	CY-ISC-SOW-001
Figure 1. Sample Check-in List	
Date/Time Received: 5. 12. 06. 09:20	<u>, , , , , , , , , , , , , , , , , , , </u>
SDG#:MSR#06-0688	
Work Order Number: 162832 1.	
Shipping Container ID: 7414 3895 8892 Chain of Custody # 200	06-00337
1. Custody Seals on shipping container intact? Yes	No []
2. Custody Seals dated and signed? Yes] No []
3. Chain-of-Custody record present? Yes	No []
4. Cooler temperature <u>N/A</u>	
5. Vermiculite/packing materials is: Wet	/ Dry []
6. Number of samples in shipping container:9	
7. Sample holding times exceeded? Yes [] No [/
8. Samples have:	
r tape hazard labels	
custody seals appropriate sample labels	
9. Samples are:	
in good conditionleaking	
brokenhave air bubbles	
10. Were any anomalies identified in sample receipt? Yes	No []
11. Description of anomalies (include sample numbers):	
Sample Custodian/Laboratory: Enily Mark- Date:	5. 12.0 6 09:20
Telephoned to:OnBy	

Page 19 of 105

Page 45 of 56

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Statement of Wo	ankee ork for Analytical	Lab Services	•		CY-ISC-SO
	طما	Figure 1. Samp	le Check-in List		
Date/Time Recei	ved: O[12]	110 W 041	<u>()</u>		
Work Order Nur	nham 16	78321	•	· · · ·	•
Shipping Contain	er ID: 7919	3895 8892	Chain of Custody	# 8006 -	00337
1. Custody	Scals on shipping	container intact?		Yes [] No	Ø
2. Custody	Scals dated and si	igned?		Yes [] No	64
3. Chain-of-	Custody record p	resent?	• •	Yes YA No	1
4. Cooler ter	nperature	17:0	· · · · · · · · · · · · · · · · · · ·	•	· · · ·
5. Vermiculi	te/packing mater	ials is:		Wet MDDry	kj –
6. Number of	f samples in shipp	ping container.	·	••	
	iding times excee	:ded?		Yes [] No [6
8. Samples have					
		hazard lal	bels		· ·
Custo	dy scals	appropria	t. Sample labels	•	
9. Samples are:		and the second secon			•
in go	od condition	Lesking		•	
broke	D	have air	bubbles		
10					
11. Deservice any and	malies identified	in sample receipt?	Ye	s [No []	
	anomalies (inclu	ude sample numbers	»- <u>3011 w</u>	as bustin	gout
	0t	Conterine	bag_		<i>.</i>
ample Organiant					
elephoned to:	oratory:(Denich	Date	slplou	
		On	By		
	· ·				

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SAMPLE RECEIPT & REVIEW FORM CONTINUATION FORM

Ford FX TOK#	(00#	# of containers
7920 9480 6688	2006-00332	(T) seven
lele 11	2006-00331	(0) Six
(0/055	2106 - 00330	(6) Six
7919 3895 8881	20010 - 00336	(9) nioc
8892	2006-00337	(9) nine
(this cooler had a	<u>\</u>	
busted sample		
COOLER & LOC is W/RSO		
Emily Martin)		
J		
	· · ·	·
· · · · · · · · · · · · · · · · · · ·		·
·		·
· •	·	
·	<u></u>	
······································		
	1 <u></u>	

Page 21 of 105



SAMPLE RECEIPT & REVIEW FORM

	#ITORIES'				PM use only
Ch	ient: CT Yanker				SDG/ARCOC/Work Order: 142832
Da	te Received: 5.12.06				PM(A) Review (ensure non-conforming items are resolved prior to signing):
Re	ceived By: F. Martin				Chy Am
		T	T		· · · · · · · · · · · · · · · · · · ·
	Sample Receipt Criteria	Yes	AN	°N	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	X	Γ		Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.		X		Circle Coolant # ice bags blue ice dry ice none other describe)
3	Chain of custody documents included with shipment?	X			
4	Sample containers intact and sealed?			X	Circle Applicable: seals broken damaged container leaking contained other (describe) SN: 9104-0004-014F
5	Samples requiring chemical preservation at proper pH?		x		Sample ID's, containers affected and observed pH:
6	VOA vials free of headspace (defined as < 6mm bubble)?		x		Sample ID's and containers affected:
7	Are Encore containers present? (If yes, immediately deliver to VOA laboratory)			X	
8	Samples received within holding time?	X			ld's and tests affected:
9	Sample ID's on COC match ID's on bottles?	X			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	X			Sample ID's affected:
11	Number of containers received match number indicated on COC?	X			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?			X	Coc Not Yelinguished
14	Air Bill , Tracking #'s, & Additional Comments				7919 3895 8892
	Suspected Hazard Information	Non- Regulated	Regulated	High Level	RSO RAD Receipt # *If > x2 area background is observed on samples identified as "non- regulated/non-radioactive", contact the Radiation Safety group for further investigation.
A	PCB Remulated?	\neg	X		Maximum Counts Observed*: < Black
a	Shipped as DOT Hazardove	X			Comments: Rkgd = 40 cpm
C	Material? If yes, contact Waste Manager or ESH Manager.	x		ł	Hazard Class Shipped: JN#: N/A
	Php 106 PMA Tryisw of Hazard class	ificati	on:		Initials 041 Date: 5/12/06



SAMPLE RECEIPT & REVIEW FORM

	"ATORIES"					PM use only								
C	lient: VanKal,				S	DG/ARCOC/Work Order: /62832.								
D	ate Received: 5/12/120				P	M(A) Review (ensure non-conforming items are resolved prior to signing):								
R	eccived By: CIDENTICOHE	5				Curth								
		7	T	-										
	Sample Receipt Criteria	Vas		A	Ž	Comments/Qualifiers (Required for Non-Conforming Items)								
1	Shipping containers received inta and sealed?	CI V	7	Τ	Ci	rcle Applicable: seals broken damaged container leaking container other (describe)								
2	Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.			1	Ci	rcle Coolant // ice bags blue ice dry ice (none) other describe)								
3	Chain of custody documents included with shipment?				C	ous are wet								
4	Sample containers intact and sealed?			r	Cir Di	ute Applicable: scals broken damaged container leaking container (ather (describe)) 157e0 bag w/ RSOs (00111 7970 9480 6031 10								
5	Samples requiring chemical preservation at proper pH?		12	1	San	npie ID's, containers affected and observed pH: 8892								
6	VOA vials free of headspace (defined as < 6mm bubble)?		1	1	San	nple ID's and containers affected:								
7	Are Encore containers present? (If yes, immediately deliver to VOA laboratory)			L	ł									
8	Samples received within holding time?	\checkmark			ld's	and tests affected:								
9	Sample ID's on COC match ID's on bottles?	V			Sam	ple ID's and containers affected:								
10	Date & time on COC match date & time on bottles?	1			Sam	ple (D's affected:								
	Number of containers received match number indicated on COC?	~			Samp	He ID's affected:								
2	COC form is properly signed in relinquished/received sections?			く	1n0	cols are relinguished								
4	Air Bill , Tracking #'s, & Additional Comments	Fe	dey	¢ ¥	r's Sl	le continuation sheet								
s	uspected Hazard Information	Non- Regulated	Regulated	High Level	RSO *If > regul inves	RAD Receipt # > x2 area background is observed on samples identified as "non- lated/non-radioactive", contact the Radiation Safety group for further stigation.								
R	adiological Classification?		V		Maxi	mum Counts Observed*: 1000 40 CPM								
1 ^p	CB Regulated?	\checkmark			Com	ments:								
M M	laterial? If yes, contact Waste lanager or ESH Manager.	1			Haza UN#:	rd Class Shipped:								
PI	M (or PMA) review of Hazard class	iticati	on:		J	Initials (A) Date: Stalato								
	Page 23 of 105					D [14-100								

Connecticut Y Connecticut Y 362 Injun	Yankee At Hollow Road, I 860-26'	tomic Po East Hampton 7-2556	wer C , CT 0642	ompan 4	у			Ch	No. 2006-00319				
Project Name: Haddam N	Neck Decomr	nissioning				Analyses Requested						Lab Use Only	
Contact Name & Phone: Jack McCarthy 860-267	7-2556 Ext.	3024							<u></u>			community of the second se	而和法的
Analytical Lab (Name, Ci General Engineering Labo 2040 Savage Road. Charl 843 556 8171. Attn. Cher	Analytical Lab (Name, City, State) Seneral Engineering Laboratories 2040 Savage Road. Charleston SC. 29407 843 556 8171. Attn. Cheryl Jones					SSGAM	SSALL	Sr-90					
Priority: 🛛 30 D. 🗌 14 1	Priority: 🛛 30 D. 🗌 14 D. 🗍 7 D.			Sample Type	Container Size- & Tyne								
Sample Designation	Date	Time	Code	Code	Code] [Comment, Preservation	That sample D
9106-0005-010F	5/02/06	13:16	SE	C	BP	X		X				Transferred from COC 2006-00314	
9106-0005-011F	5/02/06	13:39	SE	С	BP	X		X				Transferred from COC 2006-00314	
9106-0005-013F	5/02/06	14:35	SE	C	BP	X		X				Transferred from COC 2006-00314	
9106-0005-014F	5/02/06	15:04	SE	C	BP	X		X				Transferred from COC 2006-00314	
9106-0005-016F	5/02/06	13:59	SE	C	BP	X		X				Transferred from COC 2006-00314	
9106-0005-015F	5/03/06	08:03	<u>SE</u>	C	BP	X		X				Transferred from COC 2006-00316	
9106-0005-017F	5/03/06	08:13	SE	<u> </u>	BP	X		X·				Transferred from COC 2006-00316	
9106-0005-018F	5/03/06	09:09	<u>SE</u>	C	BP	X		X				Transferred from COC 2006-00316	
9100-0002-018FS	5/03/06	09:09	<u>SE</u>	C	BP	X		X				Transferred from COC 2006-00316	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $													Triternal Gonainer Tomt (11) Deg C Cystody Sealed? Custody Seal Inner?
L	<u> </u>											Bill of Lading # 7920 9195 4352	

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· · · .		••	· · · · · · · · · · · · · · · · · · ·
	Connecticut Yankee	W02-721-V7	-001
	Statement of Work for Analytical Lab Services	<u> </u>	
• : ·	Figure 1. Sample Check-in List		
	Date/Time Received: 5/9/06 0930		
•	MSR# 06-0675		
•••	11.7.4851		
. :	Work Urder Number:	10010-00318	2031
•	Shipping Container ID: 4720 (13 (30)) 43 Chain of Custod	IY #	
	1. Custody Scals on shipping container intact?	Yes [] No []	•.
	2. Custody Seals dated and signed?	Yes [] No []	-
	3. Chain-of-Custody record present?	Yes [] No []	
	4. Cooler temperature 18°C, 19°C	· }	
•	5. Vermiculite/packing materials is:	Wet [] Dry []	
	6 Number of samples in shipping container: 18		
•, •	7 Sample holding times exceeded?	Yes [] No []	
			
	8. Samples have:		
. ·	tape hazard labels		
	crustody senis	э. Ла	
• • •	9. Samples are:		
	in good condition leaking (Sume	bags)	
	broken have air hukklar	4	
	10. Were any anomalies identified in sample receipt?	Yes [] No L	•
	11. Description of anomalies (include sample numbers).		-
·			
			·
	Dalla		· · ·
	Sample Custodian/Laboratory:	Date: 5/9/06 093	0
	Telephoned to:/OnB;	y	
			· . ·
	Page 25 of 105		

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SAMPLE RECEIPT & REVIEW FORM

TATORIES'				PM use only								
Client: ATMC				SDG/ARCOC/Work Order: 162485								
Date Received: 5/9/2/0				PM(A) Review (ensure non-conforming items are resolved prior to signing):								
Received By: ALC				Clark								
Received by: prio			_									
Sample Receipt Criteria	Yes	NA	°Z	Comments/Qualifiers (Required for Non-Conforming Items)								
Shipping containers received intaction and sealed?	et			Circle Applicable: seals broken damaged container leaking container other (describe)								
Samples requiring cold				Circle Coolant # ice bags blue ice dry ice none other describe)								
2 preservation within $(4 + / - 2 C)$?			ļ									
Record preservation method.	<u> </u>											
3 Chain of custody documents	ļ											
included with shipment?	<u> </u>	-		Circle Analisable, each backen, despeed coursing, lasking constinut, other (describe)								
4 Sample containers intact and				CHER Applicable, seals broken Gamager Container Teaking Container Guer (UESCIDE)								
sealed?	\rightarrow	1		Sample ID's containers affected and observed pH-								
5 Samples requiring chemical												
VOA vials free of headspace	+	†	\mathbf{r}	Sample ID's and containers affected:								
6 (defined as < 6mm bubble)?		I										
Are Encore containers present?				Dura.								
7 (If yes, immediately deliver to				SHC 1								
VOA laboratory)				5906								
8 Samples received within holding time?				Id's and icsis 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	1			Sample ID's affected:								
COC form is properly signed in												
12 relinquished/received sections?												
Air Bill Tracking #'s fr	Fe	1 -	797	20 9195 4352 → 19°C								
14 Additional Comments	12	c.	•	42/03 - 1000								
		-		1505-1180								
	Ţ	g	Ģ	RSO RAD Receipt #								
Suspected Hazard Information	on- Llat	lat	1	*1f > x2 area background is observed on samples identified as "non-								
Suspected Man a Invitation	Ž i	lga	- E	regulated/non-radioactive", contact the Radiation Safety group for further								
A Radiological Classification?		5		Maximum Counts Observed* Ob A Baa								
B PCB Regulated?				Comments:								
Shipped as DOT Hazardous			-									
C Material? If yes, contact Waste			ł	Hazard Class Shipped:								
Manager or ESH Manager.				<i>J</i> ιπ.								
PM (or PMA) review of Hazard clas	sificati	on:		Initials ('x Date: 5906								

Connecticut 362 Injur	Yankee At n Hollow Road, E 860-267	omic Po East Hampton, 7-2556	wer Co CT 06424	ompan	y			Cha	ain o	f Cus	tody	Form	No. 2006-00332
Project Name: Haddam	Neck Decomn	nissioning					Anal	yses Re	quested	1	Lab	Lee Only	
Contact Name & Phone: Jack McCarthy 860-26	57-2556 Ext.	3024									Com	mentsef 1	
Analytical Lab (Name, C General Engineering Lal 2040 Savage Road. Chai 843 556 8171. Attn. Ch				FSSGAM	FSSALL	Sr-90							
Priority: 🔀 30 D. 🗌 14	•	Media	Sample Type	Container Size- &Type									
Sample Designation	Date	Time	Code	Code	Code							Comment, Preservation	A Lab Sample ID
9106-0006-004F	4/28/06	12:46	SE	C	BP	X		X			Trans	ferred from COC 2006-00317	
9106-0006-005F	4/28/06	13:03	SE	C	BP	X		X		Τ	Trans	ferred from COC 2006-00317	
9106-0006-006F	4/28/06	13:22	SE	C	BP	X		X			Trans	ferred from COC 2006-00317	
9106-0006-007F	4/28/06	13:41	SE	C	BP	X		X			Transferred from COC 2006-003		
9106-0006-007FS	4/28/06	13:41	SE	C	BP	X		X			Trans	ferred from COC 2006-00317	
9106-0006-012F	5/01/06	13:40	SE	C	BP	X	X X Transferred			Trans	ferred from COC 2006-00317		
9106-0006-017F.	5/01/06	14:03	SE	C	BP	X		X Tra			Trans	ferred from COC 2006-00317	
NOTES: PO #: 002332	MSR #: 06-0	0687 SSW	P#NA		LTP QA		Radwa	ste QA		Non QA		Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp: <u>17</u> 0Deg C
1) Relinquished By		Date/Tin	10	2) Received By C. Deur totto					Date Date	/Time 091	0	D Other	Cilviody Seal Intact
3) Kelinquished By		Date/Tin	1e	4) Rece	ived By				Date	/Time		Bill of Lading # 7 920. 9480- 6688	

• • •	Figure 1. Sample Check-in List	
Date	/Time Received: 5/10/00 @ 0920	
SDG	#:	
Wor	k Order Number: / 62850 /.	· · · · ·
Ship	ping Container ID: See (on't sheet Chain of Custody # See (oritshe
I.	Custody Seals on shipping container intact? Yes [] No [ð D
2.	Custody Seals dated and signed?	- D
3 . '	Chain-of-Custody record present?	7 1
4.	Cooler temperature 1700	1
5.	Vermiculite/nacking materials is:	
5.	Number of samples in shinoing container	
	Sample holding times exceeded	
	Yes [] No [D
. 0. i	Locustody seals appropriate sample labels	
9. S	amnies are	
	in good conditionleaking	
:	have air bubbles	
	Were any anomalies identified in sample receipt?	
	Were any anomalies identified in sample receipt? Yes [] No O	
	Were any anomalies identified in sample receipt? Yes [] No KP Description of anomalies (include sample numbers):	
	Were any anomalies identified in sample receipt? Yes [] No KP Description of anomalies (include sample numbers):	
	Were any anomalies identified in sample receipt? Yes [] No [C] Description of anomalies (include sample numbers):	

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Page 28 of 105

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SAMPLE RECEIPT & REVIEW FORM

"TORIES"				PM use only
Client: VanKol,				SDG/ARCOC/Work Order: 162832., 162850
Date Received: 5/2/00				PM(A) Review (ensure non-conforming items are resolved prior to signing):
Received By: CIDENTICH	U			ayth
		Т	T	
Sample Receipt Criteria	Yes	N		Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received inta and sealed?	act v	1		Circle Applicable: seals broken damaged container leaking container other (describe)
Samples requiring cold 2 preservation within (4 +/- 2 C)? Record preservation method.		/	1	Circle Coolant # ice bags blue ice dry ice (nonc) other describe)
3 Chain of custody documents included with shipment?	~			cous arowet
4 Sample containers intact and sealed?			v	Circle Applicable: seals broken damaged container leaking container (other (describe)) busted bag w/ RSOs (2011) 7920 9480 60058 (D
5 Samples requiring chemical preservation at proper pH?		V	工	Sample ID's, containers affected and observed pH: 8892
6 VOA vials free of headspace (defined as < 6mm bubble)?		~	1_	Sample ID's and containers affected:
Are Encore containers present? 7 (If yes, immediately deliver to VOA laboratory)			v	ł
8 Samples received within holding time?	\checkmark			Id's and tests affected:
9 Sample ID's on COC match ID's on bottles?	V			Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?	1			Sample ID's affected:
11 Number of containers received match number indicated on COC?	12			Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?			ノ	no cous are relinguished
Air Bill , Tracking #'s, & Additional Comments	Fee	LEY	c #	see continuation sheet
Suspected Hazard Information	Non- Regulated	Regulated	High Level	RSO RAD Receipt #
A Radiological Classification?		2		Maximum Counts Observed*: 100 40 CPM
Shipped as DOT Hazardous	$\vdash \checkmark$			Comments:
Material? If yes, contact Waste Manager or ESH Manager.	\checkmark			Hazard Class Shipped: UN#:
PM (or PMA) review of Hazard class	siticati	on:		Initials (A) Date: Staller
Page 29 of 105				



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SAMPLE RECEIPT & REVIEW FORM CONTINUATION FORM

VANK 162832, 162850

	· · ·	
Fed Ex Tek#	(00#	# of containers
7920 9480 6688	2006-00332	(7) seven
lelo]]	2006-00331	(0) Six
6655	2006 - 00 330	(6) Six
7919 3895 8881	20010 - 00336	(9) nine
8892	2006 - 00337	(9) nine
(this cociler had a		
busted sample		
COOLER & LOG is W/RSO		
Emily Martin		
J		
·		
·		
·		
·		

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

Page 31 c	Connecticut Y 362 Injun	ankee At Hollow Road, H 860-26	tomic Po East Hampton 7-2556	wer C , CT 0642	ompan 4	No. 2006-00367									
Ē	Project Name: Haddam N	leck Decomr	nissioning					Anal	yses Re	quested	1	Lal	Lab Use Only		
05	Contact Name & Phone: Jack McCarthy 860-267	-2556 Ext.	3024					 		<u>^</u>		Co	mments:		
	Analytical Lab (Name, Ci General Engineering Labo 2040 Savage Road. Charle 843 556 8171. Attn. Cher				FSSGAM	FSSALL	Sr-90	Ni-63							
	Priority: 🛛 30 D. 🗌 14 I	D. 🗌 7 D.			Sample	Container Size-									
	Sample Designation	Date	Time	Media Code	Type Code	&Type Code							Comment, Preservation	Lab Sample ID	
Ì	9106-0008-001F	5/05/06	11:13	SE	C	BP	x	<u></u>	x	x		Trar	sferred from COC # 2006-00324		
Ì	9106-0008-003F	5/5/06	13:35	SE	Ċ	BP	X		X	x		Trar	asferred from COC # 2006-00325		
	9106-0008-004F	5/5/06	13:51	SE	C	BP	X		X	x		Trar	sferred from COC # 2006-00325		
	9106-0008-005F	5/5/06	14:17	SE	C	BP	x	[X	x		Trar	sferred from COC # 2006-00325	1	
	9106-0008-006F	5/5/06	14:36	SE	C	BP	X	f	X	x		Trar	sferred from COC # 2006-00325		
	9106-0008-006FS	5/5/06	14:36	SE	С	BP	X		X	X	1	Trar	sferred from COC # 2006-00325	······································	
[9106-0008-007F	5/5/06	15:03	SE	C	BP	†	X			1.1	Tra	sferred from COC # 2006-00325		
[9106-0008-002F	5/5/06	13:10	SE	С	BP	X	[·····	X	X		Tra	sferred from COC # 2006-00325		
ļ															
	NOTES: PO #: 002332	MSR #: 06- <i>[</i>)743 ssv	VP# NA		LTP QA		Radwa	ste QA		Non	QA	Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: Deg. C Custody Sealed?	
	1) Relinquished By	2 5-2	Date/Time	e 950	2) Recei	ved By	A (Alara 202)						Other	Custody Seal Intact?	
Į	3) Relinquished By		Date/Tim	e	4) Recei	ved By		у —	<u></u>	Date/	Time		Bill of Lading #	YO NO	

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Page 32	Connecticut Y 362 Injun F	ankee At Hollow Road, E 860-267	omic Po ast Hampton,	wer C CT 06424	ompan	у			Cha	ain of	ſĊu	stody	Form 163741	No. 2006-00366
S.	Project Name: Haddam Ne	eck Decomn	issioning					Anah	ses Re	quested		Lab	Use Only	· · · · · · · · · · · · · · · · · · ·
105	Contact Name & Phone: Jack McCarthy 860-267-	2556 Ext.	3024							<u> </u>		Com	nments:	· · · · · · · · · · · · · · · · · · ·
	Analytical Lab (Name, Cit General Engineering Labor 2040 Savage Road, Charles 843 556 8171. Attn. Chery	y, State) ratories ston SC. 294 yl Jones	107				FSSGAM	FSSALL	Sr-90	Ni-63				
-	Priority: 🛛 30 D. 🗌 14 D). 📋 7 D.			Sample	Container Size-	{				{			
	Sample Designation	Date	Time	Media Code	Type	&Type Code		ſ					Comment, Preservation	Lab Sample ID
9	9106-0008-008E	5/08/06	08.01	SE	C	RP	x		x	x		Trans	ferred from COC # 2006-00327	
	9106-0008-009F	5/08/06	08.32	SF	C	BP	X		x	x		Trans	sferred from COC # 2006-00327	t
010	9106-0008-0091	5/08/06	09.02	SE	C	BP	X		x	X		Trans	sferred from COC # 2006-00327	
.12	9106-0008-010FS	5/08/06	09.09	SE	$\frac{1}{C}$	BP	X		X	$\frac{1}{x}$	-+	Trans	sferred from COC # 2006-00327	
37	9106-0008-011F	5/08/06	09:30	SE	C C	BP	X	1	X	$\frac{1}{X}$		Trans	sferred from COC # 2006-00327	†
11	9106-0008-012F	5/08/06	09.53	SE	Č	BP		X		<u> </u>		Trans	sferred from COC # 2006-00327	
**	9106-0008-013F	5/08/06	10.16	SE	C	RP	x		x	x		Trans	sferred from COC # 2006-00327	1
319	9106-0008-014F	5/08/06	10.10	SE	C	BP	X		X	X		Trans	sferred from COC # 2006-00327	∱ -
CIG	///////////////////////////////////////	1 27 0 07 0 0				<u> </u>		<u> </u>		<u> </u>		-+		1
	······				+	<u> </u>		1	<u> </u>	<u> </u>				
	NOTES: PO #: 002332 1	MSR #: 06- <i>(</i>	0743 ssv	VP#NA		LTP QA		Radwa	iste QA		Non (QA	Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: <u>21</u> Deg. C Custody Sealed? Y I N 27
	1) Relinquished By	·····	Date/Tim	ie	2) Recei	ived By	ito		sh	Date/	Time	30] [] Other	Custody Seal Intact?
	3) Relinquished By		Date/Tim	le	4) Recei	ived By				Date/	Гime		Bill of Lading #	¥6≄ N⊡

163741% **Connecticut Yankee** Statement of Work for Analytical Lab Services CY-ISC-SOW-001 Figure 1. Sample Check-in List 9.2.2 21,106 Date/Time Received: SDG#: Work Order Number: 79275154 1162 Chain of Custody #_ 2006-0036 Shipping Container ID: Custody Seals on shipping container intact? Yes [] No [] Yes [] No [] Custody Seals dated and signed? 2. 3. Chain-of-Custody record present? Yes [-] No [] 19 تك Cooler temperature 4. 5. Vermiculite/packing materials is: Wet [] Dry [] NA 6. Number of samples in shipping container: 7. Sample holding times exceeded? Yes [] No [7 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 [-] Description of anomalies (include sample numbers) 11. Sample Custodian/Laboratory: C Telephoned to:

Page 33 of 105



SAMPLE RECEIPT & REVIEW FORM

	"PHTORIES"				PM use only
r					SDC/ABCOC/Work Order: 1627411
C	lient: Com. Jankee				SDO/ARCOG (for a classic classic and resolved prior to signific):
D	ate Received: 6 2406				PM(A) Review (ensure non-contornanty news are resorved proved againing).
	eceived By:				
		1	τ-		
	Sample Receipt Criteria	Yes	NA	°N N	Comments/Qualifiers (Required for Non-Conforming Items)
	Shipping containers received intac and sealed?	" /			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 bone other descri
3	Chain of custody documents included with shipment?	/			
4	Sample containers intact and sealed?	7			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?		1		Sample ID's, containers affected and observed pH:
6	VOA vials free of headspace $(defined as < 6mm bubble)?$		/		Sample ID's and containers affected:
7	Are Encore containers present? (If yes, immediately deliver to VOA laboratory)			/	·
8	Samples received within holding time?	/			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	/			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	/			Sample ID's affected:
11	Number of containers received match number indicated on COC?	:/		•	Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	7			
14	Air Bill , Tracking #'s, & Additional Comments		\mathcal{I}	95	1 5154 1162
	Suspected Hazard Information	Non- Regulated	Regulated	High Level	RSO RAD Receipt #
<u>A</u>	PCB Reminter	<u> </u>	1		Maximum Counts Observed*: Oph 70 Por R50
ß	Shinoed at DAVE Harastawa				Comments:
Ċ	Material? If yes, contact Waste Manager or ESH Manager.	1		ł	Hazard Class Shipped: JN#:
	PM (or PMA) review of Hazard class	ificatio	on:	Ø	M Initials 5/26/06 Date:

Page 34 of 105.



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SAMPLE RECEIPT & REVIEW FORM

4ATORIES'				PM use only
Client: Yankee				SDG/ARCOC/Work Order: 163741'1.
Date Received: 5/24/04				PM(A) Review (ensure non-conforming items are resolved prior to signing):
Received By: C. Qui ce	to			UN .
		T		
Sample Receipt Criteria	Yes	NA	۶ ۲	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received inta and sealed?	nct 🗸	1		Circle Applicable: seals broken damaged container leaking container other (describe)
Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.		/	1	Circle Coolant # ice bags blue ice dry ice fone other describe)
3 Chain of custody documents included with shipment?	~			
4 Sample containers intact and sealed?	\checkmark			Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?		~	1	Sample ID's, containers affected and observed pH:
6 VOA vials free of headspace (defined as < 6mm bubble)?		V		Sample ID's and containers affected:
Are Encore containers present? 7 (If yes, immediately deliver to VOA laboratory)			V	f
8 Samples received within holding time?	V			Id's and tests affected:
9 Sample ID's on COC match ID's on bottles?	1			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?	V			Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?	eg		イ	not relinguisted
Air Bill, Tracking #'s, & Additional Comments	-7q 2	7	51	54 1173 COC. # 2004-00764
Suspected Hazard Information	Non- Regulated	Regulated	High Level	TSO RAD Receipt # If > x2 area background is observed on samples identified as "non- egulated/non-radioactive", contact the Radiation Safety group for further investigation.
PCB Regulated?		<u> </u>	N	faximum Counts Observed*: 40 CPM
Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.	1		н U	azard Class Shipped: N#:
PM (or PMA) review of Hazard clas	sificatio	n:	er.	Initials 5/26/06 Date:

itement of Work for An	alytical Lab Services	C	Y-ISC-SOW-001
	Figure 1. Sample Chec	:k-in List	
ite/Time Received:	5/24/06 @ 0937	>	
)G#:			
Vork Order Number:		•	
hipping Container ID:	792151541173 Chain	of Custody #20010	00364
. Custody Seals on	shipping container intact?	Yes No []
Custody Seals dat	ted and signed?	Yes INO []
Chaia-of-Custody	y record present?	Yes LYNo []
Cooler temperatur	re2/**		
5. Vermiculite/packi	ing materials is:	Wet [] Dry	ί, j
Number of sample	les in shipping container:	1) sight	
. Sample holding ti	imes exceeded?	Yes [] No [Y I
8. Samples have:	hazard labels		
custody sea	alsappropriate s	ample labels	
9. Samples are: in good cobroken	alsappropriate s onditionleaking have air b	ample labels	
9. Samples are: in good co broken 0. Were any anomal 1. Description of ano	alsappropriate s onditionleaking have air b lies identified in sample receipt? omalies (include sample numbers)	ample labels ubbles Yes [] No [u	7
9. Samples are: in good co broken 0. Were any anomal 1. Description of and	alsappropriate s onditionleaking have air b lies identified in sample receipt? omalies (include sample numbers)	ample labels ubbles Yes [] No [.	7
9. Samples are: in good co broken 0. Were any anomal 1. Description of and	alsappropriate s onditionleaking have air b lies identified in sample receipt? omalies (include sample numbers)	ubbles Yes [] No [u	7
9. Samples are: in good co broken 10. Were any anomal 11. Description of and Sample Custodian/Labora	alsappropriate s onditionleaking have air b lies identified in sample receipt? omalies (include sample numbers)	ample labels ubbles Yes [] No [. 	1

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Page 36 of 105

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Page 37 of	Connecticut 362 Injun	Yankee A Hollow Road, 1 860-26	tomic Po East Hampton 7-2556	wer C , CT 0642	ompan 4	y			Ch	ain o	f Cu	stod	y Form	No. 2006-00380
10	Project Name: Haddam 1	Neck Decom	missioning					Anal	yses Re	quested		La	b Use Only	
S	Contact Name & Phone: Jack McCarthy 860-267	7-2556 Ext.	3024									Co	mments:	₩ ₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩
:	Analytical Lab (Name, C General Engineering Lab 2040 Savage Road. Charl 843 556 8171. Attn. Che	ity, State) oratories leston SC. 29 ryl Jones	407				SSGAM	SSALL	Ni-63					
	Priority: 🛛 30 D. 🗌 14	D. 🗌 7 D.		Media	Sample	Container Size-	ГЦ. \	<u>н</u> . ї.	.`					
	Sample Designation	Date	Time	Code	Code	Code	.`						Comment, Preservation	Lab Sample ID
<u></u> 31	9106-0009-016F	5/15/06	13:28	SE	С	BP	X		X			Tra	sferred from COC 2006-00352	<u>+</u>
₂₀ 2	9106-0009-016FS	5/15/06	13:28	SE	С	BP	X		X			Tra	isferred from COC 2006-00352	· · · · · · · · · · · · · · · · · · ·
503	9106-0009-017F	5/15/06	14:03	SĒ	С	BP	X		X			Tra	sferred from COC 2006-00352	{
516	9106-0009-011F	5/15/06	08:05	SE	С	BP		x				Tra	isferred from COC 2006-00351	<u>}</u>
54	9106-0009-013F	5/15/06	08:35	SE	С	BP	Х		X			Tra	isferred from COC 2006-00351	
005	9106-0009-013FS	5/15/06	08:35	SE	С	BP	X		X			Tra	sferred from COC 2006-00351	<u>}</u>
017	9106-0009-014F	5/15/06	08:59	SE	С	BP		X				Trar	sferred from COC 2006-00351	
: rola	9106-0009-015F	5/15/06	09:36	SE	С	BP	Х		Х			Trar	sferred from COC 2006-00351	
ļ												1		
ļ														
	NOTES: PO #: 002332	MSR #: 06- C	9818 SSW	P# NA	\boxtimes	LTP QA		Radwa	ste QA		Non Q.	A	Samples Shipped Via: ⊠ Fed Ex □ UPS □ Hand	Internal Container Temp.: Deg. C Custody Sealed?
ſ	1) Relinquished By		Date/Time		2) Receiv	ad By	 ~			Date/T	ima	<u>. </u>	4	YUND Custodu Sanl Intent?
1	JAME RICARTS	6	7.06/1110	0	H		1-		6-	9-04		00	Other	Custody Sear Intact?
	3) Relinquished By		Date/Time	-	4) Receiv	el By	γ		0	Date/T	ime		Bill of Lading #	ΥΠΝΠ
1			<u></u>	J			· · · · · · · · · · · · · · · · · · ·	·	····		·		7921.1915 2869	I

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Page 38	Connecticut N 362 Injun	Yankee At Hollow Road, E 860-267	omic Po	wer C , ct 06424	ompan 4	у			Cha	ain o	f Cı	ustod	y Form	No. 2006-00381
of 1	Project Name: Haddam M	Neck Decomm	nissioning					Anal	vses Re	aueste	1	La	b Use Only	· ·
05	Contact Name & Phone: Jack McCarthy 860-267	7-2556 Ext. 3	3024							1		Co	mments:	
	Analytical Lab (Name, C General Engineering Lab 2040 Savage Road. Charl 843 556 8171. Attn. Che	ity, State) oratories eston SC. 294 ryl Jones	407				SSGAM	FSSALL	Ni-63					
	Priority: 🔀 30 D. 🗌 14	D. 🗌 7 D.		Media	Sample	Container Size- & Type	H						·	_
_	Sample Designation	Date	Time	Code	Code	Code							Comment, Preservation	Lab Sample ID
07	9106-0009-001F	5/11/06	13:22	SE	С	BP	X		X			Tra	nsferred from COC 2006-00347	
800	9106-0009-002F	5/11/06	13:46	SE	C	BP	X	1	X			Tra	nsferred from COC 2006-00347	
m	9106-0009-003F	5/11/06	14:06	SE	C	BP	X		X			Tra	nsferred from COC 2006-00347	
00	9106-0009-004F	5/11/06	14:30	SE	С	BP	X		X			Tra	nsferred from COC 2006-00347	
oll	9106-0009-005F	5/11/06	14:55	SE	С	BP	X	1	X			Tra	nsferred from COC 2006-00347	
012	9106-0009-007F	5/12/06	07:44	ŚE	C	BP	X	1	X			Tra	nsferred from COC 2006-00348	
03	9106-0009-008F	5/12/06	08:16	SE	С	BP	X	1	X			Tra	nsferred from COC 2006-00348	
Alt	9106-0009-009F	5/12/06	08:35	SE	C	BP	X	1	X			Tra	nsferred from COC 2006-00348	
6(6	9106-0009-010F	5/12/06	09:07	SE	С	BP	X		X			Tra	insferred from COC 2006-00348	
	NOTES: PO #: 002332	MSR #: 06-	SSV	UP# NA		LTP QA		Radwa	Liste QA		Non	QA	Samples Shipped Via: Fed Ex UPS Hand	Internal Container Temp.: Deg. C Custody Sealed? Y □ N □
	1) Relinquished By JANME RUMPTE	6-	Date/Tim 7- 06/ 11:0	e 00	2) Recei	ed By	1		4	Date.	Time 9	20	Other	Custody Seal Intact?
	3) Relinquished By		Date/Tim	e	4) Recei	ved By	/			Date	'Time		Bill of Lading #	YO NO
													7921 1915 2850	

164542/.

Connecticut Yankee Statement of Work for An	alutical Lab Services	CATCC-SUM 00
Statement of Work for An	Figure L. Samula Check in List	C1-13C-50 W-00
Date/Time Received:	$6 - 8 - 06 \qquad 900$	
SDG#:	MSR#06-0819, 0818	
Work Order Number:		
Fipping Container ID:	21 - 1915 - 2858 - 1 - 8156 Chain of Custody	2005-00352 2006-00380 #
1. Custody Seals on s	hipping container intact?	Yes [X] No []
2. Custody Seals date	d and signed?	Yes [] No 🅅
3. Chain-of-Custody	record present?	Yes [X] No []
4. Cooler temperature	3°05_	1
5. Vermiculite/packin	g materials is:	Wet [] Dry 🙀
6. Number of samples	s in shipping container:1	
7. Sample holding tim	nes exceeded?	Yes [X] No []
	hazard labels	
9. Samples are:		
in good cond	litionleaking	
broken	have air bubbles	
0. Were any anomalies	identified in sample receipt?	Yes [] No [x]
I. Description of anoma	alies (include sample numbers):	
ample Custodian/Laboratory	AMaly	Date: 6-8-06 700
elephoned to:	OnBy	· · · · · · · · · · · · · · · · · · ·

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Tage 4	Connecticut Y 362 Injun	Yankee At Hollow Road, E 860-267	comic Po East Hampton 7-2556	wer C , CT 06424	ompan 4	у			Cha	ain o	of Cu	stod	y Form	No. 2006-00349
d	Project Name: Haddam N	Neck Decom	nissioning					Anal	yses Re	queste	d	Lat	Use Only	
COLI	Contact Name & Phone: Jack McCarthy 860-267	-2556 Ext.	3024									Cor	nments:	
	Analytical Lab (Name, Ci General Engineering Labo 2040 Savage Road. Charl 843 556 8171. Attn. Cher Priority: 🛛 30 D. 🗌 14 1	ity, State) oratories eston SC. 294 ryl Jones D. [] 7 D.	407			Container	FSSGAM	FSSALL	Ni-63					
			r	Medía	Sample Type	Size- &Type							1631031.	.
	Sample Designation	Date	Time	Code	Code	Code							Comment, Preservation	Lab Sample ID
1	9106-0010-001F	5/04/06	10:49	SE	C	BP	X		X			Tran	sferred from COC 2006-00321	
0	9106-0010-002F	5/04/06	11:12	SE	C	BP	X		X			Tran	sferred from COC 2006-00321	
l	9106-0010-004F	5/04/06	12:48	SE	C	BP	X		X			Tran	isferred from COC 2006-00321	
2	9106-0010-006F	5/04/06	13:34	SE	C	BP	X		X			Tran	isferred from COC 2006-00321	
B	9106-0010-007F	5/04/06	13:21	SE	C	BP	X		X			Tran	sferred from COC 2006-00321	
iť	9106-0010-009F	5/04/06	14:01	SE	С	BP	X		X			Trar	sferred from COC 2006-00321	
E	9106-0010-010F	5/04/06	14:21	SE	C	BP	X		X			Trar	sferred from COC 2006-00321	
ik	9106-0010-012F	5/04/06	14:44	SE	Ċ	BP	X		X			Trar	sferred from COC 2006-00321	
é	9106-0010-013F	5/04/06	15:06	SE	C	BP		X	<u> </u>			Trar	sferred from COC 2006-00321	
	NOTES: PO #: 002332	0707 SS	UWP#NA		LTP QA	Radwaste QA Non QA Samples Shipped Via: Fed Ex UPS Hand							Internal Container Temp.: // Deg. C Custody Sealed? Y I N D	
	1) Relinquished By	·	Date/Tip	ne 	2) Recei	ived By			-	Date/Time			Other	Custody Seal Infact?
	1) Relinquished By	3-7	Date/Tin	ne	4) Rece	ived By				Date	Ob /Time	770	Bill of Lading # 7904-3 113-8541	Y S N D

· (Connecticut Yankee Statement of Work for Analytical Lab Services	CY-ISC-SOW-0	01
	Figure 1. Sample Check-in List 9^{45} 5/17/06		
	SDG#:MAR* 06-0707		-
1	Work Order Number: 163105%		
	Shipping Container ID: 7104 3113 85 41 Chain of Custody	# 2006 - 60349	- · ·
· _ 1	Custody Seals on shipping container intact?	Yes 🕅 No []	•
2	2. Custody Seals dated and signed?	Yes [X] No []	
3	Chain-of-Custody record present?	Yes [X] No []	
· 5	Vermiculite/packing materials is:	Wet M Dry []	-
e 7	 Number of samples in shipping container:	Yes [] No [X]	- , · ,
	 8. Samples have: tapehazard labels tapehazard labels 		
	9. Samples are: 		
10 11	 Were any anomalies identified in sample receipt? Description of anomalies (include sample numbers):	Yes [] No [X]]
·			· ·
Sa	mple Custodian/Laboratory: AMaly D	ate: 5-17-06	
. Tel	OnBy		

Page 41 of 105

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SAMPLE RECEIPT & REVIEW FORM

CHERYL

141	ORIES	-		V	PM use only
Client:	CONN. YANKEE				SDG/ARCOC/Work Order:
Date Received: 5-17-06 P					PM(A) Review (ensure non-conforming items are resolved prior to signing):
Received By:					(the second seco
				T	
Sai	nple Receipt Criteria	Yes	NA	°N N	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shippin and sea	g containers received intac led?		1		Circle Applicable: seals broken damaged container leaking container other (describe)
2 preserv Record	s requiring cold ation within (4 +/- 2 C)? preservation method.		1	,	Circle Coolant # ice bags blue ice dry ice 500ne other describe)
3 Chain o	f custody documents I with shipment?	1			
4 Sample sealed?	containers intact and	1			Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples	requiring chemical ation at proper pH?		~		Sample ID's, containers affected and observed pH:
6 VOA vi (defined	als free of headspace as < 6mm bubble)?		V		Sample ID's and containers affected:
Are End 7 (If yes, VOA la	ore containers present? immediately deliver to poratory)			, ,	
8 Samples time?	received within holding	~			Id's and lesis affected:
9 Sample on bottle	ID's on COC match ID's es?	1			Sample ID's and containers affected:
10 Date & & time of	time on COC match date on bottles?	$\overline{\checkmark}$			Sample ID's affected:
11 Number match m	of containers received imber indicated on COC?	\checkmark			Sample ID's affected:
12 COC for relinquis	m is properly signed in hed/received sections?	\checkmark			
14 Air Bill Addition	Tracking #'s, & al Comments	7	9.9	1 -	3113 8541
Suspecte	d 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 Radiolog	ical Classification?	r p	~	ľ	Maximum Counts Observed*: CIM 60
B PCB Reg	ulated?	V		C	Comments:
Snipped	IS DOT Hazardous		-	L	Jazard Class Shipped:
C Material?	II yes, contact Waste			ť	JN#:
Manager	or ESH Manager.				
PM (or P	MA) review of Hazard class	sificati	on:	<u></u>	Initials Date: 5/17/80

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	<u>S-52597</u>
US Army Corps of Engineer	N/A
Utah	8037697376 GEL
Vermont	N/A
Virginia	00151
Washington	C223

List of current GEL Certifications as of 15 August 2006



Radiochemistry Case Narrative Connecticut Yankee Atomic Power Co. (YANK) Work Order 168404

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:	555696
Prep Batch Number:	554650
Dry Soil Prep GL-RAD-A-021 Batch Number:	554649

Sample ID	Client ID
168404001	9106-0002-007F
168404002	9106-0002-011F
168404003	9106-0003-004F
168404004	9106-0003-015F
168404005	9106-0004-005F
168404006	9106-0004-015F
168404007	9106-0005-010F
168404008	9106-0005-014F
168404011	9106-0008-008F
168404012	9106-0009-002F
168404013	9106-0009-017F
168404014	9106-0010-001F
168404015	9106-0010-012F
1201153129	Method Blank (MB)
1201153130	168340011(9304-01-005C) Sample Duplicate (DUP)
1201153131	168340011(9304-01-005C) Matrix Spike (MS)
1201153132	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: 168340011 (9304-01-005C).

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 168404003 (9106-0003-004F) 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.

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

Page 46 of 105

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:	557837
Prep Batch Number:	554650
Dry Soil Prep GL-RAD-A-021 Batch Number:	554649

Sample ID	Client ID
168404009	9106-0006-005F
168404010	9106-0008-006F
1201158316	Method Blank (MB)
1201158317	168404009(9106-0006-005F) Sample Duplicate (DUP)
1201158318	168404009(9106-0006-005F) Matrix Spike (MS)
1201158319	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.

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: 168404009 (9106-0006-005F).

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.

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:	555697
Prep Batch Number:	554650
Dry Soil Prep GL-RAD-A-021 Batch Number:	554649

Sample ID	Client ID
168404001	9106-0002-007F
168404002	9106-0002-011F
168404003	9106-0003-004F
168404004	9106-0003-015F
168404005	9106-0004-005F
168404006	9106-0004-015F
168404007	9106-0005-010F
168404008	9106-0005-014F
168404009	9106-0006-005F
168404010	9106-0008-006F
168404011	9106-0008-008F
168404012	9106-0009-002F
168404013	9106-0009-017F
168404014	9106-0010-001F
168404015	9106-0010-012F
1201153133	Method Blank (MB)
1201153134	168340011(9304-01-005C) Sample Duplicate (DUP)
1201153135	168340011(9304-01-005C) Matrix Spike (MS)
1201153136	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.

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: 168340011 (9304-01-005C).

QC Information

All of the QC samples met the required acceptance limits.

Page 49 of 105

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:	555698
Prep Batch Number:	554650
Dry Soil Prep GL-RAD-A-021 Batch Number:	554649

Sample ID	Client ID
168404001	9106-0002-007F
168404002	9106-0002-011F
168404003	9106-0003-004F
168404004	9106-0003-015F
168404005	9106-0004-005F
168404006	9106-0004-015F
168404007	9106-0005-010F
168404008	9106-0005-014F
168404009	9106-0006-005F
168404010	9106-0008-006F
168404011	9106-0008-008F
168404012	9106-0009-002F
168404013	9106-0009-017F
168404014	9106-0010-001F
168404015	9106-0010-012F
1201153137	Method Blank (MB)
1201153138	168340011(9304-01-005C) Sample Duplicate (DUP)
1201153139	168340011(9304-01-005C) Matrix Spike (MS)
1201153140	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: 168340011 (9304-01-005C).

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:	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:	556350
Prep Batch Number:	554650
Dry Soil Prep GL-RAD-A-021 Batch Number:	554649

Sample ID	Client ID
168404003	9106-0003-004F
168404004	9106-0003-015F
168404012	9106-0009-002F
168404013	9106-0009-017F
168404014	9106-0010-001F
168404015	9106-0010-012F
1201154644	Method Blank (MB)
1201154645	168404003(9106-0003-004F) Sample Duplicate (DUP)
1201154646	168404003(9106-0003-004F) Matrix Spike (MS)
1201154647	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: 168404003 (9106-0003-004F).

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

Samples 1201154644 (MB), 1201154645 (9106-0003-004F), 1201154646 (9106-0003-004F), 1201154647 (LCS), 168404003 (9106-0003-004F), 168404004 (9106-0003-015F), 168404012 (9106-0009-002F), 168404013 (9106-0009-017F), 168404014 (9106-0010-001F) and 168404015 (9106-0010-012F) were dried and reweighed due to low matrix spike/laboratory control sample recovery.

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:	554580			

Sample ID	Client ID
168404001	9106-0002-007F
168404002	9106-0002-011F
168404003	9106-0003-004F
168404004	9106-0003-015F
168404005	9106-0004-005F
168404006	9106-0004-015F
168404007	9106-0005-010F
168404008	9106-0005-014F
168404009	9106-0006-005F
168404010	9106-0008-006F
168404011	9106-0008-008F
168404012	9106-0009-002F
168404013	9106-0009-017F
168404014	9106-0010-001F
168404015	9106-0010-012F
1201150561	Method Blank (MB)
1201150562	168340012(9304-02-003C) Sample Duplicate (DUP)
1201150563	168340012(9304-02-003C) Matrix Spike (MS)
1201150564	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: 168340012 (9304-02-003C).

QC Information

All of the QC samples met the required acceptance limits.

Page 55 of 105

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 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:	555722
Prep Batch Number:	554650
Dry Soil Prep GL-RAD-A-021 Batch Number:	554649

Sample ID	Client ID
168404001	9106-0002-007F
168404002	9106-0002-011F
168404003	9106-0003-004F
168404004	9106-0003-015F
168404005	9106-0004-005F
168404006	9106-0004-015F
168404007	9106-0005-010F
168404008	9106-0005-014F
168404009	9106-0006-005F
168404010	9106-0008-006F
168404011	9106-0008-008F
168404012	9106-0009-002F
168404013	9106-0009-017F
168404014	9106-0010-001F
168404015	9106-0010-012F
1201153222	Method Blank (MB)
1201153223	168340012(9304-02-003C) Sample Duplicate (DUP)
1201153224	168340012(9304-02-003C) Matrix Spike (MS)
1201153225	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-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: 168340012 (9304-02-003C).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

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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:	555723
Prep Batch Number:	554650
Dry Soil Prep GL-RAD-A-021 Batch Number:	554649

Sample ID	Client ID
168404001	9106-0002-007F
168404002	9106-0002-011F
168404003	9106-0003-004F
168404004	9106-0003-015F
168404005	9106-0004-005F
168404006	9106-0004-015F
168404007	9106-0005-010F
168404008	9106-0005-014F
168404009	9106-0006-005F
1201153226	Method Blank (MB)
1201153227	168340012(9304-02-003C) Sample Duplicate (DUP)
1201153228	168340012(9304-02-003C) Matrix Spike (MS)
1201153229	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: 168340012 (9304-02-003C).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

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

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

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

Miscellaneous Information:

NCR Documentation

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Product:	LSC, Tritium Dist, Solid-HTD2,ALL FSS			
Analytical Method:	EPA 906.0 Modified			
Analytical Batch Number:	554582			

Sampla ID	Client ID
Sample ID	
168404001	9106-0002-007F
168404002	9106-0002-011F
168404003	9106-0003-004F
168404004	9106-0003-015F
168404005	9106-0004-005F
168404006	9106-0004-015F
168404007	9106-0005-010F
168404008	9106-0005-014F
168404009	9106-0006-005F
168404010	9106-0008-006F
168404011	9106-0008-008F
168404012	9106-0009-002F
168404013	9106-0009-017F
168404014	9106-0010-001F
168404015	9106-0010-012F
1201150569	Method Blank (MB)
1201150570	168340011(9304-01-005C) Sample Duplicate (DUP)
1201150571	168340011(9304-01-005C) Matrix Spike (MS)
1201150572	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-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: 168340011 (9304-01-005C).

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 168404010 (9106-0008-006F) 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.

Method/Analysis Information

Product:	roduct:
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Liquid Scint C14, Solid All,FSS

Analytical Method: EPA EERF C-01 Modified

Analytical Batch Number: 554583

Sample ID	Client ID
168404001	9106-0002-007F
168404002	9106-0002-011F
168404003	9106-0003-004F
168404004	9106-0003-015F
168404005	9106-0004-005F
168404006	9106-0004-015F
168404007	9106-0005-010F
168404008	9106-0005-014F
168404009	9106-0006-005F
168404010	9106-0008-006F
168404011	9106-0008-008F
168404012	9106-0009-002F
168404013	9106-0009-017F
168404014	9106-0010-001F
168404015	9106-0010-012F
1201150573	Method Blank (MB)
1201150574	168404003(9106-0003-004F) Sample Duplicate (DUP)
1201150575	168404003(9106-0003-004F) Matrix Spike (MS)
1201150576	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: 168404003 (9106-0003-004F).

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.

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:

1_81226 Shells Reviewer/Date:_



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: 168404 GEL Work Order: 168404

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.

Reviewed by

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

Certificate of Analysis

Company : Address :	Connecticut 362 Injun H	t Yankee A lollow Rd	tomic Power										
Contact: Project:	East Hampt Mr. Jack Me Soils PO# 0	on, Connec cCarthy 02332	cticut 06424				R	leport Da	ate: Augu	ıst 21, 2	2006		
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID: D: ate: ate:		9106-00 1684040 SE 18-MA 02-JUN Client 20.9%	002-007F 001 Y-06 I-06		Project: Client ID: Vol. Recv.:	YANK YANK	<pre>X01204 X001</pre>				
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst l	Date	Time	Batch	Mtd
Rad Alpha Spec Analysis	s											,	
Alphaspec Am241, Cm,	Solid ALL FS	S											
Americium-241	U	0.0762	+/-0.102	0.00	+/-0.102	0.0956	pCi/g		BXL1 0	8/11/06	5 1336	555696	1
Curium-242	U	0.00	+/-0.0995	0.00	+/-0.0995	0.138	pCi/g						
Curium-243/244	U	-0.00853	+/-0.0717	0.0405	+/-0.0717	0.177	pCi/g						
Alphaspec Pu, Solid–AL	LL FSS												
Plutonium-238	U	0.199	+/-0.228	0.181	+/-0.229	0.444	pCi/g		BXL1 0	8/11/0€	5 1633	555697	2
Plutonium-239/240	U	0.0341	+/-0.129	0.120	+/-0.129	0.323	pCi/g						
Liquid Scint Pu241, Soli	id-ALL FSS												
Plutonium-241	U	10.0	+/-6.64	5.08	+/-6.72	10.7	pCi/g		BXL1 0	8/16/06	5 1220	555698	3
Rad Liquid Scintillation	Analysis							2					
LSC, Tritium Dist, Solid	HTD2,ALL	FSS											
Tritium	U	4.17	+/6.67	5.28	+/-6.67	11.4	pCi/g		DFA1 0	8/09/06	51128	554582	4
Liquid Scint C14, Solid	AllESS						r e						
Carbon-14	U	0.0813	+/-0.0797	0.0634	+/0.0797	0.132	pCi/g		ATH2 0	8/09/06	0324	554583	5
Liquid Scint Fe55 Solid	- 411 FSS						F0						-
Iron-55	ILL 155	9.90	+/-48 1	32.0	+/48 1	65.0	nCi/g		MXP1 0	8/12/06	1633	555777	6
		7.90	17 40.1	52.0	17 40.1	05.7	peng		MALL 0	5/12/00	1055	555122	0
Liquia Scini Nios, Solia	-ALL FSS	7 02	11 (20	5 10	1/ 6 40	10.0	- C:/-			0/11/07	0720	666700	-
Nickel-05	0	7.02	+/-0.39	5.18	+/-0.40	10.6	pC1/g		MAPI 0	3/11/06	0738	333723	/
Liquid Scint Tc99, Solid	-ALL FSS	0.100		0 1 7 7			<i></i>			~			
Technetium-99	U	0.139	+/-0.213	0.173	+/-0.213	0.360	pCı/g		EGD1 0	3/11/06	2027	554580	8
The following Prep Met	hods were po	erformed											

Method Description

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649
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

3 DOE EML HASL-300, Pu-11-RC Modified

4 EPA 906.0 Modified

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Certificate of Analysis

(Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power							
(Contact:	East Hampte Mr. Jack Mc	on, Connec Carthy	eticut 06424				R	eport Da	te: August 21,	2006
I	Project:	Soils PO# 0	02332								
		Client San Sample ID	nple ID:):		9106-00 1684040	02–007F 01		Proiect: Client ID: Vol. Recv.:	YANK YANK	01204 001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time Batch Mtd
5	EPA E	ERF C-01 N	lodified								
5	DOE I	RESL Fe-1, N	Modified								
7	DOE I	RESL Ni-1, N	Modified								
3	DOE I	EML HASL-	300, Tc-02	2-RC Modified							
Surrogate/Ti	racer recov	ery Test				Recovery%	Ace	ceptable Limit	S		
Americium–243 Alphaspec Am241, Cm, Solid A				LL	80		(15%-125%)				
Plutonium–242 Alphaspec Pu, Solid–ALL FS						100		(15%-125%)			

(15%-125%)	80	Alphaspec Am241, Cm, Solid ALL	Americium-243
(15%-125%)	100	Alphaspec Pu, Solid-ALL FSS	Plutonium-242
(25%-125%)	98	Liquid Scint Pu241, Solid-ALL FS	Carrier/Tracer Recovery
(15%-125%)	75	Liquid Scint Fe55, Solid-ALL FS	Carrier/Tracer Recovery
(25%-125%)	76	Liquid Scint Ni63, Solid-ALL FS	Carrier/Tracer Recovery
(15%-125%)	74	Liquid Scint Tc99, Solid-ALL FS	Carrier/Tracer Recovery
(15%-125%) (25%-125%) (15%-125%) (25%-125%) (15%-125%)	100 98 75 76 74	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	Plutonium–242 Carrier/Tracer Recovery Carrier/Tracer Recovery Carrier/Tracer Recovery Carrier/Tracer Recovery

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
- 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
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- QC Samples were not spiked with this compound Y
- \wedge 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 Hampto Mr. Jack Mo	on, Connec Carthy	ticut 06424				R	eport Date	: August 21	, 2006		
Project:	Soils PO# 0	02332										
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ite: ate:		9106-0002-011F 168404002 SE 19-MAY-06 02-JUN-06 Client 17.4%			Project: YANK01204 Client ID: YANK001 Vol. Recv.:					
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF A	nalyst Date	Time	Batch M	/Itd
Rad Alpha Spec Analys	is											
Alphaspec Am241, Cm,	Solid ALL FS	S										
Americium-241	U	0.120	+/-0.154	0.0683	+/-0.155	0.251	pCi/g	В	XL1 08/11/)6 1336	555696	1
Curium-242	U	-0.0146	+/-0.122	0.0692	+/-0.123	0.303	pCi/g					
Curium-243/244	U	-0.0103	+/-0.0861	0.0487	+/-0.0862	0.213	pCi/g					
Alphaspec Pu, Solid–A	LL FSS											
Plutonium-238	U	0.0121	+/-0.125	0.127	+/-0.125	0.344	pCi/g	В	XLI 08/11/)6 1633	555697	2
Plutonium-239/240	U	0.0254	+/-0.0675	0.0381	+/-0.0675	0.167	pCi/g					
Liquid Scint Pu241, Sol	lid-ALL FSS											
Plutonium-241	U	6.72	+/-7.02	5.56	+/-7.05	11.7	pCi/g	В	XL1 08/16/)6 1237	555698	3
Rad Liquid Scintillation	1 Analysis											
LSC, Tritium Dist, Solid	d–HTD2,ALL	FSS										
Tritium	U	-0.521	+/-7.03	5.94	+/-7.03	12.8	pCi/g	D	FA1 08/09/)6 1143	554582	4
Liguid Scint C14, Solid	All,FSS											
Carbon-14	U	0.023	+/-0.0828	0.0685	+/-0.0828	0.143	pCi/g	А	TH2 08/09/0	06 0426	554583	5
Liauid Scint Fe55, Solid	d–ALL FSS						• •					
Iron-55	U	3.93	+/-47.7	31.9	+/-47.7	65.7	pCi/g	M	XP1 08/12/0)6 1649	555722	6
Liauid Scint Ni63, Solid	d–ALL FSS											
Nickel-63	U	7.52	+/-5.81	4.68	+/-5.81	9.60	pCi/g	Μ	XP1 08/11/0	06 0825	555723	7
Liquid Scint Tc90 Soli	d-ALLESS						F 0					•
Technetium-99	U	0.173	+/-0.203	0.164	+/-0.203	0.341	pCi/g	E	GD1 08/11/0)6 2043	554580	8
	-							-				-

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

The following Analytical Methods were performed Method Description

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

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Certificate of Analysis

	Company : Address :	Connectic 362 Injun	ut Yankee A Hollow Rd	Atomic Power									
	Contact: Project:	East Ham Mr. Jack 1 Soils PO#	pton, Conne McCarthy 002332	ecticut 06424		Report Date: August 21, 2006							
		Client Sample	ample ID: D:		9106-0 168404	9106-0002-011F 168404002			Project: YANK01204 Client ID: YANK001 Vol. Recv.:				
Parameter		Qualifie	r Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Da	te Time Batch Mte	d		
6	DOE	RESL Fe-1	, Modified					2			-		
7	DOE	RESL Ni–1	, Modified										
8	DOE	EML HASI	_−300, Tc−(02-RC Modified									
Surrogate/7	Fracer recov	ery Te	st			Recovery%	Ac	ceptable Limits					
Americium-	243	Al	phaspec An	n241, Cm, Solid	ALL	76		(15%-125%)					
Plutonium-2	.42	Al	phaspec Pu.	, Solid-ALL FSS		100		(15%-125%)					
Carrier/Trace	er Recovery	Lie	quid Scint P	u241, Solid-ALI	L FS	88		(25%-125%)					
Carrier/Trace	Carrier/Tracer Recovery Liquid Scint Fe55, Solid-Al				FS	72		(15%-125%)					
Carrier/Trace	arrier/Tracer Recovery Liquid Scint Ni63, Solid-Al					76		(25%-125%)					
Carrier/Trace	er Recovery	Lie	quid Scint T	°c99, Solid-ALL	FS	79		(15%-125%)					

Notes:

6 7 8

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
- 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 Н
- 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 \wedge
- 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 Add	npany : ress :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power									
Con Proj	tact: ect:	East Hampto Mr. Jack Mo Soils PO# 0	on, Connec cCarthy 02332	eticut 06424				F	Report Date: A	ugust 21,	2006		
		Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106-00 1684040 SE 25-APF 05-MA Client 23.5%	003-004F 003 R-06 Y-06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001	ŀ			
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analy	st Date	Time	Batch M	Mtd
Rad Alpha Spec	Analysis	5											
Alphaspec Am2	41, Cm, 1	Solid ALL FS	S										
Americium-24	1	U	-0.027	+/-0.117	0.153	+/-0.117	0.488	pCi/g	BXL1	08/13/0	6 0819	555696	1
Curium - 242	14		0.112	+/-0.313 +/-0.206	0.245	+/-0.313 +/-0.206	0.781	pCi/g					
Alphaspac Pu S	n Colid AI		0.0217	0.200	0.205	0.200	0.574	bene					
Plutonium-238		LT55 H	0.061	+/-0 189	0.176	+/-0 189	0 449	nCi/g	BXL1	08/11/0	6 1633	555697	2
Plutonium-239	,)/240	Ŭ	0.0551	+/-0.103	0.0584	+/-0.103	0.215	pCi/g	5/1E1	00/11/0	5 1055	555671	2
Liquid Scint Pu2	241, Soli	d-ALL FSS											
Plutonium-241		U	8.31	+/-5.73	4.40	+/-5.78	9.25	pCi/g	BXL1	08/16/0	6 1253	555698	3
Rad Gas Flow Pr	oportio	nal Counting	3										
GFPC, Sr90, so	lid–ALL	FSS											
Strontium-90		U	-0.00343	+/-0.0203	0.0172	+/-0.0203	0.036	pCi/g	BXF1	08/14/0	5 0834	556350	4
Rad Liquid Scint	illation	Analysis											
LSC, Tritium Di	st, Solid	-HTD2,ALL	FSS										
Tritium		U	0.603	+/-8.25	6.87	+/-8.25	14.8	pCi/g	DFA1	08/09/0	5 1159	554582	5
Liquid Scint C14	4, Solid 2	All,FSS											
Carbon-14		U	0.0937	+/-0.0813	0.0642	+/-0.0813	• 0.134	pCi/g	ATH2	08/09/0	5 0529	554583	6
Liquid Scint Fe5	55, Solid	-ALL FSS	a (0					~					_
Iron-55		U	/.68	+/-51.2	34.2	+/-51.2	70.4	pCi/g	MXPI	08/12/0	51706	555722	7
Liquid Scint Nib	3, Solid-	-ALL FSS	5 7 4	. (7.12	6.50		12 (0.1		00/11/0			
Nickei-03	0 0 1. 1		5.74	+/-/.12	0.38	+/-/.13	13.0	pC1/g	MXPI	08/11/00) 0912	555723	8
Liquid Scint Icy	9, Solid [.] N	-ALL FSS	-0.0643	±/_0 10 0	0.160	+/-0 109	0 251	•Ci/c	ECDI	09/11/04	\$ 2050	551500	0
reenneuuni 99		U	0.0043	17 0.198	0.109	1 0.170	0.551	peng	LODI	00/11/00	12009	554560	7

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

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

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power								
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	on, Connec Carthy 02332	cticut 06424		Report Date: August 21, 2006						
		Client Sam Sample ID	iple ID:		9106-0003-004F 168404003			Project: YANK01204 Client ID: YANK001 Vol. Recv.:				
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF A	nalyst Date	Time Batch Mtd	
3	DØE I	EML HASL-	300, Pu-1	I-RC Modified								
4	EPA 9	05.0 Modified	d									
5	EPA 9	06.0 Modifie	d									
6	EPA E	ERF C-01 M	lodified									
7	DOE I	RESL Fe-1, N	/lodified									
8	DOE I	RESL NI-1, N	Aodified									
9	DOE I	EML HASL-3	300, Tc-02	2-RC Modified								
Surrogate/T	racer recov	ery Test				Recovery%	Ac	ceptable Limits	6			
Americium-2	243	Alph	aspec Am2	241, Cm, Solid /	ALL	42		(15%-125%)				
Plutonium-2	42	Alph	aspec Pu. 3	Solid-ALL ESS		92		(15% - 125%)				

Plutonium-242	Alphaspec Pu, Solid-ALL FSS	92	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	113	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	59	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	71	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	83	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	76	(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
- 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
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- \wedge 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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time Batch Mto
	Client Sa Sample I	mple ID: D:		9106-000 16840400	03-004F 03		Project: Client ID: Vol. Recv.:	YANK Yank	(01204 (001	
Conta Projec	East Hamp ct: Mr. Jack M ct: Soils PO#	oton, Conne AcCarthy 002332	cticut 06424				1	Report Da	te: August 21,	2006
Comp Addre	ess : 362 Injun	it Yankee A Hollow Rd	tomic Power							

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: Project:	East Hampton, Connecticut 06424 Report Date: August 21, 200 Mr. Jack McCarthy Soils PO# 002332											
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): nte: ate:		9106-0 168404 SE 25-API 05-MA Client 22.5%	003-015F 004 R-06 Y-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 Analysi	s											
Alphaspec Am241, Cm,	Solid ALL FS	S										
Americium-241	U	0.0456	+/-0.155	0.139	+/-0.155	0.387	pCi/g	BXL1	08/11/06	1434	555696	1
Curium - 242	U	0.113	+/-0.181	0.0733	+/-0.182 +/-0.240	0.321	pCi/g					
Alphanna By Solid A		0.180	17-0.239	0.181	+7-0.240	0.472	peng					
Plutonium-238		0.0106	+/0 121	0.118	+/-0.121	0 324	nCi/a	BXI 1	08/11/06	1633	555607	2
Plutonium-239/240	U	0.0326	+/-0.0639	0.00	+/-0.064	0.0884	pCi/g	DALI	00/11/00	1055	555091	2
Liquid Scint Pu241, Sol	id–ALL ESS						F S					
Plutonium-241	U	6.63	+/6.19	4.86	+/-6.22	10.2	pCi/g	BXL1	08/16/06	1309	555698	3
Rad Gas Flow Proportio	nal Counting	ţ.					1 0					
GFPC, Sr90, solid–ALI	L FSS											
Strontium-90	U	0.00477	+/-0.0216	0.0179	+/-0.0216	0.0375	pCi/g	BXF1	08/14/06	0834	556350	4
Rad Liquid Scintillation	Analysis											
LSC, Tritium Dist, Solia	l–HTD2,ALL	FSS										
Tritium	U	1.03	+/-7.06	5.85	+/-7.06	12.6	pCi/g	DFA1	08/09/06	1215 :	554582	5
Liquid Scint C14, Solid	All,FSS											
Carbon-14		0.156	+/-0.0912	0.0699	+/-0.0913	0.146	pCi/g	ATH2	08/09/06	0632 :	554583	6
Liquid Scint Fe55, Solic	I-ALL FSS											
Iron-55	U	-9.99	+/-42.7	28.7	+/-42.7	59.2	pCi/g	MXPI	08/12/06	1722 :	555722	7
Liquid Scint Ni63, Solia	-ALL FSS											
Nickel-63	U	0.939	+/-10.1	10.3	+/-10.1	21.6	pCi/g	MXPI	08/11/06	1001 3	555723	8
Liquid Scint Tc99, Solia	-ALL FSS	0.005		0.170		0.252	<i></i>		00/11/05	21.5		~
rechnetium-99	U	0.237	+/-0.213	0.170	+/-0.213	0.353	pC1/g	EGDI	08/11/06	2115 :	>>4580	9

The following Prep Methods were performed						
Method	Description	Analyst	Date	Time	Prep Batch	
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649	-
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 :	Connecticut 362 Injun He	Yankee A ollow Rd	tomic Power							
	Contact:	East Hampto Mr. Jack Mc	on, Connec Carthy	ticut 06424				R	eport Da	ate: August 21,	2006
	Project:	Soils PO# 00	02332								
		Client Sam Sample ID	ple ID: :		9106-0 168404	003-015F 004		Proiect: Client ID: Vol. Recv.:	YANK Yank	<pre><01204 <001</pre>	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time Batch Mtd
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 E	EERF C-01 M	lodified								
7	DOE	RESL Fe-1, N	/lodified								
8	DOE	RESL Ni–1, N	/lodified								
9.	DOE	EML HASL-3	300, Tc-0	2-RC Modified							
Surrogate/	Fracer recov	ery Test				Recovery%	Α	cceptable Limits	6		
Americium-	243	Alph	aspec Am.	241, Cm, Solid A	ALL	78		(15%-125%)			
Plutonium-2	.42	Alph	aspec Pu,	Solid-ALL FSS		94		(15%-125%)			
Carrier/Trace	er Recovery	Liqui	d Scint Pu	241, Solid-ALL	, FS	101		(25%-125%)			
Carrier/Trace	er Recovery	GFPG	C, Sr90, so	lid-ALL FSS		58		(25%-125%)			
Carrier/Trace	er Recovery	Liqui	d Scint Fe	55, Solid-ALL	FS	75		(15%-125%)			
Carrier/Trace	er Recovery	Liqui	d Scint Ni	63, Solid-ALL	FS	62		(25%-125%)			
Carrier/Trace	er Recovery	Liqui	d Scint To	99, 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
- 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

Parameter	_	Qualifier Result Uncertainty	LC TPU	MDA Units DF Analyst Date Time Batch Mtd
		Client Sample ID: Sample ID:	9106-0003-015F 168404004	Project: YANK01204 Client ID: YANK001 Vol. Recv.:
Co Pr	ontact: oject:	Mr. Jack McCarthy Soils PO# 002332		
-		East Hampton, Connecticut 06424		Report Date: August 21, 2006
	ompany : ddress :	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

Company : Address :	Connecticut 362 Injun H	Yankee A	tomic Power									
Contact: Project:	East Hampto Mr. Jack Mo Soils PO# 0	on, Connec cCarthy 02332	eticut 06424				R	Report Date: Au	igust 21, 2	2006		
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106-00 1684049 SE 03-MA 12-MA Client 15.4%	004-005F 005 Y-06 Y-06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001				
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time	Batch M	vitd
Rad Alpha Spec Analysi	s											
Alphaspec Am241, Cm,	Solid ALL FS	S										
Americium-241	U	-0.036	+/-0.123	0.157	+/-0.123	0.437	pCi/g	BXL1	08/11/06	5 1434	555696	1
Curium-242	U	-0.0169	+/-0.033	0.080	+/-0.0331	0.350	pCi/g					
Curium-243/244	U	-0.0129	+/-0.227	0.247	+/-0.227	0.619	pCi/g					
Alphaspec Pu, Solid-Al	LL FSS						~					
Plutonium-238	U	-0.0217	+/-0.163	0.181	+/-0.163	0.444	pCi/g	BXLI	08/11/06	5 1633	555697	2
Plutonium-239/240	0	-0.0708	+/-0.0791	0.128	+/-0.0795	0.337	pCi/g					
Liquid Scint Pu241, Sol.	id-ALL FSS	0.50				0.41	0.1	DUL	000000			-
Plutonium-241	U A malavaia	9.52	+/-6.00	4.57	+/-6.07	9.61	pCi/g	BXLI	08/16/06) 1326	555698	3
Kad Liquid Scintillation	Analysis	500										
LSC, Tritium Dist, Solia	-HID2,ALL	133	1 5 00	4 07	1 5 00	10.5	- C' /-	DEAL	00/00/04	. 1221	654500	
	0	0.834	+/-5.88	4.07	+/-5.88	10.5	pC1/g	DFAI	08/09/00) 1231	554582	4
Liquid Scint C14, Solid	AII,FSS	0.247		0.0(74	1 (0 0072	0 1 4 1	<u> </u>		00,000,004		55450 2	-
Carbon-14		0.347	+/-0.09/	0.0674	+/-0.0972	0.141	pC1/g	ATH2	08/09/06	0/34	554583	5
Liquid Scint Fe55, Solia	-ALL FSS	1.67	1/ 1/ 0	20.7		(2.2	0.1	MANDA	00/10/04	. 1920		
Iron-55	U	-1.57	+/-46.0	30.7	+/46.0	63.2	pCi/g	MXPI	08/12/06	1/38	555722	6
Liquid Scint Ni63, Solid	-ALL FSS	(20		7.40		1.5.5	0.1	14701	00/11/07			_
Nickel-63	U	6.39	+/-/.62	/.40	+/-/.62	15.5	pCi/g	MXPI	08/11/06	1017	555723	7
Liquid Scint Tc99, Solid	-ALL FSS	0.0100		0.155			<u></u>	D0 = :				_
rechnetium-99	U	0.0198	+/-0.18/	0.156	+/-0.18/	0.324	pCi/g	EGDI	08/11/06	2131	554580	8

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

The following Analytical Methods were performed Method Description

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
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Certificate of Analysis

	Company :	Connecticut	Yankee A	tomic Power						
	Address :	362 Injun Ho	ollow Rd							
		East Hampto	n, Connec	ticut 06424				R	Report Date: August 21,	2006
	Contact:	Mr. Jack Mc	Carthy						•	
	Project:	Soils PO# 00	02332							
		Client Sam	ple ID:		9106-00	04-005F		Project:	YANK01204	
		Sample ID:			168404005					
arameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
	DOE	RESL Fe-1, M	1odified							
	DOE	RESL Ni–1, M	lodified							
	DOE	EML HASL-3	300, Tc-02	PRC Modified						
urrogato	Freedor recov	ory Test				Dagayony 9/	4.0	aantahla Limit	ta	

Surrogate/1 racer recovery		Recovery%	Acceptable Limits	
Americium-243	Alphaspec Am241, Cm, Solid ALL	65	(15%-125%)	
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	95	(15%-125%)	
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	105	(25%-125%)	
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	. 78	(15%-125%)	
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	80	(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

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Certificate of Analysis

Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power									
Contact: Project:	East Hampt Mr. Jack Me Soils PO# 0	ist Hampton, Connecticut 06424 r. Jack McCarthy bils PO# 002332						Report Date: August 21, 2006				
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106-00 1684040 SE 03-MA 12-MA Client 26.5%	004-015F 006 Y-06 Y-06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001				
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time Batch	Mtd	
Rad Alpha Spec Analys	is											
Alphaspec Am241, Cm	, Solid ALL FS	S										
Americium-241	U	0.0823	+/-0.203	0.178	+/-0.203	0.469	pCi/g	BXL1	08/11/06	5 1434 55569) 6 1	
Curium-242	U	-0.0154	+/-0.0301	0.0729	+/-0.0302	0.319	pCi/g					
Curium-243/244	U	-0.0994	+/-0.251	0.300	+/-0.251	0.713	pCi/g					
Alphaspec Pu, Solid–A	LL FSS											
Plutonium-238	U	0.0466	+/-0.213	0.210	+/-0.213	0.521	pCi/g	BXL1	08/11/06	3 1633 55569	7 2	
Plutonium-239/240	U	-0.142	+/-0.108	0.191	+/-0.109	0.483	pCi/g					
Liquid Scint Pu241, So	lid–ALL FSS											
Plutonium-241	U	6.64	+/6.53	5.16	+/-6.57	10.8	pCi/g	BXL1	08/16/06	51342 55569	18 3	
Rad Liquid Scintillation	n Analysis											
LSC, Tritium Dist, Soli	d–HTD2,ALL	FSS						_				
Tritium	U	-2.9	+/-7.59	6.60	+/7.59	14.2	pCi/g	DFA1	08/09/06	51247 55458	32 4	
Liquid Scint C14, Solia	All,FSS											
Carbon-14	U	0.0352	+/-0.0868	0.0713	+/0.0868	0.149	pCi/g	ATH2	08/09/06	0837 55458	3 5	
Liquid Scint Fe55, Soli	d–ALL FSS											
Iron-55	U	1.88	+/-46.8	31.3	+/46.8	64.4	pCi/g	MXPI	08/12/06	1754 55572	2 6	
Liquid Scint Ni63, Solid	d–ALL FSS											
Nickel-63	U	3.88	+/-7.46	7.40	+/7.46	15.5	pCi/g	MXP1	08/11/06	1033 55572	37	
Liquid Scint Tc99, Soli	d-ALL FSS											
Technetium-99	U	0.0894	+/-0.198	0.163	+/-0.198	0.338	pCi/g	EGD1	08/11/06	2147 55458	0 8	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch	
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649	
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
3	DOE EML HASL-300, Pu-11-RC Modified
4	EPA 906.0 Modified
5	EPA EERF C-01 Modified

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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	cticut 06424			Report Date: August 21, 2006						
	Project:	Soils PO# 00	02332										
		Client Sample ID: Sample ID:			9106-0004-015F 168404006			Proiect: Client ID: Vol. Recv.:					
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd			
6	DOE	RESL Fe-1, N	Aodified										
7	DOE	RESL Ni–1, N	Aodified										
8	DOE	EML HASL-:	300, Tc-02	2-RC Modified									
Surrogate/	Tracer recov	ery Test				Recovery%	Aco	ceptable Limit	s				
Americium-	-243	Alph	aspec Am	241, Cm, Solid A	LL	72		(15%-125%)					
Plutonium-242 Alphaspec Pu, Solid-ALL FSS				72		(15%-125%)							
Carrier/Tracer Recovery Liquid Scint Pu241, Solid-ALL FS				94		(25%-125%)							
Carrier/Trac	er Recovery	Liqui	id Scint Fe	55, Solid-ALL F	FS	73		(15%-125%)					

80

78

(25% - 125%)

(15%-125%)

Notes:

Carrier/Tracer Recovery

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 Ni63, Solid-ALL FS

Liquid Scint Tc99, Solid-ALL FS

- 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
- Results are reported from a diluted aliquot of the sample D
- Н 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
- Х Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- 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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Certificate of Analysis

Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power									
Contact:	East Hampt Mr. Jack Me	on, Connec Carthy	cticut 06424				Report Date: August 21, 2006					
Project:	Soils PO# 0	02332										
	Client Sample ID: Sample ID: Matrix: Collect Date: Receive Date: Collector: Moisture:		9106-0005-010F 168404007 SE 02-MAY-06 09-MAY-06 Client 56.2%			Project: YANK01204 Client ID: YANK001 Vol. Recv.:					·	
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time	Batch M	Mtd
Rad Alpha Spec Analys	is											
Alphaspec Am241, Cm,	Solid ALL FS	S										
Americium-241	U	-0.128	+/-0.0939	0.142	+/-0.0942	0.385	pCi/g	BXL1	08/11/0	6 1434	555696	1
Curium-242	U	-0.0115	+/-0.128	0.147	+/-0.128	0.450	pCi/g					
Curium-243/244	U	-0.0333	+/-0.122	0.149	+/-0.122	0.401	pCi/g					
Alphaspec Pu, Solid-A	LL FSS											
Plutonium-238	U	0.0548	+/-0.169	0.158	+/-0.170	0.403	pCi/g	BXL1	08/11/0	6 1633	555697	2
Plutonium-239/240	U	0.0195	+/-0.121	0.117	+/-0.121	0.322	pCi/g					
Liquid Scint Pu241, Sol	lid-ALL FSS											
Plutonium-241	U	10.4	+/-6.89	5.27	+/-6.97	11.1	pCi/g	BXL1	08/16/0	6 1358	555698	3
Rad Liquid Scintillation	1 Analysis											
LSC, Tritium Dist, Solid	d-HTD2,ALL	FSS										
Tritium	U	0.00	+/-6.86	5.76	+/-6.86	12.4	pCi/g	DFA1	08/09/0	6 1303	554582	4
Liquid Scint C14, Solid	All,FSS											
Carbon-14	U	0.0636	+/0.0801	0.0644	+/-0.0801	0.135	pCi/g	ATH2	08/09/0	6 1017	554583	5
Liauid Scint Fe55, Solid	d–ALL FSS											
Iron-55	U	36.1	+/-44.1	28.7	+/44.1	59.0	pCi/g	MXP1	08/12/0	6 1811	555722	6
Liauid Scint Ni63. Solia	I-ALL FSS											
Nickel-63	U	7.26	+/-10.2	10.0	+/-10.2	20.9	pCi/g	MXPI	08/11/0	6 1049	555723	7
Liquid Scint Tc99 Solid	-ALL ESS						, 3					
Technetium-99	U	-0.05	+/-0.199	0.169	+/-0.199	0.351	pCi/g	EGD1	08/11/0	6 2203	554580	8
	U	0.00				0.001	P B	2001			221220	U U

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

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

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	Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power										
	Contact:	East Hampto Mr. Jack Mo	East Hampton, Connecticut 06424 Mr. Jack McCarthy						Report Date: August 21, 2006					
	Project:	Soils PO# 0	02332											
		Client San Sample ID	iple ID: :		9106-000 16840400)5–010F)7		Project: Client ID: Vol. Recv.:	YANK01204 YANK001					
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd				
6	DOE	RESL Fe-1, N	Aodified											
7	DOE	RESL Ni–1, N	Aodified											
8	DOE	EML HASL-	300, Tc-0	2-RC Modified										

Surrogate/Tracer recovery	lest	Recovery%	Acceptable Limits	_
Americium-243	Alphaspec Am241, Cm, Solid ALL	85	(15%-125%)	
Plutonium-242	Alphaspec Pu, Solid–ALL FSS	91	(15%-125%)	
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	. 92	(25%-125%)	
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	81	(15%-125%)	
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	64	(25%-125%)	
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	77	(15%-125%)	

Notes:

6 7 8

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
- С Analyte has been confirmed by GC/MS analysis
- 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
- QC Samples were not spiked with this compound Y
- \wedge 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 ollow Rd	tomic Power							
Contact:	East Hampt Mr. Jack Me	st Hampton, Connecticut 06424 r. Jack McCarthy						Report Date: August	21, 2006	
Project:	Soils PO# 0	02332								
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID: D: ate: ate:	9106-0005-014F 168404008 SE 02-MAY-06 09-MAY-06 Client 32.3%				Project: Client ID: Vol. Recv.:	oiect: YANK01204 lient ID: YANK001 ol. Recv.:		
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Da	te Time Batch Mtd	
Rad Alpha Spec Analysi	S						<u> </u>			
Alphaspec Am241, Cm,	Solid ALL FS	S								
Americium-241	U	0.00591	+/-0.219	0.231	+/-0.219	0.608	pCi/g	BXL1 08/	11/06 1434 555696 1	
Curium-242	U	-0.04	+/-0.0554	0.134	+/-0.0557	0.494	pCi/g			
Curium-243/244		0.0634	+/-0.261	0.249	+/-0.261	0.646	pC1/g			
Alphaspec Pu, Solid-A.	LLFSS	0.0/04	1/ 0.100	0.1/0	1/ 0.100	0.424	<u><u> </u></u>	DVI 1 00/		
Plutonium-238	U	-0.0694	+/-0.106	0.160	+/-0.106	0.434	pCi/g	BALI 08/	1/06 1633 555697 2	
Plutonium-259/240		-0.0287	+/-0.098	0.127	+/-0.0981	0.309	pel/g			
Liquid Scint Pu241, Sol	IA-ALL FSS	1 60	1/ 201	6 40	1/ 8 02	12 (- Cila	DVI 1 00/	1 ()0 () 4) 5 555 ()0 2	
Rad Liquid Scintillation	Analysis	4.00	+/-0.01	0.40	+/=8.02	13.0	pc1/g	DALI 08/	10/00 1415 555098 - 3	
ISC Tritium Dist Solid	4_HTD2 411	FSS								
Tritium	U U	6 02	+/-6.38	4.90	+/-6.38	10.6	nCi/g	DFA1 08/)9/06 1319 554582 4	
Liquid Scint C14 Solid	AllESS						P8		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Carbon-14	U	0.0892	+/-0.0827	0.0655	+/-0.0827	0.137	pCi/g	ATH2 08/0)9/06 1424 554583 5	
Liquid Scint Fe55 Solid	I-ALLESS						P 8		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Iron-55	U IIIIIII	19.8	+/-46.3	30.6	+/-46 3	62.9	nCi/g	MXP1_08/1	2/06 1827 555722 6	
Liquid Scint Ni63 Solia	-ALLESS						P 8		2,00102.000,22.0	
Nickel-63	U	5.41	+/-7.91	7.77	+/-7.91	16.2	pCi/g	MXP1 08/1	1/06 1106 555723 7	
Liquid Scint Tc99 Solid	I-ALLESS	22					r~~8			
Technetium-99	U	-0.134	+/-0.192	0.167	+/-0.192	0.346	pCi/g	EGD1 08/1	1/06 2218 554580 8	

The following Prep Methods were performed										
Method	Description	Analyst	Date	Time	Prep Batch					
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649					
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									
3	DOE EML HASL-300, Pu-11-RC Modified									

4 EPA 906.0 Modified

5 EPA EERF C-01 Modified

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-										
7	DOE	RESL Ni–1, N	1odified							
6	DOE	RESL Fe-1, N	/lodified							
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
		Client Sam Sample ID	ple ID:		9106-000 16840400)5–014F)8		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
	Project:	Soils PO# 00	02332							
	Contact:	East Hampto Mr. Jack Mc	eticut 06424			Report Date: August 21, 2006				
	Address :	362 Injun He	ollow Rd							
	Company :	Connecticut	Yankee A	tomic Power						

8	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Americium-243	Alphaspec Am241, Cm, Solid ALL	50	(15%-125%)	
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	61	(15%-125%)	
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	74	(25%-125%)	
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	76	(15%-125%)	
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	76	(25%-125%)	
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	75	(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 А
- 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
- 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
- Х Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- 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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Certificate of Analysis

Company : Address :	Connecticut 362 Injun H	Yankee A ollow Rd	tomic Power							
Contact:	East Hampt Mr. Jack M	on, Connec cCarthy	eticut 06424				R	eport Date: August 2	1, 2006	
Project:	Soils PO# 0	02332								
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:	9106-0006-005F 168404009 SE 28-APR-06 12-MAY-06 Client 16.5%				Project: Client ID: Vol. Recv.:	:t: YANK01204 ID: YANK001 Lecv.:		
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	e Time Batch Mtd	
Rad Alpha Spec Analysi	is									
Alphaspec Am241, Cm,	Solid ALL FS	S								
Americium-241	U	-0.0851	+/-0.136	0.106	+/-0.136	0.390	pCi/g	BXL1 08/16	5/06 0949 557837 1	
Curium-242	U	-0.0253	+/-0.0495	0.120	+/-0.0496	0.525	pCi/g			
Curium-243/244	U	-0.04/9	+/-0.0542	0.131	+/-0.0545	0.443	pC1/g			
Alphaspec Pu, Solid-A.	LLFSS	0.0192	1/ 0 112	0.110	1/ 0.112	0 202	-Cila	DV11 09/11	VOC 1622 555007 2	
Plutonium-238 Plutonium-239/240	U	0.0183	+/-0.113 +/-0.0662	0.110	+/-0.113 +/-0.0662	0.303	pCi/g	BALI 08/11	/00 1033 55567 3	
Liquid Scint Pu241 Sol	lid-ALLESS	0.00122	0.0002	0.0074	0.0002	0.221	pore			
Plutonium-241	U	4.43	+/-5.83	4.67	+/-5.85	9.82	pCi/g	BXL1 08/16	5/06 1431 555698 4	
Rad Liquid Scintillation	Analysis					,	F 8			
LSC, Tritium Dist, Solic	d-HTD2,ALL	FSS				•				
Tritium	U	-2.02	+/-6.67	5.76	+/-6.67	12.4	pCi/g	DFA1 08/09	0/06 1335 554582 5	
Liquid Scint C14, Solid	All,FSS									
Carbon-14		0.142	+/-0.0798	0.061	+/0.0799	0.127	pCi/g	ATH2 08/09	/06 1719 554583 6	
Liquid Scint Fe55, Solid	d-ALL FSS									
Iron-55	U	12.6	+/-47.6	31.7	+/-47.6	65.3	pCi/g	MXP1 08/12	2/06 1843 555722 7	
Liquid Scint Ni63, Solia	I-ALL FSS									
Nickel-63	U	7.70	+/-9.56	9.31	+/-9.56	19.5	pCi/g	MXP1 08/11	/06 1122 555723 8	
Liquid Scint Tc99, Solia	I-ALL FSS									
Technetium-99	U	-0.00659	+/-0.185	0.156	+/0.185	0.323	pCi/g	EGD1 08/11	/06 2234 554580 9	

Method	Description	Analyst	Date	Time	Prep Batch	
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649	
The following A	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					
A .	DOF EMILLIASI 200 Bu-11-BC Modified					

5 EPA 906.0 Modified

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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 Mc Soils PO# 0	on, Connec Carthy 02332	cticut 06424			Report Date: August 21, 2006					
		Client San Sample ID	nple ID: :		9106-0006-005F 168404009		Project: YANK01204 Client ID: YANK001 Vol. Recv.:					
rameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time Batch Mtd	
	EPA E	ERF C-01 N	lodified									
	DOE I	RESL Fe-1, N	Modified									
	DOE I	RESL Ni-1, N	Aodified									
	DOE I	EML HASL-	300, Tc-0	2-RC Modified								
rrogate/Tracer recovery Test				Recovery%		Acceptable Limits						
ericium-2-	43	Alph	aspec Am	241, Cm, Solid A	LL	76		(15%-125%)				

Alphaspec Am241, Cm, Solid ALL	76	(15%-125%)	
Alphaspec Pu, Solid-ALL FSS	93	(15%-125%)	
Liquid Scint Pu241, Solid-ALL FS	105	(25%-125%)	
Liquid Scint Fe55, Solid-ALL FS	72	(15%-125%)	
Liquid Scint Ni63, Solid-ALL FS	64	(25%-125%)	
Liquid Scint Tc99, Solid-ALL FS	81	(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	Alphaspec Am241, Cm, Solid ALL76Alphaspec Pu, Solid–ALL FSS93Liquid Scint Pu241, Solid–ALL FS105Liquid Scint Fe55, Solid–ALL FS72Liquid Scint Ni63, Solid–ALL FS64Liquid Scint Tc99, Solid–ALL FS81	Alphaspec Am241, Cm, Solid ALL 76 (15%-125%) Alphaspec Pu, Solid-ALL FSS 93 (15%-125%) Liquid Scint Pu241, Solid-ALL FS 105 (25%-125%) Liquid Scint Fe55, Solid-ALL FS 72 (15%-125%) Liquid Scint Ni63, Solid-ALL FS 64 (25%-125%) Liquid Scint Tc99, Solid-ALL FS 81 (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
- 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 :	Connecticut 362 Injun H	Yankee A	tomic Power							
Contact: Project:	East Hampt Mr. Jack Mo Soils PO# 0	on, Connec cCarthy 02332	ticut 06424				Report Date: August 21, 2006			
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106-00 1684040 SE 05-MA 26-MA Client 34.8%	008–006F 010 Y-06 Y-06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001		
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date Time Batch Mtd		
Rad Alpha Spec Analysi	s									
Alphaspec Am241, Cm,	Solid ALL FS	SS .								
Americium-241	U	0.129	+/-0.195	0.0758	+/-0.196	0.332	pCi/g	BXL1 08/16/06 0949 557837 1		
Curium-242	U	0.103	+/-0.202	0.00	+/-0.203	0.280	pCi/g			
Curium-243/244	0	-0.0161	+/-0.0316	0.0766	+/-0.031/	0.335	pCi/g			
Alphaspec Pu, Solid-Al	LL FSS	0.007/		0.00/7			0.1			
Plutonium-238	U	-0.02/6	+/-0.0/11	0.096/	+/-0.0/12	0.275	pCi/g	BXL1 08/11/06 1633 555697 3		
Plutonium-239/240	U	0.00359	+/-0.113	0.118	+/-0.113	0.317	pC1/g			
Liquid Scint Pu241, Sol	Id-ALL FSS	14.0	11627	161	1/651	0.75	-Ci/a	DVI 1 09/16/06 1447 555609 4		
Rad Liquid Scintillation	Analysis	14.9	+/-0.57	4.04	+/-0.31	9.75	pci/g	BAE1 08/10/00 1447 555098 4		
ISC Tritium Dist Solia		FSS								
Tritium	II II	0.00	+/-6.06	5.09	+/6.06	10.7	nCi/g	DFA1 08/10/06 2150 554582 5		
Liquid Scint C14 Solid		0.00		0.07	.,	10.7	P0.8			
Carbon-14	U	0.107	+/-0.0846	0.0664	+/-0.0846	0.139	pCi/g	ATH2 08/09/06 1822 554583 6		
Liquid Scint Fe55, Solia	-ALL ESS						r			
Iron-55	U	15.1	+/-41.4	27.5	+/41.4	56.6	pCi/g	MXP1 08/12/06 1900 555722 7		
Liquid Scint Tc99. Solia	-ALL FSS									
Technetium-99	U	0.258	+/-0.225	0.179	+/-0.225	0.373	pCi/g	EGD1 08/11/06 2251 554580 8		
The following Prep Met	thods were po	erformed								

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

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	EPA 906.0 Modified
6	EPA EERF C-01 Modified
7	DOE RESL Fe-1, Modified

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Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd	
		Client Sam Sample ID	ple ID: :		9106-000 16840401)8-006F 0		Project: Client ID: Vol. Recv.:	YANK01204 YANK001		
Cont Proje	East Hampton, Connecticut 06424 Contact: Mr. Jack McCarthy Project: Soils PO# 002332					Report Date: August 21, 2006					
Com Addı	pany : ress :	Connecticut 362 Injun Ho	Yankee A ollow Rd	tomic Power							

DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Americium-243	Alphaspec Am241, Cm, Solid ALL	77	(15%-125%)	
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	94	(15%-125%)	
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	103	(25%-125%)	
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	72	(15%-125%)	,
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	71	(15%-125%)	

Notes:

8

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 : Address :	Connecticu 362 Injun H	t Yankee A lollow Rd	tomic Power										
Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332							Report Date: August 21, 2006					
	Client Sar Sample II Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: Pate:		9106-0 168404 SE 08-MA 26-MA Client 35.7%	008-008F 011 Y-06 Y-06		Project: Client ID: Vol. Recv.:	YANK YANK	X01204 X001				
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analys	t Date	Time	Batch M	Mtd
Rad Alpha Spec Analys	is												
Alphaspec Am241, Cm,	Solid ALL FS	SS											
Americium-241	U	0.0969	+/-0.192	0.152	+/-0.193	0.426	pCi/g		BXLI	08/11/06	1434	555696	1
Curium-242	U	-0.0482	+/-0.142	0.132	+/-0.142	0.446	pCi/g						
Curium-243/244	0	-0.0576	+/-0.202	0.240	+/-0.203	0.603	pCı/g						
Alphaspec Pu, Solid-A	LL FSS												
Plutonium-238	U	-0.0397	+/-0.096	0.125	+/-0.096	0.328	pCi/g		BXLI	08/11/06	1633	555697	2
		-0.0313	+/-0.114	0.137	+/-0.114	0.555	pC1/g						
Liquid Scint Pu241, So	lid-ALL FSS	11.5	1672	5 00	1/ 6 90	10.7	-Ci/a		DVL	00/11/00	1504	EEE(00	2
Plutonium=241 Pad Liquid Scintillation	Analysis	11.5	+/-0.72	5.08	+/-0.80	10.7	pC1/g		BALI	08/10/00	1504	222698	3
ISC Tritium Dist Soli	1_UTD2_ALL	ESC											
Tritium	и <i>ШD2,ALL</i> Ц	1.35	+/-5 92	4 97	+/-5 92	10.7	nCi/g		DFA1	08/00/06	1407	554582	4
Liquid Saint C14 Solid		0.00	17 5.72	4.77	17 5.72	10.7	peng		DIAI	00/07/00	1407	554562	4
Carbon-14	11	-0.0238	+/-0.0745	0.0636	+/-0.0745	0 133	nCi/a		АТН2	08/09/06	1924	554583	5
Liquid Saint Fa55 Sali		0.0250	.,	0.0050	0.0715	0.155	pens			00/07/00	1721	554505	5
Iron=55	u-ALL F55	-10.7	+/-40 9	27.5	+/-40.9	56.8	nCi/a		MXPI	08/12/06	1016	555777	6
Liquid Saint To00 Sali	- 111 ESS	10.7	·/ TU.)	4 I . J	U.J	50.0	peng		191711-1	00/12/00	1710	535144	U
Technetium-99	ALL FSS	0.0956	+/-0.211	0 174	+/-0.211	0.361	nCi/g		FGD1	08/11/06	2307	554580	7
reennettuni 77	U	0.0750	1/ 0.211	0.174	1 0.211	0.501	peng		LUDI	00/11/00	2307	JJ4J0U	,

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649

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

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Certificate of Analysis

	Address :	362 Injun H	y ankee A	tomic Power						
	Contact: Project:	East Hampto Mr. Jack Mc Soils PO# 00	on, Connec Carthy 02332	ticut 06424				R	eport Date: August 21,	2006
		Client Sam Sample ID	iple ID:		9106–00 1684040	008–008F 11		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd
,	DOE	EML HASL-:	300, Tc-02	2-RC Modified						
Surrogate/	Tracer recov	ery Test				Recovery%	Ac	cceptable Limit	s	
Americium-	-243	Alph	aspec Am2	241, Cm, Solid A	ALL	65		(15%-125%)		
			D (0.0		(150/ 1050/)		

Americium–243	Alphaspec Am241, Cm, Solid ALL	65	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	98	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	96	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	76	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	74	(15%-125%)

Notes:

The Qualifiers in this report are defined as follows :

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

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

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

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Certificate of Analysis

Company : Address :	Connecticut 362 Injun H	t Yankee A follow Rd	tomic Power			•					
Contact: Project:	East Hampt Mr. Jack M Soils PO# 0	on, Connec cCarthy 02332	ticut 06424				R	Report Date: August 21, 2006			
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID:): ate: ate:		9106-00 1684040 SE 11-MA 08-JUN Client 33%	009–002F 012 Y-06 I-06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001			
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst D	ate Time Ba	tch Mtd	
Rad Alpha Spec Analysi	is										
Alphaspec Am241, Cm,	Solid ALL FS	S									
Americium-241	U	-0.00144	+/-0.155	0.166	+/-0.155	0.458	pCi/g	BXL1 08	/11/06 1434 55	5696 1	
Curium = 242	U	0.0192	+/-0.145	0.135	+/-0.145	0.455	pCi/g				
Curium-243/244		0.015	+/-0.208	0.201	+/-0.208	0.087	pc1/g		•		
Alphaspec Pu, Solid-A. Plutonium-238		-0.00587	+/-0.0493	0.0270	+/-0.0494	0 122	nCi/a	BYLL 08	111/06 1632 55	5607 2	
Plutonium-239/240	U 1	0.00387	+/-0.0493	0.0279	+/-0.0493	0.122	nCi/g	DALI VO	/11/00/1052/55	5097 2	
Liquid Scint Pu241 Sol	lid-ALLESS	010100					F0				
Plutonium-241		13.6	+/-6.90	5.13	+/-7.01	10.8	pCi/g	BXL1 08	/16/06 1520 55	5698 3	
Rad Gas Flow Proportio	onal Counting	5					1 0				
GFPC, Sr90, solid-AL	L FSS										
Strontium-90	U	0.0151	+/-0.0146	0.0114	+/-0.0146	0.0242	pCi/g	BXF1 08	/14/06 0834 55	6350 4	
Rad Liquid Scintillation	Analysis										
LSC, Tritium Dist, Solic	d–HTD2,ALL	FSS									
Tritium	U	4.12	+/-8.36	6.70	+/-8.36	14.5	pCi/g	DFA1 08	/09/06 1422 554	4582 5	
Liquid Scint C14, Solid	All,FSS										
Carbon-14	U	0.046	+/-0.0755	0.0613	+/-0.0755	0.128	pCi/g	ATH2 08	/09/06 2027 554	4583 6	
Liquid Scint Fe55, Solid	d–ALL FSS										
Iron-55	U	12.9	+/-40.6	26.8	+/-40.6	55.2	pCi/g	MXP1 08	/12/06 1932 55:	5722 7	
Liquid Scint Tc99, Solic	t-ALL FSS						-				
Technetium-99	U	0.078	+/-0.203	0.168	+/-0.203	0.348	pCı/g	EGD1 08	/11/06 2323 554	4580 8	

The following Prep Methods were performed

Rad

Rad

Rad

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649
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				
3	DOE EML HASL-300, Pu-11-RC Modified				
4	EPA 905.0 Modified				

Page 91 of 105

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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# 0	on, Connec Carthy 02332	ticut 06424				:	Report Da	te: August 21,	2006
		Client Sarr Sample ID	ple ID:		9106-000 16840401	09-002F 2		Project: Client ID: Vol. Recv.:	YANK YANK	01204 001	
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst Date	Time Batch Mtd
5	EPA 9	06.0 Modifie	d								
6	EPA I	EERF C-01 M	lodified								
7	DOE	RESL Fe-1, N	Aodified								
8	DOE	EML HASL-	300, Tc-0	2-RC Modified							

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Americium-243	Alphaspec Am241, Cm, Solid ALL	61	(15%-125%)	
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	98	(15%-125%)	
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	94	(25%-125%)	
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	69	(25%-125%)	
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	81	(15%-125%)	
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	75	(15%-125%)	

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- Value is estimated T
- 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
- QC Samples were not spiked with this compound Y
- ^ 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 ollow Rd	tomic Power									
East Hampton, Connecticut 06424Contact:Mr. Jack McCarthyProject:Soils PO# 002332							я	Report Date: A	ugust 21, 2	:006		
	Client Sam Sample ID Matrix: Collect Da Receive Da Collector: Moisture:	nple ID: :: te: ate:		9106-00 1684040 SE 15-MA 08-JUN Client 28.4%	009-017F 013 Y-06 I-06		Project: Client ID: Vol. Recv.:	YANK01204 YANK001	1			
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analy	st Date	Time	Batch N	/Itd
Rad Alpha Spec Analys	is											
Alphaspec Am241, Cm,	Solid ALL FS	S										
Americium-241	U	0.0755	+/-0.242	0.230	+/-0.243	0.574	pCi/g	BXL1	08/11/06	1434	555696	1
Curium-242	U	0.0957	+/-0.220	0.171	+/-0.220	0.509	pCi/g					
Curium-243/244	0	-0.073	+/-0.214	0.256	+/0.214	0.627	pC1/g					
Alphaspec Pu, Solid-A	LLFSS	0.00(20	1/ 0.0520	0.0200	1/ 0.0520	0 1 2 1		DVII	00/11/07	1(22	555(07	2
Plutonium=238 Plutonium=239/240	U	0.00629	+/-0.0529 +/-0.0513	0.0299	+/-0.0529 +/-0.0514	0.131	pCi/g	BALI	08/11/00	1032	222091	2
Liquid Saint Pu241 So		0.0202	17 0.0515	0.00	1 0.0514	0.0709	peng					
Plutonium-241	nu ALLISS	133	+/-6.66	4 95	+/-6 77	10.4	nCi/g	BXI 1	08/16/06	1536	555698	3
Rad Gas Flow Proportio	onal Counting	15.5		1.75	.,,	10.1	P018	51151	00,10,00	1000	222070	5
GFPC. Sr90. solid-AL	L FSS	,										
Strontium-90	U	0.0205	+/-0.0151	0.0116	+/-0.0151	0.0246	pCi/g	BXF1	08/14/06	0833	556350	4
Rad Liquid Scintillation	Analysis											
LSC, Tritium Dist, Soli	d–HTD2,ALL	FSS										
Tritium	U	0.583	+/-7.98	6.65	+/-7.98	14.4	pCi/g	DFA1	08/09/06	1438	554582	5
Liquid Scint C14, Solid	All,FSS											
Carbon-14	U	0.0271	+/-0.0759	0.0625	+/-0.0759	0.131	pCi/g	ATH2	08/09/06	2129	554583	6
Liquid Scint Fe55, Soli	d–ALL FSS											
Iron-55	U	-61.9	+/-150	102	+/-150	210	pCi/g	MXPI	08/12/06	1949	555722	7
Liquid Scint Tc99, Solid	d–ALL FSS											
Technetium-99	U	0.0628	+/-0.200	0.165	+/-0.200	0.343	pCi/g	EGD1	08/11/06	2338	554580	8

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch				
Dry Soil Prep Dry Soil Prep GL-RAD-A-021 LXM2 08/03/06 1534 554649									
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 905.0 Modified

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Certificate of Analysis

	Company : Address :	Connecticut 362 Injun He	Yankee A ollow Rd	tomic Power							
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy						Report Date: August 21, 2006			
	Project:	Soils PO# 00	02332								
		Client Sam Sample ID	nple ID: :		9106-000 16840401)9-017F 3		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001		
Parameter		Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	Time Batch Mtd	
5	EPA 9	06.0 Modifie	d								
6	EPA I	EERF C-01 M	lodified								
7	DOE	RESL Fe-1, N	Aodified								

7 8 DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Americium-243	Alphaspec Am241, Cm, Solid ALL	64	(15%-125%)	
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	91	(15%-125%)	
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	96	(25%-125%)	
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	72	(25%-125%)	
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	73	(15%-125%)	
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	79	(15%-125%)	

Notes:

5 6

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
- 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
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- \wedge RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

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

Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: August 21, 2006
Project:	Soils PO# 002332		
	Client Sample ID: Sample ID: Matrix: Collect Date: Receive Date: Collector: Moisture:	9106-0010-001F 168404014 SE 04-MAY-06 17-MAY-06 Client 27.3%	Project: YANK01204 Client ID: YANK001 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analys	t Date	Time B	atch N	/Itd
Rad Alpha Spec Analysis												
Alphaspec Am241, Cm, Se	olid ALL FS	S										
Americium-241	U	0.00677	+/-0.227	0.238	+/-0.227	0.628	pCi/g	BXL1	08/11/0	6 1434 5	55696	1
Curium-242	U	0.0854	+/-0.167	0.00	+/-0.168	0.231	pCi/g					
Curium-243/244	U	0.0361	+/-0.242	0.241	+/-0.242	0.634	pCi/g					
Alphaspec Pu, Solid–ALL	L FSS											
Plutonium-238	U	0.173	+/-0.181	0.143	+/-0.182	0.331	pCi/g	BXL1	08/11/0	6 2250 5	55697	2
Plutonium-239/240	U	-0.0342	+/-0.0865	0.0951	+/-0.0866	0.235	pCi/g					
Liquid Scint Pu241, Solid	-ALL FSS											
Plutonium-241		13.0	+/-6.44	4.78	+/-6.54	10.0	pCi/g	BXL1	08/16/0	6 1553 5	55698	3
Rad Gas Flow Proportions	al Counting	3										
GFPC, Sr90, solid-ALL I	FSS											
Strontium-90	U	-0.0128	+/-0.0141	0.0125	+/-0.0141	0.0262	pCi/g	BXF1	08/14/0	6 0833 5	56350	4
Rad Liquid Scintillation A	nalysis	•										
LSC, Tritium Dist, Solid–	HTD2,ALL	FSS										
Tritium	Ū	0.548	+/7.50	6.25	+/-7.50	13.5	pCi/g	DFA1	08/09/0	6 1454 5	54582	5
Liquid Scint C14, Solid Al	ll.FSS											
Carbon-14	U	0.0555	+/-0.0809	0.0655	+/-0.0809	0.137	pCi/g	ATH2	08/09/0	6 2232 5:	54583	6
Liquid Scint Fe55, Solid-	ALL FSS											
Iron-55	U	-18.1	+/-47.6	32.3	+/-47.6	66.6	pCi/g	MXP1	08/12/0	6 2005 5:	55722	7
Liquid Scint Tc99, Solid	ALL FSS											
Technetium-99	U	0.134	+/-0.205	0.167	+/-0.205	0.347	pCi/g	EGD1	08/11/0	6 2354 5	54580	8

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch	
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649	
The following A	Analytical Methods were performed					

MethodDescription1DOE EML HASL-300, Am-05-RC Modified2DOE EML HASL-300, Pu-11-RC Modified

3 DOE EML HASL-300, Pu-11-RC Modified

4 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 Sample ID: Sample ID:	9106-0010-001F 168404014	Proiect: YANK01204 Client ID: YANK001 Vol. Recv.:
	Project:	Soils PO# 002332		
	Contact:	East Hampton, Connecticut 06424 Mr. Jack McCarthy		Report Date: August 21, 2006
	Company : Address :	Connecticut Yankee Atomic Power 362 Injun Hollow Rd		

5	EPA 906.0 Modified
6	EPA EERF C-01 Modified
7	DOE RESL Fe-1, Modified
8	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Americium-243	Alphaspec Am241, Cm, Solid ALL	50	(15%-125%)	
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	85	(15%-125%)	
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	99	(25%-125%)	
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	74	(25%-125%)	
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	70	(15%-125%)	
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	75	(15%-125%)	

Notes:

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

Company : Address :	Connecticut 362 Injun H	t Yankee A Iollow Rd	tomic Power							
Contact: Project:	East Hampton, Connecticut 06424 Mr. Jack McCarthy Soils PO# 002332						A	Report Date: August 21, 2006		
	Client San Sample ID Matrix: Collect Da Receive D Collector: Moisture:	nple ID: D: ate: ate:		9106-0 168404 SE 04-MA 17-MA Client 28.1%	010-012F 015 Y-06 Y-06		Proiect: Client ID: Vol. Recv.:	YANK01204 YANK001		
Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF Analyst Date	e Time Batch N	1td
Rad Alpha Spec Analysi	s							· · · · · · · · · · · · · · · · · · ·		
Alphaspec Am241, Cm,	Solid ALL FS	S								
Americium-241	U	0.110	+/-0.184	0.140	+/-0.184	0.386	pCi/g	BXL1 08/11	/06 1434 555696	1
Curium-242	U	-0.0547	+/-0.141	0.192	+/-0.141	0.544	pCi/g			
Curium-243/244	U	-0.126	+/-0.184	0.245	+/-0.185	0.597	pCı/g			
Alphaspec Pu, Solid–Al	LL FSS									
Plutonium-238	U	-0.00157	+/0.126	0.122	+/-0.126	0.291	pCi/g	BXL1 08/11	/06 2250 555697	2
Plutonium-239/240	U	0.0867	+/0.0869	0.0406	+/-0.0872	0.128	pCı/g			
Liquid Scint Pu241, Sol	id–ALL FSS									
Plutonium-241	U	8.31	+/-6.16	4.77	+/-6.21	10.0	pCi/g	BXL1 08/16	/06 1609 555698	3
Rad Gas Flow Proportio	nal Counting	5								
GFPC, Sr90, solid-ALI	L FSS									
Strontium-90	U	-0.00771	+/-0.0144	0.0124	+/-0.0144	0.0263	pCi/g	BXF1 08/14	/06 0833 556350	4
Rad Liquid Scintillation	Analysis									
LSC, Tritium Dist, Solia	-HTD2,ALL	FSS		.			<i></i>	55.4 00/00		_
Tritium	U	0.896	+/-6.17	5.11	+/-6.17	11.0	pCi/g	DFA1 08/09	/06 1510 554582	5
Liquid Scint C14, Solid	All,FSS									
Carbon-14	U	0.0162	+/-0.0763	0.0633	+/-0.0763	0.132	pCi/g	ATH2 08/09	/06 2334 554583	6
Liquid Scint Fe55, Solia	l-ALL FSS									
Iron-55	U	23.3	+/-49.3	32.5	+/-49.3	67.0	pCi/g	MXP1 08/12	/06 2021 555722	7
Liquid Scint Tc99, Solid	-ALL FSS									
Technetium-99	U	0.0577	+/-0.206	0.171	+/-0.206	0.354	pCi/g	EGD1 08/12	/06 0010 554580	8

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LXM2	08/03/06	1534	554649
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				

- 3 DOE EML HASL-300, Pu-11-RC Modified
- 4 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: August 21, 2006 Contact: Mr. Jack McCarthy Project: Soils PO# 002332 **YANK01204** Client Sample ID: 9106-0010-012F Project: Client ID: Sample ID: 168404015 YANK001 Vol. Recv.: Parameter Qualifier Units Result LC TPU MDA Uncertainty **DF** Analyst Date Time Batch Mtd EPA 906.0 Modified EPA EERF C-01 Modified DOE RESL Fe-1, Modified

		•		
8	DOE EML	HASL-300,	Tc-02-RC	Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits	
Americium-243	Alphaspec Am241, Cm, Solid ALL	81	(15%-125%)	
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	91	(15%-125%)	_
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	99	(25%-125%)	0
Carrier/Tracer Recovery	GFPC, Sr90, solid-ALL FSS	· 68	(25%-125%)	
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	74	(15%-125%)	
Carrier/Tracer Recovery	Liquid Scint Tc99, Solid-ALL FS	75	(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 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 I
- 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
- Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier Х
- QC Samples were not spiked with this compound Y
- Λ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- Preparation or preservation holding time was exceeded h



Page 99 of 105

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			<u>QC</u>	C Su	mmary			Report I	Date: August 21, 2006	
Client :	Connecticut 362 Injun H	t Yankee Atomic Power Iollow Rd							Page 1 of 6	
Contact:	East Hampt Mr. Jack M	ton, Connecticut IcCarthy								
Workorder:	168404									
Parmname		NOM	Sample	Qual	QC	Units F	RPD%	REC%	Range Anlst	Date Time
Rad Alpha Spec Batch	555696									
QC120115313 Americium-241	0 168340011	DUP . U	-0.000522	U	0.0578	pCi/g	204		(0% - 100%) BXL1	08/11/06 14:34
		TPU:	+/-0.0385		+/-0.278					
Curium-242		U Uncert:	0.00	U	-0.0405 +/-0.0562	pCi/g	200		(0% - 100%)	
Curium-243/244	Ļ	U U Uncert:	-0.0177 +/-0.0764	U	+/-0.0505 -0.0517 +/-0.257	pCi/g	98		(0% - 100%)	
00120115212	2 1.05	TPU:	+/-0.0765		+/-0.257					
Americium-241	2 103	12.8 Uncert:			12.8 +/-1.84	pCi/g		100	(75%-125%)	
Curium-242		TPU: Uncert:		U	+/-2.70 -0.0328 +/-0.0454	pCi/g				
Curium-243/244		TPU: 15.5 Uncert:			+/-0.0457 14.3 +/-1.94	pCi/g		92	(75%-125%)	
QC120115312	9 MB	TPU:			+/-2.92					
Americium-241		Uncert: TPU:		U	0.0471 +/-0.157 +/-0.157	pCi/g				
Curium-242		Uncert:		U	-0.0469 +/-0.0459	pCi/g				
Curium-243/244		Uncert:		U	-0.00385 +/-0.210 +/ 0.210	pCi/g				
QC120115313	1 168340011	MS	0.000500		17-0.210	0.1			(750) 1050()	
Americium-241		13.3 U Uncert: TPU:	-0.000522 +/-0.0385 +/-0.0385		+/-1.38 +/-2.08	pC1/g		91	(/5%-125%)	
Curium-242		U Uncert: TPU	0.00 +/-0.0756 +/-0.0756	U	0.0427 +/-0.0837 +/-0.0839	pCi/g				
Curium-243/244		16.1 U Uncert:	-0.0177 +/-0.0764		15.9 +/-1.58	pCi/g		99	(75%-125%)	
Batch 5	55697	IPU:	T/-U.U/03		7/-2.01					
QC120115313 Plutonium-238	4 168340011	DUP U	-0.0155	U	0.0237	pCi/g	956		(0% - 100%) BXLI	08/11/06 22:51

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QC Summary

Workorder: 168404									
Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Alpha Spec									
Batch 555697									
	Uncert:	+/-0.0215		+/-0.0465					
	TPU:	+/-0.0216		+/-0.0466					
Plutonium-239/240	U	0.0414	U	-0.0489	pCi/g	2410		(0% - 100%)	
	Uncert:	+/-0.0934		+/-0.124					
	TPU:	+/-0.0935		+/-0.124					
QC1201153136 LCS									
Plutonium-238			U	0.155	pC1/g			(75%-125%)	
	Uncert:			+/-0.141					
	TPU:			+/-0.142	<i>C</i> 11		00	(750/ 1050/)	
Plutonium-239/240	11.8			11.5	pCi/g		98	(75%-125%)	
	Uncert:			+/-0.856					
001201152122	IPU:			+/-1.32					
QC1201153133 MB Plutonium-238			п	0.0552	nCi/a				08/11/06 22:50
Tutomum 200	Uncert		U	+/-0.186	pen 5				00/11/00 22:50
	TPU			+/-0.186					
Plutonium-239/240			U	-0.0978	pCi/g				
	Uncert:			+/-0.0892	1 0				
	TPU:			+/-0.0899					
QC1201153135 168340011 MS									
Plutonium-238	U	-0.0155	U	0.0539	pCi/g			(75%-125%)	08/11/06 22:51
	Uncert:	+/-0.0215		+/-0.112					
	TPU:	+/-0.0216		+/-0.112					
Plutonium-239/240	12.3 U	0.0414		10.3	pCi/g		84	(75%-125%)	
	Uncert:	+/-0.0934		+/-0.796					
D-1-1 555(00	TPU:	+/-0.0935		+/-1.19					
Batch 333098									
QC1201153138 168340011 DUP									
Plutonium-241	U	7.28	U	10.1	pCi/g	0		(0% - 100%) BXL1	08/16/06 16:41
	Uncert:	+/-6.30		+/-6.39					
	TPU:	+/-6.35		+/-6.46					
QC1201153140 LCS	127			145	•Cila		106	(750/ 1250/)	08/16/06 17.14
Futomum-241	IJ7 Uncert:			+/-12.5	pe#g		100	(7570-12570)	08/10/00 17.14
	TDI-			+/-19.9					
OC1201153137 MB	110.			17-19.9					
Plutonium-241			U	8.57	pCi/g				08/16/06 16:25
	Uncert:			+/-6.93					
	TPU:			+/-6.98					
QC1201153139 168340011 MS									
Plutonium-241	138 U	7.28		142	pCi/g		103	(75%-125%)	08/16/06 16:58
	Uncert:	+/-6.30		+/-12.4					
	TPU:	+/-6.35		+/-19.7					
Batch 557837									
QC1201158317 168404009 DUP									
Americium-241	U	-0.0851	U	0.167	pCi/g	616		(0% - 100%) BXL1	08/16/06 09:49
	Uncert:	+/-0.136		+/-0.220					
	TPU:	+/-0.136		+/-0.221					
Curium-242	U	-0.0253	U	0.241	pCi/g	247		(0% - 100%)	

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QC Summary

Workorder:	168404									Page 3	of 6		
Parmname			NOM	Sample (Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec													
Batch 55	7837												
			Uncert:	+/-0.0495		+/-0.334							
			TPU	+/-0.0496		+/-0.335							
Curium-243/244			11 O.	-0.0479	U	0.0761	pCi/s	g 879		(0% - 100%))		
			Uncert:	+/-0.0542		+/-0.149	1 .	0					
			TPU:	+/-0.0545		+/-0.149							
QC1201158319	LCS												
Americium-241			24.5			25.4	pCi/g	g	104	(75%-125%))		
			Uncert:			+/-2.47							
			TPU:			+/-4.16							
Curium-242					U	0.0477	pCi/g	g					
			Uncert:			+/-0.127							
			TPU:			+/-0.127							
Curium-243/244			29.7			27.0	pCi/Į	g	91	(75%-125%))		
			Uncert:			+/-2.54							
			TPU:			+/-4.38							
QC1201158316	MB					0.004	C .1						
Americium-241					U	0.234	pCi/g	g			•		
			Uncert:			+/-0.275							
C			TPU:			+/-0.277	- C:/	_					
Curium-242			I.I. and the		U	0.00	pC1/g	5					
			Uncert:			+/-0.152							
Curium 242/244			IPU:		11	+/-0.152	-Cile	~					
Curium-243/244			Uncort		U	-0.0331	pC//g	5					
			TPU.			+/-0.0024							
001201158318	168404000	MS	TPU:			+/-0.0028							
Americium-241	100404009	1413	264 U	-0.0851		29.1	nCi/s	,	110	(75%-125%)			
			Uncert:	+/-0.136		+/-2.97	F C	2		(,			
			TPU	+/-0 136		+/-5.01							
Curium-242			не. П	-0.0253	U	0.126	pCi/g	z					
			Uncert:	+/-0.0495		+/-0.247	r	5					
			TPU:	+/-0.0496		+/-0.248							
Curium-243/244			32.4 11	-0.0479		31.7	pCi/g	2	98	(75%-125%)			
			Uncert:	+/-0.0542		+/-3.12				`````			
			TPU:	+/-0.0545		+/-5.39							
Rad Gas Flow													
Batch 55	6350												
001201154645	168404003												
Strontium-90	100404005	501	Ι.I.	-0.00343	U	-0.00637	nCi/s	, 0		(0% - 100%)	BXF1	08/14/06	5 08.33
Subminum yo			Uncert [.]	+/-0.0203	Ū	+/-0.0152	Pone	- ·		(0,0 100,0)	2	00/1/00	00.55
			TPU	+/-0.0203		+/-0.0152							
OC1201154647	LCS		110.										
Strontium-90			1.56			1.30	pCi/g	g	83	(75%-125%)			
			Uncert:			+/-0.0563				· · · ·			
			TPU:			+/-0.0881							
QC1201154644	MB												
Strontium-90					U	0.0176	pCi/g	3					
			Uncert:			+/-0.018							
			TPU:			+/-0.018							

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QC Summary

Workorder: 168404											
Parmname			NOM	Sample	Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Gas Flow											
Batch 55	6350										
QC1201154646 Strontium-90	168404003	MS	1.58 U Uncert: TPU-	-0.00343 +/-0.0203 +/-0.0203		1.29 +/-0.0535 +/-0.0813	pCi	g	82	(75%-125%)	
Rad Liquid Scintilla Batch 55	ation 4580										
OC1201150562	168340012	DUP									
Technetium-99			U	0.0338	U	0.266	pCi/	g ()	(0% - 100%) EGD1	08/12/06 00:42
			Uncert:	+/-0.192		+/-0.226					
			TPU:	+/-0.192		+/-0.226					
QC1201150564	LCS										
Technetium-99			13.1			13.6	pCi/	g	103	(75%-125%)	08/12/06 01:14
			Uncert:			+/-0.496					
			TPU:			+/-0.599					
QC1201150561	MB				TI	0.0211	-0	'a			09/10/06 00-06
Technetium-99			I to a set		U	0.0311	pC <i>u</i>	g			08/12/06 00:26
			Uncen:			+/-0.177					
001201150563	168340012	MS	TPU:			+/-0.177					
Technetium-99	100540012	1415	13.0 11	0.0338		12.0	pCi/	g	92	(75%-125%)	08/12/06 00:58
			Uncert:	+/-0.192		+/-0.523	r	Ģ			
			TPU:	+/-0.192		+/-0.602					
Batch 55-	4582										
OC1201150570	168340011	DUP									
Tritium		-	U	1.77	U	1.62	pCi/	g ()	(0% - 100%) DFA1	08/09/06 15:42
			Uncert:	+/-8.20		+/-7.47					
			TPU:	+/-8.20		+/-7.47					
QC1201150572	LCS										
Tritium			68.3			76.2	pCi/	g	111	(75%-125%)	08/09/06 16:14
			Uncert:			+/-14.0					
			TPU:			+/-14.1					
QC1201150569	мв				11	0.586	nCi/	a			08/00/06 15.26
Thum			L'incert:		U	+/-8.01	per/	g			08/09/00 15.20
			TPI I-			+/-8.01					
OC1201150571	168340011	MS	110.			.,					
Tritium	1000 10011		61.3 U	1.77		61.8	pCi/	g	101	(75%-125%)	08/09/06 15:58
			Uncert:	+/-8.20		+/-12.2	-				
			TPU:	+/-8.20		+/-12.3					
Batch 55-	4583										
QC1201150574	168404003	DUP									
Carbon-14			U	0.0937	U	0.0422	pCi/	g ()	(0% - 100%) ATH2	08/10/06 01:39
			Uncert:	+/-0.0813		+/-0.075					
			TPU:	+/-0.0813		+/-0.0751					
QC1201150576	LCS										004067.00
Carbon-14			7.27			7.14	pCi/	g	98	(75%-125%)	08/10/06 03:00
			Uncert:			+/-0.508					
0010011007			TPU:			+/-0.520					
QC1201150573	MB										

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QC Summary

Workorder: 16	8404									Page 5 of 6	
Parmname			NOM	Sample	Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Liquid Scintillati	on										
Batch 5545	83										
Carbon-14					U	-0.0315	pCi/	g			
			Uncert			+/-0.0776	P	0			
			TPLI			+/-0 0776			•		
OC1201150575	168404003	MS	110.								
Carbon-14	100101005		15.1 11	0.0937		13.8	pCi/	g	92	(75%-125%)	08/10/06 02:43
			Uncert:	+/-0.0813		+/-1.00		•			
1			TPU:	+/-0.0813		+/-1.03					
Batch 5557	22										
QC1201153223	168340012	DUP									
Iron-55			U	-26.5	U	5.83	pCi/j	g 0		(0% - 100%) MXP1	08/12/06 20:54
			Uncert:	+/-65.1		+/-36.9					
			TPU:	+/-65.1		+/-36.9					
QC1201153225	LCS										
Iron-55			641			660	pCi/	g	103	(75%-125%)	08/12/06 21:27
			Uncert:			+/-56.2					
			TPU:			+/-67.2					
QC1201153222	MB										
Iron-55					U	18.2	pCi/	g			08/12/06 20:38
			Uncert:			+/-39.6					
			TPU:			+/-39.6					
QC1201153224	168340012	MS	212	26.5		(00	0.1		0((750/ 1250/)	00/12/06 21 11
Iron-55				-20.5		660	pC1/g	g	90	(73%-123%)	08/12/06 21:11
			Uncert:	+/-65.1		+/-60.2					
Batch 5557	23		IPU:	+/-05.1		+/-/1.0					
001201162227	169240012	DUD									
QU1201153227 . Nickel-63	108340012	DUP	* 1	3 70	П	6 68	nCi/	n 0		(0% - 100%) MXP1	08/11/06 11:55
MCRCI-05			Uncert	+/-5 39	U	+/-7 43	pent	5 0		(070 - 10070) 47.41 1	00/11/00 11.55
			TDL.	+/ 5 40		+/-7.43					
0C1201153229	LCS		IFO.	17-5.40		1-1.45					
Nickel-63	200		512			479	pCi/s	g	94	(75%-125%)	08/11/06 12:27
			Uncert:			+/-22.4	F 6	5		(,	
			TPU			+/-27.1					
OC1201153226	MB										
Nickel-63					U	15.7	pCi/į	g.			08/11/06 11:38
			Uncert:			+/-9.92					
			TPU:			+/-9.93					
QC1201153228	168340012	MS	· ·								
Nickel-63			530 U	3.79		511	pCi/g	g	96	(75%-125%)	08/11/06 12:11
			Uncert:	+/-5.39		+/-23.5					
			TPU:	+/-5.40		+/-28.7					

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

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

QC Summary

W UI KUI	Korder. 108404						Page 6	5 of 6		
Parmna	nname NOM Sam	ple Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
>										
А	The TIC is a suspected aldol-condensation product									
В	3 Target analyte was detected in the associated blank									
BD	BD Results are either below the MDC or tracer recovery is low	v								
С	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	Value is estimated								
N/A	J/A Spike recovery limits do not apply. Sample concentration	exceeds spik	e concentrati	on by 4X	or more					
R	Sample results are rejected									
U	Analyte was analyzed for, but not detected above the MD	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.								
UI	JI Gamma SpectroscopyUncertain identification									
Х	Consult Case Narrative, Data Summary package, or Project	et Manager co	oncerning thi	s qualifie	r					
Y	QC Samples were not spiked with this compound									
^	RPD of sample and duplicate evaluated using +/-RL. Con	centrations a	re <5X the R	L						
h	Preparation or preservation holding time was exceeded									
N/A india ** India ^ The Re sample i less than For PS, I	indicates that spike recovery limits do not apply when sample indicates analyte is a surrogate compound. Re Relative Percent Difference (RPD) obtained from the sample ple is greater than five times (5X) the contract required det than 5X the RL, a control limit of +/- the RL is used to eva PS, PSD, and SDILT results, the values listed are the measured	concentration duplicate (D ection limit (luate the DUI amounts, not	exceeds spil UP) is evalu: RL). In cases Presult. final concen	ke conc. b ated agair s where ei trations.	by a factor o nst the acce ther the san	f 4 or more. ptence criteri nple or dupli	a when the cate value i	s		

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.

Workordore

120404

DISCHARGE CANAL SURVEY UNIT 9106-0006

RELEASE RECORD

Attachment 2b Split Sample Assessment Forms (2 Pages)

Split Sample Assessment Form

Survey Area #:	9106	Survey Unit #:	Survey 0006 Survey Discharge Canal Unit #:						
Sample Plan	or WPIR#:	2006-021				SML #:	9106-0006-	007	
Sample Desc using gamm the comparis	ription: Con a spectros son sample	nparison of s copy by an was <u>9106-0</u>	split sampl off-site vo 0006-007F	es collected from endor laborator <u>'S</u> .	n sample ry. The s	measureme tandard sa	ent location <u>#</u> ample was <u>9</u>	<u>[#]03</u> and analyzed 9106-0006-007F	
		STANDAR	D			CC	OMPARISON	N	
Radionuclide	Activity Value	Standard Error	Resolution	n Agreement Range	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)	
Cs-137	1.38E-02	8.55E-03	2	NONE -	9.80E-03	1.22E-02	0.71	N/A	
Co-60	1.58E-02	8.35E-03	2	NONE -	3.27E-02	1.36E-02	2.07	N/A	
Sr-90	-1.00E-02	6.25E-03	-2	NONE -	6.70E-03	8.55E-03	-0.67	N/A	
K-40	1.47E+01	5.55E-01	27	0.75 1.33	1.28E+01	5.40E-01	0.87	Y	
	-						;		
Comments/C identified in c	orrective Ad quantities gr	etions: Neither eater than 2	er Cs-137 r standard de	or Sr-90 were eviations in	Table is provided to show acceptance criteria used to assess split samples.				
than 2 standa	rd deviation	s not identifies in sample #	ed in a qua # -007F. T	his would	Reso	lution	Agree	ement Range	
account for re	esolutions o	f less than 4.	In conside	eration of Cs-	4	7	0.50	2.00	
137, Co-60 &	Sr-90 resu	lts, guidance	for agreem	ent ranges,	8	15	0.60	1.66	
obtained from	n USNRC II	spection Pro	cedure 84	/50, does not	16	50	0.75	1.33	
of acceptabili	ity for such	rations canne	ot be made.	Since K-40	51	200	0.80	1.25	
was found to	be present a	it an acceptat	ole level of	agreement, no	>	200	0.85	1.18	
further action	is warrante	d.		-					
Performed By	y:	10	Dat	te:	Reviewed	I By:		Date:	
Oal	1 Rom	loll	/	0-30-06	H	A		120/04	
WPIR - Worl	v Plan and I	spection Rec	ord			<u>.</u>			

WPIR – Work Plan and Inspection Record

 $SML-Sample\ Measurement\ Location\ designation$

Split Sample Assessment Form

Survey Area#:	9106	Survey Unit #:	urvey 0006 Survey Unit Discharge Canal Name:								
Sample Plan	or WPIR#:	2006-0021					SML #: 9106-0006-018				
Sample Desc using gamma comparison s	ription: Cor a spectrosco ample was <u>s</u>	nparison of s opy by an o 9106-0006-03	split sar ff-site <u>18FS</u> .	nple: vend	s collec or labo	ted fro oratory.	m sample The star	measurem ndard sam	ent location ple was <u>91(</u>	<u>#18</u> and analyzed)6-0006-018F, the	
		STANDARI	C					CC	OMPARISON	N	
Radionuclide	Activity Value	Standard Error	Resolut	tion	Agree Rai	ement nge	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)	
Cs-1 <u>37</u>	5.69E-02	1.33E-02	4		0.5 -	2	2.47E-02	1.15E-02	0.43	<u>N</u>	
Co-60	1.20E-01	1.92E-02	6		0.5	2	9.93 <u>E-02</u>	1.57E-02	0.83	Y	
Sr-90	2.23E-03	4.32E-03	1		N/A		3.18 <u>E-03</u>	3.75E-03	1.43	N/A	
K-40	1.74E+01	3.93E-01	44		0.75	1.33	1.13E+01	4.27E-01	0.65	N	
·											
Comments/Co results may b	orrective Ac e explained	ctions: The a by difference	greemei es in rea	nt lev Itive	vel for (quantit	Cs-137 ties of	Table is provided to show acceptance criteria used to assess split samples.				
organic mater necessarily in	rial constiue	nt to each sau blem with th	mple. T e sampl	'his c e pre	loes not	t n	Reso	lution	Agree	ment Range	
methodology	. On the oth	er hand, the	agreeem	nent	level for	r K-40	4	7	0.50	2.00	
results may ir	ndicate an in	icomplete mi	xing of	the s	ample a	aliqot	8	15	0.60	1.66	
during on-site	e sample pre	p. In consid	eration of	of Sr	-90 resi	ılts,	16	50	0.75	1.33	
guidance for a	agreement r	anges, obtain	ed from		NKC Jution r	ention	51	200	0.80	1.25	
less than 4. th	erefore, a d	etermination	of accei	ntabi	lity for	such	>	200	0.85	1.18	
rations canno	t be made.	This issue wa	as dispos	sition	ned to the	he CR					
process on 9-2	25-06.										
Performed By	/:	<u></u>	1	Date	:		Reviewed	By:		Date:	
9c	Performed By: Date: Date: Date:									9/25/05	

WPIR – Work Plan and Inspection Record

SML – Sample Measurement Location designation

DISCHARGE CANAL SURVEY UNIT 9106-0006

RELEASE RECORD

Attachment 2c Preliminary Data Forms (1 Page)

Preliminary Data Review Form - Samples for the Sign Test

9106-0006 Survey Unit: Survey Unit Name: Discharge Canal

2
Soil
Final Status Survey
Radionuclide Specific
15
1

BASIC STATISTICAL QUANTITIES

	Cs-137	Co-60	Sr-90
Minimum Value:	-2.82E-02	-1.34E-02	-1.00E-02
Maximum Value:	5.20E-01	1.94E+00	1.95E-02
Mean:	1.60E-01	3.43E-01	2.68E-03
Median:	1.30E-01	1.02E-01	1.67E-03
Standard Deviation:	1.69E-01	5.13E-01	7.51E-03

	R	ADIONUCLI	DE CONCEN	TRATION (pCi	/g)	
NUMBER	Cs-137	Co-60	Sr-90	Identified?	Identified?	Identified?
9106-0006-001F	-7.55E-04	-3.31E-03	5.37E-04	Ν	Ν	Ν
9106-0006-003F	1.70E-01	7.22E-01	1.45E-02	Y	Y	N
9106-0006-004F	9.60E-02	4.38E-02	4.27E-03	Y	Ν	N
9106-0006-005F	4.09E-01	1.94E+00	1.95E-02	Y	Y	N
9106-0006-006F	1.30E-01	2.41E-01	7.50E-04	Y	Y	Ν
9106-0006-007F	1.38E-02	1.58E-02	-1.00E-02	N	Ν	Ν
9106-0006-008F	2.95E-01	6.35E-01	4.02E-03	Y	Y	Ν
9106-0006-009F	2.26E-01	1.02E-01	7.88E-03	Y	Y	Ν
9106-0006-010F	5.20E-01	6.31E-01	7.15E-03	Y	Y	Y
9106-0006-011F	3.12E-03	4.70E-02	2.44E-03	Ν	Y	Ν
9106-0006-012F	2.71E-02	6.08E-03	-2.02E-03	Y	N	Ν
9106-0006-014F	1.79E-01	4.86E-01	-1.04E-03	Y	Y	Ν
9106-0006-015F	3.43E-01	2.21E-01	-3.81E-03	Y	Y	Ν
9106-0006-019F	-2.82E-02	-1.34E-02	1.67E-03	Ν	Ν	Ν
9106-0006-020F	1.28E-02	7.34E-02	-5.59E-03	Ν	N	N

Performed By: Del & model Independent Review: Elefted 55 Sorgew7

Date: 10-30-06 Date: 18/20/06

DISCHARGE CANAL SURVEY UNIT 9106-0006

RELEASE RECORD

Attachment 2d Graphical Representation of Data (6 Pages)



Cs-137	Rank	Percentage
-2.82E-02	1	3 %
-7.55E-04	2	10 %
3.12E-03	3	17 %
1.28E-02	4	23 %
1.38E-02	5	30 %
2.71E-02	6	37 %
9.60E-02	7	43 %
1.30E-01	8	50 %
1.70E-01	9	57 %
1.79E-01	10	63 %
2.26E-01	11	70 %
2.95E-01	12	77 %
3.43E-01	13	83 %
4.09E-01	14	90 %
5.20E-01	15	97 %

Prepared By: <u>Or Manulal</u> Date: _____ Reviewed By: <u>E.E. Sengent E.E.</u> Sengent Date: _____ Date: 10-26-06 10/30/06

Quantile Plot For Cobalt - 60



Co-60	Rank	Percentage
-1.34E-02	1	3 %
-3.31E-03	2	10 %
6.08E-03	3	17 %
1.58E-02	4	23 %
4.38E-02	5	30 %
4.70E-02	6	37 %
7.34E-02	7	43 %
1.02E-01	8	50 %
2.21E-01	9	57 %
2.41E-01	10	63 %
4.86E-01	11	70 %
6.31E-01	12	77 %
6.35E-01	13	83 %
7.22E-01	14	90 %
1.94E+00	15	97 %

Prepared By: <u>Del Mandall</u> Reviewed By: <u>E.E. Sergent Elife</u>

Date: 10-26-06 Date: 10/30/06
Quantile Plot For Strontium - 90





Sr-90	Rank	Percentage
-1.00E-02	1	3 %
-5.59E-03	2	10 %
-3.81E-03	3	17 %
-2.02E-03	4	23 %
-1.04E-03	5	30 %
5.37E-04	6	37 %
7.50E-04	7	43 %
1.67E-03	8	50 %
2.44E-03	9	57 %
4.02E-03	10	63 %
4.27E-03	11	70 %
7.15E-03	12	77 %
7.88E-03	13	83 %
1.45E-02	14	90 %
1.95E-02	15	97 %

Prepared By: Oal Runhull Reviewed By: Elfer EE Screever

Date: 10-30-91 Date: 10730/06

Frequency Plot For Cs - 137

Survey Unit: 9106-0006 Survey Unit Name: Discharge Canal



Upper End	Observation	Observation %
Value	Frequency	Frequency
0.10	7	47%
0.20	3	20%
0.30	2	13%
0.40	1	7%
0.50	1	7%
0.60	1	7%
Total	15	100%

Oal Mudall Prepared By:

Date: 10-26-06

Les 5. E. Scargent Date: 10/30/06 Reviewed By:

Frequency Plot For Cobalt-60

Survey Unit: 9106-0006 Survey Unit Name: Discharge Canal



Upper End	Observation	Observation %
Value	Frequency	Frequency
0.00	2	13%
0.25	8	53%
0.50	1	7%
0.75	3	20%
1.00	0	0%
1.25	0	0%
1.50	0	0%
1.75	0	0%
2.00	1	7%
Total	15	100%

Prepared By: Oal Muchall Reviewed By: Elfred EE Sergewit

Date: 10 - 26 - 06Date: 18 / 30 / 26

Frequency Plot For Sr - 90

Survey Unit: 9106-0006 Survey Unit Name: Discharge Canal



Upper End	Observation	Observation %
Value	Frequency	Frequency
0.000	5	33%
0.005	6	40%
0.010	2	13%
0.015	1	7%
0.020	1	7%
Total	15	100%

Prepared By: Oal Runduld

Date: 10-30-06

KE Sergent Reviewed By: 12

Date: 10 30/06

DISCHARGE CANAL SURVEY UNIT 9106-0006

RELEASE RECORD

Attachment 2e Sign Test Calculation (1 Page) Health Physics Procedure

Sign Test Calculation Sheet For Multiple Radionuclisdes

Survey Unit Number: 0006

Survey Unit Name: Discharge Canal

WP&IR#: 2006-021						
Classification : 2		TYPE I (a error):0.05	TYPE I (b error):0.05			
	Padionualidas	Cs.137	Co 60	Sr 00		
	Radionuchues.	CS-137	0-00	31-90		
Survey Desi	gn DCGL (pCi/g):	5.38	2.59	1.05		
Results Cs-137	Results Co-60	Results Sr-90	Weighted Sum (Ws)	DCGL-Result	Sign	
-7.55E-04	-3.31E-03	5.37E-04	-9.08E-04	1.00E+00	1	
1.70E-01	7.22E-01	1.45E-02	3.24E-01	6.76E-01	1	
9.60E-02	4.38E-02	4.27E-03	3.88E-02	9.61E-01	1	
4.09E-01	1.94E+00	1.95E-02	8.43E-01	1.57E-01	1	
1.30E-01	2.41E-01	7.50E-04	1.18E-01	8.82E-01	1	
1.38E-02	1.58E-02	-1.00E-02	-8.24E-04	1.00E+00	1	
2.95E-01	6.35E-01	4.02E-03	3.04E-01	6.96E-01	1	
2.26E-01	1.02E-01	7.88E-03	8.89E-02	9.11E-01	1	
5.20E-01	6.31E-01	7.15E-03	3.47E-01	6.53E-01	1	
3.12E-03	4.70E-02	2.44E-03	2.10E-02	9.79E-01	1	
2.71E-02	6.08E-03	-2.02E-03	5.47E-03	9.95E-01	1	
1.79E-01	4.86E-01	-1.04E-03	2.20E-01	7.80E-01	1	
3.43E-01	2.21E-01	-3.81E-03	1.45E-01	8.55E-01	1	
-2.82E-02	-1.34E-02	1.67E-03	-8.83E-03	1.01E+00	1	
1.28E-02	7.34E-02	-5.59E-03	2.54E-02	9.75E-01	1	
i.						
	Number of Posit	ive Differences (S+):	15			
Critical Value:	11	Survey Unit:	Meets Acceptant	ce Criterion		

Performed By: <u>OLL Mulal</u> Date: 10-30-06 Independent Review: <u>Children E. E. Sergen</u> Date: 15/35/06

DISCHARGE CANAL SURVEY UNIT 9106-0006

RELEASE RECORD

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



Assessment Summary

Site:	9106-0006 (19 mrem/y	/r)	
Planner(s):	Dale Randall		
Survey Unit Name:	9106-0006		
Report Number:	1		
Survey Unit Samples:	15		
Reference Area Samples:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	Reject Null Hypothesis (Survey Unit PASSES)		

Retrospective Power Curve





Survey Unit Data

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

Sample Number	Туре	Co-60 (pCi/g)	Cs-137 (pCi/g)	SrY-90 (pCi/g)
9106-0006-001F	S	0	0	0
9106-0006-003F	S	0.72	0.17	0.01
9106-0006-004F	S	0.04	0.1	0
9106-0006-005F	S	1.94	0.41	0.02
9106-0006-006F	S	0.24	0.13	0
9106-0006-007F	S	0.02	0.01	-0.01
9106-0006-008F	S	0.64	0.3	0
9106-0006-009F	S	0.1	0.23	0.01
9106-0006-010F	S	0.63	0.52	0.01
9106-0006-011F	S	0.05	0	0
9106-0006-012F	S	0.01	0.03	0
9106-0006-014F	S	0.49	0.18	0
9106-0006-015F	S	0.22	0.34	0
9106-0006-019F	S	-0.01	-0.03	0
9106-0006-020F	S	0.07	0.01	-0.01

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)
9106-0006-001F	S	0
9106-0006-003F	S	0.29
9106-0006-004F	S	0.03
9106-0006-005F	S	0.75
9106-0006-006F	S	0.11
9106-0006-007F	S	0
9106-0006-008F	S	0.27
9106-0006-009F	S	0.08
9106-0006-010F	S	0.31
9106-0006-011F	S	0.02
9106-0006-012F	S	0
9106-0006-014F	S	0.2
9106-0006-015F	S	0.13
9106-0006-019F	S	-0.01
9106-0006-020F	S	0.02



Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	15	N/A	N=13
Mean (SOR)	0.15	N/A	0.15
Median (SOR)	0.08	N/A	N/A
Std Dev (SOR)	0.20	N/A	0.1
High Value (SOR)	0.75	N/A	N/A
Low Value (SOR)	-0.01	N/A	N/A