

SURVEY PACKAGE

Survey Package ID: E4024 101C1

Survey Area Name: SETF Drains and Waste Storage Systems

Survey Unit Name: Liquid Waste, Floor Drains, and Solid Waste Storage

Version: Revision 0, May 22, 2007

**Prepared IAW:
SETF Sample and Analysis Plan, Rev. 0, March 2007**

**Prepared For:
The Boeing Company
Santa Susana Field Laboratory
5800 Woolsey Canyon Rd
Canoga Park, CA 91304**

**Prepared By:
AREVA NP Inc.
Federal D&D Services
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Charlotte, NC 28262**



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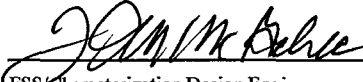
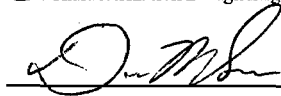
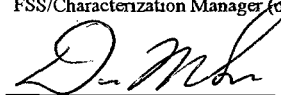
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Survey Package Cover Sheet

Survey Package Number: E4024 101C1 Package Type: System
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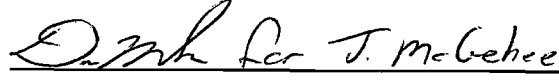
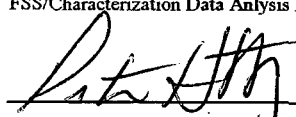
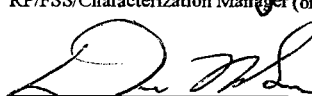
Survey Package Preparation:

The survey package instructions are prepared and ready for implementation.

Prepared By:  Date 5/23/07
FSS/Characterization Design Engineer
Reviewed By:  Date 5/23/07
FSS/Characterization Manager (or designee)
Approved By:  Date 5/23/07
Project Manager

Survey Completion:

The survey package instructions were implemented and the survey measurements have been reviewed for completeness in accordance with the Sample and Analysis Plan. The data collected has been reviewed for completeness in accordance with the survey package instructions.

Reviewed By:  Date: 11/30/07
FSS/Characterization Supervisor (or designee)
Reviewed By: WA Date: _____
FSS/Characterization Data Analysis Engineer
Reviewed By:  Date: 11/30/07
RP/FSS/Characterization Manager (or designee)
Approved By:  Date: 11/30/07
Project Manager

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Survey Area History

Survey Package Number:	E4024 101C1	Package Type:	System
Survey Area Name:	SETF Drains and Waste Storage Systems		
Survey Unit Name:	Liquid Waste, Floor Drains, and Solid Waste Storage		

Survey Area Description:

Erected in 1960 and enlarged in 1962, 4 unshielded SNAP reactors were tested in the SETF. The reactor systems and radioactive test equipment were removed at the end of testing, additional D&D operations were performed in 1978 and again in 2005.

Survey Area History Information:

SETF Facility Description

As constructed, the SETF consisted of three basic areas: the high bay, general support and mechanical/electrical support areas. In addition to the building areas, a paved yard surrounds the main building. All of the building areas except for test cells B-102 and B-104 of the sub grade test cell complex (SGTCC) have been surveyed and confirmed to be DM by the DHS-RHB.

The test cells have an aluminum liner, contain activated concrete and metal rebar from former reactor testing. In the yard area, other above grade support structures and below grade components such as radioactive solid, liquid, and gas storage tanks were once buried. The tanks were removed, but surveys showing the radiological condition of the remaining vaults are not available.

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Survey Unit Description and History

Survey Package Number: E4024 101C1 Package Type: System
LC1: E4024 Survey Area Name: SETF Drains and Waste Storage Systems
LC2: 101C1 Survey Unit Name: Liquid Waste, Floor Drains, and Solid Waste Storage

LC3 - Surface Category (P1-3) and Associated Area:

LC3_P1_3	Surface Description	Dimensions (Yes or No)	Total Area (m2)
DF1	Floor Drain	No	0
ME1	Miscellaneous Equipment	No	0
SP1	System Piping	No	0

Work Breakdown Structure Information:

WBS ID: 10401 Characterization and Confirmatory Survey Activities

Survey Unit Description:

This survey unit consists of existing contaminated liquid waste drain (SP1), floor drain (DF1) and solid waste storage (ME1) systems.

Survey Unit Historical Information: Operational History, etc.

Piping for the liquid waste storage tank system was encountered along the west side of Survey Area A4024 101C1, Buried Waste Tank/Vault Location at 4.5 ft. depth. With discovery of the liquid waste system piping it was determined that the piping should be added to the survey along with surveys of the floor drain system and solid waste storage tubes.

The yard is paved with asphalt which currently provides vehicle access to all sides of the building. Below ground radioactive waste storage facilities were once located in the area. Tanks removed during a 1977-78 D&D campaign were: three 6 feet diameter by 40ft long radioactive gas holdup tanks; and two buried 500 gallon liquid radioactive waste holdup tanks located east of the gas holdup. The D&D effort was documented in written plans and photos taken during the removal of these components. However, eight 3 feet diameter by 4 feet deep solid radioactive waste storage vaults, each with a 4.5 feet thick shield block cover were provided in the crane runway area and have not been removed. The storage vaults, vault covers, crane and crane runway are within this project scope.

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Survey Unit Description and History

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LC1: E4024	Survey Area Name: SETF Drains and Waste Storage Systems	
LC2: 101C1	Survey Unit Name: Liquid Waste, Floor Drains, and Solid Waste Storage	

Identity of Potential Contaminants

Radioactivity induced by testing SNAP reactors in the sub grade test cell complex was detected as documented in SAP Reference 7.5, Team Product Document No: RS-00025, Building 4024 Concrete Sampling, performed under the Closure of ETEC (R21-RS) Program (RS-00025 report). The RS-00025 report provides the results for concrete sampling in the SETF, Building 4024 conducted in 2003. The activity of 1 inch depth cores ranged from no detectable activity to 105 pCi/g of Europium-152 (Eu-152) and 9.4 pCi/g of Cobalt-60 (Co-60), the primary contaminants of concern (COC).

These results from the RS-00025 survey and were used to predict which concrete needs to be removed with radiological controls and managed as radioactive waste and which can be removed as decommissioning materials without radiological controls and shipped to a Class 1 landfill. According to the SAP Reference 7.6, Historical Site Assessment of Area IV Santa Susana Field Laboratory Ventura County, California (HSA), other potential radionuclide COCs in addition to Co-60 and Eu-152 include: Am-241, Cs-134, Cs-137, Eu-154, Fe-55, Fe-59, H-3, K-40, Mn-54, Na-22, Ni-63, Pu-238, Pu-239, Pu-240, Pu-241, Sr-90, Th-228, Th-230, Th-232, U-234, U-235, and U-238. These additional COCs will also be tested for during the confirmatory survey.

Additional Information Regarding Survey Unit Classification:

Inside RCA? Yes

Piping was for the liquid waste storage tank system.

Coolant? No

Spills? No

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Survey Package References

Survey Package Number:	E4024 101C1	Package Type:	System
Survey Area Name:	SETF Drains and Waste Storage Systems		
Survey Unit Name:	Liquid Waste, Floor Drains, and Solid Waste Storage		

References:

1. Sample and Analysis Plan for the SETF D&D Surveys, Rev 0, March 2007, AREVA
2. Health and Safety Plan for the SETF D&D Project, March 2007, AREVA
3. Quality Assurance Project Plan for the SETF D&D Surveys, Rev 0, March 2007, AREVA
4. MARSSIM, Multi-Agency Radiation Survey and Site Investigation Manual, EPA402-R-97-016 (NUREG-1575), August 2000

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Survey Safety Requirements

Survey Package Number:	E4024 101C1	Package Type:	System
Survey Area Name:	SETF Drains and Waste Storage Systems		
Survey Unit Name:	Liquid Waste, Floor Drains, and Solid Waste Storage		

Safety Requirement and Considerations:

1. This area contains or may contain physical slip, trip and fall hazards, and watch for poisonous snakes and insects.
2. All work to be performed in accordance with the Job Hazard Analysis prepared for surveys of radiological areas.
3. All work to be performed in accordance with RWP prepared for surveys of radiological areas.

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Survey Support Requirements

Survey Package Number:	E4024 101C1	Package Type:	System
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Survey Unit Name:	Liquid Waste, Floor Drains, and Solid Waste Storage		

Survey Support Requirements and Considerations:

1. Boeing to provide crane and operator as needed to access solid waste storage system.
2. Boeing to provide support as needed to access floor drain system.
3. Boeing to provide backhoe equipment and operator as needed to trench and provide access to liquid waste system piping.
4. Review Job Hazard Analysis prepared for surveys of drain systems.

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Survey Package Procedures

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Survey Area Name:	SETF Drains and Waste Storage Systems		
Survey Unit Name:	Liquid Waste, Floor Drains, and Solid Waste Storage		

Survey Package Procedures:

1. DD-CS-001 Sample Identification and Chain of Custody
2. DD-CS-011 Operation of Ludlum Model 2350 Data Logger
3. DD-CS-014 Bulk Material and Core Bore Sampling
4. DD-RP-010 Portable Instrument Procedure
5. DD-RP-039 Quality Control of Counting Systems and Portable Counters
6. DD-RP-049 Operation of the Ludlum Model 2929 Dual Channel Scaler

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General Survey Package Instructions

Survey Package Number: E4024 101C1	Package Type: System
Survey Area Name: SETF Drains and Waste Storage Systems	
Survey Unit Name: Liquid Waste, Floor Drains, and Solid Waste Storage	

1. Perform measurements and collect samples of sufficient quantity to confirm absence of radioactivity from liquid waste drain, floor drain systems and solid waste storage systems at Building 4024.

Operate instruments for background study and survey direct measurements and sample analysis such that measurement and/or analysis sensitivities or minimum detectable concentrations (MDCs) are ALARA or, as a minimum less than the derived concentration guideline levels (DCGLs).

2. The survey is to aid in removal activities, waste management activities, and remediation planning.

Upon completion of the initial survey specified in this survey package, the data will be analyzed and a determination will be made as to whether or not the area has been adequately characterized.

3. If materials that are potentially hazardous are encountered during the survey, note this in the item description under "material" and report the location of the material to the FSS/Characterization Manager and EH&S Manager.

4. The number of measurements and/or samples prescribed are minimum number required.

Additional measurements may be required to bound the lateral/vertical extent of radiological contamination in the survey unit to an approximate 24" depth. Survey maps for this survey unit are located in Appendix A.

5. Mark each measurement location with a stake or survey flag and include LC5 and/or LC6 code as appropriate.

6. The M2350 data logger(s) are to be downloaded into the Measure Database at completion of survey or at end of shift at a minimum.

7. All samples are to be logged into the Sample Database at completion of survey or at end of shift at a minimum.

Note any problems, comments, or other information pertinent to the data or sample collection under the "FIELD NOTES" section.

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Specific Survey Package Instructions

Survey Package Number:	E4024 101C1	Package Type:	System
Survey Area Name:	SETF Drains and Waste Storage Systems		
Survey Unit Name:	Liquid Waste, Floor Drains, and Solid Waste Storage		

1. Direct Beta

Perform direct beta measurements at within each system at accessible locations.

Use an unshielded Model 44-40, a 44-116 or equal detector. A minimum of 18 direct beta measurements will be collected in the systems at locations with the most potential for contamination and where the measurement geometry is most appropriate.

With the background shield installed, perform a 60 second "C" count to determine the field background. Using the field MDA verification sheet, adjust the count time to ensure that the MDC is less than 900 dpm/100 square centimeters.

Collect three pre-survey and three post survey shielded background counts. If pre-survey background counts in the survey unit are within +/- 20% of mean, use LMI Model 44-116 detector with the M2350 in the scaler mode with a 60 second count time and code the measurement LC4_P4 as "G," for Field Background and LC4_P5 as "A" for Average Background application (per measurement). If otherwise, collect a single shielded background at each of the direct beta measurement locations, code the measurement LC4_P4 as "G," field background and LC4_P5 as "S" for Single Background (per measurement).

For the direct measurement, use LMI Model 44-116 detector with the M2350 in the scaler mode with a 60 second count time and code the measurement LC4_P4 as "F," for Field Count and LC4_P5 as "A" for Average Background application or "S" for Single Background (per measurement) as appropriate.

2. Direct Alpha

Perform direct alpha measurement at each of the direct beta measurement locations.

Use a Model 43-90 or equal detector. With the background shield installed, perform a 2 minute "C" count to determine the field background. Using the field MDA verification sheet, adjust the count time to ensure that the MDA is less than 75 dpm/100 square centimeters.

Use Model 43-90 detector with the same background protocol and codes as with the direct beta measurements.

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Specific Survey Package Instructions

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Survey Unit Name:	Liquid Waste, Floor Drains, and Solid Waste Storage	

3. Gamma Contact

Perform contact gamma measurement at each direct beta measurement location.

Use Model 44-10 with collimator shield installed, the M2350 in the scaler mode with a 12 second count time and code the measurement LC4_P4 as "F," for Field Count.

4. A/B Smear

Collect a smear for removable alpha and beta contamination at each of the direct beta measurement locations.

Collect the smear sample by wiping approximately 100 cm² area for the sample. Combine and analyze by gamma spectroscopy A/B smear samples collected at locations where removable alpha was > 100 dpm/100 cm² or removable beta was >1000 dpm/100 cm².

5. G-Spec Sample

G-Spec Material Sample from each system. If available, collect a sample from each location composed of loose materials, sediment or sludge to combine for one or two composite samples for gamma spectral analysis.

The samples in order of priority are as follows:

1 to 2 kg Soil/Sediment Samples for Gamma Spectroscopy, if an amount to produce >= 125 g of dry sample cannot be obtained, collect materials for a composite sample for the survey unit.

The sample may include a bulk material sample for a petri dish and/or 250 ml marinelli beaker sample.

To achieve the analysis MDC desired, the laboratory requested sample sizes (an amount of soil) that will yield 500 grams of dried soil. The wet soil amount can vary significantly depending on its moisture content. If the desired sample size cannot be obtained, the minimum sample size to achieve an analysis MDC is an amount of wet soil (~1 kg) that will produce 125g of dried soil.

If an amount to produce 125g of dried soil cannot be obtained, combine and analyze by gamma spectroscopy smear sample results showing > 100 alpha or >1000 beta dpm/100cm².

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Survey Package Location Codes

Survey Package Number E4024 101C1 **Package Type:** System

LC1: E4024 **Survey Area Name:** SETF Drains and Waste Storage Systems

LC2: 101C1 **Survey Unit Name:** Liquid Waste, Floor Drains, and Solid Waste Storage

Class Description: Impacted System

Reason Description: C1 Characterization Survey

LC3_P1-3 and Surface Category: DF1 Interior of floor drain

LC3_P45 Material Description

R1 Sediment
M1 Metal
G1 Miscellaneous Material

LC4_P13 - Detector Type, Analysis Codes, and Measurement/Samples Quantity

Measurement	LC4 P13 Code	Model	Description	Qty Prescribed	Qty Collected	Collected By (Initials)
A/B Smear				5	5	NA
	L07	GS Smear Analysis	Gamma Spectrometry			
	L01	A/B Smear Analysis	Alpha/Beta Counter			
Direct Beta				5	5	
	B14	43-89B	Beta Scintillator			
	B01	44-40B	GM Pancake			
Gamma Contact				5	5	
	G01	44-10	2"x2" NaI(Tl) Gamma Scintillator			
G-Spec Sample				1	1	
	L04	GS Material Analysis	Gamma Spectrometry			

LC3_P1-3 and Surface Category: ME1 Miscellaneous Equipment

LC3_P45 Material Description

R1 Sediment

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Survey Package Number E4024 101C1 **Package Type:** System

LC1: E4024 **Survey Area Name:** SETF Drains and Waste Storage Systems

LC2: 101C1 **Survey Unit Name:** Liquid Waste, Floor Drains, and Solid Waste Storage

Class Description: Impacted System

Reason Description: C1 Characterization Survey

M1 Metal
 G1 Miscellaneous Material
 C1 Concrete (Bare)

LC4_P13 - Detector Type, Analysis Codes, and Measurement/Samples Quantity

Measurement	LC4 P13 Code	Model	Description	Qty Prescribed	Qty Collected	Collected By (Initials)
A/B Smear				8	8	WA
	L07	GS Smear Analysis	Gamma Spectrometry			
	L01	A/B Smear Analysis	Alpha/Beta Counter			
Direct Alpha				8	8	
	A04	43-89A	Alpha Scintillator			
	A03	43-90	Alpha Scintillator			
Direct Beta				8	8	
	B14	43-89B	Beta Scintillator			
	B02	44-116	Beta Scintillator			
	B01	44-40B	GM Pancake			
Gamma Contact				8	8	
	G01	44-10	2"x2" NaI(Tl) Gamma Scintillator			
G-Spec Sample				1	1	
	L04	GS Material Analysis	Gamma Spectrometry			

LC3_P1-3 and Surface Category: SP1 System Piping

LC3_P45 Material Description

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Survey Package Location Codes

Survey Package Number E4024 101C1 **Package Type:** System

LC1: E4024 **Survey Area Name:** SETF Drains and Waste Storage Systems

LC2: 101C1 **Survey Unit Name:** Liquid Waste, Floor Drains, and Solid Waste Storage

Class Description: Impacted System

Reason Description: C1 Characterization Survey

R1 Sediment

M1 Metal

G1 Miscellaneous Material

LC4_P13 - Detector Type, Analysis Codes, and Measurement/Samples Quantity

Measurement	LC4 P13 Code	Model	Description	Qty Prescribed	Qty Collected	Collected By (Initials)
A/B Smear				8		8 <i>AA</i> <i>AWA</i>
	L07	GS Smear Analysis	Gamma Spectrometry			
	L01	A/B Smear Analysis	Alpha/Beta Counter			
Direct Beta				8		<i>Dr. f</i> <i>11/20/07</i> <i>8</i>
	B14	43-89B	Beta Scintillator			
	B01	44-40B	GM Pancake			
Gamma Contact				8		<i>8</i>
	G01	44-10	2"x2" NaI(Tl) Gamma Scintillator			
G-Spec Sample				1		<i>1</i>
	L04	GS Material Analysis	Gamma Spectrometry			

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Survey Package Location Codes

Survey Package Number E4024 101C1	Package Type: System
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LC1: E4024 **Survey Area Name:** SETF Drains and Waste Storage Systems

LC2: 101C1 **Survey Unit Name:** Liquid Waste, Floor Drains, and Solid Waste Storage

Class Description: Impacted System

Reason Description: C1 Characterization Survey

LC4_P4 - Count Type

LC4_P5 - Background Mode Codes

A Pre-use Background Check
B Pre-use Source Check
C Post-use Background Check
D Post-use Source Check
F Field Count
G Field Background
S Field Scan

A Average Background
N Background Not Required
S Single Background

Survey Field Notes: Additional information regarding the performance of the survey, measurements, sample collection, etc. Use additional pages as needed for field notes.

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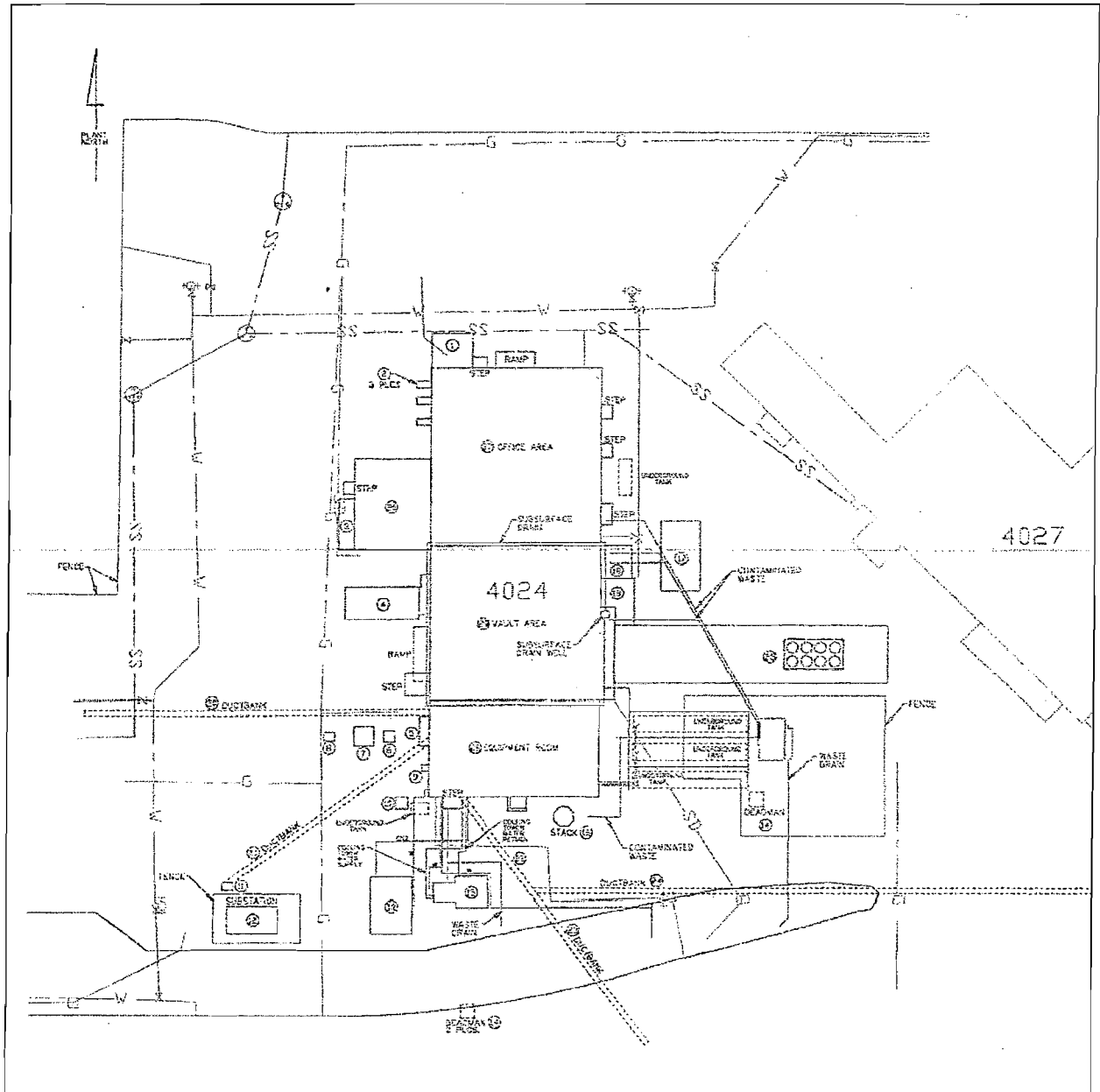
Survey Package Appendix A – Drawings

Survey Package: E4024 101C1 Package: System
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Survey Package Appendix A - Drawings

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Survey Package Appendix A – Drawings

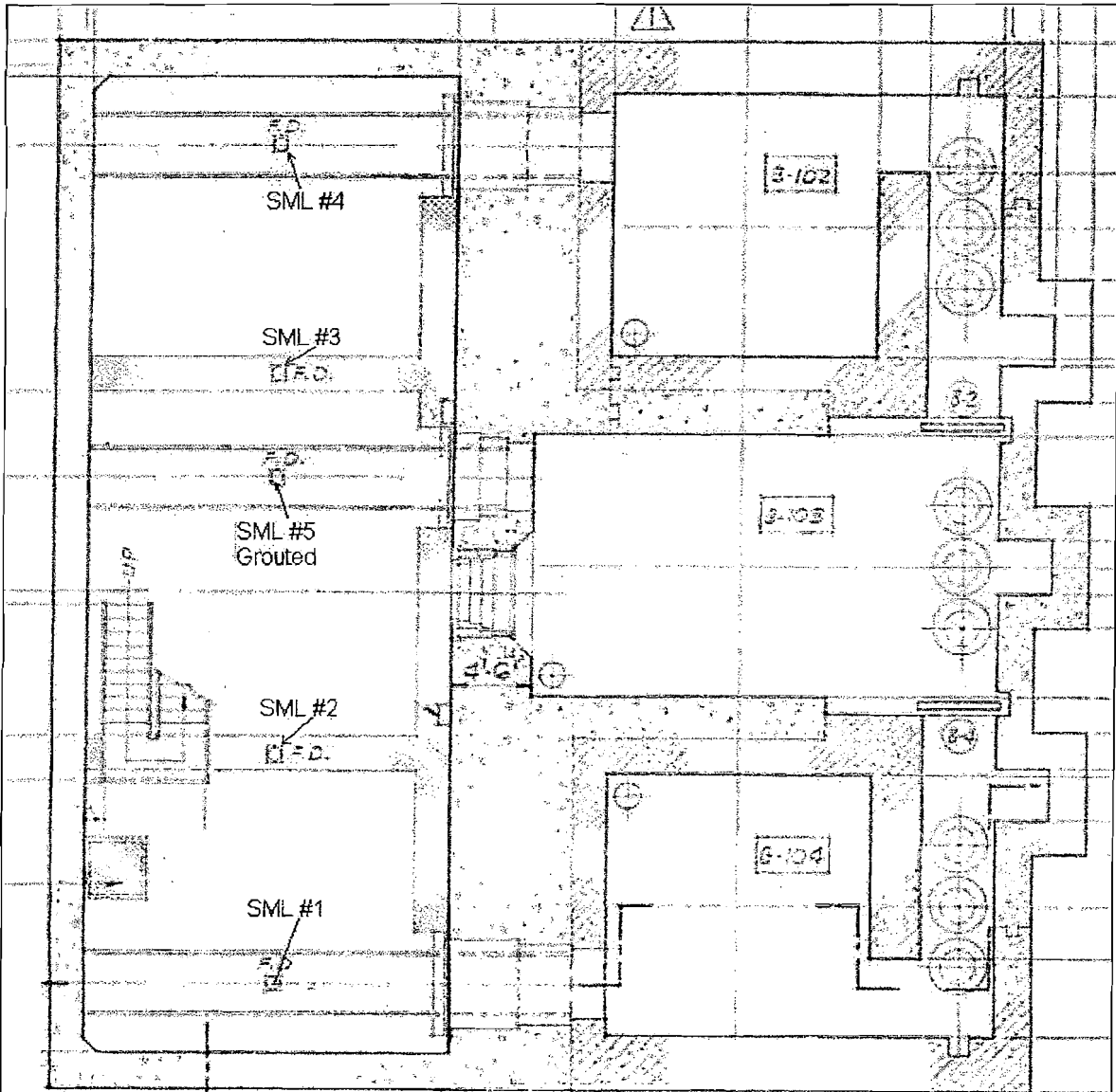


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Survey Package Appendix A – Drawings



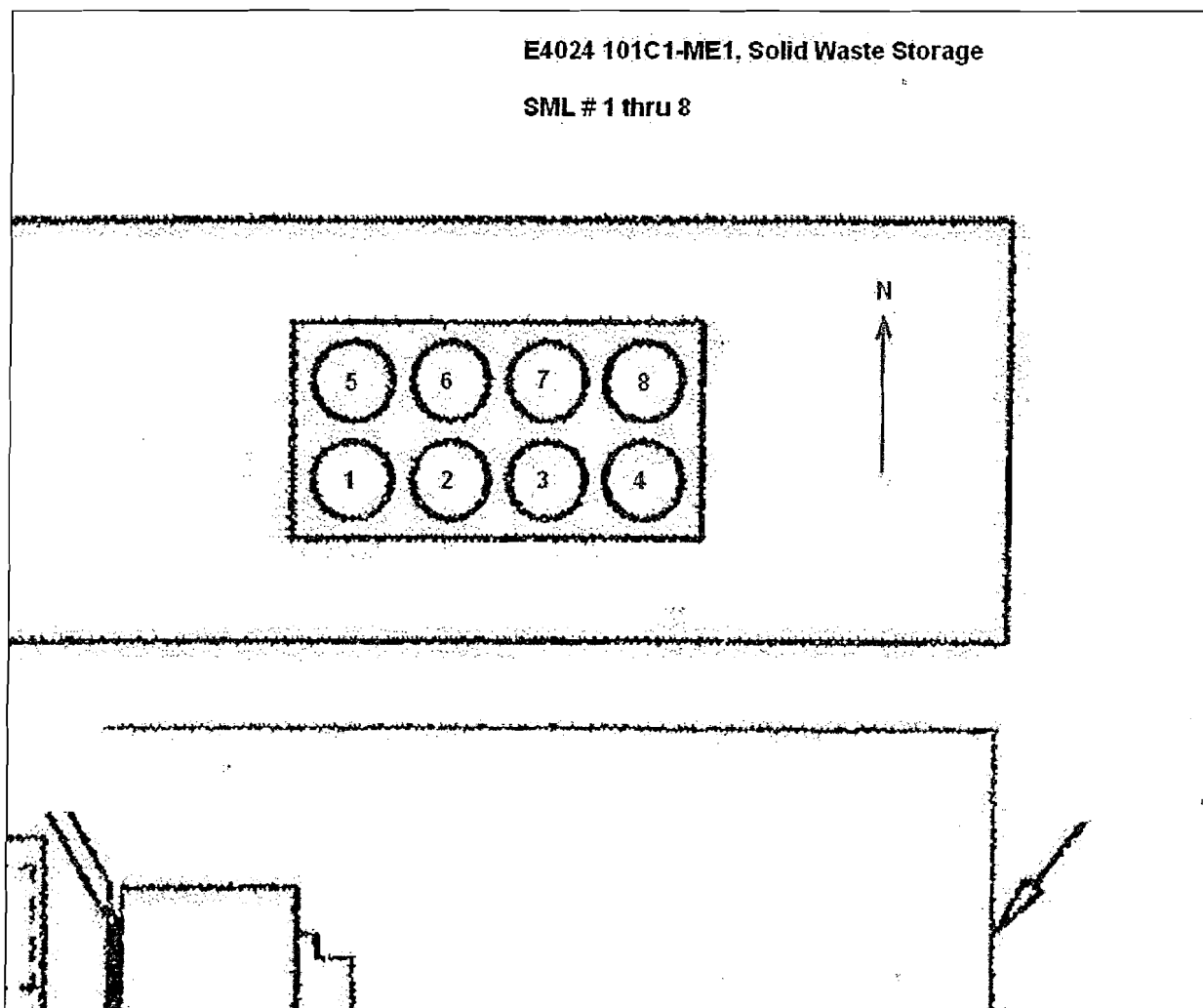
E4024 101C1-DF1. Floor Drain System. SETF Basement

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Survey Package Appendix A – Drawings

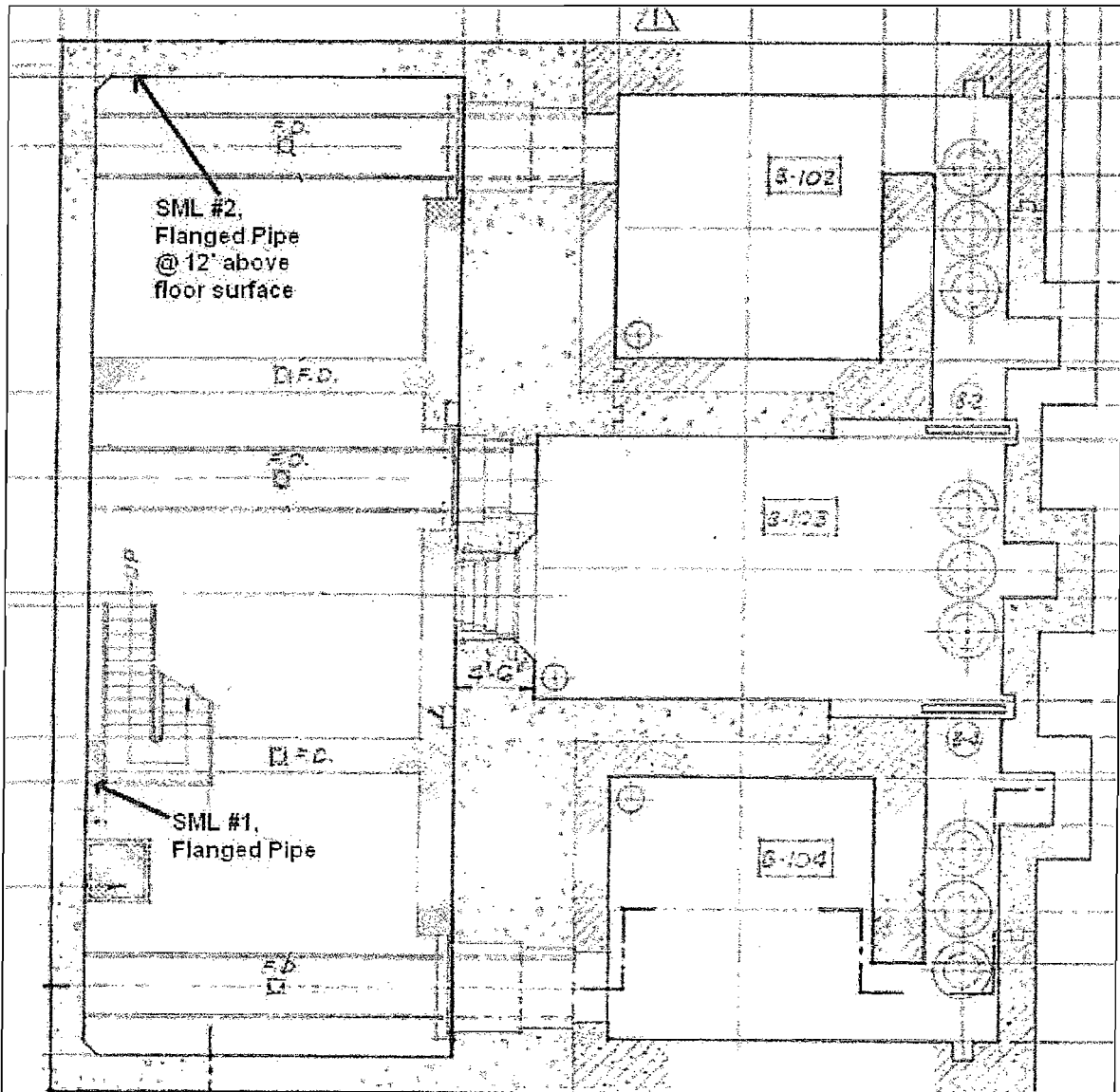


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Survey Package Appendix A – Drawings



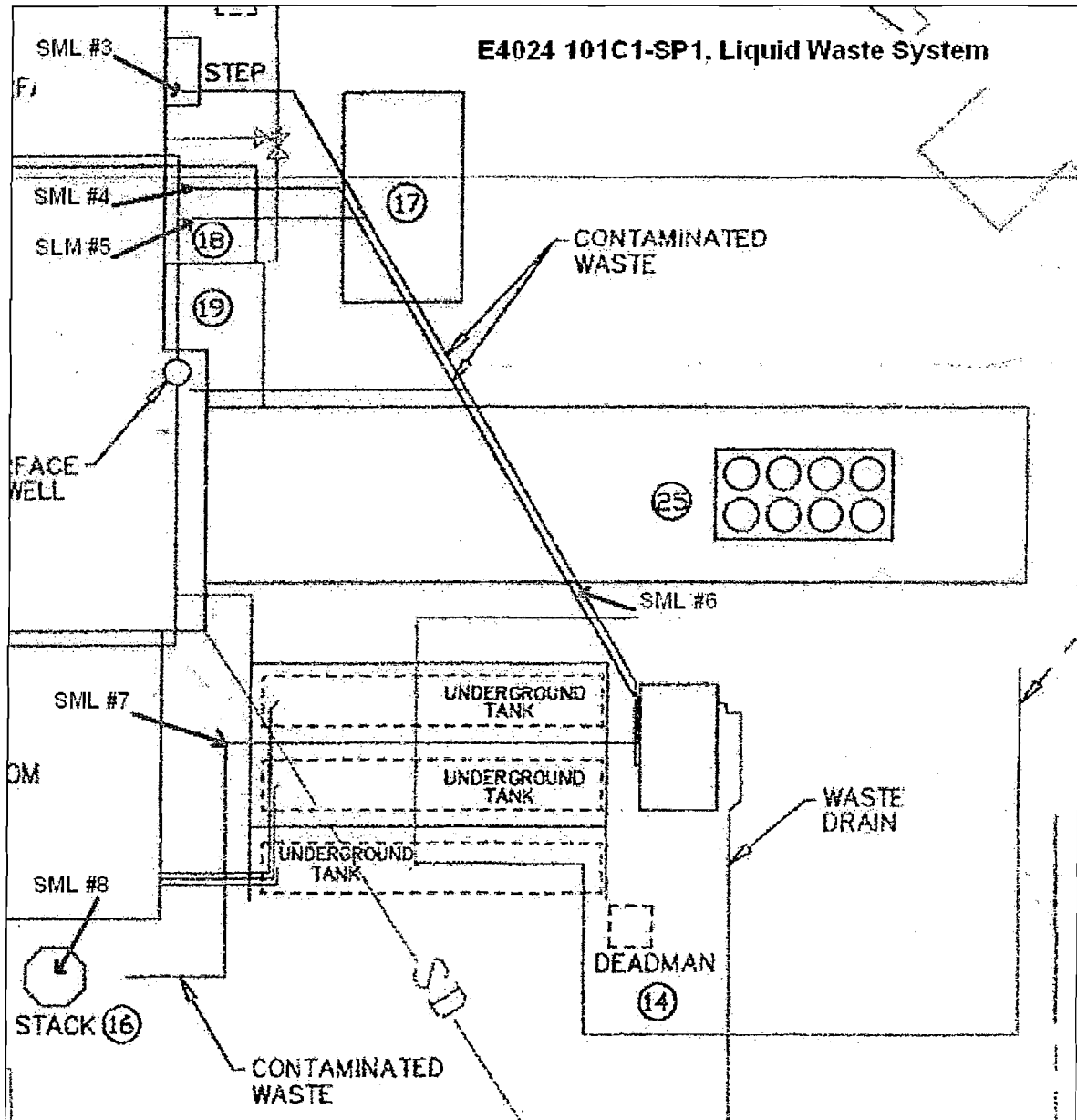
E4024 101C1-SP1, Liquid Waste System, SETF Basement

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Survey Package Appendix A – Drawings



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Survey Package Appendix B – Photographs

Survey Package: E4024 101C1 **Package:** System
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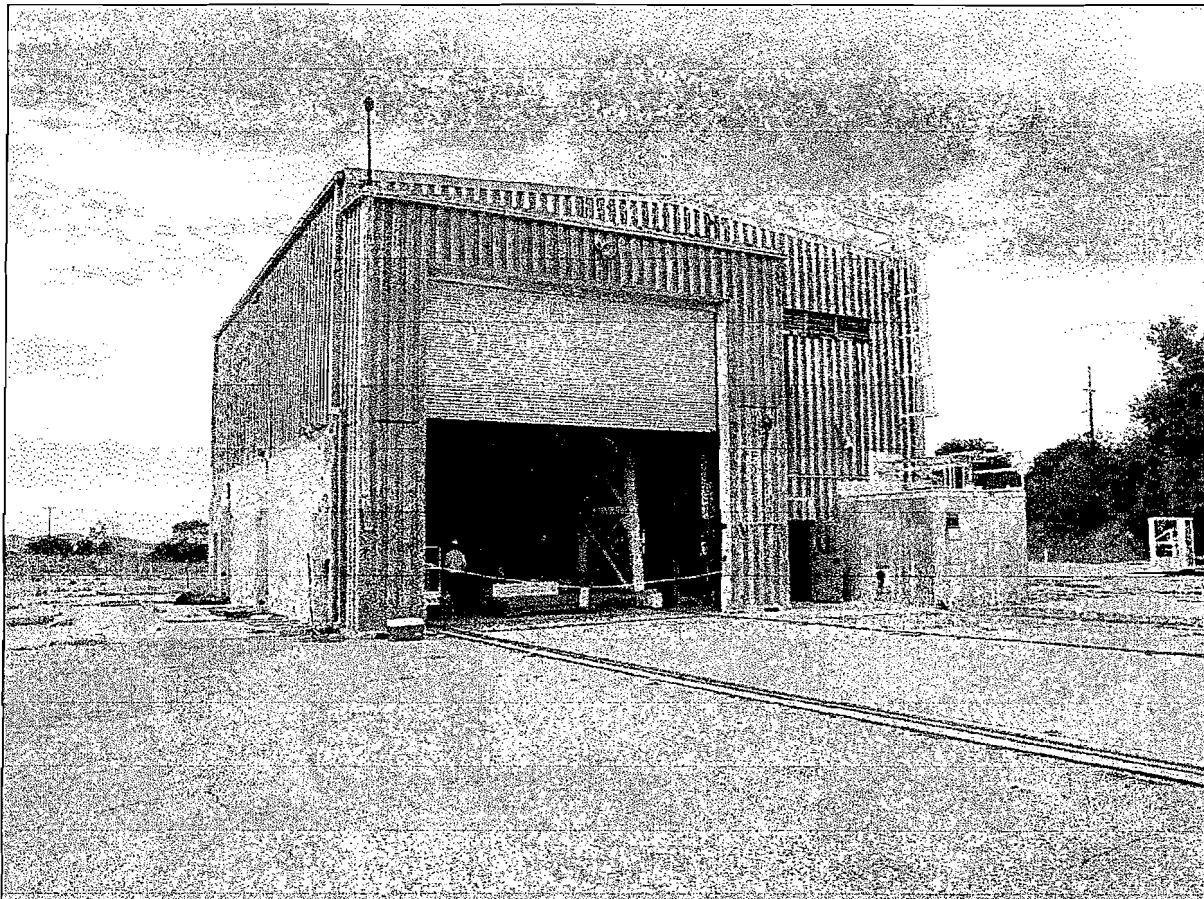
SDMS Documentation

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Survey Package Appendix B – Photographs



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Survey Package Appendix C – Survey Results

Survey Package: E4024 101C1 Package: System
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Survey Unit Name: Liquid Waste, Floor Drains, and Solid Waste Storage

Section	Title	Total Pages
1.0	Annotated Drawings	N/A
2.0	Measurement Results – Direct Beta Measurements	5
3.0	Measurement Results – Direct Alpha Measurements	N/A
4.0	Measurement Results – Exposure Rate Measurements	5
5.0	Sample Analysis Results – Alpha/Beta Counter	8
6.0	Sample Analysis Results – Gamma Spectroscopy	35
7.0	Sample Analysis Results – Alpha Spectroscopy	30
	Sample Analysis Results – Supplemental	13

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Survey Package Appendix C – Survey Results

Survey Package: E4024 101C1 Package: System
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**Section 1.0
Annotated Drawings
~~N/A~~ Pages**

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Survey Package Appendix C – Survey Results

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**Section 2.0
Measurement Results – Direct Beta Measurements
5 Pages**

Measurement Database Download Report

Direct Beta Measurements

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Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	4 pi Beta Efficiency	ActiveArea (cm2)
DL052307-003	2	JLM3848	5/25/2007	11:56 AM	E4024 101C1	44-40	125876	0.086	15.5

Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window On/Off	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Gross Beta (dpm/100cm2)
EZ259 DRT01	126195	JLW1061	125876	7	4	5/23/2007	11:13:22 AM	4.60E+02	600	1	0	57	EZ259	DRT01	SP1M1	B01AA	LAB01	1		0	3451
EZ259 DRT01	126195	JLW1061	125876	7	5	5/23/2007	11:16:06 AM	3.62E+03	60	1	0	57	EZ259	DRT01	SP1M1	B02BA	LAB01	1		0	271193
E4024 101C1	126195	JLW1061	125876	7	6	5/23/2007	4:48:48 PM	7.70E+01	60	1	0	57	E4024	101C1	SP1M1	B01GA	SP1	1		0	5776
E4024 101C1	126195	JLW1061	125876	7	7	5/23/2007	4:50:08 PM	8.40E+01	60	1	0	57	E4024	101C1	SP1M1	B01GA	SP1	2		0	6302
E4024 101C1	126195	JLW1061	125876	7	8	5/23/2007	4:51:22 PM	7.80E+01	60	1	0	57	E4024	101C1	SP1M1	B01GA	SP1	3		0	5851
E4024 101C1	126195	JLW1061	125876	7	9	5/23/2007	5:01:28 PM	7.10E+01	60	1	0	57	E4024	101C1	SP1M1	B01FA	SP1	7		0	5326
E4024 101C1	126195	JLW1061	125876	7	10	5/23/2007	5:44:08 PM	4.60E+01	60	1	0	57	E4024	101C1	SP1M1	B01FA	SP1	8		0	3451
EZ259 DRT02	126195	JLW1061	125876	7	11	5/23/2007	6:17:28 PM	5.50E+01	60	1	0	57	EZ259	DRT02	SP1M1	B01GA	SP1	1		0	4126
EZ259 DRT02	126195	JLW1061	125876	7	12	5/23/2007	6:18:38 PM	5.40E+01	60	1	0	57	EZ259	DRT02	SP1M1	B01GA	SP1	2		0	4051
EZ259 DRT02	126195	JLW1061	125876	7	13	5/23/2007	6:19:44 PM	7.00E+01	60	1	0	57	EZ259	DRT02	SP1M1	B01GA	SP1	3		0	5251
EZ259 DRT02	126195	JLW1061	125876	7	14	5/23/2007	6:23:12 PM	3.73E+03	60	1	0	57	EZ259	DRT02	SP1M1	B01DA	SP1	1		0	279895
EZ259 DRT02	126195	JLW1061	125876	7	15	5/23/2007	6:38:34 PM	4.47E+02	600	1	0	57	EZ259	DRT02	SP1M1	B01CA	SP1	1		0	3353

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5-24-07

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Date:

6/5/07

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Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	4 pi Beta Efficiency	ActiveArea (cm2)												
DL052407-002	2	JLM3848	5/25/2007	11:56 AM	E4024 101C1	44-40	125876	0.086	15.5												
Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window On/Off	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Gross Beta (dpm/100cm2)
EZ259 DRT01	126195	JLW1061	125876	7	0	5/24/2007	11:07:20 AM	4.10E+02	600	1	0	59	EZ259	DRT01	SP1M1	B01AA	LAB01	1		0	3076
EZ259 DRT01	126195	JLW1061	125876	7	1	5/24/2007	11:12:12 AM	3.60E+03	60	1	0	59	EZ259	DRT01	SP1M1	B01BA	LAB01	1		0	269842
E4024 101C1	126195	JLW1061	125876	7	2	5/24/2007	11:53:04 AM	4.30E+01	60	1	0	59	E4024	101C1	SP1M1	B01GA	SP1	1		0	3226
E4024 101C1	126195	JLW1061	125876	7	3	5/24/2007	11:55:32 AM	4.60E+01	60	1	0	59	E4024	101C1	SP1M1	B01GA	SP1	2		0	3451
E4024 101C1	126195	JLW1061	125876	7	4	5/24/2007	11:56:48 AM	4.50E+01	60	1	0	59	E4024	101C1	SP1M1	B01GA	SP1	3		0	3376
E4024 101C1	126195	JLW1061	125876	7	5	5/24/2007	12:02:34 PM	5.00E+01	60	1	0	59	E4024	101C1	SP1M1	B01FA	SP1	1		0	3751
E4024 101C1	126195	JLW1061	125876	7	6	5/24/2007	12:56:50 PM	6.70E+01	60	1	0	59	E4024	101C1	SP1M1	B01FA	SP1	3		0	5026
E4024 101C1	126195	JLW1061	125876	7	7	5/24/2007	2:16:18 PM	4.50E+01	60	1	0	59	E4024	101C1	SP1M1	B01FA	SP1	2		0	3376
E4024 101C1	126195	JLW1061	125876	7	8	5/24/2007	2:27:38 PM	4.00E+01	60	1	0	59	E4024	101C1	SP1M1	B01FA	SP1	5		0	3001
E4024 101C1	126195	JLW1061	125876	7	9	5/24/2007	2:34:40 PM	5.30E+01	60	1	0	59	E4024	101C1	DF1M1	B01FA	DF1	1		0	3976
E4024 101C1	126195	JLW1061	125876	7	10	5/24/2007	2:36:58 PM	6.70E+01	60	1	0	59	E4024	101C1	DF1M1	B01FA	DF1	2		0	5026
E4024 101C1	126195	JLW1061	125876	7	11	5/24/2007	3:30:08 PM	6.70E+01	60	1	0	59	E4024	101C1	DF1M1	B01FA	DF1	4		0	5026
E4024 101C1	126195	JLW1061	125876	7	12	5/24/2007	3:34:24 PM	4.90E+01	60	1	0	59	E4024	101C1	DF1M1	B01FA	DF1	5		0	3676
E4024 101C1	126195	JLW1061	125876	7	13	5/24/2007	5:57:10 PM	3.00E+01	60	1	0	59	E4024	101C1	SP1M1	B01GA	SP1	1		0	2251
E4024 101C1	126195	JLW1061	125876	7	14	5/24/2007	5:58:40 PM	4.10E+01	60	1	0	59	E4024	101C1	SP1M1	B01GA	SP1	2		0	3076
E4024 101C1	126195	JLW1061	125876	7	15	5/24/2007	6:01:46 PM	3.60E+01	60	1	0	59	E4024	101C1	SP1M1	B01GA	SP1	3		0	2701
EZ259 DRT02	126195	JLW1061	125876	7	16	5/24/2007	6:13:18 PM	3.68E+02	600	1	0	59	EZ259	DRT02	SP1M1	B02CA	SP1	1		0	2761
EZ259 DRT02	126195	JLW1061	125876	7	17	5/24/2007	6:24:56 PM	3.29E+03	60	1	0	59	EZ259	DRT02	SP1M1	B02DA	SP1	1		0	246437

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6/5/07

Approved By:

D. m. h.

Date:

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Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	4 pi Beta Efficiency	ActiveArea (cm2)												
DL052507-002	2	JLM3848	5/25/2007	11:56 AM	E4024 101C1	44-40	125876	0.086	15.5												
Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window On/Off	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Gross Beta (dpm/100cm2)
EZ259 DRT01	126195	JLW1061	125876	7	0	5/25/2007	10:12:24 AM	3.84E+02	600	1	0	61	EZ259	DRT01	DF1M1	B01AA	LAB01	1		0	2881
EZ259 DRT01	126195	JLW1061	125876	7	1	5/25/2007	10:16:40 AM	3.55E+03	60	1	0	61	EZ259	DRT01	DF1M1	B01BA	LAB01	1		0	266242
E4024 101C1	126195	JLW1061	125876	7	2	5/25/2007	12:40:00 PM	5.00E+01	60	1	0	61	E4024	101C1	DF1M1	B01GA	DF1	1		0	3751
E4024 101C1	126195	JLW1061	125876	7	3	5/25/2007	12:41:14 PM	5.00E+01	60	1	0	61	E4024	101C1	DF1M1	B01GA	DF1	2		0	3751
E4024 101C1	126195	JLW1061	125876	7	4	5/25/2007	12:43:34 PM	4.90E+01	60	1	0	61	E4024	101C1	DF1M1	B01GA	DF1	3		0	3676
E4024 101C1	126195	JLW1061	125876	7	5	5/25/2007	12:45:28 PM	5.90E+01	60	1	0	61	E4024	101C1	DF1M1	B01FA	DF1	3		0	4426
E4024 101C1	126195	JLW1061	125876	7	6	5/25/2007	12:48:24 PM	5.40E+01	60	1	0	61	E4024	101C1	DF1M1	B01GA	DF1	1		0	4051
E4024 101C1	126195	JLW1061	125876	7	7	5/25/2007	12:49:34 PM	4.10E+01	60	1	0	61	E4024	101C1	DF1M1	B01GA	DF1	2		0	3076
E4024 101C1	126195	JLW1061	125876	7	8	5/25/2007	12:50:44 PM	4.40E+01	60	1	0	61	E4024	101C1	DF1M1	B01GA	DF1	3		0	3301
EZ259 DRT02	126195	JLW1061	125876	7	9	5/25/2007	1:12:30 PM	4.56E+02	600	1	0	61	EZ259	DRT02	DF1M1	B01CA	LAB01	1		0	3421
EZ259 DRT02	126195	JLW1061	125876	7	10	5/25/2007	1:15:00 PM	3.39E+03	60	1	0	61	EZ259	DRT02	DF1M1	B01DA	LAB01	1		0	254389

Reviewed By: J Long Date: 6-1-07 Approved By: J. Smith Date: 6/5/07

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Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	4 pi Beta Efficiency	ActiveArea (cm2)
DL053107-003	2	JLM3848	6/5/2007	10:00 AM	E4024 101C1	44-40	125876	0.086	15.5

Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window On/Off	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Gross Beta (dpm/100cm2)
EZ259 DRT01	126195	JLW1061	125876	7	0	5/30/2007	10:24:56 AM	4.26E+02	600	1	0	61	EZ259	DRT01	SP1M1	B01AA	LAB01	1		0	3196
EZ259 DRT01	126195	JLW1061	125876	7	1	5/30/2007	10:40:26 AM	3.19E+03	60	1	0	61	EZ259	DRT01	SP1M1	B01BA	LAB01	1		0	239085
E4024 101C1	126195	JLW1061	125876	7	2	5/30/2007	3:51:52 PM	5.90E+01	60	1	0	61	E4024	101C1	SP1M1	B01GA	SP1	1		0	4426
E4024 101C1	126195	JLW1061	125876	7	3	5/30/2007	3:53:26 PM	7.10E+01	60	1	0	61	E4024	101C1	SP1M1	B01GA	SP1	2		0	5326
E4024 101C1	126195	JLW1061	125876	7	4	5/30/2007	3:56:16 PM	6.90E+01	60	1	0	61	E4024	101C1	SP1M1	B01GA	SP1	3		0	5176
E4024 101C1	126195	JLW1061	125876	7	5	5/30/2007	3:59:26 PM	7.40E+01	60	1	0	61	E4024	101C1	SP1M1	B01FA	SP1	6		0	5551
E4024 101C1	126195	JLW1061	125876	7	6	5/30/2007	4:01:14 PM	7.90E+01	60	1	0	61	E4024	101C1	SP1M1	B01FA	SP1	6A		0	5926
E4024 101C1	126195	JLW1061	125876	7	7	5/30/2007	4:03:10 PM	7.80E+01	60	1	0	61	E4024	101C1	SP1M1	B01GA	SP1	4		0	5851
E4024 101C1	126195	JLW1061	125876	7	8	5/30/2007	4:04:52 PM	9.60E+01	60	1	0	61	E4024	101C1	SP1M1	B01GA	SP1	5		0	7202
E4024 101C1	126195	JLW1061	125876	7	9	5/30/2007	4:06:06 PM	9.10E+01	60	1	0	61	E4024	101C1	SP1M1	B01GA	SP1	6		0	6827
EZ259 DRT02	126195	JLW1061	125876	7	10	5/30/2007	4:24:02 PM	4.06E+02	600	1	0	61	EZ259	DRT02	SP1M1	B01CA	LAB01	1		0	3046
EZ259 DRT02	126195	JLW1061	125876	7	11	5/30/2007	4:32:24 PM	3.43E+03	60	1	0	61	EZ259	DRT02	SP1M1	B01DA	LAB01	1		0	256939

Reviewed By: *JLM* Date: 6/5/07 Approved By: *ELM* Date: 6/5/07

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Survey Package Appendix C – Survey Results

Survey Package: E4024 101C1 Package: System
Survey Area Name: SETF Drains and Waste Storage Systems
Survey Unit Name: Liquid Waste, Floor Drains, and Solid Waste Storage

**Section 3.0
Measurement Results – Direct Alpha Measurements
N/A Pages**

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Survey Package Appendix C – Survey Results

Survey Package: E4024 101C1 Package: System
Survey Area Name: SETF Drains and Waste Storage Systems
Survey Unit Name: Liquid Waste, Floor Drains, and Solid Waste Storage

**Section 4.0
Measurement Results – Exposure Rate Measurements
5 Pages**

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Exposure Rate Measurements

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Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	Gamma Cal Factor													
DL052307-002	2	JLM3848	5/25/2007	11:56 AM	E4024 101C1	44-10	162404	5.36E+10													
Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window On/Off	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Exposure Rate uR/hr
CS313 DTR01	95359	JEJ5742	162404	0	0	5/23/2007	7:12:12 AM	1.18E+05	600	1	0	56	CS313	DTR01	SP1M1	G01AA	LAB01	1		0	1.31E+01
CS313 DTR01	95359	JEJ5742	162404	0	1	5/23/2007	7:28:12 AM	5.11E+05	30	1	0	56	CS313	DTR01	SP1M1	G01BA	LAB01	1		0	1.14E+03
CS313 DTR01	95359	JEJ5742	162404	0	2	5/23/2007	7:30:32 AM	2.82E+04	30	1	0	56	CS313	DTR01	SP1M1	G01BA	LAB01	2		0	6.32E+01
CS313 DTR01	95359	JEJ5742	162404	0	3	5/23/2007	7:32:10 AM	1.75E+04	30	1	0	56	CS313	DTR01	SP1M1	G01BA	LAB01	3		0	3.92E+01
E4024 101C1	95359	JEJ5742	162404	0	6	5/23/2007	1:42:36 PM	1.74E+03	12	1	0	56	E4024	101C1	SP1M1	G01FA	SP1	7		0	9.72E+00
E4024 101C1	95359	JEJ5742	162404	0	7	5/23/2007	2:26:38 PM	1.53E+03	12	1	0	56	E4024	101C1	SP1M1	G01FA	SP1	8		0	8.56E+00
CS313 DRT02	95359	JEJ5742	162404	0	8	5/23/2007	3:11:36 PM	1.06E+05	600	1	0	56	CS313	DRT02	SP1M1	G01CA	LAB01	1		0	1.18E+01
CS313 DRT02	95359	JEJ5742	162404	0	9	5/23/2007	3:14:12 PM	5.76E+05	30	1	0	56	CS313	DRT02	SP1M1	G01DA	LAB01	1		0	1.29E+03
CS313 DRT02	95359	JEJ5742	162404	0	10	5/23/2007	3:16:08 PM	2.67E+04	30	1	0	56	CS313	DRT02	SP1M1	G01DA	LAB01	2		0	5.97E+01
CS313 DRT02	95359	JEJ5742	162404	0	11	5/23/2007	3:17:32 PM	1.68E+04	30	1	0	56	CS313	DRT02	SP1M1	G01DA	LAB01	3		0	3.75E+01

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Jhy

Date:

6-1-07

Approved By:

John M. Kelly

Date:

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Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	Gamma Cal Factor													
DL052407-001	2	JLM3848	5/25/2007	11:56 AM	E4024 101C1	44-10	162404	5.36E+10													
Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window On/Off	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Exposure Rate uR/hr
CS313 DRT01	95359	JEJ5742	162404	0	0	5/24/2007	7:54:30 AM	1.16E+05	600	1	0	58	CS313	DRT01	SP1M1	G01AA	LAB01	1	0	0	1.30E+01
CS313 DRT01	95359	JEJ5742	162404	0	1	5/24/2007	7:58:02 AM	5.76E+05	30	1	0	58	CS313	DRT01	SP1M1	G01BA	LAB01	1	0	0	1.29E+03
CS313 DRT01	95359	JEJ5742	162404	0	2	5/24/2007	8:00:28 AM	2.82E+04	30	1	0	58	CS313	DRT01	SP1M1	G01BA	LAB01	2	0	0	6.32E+01
CS313 DRT01	95359	JEJ5742	162404	0	3	5/24/2007	8:01:52 AM	1.73E+04	30	1	0	58	CS313	DRT01	SP1M1	G01BA	LAB01	3	0	0	3.88E+01
E4024 101C1	95359	JEJ5742	162404	0	7	5/24/2007	8:39:44 AM	2.80E+03	12	1	0	58	E4024	101C1	SP1M1	G01FA	SP1	1	0	0	1.56E+01
E4024 101C1	95359	JEJ5742	162404	0	8	5/24/2007	9:37:14 AM	2.22E+03	12	1	0	58	E4024	101C1	SP1M1	G01FA	SP1	3	0	0	1.24E+01
E4024 101C1	95359	JEJ5742	162404	0	9	5/24/2007	10:56:56 AM	2.11E+03	12	1	0	58	E4024	101C1	SP1M1	G01FA	SP1	2	0	0	1.18E+01
E4024 101C1	95359	JEJ5742	162404	0	10	5/24/2007	11:10:16 AM	1.87E+03	12	1	0	58	E4024	101C1	SP1M1	G01FA	SP1	5	0	0	1.05E+01
E4024 101C1	95359	JEJ5742	162404	0	11	5/24/2007	11:17:06 AM	2.02E+03	12	1	0	58	E4024	101C1	DF1M1	G01FA	DF1	1	0	0	1.13E+01
E4024 101C1	95359	JEJ5742	162404	0	12	5/24/2007	11:18:18 AM	2.81E+03	12	1	0	58	E4024	101C1	DF1M1	G01FA	DF1	2	0	0	1.57E+01
E4024 101C1	95359	JEJ5742	162404	0	13	5/24/2007	12:12:16 PM	3.63E+03	12	1	0	58	E4024	101C1	DF1M1	G01FA	DF1	4	0	0	2.03E+01
E4024 101C1	95359	JEJ5742	162404	0	15	5/24/2007	12:15:40 PM	2.01E+03	12	1	0	58	E4024	101C1	SP1M1	G01FA	SP1	4	0	0	1.12E+01
CS313 DRT02	95359	JEJ5742	162404	0	17	5/24/2007	2:54:28 PM	1.20E+05	600	1	0	58	CS313	DRT02	SP1M1	G01CA	SP1	1	0	0	1.35E+01
CS313 DRT02	95359	JEJ5742	162404	0	18	5/24/2007	2:59:16 PM	5.45E+05	30	1	0	58	CS313	DRT02	SP1M1	G01DA	SP1	1	0	0	1.22E+03
CS313 DRT02	95359	JEJ5742	162404	0	19	5/24/2007	3:01:04 PM	2.77E+04	30	1	0	58	CS313	DRT02	SP1M1	G01DA	SP1	2	0	0	6.20E+01
CS313 DRT02	95359	JEJ5742	162404	0	20	5/24/2007	3:02:26 PM	1.70E+04	30	1	0	58	CS313	DRT02	SP1M1	G01DA	SP1	3	0	0	3.80E+01

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Page 1 of 1

Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	Gamma Cal Factor	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Exposure Rate uR/hr			
DL052507-001	2	JLM3848	5/25/2007	11:56 AM	E4024 101C1	44-10	162404	5.36E+10												
Package ID	M2350 Serial Number	User ID	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Exposure Rate uR/hr
CS313 DRT01	95359	JE15742	162404	0	5/25/2007	6:59:34 AM	1.22E+05	600	1	0	60	CS313	DRT01	SP1M1	G01AA	LAB01	1	0	1.37E+01	
CS313 DRT01	95359	JE15742	162404	0	5/25/2007	7:03:44 AM	5.36E+05	30	1	0	60	CS313	DRT01	SP1M1	G01BA	LAB01	1	0	1.20E+03	
CS313 DRT01	95359	JE15742	162404	0	5/25/2007	7:05:12 AM	2.73E+04	30	1	0	60	CS313	DRT01	SP1M1	G01BA	LAB01	2	0	6.10E+01	
CS313 DRT01	95359	JE15742	162404	0	5/25/2007	7:06:38 AM	1.82E+04	30	1	0	60	CS313	DRT01	SP1M1	G01BA	LAB01	3	0	4.08E+01	
E4024 101C1	95359	JE15742	162404	0	5/25/2007	9:26:50 AM	2.34E+03	12	1	0	60	E4024	101C1	DF1M1	G01FA	DF1	5	0	1.31E+01	
EZ313 DRT02	95359	JE15742	162404	0	5/25/2007	9:58:48 AM	1.29E+05	600	1	0	60	CS313	DRT02	DFLM1	G01CA	LAB01	1	0	1.44E+01	
EZ313 DRT02	95359	JE15742	162404	0	5/25/2007	10:08:36 AM	5.47E+05	30	1	0	60	CS313	DRT02	DFLM1	G01DA	LAB01	1	0	1.22E+03	
EZ313 DRT02	95359	JE15742	162404	0	5/25/2007	10:10:08 AM	2.87E+04	30	1	0	60	CS313	DRT02	DFLM1	G01DA	LAB01	2	0	6.42E+01	
EZ313 DRT02	95359	JE15742	162404	0	5/25/2007	10:11:28 AM	1.81E+04	30	1	0	60	CS313	DRT02	DFLM1	G01DA	LAB01	3	0	4.04E+01	

Reviewed By: JLM Date: 6-1-07 Approved By: [Signature] Date: 6/5/07

Measurement Database Download Report
Exposure Rate Measurements

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Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	Gamma Cal Factor													
DL053107-002	2	JLM3848	6/5/2007	9:50 AM	E4024 101C1	44-10	162404	5.36E+10													
Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window On/Off	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Exposure Rate uR/hr
CS313 DRT01	95359	JEJ5742	162404	0	0	5/30/2007	6:47:06 AM	1.32E+05	600	1	0	60	CS313	DRT01	SH1S1	G01AA	LAB01	1		0	1.47E+01
CS313 DRT01	95359	JEJ5742	162404	0	1	5/30/2007	6:52:44 AM	5.23E+05	30	1	0	60	CS313	DRT01	SH1S1	G01BA	LAB01	1		0	1.17E+03
CS313 DRT01	95359	JEJ5742	162404	0	2	5/30/2007	6:54:24 AM	2.90E+04	30	1	0	60	CS313	DRT01	SH1S1	G01BA	LAB01	2		0	6.50E+01
CS313 DRT01	95359	JEJ5742	162404	0	3	5/30/2007	6:55:38 AM	1.82E+04	30	1	0	60	CS313	DRT01	SH1S1	G01BA	LAB01	3		0	4.07E+01
E4024 101C1	95359	JEJ5742	162404	0	41	5/30/2007	1:00:42 PM	1.92E+03	12	1	0	60	E4024	101C1	SP1M1	G01FA	SP1	6		0	1.07E+01
E4024 101C1	95359	JEJ5742	162404	0	42	5/30/2007	1:01:02 PM	2.13E+03	12	1	0	60	E4024	101C1	SP1M1	G01FA	SP1	6A		0	1.19E+01
CS313 DRT02	95359	JEJ5742	162404	0	43	5/30/2007	2:02:30 PM	1.20E+05	600	1	0	60	CS313	DRT02	SP1M1	G01CA	LAB01	1		0	1.34E+01
CS313 DRT02	95359	JEJ5742	162404	0	44	5/30/2007	2:07:08 PM	5.65E+05	30	1	0	60	CS313	DRT02	SP1M1	G01DA	LAB01	1		0	1.26E+03
CS313 DRT02	95359	JEJ5742	162404	0	45	5/30/2007	2:09:20 PM	2.84E+04	30	1	0	60	CS313	DRT02	SP1M1	G01DA	LAB01	2		0	6.35E+01
CS313 DRT02	95359	JEJ5742	162404	0	46	5/30/2007	2:11:02 PM	1.72E+04	30	1	0	60	CS313	DRT02	SP1M1	G01DA	LAB01	3		0	3.85E+01

Reviewed By:

JLM

Date:

6/5/07

Approved By:

[Signature]

Date:

6/5/07

Measurement Database Download Report
Exposure Rate Measurements

6/27/2007

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Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	Gamma Cal Factor
DL062707-001	2	JLM3848	6/27/2007	4:53 PM	E4024 101C1	44-10	162404	5.36E+10

Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window On/Off	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Exposure Rate uR/hr
E4024 101C1	95359	JEJ5742	162404	0	14	5/24/2007	12:12:44 PM	3.58E+03	12	1	0	58	E4024	101C1	DF1M1	G01FA	DF1	5		0	2.00E+01

Reviewed By: JLM Date: 6/27/07 Approved By: QJR Date: 6/27/07

**SNAP ENVIRONMENTAL TEST FACILITY D&D PROJECT
CANOGA PARK, CALIFORNIA**

5/22/2007

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Survey Package Appendix C – Survey Results

Survey Package: E4024 101C1 Package: System
Survey Area Name: SETF Drains and Waste Storage Systems
Survey Unit Name: Liquid Waste, Floor Drains, and Solid Waste Storage

Section 5.0
Sample Analysis Results – Alpha/Beta Counter
8 Pages

APPENDIX A RADIOLOGICAL PROTECTION SURVEY FORM

Page 1 of 2

R.P. Tech (print): <u>J. Selinsky</u>			Location <u>A 4024 - 101C1</u>	RWP# <u>A-07-005</u>	
Instruments Used			Comments or Purpose of Survey	Date: <u>5/23/07</u>	
Model	S/N	Cal. Due	<u>SCAN OF SOIL during</u> <u>EXCAVATION OF A 4024 -</u> <u>101C1 down to 12 feet</u>	Time: <u>1500</u>	
<u>L-2350</u>	<u>95357</u> <u>162404</u>	<u>5-4-05</u> <u>3-6-08</u>		Survey # <u>016</u>	
<u>N/A</u>				Air Sample # <u>N/A</u>	
				Results: <u>N/A</u> $\mu\text{Ci/cc}$	
			All dose rates in mr/hr unless otherwise noted.	Survey Pt #	Contamination (dpm/100 cm ²)
				1	<u>N/A</u>
			2		
			3		
			4		
			5		
			6		
			7		
			8		
			9		
			10		
			11		
			12		
			13		
			14		
			15		
			16		
			17		
			18		
			19		
			20		
Removal of soil From A 4024 - 101C during the period 5-16-07 to 5-23-07 down to a maximum depth of 12.5 feet SCAN of each Bucket of soil removed using L-2350 Meter with scintillation probe. Bkg was between 12 $\mu\text{R/hr}$ to 16 $\mu\text{R/hr}$ SCAN of soil showed no increase in activity above the background levels.			A/S - air sample		LAS - Large Area Smear
			# - Direct frisk		
			* contact/30cm xx - RCA Boundary		k = 1000
			H Head Level		O Smear Loc
			F-foot level		
PERFORMED BY/DATE: <u>J. Selinsky</u> <u>5-23-07</u>			REVIEWED BY / DATE: <u>[Signature]</u> <u>5/29/07</u>		

APPENDIX A **RADIOLOGICAL PROTECTION SURVEY FORM**

Page 1 of 2

R.P. Tech (print): J. S. ELINSKY			Location A 4024-101C1	RWP# A-07-005
Instruments Used			Comments or Purpose of Survey	Date: 5-23-07
Model	S/N	Cal. Due	Removal of Asphalt At A 4024-101C1	Time: 1515
Ludlum Model #3	94570	8-9-07		Survey # 017
N/A				Air Sample # N/A
				Results: N/A $\mu\text{Ci/cc}$
			All dose rates in mr/hr unless otherwise noted.	Survey Pt #
				Contamination (dpm/100 cm ²)
Removal of Asphalt From A 4024-101C1 for Excavation and sub surface sampling of 18 points in Area Scan of Asphalt using Model #3 showed no elevated activity above the background of 60 cpm Removed Asphalt turned over and scan showed no elevated activity above background per scan. Asphalt ^{separated} separated From soil and placed in waste containers			1	N/A
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
			13	
			14	
			15	
			16	
			17	
			18	
			19	
			20	
			A/S - air sample # - Direct frisk	LAS - Large Area Smear
			* contact/30cm xx - RCA Boundary	k = 1000
			H Head Level F.-foot level	O Smear Loc

PERFORMED BY/DATE: J. S. ELINSKY / 5-23-07

REVIEWED BY / DATE: [Signature] / 5/24/07

APPENDIX A **RADIOLOGICAL PROTECTION SURVEY FORM**

Page 1 of 2

R.P. Tech (print): <u>J. Selinsky</u>			Location <u>4024 - 101C1</u>	RWP# <u>A-07-0005</u>
Instruments Used			Comments or Purpose of Survey <u>SWipes</u>	Date: <u>5-30-07</u>
Model	S/N	Cal. Due	<u>Taken I/S of Excavated</u>	Time: <u>1300</u>
<u>L-2929</u>	<u>118419</u>	<u>3-5-08</u>		Survey # <u>022</u>
<u>NIA</u>			<u>Feet below surface</u>	Air Sample # <u>NIA</u>
				Results: <u>NIA</u> $\mu\text{Ci/cc}$
			All dose rates in mR/hr unless otherwise noted.	Survey Pt #
				Contamination (dpm/100 cm ²)
<u>BLDG 4024</u>			<u>1(L66)</u>	<u><200</u> <u><100B</u>
			<u>2(L66A)</u>	<u><200</u> <u><100B</u>
			<u>3 NIA</u>	
			<u>4</u>	
			<u>5</u>	
			<u>6</u>	
			<u>7</u>	
			<u>8</u>	
			<u>9</u>	
			<u>10</u>	
			<u>11</u>	
			<u>12</u>	
			<u>13</u>	
			<u>14</u>	
			<u>15</u>	
			<u>16</u>	
			<u>17</u>	
			<u>18</u>	
			<u>19</u>	
			<u>20</u>	
			A/S - air sample	LAS - Large Area Smear
			# - Direct frisk	
			* contact/30cm xx - RCA Boundary	k = 1000
			H Head Level	O Smear Loc
			F.-foot level	

PERFORMED BY/DATE: J. Selinsky / 5-30-07

REVIEWED BY / DATE: [Signature] / 5/30/07

APPENDIX A **RADIOLOGICAL PROTECTION SURVEY FORM**

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R.P. Tech (print): <u>J. Selinsky</u>			Location <u>E4024 - 101C1</u>	RWP # <u>A-07-0005</u>	
Instruments Used			Comments or Purpose of Survey	Date: <u>5-25-07</u>	
Model	S/N	Cal. Due	<u>SWIPES TAKEN FROM INSIDE</u>	Time: <u>1200</u>	
<u>L-2929</u>	<u>118419</u>	<u>3-5-08</u>		Survey # <u>019</u>	
<u>NIA</u>			<u>LIQUID WASTE LINES &</u>	Air Sample # <u>NIA</u>	
			<u>FLOOR DRAWS I/S BLDG</u>	Results: <u>NIA</u> $\mu\text{Ci/cc}$	
			All dose rates in mr/hr unless otherwise noted.	Survey Pt #	
SWIPES TAKEN INSIDE OF WASTE LINES (SP) & INSIDE OF FLOOR DRAWS (DF) IN BASEMENT OF 4024 BLDG. α BKG: .3cpm β BKG: 39cpm			Contamination (dpm/100 cm ²)		
			1 (SP1)	<200	<100 B
			2 (SP2)	<200	<100 B
			3 (SP5)	<200	<100 B
			4 (SP7)	<200	<100 B
			5 (SP8)	<200	<100 B
			6 (DF1)	<200	<100 B
			7 (DF2)	<200	<100 B
			8 (DF3)	<200	<100 B
			9 (DF4)	<200	<100 B
			10 (DF5)	<200	<100 B
			11	NIA	
			12		
			13		
			14		
			15		
			16		
			17		
			18		
19					
20					
			A/S - air sample	LAS - Large Area Smear	
			# - Direct frisk		
			* contact/30cm xx - RCA Boundary	k = 1000	
			H Head Level	O Smear Loc	
			F-foot level		

PERFORMED BY/DATE: J. Selinsky / 5-25-07

REVIEWED BY / DATE: [Signature] / 5/31/07

APPENDIX A RADIOLOGICAL PROTECTION SURVEY FORM

Page 1 of 2

R.P. Tech (print): <u>J. Selinsky</u>			Location <u>SLAB AT BLDG 4024</u>	RWP# <u>A-07-005</u>
Instruments Used			Comments or Purpose of Survey	Date: <u>5-22-07</u>
Model	S/N	Cal. Due	INITIAL SURVEY OF TOP OF	Time: <u>0840</u>
<u>Ludlum 2929</u>	<u>118419</u>	<u>3-5-08</u>	<u>DRAIN LINE AFTER CAP WAS</u>	Survey # <u>015</u>
<u>Model #3</u>	<u>94567</u>	<u>8-10-07</u>	<u>REMOVED. SWIPES TAKEN</u>	Air Sample # <u>N/A</u>
<u>L-2350⁴⁴⁻¹⁰</u>	<u>95359</u>	<u>5-4-08</u>	<u>1/5 PIPE TO 4 INCHES IN DEPTH</u>	Results: <u>N/A</u> $\mu\text{Ci/cc}$
			All dose rates in mR/hr unless otherwise noted.	Survey Pt #
				Contamination (dpm/100 cm ²)
			1	<u><200</u> <u><100 B</u>
			2	<u><200</u> <u><100 B</u>
			3	<u><200</u> <u><100 B</u>
			4	<u><200</u> <u><100 B</u>
			5	<u><200</u> <u><100 B</u>
			6	<u><200</u> <u><100 B</u>
			7	<u>N/A</u>
			8	
			9	
			10	
			11	
			12	
			13	
			14	
			15	
			16	
			17	
			18	
			19	
			20	
			A/S - air sample	LAS - Large Area Smear
			# - Direct frisk	
			* contact/30cm xx - RCA Boundary	k = 1000
			H Head Level	O Smear Loc
			F.-foot level	

INITIAL SURVEY OF DRAIN LINE
AFTER CAP WAS REMOVED

outside on
SLAB

BLDG 4024

Rollup Door

SCAN of TOP SURFACES USING Model #3
WAS 60cpm BKG. NO elevated ACTIVITY noted ABOVE
BACKGROUND

SCAN of TOP OF DRAIN USING 2350 showed
NO elevated ACTIVITY ABOVE BKG/hr BKG.

SWIPES TAKEN 1/5 to 4" depth on PIPE

PERFORMED BY/DATE: J. Selinsky 5-22-07 REVIEWED BY / DATE: [Signature] 5/31/07

APPENDIX A RADIOLOGICAL PROTECTION SURVEY FORM

Page 1 of 2

R.P. Tech (print): <u>J. Worley / J. Johnson</u>			Location <u>Bldg 4024</u>	RWP # <u>N/A</u>
Instruments Used			Comments or Purpose of Survey	Date: <u>5-29-07</u>
Model	S/N	Cal. Due	<u>Survey solid waste storage area</u> <u>Plus # 4 & 8</u>	Time: <u>1315</u>
<u>2925</u>	<u>118419</u>	<u>3/5/08</u>		Survey # <u>07-020</u>
<u>M-3</u>	<u>94570</u>	<u>8/9/07</u>		Air Sample # <u>N/A</u>
<u>V</u> <u>2</u>				Results: <u>N/A</u> $\mu\text{Ci/cc}$
			All dose rates in mr/hr unless otherwise noted.	
See attached sheet			Survey Pt #	Contamination (dpm/100 cm ²)
			1	<u><20 d</u> <u><100 B8</u>
			2	<u>↓</u>
			3	<u>↓</u>
			4	<u>↓</u>
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
			13	
			14	
			15	<u>N/A</u>
			16	
			17	
			18	
			19	
20				
A/S - air sample		LAS - Large Area Smear		
# - Direct frisk				
* contact/30cm xx - RCA Boundary		k = 1000		
H Head Level		O Smear Loc		
F-foot level				

PERFORMED BY/DATE: J. Worley / J. Johnson, 5-29-07

REVIEWED BY / DATE: [Signature], 5/29/07

FACILITY: 4024

LOCATION: solid waste storage piles pluss #4 & 8

SAMPLE NUMBER	DATE SAMPLED	DATE ANALYZED	PURPOSE: <i>Smears & direct scan</i>	UNITS	<i>a/dm/wcns</i>	<i>b/dm/wcns</i>	<i>N</i>		
			DESCRIPTION	LIMIT	<i><20</i>	<i><1.00</i>	<i>A</i>		
1	5-29-07	5-29-07	Solid waste storage use plug #4		<i><20</i>	<i><1.00</i>			
2	↓	↓	↓		↓	↓			
3	↓	↓	↓		↓	↓			
4	↓	↓	↓		↓	↓			
COMMENTS: Survey of solid waste storage areas plugs #428 open removal direct scans with n-3 (BT) all scans ≤ B59 LAS ≤ B59 (BT) with n-3				INSTRUMENT	2525	2525	M-3		
				IDENTIFICATION	118469	118469	94570		
				CALIBRATION DUE	3-5-08	3-5-08	8/9/07		
				BACKGROUND	.25	35	66		
				EFFICIENCY	29.4	24.1	11.7		
				COUNT TIME	90 sec	90 sec	M2		
				SAMPLED BY: <i>J. Wooten</i>			ANALYZED BY: <i>J. Wooten</i>		
				REVIEWED BY: <i>[Signature]</i>			DATE: <i>5/29/07</i>		
							Page <i>2</i> of <i>2</i>		

APPENDIX A **RADIOLOGICAL PROTECTION SURVEY FORM**

Page 1 of 2

R.P. Tech (print): <u>James Johnson</u>			Location <u>Bldg 4024 (outside)</u>		RWP # <u>N/A</u>
Instruments Used			Comments or Purpose of Survey		Date: <u>5-24-07</u>
Model	S/N	Cal. Due	<u>Survey of Solid Waste</u> <u>Storage plus after</u> <u>Removal</u>		Time: <u>1430</u>
<u>2525</u>	<u>118415</u>	<u>3/5/08</u>			Survey # <u>07-018</u>
<u>M-3</u>	<u>94570</u>	<u>8/9/07</u>			Air Sample # <u>N/A</u>
<u>N</u> <u>2</u>					Results: <u>N/A</u> $\mu\text{Ci/cc}$
			All dose rates in mR/hr unless otherwise noted.		
<u>See attached sheet</u>			Survey Pt #	Contamination (dpm/100 cm ²)	
			1	<u>< 20 d</u>	<u>< 100 Bq</u>
			2		
			3		
			4		
			5		
			6		
			7		
			8		
			9		
			10		
			11		
			12		
			13		
			14		
			15		
			16		
			17		
			18		
			19		
20					
			A/S - air sample		LAS - Large Area Smear
			# - Direct frisk		
			* contact/30cm xx - RCA Boundary		k = 1000
			H Head Level		O Smear Loc
			F-foot level		

PERFORMED BY/DATE: James Johnson 5/24/07

REVIEWED BY / DATE: [Signature] 5/24/07

[illegible][illegible]

COMMENTS: Survey of solid waste
strasse plus other removal plus
scanned with m-3 (at) all scans
≤ 059

INSTRUMENT	2925	2925	M.3
IDENTIFICATION	118415	118415	94570
CALIBRATION DUE	3/5/08	3/5/08	8/9/07
BACKGROUND	0.2	32	60
EFFICIENCY	25.4	24.1	11.7
COUNT TIME	905 SEC	905 SEC	N/A

SAMPLED BY: Jones Johnson

ANALYZED BY:
Joe L. L. L.

REVIEWED BY:

DATE: 5/24/07

**SNAP ENVIRONMENTAL TEST FACILITY D&D PROJECT
CANOGA PARK, CALIFORNIA**

5/22/2007

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Survey Package Appendix C – Survey Results

Survey Package: E4024 101C1 Package: System
Survey Area Name: SETF Drains and Waste Storage Systems
Survey Unit Name: Liquid Waste, Floor Drains, and Solid Waste Storage

**Section 6.0
Sample Analysis Results – Gamma Spectroscopy**

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 ***** THE BOEING COMPANY *****
 ***** SANTA SUSANA FIELD LABORATORY *****
 ***** SHEA - RADIATION SAFETY LAB *****

 ***** GAMMA SPECTRUM ANALYSIS REPORT *****
 *)*****

Report Generated On : 5/4/07 11:37:46 AM

Sample Identification : T24070001M
 Spectrum Description : 4024 West Cell Concrete Core Bore Water
 MCA Number : Main System #1
 Sample Type : Water
 Sample Geometry : 3

Peak Locate Threshold : 4.00
 Peak Locate Range (in channels) : 200 - 16384
 Peak Area Range (in channels) : 1 - 16384
 Identification Energy Tolerance : 1.000 keV

Sample Size : 5.150E-001 L

Sample Taken On : 5/4/07 7:00:00 AM
 Acquisition Started : 5/4/07 11:07:40 AM

Live Time : 1000.0 seconds
 Real Time : 1000.1 seconds

Energy Calibration Used Done On : 9/29/06
 Efficiency Calibration Used Done On : 9/29/06

Report Reviewed and
 Conforms to RS-00017

By: GR MED Date: 5-4-07

Radiation Safety

NOTE: COPY1

Acceptable for Non-radioactive Disposal
 (See Rocketdyne N001OP000034)

***** I N T E R F E R E N C E C O R R E C T E D R E P O R T 2 *****

Sample Identification : T24070001M

Nuclide	Nuclide	Wt mean	Wt mean		Nuclide
Name	Id	Activity	Activity	Percent	MDA
	Confidence	(pCi/L	) Uncertainty	Total Act.	(pCi/L
					)

Total Sample Activity... 0.0000E+000 pCi/L

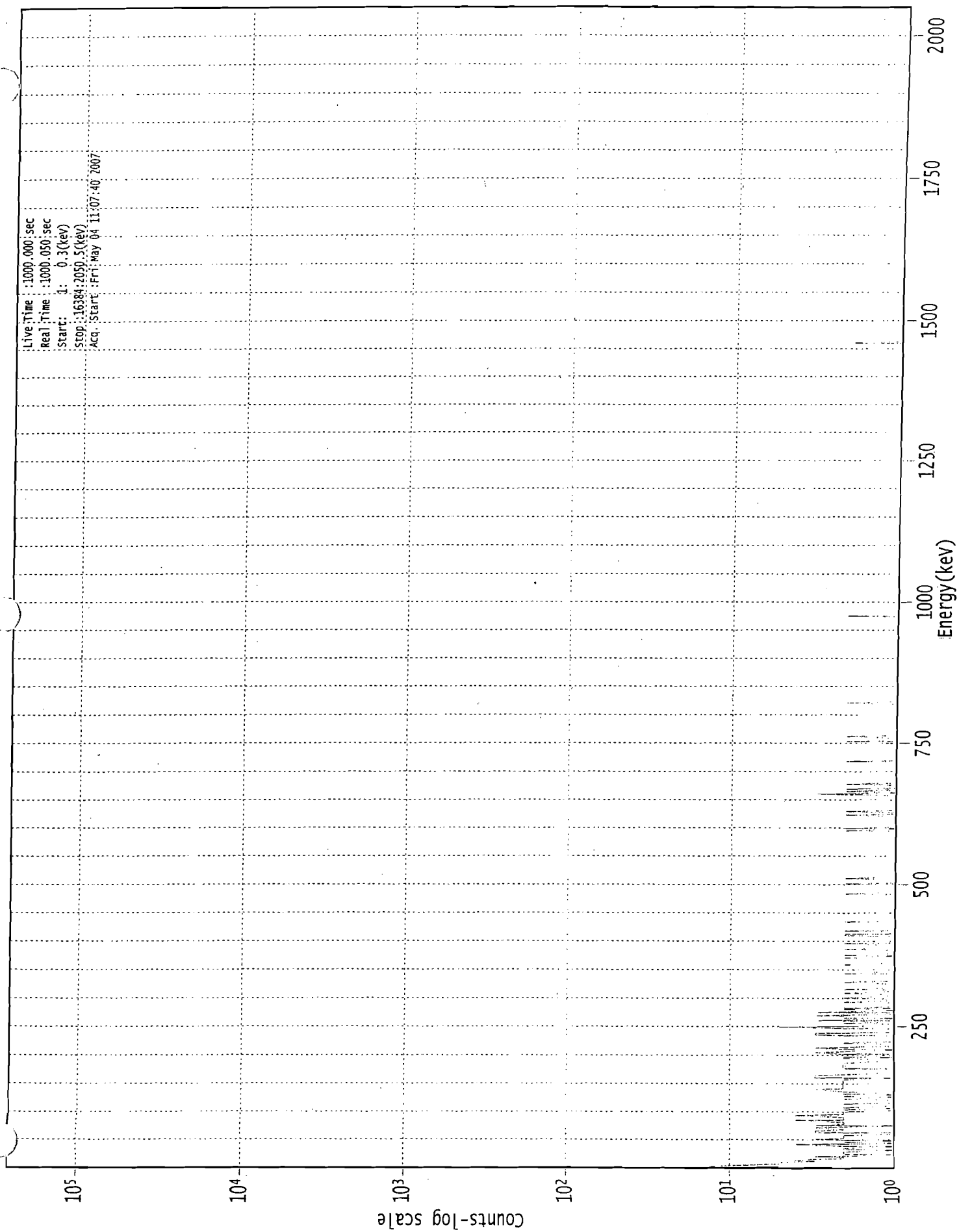
? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000 sigma

T24070001M.CNF



 ***** THE BOEING COMPANY *****
 ***** SANTA SUSANA FIELD LABORATORY *****
 ***** SHEA - RADIATION SAFETY LAB *****

 ***** GAMMA SPECTRUM ANALYSIS REPORT *****
 *)*****

Report Generated On : 5/9/07 9:37:48 AM

Sample Identification : T24070002M
 Spectrum Description : 4024 O/S Soil Composite for Shipping
 MCA Number : Main System #1
 Sample Type : Soil
 Sample Geometry : 1

Peak Locate Threshold : 4.00
 Peak Locate Range (in channels) : 200 - 16384
 Peak Area Range (in channels) : 1 - 16384
 Identification Energy Tolerance : 1.000 keV

Sample Size : 6.050E+002 g

Sample Taken On : 5/3/07 10:00:00 AM
 Acquisition Started : 5/9/07 9:14:05 AM

Live Time : 1300.0 seconds
 Real Time : 1300.3 seconds

Energy Calibration Used Done On : 9/29/06
 Efficiency Calibration Used Done On : 9/29/06

Report Reviewed and
 Conforms to RS-00017

By: GR MEDINIS Date: 5-9-07

Radiation Safety

NOTE: COPY1

Acceptable for Non-radioactive Disposal
 (See Rocketdyne N001OP000034)

***** I N T E R F E R E N C E C O R R E C T E D R E P O R T 2 *****

Sample Identification : T24070002M

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/g)	Wt mean Activity Uncertainty	Percent Total Act.	Nuclide MDA (pCi/g)
K-40	0.984	2.263E+001	2.104E+000	87.10%	9.488E-001
CS-137	0.913	6.536E-002	2.995E-002	0.25%	5.024E-002
Tl-208T	0.636	3.027E-001	5.025E-002	1.17%	4.052E-002
PB-212T @	0.752	8.963E-001	9.654E-002	3.45%	1.002E-001
PB-214U @	0.676	6.586E-001	7.766E-002	2.53%	8.784E-002
? RA-226U	0.934	1.346E+000	4.596E-001	5.18%	8.010E-001
? U-235 @	0.442	8.178E-002	2.804E-002	0.31%	4.865E-002

Total Sample Activity... 2.5981E+001 pCi/g

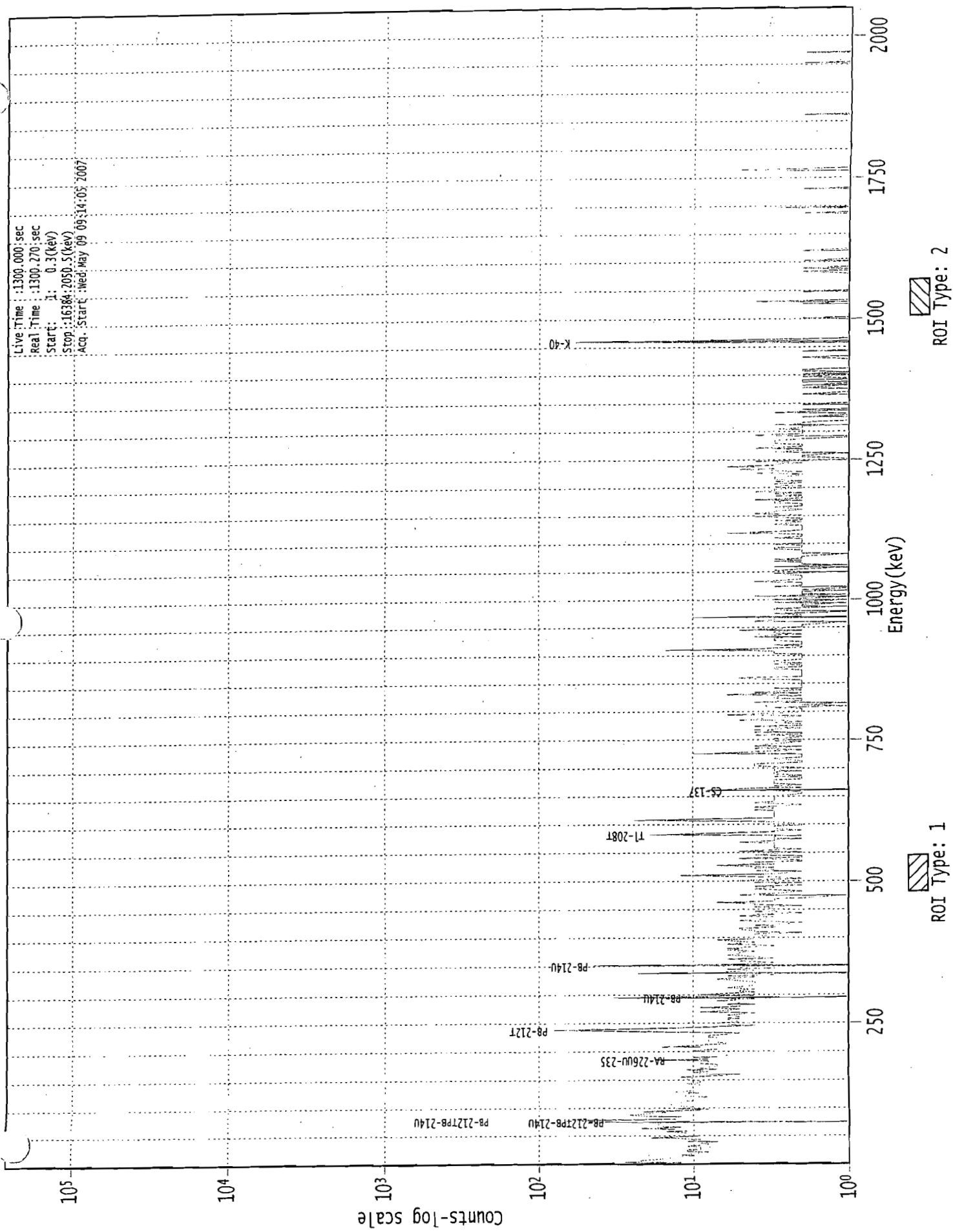
? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000 sigma

Live Time	:1300.000:sec
Real Time	:1300.270:sec
Start:	1: 0.3(kev)
Stop:	16384:2050.5(kev)
Acq. Start	Wed:May 09 09:14:05:2007:



 ***** THE BOEING COMPANY *****
 ***** SANTA SUSANA FIELD LABORATORY *****
 ***** SHEA - RADIATION SAFETY LAB *****

 ***** GAMMA SPECTRUM ANALYSIS REPORT *****
 *)*****

Report Generated On : 5/16/07 3:08:57 PM

Sample Identification : T24070006M
 Spectrum Description : Areva 4024 WQater from UST Vault
 MCA Number : Main System #1
 Sample Type : Water
 Sample Geometry : 1

Peak Locate Threshold : 4.00
 Peak Locate Range (in channels) : 200 - 16384
 Peak Area Range (in channels) : 1 - 16384
 Identification Energy Tolerance : 1.000 keV

Sample Size : 4.750E-001 L

Sample Taken On : 5/16/07 1:00:00 PM
 Acquisition Started : 5/16/07 2:37:20 PM

Live Time : 1200.0 seconds
 Real Time : 1391.8 seconds

Energy Calibration Used Done On : 9/29/06
 Efficiency Calibration Used Done On : 9/29/06

Report Reviewed and
 Conforms to RS-00017

By: ER MED *mm*

Date: 5-16-07

Radiation Safety

NOTE: COPY1

Acceptable for Non-radioactive Disposal
 (See Rocketdyne N001OP000034)

***** INTERFERENCE CORRECTED REPORT 2 *****

Sample Identification : T24070006M

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/L)	Wt mean Activity Uncertainty	Percent Total Act.	Nuclide MDA (pCi/L)
K-40	0.978	9.431E+002	5.645E+002	79.45%	8.239E+002
PB-212T @	0.558	2.440E+002	5.346E+001	20.55%	5.327E+001

Total Sample Activity... 1.1871E+003 pCi/L

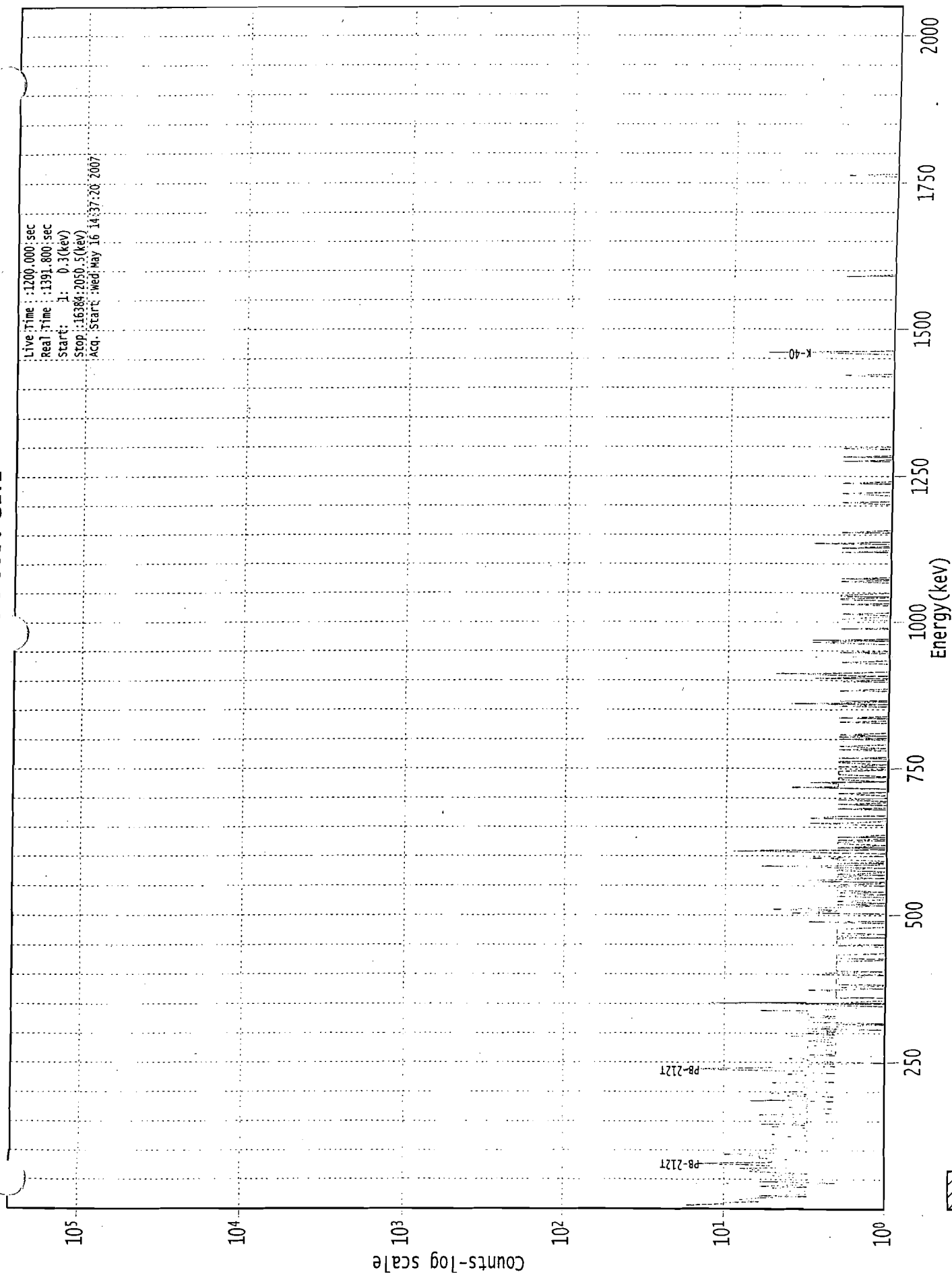
? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000 sigma

T24070006M.CNF



ROI Type: 1

```

*****
*****      T H E   B O E I N G   C O M P A N Y      *****
*****      S A N T A   S U S A N A   F I E L D   L A B O R A T O R Y      *****
*****      S H E A -   R A D I A T I O N   S A F E T Y   L A B      *****
*****
*****      G A M M A   S P E C T R U M   A N A L Y S I S   R E P O R T      *****
*****

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Report Generated On           : 4/26/07  10:49:26 AM

Sample Identification         : ENV070041M
Spectrum Description        : 4024 Basement Storage Tube Water
MCA Number                  : Main System #1
Sample Type                 : Water
Sample Geometry             : 3

Peak Locate Threshold       : 4.00
Peak Locate Range (in channels) : 200 - 16384
Peak Area Range (in channels) : 1 - 16384
Identification Energy Tolerance : 1.000 keV

Sample Size                 : 8.240E-001 L

Sample Taken On             : 4/25/07  7:00:00 AM
Acquisition Started        : 4/25/07  10:40:30 AM

Live Time                  : 20000.0 seconds
Real Time                 : 20001.0 seconds

```

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(
Energy Calibration Used Done On : 9/29/06
Efficiency Calibration Used Done On : 9/29/06

```

Report Reviewed and
Conforms to RS-00017

By:

Ray McInnis

Date: 4-26-07

Radiation Safety

NOTE: COPY1

Acceptable for Non-radioactive Disposal
(See Rocketdyne N001OP000034)

***** I N T E R F E R E N C E C O R R E C T E D R E P O R T 2 *****

Sample Identification : ENV070041M

Nuclide	Nuclide	Wt mean	Wt mean		Nuclide
Name	Id	Activity	Activity	Percent	MDA
	Confidence	(pCi/L	) Uncertainty	Total Act.	(pCi/L

Total Sample Activity... 0.0000E+000 pCi/L

? = nuclide is part of an undetermined solution

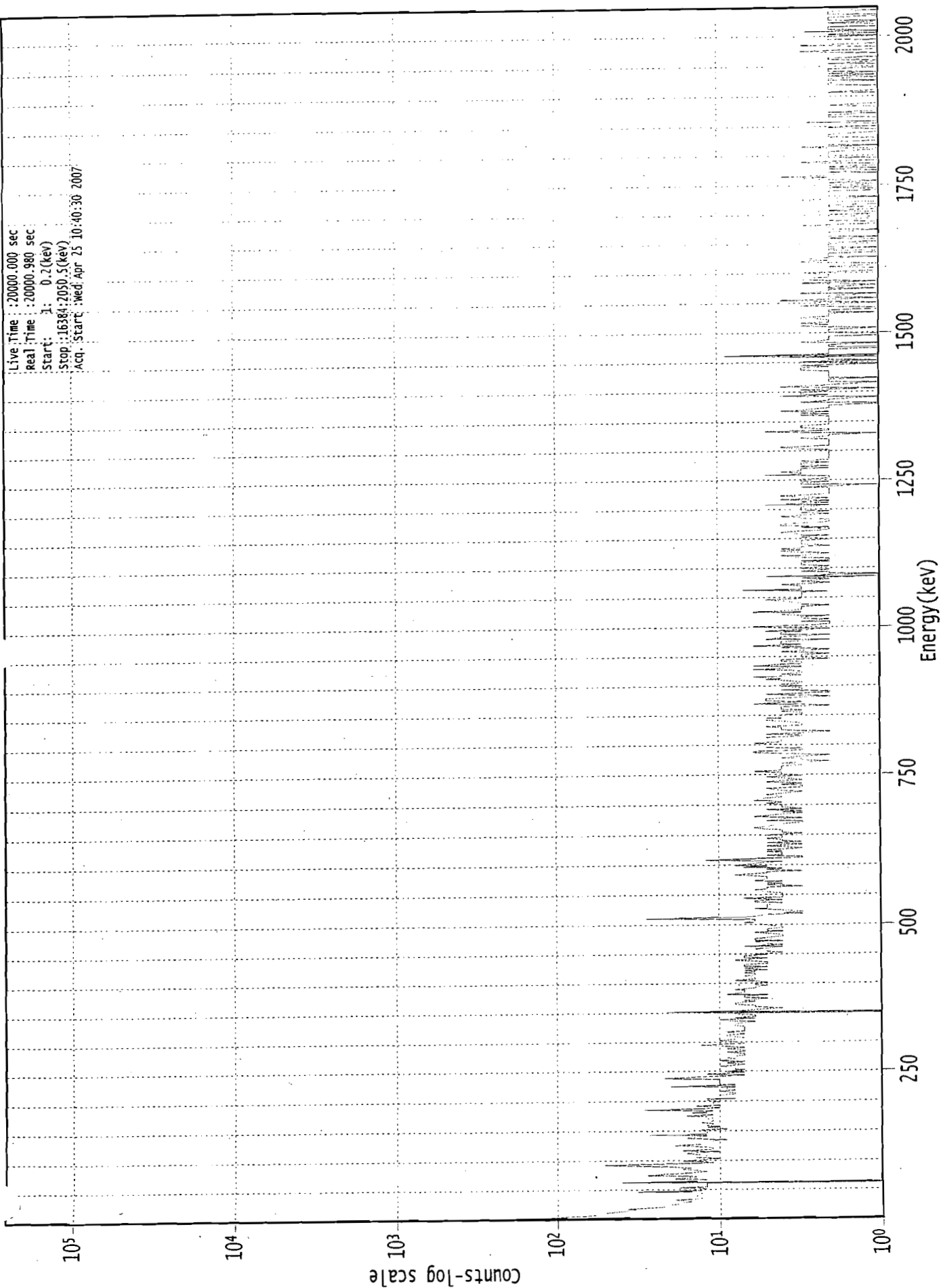
X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000 sigma

ENVO7A041M.CNF

Live Time : 20000.000 sec
 Real Time : 20000.980 sec
 Start : 1: 0.2(kev)
 Stop : 16384:2050.5(kev)
 Acq. Start : Wed Apr 25 10:40:30 2007



 ROI Type: 1

 ***** THE BOEING COMPANY *****
 ***** SANTA SUSANA FIELD LABORATORY *****
 ***** SHEA - RADIATION SAFETY LAB *****

 ***** GAMMA SPECTRUM ANALYSIS REPORT *****

Report Generated On : 5/30/07 3:39:01 PM

Sample Identification : T24070014M

Spectrum Description : Water from T24 solid waste storage tube

MCA Number : Main System #1

Sample Type : Water

Sample Geometry : 2

Peak Locate Threshold : 4.00

Peak Locate Range (in channels) : 200 - 16384

Peak Area Range (in channels) : 1 - 16384

Identification Energy Tolerance : 1.000 keV

Sample Size : 3.940E-001 L

Sample Taken On : 5/24/07 12:00:00 PM

Acquisition Started : 5/30/07 3:02:20 PM

Live Time : 1800.0 seconds

Real Time : 2087.9 seconds

Energy Calibration Used Done On : 9/29/06

Efficiency Calibration Used Done On : 9/29/06

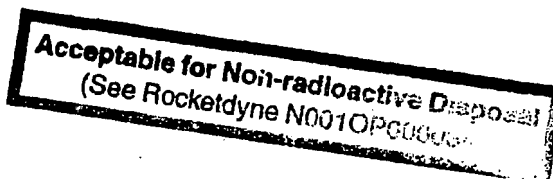
Report Reviewed and
 Conforms to RS-00017

By:

[Signature]
 Radiation Safety

Date:

5/30/07



***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Identification: T24070014M

Nuclide Library Used: C:\GENIE2K\CAMFILES\LIBRARY0.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/L)	Activity (GPS)	Activity Uncertainty	GPS Uncert.
-----------------	------------------	-----------------	--------------	---------------------	-------------------	-------------------------	----------------

* = Energy line found in the spectrum.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000 sigma

 ***** THE BOEING COMPANY *****
 ***** SANTA SUSANA FIELD LABORATORY *****
 ***** SHEA - RADIATION SAFETY LAB *****

 ***** GAMMA SPECTRUM ANALYSIS REPORT *****

Report Generated On : 5/30/07 3:02:51 PM

Sample Identification : T24070013M

Spectrum Description : Water from T24 solid waste storage tube

MCA Number : Main System #1

Sample Type : Water

Sample Geometry : 2

Peak Locate Threshold : 4.00

Peak Locate Range (in channels) : 200 - 16384

Peak Area Range (in channels) : 1 - 16384

Identification Energy Tolerance : 1.000 keV

Sample Size : 4.200E-001 L

Sample Taken On : 5/24/07 12:00:00 PM

Acquisition Started : 5/29/07 5:21:48 PM

Live Time : 10000.0 seconds

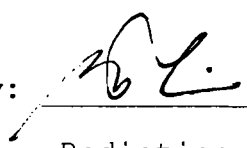
Real Time : 10000.4 seconds

Energy Calibration Used Done On : 9/29/06

Efficiency Calibration Used Done On : 9/29/06

Report Reviewed and
 Conforms to RS-00017

By:


 Radiation Safety

Date:

5/30/07

Acceptable for Non-radioactive Disposal
 (See Rocketdyne N001OPC00034)

***** I N T E R F E R E N C E C O R R E C T E D R E P O R T 2 *****

Sample Identification : T24070013M

Nuclide Name	Nuclide Id	Wt mean Activity (pCi/L	Wt mean Activity Uncertainty	Percent Total Act.	Nuclide MDA (pCi/L
-----------------	---------------	-------------------------------	------------------------------------	-----------------------	--------------------------

Total Sample Activity... 0.0000E+000 pCi/L

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000 sigma

 ***** THE BOEING COMPANY *****
 ***** SANTA SUSANA FIELD LABORATORY *****
 ***** SHEA - RADIATION SAFETY LAB *****

 ***** GAMMA SPECTRUM ANALYSIS REPORT *****

Report Generated On : 5/29/07 4:14:30 PM

Sample Identification : T24070012M

Spectrum Description : Water from T24 solid waste storage tube

MCA Number : Main System #1

Sample Type : Water

Sample Geometry : 1

Peak Locate Threshold : 4.00

Peak Locate Range (in channels) : 200 - 16384

Peak Area Range (in channels) : 1 - 16384

Identification Energy Tolerance : 1.000 keV

Sample Size : 5.420E-001 L

Sample Taken On : 5/24/07 12:00:00 PM

Acquisition Started : 5/29/07 3:44:16 PM

Live Time : 1200.0 seconds

Real Time : 1299.7 seconds

Energy Calibration Used Done On : 9/29/06

Efficiency Calibration Used Done On : 9/29/06

Report Reviewed and
 Conforms to RS-00017

By: [Signature]
 Radiation Safety

Date: 5/29/07

Acceptable for Non-radioactive Disposal
 (See Rocketdyne N001OP000034)

***** I N T E R F E R E N C E C O R R E C T E D R E P O R T 2 *****

Sample Identification : T24070012M

Nuclide	Nuclide	Wt mean	Wt mean		Nuclide
Name	Id	Activity	Activity	Percent	MDA
	Confidence	(pCi/L	) Uncertainty	Total Act.	(pCi/L
					)

Total Sample Activity... 0.0000E+000 pCi/L

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000 sigma

 ***** THE BOEING COMPANY *****
 ***** SANTA SUSANA FIELD LABORATORY *****
 ***** SHEA - RADIATION SAFETY LAB *****

 ***** GAMMA SPECTRUM ANALYSIS REPORT *****

Report Generated On : 5/29/07 5:15:43 PM

Sample Identification : T24070011M

Spectrum Description : Water from T24 solid waste storage tube

MCA Number : Main System #1

Sample Type : Water

Sample Geometry : 3

Peak Locate Threshold : 4.00

Peak Locate Range (in channels) : 200 - 16384

Peak Area Range (in channels) : 1 - 16384

Identification Energy Tolerance : 1.000 keV

Sample Size : 9.480E-001 L

Sample Taken On : 5/24/07 12:00:00 PM

Acquisition Started : 5/29/07 4:40:32 PM

Live Time : 1200.0 seconds

Real Time : 1200.1 seconds

Energy Calibration Used Done On : 9/29/06

Efficiency Calibration Used Done On : 9/29/06

Report Reviewed and
 Conforms to RS-00017

By: *[Signature]*
 Radiation Safety

Date: 5/29/07

Acceptable for Non-radioactive Disposal
 (See Rocketdyne N0010P0000361)

***** I N T E R F E R E N C E C O R R E C T E D R E P O R T 2 *****

Sample Identification : T24070011M

Nuclide	Nuclide	Wt mean	Wt mean		Nuclide
Name	Id	Activity	Activity	Percent	MDA
	Confidence	(pCi/L	) Uncertainty	Total Act.	(pCi/L

Total Sample Activity... 0.0000E+000 pCi/L

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000 sigma

```

*****
*****      T H E   B O E I N G   C O M P A N Y      *****
*****      S A N T A   S U S A N A   F I E L D   L A B O R A T O R Y      *****
*****      S H E A -   R A D I A T I O N   S A F E T Y   L A B      *****
*****
*****      G A M M A   S P E C T R U M   A N A L Y S I S   R E P O R T      *****
(*) *****

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Report Generated On      : 5/29/07    4:36:56 PM

Sample Identification    : T24070010M
Spectrum Description    : Water from T24 solid waste storage tube
MCA Number              : Main System #1
Sample Type             : Water
Sample Geometry         : 3

Peak Locate Threshold   : 4.00
Peak Locate Range (in channels) : 200 - 16384
Peak Area Range (in channels) : 1 - 16384
Identification Energy Tolerance : 1.000 keV

Sample Size             : 9.860E-001 L

Sample Taken On        : 5/24/07    12:00:00 PM
Acquisition Started    : 5/29/07    4:16:00 PM

Live Time              : 1200.0 seconds
Real Time              : 1200.1 seconds

```

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Energy Calibration Used Done On : 9/29/06
Efficiency Calibration Used Done On : 9/29/06

```

Report Reviewed and
Conforms to RS-00017

By: RL
Radiation Safety

Date: 5/29/07

Acceptable for Non-radioactive Disposal
(See Rocketdyne Nonradioactive Disposal)

***** I N T E R F E R E N C E C O R R E C T E D R E P O R T 1 *****

Sample Identification : T24070010M

Nuclide	Nuclide	Wt mean	Wt mean		Nuclide
Name	Id	Activity	Activity	Percent	MDA
	Confidence	(pCi/L	) Uncertainty	Total Act.	(pCi/L

Total Sample Activity... 0.0000E+000 pCi/L

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000 sigma

No peak search results available for nuclide analysis.

 ***** THE BOEING COMPANY *****
 ***** SANTA SUSANA FIELD LABORATORY *****
 ***** SHEA - RADIATION SAFETY LAB *****

 ***** GAMMA SPECTRUM ANALYSIS REPORT *****

Report Generated On : 5/29/07 3:41:30 PM

Sample Identification : T24070009M

Spectrum Description : Water from T24 solid waste storage tube

MCA Number : Main System #1

Sample Type : Water

Sample Geometry : 1

Peak Locate Threshold : 4.00

Peak Locate Range (in channels) : 200 - 16384

Peak Area Range (in channels) : 1 - 16384

Identification Energy Tolerance : 1.000 keV

Sample Size : 4.500E-001 L

Sample Taken On : 5/24/07 12:00:00 PM

Acquisition Started : 5/29/07 3:12:37 PM

Live Time : 1200.0 seconds

Real Time : 1383.5 seconds

Energy Calibration Used Done On : 9/29/06

Efficiency Calibration Used Done On : 9/29/06

Report Reviewed and
 Conforms to RS-00017

By: 162. Date: 5/29/07

Radiation Safety

Acceptable for Release
 (See Rocket)

***** I N T E R F E R E N C E C O R R E C T E D R E P O R T 2 *****

Sample Identification : T24070009M

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/L	Wt mean Activity) Uncertainty	Percent Total Act.	Nuclide MDA (pCi/L	)
-----------------	-----------------------------	-------------------------------	--------------------------------------	-----------------------	--------------------------	---

Total Sample Activity... 0.0000E+000 pCi/L

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000 sigma

 ***** THE BOEING COMPANY *****
 ***** SANTA SUSANA FIELD LABORATORY *****
 ***** SHEA - RADIATION SAFETY LAB *****

 ***** GAMMA SPECTRUM ANALYSIS REPORT *****

Report Generated On : 5/29/07 3:11:02 PM

Sample Identification : T24070008M

Spectrum Description : Water from T24 solid waste storage tube

MCA Number : Main System #1

Sample Type : Water

Sample Geometry : 1

Peak Locate Threshold : 4.00

Peak Locate Range (in channels) : 200 - 16384

Peak Area Range (in channels) : 1 - 16384

Identification Energy Tolerance : 1.000 keV

Sample Size : 4.840E-001 L

Sample Taken On : 5/24/07 12:00:00 PM

Acquisition Started : 5/29/07 2:44:26 PM

Live Time : 1200.0 seconds

Real Time : 1391.9 seconds

Energy Calibration Used Done On : 9/29/06

Efficiency Calibration Used Done On : 9/29/06

Report Reviewed and
 Conforms to RS-00017

By:

Radiation Safety

Date:

5/29/07

Acceptable for Non-radioactive Disposal
 (See Rocketdyne N001OP00034)

***** I N T E R F E R E N C E C O R R E C T E D R E P O R T 2 *****

Sample Identification : T24070008M

Nuclide	Nuclide	Wt mean	Wt mean		Nuclide
Name	Id	Activity	Activity	Percent	MDA
	Confidence	(pCi/L	) Uncertainty	Total Act.	(pCi/L

Total Sample Activity... 0.0000E+000 pCi/L

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000 sigma

*****NUCLIDE IDENTIFICATION REPORT*****

Sample Identification: T24070007M
Nuclide Library Used: C:\GENIE2K\CAMFILES\LIBRARY0.NLB

..... IDENTIFIED NUCLIDES

Nuclide	Id	Energy	Yield	Activity	Activity
Name	Confidence	(keV)	(%)	(pCi/L	) Uncertainty

* = Energy line found in the spectrum.
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 2.000 sigma

No peak search results available for nuclide analysis.



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer AREVA NP Inc
Attention John McGehee

FEDERAL GRF Report Date 08/06/07
Receipt Date 06/19/07

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285

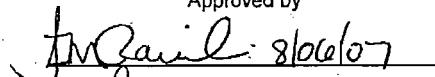
Lab. Sample No. L12564-01 Client ID E4024 101C1 DF1R1-1 Product GAMMA SPECTROMETRY
Reference Date 05/31/07 Analysis Date 08/03/07 Matrix Soil

Nuclide	Activity Concentration +/- 2 - Sigma (pCi/g)	TPU 1 Sigma (pCi/g)	Measured MDC (pCi/g)	Required MDC (pCi/g)	Flags
AcTh-228	7.27E-01 +/- 6.3E-02	4.8E-02	1.5E-01		bc
Ag-108m	1E-03 +/- 1.4E-02	6.9E-03	2.3E-02		
Ag-110m	0E+00 +/- 2.4E-02	1.2E-02	4.0E-02		
Ba-140	-5.3E-01 +/- 7.2E-01	3.6E-01	1.3E+00		
Be-7	-3E-02 +/- 2.9E-01	1.4E-01	4.8E-01		
Ce-141	8E-02 +/- 1.2E-01	6.0E-02	2.0E-01		
Ce-144	-3.6E-02 +/- 8.0E-02	4.0E-02	1.3E-01		
Co-57	6.1E-02 +/- 8.4E-02	4.2E-02	1.4E-01		
Co-58	6E-03 +/- 2.4E-02	1.2E-02	4.0E-02		
Co-60	6E-02 +/- 2.1E-02	1.1E-02	3.8E-02	2.0E-02	abc
Cr-51	4E-02 +/- 5.6E-01	2.8E-01	9.4E-01		
Cs-134	-2E-03 +/- 1.6E-02	8.1E-03	2.7E-02	8.0E-02	
Cs-137	2.223E+00 +/- 4.8E-02	1.1E-01	3.5E-02	3.0E-02	abc
Eu-152	4.2E-02 +/- 4.3E-02	2.2E-02	7.0E-02	1.0E-01	
Eu-154	-1.2E-02 +/- 4.9E-02	2.5E-02	8.5E-02	1.0E-01	
Fe-59	-1.5E-02 +/- 7.5E-02	3.7E-02	1.3E-01		
K-40	7.95E+00 +/- 4.3E-01	4.5E-01	4.6E-01	3.0E-01	abc
La-140	-6.1E-01 +/- 8.3E-01	4.2E-01	1.5E+00		
Mn-54	8E-03 +/- 1.6E-02	8.0E-03	2.7E-02	1.0E-01	
Na-22	-5E-03 +/- 1.8E-02	9.0E-03	3.1E-02	4.0E-02	
Nb-94	1E-02 +/- 1.5E-02	7.5E-03	2.5E-02		
Nb-95	0E+00 +/- 7.4E-02	3.7E-02	1.2E-01		
Ru-103	2.2E-02 +/- 4.2E-02	2.1E-02	7.0E-02		
Ru-106	-1.3E-01 +/- 1.6E-01	7.9E-02	2.7E-01		
Sb-124	2.8E-02 +/- 6.3E-02	3.2E-02	1.1E-01		
Sb-125	-2E-02 +/- 4.4E-02	2.2E-02	7.5E-02		
Se-75	0E+00 +/- 2.2E-02	1.1E-02	3.7E-02		
Zn-65	-1E-02 +/- 8.1E-02	4.1E-02	1.4E-01		
Zr-95	6E-03 +/- 4.7E-02	2.4E-02	8.0E-02		

Flags: a The measured MDC is greater than the required MDC
b The activity concentration is greater than three times its one sigma counting uncertainty.
c Peak was found

Reporting Level Ratio:

Approved by


for C.A. Shelton
Sample Control & Measurements Lead

:: Don McGee



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer AREVA NP Inc
Attention John McGehee

FEDERAL GRF Report Date 08/06/07
Receipt Date 06/19/07

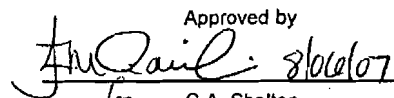
AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285

Lab. Sample No. L12564-02 Client ID E4024 101C1 SP1R1-1 Product GAMMA SPECTROMETRY
Reference Date 05/31/07 Analysis Date 08/03/07 Matrix Soil

Nuclide	Activity Concentration +/- 2 - Sigma (pCi/g)	TPU 1 Sigma (pCi/g)	Measured MDC (pCi/g)	Required MDC (pCi/g)	Flags
AcTh-228	1.129E+00 +/- 3.1E-02	5.9E-02	6.4E-02		bc
Ag-108m	1E-03 +/- 6.1E-03	3.0E-03	1.0E-02		
Ag-110m	2E-03 +/- 1.1E-02	5.6E-03	1.9E-02		
Ba-140	-2.7E-01 +/- 2.7E-01	1.3E-01	4.7E-01		
Be-7	0E+00 +/- 1.3E-01	6.4E-02	2.1E-01		
Ce-141	-1.53E-01 +/- 6.0E-02	3.1E-02	1.0E-01		
Ce-144	-1.2E-02 +/- 4.6E-02	2.3E-02	7.7E-02		
Co-57	-1.1E-02 +/- 4.8E-02	2.4E-02	8.0E-02		
Co-58	-1.2E-02 +/- 1.3E-02	6.4E-03	2.2E-02		
Co-60	4.7E-03 +/- 6.0E-03	3.0E-03	1.3E-02	2.0E-02	
Cr-51	-1E-01 +/- 2.8E-01	1.4E-01	4.6E-01		
Cs-134	-9E-03 +/- 2.9E-02	1.4E-02	4.7E-02	8.0E-02	
Cs-137	5.92E-01 +/- 1.5E-02	3.1E-02	1.5E-02	3.0E-02	bc
Eu-152	-7E-03 +/- 2.0E-02	1.0E-02	3.4E-02	1.0E-01	
Eu-154	1E-03 +/- 2.3E-02	1.1E-02	3.8E-02	1.0E-01	
Fe-59	9E-03 +/- 4.1E-02	2.0E-02	6.8E-02		
K-40	2.085E+01 +/- 3.0E-01	1.1E+00	1.8E-01	3.0E-01	bc
La-140	-3.1E-01 +/- 3.1E-01	1.5E-01	5.4E-01		
Mn-54	7E-04 +/- 8.6E-03	4.3E-03	1.4E-02	1.0E-01	
Na-22	-5E-04 +/- 8.3E-03	4.1E-03	1.4E-02	4.0E-02	
Nb-94	6.5E-03 +/- 6.7E-03	3.4E-03	1.1E-02		
Nb-95	1.1E-02 +/- 3.8E-02	1.9E-02	6.2E-02		
Ru-103	1.1E-02 +/- 2.2E-02	1.1E-02	3.6E-02		
Ru-106	2E-02 +/- 7.5E-02	3.7E-02	1.2E-01		
Sb-124	-5E-03 +/- 2.4E-02	1.2E-02	4.1E-02		
Sb-125	-1.1E-02 +/- 2.0E-02	9.9E-03	3.3E-02		
Se-75	-2.3E-02 +/- 1.3E-02	6.5E-03	2.2E-02		
Zn-65	-2.6E-02 +/- 4.0E-02	2.0E-02	6.7E-02		
Zr-95	1.8E-02 +/- 3.4E-02	1.7E-02	5.6E-02		

Flags: a The measured MDC is greater than the required MDC
b The activity concentration is greater than three times its one sigma counting uncertainty.
c Peak was found

Reporting Level Ratio:

Approved by

for C.A. Shelton
Sample Control & Measurements Lead

Don McGee



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer AREVA NP Inc
Attention John McGehee

FEDERAL GRP Report Date 08/06/07
Receipt Date 06/19/07

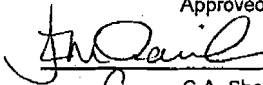
AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285

Lab. Sample No. L12564-04 Client ID E4024 101C1 SP1R1-1 DUPLICATE Product GAMMA SPECTROMETRY
Reference Date 05/31/07 Analysis Date 08/03/07 Matrix Soil

Nuclide	Activity Concentration +/- 2 - Sigma (pCi/g)	TPU 1 Sigma (pCi/g)	Measured MDC (pCi/g)	Required MDC (pCi/g)	Flags
AcTh-228	1.126E+00 +/- 2.8E-02	5.8E-02	5.3E-02		bc
Ag-108m	1E-04 +/- 6.0E-03	3.0E-03	1.0E-02		
Ag-110m	7E-03 +/- 9.9E-03	5.0E-03	1.6E-02		
Ba-140	2.4E-01 +/- 2.4E-01	1.2E-01	3.9E-01		
Be-7	-6E-02 +/- 1.2E-01	6.1E-02	2.1E-01		
Ce-141	2.7E-02 +/- 6.8E-02	3.4E-02	1.1E-01		
Ce-144	2.3E-02 +/- 4.6E-02	2.3E-02	7.6E-02		
Co-57	-7E-03 +/- 4.7E-02	2.4E-02	7.9E-02		
Co-58	2.2E-02 +/- 1.9E-02	9.8E-03	3.2E-02		
Co-60	3.3E-03 +/- 5.3E-03	2.7E-03	1.2E-02	2.0E-02	
Cr-51	-3E-01 +/- 2.7E-01	1.4E-01	4.5E-01		
Cs-134	-3.8E-03 +/- 6.2E-03	3.1E-03	1.0E-02	8.0E-02	
Cs-137	4.75E-01 +/- 1.4E-02	2.5E-02	1.6E-02	3.0E-02	bc
Eu-152	-4E-03 +/- 2.0E-02	1.0E-02	3.3E-02	1.0E-01	
Eu-154	-1.1E-02 +/- 3.9E-02	2.0E-02	6.5E-02	1.0E-01	
Fe-59	-4E-02 +/- 3.7E-02	1.9E-02	6.3E-02		
K-40	2.194E+01 +/- 2.8E-01	1.1E+00	1.5E-01	3.0E-01	bc
La-140	2.7E-01 +/- 2.8E-01	1.4E-01	4.5E-01		
Mn-54	2.3E-02 +/- 1.6E-02	8.3E-03	2.7E-02	1.0E-01	
Na-22	3E-03 +/- 1.4E-02	6.9E-03	2.3E-02	4.0E-02	
Nb-94	5.5E-03 +/- 6.4E-03	3.2E-03	1.1E-02		
Nb-95	-1.08E-01 +/- 2.9E-02	1.5E-02	5.0E-02		
Ru-103	-8E-03 +/- 1.8E-02	8.9E-03	3.0E-02		
Ru-106	-7.4E-02 +/- 6.7E-02	3.4E-02	1.1E-01		
Sb-124	-6E-03 +/- 2.3E-02	1.2E-02	4.0E-02		
Sb-125	2E-03 +/- 1.9E-02	9.6E-03	3.2E-02		
Se-75	-1.6E-02 +/- 1.1E-02	5.5E-03	1.8E-02		
Zn-65	4E-03 +/- 3.5E-02	1.8E-02	5.9E-02		
Zr-95	-2.3E-02 +/- 3.2E-02	1.6E-02	5.4E-02		

Flags: a The measured MDC is greater than the required MDC
b The activity concentration is greater than three times its one sigma counting uncertainty.
c Peak was found

Reporting Level Ratio:

Approved by
 8/06/07
C.A. Shelton
Sample Control & Measurements Lead

Don McGee



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer AREVA NP Inc

Attention John McGehee

FEDERAL GRP Report Date 08/15/07

Receipt Date 06/19/07

AREVA NP Inc

AREVA NP Federal D&D Group

400 South Tryon Street
Charlotte, NC 28285

Lab. Sample No. L12564-05 Client ID 53857-162 MATRIX SPIKE

Reference Date 05/31/07 Analysis Date 08/14/07

Product GAMMA SPECTROMETRY

Matrix Soil

Nuclide	Activity Concentration		TPU 1 Sigma	Measured MDC	Required MDC	Flags
	+/-	2 - Sigma (pCi/g)				
AcTh-228	7.1E-01	+/- 1.1E-01	6.7E-02	2.5E-01		bc
Ag-108m	2E-03	+/- 3.4E-02	1.7E-02	5.7E-02		
Ag-110m	2.2E-02	+/- 5.2E-02	2.6E-02	8.7E-02		
Ba-140	4.4E-01	+/- 6.7E-01	3.3E-01	1.1E+00		
Be-7	1.1E-01	+/- 8.0E-01	4.0E-01	1.3E+00		
Ce-141	3E-02	+/- 2.0E-01	9.8E-02	3.2E-01		
Ce-144	2E-02	+/- 2.1E-01	1.1E-01	3.5E-01		
Co-57	-9E-02	+/- 2.2E-01	1.1E-01	3.6E-01		
Co-58	-6.1E-02	+/- 5.7E-02	2.9E-02	9.7E-02		
Co-60	1.107E+01	+/- 9.2E-02	5.6E-01	3.4E-02	2.0E-02	abc
Cr-51	-2E-01	+/- 1.7E+00	8.4E-01	2.8E+00		
Cs-134	-4E-03	+/- 7.4E-02	3.7E-02	1.2E-01	8.0E-02	a
Cs-137	2.29E+01	+/- 1.6E-01	1.1E+00	5.9E-02	3.0E-02	abc
Eu-152	-2E-02	+/- 9.8E-02	4.9E-02	1.6E-01	1.0E-01	a
Eu-154	-1.1E-02	+/- 4.9E-02	2.5E-02	8.4E-02	1.0E-01	
Fe-59	-2E-01	+/- 2.1E-01	1.0E-01	3.5E-01		
K-40	6E-01	+/- 1.8E-01	9.3E-02	2.5E-01	3.0E-01	bc
La-140	5E-01	+/- 7.7E-01	3.9E-01	1.3E+00		
Mn-54	-9E-03	+/- 3.4E-02	1.7E-02	5.7E-02	1.0E-01	
Na-22	-6E-03	+/- 1.8E-02	9.1E-03	3.2E-02	4.0E-02	
Nb-94	5E-03	+/- 2.4E-02	1.2E-02	4.0E-02		
Nb-95	3E-02	+/- 1.1E-01	5.7E-02	1.9E-01		
Ru-103	7E-02	+/- 1.1E-01	5.5E-02	1.8E-01		
Ru-106	5E-02	+/- 3.0E-01	1.5E-01	5.0E-01		
Sb-124	4.8E-02	+/- 5.7E-02	2.8E-02	9.3E-02		
Sb-125	-6E-02	+/- 1.1E-01	5.4E-02	1.8E-01		
Se-75	2.5E-02	+/- 5.7E-02	2.8E-02	9.4E-02		
Zn-65	-8.1E-02	+/- 8.8E-02	4.4E-02	1.5E-01		
Zr-95	-7E-02	+/- 1.8E-01	8.9E-02	3.0E-01		

Flags: a The measured MDC is greater than the required MDC

b The activity concentration is greater than three times its one sigma counting uncertainty.

c Peak was found

Reporting Level Ratio:

This is a spiked QC sample. Required MDCs do not apply.

Approved by

for C.A. Shelton 8/15/07
Sample Control & Measurements Lead

Don McGee

Page 1 of 1

Results are only applicable to the sample as received at the laboratory. Report should not be reproduced unless in its entirety.



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer AREVA NP Inc
Attention John McGehee

FEDERAL GRF Report Date 08/15/07
Receipt Date 06/19/07

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285

Lab. Sample No. L12564-06 Client ID CONTROL SPIKE Product GAMMA SPECTROMETRY
Reference Date 06/19/07 Analysis Date 08/14/07 Matrix Control Spike

Nuclide	Activity Concentration +/- 2 - Sigma (pCi/L)	TPU 1 Sigma (pCi/L)	Measured MDC (pCi/L)	Required MDC (pCi/L)	Flags
AcTh-228	7E+00 +/- 3.1E+01	1.6E+01	5.7E+01		
Ag-108m	-1.3E+00 +/- 6.9E+00	3.5E+00	1.3E+01		
Ag-110m	-5E+00 +/- 1.2E+01	5.8E+00	2.4E+01		
Ba-140	-2E+01 +/- 1.3E+02	6.3E+01	2.9E+02	1.5E+01	a
Be-7	-1E+01 +/- 1.3E+02	6.4E+01	2.3E+02		
Ce-141	-1.2E+01 +/- 2.7E+01	1.4E+01	5.0E+01		
Ce-144	-1.3E+01 +/- 6.9E+01	3.4E+01	1.2E+02		
Co-57	2.05E+02 +/- 1.5E+01	1.3E+01	1.2E+01		bc
Co-58	-5.8E+00 +/- 7.5E+00	3.7E+00	1.8E+01	1.5E+01	a
Co-60	1.8E+00 +/- 6.4E+00	3.2E+00	1.3E+01	1.5E+01	
Cr-51	-1E+01 +/- 2.0E+02	1.0E+02	3.7E+02		
Cs-134	8E-01 +/- 6.2E+00	3.1E+00	1.2E+01	1.5E+01	
Cs-137	2.58E+02 +/- 2.8E+01	1.9E+01	1.5E+01	1.8E+01	bc
Fe-59	-8E+00 +/- 2.8E+01	1.4E+01	6.0E+01	3.0E+01	a
I-131	-3.6E+02 +/- 7.7E+02	3.9E+02	1.5E+03	1.5E+01	a
K-40	3.4E+01 +/- 8.4E+01	4.2E+01	1.5E+02		
La-140	-3E+01 +/- 1.5E+02	7.3E+01	3.3E+02		
Mn-54	4.5E+00 +/- 5.9E+00	3.0E+00	9.6E+00	1.5E+01	
Nb-95	2E+00 +/- 1.6E+01	7.8E+00	3.0E+01	1.5E+01	a
Ru-103	-5E+00 +/- 1.6E+01	8.2E+00	3.2E+01		
Ru-106	-3.7E+01 +/- 6.0E+01	3.0E+01	1.3E+02		
Sb-124	-2.1E+01 +/- 2.9E+01	1.5E+01	7.2E+01		
Sb-125	-1.2E+01 +/- 2.2E+01	1.1E+01	4.2E+01		
Se-75	3E+00 +/- 1.0E+01	5.0E+00	1.7E+01		
Zn-65	8E+00 +/- 1.9E+01	9.4E+00	3.3E+01	3.0E+01	a
Zr-95	1.6E+01 +/- 1.8E+01	9.0E+00	2.8E+01	1.5E+01	a

Flags: a The measured MDC is greater than the required MDC
b The activity concentration is greater than three times its one sigma counting uncertainty.
c Peak was found

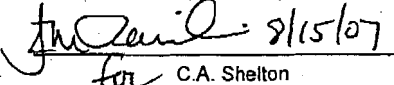
Reporting Level Ratio: 05.2
This is a spiked QC sample. Required MDCs do not apply.

Don McGee

Page 1 of 1

Results are only applicable to the sample as received at the laboratory. Report should not be reproduced unless in its entirety.

Approved by


for C.A. Shelton
Sample Control & Measurements Lead



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer AREVA NP Inc
Attention John McGehee

FEDERAL GRP Report Date 08/22/07
Receipt Date 06/19/07

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285

Lab. Sample No. L12564-07 Client ID BLANK
Reference Date 06/19/07 Analysis Date 08/13/07

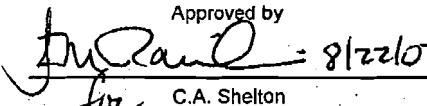
Product GAMMA SPECTROMETRY
Matrix A Blank

Nuclide	Activity Concentration +/- 2 - Sigma (pCi/L)	TPU 1 Sigma (pCi/L)	Measured MDC (pCi/L)	Required MDC (pCi/L)	Flags
AcTh-228	-5E+00 +/- 1.9E+01	9.4E+00	3.6E+01		
Ag-108m	2.4E+00 +/- 3.4E+00	1.7E+00	5.6E+00		
Ag-110m	-5.9E+00 +/- 7.0E+00	3.5E+00	1.5E+01		
Ba-140	3.7E+01 +/- 9.7E+01	4.8E+01	1.8E+02		
Be-7	5.1E+01 +/- 6.7E+01	3.4E+01	1.1E+02		
Ce-141	-1E+01 +/- 1.7E+01	8.3E+00	3.0E+01		
Ce-144	-1E+01 +/- 2.7E+01	1.3E+01	4.8E+01		
Co-57	-5E-01 +/- 3.1E+00	1.6E+00	5.5E+00		
Co-58	6E-01 +/- 6.6E+00	3.3E+00	1.2E+01		
Co-60	-1.8E+00 +/- 4.8E+00	2.4E+00	1.0E+01		
Cr-51	9E+01 +/- 1.2E+02	6.1E+01	2.0E+02		
Cs-134	-1E+00 +/- 5.3E+00	2.7E+00	1.0E+01		
Cs-137	2E+00 +/- 4.1E+00	2.0E+00	7.1E+00		
Fe-59	-6E+00 +/- 1.8E+01	9.0E+00	3.7E+01		
I-131	1.1E+02 +/- 4.5E+02	2.2E+02	7.9E+02		
K-40	-1.8E+01 +/- 6.9E+01	3.5E+01	1.4E+02		
La-140	4E+01 +/- 1.1E+02	5.6E+01	2.0E+02		
Mn-54	9E-01 +/- 4.6E+00	2.3E+00	8.5E+00		
Nb-95	-2E+00 +/- 1.3E+01	6.5E+00	2.5E+01		
Ru-103	2E+00 +/- 1.1E+01	5.6E+00	2.0E+01		
Ru-106	-3.9E+01 +/- 5.1E+01	2.5E+01	1.0E+02		
Sb-124	-6E+00 +/- 2.1E+01	1.0E+01	4.4E+01		
Sb-125	8E+00 +/- 1.1E+01	5.6E+00	1.8E+01		
Se-75	9E-01 +/- 6.0E+00	3.0E+00	1.1E+01		
Zn-65	6.9E+00 +/- 9.8E+00	4.9E+00	1.6E+01		
Zr-95	6E+00 +/- 1.1E+01	5.6E+00	1.9E+01		

Flags: a The measured MDC is greater than the required MDC
b The activity concentration is greater than three times its one sigma counting uncertainty.
c Peak was found

Reporting Level Ratio:

Don McGehee

Approved by

for C.A. Shelton
Sample Control & Measurements Lead

**SNAP ENVIRONMENTAL TEST FACILITY D&D PROJECT
CANOGA PARK, CALIFORNIA**

5/22/2007

Page C-8 of 8

Survey Package Appendix C – Survey Results

Survey Package: E4024 101C1 Package: System
Survey Area Name: SETF Drains and Waste Storage Systems
Survey Unit Name: Liquid Waste, Floor Drains, and Solid Waste Storage

**Section 7.0
Sample Analysis Results – Alpha Spectroscopy
30 Pages**

**Am-241,
Cm-242, 243/244**



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attn: John McGehee

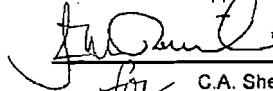
Product AM-241 CM242,243,244**Report Date** 11/12/07**Receipt Date** 06/19/07

LSN	Client ID & Description	Reference	Analysis	Nuclide	Activity Concentration	TPU	Measured	Required	Reporting	
		Date	Date		+/- 2-Sigma (pCi/g)	1 Sigma (pCi/g)	MDC (pCi/g)	MDC (pCi/g)		Flags Level Ratio
<u>Soil</u>										
L12564-04	E4024 101C1 SP1R1-1 DUPLICATE	05/31/2007	09/11/2007	Am-241	-3E-03 +/- 1.6E-02	8.1E-03	4.6E-02	1.9E+00		
L12564-04	E4024 101C1 SP1R1-1 DUPLICATE	05/31/2007	09/11/2007	Cm-242	-2.8E-03 +/- 5.7E-03	2.8E-03	4.4E-02			
L12564-04	E4024 101C1 SP1R1-1 DUPLICATE	05/31/2007	09/11/2007	Cm-243/244	-3.7E-03 +/- 5.2E-03	2.6E-03	3.4E-02			

Flags: a The measured MDC is greater than the required MDC.
b The activity concentration is greater than three times its one sigma counting uncertainty.

c: Don McGee

Approved by

 11/12/07
for C.A. Shelton
Sample Control & Measurements Lead



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attn: John McGehee

Product AM-241 CM242,243,244

Report Date 10/23/07

Receipt Date 06/25/07

LSN	Client ID & Description	Reference	Analysis	Nuclide	Activity Concentration	TPU 1 Sigma (pCi/g)	Measured MDC (pCi/g)	Required MDC (pCi/g)	Reporting		
		Date	Date		+/- 2-Sigma (pCi/g)				Flags	Level Ratio	
<u>Soil</u>											
L12564-01	E4024 101C1 DF1R1-1	05/31/2007	08/29/2007	Am-241	-6E-03 +/- 1.2E-02	6.2E-03	5.8E-02	1.9E+00			
L12564-01	E4024 101C1 DF1R1-1	05/31/2007	08/29/2007	Cm-242	0E+00 +/- 4.0E-04	2.0E-04	3.8E-02				
L12564-01	E4024 101C1 DF1R1-1	05/31/2007	08/29/2007	Cm-243/244	0E+00 +/- 2.8E-04	1.4E-04	2.6E-02				
L12564-02	E4024 101C1 SP1R1-1	05/31/2007	08/15/2007	Am-241	1.1E-02 +/- 3.8E-02	1.9E-02	9.0E-02	1.9E+00			
L12564-02	E4024 101C1 SP1R1-1	05/31/2007	08/15/2007	Cm-242	-1.2E-03 +/- 2.4E-03	1.2E-03	8.3E-02				
L12564-02	E4024 101C1 SP1R1-1	05/31/2007	08/15/2007	Cm-243/244	-1.8E-03 +/- 2.5E-03	1.2E-03	6.6E-02				
L12564-03	E4024 101C1 DF1R1-1 MATRIX SPIKE	05/31/2007	08/16/2007	Am-241	1.097E+00 +/- 9.8E-02	4.9E-02	1.8E-02	1.9E+00	b		
L12564-03	E4024 101C1 DF1R1-1 MATRIX SPIKE	05/31/2007	08/16/2007	Cm-242	2.7E-03 +/- 5.3E-03	2.7E-03	7.2E-03				
L12564-03	E4024 101C1 DF1R1-1 MATRIX SPIKE	05/31/2007	08/16/2007	Cm-243/244	2.84E-01 +/- 4.8E-02	2.4E-02	1.2E-02			b	

Flags:

- a The measured MDC is greater than the required MDC.
b The activity concentration is greater than three times its one sigma counting uncertainty.

c: Don McGee

Approved by

C.A. Shelton

Sample Control & Measurements Lead



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attn: John McGehee

Product AM-241 CM242,243,244**Report Date** 09/12/07**Receipt Date** 06/19/07

LSN	Client ID & Description	Reference	Analysis	Nuclide	Activity Concentration	TPU	Measured	Required	Reporting
		Date	Date		+/- 2-Sigma (pCi/L)	1 Sigma (pCi/L)	MDC (pCi/L)	MDC (pCi/L)	
A Blank									
L12564-07	BLANK	06/19/2007	08/15/2007	Am-241	-4E+00 +/- 1.2E+01	6.0E+00	5.9E+01		
L12564-07	BLANK	06/19/2007	08/15/2007	Cm-242	0E+00 +/- 4.9E-01	2.4E-01	3.8E+01		
L12564-07	BLANK	06/19/2007	08/15/2007	Cm-243/244	0E+00 +/- 3.9E-01	1.9E-01	3.0E+01		
Control Spike									
L12564-06	CONTROL SPIKE	06/19/2007	08/16/2007	Am-241	1.158E+03 +/- 9.1E+01	4.5E+01	2.9E+01		b
L12564-06	CONTROL SPIKE	06/19/2007	08/16/2007	Cm-242	5.6E+00 +/- 6.5E+00	3.2E+00	5.1E+00		
L12564-06	CONTROL SPIKE	06/19/2007	08/16/2007	Cm-243/244	3.88E+02 +/- 5.1E+01	2.6E+01	2.7E+01		b

Flags:

- a The measured MDC is greater than the required MDC.
b The activity concentration is greater than three times its one sigma counting uncertainty.

Approved by



C.A. Shelton

Sample Control & Measurements Lead

c: Don McGee

Fe-55



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attn: John McGehee

Product FE-55**Report Date** 11/07/07**Receipt Date** 06/25/07

LSN	Client ID & Description	Reference	Analysis	Nuclide	Activity Concentration	TPU	Measured	Required	Reporting	
		Date	Date		+/- 2-Sigma (pCi/g)	1 Sigma (pCi/g)	MDC (pCi/g)	MDC (pCi/g)		Flags Level Ratio
Soil										
L12564-01	E4024 101C1 DF1R1-1	05/31/2007	10/22/2007	Fe-55	-5E+00 +/- 1.1E+01	5.4E+00	1.9E+01	2.0E+01		
L12564-02	E4024 101C1 SP1R1-1	05/31/2007	11/01/2007	Fe-55	2E+00 +/- 9.2E+00	4.6E+00	1.6E+01	2.0E+01		
L12564-03	E4024 101C1 DF1R1-1 MATRIX SPIKE	05/31/2007	10/22/2007	Fe-55	5.14E+02 +/- 3.1E+01	4.5E+01	1.9E+01	2.0E+01	b	
L12564-04	E4024 101C1 SP1R1-1 DUPLICATE	05/31/2007	11/01/2007	Fe-55	4E-01 +/- 8.4E+00	4.2E+00	1.4E+01	2.0E+01		

Flags:

- a The measured MDC is greater than the required MDC.
- b The activity concentration is greater than three times its one sigma counting uncertainty.

c: Don McGee

Approved by

C.A. Shelton

Sample Control & Measurements Lead



Environmental Laboratory Analysis Report

29 Research Drive
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400 South Tryon Street
Charlotte, NC 28285
Attn: John McGehee

Product FE-55**Report Date** 11/07/07**Receipt Date** 06/19/07

LSN	Client ID & Description	Reference	Analysis	Nuclide	Activity Concentration	TPU	Measured	Required	Reporting
		Date	Date		+/- 2-Sigma (pCi/L)	1 Sigma (pCi/L)	MDC (pCi/L)	MDC (pCi/L)	
A Blank									
L12564-07	BLANK	06/19/2007	10/22/2007	Fe-55	5E+02 +/- 6.0E+03	3.0E+03	1.0E+04		
Control Spike									
L12564-08	CONTROL SPIKE	06/19/2007	10/22/2007	Fe-55	1.4E+06 +/- 4.2E+04	1.2E+05	1.5E+04		b

Flags:

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Approved by

C.A. Shelton

Sample Control & Measurements Lead

c: Don McGee



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
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Customer

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400 South Tryon Street
Charlotte, NC 28285
Attn: John McGehee

Product FE-55**Report Date** 11/07/07**Receipt Date** 06/25/07

LSN	Client ID & Description	Reference	Analysis	Nuclide	Activity Concentration	TPU	Measured	Required	Reporting	
		Date	Date		+/- 2-Sigma (pCi/g)	1 Sigma (pCi/g)	MDC (pCi/g)	MDC (pCi/g)		Flags Level Ratio
<u>Soil</u>										
L12564-01	E4024 101C1 DF1R1-1	05/31/2007	10/22/2007	Fe-55	-5E+00 +/- 1.1E+01	5.4E+00	1.9E+01	2.0E+01		
L12564-02	E4024 101C1 SP1R1-1	05/31/2007	11/01/2007	Fe-55	2E+00 +/- 9.2E+00	4.6E+00	1.6E+01	2.0E+01		
L12564-03	E4024 101C1 DF1R1-1 MATRIX SPIKE	05/31/2007	10/22/2007	Fe-55	5.14E+02 +/- 3.1E+01	4.5E+01	1.9E+01	2.0E+01	b	
L12564-04	E4024 101C1 SP1R1-1 DUPLICATE	05/31/2007	11/01/2007	Fe-55	4E-01 +/- 8.4E+00	4.2E+00	1.4E+01	2.0E+01		

Flags:

- a The measured MDC is greater than the required MDC.
- b The activity concentration is greater than three times its one sigma counting uncertainty.

c: Don McGee

Approved by

C.A. Shelton

Sample Control & Measurements Lead



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attn: John McGehee

Product FE-55**Report Date** 11/07/07**Receipt Date** 06/19/07

LSN	Client ID & Description	Reference	Analysis	Nuclide	Activity Concentration	TPU	Measured	Required	Reporting
		Date	Date		+/- 2-Sigma (pCi/L)	1 Sigma (pCi/L)	MDC (pCi/L)	MDC (pCi/L)	
A Blank									
L12564-07	BLANK	06/19/2007	10/22/2007	Fe-55	5E+02 +/- 6.0E+03	3.0E+03	1.0E+04		
Control Spike									
L12564-06	CONTROL SPIKE	06/19/2007	10/22/2007	Fe-55	1.4E+06 +/- 4.2E+04	1.2E+05	1.5E+04		b

Flags:

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- b The activity concentration is greater than three times its one sigma counting uncertainty.

Approved by

C.A. Shelton

Sample Control & Measurements Lead

c: Don McGee



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
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Customer:

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Charlotte, NC 28285
Attn: John McGehee

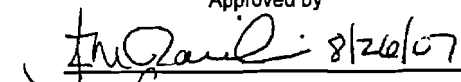
Product FE-55**Report Date** 08/24/07**Receipt Date** 06/19/07

LSN	Client ID & Description	Reference	Analysis	Nuclide	Activity Concentration	TPU	Measured	Required	Reporting
		Date	Date		+/- 2-Sigma	1 Sigma	MDC	MDC	
(pCi/g)									
Soil									
L12564-01	E4024 101C1 DF1R1-1	05/31/2007	08/17/2007	Fe-55	-1.8E+00 +/- 5.2E+00	2.6E+00	8.8E+00	2.0E+01	
L12564-02	E4024 101C1 SP1R1-1	05/31/2007	08/17/2007	Fe-55	-4.8E+00 +/- 3.7E+00	1.9E+00	6.4E+00	2.0E+01	
L12564-04	E4024 101C1 SP1R1-1 DUPLICATE	05/31/2007	08/17/2007	Fe-55	-5.3E+00 +/- 5.4E+00	2.7E+00	9.3E+00	2.0E+01	

Flags: a The measured MDC is greater than the required MDC.
b The activity concentration is greater than three times its one sigma counting uncertainty.

c: Don McGee

Approved by


for C.A. Shelton
Sample Control & Measurements Lead

Pu-238, 239/240



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attn: John McGehee

Product PU-238,PU-239/240**Report Date** 10/23/07**Receipt Date** 06/25/07

LSN	Client ID & Description	Reference	Analysis	Nuclide	Activity Concentration	TPU	Measured	Required	Reporting	
		Date	Date		+/- 2-Sigma (pCi/g)	1 Sigma (pCi/g)	MDC (pCi/g)	MDC (pCi/g)		Flags
Soil										
L12564-01	E4024 101C1 DF1R1-1	05/31/2007	08/14/2007	Pu-238	0E+00 +/- 2.8E-04	1.4E-04	2.3E-02	1.0E-01		
L12564-01	E4024 101C1 DF1R1-1	05/31/2007	08/14/2007	Pu-239/240	-6E-04 +/- 1.3E-03	6.3E-04	3.0E-02	1.0E-01		
L12564-02	E4024 101C1 SP1R1-1	05/31/2007	08/14/2007	Pu-238	6E-03 +/- 2.1E-02	1.0E-02	5.0E-02	1.0E-01		
L12564-02	E4024 101C1 SP1R1-1	05/31/2007	08/14/2007	Pu-239/240	5E-03 +/- 2.1E-02	1.1E-02	5.4E-02	1.0E-01		
L12564-03	E4024 101C1 DF1R1-1 MATRIX SPIKE	05/31/2007	08/16/2007	Pu-238	1.1E-03 +/- 2.2E-03	1.1E-03	3.0E-03	1.0E-01		
L12564-03	E4024 101C1 DF1R1-1 MATRIX SPIKE	05/31/2007	08/16/2007	Pu-239/240	2.48E+00 +/- 1.3E-01	6.6E-02	3.0E-03	1.0E-01	b	

Flags:

- a The measured MDC is greater than the required MDC.
b The activity concentration is greater than three times its one sigma counting uncertainty.

c: Don McGee

Approved by

C.A. Shelton

Sample Control & Measurements Lead



Environmental Laboratory Analysis Report

29 Research Drive
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Customer

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AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attn: John McGehee

Product PU-238,PU-239/240**Report Date** 11/04/07**Receipt Date** 06/19/07

LSN	Client ID & Description	Reference	Analysis	Nuclide	Activity Concentration		TPU	Measured	Required	Reporting
		Date	Date		+/-	2-Sigma	1 Sigma	MDC	MDC	
<u>Soil</u>										
L12564-04	E4024 101C1 SP1R1-1 DUPLICATE	05/31/2007	08/15/2007	Pu-238	0E+00	+/- 6.3E-04	3.2E-04	5.5E-02	1.0E-01	
L12564-04	E4024 101C1 SP1R1-1 DUPLICATE	05/31/2007	08/15/2007	Pu-239/240	-1E-03	+/- 2.0E-03	1.0E-03	7.0E-02	1.0E-01	

Flags:

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c: Don McGee

Approved by

C.A. Shelton

Sample Control & Measurements Lead



Environmental Laboratory Analysis Report

29 Research Drive
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Customer

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AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attn: John McGehee

Product PU-238,PU-239/240

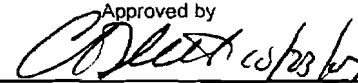
Report Date 10/23/07

Receipt Date 06/19/07

LSN	Client ID & Description	Reference	Analysis	Nuclide	Activity Concentration		TPU 1 Sigma (pCi/L)	Measured MDC (pCi/L)	Required MDC (pCi/L)	Reporting	
		Date	Date		+/-	2-Sigma				Flags	Level Ratio
A Blank											
L12564-07	BLANK	06/19/2007	08/14/2007	Pu-238	-1.9E+00	+/- 2.2E+00	1.1E+00	3.6E+01			
L12564-07	BLANK	06/19/2007	08/14/2007	Pu-239/240	-6E-01	+/- 1.3E+00	6.3E-01	3.1E+01			
Control Spike											
L12564-06	CONTROL SPIKE	06/19/2007	08/16/2007	Pu-238	5.6E+00	+/- 5.6E+00	2.8E+00	3.8E+00			
L12564-06	CONTROL SPIKE	06/19/2007	08/16/2007	Pu-239/240	3.78E+03	+/- 1.9E+02	9.4E+01	1.0E+01		b	

Flags: a The measured MDC is greater than the required MDC.
b The activity concentration is greater than three times its one sigma counting uncertainty.

c: Don McGee

Approved by

C.A. Shelton
Sample Control & Measurements Lead

Pu-241



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attn: John McGehee

Product PU-241

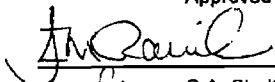
Report Date 11/15/07

Receipt Date 06/19/07

LSN	Client ID & Description	Reference Date	Analysis Date	Nuclide	Activity Concentration +/- 2-Sigma (pCi/L)	TPU 1 Sigma (pCi/L)	Measured MDC (pCi/L)	Required MDC (pCi/L)	Reporting Flags Level Ratio
Control Spike									
L12564-06	CONTROL SPIKE	06/19/2007	11/05/2007	Pu-241	1E+04 +/- 2.0E+03	1.0E+03	2.1E+03	5.0E+03	b

Flags: a The measured MDC is greater than the required MDC.
b The activity concentration is greater than three times its one sigma counting uncertainty.

c: Don McGee

Approved by

for C.A. Shelton
Sample Control & Measurements Lead



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attn: John McGehee

Product PU-241

Report Date 11/08/07

Receipt Date 06/25/07

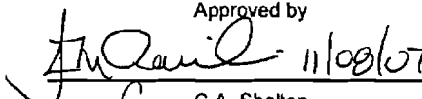
LSN	Client ID & Description	Reference Date	Analysis Date	Nuclide	Activity Concentration +/- 2-Sigma (pCi/g)	TPU 1 Sigma (pCi/g)	Measured MDC (pCi/g)	Required MDC (pCi/g)	Reporting Flags Level Ratio
Soil									
L12564-01	E4024 101C1 DF1R1-1	05/31/2007	11/04/0007	Pu-241	-5E-01 +/- 1.4E+00	7.1E-01	2.3E+00	5.0E+00	
L12564-02	E4024 101C1 SP1R1-1	05/31/2007	11/04/0007	Pu-241	-1.5E+00 +/- 1.4E+00	6.9E-01	2.3E+00	5.0E+00	
L12564-03	E4024 101C1 DF1R1-1 MATRIX SPIKE	05/31/2007	11/04/0007	Pu-241	8.4E+00 +/- 1.7E+00	8.5E-01	1.8E+00	5.0E+00	b
L12564-04	E4024 101C1 SP1R1-1 DUPLICATE	05/31/2007	11/04/0007	Pu-241	1E-01 +/- 1.1E+00	5.3E-01	1.7E+00	5.0E+00	

Flags:

- a The measured MDC is greater than the required MDC.
- b The activity concentration is greater than three times its one sigma counting uncertainty.

c: Don McGee

Approved by


C.A. Shelton
Sample Control & Measurements Lead



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer

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AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attn: John McGehee

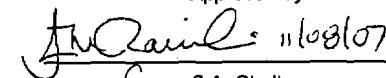
Product PU-241**Report Date** 11/08/07**Receipt Date** 06/19/07

LSN	Client ID & Description	Reference	Analysis	Nuclide	Activity Concentration	TPU	Measured	Required	Reporting
		Date	Date		+/- 2-Sigma (pCi/L)	1 Sigma (pCi/L)	MDC (pCi/L)	MDC (pCi/L)	
A Blank									
L12564-07	BLANK	06/19/2007	11/07/0007	Pu-241	5E+02 +/- 1.9E+03	9.3E+02	3.0E+03		

Flags: a The measured MDC is greater than the required MDC.
b The activity concentration is greater than three times its one sigma counting uncertainty.

c: Don McGee

Approved by

 11/08/07

for C.A. Shelton
Sample Control & Measurements Lead

Sr-89,90



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer

AREVA NP Inc.
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attn: John McGehee

Product SR-89, SR-90**Report Date** 11/05/07**Receipt Date** 06/25/07

LSN	Client ID & Description	Reference	Analysis	Nuclide	Activity Concentration		TPU	Measured	Required	Reporting
		Date	Date		+/- 2-Sigma	1 Sigma	MDC	MDC	Flags	
Soil										
L12564-03	E4024 101C1 DF1R1-1 MATRIX SPIKE	05/31/2007	11/02/2007	Sr-90	8.01E-01	+/- 8.3E-02	6.5E-02	9.6E-02	1.2E-01	b

Flags:

- a The measured MDC is greater than the required MDC.
- b The activity concentration is greater than three times its one sigma counting uncertainty.

c: Don McGee

Approved by

C.A. Shelton

Sample Control & Measurements Lead



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
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AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attn: John McGehee

Product SR-89, SR-90**Report Date** 11/02/07**Receipt Date** 06/19/07

LSN	Client ID & Description	Reference	Analysis	Nuclide	Activity Concentration	TPU	Measured	Required	Reporting
		Date	Date		+/- 2-Sigma (pCi/g)	1 Sigma (pCi/g)	MDC (pCi/g)	MDC (pCi/g)	
Soil									
L12564-01	E4024 101C1 DF1R1-1	05/31/2007	10/30/2007	Sr-90	2E-02 +/- 5.2E-02	2.6E-02	8.6E-02	1.2E-01	
L12564-02	E4024 101C1 SP1R1-1	05/31/2007	10/30/2007	Sr-90	0E+00 +/- 4.0E-02	2.0E-02	6.7E-02	1.2E-01	
L12564-04	E4024 101C1 SP1R1-1 DUPLICATE	05/31/2007	10/26/2007	Sr-90	0E+00 +/- 5.7E-02	2.9E-02	9.6E-02	1.2E-01	

Flags:
a The measured MDC is greater than the required MDC.
b The activity concentration is greater than three times its one sigma counting uncertainty.

c: Don McGee

Approved by

for C.A. Shelton
Sample Control & Measurements Lead



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer

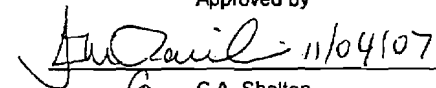
AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attn: John McGehee

Product SR-89, SR-90**Report Date** 11/02/07**Receipt Date** 06/19/07

LSN	Client ID & Description	Reference	Analysis	Nuclide	Activity Concentration	TPU	Measured	Required	Reporting	
		Date	Date		+/- 2-Sigma (pCi/L)	1 Sigma (pCi/L)	MDC (pCi/L)	MDC (pCi/L)		
A Blank										
L12564-07	BLANK	06/19/2007	10/20/2007	Sr-89	9E+02 +/- 4.5E+03	2.3E+03	8.9E+03			
L12564-07	BLANK	06/19/2007	10/26/2007	Sr-90	-2E+01 +/- 1.4E+02	6.8E+01	2.4E+02			
Control Spike										
L12564-06	CONTROL SPIKE	06/19/2007	10/20/2007	Sr-89	-3E+02 +/- 3.9E+03	1.9E+03	7.9E+03	1.0E+01	a	
L12564-06	CONTROL SPIKE	06/19/2007	10/26/2007	Sr-90	1.32E+03 +/- 8.5E+01	9.2E+01	7.1E+01	2.0E+00	ab	

Flags: a The measured MDC is greater than the required MDC.
b The activity concentration is greater than three times its one sigma counting uncertainty.

Approved by


C.A. Shelton

Sample Control & Measurements Lead

c: Don McGee

Th-230, 232



Environmental Laboratory Analysis Report
29 Research Drive
Westboro, MA 01581
508-573-8650

Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285

Product TH-230, TH-232

Report Date 11/15/07
Receipt Date 06/19/07

Attention: John McGehee

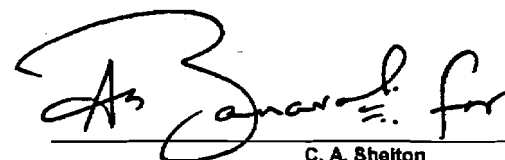
LSN	Client ID & Description	Reference Date	Analysis Date	Nuclide	Activity Concentration ± 2-Sigma (pCi/g)	TPU 1-Sigma (pCi/g)	Measured MDC (pCi/g)	Required MDC (pCi/g)	Flags	Reporting Level Ratio
<u>Soil</u>										
L12564-01	E4024 101C1 DF1R1-1	05/31/07	10/20/07	Th-228	1.4E+00 ± 2.8E+00	1.4E+00	4.6E+00	1.0E-01		
L12564-01	E4024 101C1 DF1R1-1	05/31/07	10/20/07	Th-230	6.85E+00 ± 8.1E-01	5.1E-01	3.5E-01	1.0E-01	b	
L12564-01	E4024 101C1 DF1R1-1	05/31/07	10/20/07	Th-232	2.98E+00 ± 5.2E-01	2.9E-01	1.2E-01	1.0E-01	b	
L12564-02	E4024 101C1 SP1R1-1	05/31/07	10/22/07	Th-228	6.5E-01 ± 3.1E-01	1.6E-01	5.1E-01	1.0E-01	b	
L12564-02	E4024 101C1 SP1R1-1	05/31/07	10/22/07	Th-230	6.14E-01 ± 4.0E-02	2.9E-02	1.9E-02	1.0E-01	b	
L12564-02	E4024 101C1 SP1R1-1	05/31/07	10/22/07	Th-232	8.76E-01 ± 4.6E-02	3.8E-02	4.5E+00	1.0E-01	b	
L12564-03	E4024 101C1 DF1R1-1 Matrix Spike	05/31/07	11/10/07	Th-228	5E-01 ± 1.3E+00	6.7E-01	2.2E+00	1.0E-01		
L12564-03	E4024 101C1 DF1R1-1 Matrix Spike	05/31/07	11/10/07	Th-230	4.083E+01 ± 8.6E-01	1.6E+00	1.1E-01	1.0E-01	b	
L12564-03	E4024 101C1 DF1R1-1 Matrix Spike	05/31/07	11/10/07	Th-232	1.13E+00 ± 1.4E-01	8.3E-02	2.6E-02	1.0E-01	b	
L12564-04	E4024 101C1 SP1R1-1 DUP	05/31/07	10/22/07	Th-228	5.3E-01 ± 2.7E-01	1.4E-01	4.5E-01	1.0E-01	b	
L12564-04	E4024 101C1 SP1R1-1 DUP	05/31/07	10/22/07	Th-230	5.41E-01 ± 3.5E-02	2.5E-02	1.8E-02	1.0E-01	b	
L12564-04	E4024 101C1 SP1R1-1 DUP	05/31/07	10/22/07	Th-232	7.88E-01 ± 4.0E-02	3.4E-02	7.0E+00	1.0E-01	b	

Flags: a. The measured MDC is greater than the required MDC.
b. The activity concentration is greater than three times its one-sigma counting uncertainty.

Approved by

 11/15/07

J. M. Raimondi
Laboratory Manager

 for 11/16/07

C. A. Shelton
Sample Control and Measurements Lead



Environmental Laboratory Analysis Report
29 Research Drive
Westboro, MA 01581
508-573-6650

Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attention: John McGehee

Product TH-230, TH-232

Report Date 11/15/07
Receipt Date 06/19/07

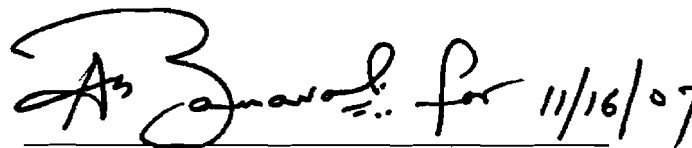
LSN	Client ID & Description	Reference Date	Analysis Date	Nuclide	Activity Concentration ± 2-Sigma (pCi/L)	TPU 1-Sigma (pCi/L)	Measured MDC (pCi/L)	Required MDC (pCi/L)	Flags	Reporting Level Ratio
<u>Control Spike</u>										
L12564-08	Control Spike	06/19/07	10/22/07	Th-228	1E-01 ± 1.5E+00	7.3E-01	2.4E+00			
L12564-06	Control Spike	06/19/07	10/22/07	Th-230	2.027E+01 ± 5.1E-01	7.5E-01	1.0E-01		b	
L12564-06	Control Spike	06/19/07	10/22/07	Th-232	2.77E-01 ± 6.0E-02	3.1E-02	2.7E-02		b	

Flags: a The measured MDC is greater than the required MDC.
b The activity concentration is greater than three times its one-sigma counting uncertainty.

Approved by



J. M. Raimondi
Laboratory Manager



C. A. Shelton
Sample Control and Measurements Lead



Environmental Laboratory Analysis Report
29 Research Drive
Westboro, MA 01581
508-573-8650

Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attention: John McGehee

Product TH-230, TH-232

Report Date 11/15/07
Receipt Date 06/19/07

LSN	Client ID & Description	Reference Date	Analysis Date	Nuclide	Activity Concentration ± 2-Sigma (pCi/L)	TPU 1-Sigma (pCi/L)	Measured MDC (pCi/L)	Required MDC (pCi/L)	Flags	Reporting Level Ratio
<u>A. Blank</u>										
L12564-07	BLANK	06/19/07	10/22/07	Th-228	-2.4E+01 ± 1.3E+01	6.3E+00	3.3E+01			
L12564-07	BLANK	06/19/07	10/22/07	Th-230	-7E+00 ± 1.7E+01	8.4E+00	3.4E+01			
L12564-07	BLANK	06/19/07	10/22/07	Th-232	-1.2E+00 ± 1.4E+00	6.9E-01	9.0E+00			

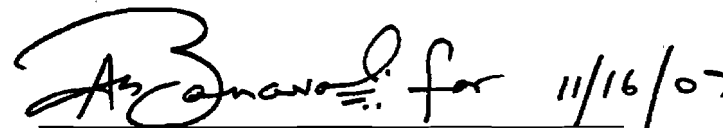
Flags:

- a The measured MDC is greater than the required MDC.
b The activity concentration is greater than three times its one-sigma counting uncertainty.

Approved by



J. M. Raimondi
Laboratory Manager

 for 11/16/07

C. A. Shelton
Sample Control and Measurements Lead

Page 1 of 1

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U-234,

U-235,

U-238



Environmental Laboratory Analysis Report

29 Research Drive
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508-573-6650

Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attn: John McGehee

Product U-234, U-235, U-238

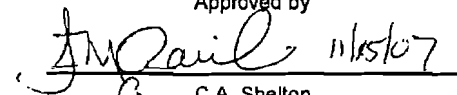
Report Date 11/15/07

Receipt Date 06/25/07

LSN	Client ID & Description	Reference	Analysis	Nuclide	Activity Concentration	TPU	Measured	Required	Reporting	
		Date	Date		+/- 2-Sigma (pCi/g)	1 Sigma (pCi/g)	MDC (pCi/g)	MDC (pCi/g)		Flags Level Ratio
Soil										
L12564-01	E4024 101C1 DF1R1-1	05/31/2007	11/10/2007	U-234	1.47E+00 +/- 2.1E-01	1.2E-01	5.2E-02	1.0E-01	b	
L12564-01	E4024 101C1 DF1R1-1	05/31/2007	11/10/2007	U-235	1.22E-01 +/- 7.5E-02	3.8E-02	8.0E-02	1.0E-01	b	
L12564-01	E4024 101C1 DF1R1-1	05/31/2007	11/10/2007	U-238	1.37E+00 +/- 2.1E-01	1.1E-01	7.0E-02	1.0E-01	b	
L12564-02	E4024 101C1 SP1R1-1	05/31/2007	10/20/2007	U-234	1.26E+00 +/- 1.0E-01	7.2E-02	9.8E-03	1.0E-01	b	
L12564-02	E4024 101C1 SP1R1-1	05/31/2007	10/20/2007	U-235	6.2E-02 +/- 2.3E-02	1.2E-02	9.3E-03	1.0E-01	b	
L12564-02	E4024 101C1 SP1R1-1	05/31/2007	10/20/2007	U-238	1.28E+00 +/- 1.0E-01	7.2E-02	1.1E-02	1.0E-01	b	
L12564-03	E4024 101C1 DF1R1-1 MATRIX SPIKE	05/31/2007	11/10/2007	U-234	2.122E+01 +/- 5.1E-01	7.9E-01	5.0E-02	1.0E-01	b	
L12564-03	E4024 101C1 DF1R1-1 MATRIX SPIKE	05/31/2007	11/10/2007	U-235	9.9E-01 +/- 1.2E-01	6.8E-02	3.3E-02	1.0E-01	b	
L12564-03	E4024 101C1 DF1R1-1 MATRIX SPIKE	05/31/2007	11/10/2007	U-238	2.119E+01 +/- 5.1E-01	7.9E-01	4.7E-02	1.0E-01	b	
L12564-04	E4024 101C1 SP1R1-1 DUPLICATE	05/31/2007	10/20/2007	U-234	9.93E-01 +/- 8.0E-02	5.6E-02	1.3E-02	1.0E-01	b	
L12564-04	E4024 101C1 SP1R1-1 DUPLICATE	05/31/2007	10/20/2007	U-235	7E-02 +/- 2.4E-02	1.2E-02	1.1E-02	1.0E-01	b	
L12564-04	E4024 101C1 SP1R1-1 DUPLICATE	05/31/2007	10/20/2007	U-238	9.14E-01 +/- 7.7E-02	5.3E-02	8.0E-03	1.0E-01	b	

Flags: a The measured MDC is greater than the required MDC.
b The activity concentration is greater than three times its one sigma counting uncertainty.

c: Don McGee

Approved by

for C.A. Shelton
Sample Control & Measurements Lead



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attn: John McGehee

Product U-234, U-235, U-238

Report Date 11/15/07
Receipt Date 06/19/07

LSN	Client ID & Description	Reference Date	Analysis Date	Nuclide	Activity Concentration +/- 2-Sigma (pCi/L)	TPU 1 Sigma (pCi/L)	Measured MDC (pCi/L)	Required MDC (pCi/L)	Reporting Flags Level Ratio
A Blank									
L12564-07	BLANK	06/19/2007	10/20/2007	U-234	1.4E+01 +/- 1.9E+01	9.6E+00	1.8E+01	1.0E+00	a
L12564-07	BLANK	06/19/2007	10/20/2007	U-235	-6E-02 +/- 3.5E-01	1.8E-01	2.5E+01	1.0E+00	a
L12564-07	BLANK	06/19/2007	10/20/2007	U-238	-9E-01 +/- 1.3E+00	6.4E-01	2.7E+01	1.0E+00	a
Control Spike									
L12564-06	CONTROL SPIKE	06/19/2007	10/20/2007	U-234	9.19E+03 +/- 5.4E+02	4.5E+02	5.6E+01	1.0E+00	ab
L12564-06	CONTROL SPIKE	06/19/2007	10/20/2007	U-235	4.1E+02 +/- 1.2E+02	6.2E+01	5.2E+01	1.0E+00	ab
L12564-06	CONTROL SPIKE	06/19/2007	10/20/2007	U-238	1.016E+04 +/- 5.7E+02	4.9E+02	4.4E+01	1.0E+00	ab

Flags: a The measured MDC is greater than the required MDC.

b The activity concentration is greater than three times its one sigma counting uncertainty.

c: Don McGee

Approved by

[Signature] 11/15/07

for C.A. Shelton

Sample Control & Measurements Lead

Survey Package Appendix C – Survey Results

Survey Package: E4024 10121

Package: System

Survey Area Name: SETF Drains and Waste Storage Systems

Survey Unit Name: Liquid Waste, Floor Drains, and Solid Waste Storage

Sample Analysis Results – Supplemental
13 Pages

H-3



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attn: John McGehee

Product H-3**Report Date** 10/26/07**Receipt Date** 06/25/07

LSN	Client ID & Description	Reference	Analysis	Nuclide	Activity Concentration	TPU	Measured	Required	Reporting	
		Date	Date		+/- 2-Sigma (pCi/g)	1 Sigma (pCi/g)	MDC (pCi/g)	MDC (pCi/g)		
Soil										
L12564-01	E4024 101C1 DF1R1-1	05/31/2007	10/17/2007	H-3	-6E-02 +/- 8.4E-01	4.2E-01	1.2E+00	2.3E+00		
L12564-02	E4024 101C1 SP1R1-1	05/31/2007	10/17/2007	H-3	-1.3E-01 +/- 6.4E-01	3.2E-01	9.6E-01	2.3E+00		
L12564-03	E4024 101C1 DF1R1-1 MATRIX SPIKE	05/31/2007	10/17/2007	H-3	3.67E+01 +/- 1.5E+00	1.2E+00	1.5E+00	2.3E+00	b	
L12564-04	E4024 101C1 SP1R1-1 DUPLICATE	05/31/2007	10/18/2007	H-3	-2.4E-01 +/- 6.4E-01	3.2E-01	9.5E-01	2.3E+00		

Flags:

- a The measured MDC is greater than the required MDC.
b The activity concentration is greater than three times its one sigma counting uncertainty.

Approved by

[Signature] 10/26/07
for C.A. Shelton
Sample Control & Measurements Lead

c: Don McGee



Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attn: John McGehee

Product H-3**Report Date** 10/26/07**Receipt Date** 06/19/07

LSN	Client ID & Description	Reference	Analysis	Nuclide	Activity Concentration		TPU 1 Sigma (pCi/L)	Measured MDC (pCi/L)	Required MDC (pCi/L)	Reporting	
		Date	Date		+/-	2-Sigma (pCi/L)				Flags	Level Ratio
A Blank											
L12564-07	BLANK	06/19/2007	10/17/2007	H-3	-2.9E+02	+/- 4.0E+02	2.0E+02	5.9E+02	2.0E+03		
Control Spike											
L12564-06	CONTROL SPIKE	06/19/2007	10/18/2007	H-3	2.95E+03	+/- 4.4E+02	2.3E+02	5.7E+02	2.0E+03	b	

Flags:

- a The measured MDC is greater than the required MDC.
- b The activity concentration is greater than three times its one sigma counting uncertainty.

c: Don McGee

Approved by

for C.A. Shelton 10/26/07
C.A. Shelton
Sample Control & Measurements Lead

Ni-59



Environmental Laboratory Analysis Report
29 Research Drive
Westboro, MA 01581
508-573-6650

Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285

Attention: Don McGee

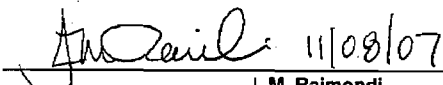
Product Ni-59

Report Date 11/07/07
Receipt Date 06/19/07

LSN	Client ID & Description	Reference Date	Analysis Date	Nuclide	Activity Concentration ± 2-Sigma (pCi/g)	TPU 1-Sigma (pCi/g)	Measured MDC (pCi/g)	Required MDC (pCi/g)	Flags	Reporting Level Ratio
<u>Soil</u>										
L12564-01	E4024 101C1 DF1R1-1	05/31/07	10/22/07	Ni-59	-5.6E+02 ± 8.0E+02	4.0E+02	1.5E+03	2.0E+03		
L12564-02	E4024 101C1 SP1R1-1	05/31/07	10/22/07	Ni-59	1.5E+02 ± 7.4E+02	3.7E+02	1.2E+03	2.0E+03		
L12564-04	E4024 101C1 SP1R1-1 DUP	05/31/07	10/22/07	Ni-59	-5.3E+02 ± 7.8E+02	3.9E+02	1.4E+03	2.0E+03		

Flags: a The measured MDC is greater than the required MDC.
b The activity concentration is greater than three times its one-sigma counting uncertainty.

Approved by


J. M. Raimondi
Laboratory Manager


C. A. Shelton
Sample Control and Measurements Lead

Page 1 of 1

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Environmental Laboratory Analysis Report
29 Research Drive
Westboro, MA 01581
508-573-6650

Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285

Product NI-59

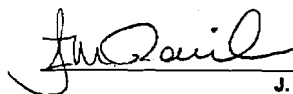
Report Date 08/23/07
Receipt Date 06/19/07

Attention: John McGehee

LSN	Client ID & Description	Reference Date	Analysis Date	Nuclide	Activity Concentration ± 2-Sigma (pCi/g)	TPU 1-Sigma (pCi/g)	Measured MDC (pCi/g)	Required MDC (pCi/g)	Flags	Reporting Level Ratio
<u>Soil</u>										
L12564-01	E4024 101C1 DF1R1-1	05/31/07	08/16/07	NI-59	-1.2E+02 ± 7.6E+02	3.8E+02	1.3E+03	2.0E+03		
L12564-02	E4024 101C1 SP1R1-1	05/31/07	08/17/07	NI-59	-3.6E+02 ± 6.8E+02	3.4E+02	1.2E+03	2.0E+03		
L12564-04	E4024 101C1 SP1R1-1 DUP	05/31/07	08/17/07	NI-59	-3.1E+02 ± 7.2E+02	3.6E+02	1.3E+03	2.0E+03		

Flags: a The measured MDC is greater than the required MDC.
b The activity concentration is greater than three times its one-sigma counting uncertainty.

Approved by

 8/26/07

J. M. Raimondi
Laboratory Manager

 8/27/07

C. A. Shelton
Sample Control and Measurements Lead

Page 1 of 1

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508-573-6650

Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285

Product Ni-59

Report Date 11/07/07
Receipt Date 06/19/07

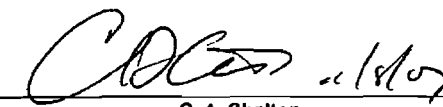
Attention: Don McGee

LSN	Client ID & Description	Reference Date	Analysis Date	Nuclide	Activity Concentration ± 2-Sigma (pCi/L)	TPU 1-Sigma (pCi/L)	Measured MDC (pCi/L)	Required MDC (pCi/L)	Flags	Reporting Level Ratio
A. Blank										
L12564-07	BLANK	06/19/07	10/22/07	Ni-59	3.4E+05 ± 8.8E+05	4.4E+05	1.4E+06	2.0E+06		

Flags: a The measured MDC is greater than the required MDC.
b The activity concentration is greater than three times its one-sigma counting uncertainty.

Approved by

 11/08/07
J. M. Raimondi
Laboratory Manager

 11/07/07
C. A. Shelton
Sample Control and Measurements Lead

Page 1 of 1

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Westboro, MA 01581
508-573-6650

Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285

Attention: John McGehee

Product Ni-59

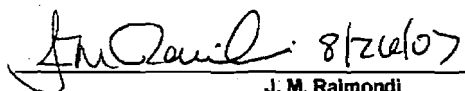
Report Date 08/23/07
Receipt Date 06/19/07

LSN	Client ID & Description	Reference Date	Analysis Date	Nuclide	Activity Concentration $\pm$ 2-Sigma (pCi/L)	TPU 1-Sigma (pCi/L)	Measured MDC (pCi/L)	Required MDC (pCi/L)	Flags	Reporting Level Ratio
<u>A. Blank</u>										
L12564-07	BLANK	06/19/07	08/17/07	06/19/07	-2.3E+02 $\pm$ 8.8E+02	4.4E+02	1.5E+03			

Flags:

- a The measured MDC is greater than the required MDC.
- b The activity concentration is greater than three times its one-sigma counting uncertainty.

Approved by



J. M. Raimondi
Laboratory Manager



C. A. Shelton
Sample Control and Measurements Lead

Page 1 of 1

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Ni-63



Environmental Laboratory Analysis Report

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Westboro, MA 01581
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Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attention: Don McGee

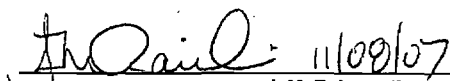
Product Ni-63

Report Date 11/07/07
Receipt Date 06/19/07

LSN	Client ID & Description	Reference Date	Analysis Date	Nuclide	Activity Concentration ± 2-Sigma (pCi/g)	TPU 1-Sigma (pCi/g)	Measured MDC (pCi/g)	Required MDC (pCi/g)	Flags	Reporting Level Ratio
Soil										
L12564-01	E4024 101C1 DF1R1-1	05/31/07	10/23/07	Ni-63	1.0E+00 ± 5.4E+00	2.7E+00	8.7E+00	1.5E+01		
L12564-02	E4024 101C1 SP1R1-1	05/31/07	10/23/07	Ni-63	-1.0E+00 ± 5.2E+00	2.6E+00	8.6E+00	1.5E+01		
L12564-03	E4024 101C1 DF1R1-1 MS	05/31/07	10/23/07	Ni-63	1.38E+02 ± 2.4E+01	1.2E+01	8.4E+00	1.5E+01	b	
L12564-04	E4024 101C1 SP1R1-1 DUP	05/31/07	10/23/07	Ni-63	-5E-01 ± 5.0E+00	2.5E+00	8.2E+00	1.5E+01		

Flags: a The measured MDC is greater than the required MDC.
b The activity concentration is greater than three times its one-sigma counting uncertainty.

Approved by


J. M. Raimondi
Laboratory Manager


C. A. Shelton
Sample Control and Measurements Lead

Page 1 of 1

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Environmental Laboratory Analysis Report

29 Research Drive
Westboro, MA 01581
508-573-6650

Customer:

AREVA NP, Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285

Product: Ni-63**Report Date:** 11/07/07**Receipt Date:** 06/19/07**Attention:** Don McGee

LSN	Client ID & Description	Reference Date	Analysis Date	Nuclide	Activity Concentration ± 2-Sigma (pCi/L)	TPU 1-Sigma (pCi/L)	Measured MDC (pCi/L)	Required MDC (pCi/L)	Flags	Reporting Level Ratio
Control Spike										
L12564-06	LCS	06/19/07	10/23/07	Ni-63	1.33E+06 ± 2.2E+05	1.1E+05	1.0E+04	1.5E+04	b	
A Blank										
L12564-07	Blank	06/19/07	10/23/07	Ni-63	-1.4E+03 ± 5.0E+03	2.5E+03	8.4E+03	1.5E+04		

Flags:

- a The measured MDC is greater than the required MDC.
b The activity concentration is greater than three times its one-sigma counting uncertainty.

Approved by

J. M. Raimondi
Laboratory Manager

C. A. Shelton
Sample Control and Measurements Lead

Page 1 of 1

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Customer

AREVA NP Inc
AREVA NP Federal D&D Group
400 South Tryon Street
Charlotte, NC 28285
Attention: John McGehee

Product Ni-63

Report Date 08/29/07
Receipt Date 06/19/07

LSN	Client ID & Description	Reference Date	Analysis Date	Nuclide	Activity Concentration ± 2-Sigma (pCi/g)	TPU 1-Sigma (pCi/g)	Measured MDC (pCi/g)	Required MDC (pCi/g)	Flags	Reporting Level Ratio
Soli										
L12564-01	E4024 101C1 DF1R1-1	05/31/07	08/17/07	Ni-63	-1E-01 ± 2.4E+00	1.2E+00	4.0E+00	1.5E+01		
L12564-02	E4024 101C1 SP1R1-1	05/31/07	08/17/07	Ni-63	6E-01 ± 2.6E+00	1.3E+00	4.1E+00	1.5E+01		
L12564-04	E4024 101C1 SP1R1-1 DUP	05/31/07	08/17/07	Ni-63	-1.0E+00 ± 2.4E+00	1.2E+00	4.1E+00	1.5E+01		

Flags: a The measured MDC is greater than the required MDC.
b The activity concentration is greater than three times its one-sigma counting uncertainty.

Approved by


J. M. Raimondi

Laboratory Manager


C. A. Shelton

Sample Control and Measurements Lead

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Results are only applicable to the sample as received at the laboratory. Report should not be reproduced unless in its entirety.



Environmental Laboratory Analysis Report
29 Research Drive
Westboro, MA 01581
508-573-6650

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400 South Tryon Street
Charlotte, NC 28285

Attention: John McGehee

Product NI-63

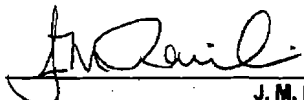
Report Date 08/23/07
Receipt Date 06/19/07

LSN	Client ID & Description	Reference Date	Analysis Date	Nuclide	Activity Concentration ± 2-Sigma (pCi/L)	TPU 1-Sigma (pCi/L)	Measured MDC (pCi/L)	Required MDC (pCi/L)	Flags	Reporting Level Ratio
<u>A. Blank</u> L12564-07	BLANK	06/19/07	08/17/07	06/19/07	3.8E+00 ± 3.6E+00	1.8E+00	5.8E+00			

Flags:

- a The measured MDC is greater than the required MDC.
- b The activity concentration is greater than three times its one-sigma counting uncertainty.

Approved by


J. M. Raimondi
Laboratory Manager


C. A. Shelton
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