



Westinghouse Electric Company
Nuclear Fuel
Columbia Fuel Fabrication Facility
5801 Bluff Road
Hopkins, South Carolina 29061
USA

SCDHEC, BLWM
Kim Kuhn
2600 Bull Street
Columbia, SC 29201

Direct tel: 803.647.1920
Direct fax: 803.695.3964
e-mail: joynerdp@westinghouse.com
Your ref:
Our ref: LTR-RAC-20-54

June 15, 2020

Subject: May 2020 CA Progress Report

Ms. Kuhn:

In accordance with Item 19 of Consent Agreement (CA) 19-02-HW, this progress report is being submitted to you, including the following requested information:

- (a) a brief description of the actions which Westinghouse has taken toward achieving compliance with the Consent Agreement during the previous month;
- (b) results of sampling and tests, in tabular summary format received by Westinghouse during the reporting period;
- (c) a brief description of all actions which are scheduled for the next month to achieve compliance with the Consent Agreement, and other information relating to the progress of the work as deemed necessary or requested by the Department; and
- (d) information regarding the percentage of work completed and any delays encountered or anticipated that may affect the approved schedule for implementation of the terms of the Consent Agreement, and a description of efforts made to mitigate delays or avoid anticipated delays.

In response to the above requirements, the following is being reported to the Department since the last progress report on **May 12, 2020**:

- (a) Actions during the previous month:
Westinghouse began implementation of the Final Remedial Investigation (RI) Work Plan on 6/10/19. To comply with **Item 4** of the CA, the following actions were completed this month.
 - Hosted a webinar on May 28, 2020 to discuss SCDHEC comments on the Interim RI Data Summary Report
 - Began preparing the report for the Tc-99 Source Investigation Work Plan Results - Phase I and Phase II

- Completed the following activities to support the Southern Storage Area (SSA) Operable Unit (OU) Work Plan:
 - Continued wet combustible material (WCM) drum removal from 3 intermodal containers (C-41, C-56, and C-23) that have been on hold. Drums potentially containing perchloroethylene were segregated and stored.
 - Intermodal container **C-41** was safely emptied of its contents on 5/14/2020.
 - Intermodal container **C-56** was safely emptied of its contents on 5/22/2020.
 - One sheet of plywood was removed from the floor of **C-56** and sampled. This plywood was from a secondary flooring added to the sealand. There is no evidence that any material penetrated this layer of plywood to the primary flooring. Bias sampling will be performed in the area once the sealand is removed.
 - Intermodal container **C-23**, was safely emptied of its contents on 6/2/2020.
 - Two sections of contaminated flooring were identified in **C-23**. The contaminated sections were painted over to “fix” the material in place so that it could not be transferred to other locations.
 - Four (4) of the original eleven (11) intermodal containers have been emptied since April 14, 2020.

(b) Results of sampling and tests:

- Tabulated results of Tc-99 Source Investigation Work Plan- Phase II are included in Attachment A. The associated laboratory report is included as Attachment B.

(c) Brief description of all actions which are scheduled for the next month:

- In accordance with **Item 4** of the CA, Westinghouse will continue to implement the Work Plan to include the following actions:
 - Host a webinar to discuss and propose the scope for the RI Phase II Work Plan
 - Submit an assessment report of the Tc-99 Source Investigation Work Plan Results - Phase I and Phase II
 - Based on discussion with DHEC, progress on removal of the sealands will continue to be submitted in the required monthly reports, and a consolidated report will be issued upon completion of the project.
 - Continue WCM drum removal from the 7 remaining intermodal containers; segregate and store drums potentially containing perchloroethylene
 - Submit data from the Hydrofluoric Acid Spiking Station #1 (HFSS#1) Soil Sampling conducted May 4-6, 2020 in accordance with the approved work plan submitted in LTR-RAC-20-31.

(d) Percentage of work completed and any delays encountered or anticipated:

- Assessment activities identified in the Final Remedial Investigation Work Plan and associated addendums have been completed, with a summary report submitted.

Respectfully,



Diana P. Joyner
Principal Environmental Engineer
Westinghouse Electric Company, CFFF
803.497.7062 (m)

Cc: N. Parr, Environmental Manager
J. Ferguson, EH&S Manager
J. Grant, AECOM Project Manager
ENOVIA Records

Attachment A

Tc-99 Source Investigation, Phase II Results - Tabulated

Sampling Event: **Tc-99 Investigation Phase 2-Liquid** Total Sample Count: **12**

	Analyte (pCi/L)				Calculated Enrichment (%)	SOF Residential	SOF Industrial
	U-234	U-235	U-238	Tc-99			
Minimum Result:	0.1	0.0	0.1	0.0	4.2	0.0	0.0
Average Result:	128,559	5,834	17,931	133.5	5.9	11,906.2	288.6
Maximum Result:	513,000.0	21,700.0	75,100.0	449.0	15.0	47,541.4	1,130.9

#	Sample ID	Gross Analyte Activity (pCi/L)				Calculated Enrichment (%)	SOF Residential	SOF Industrial
		U-234	U-235	U-238	Tc-99			
1	CL-1 Before	513,000	21,700	75,100	58.7	4.30	47,541.4	1,130.9
2	CL-1 After	32,900	1,600	5,480	50.1	4.40	3,124.8	81.6
3	CL-2 Before	282,000	12,900	32,900	449.0	5.80	25,678.4	599.8
4	CL-2 After	96,400	4,200	11,100	73.9	5.60	8,737.1	198.8
5	CL-3 Before	367,000	16,800	50,700	438.0	4.90	33,975.3	824.9
6	CL-3 After	30,900	1,390	4,000	16.4	5.20	2,837.3	67.3
7	CL-4 Before	174,000	9,220	28,300	142.0	4.90	16,566.0	447.1
8	CL-4 After	25,900	1,170	4,190	63.7	4.20	2,441.2	61.2
9	Scrap Cage Monitor Discharge	20,600	1,030	3,400	201.0	4.50	1,966.8	51.6
10	W2	3.9	0.6	0.5	96.0	15.00	5.5	0.0
11	T-19 Ammonia	0.1	0.0	0.1	13.4	---	0.7	0.0
12	T-20 Ammonia	0.2	0.0	0.2	0.0	---	0.0	0.0

Sampling Event: **Tc-99 Investigation Phase 2-Solid** Total Sample Count: **3**

	Analyte (pCi/g)				Calculated Enrichment (%)	SOF Residential	SOF Industrial
	U-234	U-235	U-238	Tc-99			
Minimum Result:	16.3	0.7	2.4	0.5	4.4	1.5	0.0
Average Result:	175,509	7,486	25,070	8.7	4.5	16,227.5	385.0
Maximum Result:	523,000.0	22,300.0	74,700.0	22.1	4.6	48,355.1	1,147.1

#	Sample ID	Gross Analyte Activity (pCi/g)				Calculated Enrichment (%)	SOF Residential	SOF Industrial
		U-234	U-235	U-238	Tc-99			
1	WG-D46035	523,000	22,300	74,700	22.1	4.5	48,355.1	1,147.1
2	Calcium Flouride	16.3	0.7	2.4	0.5	4.4	1.5	0.0
3	Sludge Dewatering D45671	3,510	156	507	3.5	4.6	325.9	7.9

Attachment B

Tc-99 Source Investigation, Phase II- GEL Analytical Results

GEL Analytical Results
Sampling conducted: April 8-9, 2020
GEL Work Order: 510356
Report Date: May 13, 2020



May 13, 2020

Ms. Cynthia Logsdon
Westinghouse Electric Company, LLC
PO Drawer R
Columbia, South Carolina 29205

Re: ENV-CONSENTA-4500778461
Work Order: 510356

Dear Ms. Logsdon:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on April 29, 2020. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

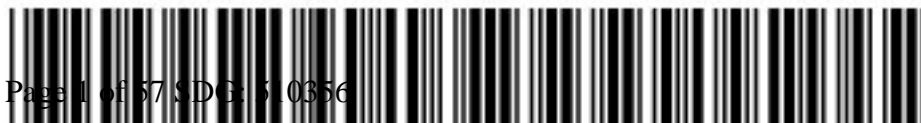
Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4707.

Sincerely,

Nina Gampe for
Katelyn Gray
Project Manager

Purchase Order: 4500775170
Enclosures



GEL LABORATORIES LLC

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

Certificate of Analysis Report for

WNUC009 Westinghouse Electric Co, LLC

Client SDG: 510356 GEL Work Order: 510356

The Qualifiers in this report are defined as follows:

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

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

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Katelyn Gray.



Reviewed by _____

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: May 13, 2020

Company : Westinghouse Electric Company, LLC
Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Logsdon
Project: ENV-CONSENTA-4500778461

Client Sample ID:	CL-1 Before	Project:	WNUC00901
Sample ID:	510356001	Client ID:	WNUC009
Matrix:	Misc Liquid		
Collect Date:	09-APR-20 07:00		
Receive Date:	29-APR-20		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
High Rad Testing													
Alphaspec U, Liquid "As Received"													
Pct Uranium-235		4.29				percent			JXB7	05/12/20	1854	1996515	1
Uranium-233/234		5.13E+05	+/-6850	242	1.00	pCi/L							
Uranium-235/236		21700	+/-1570	88.3	1.00	pCi/L							
Uranium-238		75100	+/-2620	167	1.00	pCi/L							
Liquid Scint Tc99, Liquid "As Received"													
Technetium-99	U	58.7	+/-77.2	130	5.00	pCi/L			AXM6	05/11/20	0853	1993870	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, U-02-RC Modified	
2	DOE EML HASL-300, Tc-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			31.5	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Liquid "As Received"			90.1	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: May 13, 2020

Company : Westinghouse Electric Company, LLC
Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Logsdon
Project: ENV-CONSENTA-4500778461

Client Sample ID: CL-1 After Project: WNUC00901
Sample ID: 510356002 Client ID: WNUC009
Matrix: Misc Liquid
Collect Date: 09-APR-20 07:00
Receive Date: 29-APR-20
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec U, Liquid "As Received"													
Pct Uranium-235		4.34				percent			BXA4	05/02/20	0836	1993987	1
Uranium-233/234		32900	+/-447	25.7	0.500	pCi/L							
Uranium-235/236		1600	+/-110	5.85	0.500	pCi/L							
Uranium-238		5480	+/-183	22.7	0.500	pCi/L							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Liquid "As Received"

Technetium-99	U	50.1	+/-30.8	51.1	5.00	pCi/L		JJ3	05/05/20	1341	1993585	2
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The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, U-02-RC Modified	
2	DOE EML HASL-300, Tc-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			89	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Liquid "As Received"			98.9	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit
MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: May 13, 2020

Company : Westinghouse Electric Company, LLC
Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Logsdon
Project: ENV-CONSENTA-4500778461

Client Sample ID: CL-2 Before Project: WNUC00901
Sample ID: 510356003 Client ID: WNUC009
Matrix: Misc Liquid
Collect Date: 09-APR-20 07:00
Receive Date: 29-APR-20
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec U, Liquid "As Received"													
Pct Uranium-235		5.74				percent			BXA4	05/02/20	0836	1993987	1
Uranium-233/234		2.82E+05	+/-1990	55.6	0.500	pCi/L							
Uranium-235/236		12900	+/-472	13.5	0.500	pCi/L							
Uranium-238		32900	+/-678	27.9	0.500	pCi/L							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Liquid "As Received"

Technetium-99		449	+/-36.6	51.7	5.00	pCi/L		JJ3	05/05/20	1547	1993585	2
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The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, U-02-RC Modified	
2	DOE EML HASL-300, Tc-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			39.3	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Liquid "As Received"			97.4	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit
MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: May 13, 2020

Company : Westinghouse Electric Company, LLC
Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Logsdon
Project: ENV-CONSENTA-4500778461

Client Sample ID: CL-2 After Project: WNUC00901
Sample ID: 510356004 Client ID: WNUC009
Matrix: Misc Liquid
Collect Date: 09-APR-20 07:00
Receive Date: 29-APR-20
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec U, Liquid "As Received"													
Pct Uranium-235		5.54				percent			BXA4	05/02/20	0836	1993987	1
Uranium-233/234		96400	+/-836	35.8	0.500	pCi/L							
Uranium-235/236		4200	+/-194	28.7	0.500	pCi/L							
Uranium-238		11100	+/-284	20.9	0.500	pCi/L							
Rad Liquid Scintillation Analysis													
Liquid Scint Tc99, Liquid "As Received"													
Technetium-99		73.9	+/-30.9	50.7	5.00	pCi/L		JJ3		05/05/20	1753	1993585	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, U-02-RC Modified	
2	DOE EML HASL-300, Tc-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			77.9	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Liquid "As Received"			99.9	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit
MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: May 13, 2020

Company : Westinghouse Electric Company, LLC
Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Logsdon
Project: ENV-CONSENTA-4500778461

Client Sample ID:	CL-3 Before	Project:	WNUC00901
Sample ID:	510356005	Client ID:	WNUC009
Matrix:	Misc Liquid		
Collect Date:	09-APR-20 07:00		
Receive Date:	29-APR-20		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Rad Alpha Spec Analysis

Alphaspec U, Liquid "As Received"

Pct Uranium-235		4.90				percent			BXA4	05/02/20	0836	1993987	1
Uranium-233/234		3.67E+05	+/-2730	103	0.500	pCi/L							
Uranium-235/236		16800	+/-650	50.1	0.500	pCi/L							
Uranium-238		50700	+/-1020	76.2	0.500	pCi/L							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Liquid "As Received"

Technetium-99		438	+/-36.0	51.0	5.00	pCi/L			JJ3	05/05/20	2000	1993585	2
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The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, U-02-RC Modified	
2	DOE EML HASL-300, Tc-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			27.3	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Liquid "As Received"			100	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: May 13, 2020

Company : Westinghouse Electric Company, LLC
Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Logsdon
Project: ENV-CONSENTA-4500778461

Client Sample ID: CL-3 After Project: WNUC00901
Sample ID: 510356006 Client ID: WNUC009
Matrix: Misc Liquid
Collect Date: 09-APR-20 07:00
Receive Date: 29-APR-20
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec U, Liquid "As Received"													
Pct Uranium-235		5.12				percent			BXA4	05/02/20	0836	1993987	1
Uranium-233/234		30900	+/-439	27.7	0.500	pCi/L							
Uranium-235/236		1390	+/-104	15.4	0.500	pCi/L							
Uranium-238		4000	+/-158	23.4	0.500	pCi/L							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Liquid "As Received"

Technetium-99	U	16.4	+/-32.2	54.4	5.00	pCi/L		JJ3	05/05/20	2206	1993585	2
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The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, U-02-RC Modified	
2	DOE EML HASL-300, Tc-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			94.9	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Liquid "As Received"			93.6	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit
MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: May 13, 2020

Company : Westinghouse Electric Company, LLC
Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Logsdon
Project: ENV-CONSENTA-4500778461

Client Sample ID: CL-4 Before Project: WNUC00901
Sample ID: 510356007 Client ID: WNUC009
Matrix: Misc Liquid
Collect Date: 09-APR-20 07:00
Receive Date: 29-APR-20
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec U, Liquid "As Received"													
Pct Uranium-235		4.82				percent			BXA4	05/02/20	0836	1993987	1
Uranium-233/234		1.74E+05	+/-1460	42.8	0.500	pCi/L							
Uranium-235/236		9220	+/-374	48.4	0.500	pCi/L							
Uranium-238		28300	+/-588	45.8	0.500	pCi/L							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Liquid "As Received"

Technetium-99		142	+/-32.5	51.8	5.00	pCi/L		JJ3	05/06/20	0012	1993585	2
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The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, U-02-RC Modified	
2	DOE EML HASL-300, Tc-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			40.8	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Liquid "As Received"			97.9	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit
MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: May 13, 2020

Company : Westinghouse Electric Company, LLC
Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Logsdon
Project: ENV-CONSENTA-4500778461

Client Sample ID:	CL-4 After	Project:	WNUC00901
Sample ID:	510356008	Client ID:	WNUC009
Matrix:	Misc Liquid		
Collect Date:	09-APR-20 07:00		
Receive Date:	29-APR-20		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Rad Alpha Spec Analysis

Alphaspec U, Liquid "As Received"

Pct Uranium-235		4.15				percent			BXA4	05/02/20	0836	1993987	1
Uranium-233/234		25900	+/-385	23.2	0.500	pCi/L							
Uranium-235/236		1170	+/-91.4	17.7	0.500	pCi/L							
Uranium-238		4190	+/-155	14.3	0.500	pCi/L							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Liquid "As Received"

Technetium-99		63.7	+/-31.8	52.5	5.00	pCi/L		JJ3	05/06/20	0219	1993585	2
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The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, U-02-RC Modified	
2	DOE EML HASL-300, Tc-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			87.7	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Liquid "As Received"			97.5	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: May 13, 2020

Company : Westinghouse Electric Company, LLC
Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Logsdon
Project: ENV-CONSENTA-4500778461

Client Sample ID: Scrap Cage Monitor Discharge	Project: WNUC00901
Sample ID: 510356009	Client ID: WNUC009
Matrix: Misc Liquid	
Collect Date: 09-APR-20 07:00	
Receive Date: 29-APR-20	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
Rad Alpha Spec Analysis												
Alphaspec U, Liquid "As Received"												
Pct Uranium-235		4.50				percent			BXA4	05/06/20	1029 1994754	1
Uranium-233/234		20600	+/-2530	517	0.500	pCi/L						
Uranium-235/236		1030	+/-677	566	0.500	pCi/L						
Uranium-238		3400	+/-1050	478	0.500	pCi/L						
Rad Liquid Scintillation Analysis												
Liquid Scint Tc99, Liquid "As Received"												
Technetium-99		201	+/-38.0	59.6	5.00	pCi/L		JJ3	05/06/20	0537 1993585		2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, U-02-RC Modified	
2	DOE EML HASL-300, Tc-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			94.8	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Liquid "As Received"			84.6	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: May 13, 2020

Company : Westinghouse Electric Company, LLC
Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Logsdon
Project: ENV-CONSENTA-4500778461

Client Sample ID:	W2	Project:	WNUC00901
Sample ID:	510356010	Client ID:	WNUC009
Matrix:	Misc Liquid		
Collect Date:	09-APR-20 08:00		
Receive Date:	29-APR-20		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec U, Liquid "As Received"													
Pct Uranium-235		15.0				percent			BXA4	05/09/20	0959	1995388	1
Uranium-233/234		3.93	+/-0.980	0.997	0.500	pCi/L							
Uranium-235/236		0.613	+/-0.394	0.167	0.500	pCi/L							
Uranium-238	U	0.541	+/-0.433	0.604	0.500	pCi/L							
Rad Liquid Scintillation Analysis													
Liquid Scint Tc99, Liquid "As Received"													
Technetium-99		96.0	+/-32.3	52.5	5.00	pCi/L		JJ3		05/06/20	0744	1993585	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, U-02-RC Modified	
2	DOE EML HASL-300, Tc-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			99.9	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Liquid "As Received"			95.6	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: May 13, 2020

Company : Westinghouse Electric Company, LLC
Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Logsdon
Project: ENV-CONSENTA-4500778461

Client Sample ID:	T-19 Ammonia	Project:	WNUC00901
Sample ID:	510356011	Client ID:	WNUC009
Matrix:	Misc Liquid		
Collect Date:	09-APR-20 08:00		
Receive Date:	29-APR-20		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
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Rad Alpha Spec Analysis

Alphaspec U, Liquid "As Received"

Pct Uranium-235	U	0.000				percent			MXS2	05/06/20	0951 1994758	1
Uranium-233/234	U	0.0545	+/-0.309	0.580	0.500	pCi/L						
Uranium-235/236	U	-0.0504	+/-0.221	0.482	0.500	pCi/L						
Uranium-238	U	0.122	+/-0.240	0.390	0.500	pCi/L						

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Liquid "As Received"

Technetium-99	U	13.4	+/-83.4	142	5.00	pCi/L		JJ3	05/06/20	0951 1993585	2
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The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, U-02-RC Modified	
2	DOE EML HASL-300, Tc-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			32.8	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Liquid "As Received"			35.8	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Report Date: May 13, 2020

Company : Westinghouse Electric Company, LLC
Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Logsdon
Project: ENV-CONSENTA-4500778461

Client Sample ID:	T-20 Ammonia	Project:	WNUC00901
Sample ID:	510356012	Client ID:	WNUC009
Matrix:	Misc Liquid		
Collect Date:	09-APR-20 08:00		
Receive Date:	29-APR-20		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
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Rad Alpha Spec Analysis

Alphaspec U, Liquid "As Received"

Pct Uranium-235	U	0.000				percent			MXS2	05/09/20	1307 1994758	1
Uranium-233/234	U	0.206	+/-0.258	0.391	0.500	pCi/L						
Uranium-235/236	U	-0.0535	+/-0.165	0.340	0.500	pCi/L						
Uranium-238	U	0.167	+/-0.205	0.275	0.500	pCi/L						

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Liquid "As Received"

Technetium-99	U	-28.5	+/-134	228	5.00	pCi/L		JJ3	05/06/20	1159 1993585	2
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The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, U-02-RC Modified	
2	DOE EML HASL-300, Tc-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			36.4	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Liquid "As Received"			22.3	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: May 13, 2020

Company : Westinghouse Electric Company, LLC
Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Logsdon
Project: ENV-CONSENTA-4500778461

Client Sample ID: WG-D46035 Project: WNUC00901
Sample ID: 510356013 Client ID: WNUC009
Matrix: Sludge
Collect Date: 09-APR-20 08:00
Receive Date: 29-APR-20
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
High Rad Testing													
Liquid Scint Tc99, Soil "As Received"													
Technetium-99	U	22.1	+/-29.5	49.6	5.00	pCi/g			AXM6	05/10/20	0707	1994804	1
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		5.23E+05	+/-8800	392	1.00	pCi/g			JXB7	05/12/20	1854	1996516	2
Uranium-235/236		22300	+/-2020	264	1.00	pCi/g							
Uranium-238		74700	+/-3330	270	1.00	pCi/g							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXM6	05/05/20	1719	1994801

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Tc-02-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"			71.8	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			63	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit
MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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Report Date: May 13, 2020

Company : Westinghouse Electric Company, LLC
Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Logsdon
Project: ENV-CONSENTA-4500778461

Client Sample ID:	Calcium Fluoride	Project:	WNUC00901
Sample ID:	510356014	Client ID:	WNUC009
Matrix:	Solid		
Collect Date:	09-APR-20 08:00		
Receive Date:	29-APR-20		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		16.3	+/-1.10	0.178	1.00	pCi/g			BXA4	05/04/20	1643	1993662	1
Uranium-235/236		0.703	+/-0.266	0.181	1.00	pCi/g							
Uranium-238		2.40	+/-0.428	0.166	1.00	pCi/g							
Rad Liquid Scintillation Analysis													
Liquid Scint Tc99, Soil "As Received"													
Technetium-99	U	0.473	+/-2.48	4.30	5.00	pCi/g			JJ3	05/05/20	0555	1993830	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	04/30/20	0951	1993645

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	DOE EML HASL-300, U-02-RC Modified		
2	DOE EML HASL-300, Tc-02-RC Modified		

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			90.2	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"			87.9	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: May 13, 2020

Company : Westinghouse Electric Company, LLC
Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Logsdon
Project: ENV-CONSENTA-4500778461

Client Sample ID: Sludge Dewatering D45671	Project: WNUC00901
Sample ID: 510356015	Client ID: WNUC009
Matrix: Solid	
Collect Date: 08-APR-20 14:00	
Receive Date: 29-APR-20	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis													
Alphaspec U, Solid "Dry Weight Corrected"													
Uranium-233/234		3510	+/-113	4.72	1.00	pCi/g			BXA4	05/04/20	1715	1993662	1
Uranium-235/236		156	+/-26.7	5.49	1.00	pCi/g							
Uranium-238		507	+/-43.1	4.80	1.00	pCi/g							
Rad Liquid Scintillation Analysis													
Liquid Scint Tc99, Soil "As Received"													
Technetium-99	U	3.52	+/-2.56	4.22	5.00	pCi/g			JJ3	05/05/20	0611	1993830	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	04/30/20	0951	1993645

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, U-02-RC Modified	
2	DOE EML HASL-300, Tc-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			16.5	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"			90.3	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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QC Summary

Report Date: May 13, 2020

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Westinghouse Electric Company, LLC

PO Drawer R
Columbia, South Carolina

Contact: Ms. Cynthia Logsdon

Workorder: 510356

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
High Rad Testing											
Batch	1993870										
QC1204554246	510356001	DUP									
Technetium-99	U	58.7	U	-36.0	pCi/L	N/A		N/A	AAXM6	05/11/20	10:54
QC1204554247	LCS										
Technetium-99	7560			7720	pCi/L		102	(75%-125%)		05/10/20	23:04
QC1204554245	MB										
Technetium-99			U	54.7	pCi/L					05/10/20	19:01
Batch	1994804										
QC1204556160	510356013	DUP									
Technetium-99	U	22.1	U	-31.5	pCi/g	N/A		N/A	AAXM6	05/10/20	11:09
QC1204556161	LCS										
Technetium-99	2210			2140	pCi/g		96.8	(75%-125%)		05/10/20	13:10
QC1204556159	MB										
Technetium-99			U	-11.6	pCi/g					05/10/20	09:08
Batch	1996515										
QC1204559802	510356001	DUP									
Pct Uranium-235		4.29		4.34	percent	1.18		(0%-20%)	JXB7	05/12/20	18:54
Uranium-233/234		5.13E+05		2.62E+05	pCi/L	64.7*		(0%-20%)			
Uranium-235/236		21700		11300	pCi/L	62.9*		(0%-20%)			
Uranium-238		75100		38600	pCi/L	64.1*		(0%-20%)			

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QC Summary

Workorder: 510356

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
High Rad Testing											
Batch	1996515										
QC1204559803	LCS										
Pct Uranium-235				1.16	percent				JXB7	05/12/20	18:54
Uranium-233/234				2420	pCi/L						
Uranium-235/236				198	pCi/L						
Uranium-238	2730			2620	pCi/L		96.1	(75%-125%)			
QC1204559801	MB										
Pct Uranium-235			U	0.000	percent					05/12/20	18:54
Uranium-233/234			U	8.34	pCi/L						
Uranium-235/236			U	-2.49	pCi/L						
Uranium-238			U	-3.69	pCi/L						
Batch	1996516										
QC1204559805	510356013	DUP									
Uranium-233/234				5.23E+05	5.05E+05	pCi/g	3.43	(0%-20%)	JXB7	05/12/20	18:54
Uranium-235/236				22300	21700	pCi/g	2.77	(0%-20%)			
Uranium-238				74700	73300	pCi/g	1.86	(0%-20%)			
QC1204559806	LCS										
Uranium-233/234				8330		pCi/g				05/12/20	18:54
Uranium-235/236			U	232		pCi/g					
Uranium-238	9080			7990		pCi/g	88	(75%-125%)			

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QC Summary

Workorder: 510356

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
High Rad Testing											
Batch	1996516										
QC1204559804	MB										
Uranium-233/234			U	-111	pCi/g				JXB7	05/12/20	18:54
Uranium-235/236			U	16.0	pCi/g						
Uranium-238			U	-47.8	pCi/g						
Rad Alpha Spec											
Batch	1993662										
QC1204553781	510356014	DUP									
Uranium-233/234			16.3	14.0	pCi/g	15.4		(0%-20%)	BXA4	05/04/20	16:43
Uranium-235/236			0.703	0.677	pCi/g	3.84		(0%-20%)			
Uranium-238			2.40	2.75	pCi/g	13.4		(0%-20%)			
QC1204553782	LCS										
Uranium-233/234				13.8	pCi/g					05/04/20	16:43
Uranium-235/236				0.853	pCi/g						
Uranium-238	12.6			14.1	pCi/g		112	(75%-125%)			
QC1204553780	MB										
Uranium-233/234				0.394	pCi/g					05/04/20	16:43
Uranium-235/236			U	0.0837	pCi/g						
Uranium-238			U	0.0171	pCi/g						
Batch	1993987										
QC1204554512	510356002	DUP									
Pct Uranium-235			4.34	4.32	percent	0.398		(0%-20%)	BXA4	05/02/20	08:36

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QC Summary

Workorder: 510356

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	1993987										
Uranium-233/234		32900		32600	pCi/L	1.06		(0%-20%)	BXA4	05/02/20	08:36
Uranium-235/236		1600		1560	pCi/L	2.29		(0%-20%)			
Uranium-238		5480		5360	pCi/L	2.12		(0%-20%)			
QC1204554513	LCS										
Pct Uranium-235				0.777	percent					05/02/20	08:36
Uranium-233/234				2900	pCi/L						
Uranium-235/236				144	pCi/L						
Uranium-238	2730			2850	pCi/L		105	(75%-125%)			
QC1204554511	MB										
Pct Uranium-235				4.24	percent					05/02/20	08:36
Uranium-233/234				85.2	pCi/L						
Uranium-235/236				5.88	pCi/L						
Uranium-238				20.6	pCi/L						
Batch	1994754										
QC1204556076	510356009	DUP									
Pct Uranium-235		4.50		7.23	percent	46.6		(0%-20%)	BXA4	05/06/20	09:16
Uranium-233/234		20600		18100	pCi/L	13.3		(0%-20%)			
Uranium-235/236		1030		1510	pCi/L	37.8		(0% - 100%)			

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QC Summary

Workorder: 510356

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	1994754										
Uranium-238		3400		3010	pCi/L	12.1		(0%-20%)	BXA4	05/06/20	09:16
QC1204556077	LCS										
Pct Uranium-235				0.716	percent					05/06/20	09:16
Uranium-233/234				14100	pCi/L						
Uranium-235/236				582	pCi/L						
Uranium-238	13600			12500	pCi/L		92	(75%-125%)			
QC1204556075	MB										
Pct Uranium-235			U	0.000	percent					05/06/20	09:16
Uranium-233/234			U	62.8	pCi/L						
Uranium-235/236			U	115	pCi/L						
Uranium-238			U	32.2	pCi/L						
Batch	1994758										
QC1204556079	510356010 DUP										
Pct Uranium-235		6.31		5.38	percent	15.9		(0%-20%)	MXS2	05/06/20	09:51
Uranium-233/234		39.3		3.94	pCi/L	164*		(0%-20%)			
Uranium-235/236		3.02		0.340	pCi/L	160*		(0%-20%)			
Uranium-238		6.96		0.928	pCi/L	153*		(0%-20%)			

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QC Summary

Workorder: 510356

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	1994758										
QC1204556080	LCS										
Pct Uranium-235				0.987	percent				MXS2	05/06/20	09:51
Uranium-233/234				27.9	pCi/L						
Uranium-235/236				1.84	pCi/L						
Uranium-238	27.3			28.7	pCi/L		105	(75%-125%)			
<hr/>											
QC1204556078	MB										
Pct Uranium-235			U	0.000	percent					05/06/20	09:51
Uranium-233/234			U	0.128	pCi/L						
Uranium-235/236			U	0.0744	pCi/L						
Uranium-238			U	0.0301	pCi/L						
<hr/>											
Batch	1995388										
QC1204557480	510356010	DUP									
Pct Uranium-235			15.0 U	0.000	percent	200		(0%-20%)	BXA4	05/09/20	09:59
Uranium-233/234			3.93	5.17	pCi/L	27.1*		(0%-20%)			
Uranium-235/236			0.613 U	0.227	pCi/L	33.9		(0% - 100%)			
Uranium-238	U		0.541 U	0.598	pCi/L	N/A			N/A		
<hr/>											
QC1204557481	LCS										
Pct Uranium-235				0.631	percent					05/09/20	09:59
Uranium-233/234				66.7	pCi/L						

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QC Summary

Workorder: 510356

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	1995388										
Uranium-235/236				2.98	pCi/L				BXA4	05/09/20	09:59
Uranium-238	68.1			72.9	pCi/L		107	(75%-125%)			
QC1204557479	MB										
Pct Uranium-235			U	0.000	percent					05/09/20	09:59
Uranium-233/234			U	-0.216	pCi/L						
Uranium-235/236			U	0.0575	pCi/L						
Uranium-238			U	-0.140	pCi/L						
Rad Liquid Scintillation											
Batch	1993585										
QC1204553577	510356002	DUP									
Technetium-99			U	50.1	U	33.9	pCi/L	N/A	N/A	JJ3	05/06/20 16:13
QC1204553578	LCS										
Technetium-99	2520			2270	pCi/L		90.2	(75%-125%)		05/06/20	18:19
QC1204553576	MB										
Technetium-99			U	-6.52	pCi/L					05/06/20	14:06
Batch	1993830										
QC1204554189	510356014	DUP									
Technetium-99			U	0.473	U	0.920	pCi/g	N/A	N/A	JJ3	05/05/20 06:45
QC1204554190	LCS										
Technetium-99	55.6			57.8	pCi/g		104	(75%-125%)		05/05/20	07:02
QC1204554188	MB										
Technetium-99			U	0.428	pCi/g					05/05/20	06:28

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QC Summary

Workorder: 510356

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
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Notes:

The Qualifiers in this report are defined as follows:

- ** Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- BD Results are either below the MDC or tracer recovery is low
- FA Failed analysis.
- H Analytical holding time was exceeded
- J See case narrative for an explanation
- J Value is estimated
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- M M if above MDC and less than LLD
- M REMP Result > MDC/CL and < RDL
- N/A RPD or %Recovery limits do not apply.
- N1 See case narrative
- ND Analyte concentration is not detected above the detection limit
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- UJ Gamma Spectroscopy--Uncertain identification
- UL Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y Other specific qualifiers were required to properly define the results. Consult case narrative.
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
- h Preparation or preservation holding time was exceeded

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

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

* Indicates that a Quality Control parameter was not within specifications.

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

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

**Radiochemistry
 Technical Case Narrative
 Westinghouse Electric Co, LLC
 SDG #: 510356**

Product: Alphaspec U, Liquid

Analytical Method: DOE EML HASL-300, U-02-RC Modified

Analytical Procedure: GL-RAD-A-011 REV# 27

Analytical Batch: 1996515

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
510356001	CL-1 Before
1204559801	Method Blank (MB)
1204559802	510356001(CL-1 Before) Sample Duplicate (DUP)
1204559803	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Preparation Information

Aliquot Reduced

aliquots were reduced due to high activity based on Gamma data.

Quality Control (QC) Information

Duplication Criteria between QC Sample and Duplicate Sample

The Sample and Duplicate, (see below), did not meet the duplication criteria list below due to the extremely small aliquot size used not being a true representation of the samples and due to the non-homogenous matrix of the samples. The aliquots were reduced due to the high levels of activity in the samples.

Sample	Analyte	Value
1204559802 (CL-1 BeforeDUP)	Uranium-233/234	RPD 64.7* (0.00%-20.00%)
	Uranium-235/236	RPD 62.9* (0.00%-20.00%)
	Uranium-238	RPD 64.1* (0.00%-20.00%)

RDL Met

The blank (See Below) did not meet the detection limit due to keeping the blank volume consistent with the other sample aliquots.

Sample	Analyte	Value
1204559801 (MB)	Uranium-233/234	Result 8.34 < MDA 67 > RDL 1 pCi/L

	Uranium-235/236	Result -2.49 < MDA 49.8 > RDL 1 pCi/L
	Uranium-238	Result -3.69 < MDA 62.1 > RDL 1 pCi/L

Technical Information

Sample Re-prep/Re-analysis

Samples were re-prepped due to low carrier/tracer yield. The re-analysis is being reported.

Product: Alphaspec U, Solid

Analytical Method: DOE EML HASL-300, U-02-RC Modified

Analytical Procedure: GL-RAD-A-011 REV# 27

Analytical Batch: 1996516

Preparation Method: Dry Soil Prep

Preparation Procedure: GL-RAD-A-021 REV# 23

Preparation Batch: 1994801

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
510356013	WG-D46035
1204559804	Method Blank (MB)
1204559805	510356013(WG-D46035) Sample Duplicate (DUP)
1204559806	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Preparation Information

Aliquot Reduced

aliquots were reduced due to high activity based on Gamma data.

Quality Control (QC) Information

RDL Met

The blank (See Below) did not meet the detection limit due to keeping the blank volume consistent with the other sample aliquots.

Sample	Analyte	Value
1204559804 (MB)	Uranium-233/234	Result -111 < MDA 284 > RDL 1 pCi/g
	Uranium-235/236	Result 16 < MDA 170 > RDL 1 pCi/g

	Uranium-238	Result -47.8 < MDA 201 > RDL 1 pCi/g
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Technical Information

Sample Re-prep/Re-analysis

Samples were reprepared due to low carrier/tracer yield. The re-analysis is being reported.

Product: Alphaspec U, Solid

Analytical Method: DOE EML HASL-300, U-02-RC Modified

Analytical Procedure: GL-RAD-A-011 REV# 27

Analytical Batch: 1993662

Preparation Method: Dry Soil Prep

Preparation Procedure: GL-RAD-A-021 REV# 23

Preparation Batch: 1993645

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
510356014	Calcium Fluoride
510356015	Sludge Dewatering D45671
1204553780	Method Blank (MB)
1204553781	510356014(Calcium Fluoride) Sample Duplicate (DUP)
1204553782	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Method Blank Criteria

The blank result (See Below) is greater than the MDC but less than the required detection limit.

Sample	Analyte	Value
1204553780 (MB)	Uranium-233/234	Result: 0.394 pCi/g > MDA: 0.187 pCi/g <= RDL: 1.00 pCi/g

Product: Alphaspec U, Liquid

Analytical Method: DOE EML HASL-300, U-02-RC Modified

Analytical Procedure: GL-RAD-A-011 REV# 27

Analytical Batch: 1993987

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
510356002	CL-1 After
510356003	CL-2 Before
510356004	CL-2 After
510356005	CL-3 Before
510356006	CL-3 After
510356007	CL-4 Before
510356008	CL-4 After
1204554511	Method Blank (MB)
1204554512	510356002(CL-1 After) Sample Duplicate (DUP)
1204554513	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Method Blank Criteria

The blank (See Below) activity is greater than the MDC but is less than five percent of the lowest activity in the batch.

Sample	Analyte	Value
1204554511 (MB)	Uranium-233/234	Result: 85.2 pCi/L > MDA: 19.8 pCi/L > RDL: 0.500 pCi/L
	Uranium-238	Result: 20.6 pCi/L > MDA: 15.2 pCi/L > RDL: 0.500 pCi/L

The blank activity is equal to the MDC but is less than five percent of the lowest activity in the batch.

Sample	Analyte	Value
1204554511 (MB)	Uranium-235/236	Result: 5.88 pCi/L > MDA: 5.88 pCi/L > RDL: 0.500 pCi/L

Technical Information

Sample Re-prep/Re-analysis

Samples were re-prepped due to low carrier/tracer yield. The re-analysis is being reported.

Product: Alphaspec U, Liquid

Analytical Method: DOE EML HASL-300, U-02-RC Modified

Analytical Procedure: GL-RAD-A-011 REV# 27

Analytical Batch: 1994754

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
510356009	Scrap Cage Monitor Discharge
1204556075	Method Blank (MB)
1204556076	510356009(Scrap Cage Monitor Discharge) Sample Duplicate (DUP)
1204556077	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Duplication Criteria between QC Sample and Duplicate Sample

The Sample and Duplicate, (see below), did not meet the duplication criteria list below due to the extremely small aliquot size used not being a true representation of the samples. The aliquots were reduced due to the high levels of activity in the samples. The duplication criteria was met for all other isotopes. A RER value cannot be calculated as a TPU value is not associated with Percent U-235.

Sample	Analyte	Value
1204556076 (Scrap Cage Monitor DischargeDUP)	Pct Uranium-235	46.6* (0%-20%)

RDL Met

The blank (See Below) did not meet the detection limit due to keeping the blank volume consistent with the other sample aliquots.

Sample	Analyte	Value
1204556075 (MB)	Uranium-233/234	Result 62.8 < MDA 655 > RDL 0.5 pCi/L
	Uranium-235/236	Result 115 < MDA 616 > RDL 0.5 pCi/L
	Uranium-238	Result 32.2 < MDA 459 > RDL 0.5 pCi/L

Technical Information

Sample Re-prep/Re-analysis

Sample (insert sample id) was reprepared twice due to a low tracer yield. The third analysis is being reported. 510356009 (Scrap Cage Monitor Discharge).

Product: Alphaspec U, Liquid

Analytical Method: DOE EML HASL-300, U-02-RC Modified

Analytical Procedure: GL-RAD-A-011 REV# 27

Analytical Batch: 1994758

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
510356011	T-19 Ammonia
510356012	T-20 Ammonia
1204556078	Method Blank (MB)
1204556079	510356010(W2) Sample Duplicate (DUP)
1204556080	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Duplication Criteria between QC Sample and Duplicate Sample

The Sample and the Duplicate, (See Below), did not meet the relative percent difference requirement; however, they do meet the relative error ratio requirement with the value listed below.

Sample	Analyte	Value
1204556079 (W2DUP)	Uranium-235/236	RPD 160* (0.00%-20.00%) RER 2.26 (0-3)

The Sample and Duplicate, (See Below), did not meet the duplication criteria listed below due to the non-homogenous matrix of the samples.

Sample	Analyte	Value
1204556079 (W2DUP)	Uranium-233/234	RPD 164* (0.00%-20.00%)
	Uranium-238	RPD 153* (0.00%-20.00%)

RDL Met

Sample did not meet the detection limit due to low sample yield. The client yield requirement was met. The sample was counted the maximum count time in order to achieve the lowest possible MDAs.

Sample	Analyte	Value
510356011 (T-19 Ammonia)	Uranium-233/234	Result 0.0545 < MDA 0.58 > RDL 0.5 pCi/L

Technical Information

Sample Re-prep/Re-analysis

Samples 510356010 (W2), 510356011 (T-19 Ammonia) and 510356012 (T-20 Ammonia) were re-prepped due to high blank activity. The re-analysis is being reported for 510356011 and 510356012. Sample 510356010 is being included for QC purposes only.

Recounts

Sample 510356012 (T-20 Ammonia) was recounted due to high MDC. The recount is reported.

Miscellaneous Information

Additional Comments

Sample 510356010 (W2) is being included for QC purposes only.

Product: Alphaspec U, Liquid

Analytical Method: DOE EML HASL-300, U-02-RC Modified

Analytical Procedure: GL-RAD-A-011 REV# 27

Analytical Batch: 1995388

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
510356010	W2
1204557479	Method Blank (MB)
1204557480	510356010(W2) Sample Duplicate (DUP)
1204557481	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Duplication Criteria between QC Sample and Duplicate Sample

The Sample and the Duplicate, (See Below), did not meet the relative percent difference requirement; however, they do meet the relative error ratio requirement with the value listed below.

Sample	Analyte	Value
1204557480 (W2DUP)	Uranium-233/234	RPD 27.1* (0.00%-20.00%) RER 1.54 (0-3)

The Percent Uranium-235 does not meet the relative percent difference requirements for the QC and DUP 1204557480 (W2DUP) and 510356010 (W2); however, the U-235/236 does meet the relative percent difference requirements with a value of 33.9%.

RDL Met

The blank (See Below) did not meet the detection limit due to keeping the blank volume consistent with the other sample aliquots.

Sample	Analyte	Value
1204557479 (MB)	Uranium-233/234	Result -0.216 < MDA 0.705 > RDL 0.5 pCi/L
	Uranium-238	Result -0.14 < MDA 0.67 > RDL 0.5 pCi/L

Samples (See Below) did not meet the detection limits due to the small sample aliquots used. The aliquots were reduced due to the matrix of the samples. The samples were counted the maximum count time in order to achieve the lowest possible MDAs.

Sample	Analyte	Value
1204557480 (W2DUP)	Uranium-238	Result 0.598 < MDA 0.704 > RDL 0.5 pCi/L
510356010 (W2)	Uranium-238	Result 0.541 < MDA 0.604 > RDL 0.5 pCi/L

Technical Information

Sample Re-prep/Re-analysis

Sample 510356010 (W2) was reprepared once due to high MB activity and a second time due to low tracer yield recovery. The third analysis is being reported.

Product: Dry Weight

Preparation Method: Dry Soil Prep

Preparation Procedure: GL-RAD-A-021 REV# 23

Preparation Batch: 1993645

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
510356014	Calcium Fluoride
510356015	Sludge Dewatering D45671

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: Dry Weight

Preparation Method: Dry Soil Prep

Preparation Procedure: GL-RAD-A-021 REV# 23

Preparation Batch: 1994801

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
510356013	WG-D46035

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: Liquid Scint Tc99, Liquid

Analytical Method: DOE EML HASL-300, Tc-02-RC Modified

Analytical Procedure: GL-RAD-A-059 REV# 5

Analytical Batch: 1993870

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
510356001	CL-1 Before
1204554245	Method Blank (MB)
1204554246	510356001(CL-1 Before) Sample Duplicate (DUP)
1204554247	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Preparation Information

Preparation Information

Performed a double iron scavenge and all part 61 clean ups and rinses to reduce interferences.

Quality Control (QC) Information

RDL Met

Samples (See Below) did not meet the detection limits due to the small sample aliquots used. The aliquots were reduced due to the matrix of the samples. The samples were counted the maximum count time in order to achieve the lowest possible MDAs.

Sample	Analyte	Value
1204554245 (MB)	Technetium-99	Result 54.7 < MDA 143 > RDL 5 pCi/L
1204554246 (CL-1 BeforeDUP)	Technetium-99	Result -36 < MDA 134 > RDL 5 pCi/L
510356001 (CL-1 Before)	Technetium-99	Result 58.7 < MDA 130 > RDL 5 pCi/L

Technical Information

Recounts

Samples 1204554246 (CL-1 BeforeDUP) and 510356001 (CL-1 Before) were recounted due to high relative percent difference/relative error ratio. The recounts are reported.

Product: Liquid Scint Tc99, Soil

Analytical Method: DOE EML HASL-300, Tc-02-RC Modified

Analytical Procedure: GL-RAD-A-059 REV# 5

Analytical Batch: 1994804

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
510356013	WG-D46035
1204556159	Method Blank (MB)
1204556160	510356013(WG-D46035) Sample Duplicate (DUP)
1204556161	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Preparation Information

Preparation Information

Performed a double iron scavenge and all part 61 clean ups and rinses to reduce interferences.

Quality Control (QC) Information

RDL Met

Samples (See Below) did not meet the detection limits due to the small sample aliquots used. The aliquots were reduced due to the matrix of the samples. The samples were counted the maximum count time in order to achieve the lowest possible MDAs.

Sample	Analyte	Value
1204556159 (MB)	Technetium-99	Result -11.6 < MDA 46.9 > RDL 5 pCi/g
1204556160 (WG-D46035DUP)	Technetium-99	Result -31.5 < MDA 43.6 > RDL 5 pCi/g
510356013 (WG-D46035)	Technetium-99	Result 22.1 < MDA 49.6 > RDL 5 pCi/g

Product: Liquid Scint Tc99, Liquid

Analytical Method: DOE EML HASL-300, Tc-02-RC Modified

Analytical Procedure: GL-RAD-A-059 REV# 5

Analytical Batch: 1993585

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
510356002	CL-1 After
510356003	CL-2 Before
510356004	CL-2 After
510356005	CL-3 Before
510356006	CL-3 After
510356007	CL-4 Before
510356008	CL-4 After
510356009	Scrap Cage Monitor Discharge
510356010	W2
510356011	T-19 Ammonia
510356012	T-20 Ammonia
1204553576	Method Blank (MB)
1204553577	510356002(CL-1 After) Sample Duplicate (DUP)
1204553578	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Preparation Information

Aliquot Reduced

aliquot volumes were reduced due to the sample matrix.

Quality Control (QC) Information

RDL Met

Samples (See Below) did not meet the detection limits due to the small sample aliquots used. The aliquots were reduced due to the matrix of the samples. The samples were counted the maximum count time in order to achieve the lowest possible MDAs.

Sample	Analyte	Value
1204553576 (MB)	Technetium-99	Result -6.52 < MDA 50.5 > RDL 5 pCi/L
1204553577 (CL-1 AfterDUP)	Technetium-99	Result 33.9 < MDA 57.1 > RDL 5 pCi/L
510356002 (CL-1 After)	Technetium-99	Result 50.1 < MDA 51.1 > RDL 5 pCi/L
510356006 (CL-3 After)	Technetium-99	Result 16.4 < MDA 54.4 > RDL 5 pCi/L
510356011 (T-19 Ammonia)	Technetium-99	Result 13.4 < MDA 142 > RDL 5 pCi/L
510356012 (T-20 Ammonia)	Technetium-99	Result -28.5 < MDA 228 > RDL 5 pCi/L

Product: Liquid Scint Tc99, Soil

Analytical Method: DOE EML HASL-300, Tc-02-RC Modified

Analytical Procedure: GL-RAD-A-059 REV# 5

Analytical Batch: 1993830

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
510356014	Calcium Fluoride
510356015	Sludge Dewatering D45671
1204554188	Method Blank (MB)
1204554189	510356014(Calcium Fluoride) Sample Duplicate (DUP)
1204554190	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Certification Statement

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

Page: 1 of 2
 Project # ENV-CONSENTA
 GEL Quote #: WNUC009
 GEL Laboratories LLC
 Chemistry | Radiochemistry | Radiobiology | Speciality Analytics
 2040 Savage Road
 Charleston, SC 29407
 Phone: (843) 556-8171
 Fax: (843) 766-1178

Chain of Custody and Analytical Request
GEL Work Order Number: 510356
GEL Project Manager: Katelyn Gray
 Client Name: Westinghouse
 Phone # 803.647.3171
 Fax # 803.695.3964
 Project/Site Name: Te-99-Source-Investigation-Phase 2
 Address: 5801 Bluff Road, Hopkins, SC 29061
 Collected By: Randy Crews
 Send Results To: logsdoci@westinghouse.com

Sample ID	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (a)	Field Filtered (b)	Sample Matrix (c)	Radioactive (if yes, please supply isotopic info.)	Should this sample be considered: (7) Known or possible Hazards	Sample Analysis Requested (6) (Fill in the number of containers for each test)		Comments
								Total number of containers	Isotopic U (by Alpha Spec)	
CL-1 Before	4/9/2020	0700	G	N	ML	X		1	X	
CL-1 After	4/9/2020	0700	G	N	ML	X		1	X	
CL-2 Before	4/9/2020	0700	G	N	ML	X		1	X	
CL-2 After	4/9/2020	0700	G	N	ML	X		1	X	
CL-3 Before	4/9/2020	0700	G	N	ML	X		1	X	
CL-3 After	4/9/2020	0700	G	N	ML	X		1	X	
CL-4 Before	4/9/2020	0700	G	N	ML	X		1	X	
CL-4 After	4/9/2020	0700	G	N	ML	X		1	X	
Scrap Cage Monitor Discharge	4/9/2020	0700	G	N	ML	X		1	X	
W2	4/9/2020	0800	G	N	ML					

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
Randy Crews	4/29/2020	1003		4/29/2020	1803
	4/29/2020	1050		4/29/2020	1855
	4/29/2020	1455		4/29/2020	1855

1 Secure Location 4/29/2020 1803
 2 Secure Location 4/29/2020 1050
 3 Secure Location 4/29/2020 1455
 For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)

Additional Remarks:
 For Lab Receiving Use Only: Custody Seal Intact? Yes No Cooler Temp: 18 °C
 Sample Collection Time Zone: Eastern Pacific Central Mountain Other:

TAT Requested: Normal: Rush: Specify: 10 Day TAT (Subject to Surcharge)
 Fax Results: Yes No
 Select Deliverable: C of A QC Summary Level 1 Level 2 Level 3 Level 4

KNOWN OR POSSIBLE HAZARDS

RCRA Metals	Characteristic Hazards	Listed Waste	Other
As = Arsenic Ba = Barium Cd = Cadmium Cr = Chromium Pb = Lead	FL = Flammable/ignitable CO = Corrosive RE = Reactive	LW = Listed Waste (F,K,P and U-listed wastes.) Waste code(s):	OT = Other / Unknown (i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.) Description:

1.) Chain of Custody Number = Client Determined
 2.) QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite
 3.) Field Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered.
 4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
 5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).
 6.) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank
 7.) **KNOWN OR POSSIBLE HAZARDS**

TSCA Regulated
 PCB = Polychlorinated biphenyls

Please provide any additional details below regarding handling and/or disposal concerns. (i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)

GEL Laboratories LLC
 Chemistry | Radiochemistry | Radioassay | Speciality Analytics
Chain of Custody and Analytical Request
 GEL Project Manager: Katelyn Gray
 Phone # 803.647.3171
 Fax # 803.695.3964

GEL Laboratories, LLC
 2040 Savage Road
 Charleston, SC 29407
 Phone: (843) 556-8171
 Fax: (843) 766-1178

Sample ID <i>*For composites - indicate start and stop date time</i>	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered:		Total number of containers	Isotopic U (by Alpha Spec)	Normal: <input checked="" type="checkbox"/> Rush: <input type="checkbox"/> Specify: <u>10</u> Day TAT (Subject to Surcharge)	Preservative Type (6)	Comments
						Yes, please supply isotopic info.)	(7) Known or possible Hazards					
T-19 Ammonia	4/9/2020	0800	G	N	ML			1	X	X		
T-20 Ammonia	4/9/2020	0800	G	N	ML			1	X	X		
WG-D46035	4/9/2020	0800	G	N	ML			1	X	X		
Calcium Fluoride	4/9/2020	0800	G	N	ML			1	X	X		
Sludge Dewatering D45671	4/8/2020	1400	G	N	ML			1	X	X		

Relinquished By (Signed) _____ Date _____ Time _____
 Received by (signed) _____ Date _____ Time _____

1 Randy Crews Randy 4/29/2020 1003
 2 Secure Location 4/29/2020 1003
 3 Shyona 4/29/2020 1058
 4 Shyona 4/29/2020 1455
 For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)

Additional Remarks:
 For Lab Receiving Use Only: Custody Seal Intact? Yes No Cooler Temp: 16 °C
 Sample Collection Time Zone: Eastern Pacific Central Mountain Other:
 TAT Requested: Normal: Rush: Specify: 10 Day TAT (Subject to Surcharge)
 Fax Results: Yes No
 Select Deliverable: C of A QC Summary Level 1 Level 2 Level 3 Level 4

Chain of Custody Signatures	Time	Date	Time
1 Randy Crews <u>Randy</u>	1003	4/29/2020	1003
2 Secure Location	1058	4/29/2020	1058
3 <u>Shyona</u>	1455	4/29/2020	1455

1) Chain of Custody Number = Client Determined
 2) QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite
 3) Field Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered
 4) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Faecal, N=Nasal
 5) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).
 6) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank
 7) **KNOWN OR POSSIBLE HAZARDS**

RCRA Metals	Characteristic Hazards	Listed Waste	Other
As = Arsenic Ba = Barium Cd = Cadmium Cr = Chromium Pb = Lead	FL = Flammable/Ignitable CO = Corrosive RE = Reactive	LW = Listed Waste F, K, P and U-istic wastes.) Waste code(s):	OT = Other / Unknown (i.e.: High/Low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.) Description:
Hg = Mercury Se = Selenium Ag = Silver	TSCA Regulated PCB = Polychlorinated biphenyls		

Please provide any additional details below regarding handling and/or disposal concerns. (i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)

SAMPLE RECEIPT & REVIEW FORM

510356

Client: <u>WNUC</u>		SDG/AR/COC/Work Order: <u>CG</u>	
Received By: <u>SJR</u>		Date Received: <u>4-29-20</u>	
Carrier and Tracking Number		Circle Applicable: FedEx Express FedEx Ground UPS Field Services <u>Courier</u> Other	
Suspected Hazard Information		Yes	No
			*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A) Shipped as a DOT Hazardous?			Hazard Class Shipped: _____ UN#: _____ IF UN2910, Is the Radioactive Shipment Survey Compliant? Yes ___ No ___
B) Did the client designate the samples are to be received as radioactive?		<input checked="" type="checkbox"/>	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		<input checked="" type="checkbox"/>	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): <u>75</u> CPM (mR/hr) Classified as <u>Rad 1</u> Rad 2 Rad 3
D) Did the client designate samples are hazardous?		<input checked="" type="checkbox"/>	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		<input checked="" type="checkbox"/>	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:
Sample Receipt Criteria		Yes	NA
			No
			Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>	Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	<input checked="" type="checkbox"/>	Preservation Method: Wet Ice Ice Packs Dry ice <u>None</u> Other: *all temperatures are recorded in Celsius TEMP: <u>16C</u>
4	Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>	Temperature Device Serial # <u>IR3-19</u> Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	<input checked="" type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>	Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?	<input checked="" type="checkbox"/>	If Yes, are Encores or Soil Kits present for solids? Yes ___ No ___ NA ___ (If yes, take to VOA Freezer)
			Do liquid VOA vials contain acid preservation? Yes ___ No ___ NA ___ (If unknown, select No)
			Are liquid VOA vials free of headspace? Yes ___ No ___ NA ___
8	Samples received within holding time?	<input checked="" type="checkbox"/>	ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>	ID's and containers affected:
10	Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>	Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided?	<input checked="" type="checkbox"/>	
13	COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>	Circle Applicable: Not relinquished Other (describe)
Comments (Use Continuation Form if needed):			
<u>CL-Before and W6-046035 are both Rad-2</u> <u>All other samples marked Rad are Rad-1</u>			

PM (or PMA) review: Initials SH Date 4/30/20 Page 1 of 1

MISC_AQUEOUS_U Analytical Report

Lab Report No. 2020047422	Date Sampled 04/14/2020	Enrichment 4.25
EPN No.	Contract XCES50	Submitter Sample No. SCRAP CAGE AFTER

Remarks:

Parameter	Units	Low Spec	High Spec	Sub Sample ID & Analysis Results
				2020047422
				SCRAP ----
				SCRAP ----
U	ppm			5.89

QC Disposition By: Candice Singletary, 38208
 Date and Time: 04/14/20 13:11

Disposition: **ACCEPT**

MISC_AQUEOUS_U Analytical Report

Lab Report No. 2020047420	Date Sampled 04/14/2020	Enrichment 4.25
EPN No.	Contract XCES50	Submitter Sample No. CL-1 DC FILTER

Remarks:

Parameter	Units	Low Spec	High Spec	Sub Sample ID & Analysis Results
				2020047420
				CL-1 DC
				CL-1 DC
U	ppm			8.59

QC Disposition By: Candice Singletary, 38208
Date and Time: 04/14/20 13:08

Disposition: **ACCEPT**

MISC_AQUEOUS_U Analytical Report

Lab Report No. 2020047941	Date Sampled 04/15/2020	Enrichment 4.25
EPN No.	Contract XCES50	Submitter Sample No. CL2 AFTER

Remarks:

Parameter	Units	Low Spec	High Spec	Sub Sample ID & Analysis Results
				2020047941
				CL2 AFTER
U	ppm			19.60

QC Disposition By: Shanedra Calvin, 38287 Date and Time: 04/15/20 12:10	Page 1 of 1	Disposition: ACCEPT
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MISC_AQUEOUS_U Analytical Report

Lab Report No. 2020047421	Date Sampled 04/14/2020	Enrichment 4.25
EPN No.	Contract XCES50	Submitter Sample No. CL3 AFTER

Remarks:

Parameter	Units	Low Spec	High Spec	Sub Sample ID & Analysis Results
				2020047421
				CL3 AFTER
				CL-3 AFTER
U	ppm			19.79

QC Disposition By: Candice Singletary, 38208

Date and Time: 04/14/20 13:10

Page 1 of 1

Disposition: **ACCEPT**

MISC_AQUEOUS_U Analytical Report

Lab Report No. 2020047423	Date Sampled 04/14/2020	Enrichment 4.25
EPN No.	Contract XCES50	Submitter Sample No. CL4 AFTER

Remarks:

Parameter	Units	Low Spec	High Spec	Sub Sample ID & Analysis Results
				2020047423
				CL4 AFTER
				CL-4 AFTER
U	ppm			13.36

QC Disposition By: Candice Singletary, 38208 Date and Time: 04/14/20 13:13	Page 1 of 1	Disposition: ACCEPT
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MISC_AQUEOUS_U Analytical Report

Lab Report No. 2020046809	Date Sampled 04/13/2020	Enrichment 4.25
EPN No.	Contract XCES50	Submitter Sample No. CL1BEFORE

Remarks: CL1BEFORE

Parameter	Units	Low Spec	High Spec	Sub Sample ID & Analysis Results
				2020046809
				CL1BEFORE
				CL1BEFORE
U	ppm			250

QC Disposition By: Angenett McFadden, 30204
 Date and Time: 04/13/20 15:25 Page 1 of 1 Disposition: **ACCEPT**

MISC_AQUEOUS_U Analytical Report

Lab Report No. 2020046811	Date Sampled 04/13/2020	Enrichment 4.25
EPN No.	Contract XCES50	Submitter Sample No. CL2 BEFORE

Remarks: CL2BEFORE

Parameter	Units	Low Spec	High Spec	Sub Sample ID & Analysis Results
				2020046811
				CL2 -----
				CL2 -----
U	ppm			110

QC Disposition By: Angenett McFadden, 30204
Date and Time: 04/13/20 15:25 Page 1 of 1 Disposition: **ACCEPT**

MISC_AQUEOUS_U Analytical Report

Lab Report No. 2020046812	Date Sampled 04/13/2020	Enrichment 4.25
EPN No.	Contract XCES50	Submitter Sample No. CL3 BEFORE

Remarks: CL3 BEFORE

Parameter	Units	Low Spec	High Spec	Sub Sample ID & Analysis Results
				2020046812
				CL3 -----
				CL3 -----
U	ppm			210

QC Disposition By: Angenett McFadden, 30204
Date and Time: 04/13/20 15:26
Page 1 of 1
Disposition: **ACCEPT**

MISC_AQUEOUS_U Analytical Report

Lab Report No. 2020047402	Date Sampled 04/14/2020	Enrichment 4.25
EPN No.	Contract XCES50	Submitter Sample No. CL4-BEFORE

Remarks: CL4-BEFORE

Parameter	Units	Low Spec	High Spec	Sub Sample ID & Analysis Results
				2020047402
				CL4-BEFOR
U	ppm			40

QC Disposition By: Angenett McFadden, 30204
Date and Time: 04/14/20 12:30

Disposition: **ACCEPT**

MISC_AQUEOUS_U Analytical Report

Lab Report No. 2020047406	Date Sampled 04/14/2020	Enrichment 4.25
EPN No.	Contract XCES50	Submitter Sample No. T-20

Remarks:

Parameter	Units	Low Spec	High Spec	Sub Sample ID & Analysis Results
				2020047406
				T-20
				URRS
U	ppm			<0.01

QC Disposition By: Rickel Murray, 36695
Date and Time: 04/14/20 14:01
Page 1 of 1
Disposition: **ACCEPT**

MISC_AQUEOUS_U Analytical Report

Lab Report No. 2020047405	Date Sampled 04/14/2020	Enrichment 4.25
EPN No.	Contract XCES50	Submitter Sample No. T-19

Remarks:

Parameter	Units	Low Spec	High Spec	Sub Sample ID & Analysis Results
				2020047405
				T-19
				URRS
U	ppm			<0.01

QC Disposition By: Rickel Murray, 36695
Date and Time: 04/14/20 14:00
Page 1 of 1
Disposition: ACCEPT

MISC_AQUEOUS_U Analytical Report

Lab Report No. 2020047404	Date Sampled 04/14/2020	Enrichment 4.25
EPN No.	Contract XCES50	Submitter Sample No. WEST 2

Remarks:

Parameter	Units	Low Spec	High Spec	Sub Sample ID & Analysis Results
				2020047404
				WEST 2
				URRS
U	ppm			0.03

QC Disposition By: Rickel Murray, 36695
 Date and Time: 04/14/20 14:00

Disposition: **ACCEPT**

Weight (g)							Plant Nominal		
Tare (liquid)	60.85						% U235 by Weight		
West 2	1049.25 g	PPM/U =	0.03 =	0.03	mgU	4.254	0.001276	mg U-235	
T-19	916.45 g	PPM/U =	< 0.01 =	0.01	mgU	4.254	0.000425	mg U-235	
T-20	923.05 g	PPM/U =	< 0.01 =	0.01	mgU	4.254	0.000425	mg U-235	
Conversion Line 1 Before	1008.48 g	PPM/U =	250 =	250	mgU	4.254	10.635	mg U-235	
Conversion Line 2 Before	944.29 g	PPM/U =	110 =	110	mgU	4.254	4.6794	mg U-235	
Conversion Line 3 Before	989.39 g	PPM/U =	210 =	210	mgU	4.254	8.9334	mg U-235	
Conversion Line 4 Before	945.71 g	PPM/U =	40 =	40	mgU	4.254	1.7016	mg U-235	
Conversion Line 1 After	950.16 g	PPM/U =	8.59 =	8.59	mgU	4.254	0.365419	mg U-235	
Conversion Line 2 After	972.67 g	PPM/U =	19.6 =	19.60	mgU	4.254	0.833784	mg U-235	
Conversion Line 3 After	917.64 g	PPM/U =	19.79 =	19.79	mgU	4.254	0.841867	mg U-235	
Conversion Line 4 After	958.90 g	PPM/U =	13.36 =	13.36	mgU	4.254	0.568334	mg U-235	
Scrap Cage Monitor	1032.91 g	PPM/U =	5.89 =	5.89	mgU	4.254	0.250561	mg U-235	
Biosolids	49.05 g	PPM/U =	211.1 =	211.10	mgU	4.254	8.980194	mg U-235	
Waterglass cake	153.79 g	PPM/U =	33794 =	33794	mgU	4.254	1437.597	mg U-235	
Calcium Fluoride	171.93 g	PPM/U =	8.96 =	8.96	mgU	4.254	0.381158	mg U-235	
TOTALS	11983.67 g			TOTALS:	34691.34 mgU		1475.77	mg U-235	
					34.69 g U		1.47577	g U-235	

CALCIUM_FLUORIDE Analytical Report

Lab Report No. 2020047844	Date Sampled 04/15/2020	Enrichment 4.25
EPN No.	Contract XCES50	Submitter Sample No. Calcium Fluoride

Blend/Lot No.

Remarks:

WinLIMS #	Sample ID	Parameters & Analysis Results
		U
		ppm
2020047844	Calcium Fluoride	8.96

QC Disposition By: Laurie Harvey, 35793
Date and Time: 04/15/20 10:48
Page 1 of 1
Disposition: ACCEPT

MISC_SOLID Analytical Report

Lab Report No. 2020047950	Date Sampled 04/15/2020	Enrichment 4.25
EPN No.	Contract XCES50	Submitter Sample No. D45671 SLUDGE DEWATER

Blend/Lot No. D45671

Remarks: D45671

WirLIMS #	Sample ID	Parameters & Analysis Results
-----------	-----------	-------------------------------

		U
		ppm
2020047950	D45671 SLUDGE DEWATER	211.10

QC Disposition By: Mark Krissinger, 31766
Date and Time: 04/15/20 12:30
Page 1 of 1
Disposition: ACCEPT

MISC_SOLID Analytical Report

Lab Report No. 2020046788	Date Sampled 04/13/2020	Enrichment 4.25
EPN No.	Contract XCES50	Submitter Sample No. D46035 waterglass

Blend/Lot No. D46035

Remarks: **D46035**

WinLIMS #	Sample ID	Parameters & Analysis Results
		U
		ppm
2020046788	D46035 waterglass	33794

QC Disposition By: Angenett McFadden, 30204
Date and Time: 04/13/20 15:24
Page 1 of 1
Disposition: **ACCEPT**

List of current GEL Certifications as of 13 May 2020

State	Certification
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122020-1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2019-165
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-20-16
Utah NELAP	SC000122020-32
Vermont	VT87156
Virginia NELAP	460202
Washington	C780