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Bureau of Land and Waste Management

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Bureau of Water

Our ref: LTR-RAC-21-73

November 29, 2021

**Sanitary Lagoon Sludge Characterization Report
Sanitary Lagoon Operable Unit
Remedial Investigation Addendum 3**

Dear Ms. Kuhn and Ms. Rippy:

The Westinghouse Electric Columbia Fuel Fabrication Facility (CFFF) prepared the following *Sanitary Lagoon Sludge Characterization Report*. The *Sanitary Lagoon Sludge Characterization Work Plan* (LTR-RAC-21-12) was submitted to DHEC on January 28, 2021 and approved by DHEC on May 28, 2021. The results of that sampling effort are reported herein.

Sincerely,

Diana Joyner
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Report reviewed by:

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Attachments:
CFFF Sanitary Lagoon Sludge Characterization Report

CFFF Sanitary Lagoon Sludge Characterization Report

1. OVERVIEW

The Sanitary Lagoon (lagoon) is a component of CFFF’s wastewater treatment system. The lagoon is approximately 240 feet (ft) by 240 ft and approximately 6-7 ft deep, including surface water and underlying sludge. The sludge is estimated to be approximately 1-2 ft thick. According to CFFF site documents, the lagoon was excavated and lined with compacted clay in 1968 when the facility was built. A rubber liner and gravel are present around the lagoon perimeter to prevent erosion; however, it is not known to what extent the rubber liner is present including if it covers the bottom of the lagoon. In the 1970’s, an activated sludge package plant (“package plant”) was installed to treat the sanitary wastewater prior to discharge into the Sanitary Lagoon. This additional activated sludge treatment reduced the volume of sludge being discharged to the lagoon. As a result, the lagoon has never required dredging to remove accumulated solids.

In accordance with the site’s strategic plan to reduce environmental risk associated with its operations, CFFF plans to close the lagoon (**Figure 1**) and replace it with a fully contained above-ground treatment system. To characterize the lagoon sludge for removal, the *Sanitary Lagoon Sludge Characterization Work Plan* (LTR-RAC-21-12) was submitted to the South Carolina Department of Health and Environmental Control (“DHEC” or “the Department”) on January 28, 2021 and following approval, implemented as described herein. The characterization data in this report will be used to prepare a Closure Plan for submission to the Department in accordance with the site’s National Pollutant Discharge Elimination System (NPDES) permit requirements. The analytical data is also used to identify constituents of potential concern (COPCs) that potentially could have impacted soil and groundwater underlying the lagoon and that will be further investigated under Consent Agreement 19-02-HW.

Figure 1 – CFFF Sanitary Lagoon Sampling Grid



2. SANITARY LAGOON SLUDGE SAMPLING

2.1. Overview

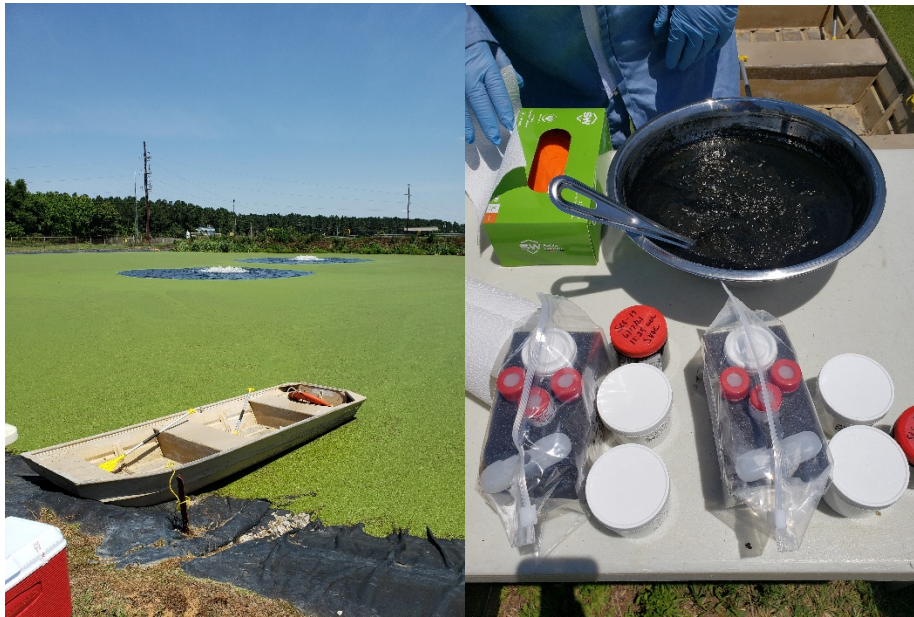
Sampling was performed June 14-18, 2021, as described in the *Sanitary Lagoon Sludge Characterization Work Plan* (LTR-RAC-21-12). Only one minor field change was made, which was discussed with DHEC and is detailed in Section 2.2 of this report. DHEC observed the sampling process on June 15, 2021.

Sample locations that could be safely accessed from the lagoon banks were sampled accordingly. Sample locations further inside the footprint of the lagoon required the use of a small boat, which was used as a floating work platform.

Sludge sampling was performed following EPA guidance, as advised in EPA Region 4 Operating Procedure SESDPROC-200-R3, *Sediment Sampling*. A push probe was used to collect the sludge samples. A push probe is a PVC tube that can be sealed on one end, leaving the other end open. For this sampling event, the probe was manually pushed below the water surface and into the sludge at each designated location with the intent of reaching the interface between the sludge and the bottom of the lagoon. Once the probe was advanced to the desired depth or as deeply as practical, the top of the probe was sealed to create a vacuum lock and to keep the sludge inside the probe. The push probe was then removed from the water and placed over a sample collection bowl. Next, the sealed end was opened which released the vacuum lock and allowed the sludge to empty into the sample bowl where it was prepared for sample collection.

Approximately 1 liter of sludge was collected from each sample location. At each sample location, the thickness of sludge and a description of it (color, odor, stratification, etc.) were recorded. Every sample was field screened using a beta/gamma sensitive radiological detector, and each volatile organic compound (VOC) sample was also field screened using a Photo Ionization Detector (PID). No elevated field screening levels were identified. All field screening measurements are recorded in field notes in **Attachment 2**. Photographs of the sampling event are provided in **Figure 2**.

Figure 2 – Sanitary Lagoon Sampling Event



The sample locations and analytical parameters are provided in **Table 1**. The specific analytical methods and detection limits are included in **Table 2**. Consistent with the *Sanitary Lagoon Sludge Characterization Work Plan*, samples included the following:

- All samples were analyzed for isotopic uranium (Iso-U), technetium-99 (Tc-99), fluoride (F), nitrate (N), and ammonia (Am).
- Five systematic samples were analyzed by the Toxicity Characteristic Leaching Procedure (TCLP) and the EPA's Target Compound List/Target Analyte List (TCL/TAL).
- Duplicate samples were collected for quality control.

In addition to the samples specified by the *Sanitary Lagoon Sludge Characterization Work Plan*, the following samples were collected:

- Five systematic sample locations also were analyzed for the TCL, including volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs), due to a field change discussed below in Section 2.2.
- As requested by DHEC, a biased sample for all the specified parameters was collected at the lagoon influent, where wastewater is discharged into the lagoon from the upstream package plant.

The TCLP and TCL analysis excluded pesticides and herbicides because these parameters could reasonably be expected not to be present in the sludge based on site history.

Table 1 – Sample Locations

Sample Grid Number	Location Type	Sample Analysis
1	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am, TCL/TAL and TCLP
2	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am
3	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am, TCL VOCs/SVOCs
4	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am
5	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am, TCL/TAL and TCLP
6	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am
7	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am, TCL VOCs/SVOCs
8	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am
9	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am, TCL VOCs/SVOCs
10	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am
11	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am
12	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am
13	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am, TCL/TAL and TCLP
14	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am
15	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am
16	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am
17	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am, TCL VOCs/SVOCs
18	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am
19	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am, TCL VOCs/SVOCs
20	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am
21	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am, TCL/TAL and TCLP
22	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am
23	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am
24	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am
25	Systematic Grid Sample	Iso-U, Tc-99, F, N, Am, TCL/TAL and TCLP
B1	Biased Sample at Inlet	Iso-U, Tc-99, F, N, Am, TCL/TAL and TCLP
B2	SLS-1 Duplicate	Iso-U, Tc-99, F, N, Am, TCL/TAL and TCLP
B3	SLS-19 Duplicate	Iso-U, Tc-99, F, N, Am, TCL VOCs/SVOCs

Table 2 – Analytical Methods

Analysis	Method	Laboratory Requested Level (RL)*
Iso-U	DOE HASL 300 U-02-RC Mod	1.0 pCi/g
Tc-99	DOE HASL 300 Tc-02-RC Mod	5.0 pCi/g
Fluoride	SW 9056A	0.1 mg/L
Nitrate	SW 9056A	0.1 mg/L
Ammonia	EPA 350.1 Mod/ SM 4500-NH3 B Mod	0.25 mg/L
VOCs	SW8260B	Lowest achievable
TCL/TAL	SW846 8260B/8270B/6010C/7470A	Lowest achievable
TCLP	SW 1311/8260B/ 8270D/6010C/7470A	< TCLP Limits

* The contract laboratories made every effort to achieve the lowest possible detection limits. Please note that detection limits vary based on the moisture content of the sludge samples as well as the chemical and physical consistency of the sample matrix.

2.2. Field Change

The *Sanitary Lagoon Sludge Characterization Work Plan* (LTR-RAC-21-12) specified that all samples be screened in the field with a PID; however due to unforeseen delays, the PID was not available when sampling began on June 14, 2021. This delay was discussed with DHEC, and it was decided that all VOC sampling would be delayed until the PID arrived, and that an additional 5 TCL VOC sample locations would be added to the original plan for a total of 10 TCL VOC samples plus the biased wastewater influent sample and an additional TCL duplicate sample. Note that Westinghouse elected to analyze the five additional TCL VOC samples for TCL SVOCs as well. With this plan in place, DHEC agreed that sampling for the non-VOC parameters (U, Tc-99, F, N, and Am) could proceed without screening the samples with a PID. This plan was communicated verbally with DHEC and confirmed via email prior to initiation of field sampling activities. The sampling that included VOCs was performed on June 17, 2021, when the PID was available.

2.3. Radiological Results

All sludge samples were radiologically screened in the field with a gamma sensitive probe prior to sample collection; however due to the small amount of sample media collected from each location, and the high moisture content, no radiological screening results greater than background were observed.

Laboratory-generated radiological sample results are provided in units of picocuries (pCi) per gram (g) of sample media. Following the approach in the CFFF site's *Environmental Remediation* procedure RA-433, a sum of fractions (SOF) was calculated to evaluate the sample results. The Residential and Industrial screening levels used in procedure RA-433 are taken from NUREG-1757, *Consolidated Decommissioning Guidance*.

To calculate the SOF, each radioisotope was compared to the screening level provided, and the result was determined as a fraction of the screening level. Then all fractions were summed for each sample. If the SOF is less than or equal to 1.0, the screening level is not exceeded. If a SOF is greater than 1.0, the sample exceeds the screening level provided in procedure RA-433.

Since the CFFF is an active facility, using Residential Use Screening Levels (RUSL) as a comparison is a conservative measure. For example, the RUSLs for radiological constituents were determined using highly conservative assumptions to develop an exposure scenario where it is assumed that a person would construct a house on the property, live on the property, drink the groundwater, and eat produce farmed on the property as well as fish caught on the property.

The lagoon represents an Industrial Use area at CFFF, meaning operations and activities are conducted in the area to support manufacturing. Industrial Use Screening Levels (IUSL) are also based on conservative assumptions, but these assumptions better represent the current and future use of the CFFF, as it is assumed that the industrial worker will not live on the property or engage in the consumption of any food or water produced on the property. The lagoon footprint is within a controlled area of the site and is not accessible to the public. Therefore, use of the IUSLs is appropriate to evaluate the data. RUSLs are also provided for informational purposes. The Radiological IUSLs established in procedure RA-433 are provided in **Table 3**.

Table 3 – Radiological IUSLs

Contaminant	Action Level	Basis of Action Level
Uranium - 234	3,310 pCi/g	NUREG 1757, Appendix H ¹
Uranium – 235	39 pCi/g	NUREG 1757, Appendix H ¹
Uranium – 238	179 pCi/g	NUREG 1757, Appendix H ¹
Technetium - 99	89,400 pCi/g	NUREG 1757, Appendix H ¹

¹ NUREG-1757 Vol. 1, Rev.2 Consolidated Decommissioning Guidance, Appendix H: Memorandum of Understanding between the Environmental Protection Agency and the Nuclear Regulatory Commission, Final Report September 2006.

Since the sample media was sludge from a lagoon, the amount of residual moisture in each sample was very high, as much as 90% or more in some cases. The analytical laboratory dried each sample prior to analysis. Because of this, the radiological results are reported in two ways: dried sample activity (as reported by the analytical laboratory), and moisture included (accounting for the residual moisture that is present in each sample). The dried Sanitary Lagoon radiological sample results are provided in **Table 4**.

Table 4 – Sanitary Lagoon Radiological Results, Dried Sample Activity

Sample ID	Gross Analyte Activity (pCi/g)				SOF	SOF
	U-234	U-235	U-238	Tc-99	Residential	Industrial
SLS-01	99.9	4.5	20.8	2.9	9.9	0.3
SLS-02	43.4	2.7	9.4	1.3	4.4	0.1
SLS-03	105.0	5.8	24.3	5.6	10.8	0.3
SLS-04	48.4	2.6	12.0	2.0	5.0	0.1
SLS-05	351.0	17.3	80.3	50.2	37.5	1.0
SLS-06	14.7	0.8	3.0	0.0	1.5	0.0
SLS-07	1,390.0	62.1	250.0	2.8	132.7	3.4
SLS-08	1,880.0	146.0	389.0	4.2	190.9	6.5
SLS-09	1,660.0	76.5	391.0	23.6	166.4	4.6
SLS-10	12.6	0.7	3.2	2.4	1.4	0.0
SLS-11	309.0	15.0	51.2	1.0	29.4	0.8
SLS-12	2,210.0	121.0	418.0	3.3	215.2	6.1
SLS-13	1,840.0	91.9	435.0	7.9	184.5	5.3
SLS-14	2,870.0	189.0	703.0	22.8	295.8	9.6
SLS-15	33.4	2.3	6.5	0.2	3.3	0.1
SLS-16	192.0	11.1	35.2	1.0	18.7	0.5
SLS-17	2,580.0	141.0	467.0	1.8	249.5	7.0
SLS-18	2,540.0	147.0	516.0	11.2	251.2	7.4
SLS-19	2,180.0	121.0	538.0	10.2	221.8	6.8
SLS-20	1,790.0	120.0	350.0	3.0	177.9	5.6
SLS-21	299.0	14.1	61.8	11.4	29.8	0.8
SLS-22	1,380.0	96.6	295.0	3.0	139.5	4.5
SLS-23	1,300.0	107.0	316.0	3.3	136.1	4.9
SLS-24	1,940.0	144.0	348.0	1.3	192.2	6.2
SLS-25	2,490.0	124.0	546.0	6.6	246.4	7.0
SLS-B1 (Biased at inlet)	42.5	1.7	8.4	1.2	4.1	0.1
SLS-B2 (SLS-01 DUP)	50.0	2.4	9.6	1.4	4.9	0.1
SLS-B3 (SLS-19 DUP)	2,180.0	119.0	511.0	12.9	219.7	6.6

Bold values indicate that the SOF for the screening level has been exceeded.

Approximately 54% of the dried sludge sample radiological results shown in Table 4 are above the IUSLs. These results, however, do not represent a risk to the work force because the lagoon is not dry. To better understand the current status and risk to workers represented by the lagoon sludge, the moisture included sample activities provided in **Table 5** should be considered.

Table 5 – Sanitary Lagoon Radiological Results, Moisture Included Sample Activity

Sample ID	% Moisture	Moisture Included Activity (pCi/g)				SOF Residential	SOF Industrial
		U-234	U-235	U-238	Tc-99		
SLS-01	31.4	68.5	3.1	14.3	2.9	6.8	0.2
SLS-02	24.2	32.9	2.1	7.1	2.9	3.4	0.1
SLS-03	24.3	79.5	4.4	18.4	1.3	8.0	0.2
SLS-04	16.9	40.2	2.2	10.0	5.6	4.4	0.1
SLS-05	37.1	220.8	10.9	50.5	2.0	22.1	0.6
SLS-06	20.8	11.6	0.7	2.4	50.2	3.8	0.0
SLS-07	95	69.5	3.1	12.5	0.0	6.6	0.2
SLS-08	93.7	118.4	9.2	24.5	2.8	12.2	0.4
SLS-09	87.8	202.5	9.3	47.7	4.2	20.4	0.6
SLS-10	18.5	10.3	0.6	2.6	23.6	2.3	0.0
SLS-11	72.8	84.0	4.1	13.9	2.4	8.1	0.2
SLS-12	95.6	97.2	5.3	18.4	1.0	9.5	0.3
SLS-13	92.7	134.3	6.7	31.8	3.3	13.6	0.4
SLS-14	89.1	312.8	20.6	76.6	7.9	32.5	1.1
SLS-15	28.6	23.8	1.6	4.6	22.8	3.6	0.1
SLS-16	37.5	120.0	6.9	22.0	0.2	11.7	0.3
SLS-17	96.5	90.3	4.9	16.3	1.0	8.8	0.2
SLS-18	94.1	149.9	8.7	30.4	1.8	14.9	0.4
SLS-19	92.4	165.7	9.2	40.9	11.2	17.4	0.5
SLS-20	94.8	93.1	6.2	18.2	10.2	9.8	0.3
SLS-21	33.4	199.1	9.4	41.2	3.0	19.6	0.5
SLS-22	94.8	71.8	5.0	15.3	11.4	7.8	0.2
SLS-23	93.2	88.4	7.3	21.5	3.0	9.4	0.3
SLS-24	96.1	75.7	5.6	13.6	3.3	7.7	0.2
SLS-25	92.7	181.8	9.1	39.9	1.3	18.0	0.5
SLS-B1 (Biased at inlet)	26.8	31.1	1.2	6.1	6.6	3.3	0.1
SLS-B2 (SLS-01 DUP)	24.6	37.7	1.8	7.3	1.2	3.7	0.1
SLS-B3 (SLS-19 DUP)	92.3	167.9	9.2	39.3	1.4	16.9	0.5

The moisture included sample results reflect: (1) the actual current conditions of the lagoon, (2) that the sediment has a high moisture content, and (3) the lagoon is always covered by water. The moisture included radiological sample results in **Table 5** indicate that only one of the radiological results (SLS-14) from the lagoon is slightly elevated above its IUSL. Location SLS-14 is located near the center of the lagoon (**Figure 1**), under several feet of water, and is not accessible by the CFFF work force. Therefore, the sludge at location SLS-14 and the other locations does not represent any risk to the CFFF work force or public because the Sanitary Lagoon is properly contained and monitored.

These radiological results will guide closure planning, considering all aspects of safety. The sample results do indicate that some portions of the lagoon sludge are likely to exceed the IUSL; therefore, care will be taken during closure to ensure that worker exposure is minimized. Engineering controls such as the use of heavy equipment and administrative controls such as dose monitoring and proper personal protective equipment (PPE) will all be required. Extensive criticality safety considerations are not anticipated as the average fissile concentration of the sludge based on the sample results has been calculated to be approximately 0.1 grams U-235/L or less. A maximum fissile concentration of 0.1 gram U-235 per liter of media has been accepted by the United States Nuclear Regulatory Commission (NRC) as an inherently safe concentration of Special Nuclear Material (SNM) for exhumed waste materials, and therefore the lagoon sludge will not pose a criticality safety risk.

2.4. Chemical Results

Chemical sample results for fluoride, nitrate, and ammonia are provided in units of milligrams (mg) per kilogram (kg) or in parts per million (ppm) of sample media. Sample results that are reported less than the analytical Detection Limit (DL) are reported as non-detect (ND). Chemical results for fluoride and nitrate are compared to the soil screening RUSLs and IUSLs provided in the EPA Regional Screening Levels Summary Table provided in **Table 6**.

Table 6 – Fluoride and Nitrate RUSLs and IUSLs

Contaminant	RUSL	IUSL	Basis of Action Level
Fluoride	3,100 mg/kg	47,000 mg/kg	EPA Regional Screening Levels ¹
Nitrate	130,000 mg/kg	1,900,000 mg/kg	EPA Regional Screening Levels ¹

¹ USEPA Regional Screening Level, Summary Table (TR=1E-06, HQ=1), November 2021

The lagoon chemical parameters of Fluoride, Nitrate, and Ammonia are summarized in **Table 7**.

Table 7 – Sanitary Lagoon Chemical Results (Fluoride, Nitrate, and Ammonia)

Sample ID	Analyte Result (ppm)		
	Fluoride	Nitrate	Ammonia
SLS-01	8.5	ND	331.0
SLS-02	8.5	ND	100.0
SLS-03	5.6	ND	42.8
SLS-04	12.2	ND	26.9
SLS-05	12.4	0.8	132.0
SLS-06	12.5	ND	133.0
SLS-07	77.5	10.0	2,480.0
SLS-08	67.2	ND	2,720.0
SLS-09	91.3	3.7	1,900.0
SLS-10	12.2	ND	34.2
SLS-11	14.4	ND	1,150.0
SLS-12	152.0	ND	4,800.0
SLS-13	98.8	7.0	2,610.0
SLS-14	84.5	ND	1,330.0
SLS-15	2.3	ND	91.5
SLS-16	3.3	ND	151.0
SLS-17	114.0	13.9	3,640.0
SLS-18	71.2	ND	3,540.0
SLS-19	93.0	6.4	3,240.0
SLS-20	108.0	ND	4,780.0
SLS-21	3.6	0.7	210.0
SLS-22	114.0	ND	3,890.0
SLS-23	94.1	ND	3,820.0
SLS-24	137.0	ND	5,450.0
SLS-25	91.9	ND	2,740.0
SLS-B1 (Biased at inlet)	3.5	ND	74.0
SLS-B2 (SLS-1 DUP)	4.0	ND	35.2
SLS-B3 (SLS-19 DUP)	93.9	6.2	3,740.0

The chemical sample results in Table 7 indicate that none of the chemical results from the lagoon are elevated above the RUSLs or IUSLs.

The six locations (plus one duplicate) identified in Table 1 were selected for TCLP analysis. These sample results are provided in mg per liter (L) of sample media. Sample results that were reported less than the DL are shown as ND, and only those parameters with at least one detection per sample are reported. The results are summarized in Table 8, and the complete analytical report is provided in **Attachment 1**.

Table 8 – TCLP Results

Analyte (with TCLP Limit)	Barium (100 mg/L)	Methyl ethyl ketone (2-butanone) (200 mg/L)	Tetrachloroethylene (0.7 mg/L)	Trichloroethylene (0.5 mg/L)
SLS-1	0.103	0.0204 BJ	ND	ND
SLS-5	0.132	0.0207 BJ	ND	ND
SLS-13	0.106	0.0233 BJ	ND	ND
SLS-21	0.13	0.0294 BJ	ND	ND
SLS-25	0.123	0.0271 BJ	0.47	0.104
SLS-B1	0.108	0.0242 BJ	ND	ND
SLS-B2	0.103	0.0183 BJ	ND	ND

B – The target analyte was detected in the associated blank.

J - Estimated concentration greater than the Detection Limit and less than the Reporting Limit.

These results are consistent with past sample results collected from the lagoon during Remedial Investigation (RI) sampling events, indicating no significant change over time. The TCLP results demonstrate that the lagoon sludge is non-hazardous. Only four of the TCLP constituents were detected, and all are at concentrations below TCLP hazardous waste limits. These results do not impact the plan to close the lagoon and dispose of the sludge at an off-site facility.

Six locations were identified for TAL/TCL analysis as well as the five added TCL VOC/SVOC analysis, plus two duplicate samples (see Table 1). These sample results are provided in micrograms (ug) per kg or parts per billion. The analytical results for these sample locations are summarized in Table 9. Sample results reported less than the laboratory DL are shown as ND, and only those parameters with at least one detection are reported. The complete analytical report is provided in **Attachment 1**.

VOC, SVOC and TAL results are useful in understanding what constituents are present in the lagoon. However, since no potentially hazardous concentrations were identified by the TCLP results, there is no concern with elevated TAL/TCL results relative to sludge disposal. Nevertheless, these parameters will be evaluated during the lagoon closure process with respect to potential impact to subsurface soil and groundwater beneath the lagoon. This evaluation will be incorporated into the Closure Plan for the Sanitary Lagoon.

Table 9 – TCL VOCs/SVOCs/PCBs and TAL Metals Results

TCL VOCs (ug/kg)													
Analyte	SLS-1	SLS-3	SLS-5	SLS-7	SLS-9	SLS-13	SLS-17	SLS-19	SLS-21	SLS-25	SLS-B1	SLS-B2	SLS-B3
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.58 J
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	27.5	ND	ND	ND	ND	22.5
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	100	ND	87.7	ND	ND	ND	ND	77.9
2-Butanone	9.06	4.45 J	14.7	213	1060	1020	421	1270	17.9	1330	5.84	4.54	1240
Acetone	86.4	71.1	84.3	1080	4210	4480	2080	4960	112	5890	46.3	67.5	4910
Benzene	ND	ND	ND	ND	3.88 J	8.32 J	ND	17.9	ND	9.39 J	ND	ND	14.4 J
Carbon disulfide	2.36 J	ND	3.46 J	82.9 J	256	225	94.7 J	316	4.2	457	ND	2.62 J	283
Ethylbenzene	ND	ND	ND	ND	5.32 J	13.6 J	ND	14.4 J	ND	5.72 J	ND	ND	11.8 J
Isopropylbenzene	ND	ND	ND	ND	8.1 J	ND	ND	9.81 J	ND	ND	ND	ND	7.92 J
m,p-Xylenes	ND	ND	ND	ND	18.4 J	39.2	38.2 J	62.5	ND	23.8 J	ND	ND	52.1
Methylene chloride	ND	ND	ND	ND	ND	37.3 J	ND	ND	ND	ND	ND	ND	ND
Toluene	0.677 J	ND	ND	ND	6.76 J	7.19 J	ND	11.7 J	ND	10.4 J	ND	ND	9.77 J
TCL SVOCs (ug/kg)													
Analyte	SLS-1	SLS-3	SLS-5	SLS-7	SLS-9	SLS-13	SLS-17	SLS-19	SLS-21	SLS-25	SLS-B1	SLS-B2	SLS-B3
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	126 J	NA	ND	ND	NA
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	958	NA	ND	ND	NA
Benzo(a)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	12400	NA	ND	ND	NA
Benzo(a)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	13500	NA	ND	ND	NA
Benzo(b)fluoranthene	19.5 J	ND	ND	ND	89.2 J	ND	ND	ND	17700	NA	ND	ND	NA
Benzo(ghi)perylene	ND	ND	ND	ND	ND	ND	ND	ND	6600	NA	ND	ND	NA
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	6690	NA	ND	ND	NA
bis(2-Ethylhexyl)phthalate	51.4	ND	384 J	367 J	608	218 J	ND	ND	800	NA	ND	169 J	NA
Carbazole	ND	ND	ND	ND	ND	ND	ND	ND	166 J	NA	ND	ND	NA
Chrysene	ND	ND	ND	ND	ND	ND	ND	ND	11800	NA	ND	ND	NA
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	1640	NA	ND	ND	NA
Fluoranthene	27.1 J	ND	ND	ND	230 J	ND	ND	ND	20900	NA	ND	ND	NA
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	156 J	NA	ND	ND	NA
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	8830	NA	ND	ND	NA
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	240 J	NA	ND	ND	NA
Phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND	1800	NA	ND	ND	NA
Pyrene	22.4 J	ND	ND	ND	211 J	ND	ND	ND	13300	NA	ND	ND	NA

NA: Not Analyzed because of matrix interference.

ND: Not Detected.

J - Estimated concentration greater than the Detection Limit and less than the Reporting Limit.

Table 9 – TCL VOCs/SVOCs/PCBs and TAL Metals Results (cont.)

TCL PCBs (ug/kg)							
Analyte	SLS-1	SLS-5	SLS-13	SLS-21	SLS-25	SLS-B1	SLS-B2
Aroclor-1254	171	153	135 J	48.9	397	15.4 J	9.43 J
Aroclor-1260	75.7 P	65.1 P	ND	ND	ND	ND	ND
Aroclor-1268	82.4	61	447	33.3	354	10.4 J	9.27 J
TAL Metals (ug/kg)							
Analyte	SLS-1	SLS-5	SLS-13	SLS-21	SLS-25	SLS-B1	SLS-B2
Aluminum	5130000	6380000	21500000	1490000	24400000	1660000	2150000
Antimony	ND	ND	11100 J	9890 J	4810 J	ND	ND
Arsenic	3860	4080 J	35400 J	ND	36100 J	970 J	2290 J
Barium	54700	41000	352000	86000	295000	14800	22500
Beryllium	277 J	ND	ND	243 J	ND	ND	ND
Cadmium	209 J	222 J	19600	1530	8270	ND	142 J
Calcium	4410000	5340000	77900000	9540000	52500000	439000	658000
Chromium	11300	14600	159000	344000	104000	6080	34800
Cobalt	1630	1650	39200	9690	22300	464 J	956
Copper	52100	77100	1710000	306000	1280000	10500	46800
Iron	2980000	4190000	28400000	158000000	27600000	1880000	2560000
Lead	10100	12700	107000	20100 J	107000	3700	5480
Magnesium	205000	320000	2220000	1050000	1990000	69100	133000
Manganese	16800	24700	151000	585000	122000	7690	9830
Nickel	22900	19000	381000	874000	292000	15200	143000
Potassium	197000	283000	1220000	211000 J	935000	86900	109000
Selenium	ND	ND	7240 J	ND	ND	ND	663 J
Silver	63100	200000	2060000	336000	1440000	9870	23900
Sodium	118000	144000	1900000	151000	1480000	51000	69700
Thallium	ND	ND	ND	12000 J	ND	ND	ND
Vanadium	5320	7180	33600	8770	38600	3330	5100
Zinc	101000	165000	4810000	1210000	4430000	70300	121000

B - The target analyte was detected in the associated blank.

J - Estimated concentration greater than the Detection Limit and less than the Reporting Limit.

P - Organics-The concentrations between the primary and confirmation columns/detectors is >40% different.

The results in **Table 9** are consistent with past sample results collected from the lagoon during RI sampling, indicating no significant changes over time. These results do not impact the plan to close the Sanitary Lagoon and dispose of the lagoon sludge at a properly permitted off-site facility. The analytical laboratory reports are provided in **Attachment 1**.

3. QUALITY CONTROL

To ensure the defensibility and validity of the data, field QC samples were collected and analyzed as follows:

- Field Duplicate (FD) samples – Two (2) FD samples were collected to achieve the desired rate of 1 duplicate per 20 field samples. FD samples were submitted “blind” to the laboratory with two different sample identifiers (IDs). Each FD sample was analyzed for the same parameters as the primary sample.
- Rinsate Blank (RB) samples – One (1) RB sample was collected each day sampling equipment was reused in the field and field cleaned per the specifications in Section 6.2 of the *Sanitary Lagoon Sludge Characterization Work Plan*. RB samples were collected from the final rinse of the sampling equipment. The RB samples were analyzed for the parameters being tested that day.
- Trip Blanks (TB) samples – TB samples packaged in VOC sample vials were provided by the laboratory. The sample vials were transported to the site in sample coolers and returned to the laboratory unopened. The TB samples were tested for TCL VOCs. Thus, trip blanks were included in only the sample coolers used to ship VOCs.

Review of the QC results demonstrates the validity of the characterization sample results. FD samples are in good agreement with the original “parent” sample. RB samples do not indicate any residual contamination from reusable sample equipment. Additionally, the TB samples do not indicate any potential VOC contamination of the sample coolers in transport. All QC parameters are reported in **Attachment 1**.

In addition to field QC samples, the laboratory analyzing the samples (GEL) conducted its own internal QC procedures specific to each analytical method to evaluate analytical accuracy and precision relative to the sample matrices. Examples of laboratory QC samples include Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples, Laboratory Control Samples (LCS), and internal duplicate samples.

All sample data provided in the analytical laboratory report satisfactorily meets the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with minor exceptions. These exceptions are provided in the case narrative of the laboratory reports provided in **Attachment 1**. They have been reviewed and determined appropriate. Therefore the laboratory analytical results are deemed valid. All analytical tests were performed under NELAP certification, and the analyses have met all of the requirements of the NELAC standards.

4. CONCLUSION

The purpose of the *Sanitary Lagoon Sludge Characterization Work Plan* was to evaluate the current conditions of the lagoon and to acquire enough radiological and chemical characterization data so that a closure plan can be developed to specify the methods to close the lagoon in a safe manner and dispose of the sludge off-site.

The data collected by this characterization provides a sufficient amount of information to support planning for closure of the lagoon and to characterize the waste for off-site disposal. CFFF engineering staff are currently working on a new system design to replace the functionality of the lagoon, and additional investigations are underway to estimate the volume of sludge and best means to solidify it. The analytical data will also be used to evaluate COPCs relevant to the RI. Until such time as the lagoon is decommissioned, these results demonstrate there is no risk presented to the CFFF workforce, the public at large, or the surrounding environment by the ongoing operation of the lagoon.

5. ATTACHEMNTS

Attachment 1 – GEL Analytical Laboratory Reports

Attachment 2 – Sanitary Lagoon Sampling Field Notes

6. REFERENCES

CFFF Site Procedure RA-433, Revision 1, Environmental Remediation (Westinghouse, 2020)

Guidance on Choosing a Sampling Design for Environmental Data Collection, EPA QA/G-5S (December 2002)

Sediment Sampling, Operating Procedure SESDPROC-200-R3, EPA Region 4, Science and Ecosystem Support Division (August 2014)

Description and Sampling of Contaminated Soils, EPA/625/12-91/002 (November 1991)

Consolidated Decommissioning Guidance, NUREG-1757 (NRC, 2020)

Attachment 1
GEL Analytical Laboratory Reports



July 14, 2021

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

Re: Sanitary Lagoon Sludge Characterization
Work Order: 547456

Dear Ms. Teague:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 16, 2021. 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. 4523.

Sincerely,

Samuel Hogan
Project Manager

Purchase Order: 4500822910 Line 1
Enclosures

GEL LABORATORIES LLC

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

**Certificate of Analysis Report
for**

WNUC010 Westinghouse Electric Company PO (4500822910)

Client SDG: 547456 GEL Work Order: 547456

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
- J See case narrative for an explanation
- J Value is estimated
- 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, Samuel Hogan.



Reviewed by _____

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: July 14, 2021

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

 Columbia, South Carolina 29205
 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-02	Project: WNUC01921
Sample ID: 547456001	Client ID: WNUC010
Matrix: Sludge	
Collect Date: 15-JUN-21 07:05	
Receive Date: 16-JUN-21	
Collector: Client	
Moisture: 24.2%	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		8.54	0.435	1.28	mg/kg	9.71	1	LXA2	06/17/21	1506	2140158	1
Nitrate-N	U	ND	0.423	1.28	mg/kg	9.71	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		100	2.41	6.70	mg/kg	20.3	5	AXH3	06/30/21	1147	2140197	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	KLP1	06/29/21	1309	2140196
SW846 9056A	SW846 9056A Total Anions in Soil	LXA2	06/17/21	1302	2140157

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 9056A		
2	EPA 350.1 Modified SC		

Notes:

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: July 14, 2021

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

Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-04 Project: WNUC01921
Sample ID: 547456002 Client ID: WNUC010
Matrix: Sludge
Collect Date: 15-JUN-21 07:15
Receive Date: 16-JUN-21
Collector: Client
Moisture: 16.9%

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		12.2	0.402	1.18	mg/kg	9.83	1	LXA2	06/17/21	1536	2140158	1
Nitrate-N	U	ND	0.390	1.18	mg/kg	9.83	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		26.9	0.541	1.50	mg/kg	25.0	1	AXH3	06/30/21	1129	2140197	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	KLP1	06/29/21	1309	2140196
SW846 9056A	SW846 9056A Total Anions in Soil	LXA2	06/17/21	1302	2140157

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 9056A		
2	EPA 350.1 Modified SC		

Notes:

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: July 14, 2021

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

 Columbia, South Carolina 29205
 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-06	Project: WNUC01921
Sample ID: 547456003	Client ID: WNUC010
Matrix: Sludge	
Collect Date: 15-JUN-21 07:30	
Receive Date: 16-JUN-21	
Collector: Client	
Moisture: 20.8%	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		12.5	0.429	1.26	mg/kg	10.0	1	LXA2	06/17/21	1606	2140158	1
Nitrate-N	U	ND	0.417	1.26	mg/kg	10.0	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		133	5.26	14.6	mg/kg	46.3	5	AXH3	06/30/21	1149	2140197	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	KLP1	06/29/21	1309	2140196
SW846 9056A	SW846 9056A Total Anions in Soil	LXA2	06/17/21	1302	2140157

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 9056A		
2	EPA 350.1 Modified SC		

Notes:

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: July 14, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-10	Project:	WNUC01921
Sample ID:	547456004	Client ID:	WNUC010
Matrix:	Sludge		
Collect Date:	15-JUN-21 07:50		
Receive Date:	16-JUN-21		
Collector:	Client		
Moisture:	18.5%		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		12.2	0.405	1.19	mg/kg	9.71	1	LXA2	06/17/21	1635	2140158	1
Nitrate-N	U	ND	0.393	1.19	mg/kg	9.71	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		34.2	0.452	1.26	mg/kg	20.5	1	AXH3	06/30/21	1133	2140197	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	KLP1	06/29/21	1309	2140196
SW846 9056A	SW846 9056A Total Anions in Soil	LXA2	06/17/21	1302	2140157

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 9056A		
2	EPA 350.1 Modified SC		

Notes:

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: July 14, 2021

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

 Columbia, South Carolina 29205
 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-11	Project: WNUC01921
Sample ID: 547456005	Client ID: WNUC010
Matrix: Sludge	
Collect Date: 15-JUN-21 08:15	
Receive Date: 16-JUN-21	
Collector: Client	
Moisture: 72.8%	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		14.4	1.21	3.55	mg/kg	9.64	1	LXA2	06/17/21	1705	2140158	1
Nitrate-N	U	ND	1.17	3.55	mg/kg	9.64	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		1150	13.1	36.5	mg/kg	39.7	5	AXH3	06/30/21	1154	2140197	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	KLP1	06/29/21	1309	2140196
SW846 9056A	SW846 9056A Total Anions in Soil	LXA2	06/17/21	1302	2140157

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 9056A		
2	EPA 350.1 Modified SC		

Notes:

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: July 14, 2021

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

 Columbia, South Carolina 29205
 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-15	Project: WNUC01921
Sample ID: 547456006	Client ID: WNUC010
Matrix: Sludge	
Collect Date: 15-JUN-21 08:30	
Receive Date: 16-JUN-21	
Collector: Client	
Moisture: 28.6%	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		2.28	0.466	1.37	mg/kg	9.78	1	LXA2	06/18/21	0900	2140156	1
Nitrate-N	U	ND	0.452	1.37	mg/kg	9.78	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		91.5	2.65	7.36	mg/kg	21.0	5	AXH3	06/30/21	1155	2140197	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	KLP1	06/29/21	1309	2140196
SW846 9056A	SW846 9056A Total Anions in Soil	SH3	06/17/21	2100	2140155

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	EPA 350.1 Modified SC	

Notes:

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: July 14, 2021

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

 Columbia, South Carolina 29205
 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-16	Project: WNUC01921
Sample ID: 547456007	Client ID: WNUC010
Matrix: Sludge	
Collect Date: 15-JUN-21 08:45	
Receive Date: 16-JUN-21	
Collector: Client	
Moisture: 37.5%	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		3.25	0.548	1.61	mg/kg	10.1	1	LXA2	06/18/21	1029	2140156	1
Nitrate-N	U	ND	0.532	1.61	mg/kg	10.1	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		151	3.21	8.93	mg/kg	22.3	5	AXH3	06/30/21	1156	2140197	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	KLP1	06/29/21	1309	2140196
SW846 9056A	SW846 9056A Total Anions in Soil	SH3	06/17/21	2100	2140155

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 9056A		
2	EPA 350.1 Modified SC		

Notes:

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: July 14, 2021

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

Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-20 Project: WNUC01921
Sample ID: 547456008 Client ID: WNUC010
Matrix: Sludge
Collect Date: 15-JUN-21 09:10
Receive Date: 16-JUN-21
Collector: Client
Moisture: 94.8%

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		108	6.43	18.9	mg/kg	9.76	1	LXA2	06/18/21	1059	2140156	1
Nitrate-N	U	ND	6.24	18.9	mg/kg	9.76	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		4780	62.3	173	mg/kg	35.7	5	AXH3	06/30/21	1157	2140197	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	KLP1	06/29/21	1309	2140196
SW846 9056A	SW846 9056A Total Anions in Soil	SH3	06/17/21	2100	2140155

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 9056A		
2	EPA 350.1 Modified SC		

Notes:

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: July 14, 2021

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

Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-24 Project: WNUC01921
Sample ID: 547456009 Client ID: WNUC010
Matrix: Sludge
Collect Date: 15-JUN-21 09:40
Receive Date: 16-JUN-21
Collector: Client
Moisture: 96.1%

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		137	8.66	25.5	mg/kg	9.95	1	LXA2	06/18/21	1129	2140156	1
Nitrate-N	U	ND	8.41	25.5	mg/kg	9.95	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		5450	58.8	163	mg/kg	25.5	5	AXH3	06/30/21	1158	2140197	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	KLP1	06/29/21	1309	2140196
SW846 9056A	SW846 9056A Total Anions in Soil	SH3	06/17/21	2100	2140155

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 9056A		
2	EPA 350.1 Modified SC		

Notes:

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: July 14, 2021

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

 Columbia, South Carolina 29205
 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-23	Project: WNUC01921
Sample ID: 547456010	Client ID: WNUC010
Matrix: Sludge	
Collect Date: 15-JUN-21 10:05	
Receive Date: 16-JUN-21	
Collector: Client	
Moisture: 93.2%	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		94.1	4.93	14.5	mg/kg	9.83	1	LXA2	06/18/21	1159	2140156	1
Nitrate-N	U	ND	4.78	14.5	mg/kg	9.83	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		3820	69.2	192	mg/kg	52.1	5	AXH3	06/30/21	1158	2140197	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	KLP1	06/29/21	1309	2140196
SW846 9056A	SW846 9056A Total Anions in Soil	SH3	06/17/21	2100	2140155

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	EPA 350.1 Modified SC	

Notes:

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

 Columbia, South Carolina 29205
 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-22	Project: WNUC01921
Sample ID: 547456011	Client ID: WNUC010
Matrix: Sludge	
Collect Date: 15-JUN-21 10:25	
Receive Date: 16-JUN-21	
Collector: Client	
Moisture: 94.8%	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		114	6.59	19.4	mg/kg	10.0	1	LXA2	06/18/21	1228	2140156	1
Nitrate-N	U	ND	6.40	19.4	mg/kg	10.0	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		3890	40.3	112	mg/kg	23.1	5	AXH3	06/30/21	1159	2140197	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	KLP1	06/29/21	1309	2140196
SW846 9056A	SW846 9056A Total Anions in Soil	SH3	06/17/21	2100	2140155

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 9056A		
2	EPA 350.1 Modified SC		

Notes:

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: July 14, 2021

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

Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-08 Project: WNUC01921
Sample ID: 547456012 Client ID: WNUC010
Matrix: Sludge
Collect Date: 15-JUN-21 12:30
Receive Date: 16-JUN-21
Collector: Client
Moisture: 93.7%

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		67.2	5.36	15.8	mg/kg	9.85	1	LXA2	06/18/21	1358	2140156	1
Nitrate-N	U	ND	5.20	15.8	mg/kg	9.85	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		2720	75.0	208	mg/kg	52.1	5	AXH3	06/30/21	1200	2140197	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	KLP1	06/29/21	1309	2140196
SW846 9056A	SW846 9056A Total Anions in Soil	SH3	06/17/21	2100	2140155

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 9056A		
2	EPA 350.1 Modified SC		

Notes:

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

 Columbia, South Carolina 29205
 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-12
 Sample ID: 547456013
 Matrix: Sludge
 Collect Date: 15-JUN-21 12:50
 Receive Date: 16-JUN-21
 Collector: Client
 Moisture: 95.6%

Project: WNUC01921
 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		152	7.74	22.8	mg/kg	10.0	1	LXA2	06/18/21	1428	2140156	1
Nitrate-N	U	ND	7.51	22.8	mg/kg	10.0	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		4800	91.3	253	mg/kg	44.6	5	AXH3	06/30/21	1201	2140197	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	KLP1	06/29/21	1309	2140196
SW846 9056A	SW846 9056A Total Anions in Soil	SH3	06/17/21	2100	2140155

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 9056A		
2	EPA 350.1 Modified SC		

Notes:

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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 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-14	Project: WNUC01921
Sample ID: 547456014	Client ID: WNUC010
Matrix: Sludge	
Collect Date: 15-JUN-21 13:10	
Receive Date: 16-JUN-21	
Collector: Client	
Moisture: 89.1%	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		84.5	3.06	9.00	mg/kg	9.78	1	LXA2	06/18/21	1458	2140156	1
Nitrate-N	U	ND	2.97	9.00	mg/kg	9.78	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		1330	21.1	58.7	mg/kg	25.5	5	AXH3	06/30/21	1202	2140197	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	KLP1	06/29/21	1309	2140196
SW846 9056A	SW846 9056A Total Anions in Soil	SH3	06/17/21	2100	2140155

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 9056A		
2	EPA 350.1 Modified SC		

Notes:

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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Company : Westinghouse Electric Company, LLC
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Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-18
Sample ID: 547456015
Matrix: Sludge
Collect Date: 15-JUN-21 13:35
Receive Date: 16-JUN-21
Collector: Client
Moisture: 94.1%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		71.2	5.76	16.9	mg/kg	9.93	1	LXA2	06/18/21	1527	2140156	1
Nitrate-N	U	ND	5.59	16.9	mg/kg	9.93	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		3540	40.8	113	mg/kg	26.6	5	AXH3	06/30/21	1207	2140197	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	KLP1	06/29/21	1309	2140196
SW846 9056A	SW846 9056A Total Anions in Soil	SH3	06/17/21	2100	2140155

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 9056A		
2	EPA 350.1 Modified SC		

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration

Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Report Date: July 14, 2021

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

Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-RB-1
Sample ID: 547456016
Matrix: Water
Collect Date: 15-JUN-21 13:45
Receive Date: 16-JUN-21
Collector: Client

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.0330	0.100	mg/L		1	LXA2	06/16/21	2219	2140029	1
Nitrate-N	U	ND	0.0330	0.100	mg/L		1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "As Received"												
Nitrogen, Ammonia	U	ND	0.0170	0.0500	mg/L	1.00	1	AXH3	07/02/21	1027	2145958	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Prep	EPA 350.1 Ammonia Nitrogen Prep	AXH3	07/02/21	1001	2145957

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	EPA 350.1 SC	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration

Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Company : Westinghouse Electric Company,
Address : LLC
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Columbia, South Carolina 29205

Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-02
Sample ID: 547456001
Matrix: Sludge
Collect Date: 15-JUN-21
Receive Date: 16-JUN-21
Collector: Client
Moisture: 24.2%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		43.4	+/-2.55	0.583	+/-5.71	0.500	pCi/g			MP2	07/07/21	1343	2141575	2
Uranium-235/236		2.71	+/-0.727	0.364	+/-0.794	0.500	pCi/g							
Uranium-238		9.38	+/-1.20	0.473	+/-1.63	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Techetium-99		1.26	+/-0.451	0.736	+/-0.474	1.00	pCi/g			JJ3	06/27/21	1936	2140149	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXB7	06/16/21	1708	2140128

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2141575	34.6	(15%-125%)
Techetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2140149	89.4	(15%-125%)

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Columbia, South Carolina 29205

Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-02

Project: WNUC01921

Sample ID: 547456001

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Address : LLC
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Columbia, South Carolina 29205

Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-04
Sample ID: 547456002
Matrix: Sludge
Collect Date: 15-JUN-21
Receive Date: 16-JUN-21
Collector: Client
Moisture: 16.9%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		48.4	+/-1.76	0.222	+/-4.90	0.500	pCi/g			MP2	07/07/21	1343	2141575	2
Uranium-235/236		2.61	+/-0.457	0.0616	+/-0.519	0.500	pCi/g							
Uranium-238		12.0	+/-0.878	0.159	+/-1.43	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99		1.95	+/-0.443	0.704	+/-0.496	1.00	pCi/g			JJ3	06/27/21	2140	2140149	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXB7	06/16/21	1708	2140128

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2141575	95.5	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2140149	91.1	(15%-125%)

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Columbia, South Carolina 29205

Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-04

Project: WNUC01921

Sample ID: 547456002

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

Mtd.: Method

DL: Detection Limit

PF: Prep Factor

Lc/LC: Critical Level

RL: Reporting Limit

MDA: Minimum Detectable Activity

TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-06
Sample ID: 547456003
Matrix: Sludge
Collect Date: 15-JUN-21
Receive Date: 16-JUN-21
Collector: Client
Moisture: 20.8%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		14.7	+/-0.966	0.297	+/-1.69	0.500	pCi/g			MP2	07/07/21	1343	2141575	2
Uranium-235/236		0.836	+/-0.281	0.245	+/-0.292	0.500	pCi/g							
Uranium-238		3.04	+/-0.447	0.216	+/-0.531	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99	U	-0.00242	+/-0.410	0.699	+/-0.410	1.00	pCi/g			JJ3	06/27/21	2344	2140149	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXB7	06/16/21	1708	2140128

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2141575	98.6	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2140149	93.5	(15%-125%)

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Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-06

Project: WNUC01921

Sample ID: 547456003

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

Mtd.: Method

DL: Detection Limit

PF: Prep Factor

Lc/LC: Critical Level

RL: Reporting Limit

MDA: Minimum Detectable Activity

TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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Certificate of Analysis

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

Columbia, South Carolina 29205

Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-10
Sample ID: 547456004
Matrix: Sludge
Collect Date: 15-JUN-21
Receive Date: 16-JUN-21
Collector: Client
Moisture: 18.5%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		12.6	+/-0.841	0.290	+/-1.44	0.500	pCi/g			MP2	07/07/21	1343	2141575	2
Uranium-235/236		0.732	+/-0.241	0.193	+/-0.251	0.500	pCi/g							
Uranium-238		3.16	+/-0.421	0.156	+/-0.512	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99		2.37	+/-0.475	0.749	+/-0.548	1.00	pCi/g			JJ3	06/28/21	0149	2140149	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXB7	06/16/21	1708	2140128

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2141575	98.4	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2140149	88.7	(15%-125%)

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Columbia, South Carolina 29205

Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-10

Project: WNUC01921

Sample ID: 547456004

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-11

Project: WNUC01921

Sample ID: 547456005

Client ID: WNUC010

Matrix: Sludge

Collect Date: 15-JUN-21

Receive Date: 16-JUN-21

Collector: Client

Moisture: 72.8%

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		309	+/-4.66	0.258	+/-30.4	0.500	pCi/g			MP2	07/07/21	1343	2141575	2
Uranium-235/236		15.0	+/-1.15	0.217	+/-1.86	0.500	pCi/g							
Uranium-238		51.2	+/-1.90	0.202	+/-5.33	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99		1.03	+/-0.478	0.787	+/-0.492	1.00	pCi/g			JJ3	06/28/21	0631	2140149	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXB7	06/16/21	1708	2140128

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2141575	66.3	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2140149	82.6	(15%-125%)

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Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-11

Project: WNUC01921

Sample ID: 547456005

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-15
Sample ID: 547456006
Matrix: Sludge
Collect Date: 15-JUN-21
Receive Date: 16-JUN-21
Collector: Client
Moisture: 28.6%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		33.4	+/-1.79	0.311	+/-3.92	0.500	pCi/g			MP2	07/07/21	1343	2141575	2
Uranium-235/236		2.29	+/-0.524	0.0915	+/-0.576	0.500	pCi/g							
Uranium-238		6.46	+/-0.795	0.273	+/-1.04	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99	U	0.200	+/-0.394	0.666	+/-0.395	1.00	pCi/g			JJ3	06/28/21	0835	2140149	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXB7	06/16/21	1708	2140128

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2141575	52.5	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2140149	91.5	(15%-125%)

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Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-15

Project: WNUC01921

Sample ID: 547456006

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-16
Sample ID: 547456007
Matrix: Sludge
Collect Date: 15-JUN-21
Receive Date: 16-JUN-21
Collector: Client
Moisture: 37.5%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids														
<i>"As Received"</i>														
Rad Alpha Spec Analysis														
<i>Alphaspec U, Soil "Dry Weight Corrected"</i>														
Uranium-233/234		192	+/-9.46	0.888	+/-34.6	0.500	pCi/g			MP2	07/07/21	1343	2141575	2
Uranium-235/236		11.1	+/-2.56	0.986	+/-3.20	0.500	pCi/g							
Uranium-238		35.2	+/-4.07	0.896	+/-7.33	0.500	pCi/g							
Rad Liquid Scintillation Analysis														
<i>Liquid Scint Tc99, Soil "As Received"</i>														
Technetium-99		1.02	+/-0.468	0.771	+/-0.483	1.00	pCi/g			JJ3	06/28/21	1040	2140149	3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXB7	06/16/21	1708	2140128

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2141575	56	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2140149	82.2	(15%-125%)

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Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-16

Project: WNUC01921

Sample ID: 547456007

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	Test							Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-20
Sample ID: 547456008
Matrix: Sludge
Collect Date: 15-JUN-21
Receive Date: 16-JUN-21
Collector: Client
Moisture: 94.8%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		1790	+/-43.8	1.93	+/-467	0.500	pCi/g			MP2	07/07/21	1343	2141575	2
Uranium-235/236		120	+/-12.6	1.65	+/-33.6	0.500	pCi/g							
Uranium-238		350	+/-19.4	1.83	+/-92.8	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99		3.00	+/-0.510	0.793	+/-0.616	1.00	pCi/g			JJ3	06/28/21	1244	2140149	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXB7	06/16/21	1708	2140128

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2141575	20.1	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2140149	82.8	(15%-125%)

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Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-20

Project: WNUC01921

Sample ID: 547456008

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

Mtd.: Method

DL: Detection Limit

PF: Prep Factor

Lc/LC: Critical Level

RL: Reporting Limit

MDA: Minimum Detectable Activity

TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-24
Sample ID: 547456009
Matrix: Sludge
Collect Date: 15-JUN-21
Receive Date: 16-JUN-21
Collector: Client
Moisture: 96.1%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		1940	+/-51.5	2.09	+/-588	0.500	pCi/g			MP2	07/07/21	1343	2141575	2
Uranium-235/236		144	+/-15.6	2.11	+/-46.1	0.500	pCi/g							
Uranium-238		348	+/-21.8	1.70	+/-107	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99		1.32	+/-0.474	0.773	+/-0.498	1.00	pCi/g			JJ3	06/28/21	1449	2140149	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXB7	06/16/21	1708	2140128

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2141575	15.5	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2140149	84.6	(15%-125%)

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Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-24

Project: WNUC01921

Sample ID: 547456009

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Company : Westinghouse Electric Company,
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Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-23
Sample ID: 547456010
Matrix: Sludge
Collect Date: 15-JUN-21
Receive Date: 16-JUN-21
Collector: Client
Moisture: 93.2%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		1300	+/-33.1	1.69	+/-318	0.500	pCi/g			MP2	07/07/21	1343	2141575	2
Uranium-235/236		107	+/-10.6	1.65	+/-28.1	0.500	pCi/g							
Uranium-238		316	+/-16.3	1.05	+/-78.3	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99		3.25	+/-0.500	0.769	+/-0.624	1.00	pCi/g			JJ3	06/28/21	1653	2140149	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXB7	06/16/21	1708	2140128

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2141575	25	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2140149	82.8	(15%-125%)

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Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-23

Project: WNUC01921

Sample ID: 547456010

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

Mtd.: Method

DL: Detection Limit

PF: Prep Factor

Lc/LC: Critical Level

RL: Reporting Limit

MDA: Minimum Detectable Activity

TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-22
Sample ID: 547456011
Matrix: Sludge
Collect Date: 15-JUN-21
Receive Date: 16-JUN-21
Collector: Client
Moisture: 94.8%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids														
<i>"As Received"</i>														
Rad Alpha Spec Analysis														
<i>Alphaspec U, Soil "Dry Weight Corrected"</i>														
Uranium-233/234		1380	+/-28.6	1.21	+/-278	0.500	pCi/g			MP2	07/07/21	1343	2141575	2
Uranium-235/236		96.6	+/-8.44	0.917	+/-21.1	0.500	pCi/g							
Uranium-238		295	+/-13.3	1.14	+/-60.7	0.500	pCi/g							
Rad Liquid Scintillation Analysis														
<i>Liquid Scint Tc99, Soil "As Received"</i>														
Technetium-99		2.96	+/-0.507	0.789	+/-0.611	1.00	pCi/g			JJ3	06/28/21	1857	2140149	3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXB7	06/16/21	1708	2140128

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2141575	33.1	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2140149	82.4	(15%-125%)

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Certificate of Analysis

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

Columbia, South Carolina 29205

Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-22

Project: WNUC01921

Sample ID: 547456011

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Certificate of Analysis

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

Columbia, South Carolina 29205

Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-08
Sample ID: 547456012
Matrix: Sludge
Collect Date: 15-JUN-21
Receive Date: 16-JUN-21
Collector: Client
Moisture: 93.7%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		1880	+/-47.8	3.27	+/-529	0.500	pCi/g			MP2	07/07/21	1343	2141575	2
Uranium-235/236		146	+/-14.8	2.39	+/-43.5	0.500	pCi/g							
Uranium-238		389	+/-21.8	1.94	+/-111	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99		4.23	+/-0.522	0.784	+/-0.713	1.00	pCi/g			JJ3	06/28/21	2102	2140149	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXB7	06/16/21	1708	2140128

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2141575	17.7	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2140149	82.3	(15%-125%)

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Columbia, South Carolina 29205

Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-08

Project: WNUC01921

Sample ID: 547456012

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : Westinghouse Electric Company,
Address : LLC
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Columbia, South Carolina 29205

Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-12
Sample ID: 547456013
Matrix: Sludge
Collect Date: 15-JUN-21
Receive Date: 16-JUN-21
Collector: Client
Moisture: 95.6%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		2210	+/-35.3	2.59	+/-211	0.500	pCi/g			MP2	07/07/21	1343	2141575	2
Uranium-235/236		121	+/-9.22	1.39	+/-14.7	0.500	pCi/g							
Uranium-238		418	+/-15.4	2.48	+/-42.3	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99		3.33	+/-0.452	0.687	+/-0.593	1.00	pCi/g			JJ3	06/28/21	2306	2140149	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXB7	06/16/21	1708	2140128

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2141575	75	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2140149	83.6	(15%-125%)

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

Columbia, South Carolina 29205

Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-12

Project: WNUC01921

Sample ID: 547456013

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

Mtd.: Method

DL: Detection Limit

PF: Prep Factor

Lc/LC: Critical Level

RL: Reporting Limit

MDA: Minimum Detectable Activity

TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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Certificate of Analysis

Company : Westinghouse Electric Company,
Address : LLC
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Columbia, South Carolina 29205

Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-14
Sample ID: 547456014
Matrix: Sludge
Collect Date: 15-JUN-21
Receive Date: 16-JUN-21
Collector: Client
Moisture: 89.1%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids														
<i>"As Received"</i>														
Rad Alpha Spec Analysis														
<i>Alphaspec U, Soil "Dry Weight Corrected"</i>														
Uranium-233/234		2870	+/-65.4	5.01	+/-411	0.500	pCi/g			MP2	07/07/21	1343	2141575	2
Uranium-235/236		189	+/-18.7	3.66	+/-32.7	0.500	pCi/g							
Uranium-238		703	+/-32.4	4.28	+/-105	0.500	pCi/g							
Rad Liquid Scintillation Analysis														
<i>Liquid Scint Tc99, Soil "As Received"</i>														
Technetium-99		22.8	+/-0.734	0.785	+/-2.72	1.00	pCi/g			JJ3	06/29/21	0111	2140149	3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXB7	06/16/21	1708	2140128

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2141575	21.9	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2140149	84.1	(15%-125%)

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Certificate of Analysis

Company : Westinghouse Electric Company,
Address : LLC
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Columbia, South Carolina 29205

Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-14

Project: WNUC01921

Sample ID: 547456014

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : Westinghouse Electric Company,
Address : LLC
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Columbia, South Carolina 29205

Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-18
Sample ID: 547456015
Matrix: Sludge
Collect Date: 15-JUN-21
Receive Date: 16-JUN-21
Collector: Client
Moisture: 94.1%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		2540	+/-47.6	3.13	+/-280	0.500	pCi/g			MP2	07/07/21	1343	2141575	2
Uranium-235/236		147	+/-12.8	2.20	+/-20.5	0.500	pCi/g							
Uranium-238		516	+/-21.5	2.86	+/-60.1	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99		11.2	+/-0.652	0.853	+/-1.44	1.00	pCi/g			JJ3	06/29/21	0427	2140149	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXB7	06/16/21	1708	2140128

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2141575	40.3	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2140149	77.3	(15%-125%)

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Certificate of Analysis

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

Columbia, South Carolina 29205

Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-18

Project: WNUC01921

Sample ID: 547456015

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Certificate of Analysis

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

Columbia, South Carolina 29205

Report Date: July 14, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-RB-1

Project: WNUC01921

Sample ID: 547456016

Client ID: WNUC010

Matrix: Water

Collect Date: 15-JUN-21

Receive Date: 16-JUN-21

Collector: Client

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

Alphaspec U, Liquid "As Received"

Pct Uranium-235	U	0.000	+/-				percent			MP2	07/07/21	0916	2140236	1
Uranium-233/234	U	0.462	+/-0.435	0.545	+/-0.441	1.00	pCi/L							
Uranium-235/236	U	0.0902	+/-0.254	0.271	+/-0.254	1.00	pCi/L							
Uranium-238	U	0.166	+/-0.294	0.446	+/-0.295	1.00	pCi/L							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Liquid "As Received"

Technetium-99	U	8.19	+/-21.3	36.5	+/-21.3	50.0	pCi/L			JJ3	06/28/21	0159	2141574	2
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The following Analytical Methods were performed

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

Surrogate/Tracer	Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer		Alphaspec U, Liquid "As Received"	2140236	82.6	(15%-125%)
Technetium-99m Tracer		Liquid Scint Tc99, Liquid "As Received"	2141574	84.8	(15%-125%)

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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

QC Summary

Report Date: July 14, 2021

Page 1 of 4

Westinghouse Electric Company, LLC

PO Drawer R
Columbia, South Carolina

Contact: Ms. Cynthia Teague

Workorder: 547456

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Ion Chromatography											
Batch	2140029										
QC1204844913	547429001	DUP									
Fluoride	J	0.0788	J	0.122	mg/L	42.8	^	(+/-0.500)	LXA2	06/16/21	20:42
Nitrate-N		0.132		0.131	mg/L	1.14	^	(+/-0.0750)			
QC1204844809	LCS										
Fluoride	2.50			2.59	mg/L			(90%-110%)		06/16/21	23:48
Nitrate-N	2.50			2.48	mg/L			(90%-110%)			
QC1204844808	MB										
Fluoride			U	ND	mg/L					06/16/21	23:19
Nitrate-N			U	ND	mg/L						
QC1204844914	547429001	PS									
Fluoride	2.50	J	0.0788	2.61	mg/L			(90%-110%)		06/16/21	21:12
Nitrate-N	2.50		0.132	2.59	mg/L			(90%-110%)			
Batch	2140156										
QC1204845048	547456006	DUP									
Fluoride		2.28		2.88	mg/kg	23.6	^	(+/-1.40)	LXA2	06/18/21	09:29
Nitrate-N	U	ND	U	ND	mg/kg	N/A					
QC1204845047	LCS										
Fluoride	25.0			26.5	mg/kg			(90%-110%)		06/18/21	08:30
Nitrate-N	25.0			26.1	mg/kg			(90%-110%)			

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QC Summary

Workorder: 547456

Page 2 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Ion Chromatography											
Batch	2140156										
QC1204845046		MB									
Fluoride			U	ND	mg/kg				LXA2	06/18/21	08:00
Nitrate-N			U	ND	mg/kg						
QC1204845049	547456006	MS									
Fluoride	34.2		2.28	35.0	mg/kg		95.8	(75%-125%)		06/18/21	09:59
Nitrate-N	34.2	U	ND	34.3	mg/kg		100	(75%-125%)			
Batch	2140158										
QC1204845052	547456001	DUP									
Fluoride			8.54	7.51	mg/kg	12.7		(0%-109%)	LXA2	06/17/21	17:35
Nitrate-N		U	ND	U	ND	mg/kg	N/A				
QC1204845051	LCS										
Fluoride	24.3			25.1	mg/kg		103	(90%-110%)		06/17/21	21:04
Nitrate-N	24.3			24.2	mg/kg		99.7	(90%-110%)			
QC1204845050	MB										
Fluoride			U	ND	mg/kg					06/17/21	19:34
Nitrate-N			U	ND	mg/kg						
QC1204845053	547456001	MS									
Fluoride	31.3		8.54	35.6	mg/kg		86.5	(75%-125%)		06/17/21	18:05
Nitrate-N	31.3	U	ND	30.7	mg/kg		98	(75%-125%)			

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QC Summary

Workorder: **547456**

Page 3 of 4

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Nutrient Analysis											
Batch	2140197										
QC1204845135	547456001	DUP									
Nitrogen, Ammonia		100		108	mg/kg	7.57		(0%-20%)	AXH3	06/30/21	11:48
QC1204845136	547456002	DUP									
Nitrogen, Ammonia		26.9		24.4	mg/kg	9.93		(0%-20%)		06/30/21	11:30
QC1204845134	LCS										
Nitrogen, Ammonia	50.0			45.5	mg/kg		90.9	(90%-110%)		06/30/21	11:22
QC1204845133	MB										
Nitrogen, Ammonia			U	ND	mg/kg					06/30/21	11:21
QC1204845137	547456001	MS									
Nitrogen, Ammonia	24.4	100		113	mg/kg		N/A	(90%-110%)		06/30/21	11:48
QC1204845138	547456002	MS									
Nitrogen, Ammonia	47.0	26.9		76.1	mg/kg		105	(90%-110%)		06/30/21	11:31
<hr/>											
Batch	2145958										
QC1204855465	548564001	DUP									
Nitrogen, Ammonia		0.155		0.119	mg/L	26.3*^		(+/-0.0250)	AXH3	07/02/21	10:37
QC1204855464	LCS										
Nitrogen, Ammonia	1.00			1.02	mg/L		102	(90%-110%)		07/02/21	10:26
QC1204855463	MB										
Nitrogen, Ammonia			U	ND	mg/L					07/02/21	10:25
QC1204855466	548564001	MS									
Nitrogen, Ammonia	1.00	0.155		1.05	mg/L		89.5*	(90%-110%)		07/02/21	10:38

Notes:

The Qualifiers in this report are defined as follows:

< Result is less than value reported

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QC Summary

Workorder: 547456

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
>											
B											
E											
H											
J											
J											
N/A											
N1											
ND											
NJ											
Q											
R											
R											
U											
X											
Z											
^											
d											
e											
h											

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.

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

QC Summary

Report Date: July 14, 2021
Page 1 of 4

Client : Westinghouse Electric Company, LLC
PO Drawer R

Columbia, South Carolina

Contact: Ms. Cynthia Teague

Workorder: 547456

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	2140236										
QC1204845218 547456016 DUP											
Pct Uranium-235	U	0.000	U	0.000	percent	0		(0%-20%)	MP2	07/07/21	09:17
Uranium-233/234	U	0.462	U	-0.0667	pCi/L	0		N/A			
	Uncert:	+/-0.435		+/-0.208							
	TPU:	+/-0.441		+/-0.208							
Uranium-235/236	U	0.0902	U	-0.0208	pCi/L	0		N/A			
	Uncert:	+/-0.254		+/-0.179							
	TPU:	+/-0.254		+/-0.180							
Uranium-238	U	0.166	U	0.213	pCi/L	0		N/A			
	Uncert:	+/-0.294		+/-0.316							
	TPU:	+/-0.295		+/-0.317							
QC1204845219 LCS											
Pct Uranium-235				0.672	percent				MP2	07/07/21	09:17
Uranium-233/234				33.7	pCi/L						
	Uncert:			+/-4.98							
	TPU:			+/-8.64							
Uranium-235/236				1.35	pCi/L						
	Uncert:			+/-1.22							
	TPU:			+/-1.25							
Uranium-238	27.2			31.0	pCi/L		114	(75%-125%)			
	Uncert:			+/-4.76							
	TPU:			+/-8.04							
QC1204845217 MB											
Pct Uranium-235			U	0.000	percent				MP2	07/07/21	09:17
Uranium-233/234			U	-0.0657	pCi/L						
	Uncert:			+/-0.267							
	TPU:			+/-0.267							
Uranium-235/236			U	-0.107	pCi/L						
	Uncert:			+/-0.247							
	TPU:			+/-0.248							
Uranium-238			U	0.140	pCi/L						
	Uncert:			+/-0.370							
	TPU:			+/-0.370							
Batch	2141575										
QC1204847634 547456002 DUP											
Uranium-233/234		48.4		48.3	pCi/g	.389		(0%-20%)	MP2	07/07/21	13:43
	Uncert:	+/-1.76		+/-2.03							
	TPU:	+/-4.90		+/-5.26							
Uranium-235/236		2.61		2.77	pCi/g	6.22		(0%-20%)			
	Uncert:	+/-0.457		+/-0.554							
	TPU:	+/-0.519		+/-0.620							
Uranium-238		12.0		11.6	pCi/g	3.2		(0%-20%)			

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QC Summary

Workorder: 547456

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Alpha Spec									
Batch	2141575								
	Uncert:	+/-0.878	+/-1.00						
	TPU:	+/-1.43	+/-1.54						
QC1204847635	LCS								
Uranium-233/234			21.0	pCi/g				MP2	07/07/21 13:43
	Uncert:		+/-0.998						
	TPU:		+/-2.15						
Uranium-235/236			1.21	pCi/g					
	Uncert:		+/-0.268						
	TPU:		+/-0.289						
Uranium-238	23.3		21.1	pCi/g		90.9	(75%-125%)		
	Uncert:		+/-0.998						
	TPU:		+/-2.16						
QC1204847633	MB								
Uranium-233/234		U	0.102	pCi/g				MP2	07/07/21 13:43
	Uncert:		+/-0.201						
	TPU:		+/-0.202						
Uranium-235/236		U	-1.24E-08	pCi/g					
	Uncert:		+/-0.138						
	TPU:		+/-0.138						
Uranium-238		U	0.0805	pCi/g					
	Uncert:		+/-0.158						
	TPU:		+/-0.158						
Rad Liquid Scintillation									
Batch	2140149								
QC1204845028	547456001	DUP							
Technetium-99			1.26	pCi/g	12.3		(0% - 100%)	JJ3	06/29/2108:36
	Uncert:		+/-0.451						
	TPU:		+/-0.474						
QC1204845029	LCS								
Technetium-99	29.9		32.1	pCi/g		107	(75%-125%)	JJ3	06/29/21 10:37
	Uncert:		+/-1.86						
	TPU:		+/-4.13						
QC1204845027	MB								
Technetium-99		U	-0.0531	pCi/g				JJ3	06/29/2106:31
	Uncert:		+/-0.346						
	TPU:		+/-0.346						
Batch	2141574								
QC1204847629	547456016	DUP							
Technetium-99		U	8.19	pCi/L	0			N/A	JJ3 06/28/2103:05
	Uncert:		+/-21.3						
	TPU:		+/-21.3						
QC1204847630	LCS								
Technetium-99	824		752	pCi/L		91.2	(75%-125%)	JJ3	06/28/2103:27
	Uncert:		+/-37.1						
	TPU:		+/-91.3						
QC1204847628	MB								

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QC Summary

Workorder: 547456

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Liquid Scintillation										
Batch	2141574									
Technetium-99		U	8.81	pCi/L				JJ3	06/28/21	02:43
	Uncert:		+/-18.8							
	TPU:		+/-18.8							

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

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

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QC Summary

Workorder: 547456

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

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.

** Indicates analyte is a surrogate/tracer compound.

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

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

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

Technical Case Narrative
Westinghouse Electric Company PO
SDG #: 547456

General Chemistry

Product: Ion Chromatography

Analytical Method: SW846 9056A

Analytical Procedure: GL-GC-E-086 REV# 29

Analytical Batch: 2140029

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547456016	SLS-RB-1
1204844808	Method Blank (MB)
1204844809	Laboratory Control Sample (LCS)
1204844913	547429001(NonSDG) Sample Duplicate (DUP)
1204844914	547429001(NonSDG) Post Spike (PS)

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.

Miscellaneous Information

Manual Integrations

Samples 1204844809 (LCS) and 1204844914 (Non SDG 547429001PS) were manually integrated to correctly position the baseline as set in the calibration standards.

Product: Ion Chromatography

Analytical Method: SW846 9056A

Analytical Procedure: GL-GC-E-086 REV# 29

Analytical Batches: 2140156 and 2140155

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547456006	SLS-15
547456007	SLS-16
547456008	SLS-20
547456009	SLS-24
547456010	SLS-23
547456011	SLS-22
547456012	SLS-08
547456013	SLS-12
547456014	SLS-14
547456015	SLS-18

1204845046	Method Blank (MB)
1204845047	Laboratory Control Sample (LCS)
1204845048	547456006(SLS-15) Sample Duplicate (DUP)
1204845049	547456006(SLS-15) Matrix Spike (MS)

The samples in this SDG were analyzed on a "dry weight" 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: Ion Chromatography

Analytical Method: SW846 9056A

Analytical Procedure: GL-GC-E-086 REV# 29

Analytical Batches: 2140158 and 2140157

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547456001	SLS-02
547456002	SLS-04
547456003	SLS-06
547456004	SLS-10
547456005	SLS-11
1204845050	Method Blank (MB)
1204845051	Laboratory Control Sample (LCS)
1204845052	547456001(SLS-02) Sample Duplicate (DUP)
1204845053	547456001(SLS-02) Matrix Spike (MS)

The samples in this SDG were analyzed on a "dry weight" 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: Ammonia Nitrogen

Analytical Method: EPA 350.1 Modified SC

Analytical Procedure: GL-GC-E-106 REV# 10

Analytical Batch: 2140197

Preparation Method: EPA 350.1 Modified Prep

Preparation Procedure: GL-GC-E-072 REV# 18

Preparation Batch: 2140196

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
------------------------------	--

547456001	SLS-02
547456002	SLS-04
547456003	SLS-06
547456004	SLS-10
547456005	SLS-11
547456006	SLS-15
547456007	SLS-16
547456008	SLS-20
547456009	SLS-24
547456010	SLS-23
547456011	SLS-22
547456012	SLS-08
547456013	SLS-12
547456014	SLS-14
547456015	SLS-18
1204845133	Method Blank (MB)
1204845134	Laboratory Control Sample (LCS)
1204845135	547456001(SLS-02) Sample Duplicate (DUP)
1204845136	547456002(SLS-04) Sample Duplicate (DUP)
1204845137	547456001(SLS-02) Matrix Spike (MS)
1204845138	547456002(SLS-04) Matrix Spike (MS)

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.

Technical Information

Sample Dilutions

The following samples 1204845135 (SLS-02DUP), 1204845137 (SLS-02MS), 547456001 (SLS-02), 547456003 (SLS-06), 547456005 (SLS-11), 547456006 (SLS-15), 547456007 (SLS-16), 547456008 (SLS-20), 547456009 (SLS-24), 547456010 (SLS-23), 547456011 (SLS-22), 547456012 (SLS-08), 547456013 (SLS-12), 547456014 (SLS-14) and 547456015 (SLS-18) were diluted because target analyte concentrations exceeded the calibration range. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	547456									
	001	003	005	006	007	008	009	010	011	012
Nitrogen, Ammonia	5X	5X	5X	5X	5X	5X	5X	5X	5X	5X

Analyte	547456		
	013	014	015
Nitrogen, Ammonia	5X	5X	5X

Product: Ammonia Nitrogen

Analytical Method: EPA 350.1 SC

Analytical Procedure: GL-GC-E-106 REV# 10

Analytical Batch: 2145958

Preparation Method: EPA 350.1 Prep

Preparation Procedure: GL-GC-E-072 REV# 18

Preparation Batch: 2145957

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547456016	SLS-RB-1
1204855463	Method Blank (MB)
1204855464	Laboratory Control Sample (LCS)
1204855465	548564001(NonSDG) Sample Duplicate (DUP)
1204855466	548564001(NonSDG) Matrix Spike (MS)

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

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The percent recoveries (%R) obtained from the spike analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The matrix spike recovered outside of the established acceptance limits due to matrix interference and/or non-homogeneity.

Analyte	Sample	Value
Nitrogen, Ammonia	1204855466 (Non SDG 548564001MS)	89.5* (90%-110%)

Radiochemistry

Product: Alphaspec U, Liquid

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

Analytical Procedure: GL-RAD-A-011 REV# 28

Analytical Batch: 2140236

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547456016	SLS-RB-1
1204845217	Method Blank (MB)
1204845218	547456016(SLS-RB-1) Sample Duplicate (DUP)
1204845219	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.

Product: Alphaspec U, Soil

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

Analytical Procedure: GL-RAD-A-011 REV# 28

Analytical Batch: 2141575

Preparation Method: Dry Soil Prep

Preparation Procedure: GL-RAD-A-021 REV# 24

Preparation Batch: 2140128

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547456001	SLS-02
547456002	SLS-04
547456003	SLS-06
547456004	SLS-10
547456005	SLS-11
547456006	SLS-15
547456007	SLS-16
547456008	SLS-20
547456009	SLS-24
547456010	SLS-23
547456011	SLS-22
547456012	SLS-08
547456013	SLS-12
547456014	SLS-14
547456015	SLS-18
1204847633	Method Blank (MB)
1204847634	547456002(SLS-04) Sample Duplicate (DUP)
1204847635	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.

Technical Information

Sample Re-prep/Re-analysis

Samples were re-prepped due to high relative percent difference/relative error ratio. The re-analysis is being reported.

Miscellaneous Information

Additional Comments

Sample 547456012 (SLS-08) did not meet the resolution requirement of having a full width half maximum of 100 keV or less for the tracer; however, the tracer yield requirement was met and the tracer peak is within the tracer region of interest.

Product: Dry Weight

Preparation Method: ASTM D 2216 (Modified)

Preparation Procedure: GL-OA-E-020 REV# 13

Preparation Batch: 2140128

Preparation Method: Dry Soil Prep

Preparation Procedure: GL-RAD-A-021 REV# 24

Preparation Batch: 2140128

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547456001	SLS-02
547456002	SLS-04
547456003	SLS-06
547456004	SLS-10
547456005	SLS-11
547456006	SLS-15
547456007	SLS-16
547456008	SLS-20
547456009	SLS-24
547456010	SLS-23
547456011	SLS-22
547456012	SLS-08
547456013	SLS-12
547456014	SLS-14
547456015	SLS-18
1204844993	547456001(SLS-02) Sample Duplicate (DUP)

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, Soil

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

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

Analytical Batch: 2140149

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547456001	SLS-02
547456002	SLS-04
547456003	SLS-06
547456004	SLS-10
547456005	SLS-11
547456006	SLS-15
547456007	SLS-16
547456008	SLS-20
547456009	SLS-24
547456010	SLS-23
547456011	SLS-22
547456012	SLS-08
547456013	SLS-12
547456014	SLS-14
547456015	SLS-18
1204845027	Method Blank (MB)
1204845028	547456001(SLS-02) Sample Duplicate (DUP)
1204845029	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.

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: 2141574

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547456016	SLS-RB-1
1204847628	Method Blank (MB)
1204847629	547456016(SLS-RB-1) Sample Duplicate (DUP)
1204847630	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.

Sample ID	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code ⁽²⁾	Field Filtered ⁽³⁾	Sample Matrix ⁽⁴⁾	Isotopic Uranium (by individual isotope, alpha spec)	Flouride	Nitrate	Ammonia	Comments
SLS-02	06-15-21	07:05	G		SL	X	X	X	X	All samples reported "as found"
SLS-04	06-15-21	07:15	G		SL	X	X	X	X	All samples reported "as found"
SLS-06	06-15-21	07:30	G		SL	X	X	X	X	All samples reported "as found"
SLS-10	06-15-21	07:50	G		SL	X	X	X	X	All samples reported "as found"
SLS-11	06-15-21	08:15	G		SL	X	X	X	X	All samples reported "as found"
SLS-15	06-15-21	08:30	G		SL	X	X	X	X	All samples reported "as found"
SLS-16	06-15-21	08:45	G		SL	X	X	X	X	All samples reported "as found"
SLS-20	06-15-21	09:10	G		SL	X	X	X	X	All samples reported "as found"
SLS-24	06-15-21	09:40	G		SL	X	X	X	X	All samples reported "as found"
SLS-23	06-15-21	10:05	G		SL	X	X	X	X	All samples reported "as found"

Relinquished By (Signed) _____ Date _____ Time _____
 Received by (signed) _____ Date 6/16/21 Time 10:00am
 1. W. Clark Evers 6/16/21 10:00am
 2. R. G. ... 6/16/21 10:14
 3. ... 6/16/21 15:40
 For sample shipping and delivery details, see Sample Receipt & Review form (SRR).
 TAT Requested: Normal: Rush: Specify _____
 Fax Results: Yes No
 Select Deliverable: C of A QC Summary Level 1 Level 2 Level 3 Level 4
 Additional Remarks:
 For Lab Receiving Use Only: Custody Seal Intact? Yes No Cooler Temp: 2 °C
 Sample Collection Time Zone: Eastern Pacific Central Mountain Other: _____

Chain of Custody Number = Client Determined
 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
 Characteristic Hazards
 FL = Flammable/Ignitable
 CO = Corrosive
 RE = Reactive
 Listed Waste
 LW = Listed Waste
 (F, K, P and U-listed wastes.)
 Waste code(s):
 RCRA Metals
 As = Arsenic Hg = Mercury
 Ba = Barium Se = Selenium
 Cd = Cadmium Ag = Silver
 Cr = Chromium MR = Misc. RCRA metals
 Pb = Lead
 TSCA Regulated
 PCB = Polychlorinated biphenyls
 Other
 OT = Other / Unknown
 (i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)
 Description:
 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 ID	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (1)	Field Filtered (2)	Sample Matrix (4)	Total number of containers	Sample Analysis Requested (5) (Fill in the number of containers for each test)				Preservative Type (6)	Comments
							Isotopic Uranium (by individual)	Tc-99	Flouride	Nitrate		
SLS-22	06-15-21	10:25	G		SL	2	X	X	X	X		All samples reported "as found"
SLS-08	06-15-21	12:30	G		SL	2	X	X	X	X		All samples reported "as found"
SLS-12	06-15-21	12:50	G		SL	2	X	X	X	X		All samples reported "as found"
SLS-14	06-15-21	13:10	G		SL	2	X	X	X	X		All samples reported "as found"
SLS-18	06-15-21	13:35	G		SL	2	X	X	X	X		All samples reported "as found"
SLS-RB-1	06-15-21	13:45	G		SL	6	X	X	X	X		All samples reported "as found"

Chain of Custody Signatures

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

1. W. Clark Evers 6/16/21 10:00am W. Clark Evers 6/16/21 10:00

2. W. Clark Evers 6/16/21 10:14 W. Clark Evers 6/16/21 10:14

3. W. Clark Evers 6/16/21 15:00 W. Clark Evers 6/16/21 15:00

For sample shipping and delivery details, see Sample Receipt & Review form (SRR).

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=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**

Characteristic Hazards: FL = Flammable/Ignitable, CO = Corrosive, RE = Reactive

Listed Waste: LW = Listed Waste (F,K,P and U-listed wastes), Waste code(s):

Other: OT = Other / Unknown (i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)

TSCA Regulated: PCB = Polychlorinated biphenyls

RCRA Metals: As = Arsenic, Hg = Mercury, Ba = Barium, Se = Selenium, Cd = Cadmium, Ag = Silver, Cr = Chromium, MR = Misc. RCRA metals

Pb = Lead

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

5H

Client: WMMC SDG/AR/COC/Work Order: 547456

Received By: TYE Date Received: 6/17/21 Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other

Carrier and Tracking Number

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? COC notation or radioactive stickers on containers equal client designation.

C) Did the RSO classify the samples as radioactive? Maximum Net Counts Observed (Observed Counts - Area Background Counts): 0 CPM / mR/hr
Classified as: Rad 1 Rad 2 Rad 3

D) Did the client designate samples are hazardous? COC notation or hazard labels on containers equal client designation.

E) Did the RSO identify possible hazards? 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"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Preservation Method: <u>Wet Ice</u> Ice Packs Dry ice None Other: <u>TEMP: 2C</u> *all temperatures are recorded in Celsius
4 Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Temperature Device Serial #: <u>IR2-20</u> Secondary Temperature Device Serial # (If Applicable):
5 Sample containers intact and sealed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6 Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sample ID's and Containers Affected: If Preservation added, Lot#: <u> </u> If Yes, are Encores or Soil Kits present for solids? Yes ___ No ___ NA ___ (If yes, take to VOA Freezer)
7 Do any samples require Volatile Analysis?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Do liquid VOA vials contain acid preservation? Yes ___ No ___ NA ___ (If unknown, select No) Are liquid VOA vials free of headspace? Yes ___ No ___ NA ___ Sample ID's and containers affected:
8 Samples received within holding time?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ID's and containers affected:
10 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: No container count on COC Other (describe)
12 Are sample containers identifiable as GEL provided by use of GEL labels?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
13 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials NRLG Date 6/17/21 Page 1 of 1

List of current GEL Certifications as of 14 July 2021

State	Certification
Alabama	42200
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	SC000122021-1
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	T104704235-21-19
Utah NELAP	SC000122021-35
Vermont	VT87156
Virginia NELAP	460202
Washington	C780



July 19, 2021

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

Re: Sanitary Lagoon Sludge Characterization
Work Order: 547747

Dear Ms. Teague:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 18, 2021. 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. 4523.

Sincerely,

Samuel Hogan
Project Manager

Purchase Order: 4500822910 Line 1
Enclosures

GEL LABORATORIES LLC

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

**Certificate of Analysis Report
for**

WNUC010 Westinghouse Electric Company PO (4500822910)

Client SDG: 547747 GEL Work Order: 547747

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
- B The target analyte was detected in the associated blank.
- J See case narrative for an explanation
- J Value is estimated
- 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, Samuel Hogan.



Reviewed by _____

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: July 19, 2021

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

 Columbia, South Carolina 29205
 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-B1	Project: WNUC01921
Sample ID: 547747001	Client ID: WNUC010
Matrix: Sludge	
Collect Date: 17-JUN-21 07:00	
Receive Date: 18-JUN-21	
Collector: Client	
Moisture: 26.8%	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		3.54	0.441	1.30	mg/kg	9.50	1	LXA2	06/23/21	0212	2142141	1
Nitrate-N	U	ND	0.428	1.30	mg/kg	9.50	1					
Mercury Analysis-CVAA												
TCLP Hg "As Received"												
Mercury	U	ND	0.000670	0.00200	mg/L	10.0	1	MTM1	07/15/21	1104	2150022	2
Metals Analysis-ICP												
TCLP ICP Metals "As Received"												
Arsenic	U	ND	0.0500	0.300	mg/L	10.0	1	LS	07/01/21	1142	2145611	3
Barium		0.108	0.0100	0.0500	mg/L	10.0	1					
Cadmium	U	ND	0.0100	0.0500	mg/L	10.0	1					
Chromium	U	ND	0.0100	0.100	mg/L	10.0	1					
Lead	U	ND	0.0330	0.200	mg/L	10.0	1					
Selenium	U	ND	0.0600	0.300	mg/L	10.0	1					
Silver	U	ND	0.0100	0.0500	mg/L	10.0	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		74.0	1.14	3.16	mg/kg	46.3	1	AXH3	06/30/21	1347	2142441	4
Semi-Volatile-GC/MS												
TCLP SVOC "As Received"												
1,4-Dichlorobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1	LXA1	07/01/21	2015	2145637	5
2,4,5-Trichlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
2,4,6-Trichlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
2,4-Dinitrotoluene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachlorobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachlorobutadiene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachloroethane	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Nitrobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Pentachlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Pyridine	U	ND	0.0150	0.0500	mg/L	0.00500	1					
m,p-Cresols	U	ND	0.0185	0.0500	mg/L	0.00500	1					
o-Cresol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
1,1'-Biphenyl	U	ND	137	455	ug/kg	0.0333	1	NM1	06/28/21	1709	2143036	6
1,2,4,5-Tetrachlorobenzene	U	ND	137	455	ug/kg	0.0333	1					

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: July 19, 2021

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

Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-B1 Project: WNUC01921
Sample ID: 547747001 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
2,3,4,6-Tetrachlorophenol	U	ND	137	455	ug/kg	0.0333	1					
2,4,5-Trichlorophenol	U	ND	137	455	ug/kg	0.0333	1					
2,4,6-Trichlorophenol	U	ND	137	455	ug/kg	0.0333	1					
2,4-Dichlorophenol	U	ND	137	455	ug/kg	0.0333	1					
2,4-Dimethylphenol	U	ND	137	455	ug/kg	0.0333	1					
2,4-Dinitrophenol	U	ND	137	910	ug/kg	0.0333	1					
2,4-Dinitrotoluene	U	ND	137	455	ug/kg	0.0333	1					
2,6-Dinitrotoluene	U	ND	137	455	ug/kg	0.0333	1					
2-Chloronaphthalene	U	ND	13.7	45.5	ug/kg	0.0333	1					
2-Chlorophenol	U	ND	137	455	ug/kg	0.0333	1					
2-Methyl-4,6-dinitrophenol	U	ND	137	455	ug/kg	0.0333	1					
2-Methylnaphthalene	U	ND	13.7	45.5	ug/kg	0.0333	1					
2-Nitrophenol	U	ND	137	455	ug/kg	0.0333	1					
3,3'-Dichlorobenzidine	U	ND	137	455	ug/kg	0.0333	1					
4-Bromophenylphenylether	U	ND	137	455	ug/kg	0.0333	1					
4-Chloro-3-methylphenol	U	ND	182	455	ug/kg	0.0333	1					
4-Chloroaniline	U	ND	137	455	ug/kg	0.0333	1					
4-Chlorophenylphenylether	U	ND	137	455	ug/kg	0.0333	1					
4-Nitrophenol	U	ND	137	455	ug/kg	0.0333	1					
Acenaphthene	U	ND	13.7	45.5	ug/kg	0.0333	1					
Acenaphthylene	U	ND	13.7	45.5	ug/kg	0.0333	1					
Acetophenone	U	ND	137	455	ug/kg	0.0333	1					
Anthracene	U	ND	13.7	45.5	ug/kg	0.0333	1					
Atrazine	U	ND	182	455	ug/kg	0.0333	1					
Benzaldehyde	U	ND	137	455	ug/kg	0.0333	1					
Benzo(a)anthracene	U	ND	13.7	45.5	ug/kg	0.0333	1					
Benzo(a)pyrene	U	ND	13.7	45.5	ug/kg	0.0333	1					
Benzo(b)fluoranthene	U	ND	13.7	45.5	ug/kg	0.0333	1					
Benzo(ghi)perylene	U	ND	13.7	45.5	ug/kg	0.0333	1					
Benzo(k)fluoranthene	U	ND	13.7	45.5	ug/kg	0.0333	1					
Butylbenzylphthalate	U	ND	13.7	45.5	ug/kg	0.0333	1					
Caprolactam	U	ND	137	455	ug/kg	0.0333	1					
Carbazole	U	ND	13.7	45.5	ug/kg	0.0333	1					
Chrysene	U	ND	13.7	45.5	ug/kg	0.0333	1					
Di-n-butylphthalate	U	ND	13.7	45.5	ug/kg	0.0333	1					
Di-n-octylphthalate	U	ND	13.7	45.5	ug/kg	0.0333	1					

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: July 19, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-B1	Project: WNUC01921
Sample ID: 547747001	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
Semi-Volatile-GC/MS											
SW846 8270D SVOA, Solid "Dry Weight Corrected"											
Dibenzo(a,h)anthracene	U	ND	13.7	45.5	ug/kg	0.0333	1				
Dibenzofuran	U	ND	137	455	ug/kg	0.0333	1				
Diethylphthalate	U	ND	13.7	45.5	ug/kg	0.0333	1				
Dimethylphthalate	U	ND	13.7	45.5	ug/kg	0.0333	1				
Diphenylamine	U	ND	137	455	ug/kg	0.0333	1				
Fluoranthene	U	ND	13.7	45.5	ug/kg	0.0333	1				
Fluorene	U	ND	13.7	45.5	ug/kg	0.0333	1				
Hexachlorobenzene	U	ND	137	455	ug/kg	0.0333	1				
Hexachlorobutadiene	U	ND	137	455	ug/kg	0.0333	1				
Hexachlorocyclopentadiene	U	ND	137	455	ug/kg	0.0333	1				
Hexachloroethane	U	ND	137	455	ug/kg	0.0333	1				
Indeno(1,2,3-cd)pyrene	U	ND	13.7	45.5	ug/kg	0.0333	1				
Isophorone	U	ND	137	455	ug/kg	0.0333	1				
N-Nitrosodipropylamine	U	ND	137	455	ug/kg	0.0333	1				
Naphthalene	U	ND	13.7	45.5	ug/kg	0.0333	1				
Nitrobenzene	U	ND	137	455	ug/kg	0.0333	1				
Pentachlorophenol	U	ND	137	455	ug/kg	0.0333	1				
Phenanthrene	U	ND	13.7	45.5	ug/kg	0.0333	1				
Phenol	U	ND	137	455	ug/kg	0.0333	1				
Pyrene	U	ND	13.7	45.5	ug/kg	0.0333	1				
bis(2-Chloro-1-methylethyl)ether	U	ND	137	455	ug/kg	0.0333	1				
bis(2-Chloroethoxy)methane	U	ND	137	455	ug/kg	0.0333	1				
bis(2-Chloroethyl) ether	U	ND	137	455	ug/kg	0.0333	1				
bis(2-Ethylhexyl)phthalate	U	ND	13.7	45.5	ug/kg	0.0333	1				
m,p-Cresols	U	ND	137	455	ug/kg	0.0333	1				
m-Nitroaniline	U	ND	137	455	ug/kg	0.0333	1				
o-Cresol	U	ND	137	455	ug/kg	0.0333	1				
o-Nitroaniline	U	ND	150	455	ug/kg	0.0333	1				
p-Nitroaniline	U	ND	137	455	ug/kg	0.0333	1				
Volatile Organics											
TCLP Volatiles "As Received"											
1,1-Dichloroethylene	U	ND	0.00333	0.0100	mg/L		10	PXY1	07/14/21	1317 2149793	7
1,2-Dichloroethane	U	ND	0.00333	0.0100	mg/L		10				
1,4-Dichlorobenzene	U	ND	0.00333	0.0100	mg/L		10				
2-Butanone	BJ	0.0242	0.0167	0.0500	mg/L		10				
Benzene	U	ND	0.00333	0.0100	mg/L		10				

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: July 19, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-B1	Project:	WNUC01921
Sample ID:	547747001	Client ID:	WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatil Organics												
TCLP Volatiles "As Received"												
Carbon tetrachloride	U	ND	0.00333	0.0100	mg/L		10					
Chlorobenzene	U	ND	0.00333	0.0100	mg/L		10					
Chloroform	U	ND	0.00333	0.0100	mg/L		10					
Tetrachloroethylene	U	ND	0.00333	0.0100	mg/L		10					
Trichloroethylene	U	ND	0.00333	0.0100	mg/L		10					
Vinyl chloride	U	ND	0.00333	0.0100	mg/L		10					
SW846 8260 Volatiles "Dry Weight Corrected"												
1,1,1-Trichloroethane	U	ND	0.255	0.766	ug/kg	0.561	1	JEB	07/01/21	1608	2146071	8
1,1,2,2-Tetrachloroethane	U	ND	0.255	0.766	ug/kg	0.561	1					
1,1,2-Trichloroethane	U	ND	0.255	0.766	ug/kg	0.561	1					
1,1-Dichloroethane	U	ND	0.255	0.766	ug/kg	0.561	1					
1,1-Dichloroethylene	U	ND	0.255	0.766	ug/kg	0.561	1					
1,2,3-Trichlorobenzene	U	ND	0.255	0.766	ug/kg	0.561	1					
1,2,4-Trichlorobenzene	U	ND	0.255	0.766	ug/kg	0.561	1					
1,2-Dibromo-3-chloropropane	U	ND	0.383	0.766	ug/kg	0.561	1					
1,2-Dibromoethane	U	ND	0.255	0.766	ug/kg	0.561	1					
1,2-Dichlorobenzene	U	ND	0.255	0.766	ug/kg	0.561	1					
1,2-Dichloroethane	U	ND	0.255	0.766	ug/kg	0.561	1					
1,2-Dichloropropane	U	ND	0.255	0.766	ug/kg	0.561	1					
1,3-Dichlorobenzene	U	ND	0.255	0.766	ug/kg	0.561	1					
1,4-Dichlorobenzene	U	ND	0.255	0.766	ug/kg	0.561	1					
1,4-Dioxane	U	ND	12.8	38.3	ug/kg	0.561	1					
2-Butanone		5.84	1.28	3.83	ug/kg	0.561	1					
2-Hexanone	U	ND	1.28	3.83	ug/kg	0.561	1					
4-Methyl-2-pentanone	U	ND	1.28	3.83	ug/kg	0.561	1					
Acetone		46.3	1.28	3.83	ug/kg	0.561	1					
Benzene	U	ND	0.255	0.766	ug/kg	0.561	1					
Bromochloromethane	U	ND	0.255	0.766	ug/kg	0.561	1					
Bromodichloromethane	U	ND	0.255	0.766	ug/kg	0.561	1					
Bromoform	U	ND	0.255	0.766	ug/kg	0.561	1					
Bromomethane	U	ND	0.255	0.766	ug/kg	0.561	1					
Carbon disulfide	U	ND	1.28	3.83	ug/kg	0.561	1					
Carbon tetrachloride	U	ND	0.255	0.766	ug/kg	0.561	1					
Chlorobenzene	U	ND	0.255	0.766	ug/kg	0.561	1					
Chloroethane	U	ND	0.255	0.766	ug/kg	0.561	1					
Chloroform	U	ND	0.255	0.766	ug/kg	0.561	1					

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: July 19, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-B1 Project: WNUC01921
Sample ID: 547747001 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "Dry Weight Corrected"												
Chloromethane	U	ND	0.255	0.766	ug/kg	0.561	1					
Cyclohexane	U	ND	0.255	0.766	ug/kg	0.561	1					
Dibromochloromethane	U	ND	0.255	0.766	ug/kg	0.561	1					
Dichlorodifluoromethane	U	ND	0.255	0.766	ug/kg	0.561	1					
Ethylbenzene	U	ND	0.255	0.766	ug/kg	0.561	1					
Isopropylbenzene	U	ND	0.255	0.766	ug/kg	0.561	1					
Methyl acetate	U	ND	1.28	3.83	ug/kg	0.561	1					
Methylcyclohexane	U	ND	0.255	0.766	ug/kg	0.561	1					
Methylene chloride	U	ND	1.28	3.83	ug/kg	0.561	1					
Styrene	U	ND	0.255	0.766	ug/kg	0.561	1					
Tetrachloroethylene	U	ND	0.255	0.766	ug/kg	0.561	1					
Toluene	U	ND	0.255	0.766	ug/kg	0.561	1					
Trichloroethylene	U	ND	0.255	0.766	ug/kg	0.561	1					
Trichlorofluoromethane	U	ND	0.255	0.766	ug/kg	0.561	1					
Trichlorotrifluoroethane	U	ND	1.28	3.83	ug/kg	0.561	1					
Vinyl chloride	U	ND	0.255	0.766	ug/kg	0.561	1					
cis-1,2-Dichloroethylene	U	ND	0.255	0.766	ug/kg	0.561	1					
cis-1,3-Dichloropropylene	U	ND	0.255	0.766	ug/kg	0.561	1					
m,p-Xylenes	U	ND	0.511	1.53	ug/kg	0.561	1					
o-Xylene	U	ND	0.255	0.766	ug/kg	0.561	1					
tert-Butyl methyl ether	U	ND	0.255	0.766	ug/kg	0.561	1					
trans-1,2-Dichloroethylene	U	ND	0.255	0.766	ug/kg	0.561	1					
trans-1,3-Dichloropropylene	U	ND	0.255	0.766	ug/kg	0.561	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	AXH3	06/29/21	1600	2142440
SW846 1311	SW846 1311 TCLP Leaching	JP2	06/29/21	1618	2142362
SW846 1311	SW846 1311 TCLP Leaching	JP2	06/29/21	1618	2142363
SW846 1311	SW846 1311 TCLP Volatiles Prep	JP2	06/29/21	1458	2142364
SW846 3010A	ICP-TRACE TCLP by SW846 3010A	HH1	06/30/21	1657	2145610
SW846 3510C	3510C BNA TCLP/SPLP Prep-GC/MS Analysis	SG2	07/01/21	1027	2145607
SW846 3541	Prep Method 3541 8270D BNA for Soil	CB1	06/28/21	0900	2143035
SW846 5035	5035 Prep	JEB	06/17/21	0700	2146069
SW846 7470A Prep	EPA 7470A Mercury Prep TCLP Liquid	AXS5	07/14/21	1248	2150019
SW846 9056A	SW846 9056A Total Anions in Soil	LXA2	06/22/21	1435	2142265

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Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-B1	Project: WNUC01921
Sample ID: 547747001	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
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The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 7470A	
3	SW846 3010A/6010D	
4	EPA 350.1 Modified SC	
5	SW846 3510C/8270E	
6	SW846 3541/8270D	
7	SW846 8260D	
8	SW846 8260D	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	TCLP SVOC "As Received"	0.182 mg/L	0.250	73	(39%-112%)
Nitrobenzene-d5	TCLP SVOC "As Received"	0.186 mg/L	0.250	74	(39%-112%)
p-Terphenyl-d14	TCLP SVOC "As Received"	0.197 mg/L	0.250	79	(24%-129%)
2,4,6-Tribromophenol	TCLP SVOC "As Received"	0.419 mg/L	0.500	84	(37%-132%)
2-Fluorophenol	TCLP SVOC "As Received"	0.222 mg/L	0.500	44	(11%-79%)
Phenol-d5	TCLP SVOC "As Received"	0.168 mg/L	0.500	34	(15%-85%)
2-Fluorobiphenyl	SW846 8270D SVOA, Solid "Dry Weight Corrected"	401 ug/kg	2280	18*	(26%-118%)
Nitrobenzene-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"	447 ug/kg	2280	20*	(28%-110%)
p-Terphenyl-d14	SW846 8270D SVOA, Solid "Dry Weight Corrected"	486 ug/kg	2280	21*	(26%-130%)
2,4,6-Tribromophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"	1060 ug/kg	4550	23*	(26%-128%)
2-Fluorophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"	983 ug/kg	4550	22*	(30%-108%)
Phenol-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"	1080 ug/kg	4550	24*	(29%-116%)
1,2-Dichloroethane-d4	TCLP Volatiles "As Received"	0.541 mg/L	0.0500	108	(73%-129%)
Bromofluorobenzene	TCLP Volatiles "As Received"	0.523 mg/L	0.0500	105	(72%-125%)
Toluene-d8	TCLP Volatiles "As Received"	0.504 mg/L	0.0500	101	(75%-123%)
1,2-Dichloroethane-d4	SW846 8260 Volatiles "Dry Weight Corrected"	38.1 ug/kg	50.0	99	(76%-127%)
Bromofluorobenzene	SW846 8260 Volatiles "Dry Weight Corrected"	41.1 ug/kg	50.0	107	(70%-130%)
Toluene-d8	SW846 8260 Volatiles "Dry Weight Corrected"	34.6 ug/kg	50.0	90	(81%-120%)

Notes:

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Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-B1	Project:	WNUC01921
Sample ID:	547747001	Client ID:	WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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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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Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-1	Project:	WNUC01921
Sample ID:	547747002	Client ID:	WNUC010
Matrix:	Sludge		
Collect Date:	17-JUN-21 07:20		
Receive Date:	18-JUN-21		
Collector:	Client		
Moisture:	31.4%		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		8.47	0.495	1.46	mg/kg	10.0	1	LXA2	06/23/21	0342	2142141	1
Nitrate-N	U	ND	0.481	1.46	mg/kg	10.0	1					
Mercury Analysis-CVAA												
TCLP Hg "As Received"												
Mercury	U	ND	0.000670	0.00200	mg/L	10.0	1	MTM1	07/15/21	1116	2150022	2
Metals Analysis-ICP												
TCLP ICP Metals "As Received"												
Arsenic	U	ND	0.0500	0.300	mg/L	10.0	1	LS	07/01/21	1201	2145611	3
Barium		0.103	0.0100	0.0500	mg/L	10.0	1					
Cadmium	U	ND	0.0100	0.0500	mg/L	10.0	1					
Chromium	U	ND	0.0100	0.100	mg/L	10.0	1					
Lead	U	ND	0.0330	0.200	mg/L	10.0	1					
Selenium	U	ND	0.0600	0.300	mg/L	10.0	1					
Silver	U	ND	0.0100	0.0500	mg/L	10.0	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		331	5.46	15.2	mg/kg	41.7	5	AXH3	06/30/21	1413	2142441	4
Semi-Volatile-GC/MS												
TCLP SVOC "As Received"												
1,4-Dichlorobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1	LXA1	07/01/21	2144	2145637	5
2,4,5-Trichlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
2,4,6-Trichlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
2,4-Dinitrotoluene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachlorobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachlorobutadiene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachloroethane	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Nitrobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Pentachlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Pyridine	U	ND	0.0150	0.0500	mg/L	0.00500	1					
m,p-Cresols	U	ND	0.0185	0.0500	mg/L	0.00500	1					
o-Cresol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
1,1'-Biphenyl	U	ND	143	476	ug/kg	0.0327	1	NM1	06/28/21	1833	2143036	6
1,2,4,5-Tetrachlorobenzene	U	ND	143	476	ug/kg	0.0327	1					

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Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-1 Project: WNUC01921
Sample ID: 547747002 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
2,3,4,6-Tetrachlorophenol	U	ND	143	476	ug/kg	0.0327	1					
2,4,5-Trichlorophenol	U	ND	143	476	ug/kg	0.0327	1					
2,4,6-Trichlorophenol	U	ND	143	476	ug/kg	0.0327	1					
2,4-Dichlorophenol	U	ND	143	476	ug/kg	0.0327	1					
2,4-Dimethylphenol	U	ND	143	476	ug/kg	0.0327	1					
2,4-Dinitrophenol	U	ND	143	953	ug/kg	0.0327	1					
2,4-Dinitrotoluene	U	ND	143	476	ug/kg	0.0327	1					
2,6-Dinitrotoluene	U	ND	143	476	ug/kg	0.0327	1					
2-Chloronaphthalene	U	ND	14.3	47.6	ug/kg	0.0327	1					
2-Chlorophenol	U	ND	143	476	ug/kg	0.0327	1					
2-Methyl-4,6-dinitrophenol	U	ND	143	476	ug/kg	0.0327	1					
2-Methylnaphthalene	U	ND	14.3	47.6	ug/kg	0.0327	1					
2-Nitrophenol	U	ND	143	476	ug/kg	0.0327	1					
3,3'-Dichlorobenzidine	U	ND	143	476	ug/kg	0.0327	1					
4-Bromophenylphenylether	U	ND	143	476	ug/kg	0.0327	1					
4-Chloro-3-methylphenol	U	ND	191	476	ug/kg	0.0327	1					
4-Chloroaniline	U	ND	143	476	ug/kg	0.0327	1					
4-Chlorophenylphenylether	U	ND	143	476	ug/kg	0.0327	1					
4-Nitrophenol	U	ND	143	476	ug/kg	0.0327	1					
Acenaphthene	U	ND	14.3	47.6	ug/kg	0.0327	1					
Acenaphthylene	U	ND	14.3	47.6	ug/kg	0.0327	1					
Acetophenone	U	ND	143	476	ug/kg	0.0327	1					
Anthracene	U	ND	14.3	47.6	ug/kg	0.0327	1					
Atrazine	U	ND	191	476	ug/kg	0.0327	1					
Benzaldehyde	U	ND	143	476	ug/kg	0.0327	1					
Benzo(a)anthracene	U	ND	14.3	47.6	ug/kg	0.0327	1					
Benzo(a)pyrene	U	ND	14.3	47.6	ug/kg	0.0327	1					
Benzo(b)fluoranthene	J	19.5	14.3	47.6	ug/kg	0.0327	1					
Benzo(ghi)perylene	U	ND	14.3	47.6	ug/kg	0.0327	1					
Benzo(k)fluoranthene	U	ND	14.3	47.6	ug/kg	0.0327	1					
Butylbenzylphthalate	U	ND	14.3	47.6	ug/kg	0.0327	1					
Caprolactam	U	ND	143	476	ug/kg	0.0327	1					
Carbazole	U	ND	14.3	47.6	ug/kg	0.0327	1					
Chrysene	U	ND	14.3	47.6	ug/kg	0.0327	1					
Di-n-butylphthalate	U	ND	14.3	47.6	ug/kg	0.0327	1					
Di-n-octylphthalate	U	ND	14.3	47.6	ug/kg	0.0327	1					

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Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-1	Project: WNUC01921
Sample ID: 547747002	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
Semi-Volatile-GC/MS											
SW846 8270D SVOA, Solid "Dry Weight Corrected"											
Dibenzo(a,h)anthracene	U	ND	14.3	47.6	ug/kg	0.0327	1				
Dibenzofuran	U	ND	143	476	ug/kg	0.0327	1				
Diethylphthalate	U	ND	14.3	47.6	ug/kg	0.0327	1				
Dimethylphthalate	U	ND	14.3	47.6	ug/kg	0.0327	1				
Diphenylamine	U	ND	143	476	ug/kg	0.0327	1				
Fluoranthene	J	27.1	14.3	47.6	ug/kg	0.0327	1				
Fluorene	U	ND	14.3	47.6	ug/kg	0.0327	1				
Hexachlorobenzene	U	ND	143	476	ug/kg	0.0327	1				
Hexachlorobutadiene	U	ND	143	476	ug/kg	0.0327	1				
Hexachlorocyclopentadiene	U	ND	143	476	ug/kg	0.0327	1				
Hexachloroethane	U	ND	143	476	ug/kg	0.0327	1				
Indeno(1,2,3-cd)pyrene	U	ND	14.3	47.6	ug/kg	0.0327	1				
Isophorone	U	ND	143	476	ug/kg	0.0327	1				
N-Nitrosodipropylamine	U	ND	143	476	ug/kg	0.0327	1				
Naphthalene	U	ND	14.3	47.6	ug/kg	0.0327	1				
Nitrobenzene	U	ND	143	476	ug/kg	0.0327	1				
Pentachlorophenol	U	ND	143	476	ug/kg	0.0327	1				
Phenanthrene	U	ND	14.3	47.6	ug/kg	0.0327	1				
Phenol	U	ND	143	476	ug/kg	0.0327	1				
Pyrene	J	22.4	14.3	47.6	ug/kg	0.0327	1				
bis(2-Chloro-1-methylethyl)ether	U	ND	143	476	ug/kg	0.0327	1				
bis(2-Chloroethoxy)methane	U	ND	143	476	ug/kg	0.0327	1				
bis(2-Chloroethyl) ether	U	ND	143	476	ug/kg	0.0327	1				
bis(2-Ethylhexyl)phthalate		51.4	14.3	47.6	ug/kg	0.0327	1				
m,p-Cresols	U	ND	143	476	ug/kg	0.0327	1				
m-Nitroaniline	U	ND	143	476	ug/kg	0.0327	1				
o-Cresol	U	ND	143	476	ug/kg	0.0327	1				
o-Nitroaniline	U	ND	157	476	ug/kg	0.0327	1				
p-Nitroaniline	U	ND	143	476	ug/kg	0.0327	1				
Volatile Organics											
TCLP Volatiles "As Received"											
1,1-Dichloroethylene	U	ND	0.00333	0.0100	mg/L		10	PXY1	07/14/21	1344 2149793	7
1,2-Dichloroethane	U	ND	0.00333	0.0100	mg/L		10				
1,4-Dichlorobenzene	U	ND	0.00333	0.0100	mg/L		10				
2-Butanone	BJ	0.0204	0.0167	0.0500	mg/L		10				
Benzene	U	ND	0.00333	0.0100	mg/L		10				

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Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-1	Project:	WNUC01921
Sample ID:	547747002	Client ID:	WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatil Organics												
TCLP Volatiles "As Received"												
Carbon tetrachloride	U	ND	0.00333	0.0100	mg/L		10					
Chlorobenzene	U	ND	0.00333	0.0100	mg/L		10					
Chloroform	U	ND	0.00333	0.0100	mg/L		10					
Tetrachloroethylene	U	ND	0.00333	0.0100	mg/L		10					
Trichloroethylene	U	ND	0.00333	0.0100	mg/L		10					
Vinyl chloride	U	ND	0.00333	0.0100	mg/L		10					
SW846 8260 Volatiles "Dry Weight Corrected"												
1,1,1-Trichloroethane	U	ND	0.358	1.07	ug/kg	0.737	1	JEB	07/01/21	1633	2146071	8
1,1,2,2-Tetrachloroethane	U	ND	0.358	1.07	ug/kg	0.737	1					
1,1,2-Trichloroethane	U	ND	0.358	1.07	ug/kg	0.737	1					
1,1-Dichloroethane	U	ND	0.358	1.07	ug/kg	0.737	1					
1,1-Dichloroethylene	U	ND	0.358	1.07	ug/kg	0.737	1					
1,2,3-Trichlorobenzene	U	ND	0.358	1.07	ug/kg	0.737	1					
1,2,4-Trichlorobenzene	U	ND	0.358	1.07	ug/kg	0.737	1					
1,2-Dibromo-3-chloropropane	U	ND	0.537	1.07	ug/kg	0.737	1					
1,2-Dibromoethane	U	ND	0.358	1.07	ug/kg	0.737	1					
1,2-Dichlorobenzene	U	ND	0.358	1.07	ug/kg	0.737	1					
1,2-Dichloroethane	U	ND	0.358	1.07	ug/kg	0.737	1					
1,2-Dichloropropane	U	ND	0.358	1.07	ug/kg	0.737	1					
1,3-Dichlorobenzene	U	ND	0.358	1.07	ug/kg	0.737	1					
1,4-Dichlorobenzene	U	ND	0.358	1.07	ug/kg	0.737	1					
1,4-Dioxane	U	ND	17.9	53.7	ug/kg	0.737	1					
2-Butanone		9.06	1.79	5.37	ug/kg	0.737	1					
2-Hexanone	U	ND	1.79	5.37	ug/kg	0.737	1					
4-Methyl-2-pentanone	U	ND	1.79	5.37	ug/kg	0.737	1					
Acetone		86.4	1.79	5.37	ug/kg	0.737	1					
Benzene	U	ND	0.358	1.07	ug/kg	0.737	1					
Bromochloromethane	U	ND	0.358	1.07	ug/kg	0.737	1					
Bromodichloromethane	U	ND	0.358	1.07	ug/kg	0.737	1					
Bromoform	U	ND	0.358	1.07	ug/kg	0.737	1					
Bromomethane	U	ND	0.358	1.07	ug/kg	0.737	1					
Carbon disulfide	J	2.36	1.79	5.37	ug/kg	0.737	1					
Carbon tetrachloride	U	ND	0.358	1.07	ug/kg	0.737	1					
Chlorobenzene	U	ND	0.358	1.07	ug/kg	0.737	1					
Chloroethane	U	ND	0.358	1.07	ug/kg	0.737	1					
Chloroform	U	ND	0.358	1.07	ug/kg	0.737	1					

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Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-1 Project: WNUC01921
Sample ID: 547747002 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "Dry Weight Corrected"												
Chloromethane	U	ND	0.358	1.07	ug/kg	0.737	1					
Cyclohexane	U	ND	0.358	1.07	ug/kg	0.737	1					
Dibromochloromethane	U	ND	0.358	1.07	ug/kg	0.737	1					
Dichlorodifluoromethane	U	ND	0.358	1.07	ug/kg	0.737	1					
Ethylbenzene	U	ND	0.358	1.07	ug/kg	0.737	1					
Isopropylbenzene	U	ND	0.358	1.07	ug/kg	0.737	1					
Methyl acetate	U	ND	1.79	5.37	ug/kg	0.737	1					
Methylcyclohexane	U	ND	0.358	1.07	ug/kg	0.737	1					
Methylene chloride	U	ND	1.79	5.37	ug/kg	0.737	1					
Styrene	U	ND	0.358	1.07	ug/kg	0.737	1					
Tetrachloroethylene	U	ND	0.358	1.07	ug/kg	0.737	1					
Toluene	J	0.677	0.358	1.07	ug/kg	0.737	1					
Trichloroethylene	U	ND	0.358	1.07	ug/kg	0.737	1					
Trichlorofluoromethane	U	ND	0.358	1.07	ug/kg	0.737	1					
Trichlorotrifluoroethane	U	ND	1.79	5.37	ug/kg	0.737	1					
Vinyl chloride	U	ND	0.358	1.07	ug/kg	0.737	1					
cis-1,2-Dichloroethylene	U	ND	0.358	1.07	ug/kg	0.737	1					
cis-1,3-Dichloropropylene	U	ND	0.358	1.07	ug/kg	0.737	1					
m,p-Xylenes	U	ND	0.717	2.15	ug/kg	0.737	1					
o-Xylene	U	ND	0.358	1.07	ug/kg	0.737	1					
tert-Butyl methyl ether	U	ND	0.358	1.07	ug/kg	0.737	1					
trans-1,2-Dichloroethylene	U	ND	0.358	1.07	ug/kg	0.737	1					
trans-1,3-Dichloropropylene	U	ND	0.358	1.07	ug/kg	0.737	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	AXH3	06/29/21	1600	2142440
SW846 1311	SW846 1311 TCLP Leaching	JP2	06/29/21	1618	2142362
SW846 1311	SW846 1311 TCLP Leaching	JP2	06/29/21	1618	2142363
SW846 1311	SW846 1311 TCLP Volatiles Prep	JP2	06/29/21	1458	2142364
SW846 3010A	ICP-TRACE TCLP by SW846 3010A	HH1	06/30/21	1657	2145610
SW846 3510C	3510C BNA TCLP/SPLP Prep-GC/MS Analysis	SG2	07/01/21	1027	2145607
SW846 3541	Prep Method 3541 8270D BNA for Soil	CB1	06/28/21	0900	2143035
SW846 5035	5035 Prep	JEB	06/17/21	0720	2146069
SW846 7470A Prep	EPA 7470A Mercury Prep TCLP Liquid	AXS5	07/14/21	1248	2150019
SW846 9056A	SW846 9056A Total Anions in Soil	LXA2	06/22/21	1435	2142265

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Certificate of Analysis

Report Date: July 19, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-1	Project: WNUC01921
Sample ID: 547747002	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
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The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 7470A	
3	SW846 3010A/6010D	
4	EPA 350.1 Modified SC	
5	SW846 3510C/8270E	
6	SW846 3541/8270D	
7	SW846 8260D	
8	SW846 8260D	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	TCLP SVOC "As Received"	0.189 mg/L	0.250	76	(39%-112%)
Nitrobenzene-d5	TCLP SVOC "As Received"	0.187 mg/L	0.250	75	(39%-112%)
p-Terphenyl-d14	TCLP SVOC "As Received"	0.206 mg/L	0.250	82	(24%-129%)
2,4,6-Tribromophenol	TCLP SVOC "As Received"	0.408 mg/L	0.500	82	(37%-132%)
2-Fluorophenol	TCLP SVOC "As Received"	0.230 mg/L	0.500	46	(11%-79%)
Phenol-d5	TCLP SVOC "As Received"	0.170 mg/L	0.500	34	(15%-85%)
2-Fluorobiphenyl	SW846 8270D SVOA, Solid "Dry Weight Corrected"	550 ug/kg	2380	23*	(26%-118%)
Nitrobenzene-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"	593 ug/kg	2380	25*	(28%-110%)
p-Terphenyl-d14	SW846 8270D SVOA, Solid "Dry Weight Corrected"	613 ug/kg	2380	26	(26%-130%)
2,4,6-Tribromophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"	1430 ug/kg	4760	30	(26%-128%)
2-Fluorophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"	1300 ug/kg	4760	27*	(30%-108%)
Phenol-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"	1480 ug/kg	4760	31	(29%-116%)
1,2-Dichloroethane-d4	TCLP Volatiles "As Received"	0.546 mg/L	0.0500	109	(73%-129%)
Bromofluorobenzene	TCLP Volatiles "As Received"	0.527 mg/L	0.0500	105	(72%-125%)
Toluene-d8	TCLP Volatiles "As Received"	0.509 mg/L	0.0500	102	(75%-123%)
1,2-Dichloroethane-d4	SW846 8260 Volatiles "Dry Weight Corrected"	55.3 ug/kg	50.0	103	(76%-127%)
Bromofluorobenzene	SW846 8260 Volatiles "Dry Weight Corrected"	52.2 ug/kg	50.0	97	(70%-130%)
Toluene-d8	SW846 8260 Volatiles "Dry Weight Corrected"	45.6 ug/kg	50.0	85	(81%-120%)

Notes:

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Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-1 Project: WNUC01921
Sample ID: 547747002 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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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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 Columbia, South Carolina 29205
 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-B2	Project:	WNUC01921
Sample ID:	547747003	Client ID:	WNUC010
Matrix:	Sludge		
Collect Date:	17-JUN-21 07:30		
Receive Date:	18-JUN-21		
Collector:	Client		
Moisture:	24.6%		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		3.99	0.438	1.29	mg/kg	9.71	1	LXA2	06/23/21	0412	2142141	1
Nitrate-N	U	ND	0.425	1.29	mg/kg	9.71	1					
Mercury Analysis-CVAA												
TCLP Hg "As Received"												
Mercury	U	ND	0.000670	0.00200	mg/L	10.0	1	MTM1	07/15/21	1118	2150022	2
Metals Analysis-ICP												
TCLP ICP Metals "As Received"												
Arsenic	U	ND	0.0500	0.300	mg/L	10.0	1	LS	07/01/21	1204	2145611	3
Barium		0.103	0.0100	0.0500	mg/L	10.0	1					
Cadmium	U	ND	0.0100	0.0500	mg/L	10.0	1					
Chromium	U	ND	0.0100	0.100	mg/L	10.0	1					
Lead	U	ND	0.0330	0.200	mg/L	10.0	1					
Selenium	U	ND	0.0600	0.300	mg/L	10.0	1					
Silver	U	ND	0.0100	0.0500	mg/L	10.0	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		35.2	1.17	3.25	mg/kg	49.0	1	AXH3	06/30/21	1351	2142441	4
Semi-Volatile-GC/MS												
TCLP SVOC "As Received"												
1,4-Dichlorobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1	LXA1	07/01/21	2214	2145637	5
2,4,5-Trichlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
2,4,6-Trichlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
2,4-Dinitrotoluene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachlorobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachlorobutadiene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachloroethane	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Nitrobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Pentachlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Pyridine	U	ND	0.0150	0.0500	mg/L	0.00500	1					
m,p-Cresols	U	ND	0.0185	0.0500	mg/L	0.00500	1					
o-Cresol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
1,1'-Biphenyl	U	ND	1300	4340	ug/kg	0.0327	10	NM1	06/28/21	1901	2143036	6
1,2,4,5-Tetrachlorobenzene	U	ND	1300	4340	ug/kg	0.0327	10					

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Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-B2 Project: WNUC01921
Sample ID: 547747003 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
2,3,4,6-Tetrachlorophenol	U	ND	1300	4340	ug/kg	0.0327	10					
2,4,5-Trichlorophenol	U	ND	1300	4340	ug/kg	0.0327	10					
2,4,6-Trichlorophenol	U	ND	1300	4340	ug/kg	0.0327	10					
2,4-Dichlorophenol	U	ND	1300	4340	ug/kg	0.0327	10					
2,4-Dimethylphenol	U	ND	1300	4340	ug/kg	0.0327	10					
2,4-Dinitrophenol	U	ND	1300	8680	ug/kg	0.0327	10					
2,4-Dinitrotoluene	U	ND	1300	4340	ug/kg	0.0327	10					
2,6-Dinitrotoluene	U	ND	1300	4340	ug/kg	0.0327	10					
2-Chloronaphthalene	U	ND	130	434	ug/kg	0.0327	10					
2-Chlorophenol	U	ND	1300	4340	ug/kg	0.0327	10					
2-Methyl-4,6-dinitrophenol	U	ND	1300	4340	ug/kg	0.0327	10					
2-Methylnaphthalene	U	ND	130	434	ug/kg	0.0327	10					
2-Nitrophenol	U	ND	1300	4340	ug/kg	0.0327	10					
3,3'-Dichlorobenzidine	U	ND	1300	4340	ug/kg	0.0327	10					
4-Bromophenylphenylether	U	ND	1300	4340	ug/kg	0.0327	10					
4-Chloro-3-methylphenol	U	ND	1740	4340	ug/kg	0.0327	10					
4-Chloroaniline	U	ND	1300	4340	ug/kg	0.0327	10					
4-Chlorophenylphenylether	U	ND	1300	4340	ug/kg	0.0327	10					
4-Nitrophenol	U	ND	1300	4340	ug/kg	0.0327	10					
Acenaphthene	U	ND	130	434	ug/kg	0.0327	10					
Acenaphthylene	U	ND	130	434	ug/kg	0.0327	10					
Acetophenone	U	ND	1300	4340	ug/kg	0.0327	10					
Anthracene	U	ND	130	434	ug/kg	0.0327	10					
Atrazine	U	ND	1740	4340	ug/kg	0.0327	10					
Benzaldehyde	U	ND	1300	4340	ug/kg	0.0327	10					
Benzo(a)anthracene	U	ND	130	434	ug/kg	0.0327	10					
Benzo(a)pyrene	U	ND	130	434	ug/kg	0.0327	10					
Benzo(b)fluoranthene	U	ND	130	434	ug/kg	0.0327	10					
Benzo(ghi)perylene	U	ND	130	434	ug/kg	0.0327	10					
Benzo(k)fluoranthene	U	ND	130	434	ug/kg	0.0327	10					
Butylbenzylphthalate	U	ND	130	434	ug/kg	0.0327	10					
Caprolactam	U	ND	1300	4340	ug/kg	0.0327	10					
Carbazole	U	ND	130	434	ug/kg	0.0327	10					
Chrysene	U	ND	130	434	ug/kg	0.0327	10					
Di-n-butylphthalate	U	ND	130	434	ug/kg	0.0327	10					
Di-n-octylphthalate	U	ND	130	434	ug/kg	0.0327	10					

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Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-B2	Project: WNUC01921
Sample ID: 547747003	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
Dibenzo(a,h)anthracene	U	ND	130	434	ug/kg	0.0327	10					
Dibenzofuran	U	ND	1300	4340	ug/kg	0.0327	10					
Diethylphthalate	U	ND	130	434	ug/kg	0.0327	10					
Dimethylphthalate	U	ND	130	434	ug/kg	0.0327	10					
Diphenylamine	U	ND	1300	4340	ug/kg	0.0327	10					
Fluoranthene	U	ND	130	434	ug/kg	0.0327	10					
Fluorene	U	ND	130	434	ug/kg	0.0327	10					
Hexachlorobenzene	U	ND	1300	4340	ug/kg	0.0327	10					
Hexachlorobutadiene	U	ND	1300	4340	ug/kg	0.0327	10					
Hexachlorocyclopentadiene	U	ND	1300	4340	ug/kg	0.0327	10					
Hexachloroethane	U	ND	1300	4340	ug/kg	0.0327	10					
Indeno(1,2,3-cd)pyrene	U	ND	130	434	ug/kg	0.0327	10					
Isophorone	U	ND	1300	4340	ug/kg	0.0327	10					
N-Nitrosodipropylamine	U	ND	1300	4340	ug/kg	0.0327	10					
Naphthalene	U	ND	130	434	ug/kg	0.0327	10					
Nitrobenzene	U	ND	1300	4340	ug/kg	0.0327	10					
Pentachlorophenol	U	ND	1300	4340	ug/kg	0.0327	10					
Phenanthrene	U	ND	130	434	ug/kg	0.0327	10					
Phenol	U	ND	1300	4340	ug/kg	0.0327	10					
Pyrene	U	ND	130	434	ug/kg	0.0327	10					
bis(2-Chloro-1-methylethyl)ether	U	ND	1300	4340	ug/kg	0.0327	10					
bis(2-Chloroethoxy)methane	U	ND	1300	4340	ug/kg	0.0327	10					
bis(2-Chloroethyl) ether	U	ND	1300	4340	ug/kg	0.0327	10					
bis(2-Ethylhexyl)phthalate	J	169	130	434	ug/kg	0.0327	10					
m,p-Cresols	U	ND	1300	4340	ug/kg	0.0327	10					
m-Nitroaniline	U	ND	1300	4340	ug/kg	0.0327	10					
o-Cresol	U	ND	1300	4340	ug/kg	0.0327	10					
o-Nitroaniline	U	ND	1430	4340	ug/kg	0.0327	10					
p-Nitroaniline	U	ND	1300	4340	ug/kg	0.0327	10					
Volatile Organics												
TCLP Volatiles "As Received"												
1,1-Dichloroethylene	U	ND	0.00333	0.0100	mg/L		10	PXY1	07/14/21	1411	2149793	7
1,2-Dichloroethane	U	ND	0.00333	0.0100	mg/L		10					
1,4-Dichlorobenzene	U	ND	0.00333	0.0100	mg/L		10					
2-Butanone	BJ	0.0183	0.0167	0.0500	mg/L		10					
Benzene	U	ND	0.00333	0.0100	mg/L		10					

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Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-B2	Project:	WNUC01921
Sample ID:	547747003	Client ID:	WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatil Organics												
TCLP Volatiles "As Received"												
Carbon tetrachloride	U	ND	0.00333	0.0100	mg/L		10					
Chlorobenzene	U	ND	0.00333	0.0100	mg/L		10					
Chloroform	U	ND	0.00333	0.0100	mg/L		10					
Tetrachloroethylene	U	ND	0.00333	0.0100	mg/L		10					
Trichloroethylene	U	ND	0.00333	0.0100	mg/L		10					
Vinyl chloride	U	ND	0.00333	0.0100	mg/L		10					
SW846 8260 Volatiles "Dry Weight Corrected"												
1,1,1-Trichloroethane	U	ND	0.295	0.885	ug/kg	0.668	1	JEB	07/01/21	1657	2146071	8
1,1,2,2-Tetrachloroethane	U	ND	0.295	0.885	ug/kg	0.668	1					
1,1,2-Trichloroethane	U	ND	0.295	0.885	ug/kg	0.668	1					
1,1-Dichloroethane	U	ND	0.295	0.885	ug/kg	0.668	1					
1,1-Dichloroethylene	U	ND	0.295	0.885	ug/kg	0.668	1					
1,2,3-Trichlorobenzene	U	ND	0.295	0.885	ug/kg	0.668	1					
1,2,4-Trichlorobenzene	U	ND	0.295	0.885	ug/kg	0.668	1					
1,2-Dibromo-3-chloropropane	U	ND	0.442	0.885	ug/kg	0.668	1					
1,2-Dibromoethane	U	ND	0.295	0.885	ug/kg	0.668	1					
1,2-Dichlorobenzene	U	ND	0.295	0.885	ug/kg	0.668	1					
1,2-Dichloroethane	U	ND	0.295	0.885	ug/kg	0.668	1					
1,2-Dichloropropane	U	ND	0.295	0.885	ug/kg	0.668	1					
1,3-Dichlorobenzene	U	ND	0.295	0.885	ug/kg	0.668	1					
1,4-Dichlorobenzene	U	ND	0.295	0.885	ug/kg	0.668	1					
1,4-Dioxane	U	ND	14.7	44.2	ug/kg	0.668	1					
2-Butanone		4.54	1.48	4.42	ug/kg	0.668	1					
2-Hexanone	U	ND	1.48	4.42	ug/kg	0.668	1					
4-Methyl-2-pentanone	U	ND	1.48	4.42	ug/kg	0.668	1					
Acetone		67.5	1.48	4.42	ug/kg	0.668	1					
Benzene	U	ND	0.295	0.885	ug/kg	0.668	1					
Bromochloromethane	U	ND	0.295	0.885	ug/kg	0.668	1					
Bromodichloromethane	U	ND	0.295	0.885	ug/kg	0.668	1					
Bromoform	U	ND	0.295	0.885	ug/kg	0.668	1					
Bromomethane	U	ND	0.295	0.885	ug/kg	0.668	1					
Carbon disulfide	J	2.62	1.48	4.42	ug/kg	0.668	1					
Carbon tetrachloride	U	ND	0.295	0.885	ug/kg	0.668	1					
Chlorobenzene	U	ND	0.295	0.885	ug/kg	0.668	1					
Chloroethane	U	ND	0.295	0.885	ug/kg	0.668	1					
Chloroform	U	ND	0.295	0.885	ug/kg	0.668	1					

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Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-B2	Project: WNUC01921
Sample ID: 547747003	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatil Organics												
SW846 8260 Volatiles "Dry Weight Corrected"												
Chloromethane	U	ND	0.295	0.885	ug/kg	0.668	1					
Cyclohexane	U	ND	0.295	0.885	ug/kg	0.668	1					
Dibromochloromethane	U	ND	0.295	0.885	ug/kg	0.668	1					
Dichlorodifluoromethane	U	ND	0.295	0.885	ug/kg	0.668	1					
Ethylbenzene	U	ND	0.295	0.885	ug/kg	0.668	1					
Isopropylbenzene	U	ND	0.295	0.885	ug/kg	0.668	1					
Methyl acetate	U	ND	1.48	4.42	ug/kg	0.668	1					
Methylcyclohexane	U	ND	0.295	0.885	ug/kg	0.668	1					
Methylene chloride	U	ND	1.48	4.42	ug/kg	0.668	1					
Styrene	U	ND	0.295	0.885	ug/kg	0.668	1					
Tetrachloroethylene	U	ND	0.295	0.885	ug/kg	0.668	1					
Toluene	U	ND	0.295	0.885	ug/kg	0.668	1					
Trichloroethylene	U	ND	0.295	0.885	ug/kg	0.668	1					
Trichlorofluoromethane	U	ND	0.295	0.885	ug/kg	0.668	1					
Trichlorotrifluoroethane	U	ND	1.48	4.42	ug/kg	0.668	1					
Vinyl chloride	U	ND	0.295	0.885	ug/kg	0.668	1					
cis-1,2-Dichloroethylene	U	ND	0.295	0.885	ug/kg	0.668	1					
cis-1,3-Dichloropropylene	U	ND	0.295	0.885	ug/kg	0.668	1					
m,p-Xylenes	U	ND	0.590	1.77	ug/kg	0.668	1					
o-Xylene	U	ND	0.295	0.885	ug/kg	0.668	1					
tert-Butyl methyl ether	U	ND	0.295	0.885	ug/kg	0.668	1					
trans-1,2-Dichloroethylene	U	ND	0.295	0.885	ug/kg	0.668	1					
trans-1,3-Dichloropropylene	U	ND	0.295	0.885	ug/kg	0.668	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	AXH3	06/29/21	1600	2142440
SW846 1311	SW846 1311 TCLP Leaching	JP2	06/29/21	1618	2142362
SW846 1311	SW846 1311 TCLP Leaching	JP2	06/29/21	1618	2142363
SW846 1311	SW846 1311 TCLP Volatiles Prep	JP2	06/29/21	1458	2142364
SW846 3010A	ICP-TRACE TCLP by SW846 3010A	HH1	06/30/21	1657	2145610
SW846 3510C	3510C BNA TCLP/SPLP Prep-GC/MS Analysis	SG2	07/01/21	1027	2145607
SW846 3541	Prep Method 3541 8270D BNA for Soil	CB1	06/28/21	0900	2143035
SW846 5035	5035 Prep	JEB	06/17/21	0730	2146069
SW846 7470A Prep	EPA 7470A Mercury Prep TCLP Liquid	AXS5	07/14/21	1248	2150019
SW846 9056A	SW846 9056A Total Anions in Soil	LXA2	06/22/21	1435	2142265

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Certificate of Analysis

Report Date: July 19, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-B2	Project: WNUC01921
Sample ID: 547747003	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
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The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 7470A	
3	SW846 3010A/6010D	
4	EPA 350.1 Modified SC	
5	SW846 3510C/8270E	
6	SW846 3541/8270D	
7	SW846 8260D	
8	SW846 8260D	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	TCLP SVOC "As Received"	0.178 mg/L	0.250	71	(39%-112%)
Nitrobenzene-d5	TCLP SVOC "As Received"	0.179 mg/L	0.250	72	(39%-112%)
p-Terphenyl-d14	TCLP SVOC "As Received"	0.185 mg/L	0.250	74	(24%-129%)
2,4,6-Tribromophenol	TCLP SVOC "As Received"	0.408 mg/L	0.500	82	(37%-132%)
2-Fluorophenol	TCLP SVOC "As Received"	0.208 mg/L	0.500	42	(11%-79%)
Phenol-d5	TCLP SVOC "As Received"	0.153 mg/L	0.500	31	(15%-85%)
2-Fluorobiphenyl	SW846 8270D SVOA, Solid "Dry Weight Corrected"	1790 ug/kg	2170	82	(26%-118%)
Nitrobenzene-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"	1960 ug/kg	2170	90	(28%-110%)
p-Terphenyl-d14	SW846 8270D SVOA, Solid "Dry Weight Corrected"	2210 ug/kg	2170	102	(26%-130%)
2,4,6-Tribromophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"	4480 ug/kg	4340	103	(26%-128%)
2-Fluorophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"	4000 ug/kg	4340	92	(30%-108%)
Phenol-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"	4830 ug/kg	4340	111	(29%-116%)
1,2-Dichloroethane-d4	TCLP Volatiles "As Received"	0.552 mg/L	0.0500	110	(73%-129%)
Bromofluorobenzene	TCLP Volatiles "As Received"	0.528 mg/L	0.0500	106	(72%-125%)
Toluene-d8	TCLP Volatiles "As Received"	0.515 mg/L	0.0500	103	(75%-123%)
1,2-Dichloroethane-d4	SW846 8260 Volatiles "Dry Weight Corrected"	44.8 ug/kg	50.0	101	(76%-127%)
Bromofluorobenzene	SW846 8260 Volatiles "Dry Weight Corrected"	45.3 ug/kg	50.0	102	(70%-130%)
Toluene-d8	SW846 8260 Volatiles "Dry Weight Corrected"	39.4 ug/kg	50.0	89	(81%-120%)

Notes:

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Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-B2

Sample ID: 547747003

Project: WNUC01921

Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-3	Project:	WNUC01921
Sample ID:	547747004	Client ID:	WNUC010
Matrix:	Sludge		
Collect Date:	17-JUN-21 07:45		
Receive Date:	18-JUN-21		
Collector:	Client		
Moisture:	24.3%		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		5.60	0.434	1.28	mg/kg	9.66	1	LXA2	06/23/21	0541	2142141	1
Nitrate-N	U	ND	0.421	1.28	mg/kg	9.66	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		42.8	0.900	2.50	mg/kg	37.9	1	AXH3	06/30/21	1351	2142441	2
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
1,1'-Biphenyl	U	ND	655	2180	ug/kg	0.0331	5	NM1	06/28/21	1929	2143036	3
1,2,4,5-Tetrachlorobenzene	U	ND	655	2180	ug/kg	0.0331	5					
2,3,4,6-Tetrachlorophenol	U	ND	655	2180	ug/kg	0.0331	5					
2,4,5-Trichlorophenol	U	ND	655	2180	ug/kg	0.0331	5					
2,4,6-Trichlorophenol	U	ND	655	2180	ug/kg	0.0331	5					
2,4-Dichlorophenol	U	ND	655	2180	ug/kg	0.0331	5					
2,4-Dimethylphenol	U	ND	655	2180	ug/kg	0.0331	5					
2,4-Dinitrophenol	U	ND	655	4370	ug/kg	0.0331	5					
2,4-Dinitrotoluene	U	ND	655	2180	ug/kg	0.0331	5					
2,6-Dinitrotoluene	U	ND	655	2180	ug/kg	0.0331	5					
2-Chloronaphthalene	U	ND	65.5	218	ug/kg	0.0331	5					
2-Chlorophenol	U	ND	655	2180	ug/kg	0.0331	5					
2-Methyl-4,6-dinitrophenol	U	ND	655	2180	ug/kg	0.0331	5					
2-Methylnaphthalene	U	ND	65.5	218	ug/kg	0.0331	5					
2-Nitrophenol	U	ND	655	2180	ug/kg	0.0331	5					
3,3'-Dichlorobenzidine	U	ND	655	2180	ug/kg	0.0331	5					
4-Bromophenylphenylether	U	ND	655	2180	ug/kg	0.0331	5					
4-Chloro-3-methylphenol	U	ND	873	2180	ug/kg	0.0331	5					
4-Chloroaniline	U	ND	655	2180	ug/kg	0.0331	5					
4-Chlorophenylphenylether	U	ND	655	2180	ug/kg	0.0331	5					
4-Nitrophenol	U	ND	655	2180	ug/kg	0.0331	5					
Acenaphthene	U	ND	65.5	218	ug/kg	0.0331	5					
Acenaphthylene	U	ND	65.5	218	ug/kg	0.0331	5					
Acetophenone	U	ND	655	2180	ug/kg	0.0331	5					
Anthracene	U	ND	65.5	218	ug/kg	0.0331	5					
Atrazine	U	ND	873	2180	ug/kg	0.0331	5					
Benzaldehyde	U	ND	655	2180	ug/kg	0.0331	5					
Benzo(a)anthracene	U	ND	65.5	218	ug/kg	0.0331	5					

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Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-3 Project: WNUC01921
Sample ID: 547747004 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
Benzo(a)pyrene	U	ND	65.5	218	ug/kg	0.0331	5					
Benzo(b)fluoranthene	U	ND	65.5	218	ug/kg	0.0331	5					
Benzo(ghi)perylene	U	ND	65.5	218	ug/kg	0.0331	5					
Benzo(k)fluoranthene	U	ND	65.5	218	ug/kg	0.0331	5					
Butylbenzylphthalate	U	ND	65.5	218	ug/kg	0.0331	5					
Caprolactam	U	ND	655	2180	ug/kg	0.0331	5					
Carbazole	U	ND	65.5	218	ug/kg	0.0331	5					
Chrysene	U	ND	65.5	218	ug/kg	0.0331	5					
Di-n-butylphthalate	U	ND	65.5	218	ug/kg	0.0331	5					
Di-n-octylphthalate	U	ND	65.5	218	ug/kg	0.0331	5					
Dibenzo(a,h)anthracene	U	ND	65.5	218	ug/kg	0.0331	5					
Dibenzofuran	U	ND	655	2180	ug/kg	0.0331	5					
Diethylphthalate	U	ND	65.5	218	ug/kg	0.0331	5					
Dimethylphthalate	U	ND	65.5	218	ug/kg	0.0331	5					
Diphenylamine	U	ND	655	2180	ug/kg	0.0331	5					
Fluoranthene	U	ND	65.5	218	ug/kg	0.0331	5					
Fluorene	U	ND	65.5	218	ug/kg	0.0331	5					
Hexachlorobenzene	U	ND	655	2180	ug/kg	0.0331	5					
Hexachlorobutadiene	U	ND	655	2180	ug/kg	0.0331	5					
Hexachlorocyclopentadiene	U	ND	655	2180	ug/kg	0.0331	5					
Hexachloroethane	U	ND	655	2180	ug/kg	0.0331	5					
Indeno(1,2,3-cd)pyrene	U	ND	65.5	218	ug/kg	0.0331	5					
Isophorone	U	ND	655	2180	ug/kg	0.0331	5					
N-Nitrosodipropylamine	U	ND	655	2180	ug/kg	0.0331	5					
Naphthalene	U	ND	65.5	218	ug/kg	0.0331	5					
Nitrobenzene	U	ND	655	2180	ug/kg	0.0331	5					
Pentachlorophenol	U	ND	655	2180	ug/kg	0.0331	5					
Phenanthrene	U	ND	65.5	218	ug/kg	0.0331	5					
Phenol	U	ND	655	2180	ug/kg	0.0331	5					
Pyrene	U	ND	65.5	218	ug/kg	0.0331	5					
bis(2-Chloro-1-methylethyl)ether	U	ND	655	2180	ug/kg	0.0331	5					
bis(2-Chloroethoxy)methane	U	ND	655	2180	ug/kg	0.0331	5					
bis(2-Chloroethyl) ether	U	ND	655	2180	ug/kg	0.0331	5					
bis(2-Ethylhexyl)phthalate	U	ND	65.5	218	ug/kg	0.0331	5					
m,p-Cresols	U	ND	655	2180	ug/kg	0.0331	5					
m-Nitroaniline	U	ND	655	2180	ug/kg	0.0331	5					

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Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-3	Project: WNUC01921
Sample ID: 547747004	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
o-Cresol	U	ND	655	2180	ug/kg	0.0331	5					
o-Nitroaniline	U	ND	721	2180	ug/kg	0.0331	5					
p-Nitroaniline	U	ND	655	2180	ug/kg	0.0331	5					
Volatile Organics												
SW846 8260 Volatiles "Dry Weight Corrected"												
1,1,1-Trichloroethane	U	ND	0.317	0.953	ug/kg	0.722	1	JEB	07/01/21	1722	2146071	4
1,1,2,2-Tetrachloroethane	U	ND	0.317	0.953	ug/kg	0.722	1					
1,1,2-Trichloroethane	U	ND	0.317	0.953	ug/kg	0.722	1					
1,1-Dichloroethane	U	ND	0.317	0.953	ug/kg	0.722	1					
1,1-Dichloroethylene	U	ND	0.317	0.953	ug/kg	0.722	1					
1,2,3-Trichlorobenzene	U	ND	0.317	0.953	ug/kg	0.722	1					
1,2,4-Trichlorobenzene	U	ND	0.317	0.953	ug/kg	0.722	1					
1,2-Dibromo-3-chloropropane	U	ND	0.476	0.953	ug/kg	0.722	1					
1,2-Dibromoethane	U	ND	0.317	0.953	ug/kg	0.722	1					
1,2-Dichlorobenzene	U	ND	0.317	0.953	ug/kg	0.722	1					
1,2-Dichloroethane	U	ND	0.317	0.953	ug/kg	0.722	1					
1,2-Dichloropropane	U	ND	0.317	0.953	ug/kg	0.722	1					
1,3-Dichlorobenzene	U	ND	0.317	0.953	ug/kg	0.722	1					
1,4-Dichlorobenzene	U	ND	0.317	0.953	ug/kg	0.722	1					
1,4-Dioxane	U	ND	15.9	47.6	ug/kg	0.722	1					
2-Butanone	J	4.45	1.59	4.76	ug/kg	0.722	1					
2-Hexanone	U	ND	1.59	4.76	ug/kg	0.722	1					
4-Methyl-2-pentanone	U	ND	1.59	4.76	ug/kg	0.722	1					
Acetone		71.1	1.59	4.76	ug/kg	0.722	1					
Benzene	U	ND	0.317	0.953	ug/kg	0.722	1					
Bromochloromethane	U	ND	0.317	0.953	ug/kg	0.722	1					
Bromodichloromethane	U	ND	0.317	0.953	ug/kg	0.722	1					
Bromoform	U	ND	0.317	0.953	ug/kg	0.722	1					
Bromomethane	U	ND	0.317	0.953	ug/kg	0.722	1					
Carbon disulfide	U	ND	1.59	4.76	ug/kg	0.722	1					
Carbon tetrachloride	U	ND	0.317	0.953	ug/kg	0.722	1					
Chlorobenzene	U	ND	0.317	0.953	ug/kg	0.722	1					
Chloroethane	U	ND	0.317	0.953	ug/kg	0.722	1					
Chloroform	U	ND	0.317	0.953	ug/kg	0.722	1					
Chloromethane	U	ND	0.317	0.953	ug/kg	0.722	1					
Cyclohexane	U	ND	0.317	0.953	ug/kg	0.722	1					

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Report Date: July 19, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-3	Project: WNUC01921
Sample ID: 547747004	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "Dry Weight Corrected"												
Dibromochloromethane	U	ND	0.317	0.953	ug/kg	0.722	1					
Dichlorodifluoromethane	U	ND	0.317	0.953	ug/kg	0.722	1					
Ethylbenzene	U	ND	0.317	0.953	ug/kg	0.722	1					
Isopropylbenzene	U	ND	0.317	0.953	ug/kg	0.722	1					
Methyl acetate	U	ND	1.59	4.76	ug/kg	0.722	1					
Methylcyclohexane	U	ND	0.317	0.953	ug/kg	0.722	1					
Methylene chloride	U	ND	1.59	4.76	ug/kg	0.722	1					
Styrene	U	ND	0.317	0.953	ug/kg	0.722	1					
Tetrachloroethylene	U	ND	0.317	0.953	ug/kg	0.722	1					
Toluene	U	ND	0.317	0.953	ug/kg	0.722	1					
Trichloroethylene	U	ND	0.317	0.953	ug/kg	0.722	1					
Trichlorofluoromethane	U	ND	0.317	0.953	ug/kg	0.722	1					
Trichlorotrifluoroethane	U	ND	1.59	4.76	ug/kg	0.722	1					
Vinyl chloride	U	ND	0.317	0.953	ug/kg	0.722	1					
cis-1,2-Dichloroethylene	U	ND	0.317	0.953	ug/kg	0.722	1					
cis-1,3-Dichloropropylene	U	ND	0.317	0.953	ug/kg	0.722	1					
m,p-Xylenes	U	ND	0.636	1.91	ug/kg	0.722	1					
o-Xylene	U	ND	0.317	0.953	ug/kg	0.722	1					
tert-Butyl methyl ether	U	ND	0.317	0.953	ug/kg	0.722	1					
trans-1,2-Dichloroethylene	U	ND	0.317	0.953	ug/kg	0.722	1					
trans-1,3-Dichloropropylene	U	ND	0.317	0.953	ug/kg	0.722	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	AXH3	06/29/21	1600	2142440
SW846 3541	Prep Method 3541 8270D BNA for Soil	CB1	06/28/21	0900	2143035
SW846 5035	5035 Prep	JEB	06/17/21	0745	2146069
SW846 9056A	SW846 9056A Total Anions in Soil	LXA2	06/22/21	1435	2142265

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 9056A		
2	EPA 350.1 Modified SC		
3	SW846 3541/8270D		
4	SW846 8260D		

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits

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Address : PO Drawer R

Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-3
Sample ID: 547747004
Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
Surrogate/Tracer Recovery	Test				Result	Nominal	Recovery%			Acceptable Limits	
2-Fluorobiphenyl	SW846 8270D SVOA, Solid "Dry Weight Corrected"				1210 ug/kg	2180	56			(26%-118%)	
Nitrobenzene-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"				1270 ug/kg	2180	58			(28%-110%)	
p-Terphenyl-d14	SW846 8270D SVOA, Solid "Dry Weight Corrected"				1790 ug/kg	2180	82			(26%-130%)	
2,4,6-Tribromophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"				3580 ug/kg	4370	82			(26%-128%)	
2-Fluorophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"				2550 ug/kg	4370	58			(30%-108%)	
Phenol-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"				3120 ug/kg	4370	71			(29%-116%)	
1,2-Dichloroethane-d4	SW846 8260 Volatiles "Dry Weight Corrected"				49.9 ug/kg	50.0	105			(76%-127%)	
Bromofluorobenzene	SW846 8260 Volatiles "Dry Weight Corrected"				51.2 ug/kg	50.0	107			(70%-130%)	
Toluene-d8	SW846 8260 Volatiles "Dry Weight Corrected"				44.8 ug/kg	50.0	94			(81%-120%)	

Notes:

Column headers are defined as follows:

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

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Report Date: July 19, 2021

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

 Columbia, South Carolina 29205
 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-5	Project: WNUC01921
Sample ID: 547747005	Client ID: WNUC010
Matrix: Sludge	
Collect Date: 17-JUN-21 08:05	
Receive Date: 18-JUN-21	
Collector: Client	
Moisture: 37.1%	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		12.4	0.536	1.58	mg/kg	9.93	1	LXA2	06/22/21	2006	2142337	1
Nitrate-N	J	0.787	0.520	1.58	mg/kg	9.93	1					
Mercury Analysis-CVAA												
TCLP Hg "As Received"												
Mercury	U	ND	0.000670	0.00200	mg/L	10.0	1	MTM1	07/15/21	1120	2150022	2
Metals Analysis-ICP												
TCLP ICP Metals "As Received"												
Arsenic	U	ND	0.0500	0.300	mg/L	10.0	1	LS	07/01/21	1207	2145611	3
Barium		0.132	0.0100	0.0500	mg/L	10.0	1					
Cadmium	U	ND	0.0100	0.0500	mg/L	10.0	1					
Chromium	U	ND	0.0100	0.100	mg/L	10.0	1					
Lead	U	ND	0.0330	0.200	mg/L	10.0	1					
Selenium	U	ND	0.0600	0.300	mg/L	10.0	1					
Silver	U	ND	0.0100	0.0500	mg/L	10.0	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		132	5.18	14.4	mg/kg	36.2	5	AXH3	06/30/21	1414	2142441	4
Semi-Volatile-GC/MS												
TCLP SVOC "As Received"												
1,4-Dichlorobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1	LXA1	07/01/21	2244	2145637	5
2,4,5-Trichlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
2,4,6-Trichlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
2,4-Dinitrotoluene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachlorobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachlorobutadiene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachloroethane	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Nitrobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Pentachlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Pyridine	U	ND	0.0150	0.0500	mg/L	0.00500	1					
m,p-Cresols	U	ND	0.0185	0.0500	mg/L	0.00500	1					
o-Cresol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
1,1'-Biphenyl	U	ND	1580	5270	ug/kg	0.0331	10	NM1	06/28/21	1957	2143036	6
1,2,4,5-Tetrachlorobenzene	U	ND	1580	5270	ug/kg	0.0331	10					

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Certificate of Analysis

Report Date: July 19, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-5 Project: WNUC01921
Sample ID: 547747005 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
2,3,4,6-Tetrachlorophenol	U	ND	1580	5270	ug/kg	0.0331	10					
2,4,5-Trichlorophenol	U	ND	1580	5270	ug/kg	0.0331	10					
2,4,6-Trichlorophenol	U	ND	1580	5270	ug/kg	0.0331	10					
2,4-Dichlorophenol	U	ND	1580	5270	ug/kg	0.0331	10					
2,4-Dimethylphenol	U	ND	1580	5270	ug/kg	0.0331	10					
2,4-Dinitrophenol	U	ND	1580	10500	ug/kg	0.0331	10					
2,4-Dinitrotoluene	U	ND	1580	5270	ug/kg	0.0331	10					
2,6-Dinitrotoluene	U	ND	1580	5270	ug/kg	0.0331	10					
2-Chloronaphthalene	U	ND	158	527	ug/kg	0.0331	10					
2-Chlorophenol	U	ND	1580	5270	ug/kg	0.0331	10					
2-Methyl-4,6-dinitrophenol	U	ND	1580	5270	ug/kg	0.0331	10					
2-Methylnaphthalene	U	ND	158	527	ug/kg	0.0331	10					
2-Nitrophenol	U	ND	1580	5270	ug/kg	0.0331	10					
3,3'-Dichlorobenzidine	U	ND	1580	5270	ug/kg	0.0331	10					
4-Bromophenylphenylether	U	ND	1580	5270	ug/kg	0.0331	10					
4-Chloro-3-methylphenol	U	ND	2110	5270	ug/kg	0.0331	10					
4-Chloroaniline	U	ND	1580	5270	ug/kg	0.0331	10					
4-Chlorophenylphenylether	U	ND	1580	5270	ug/kg	0.0331	10					
4-Nitrophenol	U	ND	1580	5270	ug/kg	0.0331	10					
Acenaphthene	U	ND	158	527	ug/kg	0.0331	10					
Acenaphthylene	U	ND	158	527	ug/kg	0.0331	10					
Acetophenone	U	ND	1580	5270	ug/kg	0.0331	10					
Anthracene	U	ND	158	527	ug/kg	0.0331	10					
Atrazine	U	ND	2110	5270	ug/kg	0.0331	10					
Benzaldehyde	U	ND	1580	5270	ug/kg	0.0331	10					
Benzo(a)anthracene	U	ND	158	527	ug/kg	0.0331	10					
Benzo(a)pyrene	U	ND	158	527	ug/kg	0.0331	10					
Benzo(b)fluoranthene	U	ND	158	527	ug/kg	0.0331	10					
Benzo(ghi)perylene	U	ND	158	527	ug/kg	0.0331	10					
Benzo(k)fluoranthene	U	ND	158	527	ug/kg	0.0331	10					
Butylbenzylphthalate	U	ND	158	527	ug/kg	0.0331	10					
Caprolactam	U	ND	1580	5270	ug/kg	0.0331	10					
Carbazole	U	ND	158	527	ug/kg	0.0331	10					
Chrysene	U	ND	158	527	ug/kg	0.0331	10					
Di-n-butylphthalate	U	ND	158	527	ug/kg	0.0331	10					
Di-n-octylphthalate	U	ND	158	527	ug/kg	0.0331	10					

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Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-5	Project: WNUC01921
Sample ID: 547747005	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
Semi-Volatile-GC/MS											
SW846 8270D SVOA, Solid "Dry Weight Corrected"											
Dibenzo(a,h)anthracene	U	ND	158	527	ug/kg	0.0331	10				
Dibenzofuran	U	ND	1580	5270	ug/kg	0.0331	10				
Diethylphthalate	U	ND	158	527	ug/kg	0.0331	10				
Dimethylphthalate	U	ND	158	527	ug/kg	0.0331	10				
Diphenylamine	U	ND	1580	5270	ug/kg	0.0331	10				
Fluoranthene	U	ND	158	527	ug/kg	0.0331	10				
Fluorene	U	ND	158	527	ug/kg	0.0331	10				
Hexachlorobenzene	U	ND	1580	5270	ug/kg	0.0331	10				
Hexachlorobutadiene	U	ND	1580	5270	ug/kg	0.0331	10				
Hexachlorocyclopentadiene	U	ND	1580	5270	ug/kg	0.0331	10				
Hexachloroethane	U	ND	1580	5270	ug/kg	0.0331	10				
Indeno(1,2,3-cd)pyrene	U	ND	158	527	ug/kg	0.0331	10				
Isophorone	U	ND	1580	5270	ug/kg	0.0331	10				
N-Nitrosodipropylamine	U	ND	1580	5270	ug/kg	0.0331	10				
Naphthalene	U	ND	158	527	ug/kg	0.0331	10				
Nitrobenzene	U	ND	1580	5270	ug/kg	0.0331	10				
Pentachlorophenol	U	ND	1580	5270	ug/kg	0.0331	10				
Phenanthrene	U	ND	158	527	ug/kg	0.0331	10				
Phenol	U	ND	1580	5270	ug/kg	0.0331	10				
Pyrene	U	ND	158	527	ug/kg	0.0331	10				
bis(2-Chloro-1-methylethyl)ether	U	ND	1580	5270	ug/kg	0.0331	10				
bis(2-Chloroethoxy)methane	U	ND	1580	5270	ug/kg	0.0331	10				
bis(2-Chloroethyl) ether	U	ND	1580	5270	ug/kg	0.0331	10				
bis(2-Ethylhexyl)phthalate	J	384	158	527	ug/kg	0.0331	10				
m,p-Cresols	U	ND	1580	5270	ug/kg	0.0331	10				
m-Nitroaniline	U	ND	1580	5270	ug/kg	0.0331	10				
o-Cresol	U	ND	1580	5270	ug/kg	0.0331	10				
o-Nitroaniline	U	ND	1740	5270	ug/kg	0.0331	10				
p-Nitroaniline	U	ND	1580	5270	ug/kg	0.0331	10				
Volatile Organics											
TCLP Volatiles "As Received"											
1,1-Dichloroethylene	U	ND	0.00333	0.0100	mg/L		10	PXY1	07/14/21	1438 2149793	7
1,2-Dichloroethane	U	ND	0.00333	0.0100	mg/L		10				
1,4-Dichlorobenzene	U	ND	0.00333	0.0100	mg/L		10				
2-Butanone	BJ	0.0207	0.0167	0.0500	mg/L		10				
Benzene	U	ND	0.00333	0.0100	mg/L		10				

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Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-5	Project: WNUC01921
Sample ID: 547747005	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatil Organics												
TCLP Volatiles "As Received"												
Carbon tetrachloride	U	ND	0.00333	0.0100	mg/L		10					
Chlorobenzene	U	ND	0.00333	0.0100	mg/L		10					
Chloroform	U	ND	0.00333	0.0100	mg/L		10					
Tetrachloroethylene	U	ND	0.00333	0.0100	mg/L		10					
Trichloroethylene	U	ND	0.00333	0.0100	mg/L		10					
Vinyl chloride	U	ND	0.00333	0.0100	mg/L		10					
SW846 8260 Volatiles "Dry Weight Corrected"												
1,1,1-Trichloroethane	U	ND	0.361	1.08	ug/kg	0.682	1	JEB	07/01/21	1747	2146071	8
1,1,2,2-Tetrachloroethane	U	ND	0.361	1.08	ug/kg	0.682	1					
1,1,2-Trichloroethane	U	ND	0.361	1.08	ug/kg	0.682	1					
1,1-Dichloroethane	U	ND	0.361	1.08	ug/kg	0.682	1					
1,1-Dichloroethylene	U	ND	0.361	1.08	ug/kg	0.682	1					
1,2,3-Trichlorobenzene	U	ND	0.361	1.08	ug/kg	0.682	1					
1,2,4-Trichlorobenzene	U	ND	0.361	1.08	ug/kg	0.682	1					
1,2-Dibromo-3-chloropropane	U	ND	0.542	1.08	ug/kg	0.682	1					
1,2-Dibromoethane	U	ND	0.361	1.08	ug/kg	0.682	1					
1,2-Dichlorobenzene	U	ND	0.361	1.08	ug/kg	0.682	1					
1,2-Dichloroethane	U	ND	0.361	1.08	ug/kg	0.682	1					
1,2-Dichloropropane	U	ND	0.361	1.08	ug/kg	0.682	1					
1,3-Dichlorobenzene	U	ND	0.361	1.08	ug/kg	0.682	1					
1,4-Dichlorobenzene	U	ND	0.361	1.08	ug/kg	0.682	1					
1,4-Dioxane	U	ND	18.1	54.2	ug/kg	0.682	1					
2-Butanone		14.7	1.81	5.42	ug/kg	0.682	1					
2-Hexanone	U	ND	1.81	5.42	ug/kg	0.682	1					
4-Methyl-2-pentanone	U	ND	1.81	5.42	ug/kg	0.682	1					
Acetone		84.3	1.81	5.42	ug/kg	0.682	1					
Benzene	U	ND	0.361	1.08	ug/kg	0.682	1					
Bromochloromethane	U	ND	0.361	1.08	ug/kg	0.682	1					
Bromodichloromethane	U	ND	0.361	1.08	ug/kg	0.682	1					
Bromoform	U	ND	0.361	1.08	ug/kg	0.682	1					
Bromomethane	U	ND	0.361	1.08	ug/kg	0.682	1					
Carbon disulfide	J	3.46	1.81	5.42	ug/kg	0.682	1					
Carbon tetrachloride	U	ND	0.361	1.08	ug/kg	0.682	1					
Chlorobenzene	U	ND	0.361	1.08	ug/kg	0.682	1					
Chloroethane	U	ND	0.361	1.08	ug/kg	0.682	1					
Chloroform	U	ND	0.361	1.08	ug/kg	0.682	1					

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Address : PO Drawer R

Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-5 Project: WNUC01921
Sample ID: 547747005 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "Dry Weight Corrected"												
Chloromethane	U	ND	0.361	1.08	ug/kg	0.682	1					
Cyclohexane	U	ND	0.361	1.08	ug/kg	0.682	1					
Dibromochloromethane	U	ND	0.361	1.08	ug/kg	0.682	1					
Dichlorodifluoromethane	U	ND	0.361	1.08	ug/kg	0.682	1					
Ethylbenzene	U	ND	0.361	1.08	ug/kg	0.682	1					
Isopropylbenzene	U	ND	0.361	1.08	ug/kg	0.682	1					
Methyl acetate	U	ND	1.81	5.42	ug/kg	0.682	1					
Methylcyclohexane	U	ND	0.361	1.08	ug/kg	0.682	1					
Methylene chloride	U	ND	1.81	5.42	ug/kg	0.682	1					
Styrene	U	ND	0.361	1.08	ug/kg	0.682	1					
Tetrachloroethylene	U	ND	0.361	1.08	ug/kg	0.682	1					
Toluene	U	ND	0.361	1.08	ug/kg	0.682	1					
Trichloroethylene	U	ND	0.361	1.08	ug/kg	0.682	1					
Trichlorofluoromethane	U	ND	0.361	1.08	ug/kg	0.682	1					
Trichlorotrifluoroethane	U	ND	1.81	5.42	ug/kg	0.682	1					
Vinyl chloride	U	ND	0.361	1.08	ug/kg	0.682	1					
cis-1,2-Dichloroethylene	U	ND	0.361	1.08	ug/kg	0.682	1					
cis-1,3-Dichloropropylene	U	ND	0.361	1.08	ug/kg	0.682	1					
m,p-Xylenes	U	ND	0.723	2.17	ug/kg	0.682	1					
o-Xylene	U	ND	0.361	1.08	ug/kg	0.682	1					
tert-Butyl methyl ether	U	ND	0.361	1.08	ug/kg	0.682	1					
trans-1,2-Dichloroethylene	U	ND	0.361	1.08	ug/kg	0.682	1					
trans-1,3-Dichloropropylene	U	ND	0.361	1.08	ug/kg	0.682	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	AXH3	06/29/21	1600	2142440
SW846 1311	SW846 1311 TCLP Leaching	JP2	06/29/21	1618	2142362
SW846 1311	SW846 1311 TCLP Leaching	JP2	06/29/21	1618	2142363
SW846 1311	SW846 1311 TCLP Volatiles Prep	JP2	06/29/21	1458	2142364
SW846 3010A	ICP-TRACE TCLP by SW846 3010A	HH1	06/30/21	1657	2145610
SW846 3510C	3510C BNA TCLP/SPLP Prep-GC/MS Analysis	SG2	07/01/21	1027	2145607
SW846 3541	Prep Method 3541 8270D BNA for Soil	CB1	06/28/21	0900	2143035
SW846 5035	5035 Prep	JEB	06/17/21	0805	2146069
SW846 7470A Prep	EPA 7470A Mercury Prep TCLP Liquid	AXS5	07/14/21	1248	2150019
SW846 9056A	SW846 9056A Total Anions in Soil	LXA2	06/22/21	1714	2142334

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Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-5	Project: WNUC01921
Sample ID: 547747005	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
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The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 7470A	
3	SW846 3010A/6010D	
4	EPA 350.1 Modified SC	
5	SW846 3510C/8270E	
6	SW846 3541/8270D	
7	SW846 8260D	
8	SW846 8260D	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	TCLP SVOC "As Received"	0.153 mg/L	0.250	61	(39%-112%)
Nitrobenzene-d5	TCLP SVOC "As Received"	0.156 mg/L	0.250	62	(39%-112%)
p-Terphenyl-d14	TCLP SVOC "As Received"	0.179 mg/L	0.250	72	(24%-129%)
2,4,6-Tribromophenol	TCLP SVOC "As Received"	0.371 mg/L	0.500	74	(37%-132%)
2-Fluorophenol	TCLP SVOC "As Received"	0.198 mg/L	0.500	40	(11%-79%)
Phenol-d5	TCLP SVOC "As Received"	0.152 mg/L	0.500	30	(15%-85%)
2-Fluorobiphenyl	SW846 8270D SVOA, Solid "Dry Weight Corrected"	1700 ug/kg	2630	64	(26%-118%)
Nitrobenzene-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"	1850 ug/kg	2630	70	(28%-110%)
p-Terphenyl-d14	SW846 8270D SVOA, Solid "Dry Weight Corrected"	2290 ug/kg	2630	87	(26%-130%)
2,4,6-Tribromophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"	4670 ug/kg	5270	89	(26%-128%)
2-Fluorophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"	4050 ug/kg	5270	77	(30%-108%)
Phenol-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"	4770 ug/kg	5270	91	(29%-116%)
1,2-Dichloroethane-d4	TCLP Volatiles "As Received"	0.559 mg/L	0.0500	112	(73%-129%)
Bromofluorobenzene	TCLP Volatiles "As Received"	0.529 mg/L	0.0500	106	(72%-125%)
Toluene-d8	TCLP Volatiles "As Received"	0.519 mg/L	0.0500	104	(75%-123%)
1,2-Dichloroethane-d4	SW846 8260 Volatiles "Dry Weight Corrected"	57.7 ug/kg	50.0	106	(76%-127%)
Bromofluorobenzene	SW846 8260 Volatiles "Dry Weight Corrected"	61.1 ug/kg	50.0	113	(70%-130%)
Toluene-d8	SW846 8260 Volatiles "Dry Weight Corrected"	51.3 ug/kg	50.0	95	(81%-120%)

Notes:

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Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-5	Project:	WNUC01921
Sample ID:	547747005	Client ID:	WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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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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Company : Westinghouse Electric Company, LLC
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 Columbia, South Carolina 29205
 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-21	Project:	WNUC01921
Sample ID:	547747006	Client ID:	WNUC010
Matrix:	Sludge		
Collect Date:	17-JUN-21 08:25		
Receive Date:	18-JUN-21		
Collector:	Client		
Moisture:	33.4%		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		3.57	0.499	1.47	mg/kg	9.78	1	LXA2	06/22/21	2037	2142337	1
Nitrate-N	J	0.691	0.484	1.47	mg/kg	9.78	1					
Mercury Analysis-CVAA												
TCLP Hg "As Received"												
Mercury	U	ND	0.000670	0.00200	mg/L	10.0	1	MTM1	07/15/21	1122	2150022	2
Metals Analysis-ICP												
TCLP ICP Metals "As Received"												
Arsenic	U	ND	0.0500	0.300	mg/L	10.0	1	LS	07/01/21	1210	2145611	3
Barium		0.130	0.0100	0.0500	mg/L	10.0	1					
Cadmium	U	ND	0.0100	0.0500	mg/L	10.0	1					
Chromium	U	ND	0.0100	0.100	mg/L	10.0	1					
Lead	U	ND	0.0330	0.200	mg/L	10.0	1					
Selenium	U	ND	0.0600	0.300	mg/L	10.0	1					
Silver	U	ND	0.0100	0.0500	mg/L	10.0	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		210	5.36	14.9	mg/kg	39.7	5	AXH3	06/30/21	1414	2142441	4
Semi-Volatile-GC/MS												
TCLP SVOC "As Received"												
1,4-Dichlorobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1	LXA1	07/01/21	2313	2145637	5
2,4,5-Trichlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
2,4,6-Trichlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
2,4-Dinitrotoluene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachlorobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachlorobutadiene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachloroethane	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Nitrobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Pentachlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Pyridine	U	ND	0.0150	0.0500	mg/L	0.00500	1					
m,p-Cresols	U	ND	0.0185	0.0500	mg/L	0.00500	1					
o-Cresol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
1,1'-Biphenyl	U	ND	743	2480	ug/kg	0.0330	5	NM1	06/28/21	2025	2143036	6
1,2,4,5-Tetrachlorobenzene	U	ND	743	2480	ug/kg	0.0330	5					

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Certificate of Analysis

Report Date: July 19, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-21 Project: WNUC01921
Sample ID: 547747006 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
2,3,4,6-Tetrachlorophenol	U	ND	743	2480	ug/kg	0.0330	5					
2,4,5-Trichlorophenol	U	ND	743	2480	ug/kg	0.0330	5					
2,4,6-Trichlorophenol	U	ND	743	2480	ug/kg	0.0330	5					
2,4-Dichlorophenol	U	ND	743	2480	ug/kg	0.0330	5					
2,4-Dimethylphenol	U	ND	743	2480	ug/kg	0.0330	5					
2,4-Dinitrophenol	U	ND	743	4950	ug/kg	0.0330	5					
2,4-Dinitrotoluene	U	ND	743	2480	ug/kg	0.0330	5					
2,6-Dinitrotoluene	U	ND	743	2480	ug/kg	0.0330	5					
2-Chloronaphthalene	U	ND	74.3	248	ug/kg	0.0330	5					
2-Chlorophenol	U	ND	743	2480	ug/kg	0.0330	5					
2-Methyl-4,6-dinitrophenol	U	ND	743	2480	ug/kg	0.0330	5					
2-Methylnaphthalene	U	ND	74.3	248	ug/kg	0.0330	5					
2-Nitrophenol	U	ND	743	2480	ug/kg	0.0330	5					
3,3'-Dichlorobenzidine	U	ND	743	2480	ug/kg	0.0330	5					
4-Bromophenylphenylether	U	ND	743	2480	ug/kg	0.0330	5					
4-Chloro-3-methylphenol	U	ND	991	2480	ug/kg	0.0330	5					
4-Chloroaniline	U	ND	743	2480	ug/kg	0.0330	5					
4-Chlorophenylphenylether	U	ND	743	2480	ug/kg	0.0330	5					
4-Nitrophenol	U	ND	743	2480	ug/kg	0.0330	5					
Acenaphthene	J	126	74.3	248	ug/kg	0.0330	5					
Acenaphthylene	U	ND	74.3	248	ug/kg	0.0330	5					
Acetophenone	U	ND	743	2480	ug/kg	0.0330	5					
Anthracene		958	74.3	248	ug/kg	0.0330	5					
Atrazine	U	ND	991	2480	ug/kg	0.0330	5					
Benzaldehyde	U	ND	743	2480	ug/kg	0.0330	5					
Benzo(a)anthracene		12400	74.3	248	ug/kg	0.0330	5					
Benzo(a)pyrene		13500	74.3	248	ug/kg	0.0330	5					
Benzo(b)fluoranthene		17700	74.3	248	ug/kg	0.0330	5					
Benzo(ghi)perylene		6600	74.3	248	ug/kg	0.0330	5					
Benzo(k)fluoranthene		6690	74.3	248	ug/kg	0.0330	5					
Butylbenzylphthalate	U	ND	74.3	248	ug/kg	0.0330	5					
Caprolactam	U	ND	743	2480	ug/kg	0.0330	5					
Carbazole	J	166	74.3	248	ug/kg	0.0330	5					
Chrysene		11800	74.3	248	ug/kg	0.0330	5					
Di-n-butylphthalate	U	ND	74.3	248	ug/kg	0.0330	5					
Di-n-octylphthalate	U	ND	74.3	248	ug/kg	0.0330	5					

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Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-21	Project: WNUC01921
Sample ID: 547747006	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
Dibenzo(a,h)anthracene		1640	74.3	248	ug/kg	0.0330	5					
Dibenzofuran	U	ND	743	2480	ug/kg	0.0330	5					
Diethylphthalate	U	ND	74.3	248	ug/kg	0.0330	5					
Dimethylphthalate	U	ND	74.3	248	ug/kg	0.0330	5					
Diphenylamine	U	ND	743	2480	ug/kg	0.0330	5					
Fluoranthene		20900	74.3	248	ug/kg	0.0330	5					
Fluorene	J	156	74.3	248	ug/kg	0.0330	5					
Hexachlorobenzene	U	ND	743	2480	ug/kg	0.0330	5					
Hexachlorobutadiene	U	ND	743	2480	ug/kg	0.0330	5					
Hexachlorocyclopentadiene	U	ND	743	2480	ug/kg	0.0330	5					
Hexachloroethane	U	ND	743	2480	ug/kg	0.0330	5					
Indeno(1,2,3-cd)pyrene		8830	74.3	248	ug/kg	0.0330	5					
Isophorone	U	ND	743	2480	ug/kg	0.0330	5					
N-Nitrosodipropylamine	U	ND	743	2480	ug/kg	0.0330	5					
Naphthalene	J	240	74.3	248	ug/kg	0.0330	5					
Nitrobenzene	U	ND	743	2480	ug/kg	0.0330	5					
Pentachlorophenol	U	ND	743	2480	ug/kg	0.0330	5					
Phenanthrene		1800	74.3	248	ug/kg	0.0330	5					
Phenol	U	ND	743	2480	ug/kg	0.0330	5					
Pyrene		13300	74.3	248	ug/kg	0.0330	5					
bis(2-Chloro-1-methylethyl)ether	U	ND	743	2480	ug/kg	0.0330	5					
bis(2-Chloroethoxy)methane	U	ND	743	2480	ug/kg	0.0330	5					
bis(2-Chloroethyl) ether	U	ND	743	2480	ug/kg	0.0330	5					
bis(2-Ethylhexyl)phthalate		800	74.3	248	ug/kg	0.0330	5					
m,p-Cresols	U	ND	743	2480	ug/kg	0.0330	5					
m-Nitroaniline	U	ND	743	2480	ug/kg	0.0330	5					
o-Cresol	U	ND	743	2480	ug/kg	0.0330	5					
o-Nitroaniline	U	ND	817	2480	ug/kg	0.0330	5					
p-Nitroaniline	U	ND	743	2480	ug/kg	0.0330	5					
Volatile Organics												
TCLP Volatiles "As Received"												
1,1-Dichloroethylene	U	ND	0.00333	0.0100	mg/L		10	PXY1	07/14/21	1505	2149793	7
1,2-Dichloroethane	U	ND	0.00333	0.0100	mg/L		10					
1,4-Dichlorobenzene	U	ND	0.00333	0.0100	mg/L		10					
2-Butanone	BJ	0.0294	0.0167	0.0500	mg/L		10					
Benzene	U	ND	0.00333	0.0100	mg/L		10					

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Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-21	Project:	WNUC01921
Sample ID:	547747006	Client ID:	WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatil Organics												
TCLP Volatiles "As Received"												
Carbon tetrachloride	U	ND	0.00333	0.0100	mg/L		10					
Chlorobenzene	U	ND	0.00333	0.0100	mg/L		10					
Chloroform	U	ND	0.00333	0.0100	mg/L		10					
Tetrachloroethylene	U	ND	0.00333	0.0100	mg/L		10					
Trichloroethylene	U	ND	0.00333	0.0100	mg/L		10					
Vinyl chloride	U	ND	0.00333	0.0100	mg/L		10					
SW846 8260 Volatiles "Dry Weight Corrected"												
1,1,1-Trichloroethane	U	ND	0.263	0.789	ug/kg	0.526	1	JEB	07/01/21	1811	2146071	8
1,1,2,2-Tetrachloroethane	U	ND	0.263	0.789	ug/kg	0.526	1					
1,1,2-Trichloroethane	U	ND	0.263	0.789	ug/kg	0.526	1					
1,1-Dichloroethane	U	ND	0.263	0.789	ug/kg	0.526	1					
1,1-Dichloroethylene	U	ND	0.263	0.789	ug/kg	0.526	1					
1,2,3-Trichlorobenzene	U	ND	0.263	0.789	ug/kg	0.526	1					
1,2,4-Trichlorobenzene	U	ND	0.263	0.789	ug/kg	0.526	1					
1,2-Dibromo-3-chloropropane	U	ND	0.395	0.789	ug/kg	0.526	1					
1,2-Dibromoethane	U	ND	0.263	0.789	ug/kg	0.526	1					
1,2-Dichlorobenzene	U	ND	0.263	0.789	ug/kg	0.526	1					
1,2-Dichloroethane	U	ND	0.263	0.789	ug/kg	0.526	1					
1,2-Dichloropropane	U	ND	0.263	0.789	ug/kg	0.526	1					
1,3-Dichlorobenzene	U	ND	0.263	0.789	ug/kg	0.526	1					
1,4-Dichlorobenzene	U	ND	0.263	0.789	ug/kg	0.526	1					
1,4-Dioxane	U	ND	13.2	39.5	ug/kg	0.526	1					
2-Butanone		17.9	1.32	3.95	ug/kg	0.526	1					
2-Hexanone	U	ND	1.32	3.95	ug/kg	0.526	1					
4-Methyl-2-pentanone	U	ND	1.32	3.95	ug/kg	0.526	1					
Acetone		112	1.32	3.95	ug/kg	0.526	1					
Benzene	U	ND	0.263	0.789	ug/kg	0.526	1					
Bromochloromethane	U	ND	0.263	0.789	ug/kg	0.526	1					
Bromodichloromethane	U	ND	0.263	0.789	ug/kg	0.526	1					
Bromoform	U	ND	0.263	0.789	ug/kg	0.526	1					
Bromomethane	U	ND	0.263	0.789	ug/kg	0.526	1					
Carbon disulfide		4.20	1.32	3.95	ug/kg	0.526	1					
Carbon tetrachloride	U	ND	0.263	0.789	ug/kg	0.526	1					
Chlorobenzene	U	ND	0.263	0.789	ug/kg	0.526	1					
Chloroethane	U	ND	0.263	0.789	ug/kg	0.526	1					
Chloroform	U	ND	0.263	0.789	ug/kg	0.526	1					

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Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-21	Project: WNUC01921
Sample ID: 547747006	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "Dry Weight Corrected"												
Chloromethane	U	ND	0.263	0.789	ug/kg	0.526	1					
Cyclohexane	U	ND	0.263	0.789	ug/kg	0.526	1					
Dibromochloromethane	U	ND	0.263	0.789	ug/kg	0.526	1					
Dichlorodifluoromethane	U	ND	0.263	0.789	ug/kg	0.526	1					
Ethylbenzene	U	ND	0.263	0.789	ug/kg	0.526	1					
Isopropylbenzene	U	ND	0.263	0.789	ug/kg	0.526	1					
Methyl acetate	U	ND	1.32	3.95	ug/kg	0.526	1					
Methylcyclohexane	U	ND	0.263	0.789	ug/kg	0.526	1					
Methylene chloride	U	ND	1.32	3.95	ug/kg	0.526	1					
Styrene	U	ND	0.263	0.789	ug/kg	0.526	1					
Tetrachloroethylene	U	ND	0.263	0.789	ug/kg	0.526	1					
Toluene	U	ND	0.263	0.789	ug/kg	0.526	1					
Trichloroethylene	U	ND	0.263	0.789	ug/kg	0.526	1					
Trichlorofluoromethane	U	ND	0.263	0.789	ug/kg	0.526	1					
Trichlorotrifluoroethane	U	ND	1.32	3.95	ug/kg	0.526	1					
Vinyl chloride	U	ND	0.263	0.789	ug/kg	0.526	1					
cis-1,2-Dichloroethylene	U	ND	0.263	0.789	ug/kg	0.526	1					
cis-1,3-Dichloropropylene	U	ND	0.263	0.789	ug/kg	0.526	1					
m,p-Xylenes	U	ND	0.526	1.58	ug/kg	0.526	1					
o-Xylene	U	ND	0.263	0.789	ug/kg	0.526	1					
tert-Butyl methyl ether	U	ND	0.263	0.789	ug/kg	0.526	1					
trans-1,2-Dichloroethylene	U	ND	0.263	0.789	ug/kg	0.526	1					
trans-1,3-Dichloropropylene	U	ND	0.263	0.789	ug/kg	0.526	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	AXH3	06/29/21	1600	2142440
SW846 1311	SW846 1311 TCLP Leaching	JP2	06/29/21	1618	2142362
SW846 1311	SW846 1311 TCLP Leaching	JP2	06/29/21	1618	2142363
SW846 1311	SW846 1311 TCLP Volatiles Prep	JP2	06/29/21	1458	2142364
SW846 3010A	ICP-TRACE TCLP by SW846 3010A	HH1	06/30/21	1657	2145610
SW846 3510C	3510C BNA TCLP/SPLP Prep-GC/MS Analysis	SG2	07/01/21	1027	2145607
SW846 3541	Prep Method 3541 8270D BNA for Soil	CB1	06/28/21	0900	2143035
SW846 5035	5035 Prep	JEB	06/17/21	0825	2146069
SW846 7470A Prep	EPA 7470A Mercury Prep TCLP Liquid	AXS5	07/14/21	1248	2150019
SW846 9056A	SW846 9056A Total Anions in Soil	LXA2	06/22/21	1714	2142334

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Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-21	Project: WNUC01921
Sample ID: 547747006	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
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The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 7470A	
3	SW846 3010A/6010D	
4	EPA 350.1 Modified SC	
5	SW846 3510C/8270E	
6	SW846 3541/8270D	
7	SW846 8260D	
8	SW846 8260D	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	TCLP SVOC "As Received"	0.189 mg/L	0.250	76	(39%-112%)
Nitrobenzene-d5	TCLP SVOC "As Received"	0.184 mg/L	0.250	74	(39%-112%)
p-Terphenyl-d14	TCLP SVOC "As Received"	0.170 mg/L	0.250	68	(24%-129%)
2,4,6-Tribromophenol	TCLP SVOC "As Received"	0.373 mg/L	0.500	75	(37%-132%)
2-Fluorophenol	TCLP SVOC "As Received"	0.204 mg/L	0.500	41	(11%-79%)
Phenol-d5	TCLP SVOC "As Received"	0.156 mg/L	0.500	31	(15%-85%)
2-Fluorobiphenyl	SW846 8270D SVOA, Solid "Dry Weight Corrected"	1500 ug/kg	2480	60	(26%-118%)
Nitrobenzene-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"	1600 ug/kg	2480	65	(28%-110%)
p-Terphenyl-d14	SW846 8270D SVOA, Solid "Dry Weight Corrected"	1650 ug/kg	2480	67	(26%-130%)
2,4,6-Tribromophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"	4080 ug/kg	4950	82	(26%-128%)
2-Fluorophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"	3380 ug/kg	4950	68	(30%-108%)
Phenol-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"	3870 ug/kg	4950	78	(29%-116%)
1,2-Dichloroethane-d4	TCLP Volatiles "As Received"	0.546 mg/L	0.0500	109	(73%-129%)
Bromofluorobenzene	TCLP Volatiles "As Received"	0.526 mg/L	0.0500	105	(72%-125%)
Toluene-d8	TCLP Volatiles "As Received"	0.493 mg/L	0.0500	99	(75%-123%)
1,2-Dichloroethane-d4	SW846 8260 Volatiles "Dry Weight Corrected"	41.3 ug/kg	50.0	105	(76%-127%)
Bromofluorobenzene	SW846 8260 Volatiles "Dry Weight Corrected"	45.3 ug/kg	50.0	115	(70%-130%)
Toluene-d8	SW846 8260 Volatiles "Dry Weight Corrected"	37.9 ug/kg	50.0	96	(81%-120%)

Notes:

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Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-21

Sample ID: 547747006

Project: WNUC01921

Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

SQL: Sample Quantitation Limit

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Company : Westinghouse Electric Company, LLC
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Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-25	Project:	WNUC01921
Sample ID:	547747007	Client ID:	WNUC010
Matrix:	Sludge		
Collect Date:	17-JUN-21 08:55		
Receive Date:	18-JUN-21		
Collector:	Client		
Moisture:	92.7%		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		91.9	4.64	13.6	mg/kg	9.98	1	LXA2	06/22/21	2108	2142337	1
Nitrate-N	U	ND	4.50	13.6	mg/kg	9.98	1					
Mercury Analysis-CVAA												
TCLP Hg "As Received"												
Mercury	U	ND	0.000670	0.00200	mg/L	10.0	1	MTM1	07/15/21	1123	2150022	2
Metals Analysis-ICP												
TCLP ICP Metals "As Received"												
Arsenic	U	ND	0.0500	0.300	mg/L	10.0	1	LS	07/01/21	1213	2145611	3
Barium		0.123	0.0100	0.0500	mg/L	10.0	1					
Cadmium	U	ND	0.0100	0.0500	mg/L	10.0	1					
Chromium	U	ND	0.0100	0.100	mg/L	10.0	1					
Lead	U	ND	0.0330	0.200	mg/L	10.0	1					
Selenium	U	ND	0.0600	0.300	mg/L	10.0	1					
Silver	U	ND	0.0100	0.0500	mg/L	10.0	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		2740	65.5	182	mg/kg	53.2	5	AXH3	06/30/21	1415	2142441	4
Semi-Volatile-GC/MS												
TCLP SVOC "As Received"												
1,4-Dichlorobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1	LXA1	07/01/21	2343	2145637	5
2,4,5-Trichlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
2,4,6-Trichlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
2,4-Dinitrotoluene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachlorobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachlorobutadiene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachloroethane	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Nitrobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Pentachlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Pyridine	U	ND	0.0150	0.0500	mg/L	0.00500	1					
m,p-Cresols	U	ND	0.0185	0.0500	mg/L	0.00500	1					
o-Cresol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Volatile Organics												
TCLP Volatiles "As Received"												
1,1-Dichloroethylene	U	ND	0.00333	0.0100	mg/L		10	PXY1	07/14/21	1531	2149793	6

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Report Date: July 19, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-25	Project:	WNUC01921
Sample ID:	547747007	Client ID:	WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatil Organics												
TCLP Volatiles "As Received"												
1,2-Dichloroethane	U	ND	0.00333	0.0100	mg/L		10					
1,4-Dichlorobenzene	U	ND	0.00333	0.0100	mg/L		10					
2-Butanone	BJ	0.0271	0.0167	0.0500	mg/L		10					
Benzene	U	ND	0.00333	0.0100	mg/L		10					
Carbon tetrachloride	U	ND	0.00333	0.0100	mg/L		10					
Chlorobenzene	U	ND	0.00333	0.0100	mg/L		10					
Chloroform	U	ND	0.00333	0.0100	mg/L		10					
Tetrachloroethylene		0.470	0.00333	0.0100	mg/L		10					
Trichloroethylene		0.104	0.00333	0.0100	mg/L		10					
Vinyl chloride	U	ND	0.00333	0.0100	mg/L		10					
SW846 8260 Volatiles "Dry Weight Corrected"												
1,1,1-Trichloroethane	U	ND	4.89	14.7	ug/kg	1.07	1	JEB	07/01/21	1836	2146071	7
1,1,2,2-Tetrachloroethane	U	ND	4.89	14.7	ug/kg	1.07	1					
1,1,2-Trichloroethane	U	ND	4.89	14.7	ug/kg	1.07	1					
1,1-Dichloroethane	U	ND	4.89	14.7	ug/kg	1.07	1					
1,1-Dichloroethylene	U	ND	4.89	14.7	ug/kg	1.07	1					
1,2,3-Trichlorobenzene	U	ND	4.89	14.7	ug/kg	1.07	1					
1,2,4-Trichlorobenzene	U	ND	4.89	14.7	ug/kg	1.07	1					
1,2-Dibromo-3-chloropropane	U	ND	7.34	14.7	ug/kg	1.07	1					
1,2-Dibromoethane	U	ND	4.89	14.7	ug/kg	1.07	1					
1,2-Dichlorobenzene	U	ND	4.89	14.7	ug/kg	1.07	1					
1,2-Dichloroethane	U	ND	4.89	14.7	ug/kg	1.07	1					
1,2-Dichloropropane	U	ND	4.89	14.7	ug/kg	1.07	1					
1,3-Dichlorobenzene	U	ND	4.89	14.7	ug/kg	1.07	1					
1,4-Dichlorobenzene	U	ND	4.89	14.7	ug/kg	1.07	1					
1,4-Dioxane	U	ND	245	734	ug/kg	1.07	1					
2-Butanone		1330	24.5	73.4	ug/kg	1.07	1					
2-Hexanone	U	ND	24.5	73.4	ug/kg	1.07	1					
4-Methyl-2-pentanone	U	ND	24.5	73.4	ug/kg	1.07	1					
Acetone		5890	24.5	73.4	ug/kg	1.07	1					
Benzene	J	9.39	4.89	14.7	ug/kg	1.07	1					
Bromochloromethane	U	ND	4.89	14.7	ug/kg	1.07	1					
Bromodichloromethane	U	ND	4.89	14.7	ug/kg	1.07	1					
Bromoform	U	ND	4.89	14.7	ug/kg	1.07	1					
Bromomethane	U	ND	4.89	14.7	ug/kg	1.07	1					
Carbon disulfide		457	24.5	73.4	ug/kg	1.07	1					

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Certificate of Analysis

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

Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-25 Project: WNUC01921
Sample ID: 547747007 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "Dry Weight Corrected"												
Carbon tetrachloride	U	ND	4.89	14.7	ug/kg	1.07	1					
Chlorobenzene	U	ND	4.89	14.7	ug/kg	1.07	1					
Chloroethane	U	ND	4.89	14.7	ug/kg	1.07	1					
Chloroform	U	ND	4.89	14.7	ug/kg	1.07	1					
Chloromethane	U	ND	4.89	14.7	ug/kg	1.07	1					
Cyclohexane	U	ND	4.89	14.7	ug/kg	1.07	1					
Dibromochloromethane	U	ND	4.89	14.7	ug/kg	1.07	1					
Dichlorodifluoromethane	U	ND	4.89	14.7	ug/kg	1.07	1					
Ethylbenzene	J	5.72	4.89	14.7	ug/kg	1.07	1					
Isopropylbenzene	U	ND	4.89	14.7	ug/kg	1.07	1					
Methyl acetate	U	ND	24.5	73.4	ug/kg	1.07	1					
Methylcyclohexane	U	ND	4.89	14.7	ug/kg	1.07	1					
Methylene chloride	U	ND	24.5	73.4	ug/kg	1.07	1					
Styrene	U	ND	4.89	14.7	ug/kg	1.07	1					
Tetrachloroethylene	U	ND	4.89	14.7	ug/kg	1.07	1					
Toluene	J	10.4	4.89	14.7	ug/kg	1.07	1					
Trichloroethylene	U	ND	4.89	14.7	ug/kg	1.07	1					
Trichlorofluoromethane	U	ND	4.89	14.7	ug/kg	1.07	1					
Trichlorotrifluoroethane	U	ND	24.5	73.4	ug/kg	1.07	1					
Vinyl chloride	U	ND	4.89	14.7	ug/kg	1.07	1					
cis-1,2-Dichloroethylene	U	ND	4.89	14.7	ug/kg	1.07	1					
cis-1,3-Dichloropropylene	U	ND	4.89	14.7	ug/kg	1.07	1					
m,p-Xylenes	J	23.8	9.79	29.3	ug/kg	1.07	1					
o-Xylene	U	ND	4.89	14.7	ug/kg	1.07	1					
tert-Butyl methyl ether	U	ND	4.89	14.7	ug/kg	1.07	1					
trans-1,2-Dichloroethylene	U	ND	4.89	14.7	ug/kg	1.07	1					
trans-1,3-Dichloropropylene	U	ND	4.89	14.7	ug/kg	1.07	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	AXH3	06/29/21	1600	2142440
SW846 1311	SW846 1311 TCLP Leaching	JP2	06/29/21	1618	2142362
SW846 1311	SW846 1311 TCLP Leaching	JP2	06/29/21	1618	2142363
SW846 1311	SW846 1311 TCLP Volatiles Prep	JP2	06/29/21	1458	2142364
SW846 3010A	ICP-TRACE TCLP by SW846 3010A	HH1	06/30/21	1657	2145610
SW846 3510C	3510C BNA TCLP/SPLP Prep-GC/MS Analysis	SG2	07/01/21	1027	2145607

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Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-25	Project: WNUC01921
Sample ID: 547747007	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
SW846 3541	Prep Method 3541	8270D BNA for Soil		CB1	06/28/21		0900		2143035		
SW846 5035	5035	Prep		JEB	06/17/21		0855		2146069		
SW846 7470A	EPA 7470A	Mercury Prep TCLP Liquid		AXS5	07/14/21		1248		2150019		
SW846 9056A	SW846 9056A	Total Anions in Soil		LXA2	06/22/21		1714		2142334		

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 9056A		
2	SW846 7470A		
3	SW846 3010A/6010D		
4	EPA 350.1 Modified SC		
5	SW846 3510C/8270E		
6	SW846 8260D		
7	SW846 8260D		

Surrogate/Tracer	Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl		TCLP SVOC "As Received"	0.196 mg/L	0.250	78	(39%-112%)
Nitrobenzene-d5		TCLP SVOC "As Received"	0.192 mg/L	0.250	77	(39%-112%)
p-Terphenyl-d14		TCLP SVOC "As Received"	0.207 mg/L	0.250	83	(24%-129%)
2,4,6-Tribromophenol		TCLP SVOC "As Received"	0.428 mg/L	0.500	86	(37%-132%)
2-Fluorophenol		TCLP SVOC "As Received"	0.210 mg/L	0.500	42	(11%-79%)
Phenol-d5		TCLP SVOC "As Received"	0.161 mg/L	0.500	32	(15%-85%)
1,2-Dichloroethane-d4		TCLP Volatiles "As Received"	0.568 mg/L	0.0500	114	(73%-129%)
Bromofluorobenzene		TCLP Volatiles "As Received"	0.518 mg/L	0.0500	104	(72%-125%)
Toluene-d8		TCLP Volatiles "As Received"	0.498 mg/L	0.0500	100	(75%-123%)
1,2-Dichloroethane-d4		SW846 8260 Volatiles "Dry Weight Corrected"	724 ug/kg	50.0	99	(76%-127%)
Bromofluorobenzene		SW846 8260 Volatiles "Dry Weight Corrected"	1100 ug/kg	50.0	150*	(70%-130%)
Toluene-d8		SW846 8260 Volatiles "Dry Weight Corrected"	771 ug/kg	50.0	105	(81%-120%)

Notes:

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: July 19, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	TB-1	Project:	WNUC01921
Sample ID:	547747008	Client ID:	WNUC010
Matrix:	Water		
Collect Date:	17-JUN-21 09:00		
Receive Date:	18-JUN-21		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "As Received"												
1,1,1-Trichloroethane	U	ND	0.333	1.00	ug/L		1	JM6	07/01/21	1315	2146020	1
1,1,2,2-Tetrachloroethane	U	ND	0.333	1.00	ug/L		1					
1,1,2-Trichloroethane	U	ND	0.333	1.00	ug/L		1					
1,1-Dichloroethane	U	ND	0.333	1.00	ug/L		1					
1,1-Dichloroethylene	U	ND	0.333	1.00	ug/L		1					
1,2,3-Trichlorobenzene	U	ND	0.333	1.00	ug/L		1					
1,2,4-Trichlorobenzene	U	ND	0.333	1.00	ug/L		1					
1,2-Dibromo-3-chloropropane	U	ND	0.333	1.00	ug/L		1					
1,2-Dibromoethane	U	ND	0.333	1.00	ug/L		1					
1,2-Dichlorobenzene	U	ND	0.333	1.00	ug/L		1					
1,2-Dichloroethane	U	ND	0.333	1.00	ug/L		1					
1,2-Dichloropropane	U	ND	0.333	1.00	ug/L		1					
1,3-Dichlorobenzene	U	ND	0.333	1.00	ug/L		1					
1,4-Dichlorobenzene	U	ND	0.333	1.00	ug/L		1					
1,4-Dioxane	U	ND	16.7	50.0	ug/L		1					
2-Butanone	U	ND	1.67	5.00	ug/L		1					
2-Hexanone	U	ND	1.67	5.00	ug/L		1					
4-Methyl-2-pentanone	U	ND	1.67	5.00	ug/L		1					
Acetone	U	ND	1.74	5.00	ug/L		1					
Benzene	U	ND	0.333	1.00	ug/L		1					
Bromochloromethane	U	ND	0.333	1.00	ug/L		1					
Bromodichloromethane	U	ND	0.333	1.00	ug/L		1					
Bromoform	U	ND	0.333	1.00	ug/L		1					
Bromomethane	U	ND	0.337	1.00	ug/L		1					
Carbon disulfide	U	ND	1.67	5.00	ug/L		1					
Carbon tetrachloride	U	ND	0.333	1.00	ug/L		1					
Chlorobenzene	U	ND	0.333	1.00	ug/L		1					
Chloroethane	U	ND	0.333	1.00	ug/L		1					
Chloroform	U	ND	0.333	1.00	ug/L		1					
Chloromethane	U	ND	0.333	1.00	ug/L		1					
Cyclohexane	U	ND	0.333	1.00	ug/L		1					
Dibromochloromethane	U	ND	0.333	1.00	ug/L		1					
Dichlorodifluoromethane	U	ND	0.355	1.00	ug/L		1					
Ethylbenzene	U	ND	0.333	1.00	ug/L		1					
Isopropylbenzene	U	ND	0.333	1.00	ug/L		1					
Methyl acetate	U	ND	1.67	5.00	ug/L		1					

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Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: TB-1	Project: WNUC01921
Sample ID: 547747008	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
Volatile Organics											
SW846 8260 Volatiles "As Received"											
Methylcyclohexane	U	ND	0.333	1.00	ug/L		1				
Methylene chloride	U	ND	1.67	2.00	ug/L		1				
Styrene	U	ND	0.333	1.00	ug/L		1				
Tetrachloroethylene	U	ND	0.333	1.00	ug/L		1				
Toluene	U	ND	0.333	1.00	ug/L		1				
Trichloroethylene	U	ND	0.333	1.00	ug/L		1				
Trichlorofluoromethane	U	ND	0.333	1.00	ug/L		1				
Trichlorotrifluoroethane	U	ND	2.98	5.00	ug/L		1				
Vinyl chloride	U	ND	0.333	1.00	ug/L		1				
cis-1,2-Dichloroethylene	U	ND	0.333	1.00	ug/L		1				
cis-1,3-Dichloropropylene	U	ND	0.333	1.00	ug/L		1				
m,p-Xylenes	U	ND	0.667	2.00	ug/L		1				
o-Xylene	U	ND	0.333	1.00	ug/L		1				
tert-Butyl methyl ether	U	ND	0.333	1.00	ug/L		1				
trans-1,2-Dichloroethylene	U	ND	0.333	1.00	ug/L		1				
trans-1,3-Dichloropropylene	U	ND	0.333	1.00	ug/L		1				

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 8260D SC_NPDES		

Surrogate/Tracer	Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4		SW846 8260 Volatiles "As Received"	50.3 ug/L	50.0	101	(73%-129%)
Bromofluorobenzene		SW846 8260 Volatiles "As Received"	50.3 ug/L	50.0	101	(72%-125%)
Toluene-d8		SW846 8260 Volatiles "As Received"	51.2 ug/L	50.0	102	(75%-123%)

Notes:

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

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

Columbia, South Carolina 29205

Report Date: July 19, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-B1
Sample ID: 547747001
Matrix: Sludge
Collect Date: 17-JUN-21
Receive Date: 18-JUN-21
Collector: Client
Moisture: 26.8%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		42.5	+/-1.65	0.317	+/-4.35	0.500	pCi/g			MP2	07/13/21	1413	2142117	2
Uranium-235/236		1.70	+/-0.370	0.0615	+/-0.404	0.500	pCi/g							
Uranium-238		8.39	+/-0.737	0.183	+/-1.08	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Techneium-99		1.16	+/-0.343	0.493	+/-0.368	1.00	pCi/g			JJ3	06/30/21	1258	2142297	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AA1	06/22/21	0920	2141936

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2142117	100	(15%-125%)
Techneium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2142297	88.5	(15%-125%)

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Report Date: July 19, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-B1

Project: WNUC01921

Sample ID: 547747001

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Report Date: July 19, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-1
Sample ID: 547747002
Matrix: Sludge
Collect Date: 17-JUN-21
Receive Date: 18-JUN-21
Collector: Client
Moisture: 31.4%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		99.9	+/-2.81	0.412	+/-10.2	0.500	pCi/g			MP2	07/13/21	1413	2142117	2
Uranium-235/236		4.49	+/-0.681	0.338	+/-0.810	0.500	pCi/g							
Uranium-238		20.8	+/-1.28	0.251	+/-2.41	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99		2.86	+/-0.487	0.633	+/-0.588	1.00	pCi/g			JJ3	06/30/21	1410	2142297	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AA1	06/22/21	0920	2141936

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2142117	88.5	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2142297	80.6	(15%-125%)

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Report Date: July 19, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-1

Project: WNUC01921

Sample ID: 547747002

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Columbia, South Carolina 29205

Report Date: July 19, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-B2
Sample ID: 547747003
Matrix: Sludge
Collect Date: 17-JUN-21
Receive Date: 18-JUN-21
Collector: Client
Moisture: 24.6%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		50.0	+/-2.00	0.272	+/-5.26	0.500	pCi/g			MP2	07/13/21	1413	2142117	2
Uranium-235/236		2.36	+/-0.487	0.0769	+/-0.538	0.500	pCi/g							
Uranium-238		9.62	+/-0.887	0.278	+/-1.29	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99		1.42	+/-0.367	0.524	+/-0.402	1.00	pCi/g			JJ3	06/30/21	1523	2142297	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AA1	06/22/21	0920	2141936

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2142117	87.5	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2142297	81.5	(15%-125%)

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Certificate of Analysis

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

Columbia, South Carolina 29205

Report Date: July 19, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-B2

Project: WNUC01921

Sample ID: 547747003

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

Mtd.: Method

DL: Detection Limit

PF: Prep Factor

Lc/LC: Critical Level

RL: Reporting Limit

MDA: Minimum Detectable Activity

TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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Certificate of Analysis

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

Columbia, South Carolina 29205

Report Date: July 19, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-3
Sample ID: 547747004
Matrix: Sludge
Collect Date: 17-JUN-21
Receive Date: 18-JUN-21
Collector: Client
Moisture: 24.3%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		105	+/-2.61	0.284	+/-10.3	0.500	pCi/g			MP2	07/13/21	1413	2142117	2
Uranium-235/236		5.81	+/-0.684	0.0623	+/-0.877	0.500	pCi/g							
Uranium-238		24.3	+/-1.26	0.242	+/-2.61	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99		5.58	+/-0.517	0.510	+/-0.824	1.00	pCi/g			JJ3	06/30/21	1635	2142297	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AA1	06/22/21	0920	2141936

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2142117	98.9	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2142297	86.7	(15%-125%)

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Columbia, South Carolina 29205

Report Date: July 19, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-3

Project: WNUC01921

Sample ID: 547747004

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

Mtd.: Method

DL: Detection Limit

PF: Prep Factor

Lc/LC: Critical Level

RL: Reporting Limit

MDA: Minimum Detectable Activity

TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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Report Date: July 19, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-5
Sample ID: 547747005
Matrix: Sludge
Collect Date: 17-JUN-21
Receive Date: 18-JUN-21
Collector: Client
Moisture: 37.1%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		351	+/-5.69	0.432	+/-35.9	0.500	pCi/g			MP2	07/13/21	1413	2142117	2
Uranium-235/236		17.3	+/-1.40	0.0887	+/-2.24	0.500	pCi/g							
Uranium-238		80.3	+/-2.73	0.406	+/-8.56	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99		50.2	+/-1.31	0.590	+/-5.92	1.00	pCi/g			JJ3	06/30/21	1748	2142297	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AA1	06/22/21	0920	2141936

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2142117	72.4	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2142297	83.9	(15%-125%)

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Report Date: July 19, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-5

Project: WNUC01921

Sample ID: 547747005

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Report Date: July 19, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-21

Project: WNUC01921

Sample ID: 547747006

Client ID: WNUC010

Matrix: Sludge

Collect Date: 17-JUN-21

Receive Date: 18-JUN-21

Collector: Client

Moisture: 33.4%

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		299	+/-4.51	0.235	+/-28.8	0.500	pCi/g			MP2	07/13/21	1413	2142117	2
Uranium-235/236		14.1	+/-1.09	0.0657	+/-1.73	0.500	pCi/g							
Uranium-238		61.8	+/-2.05	0.196	+/-6.23	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99		11.4	+/-0.645	0.641	+/-1.46	1.00	pCi/g			JJ3	06/30/21	1900	2142297	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AA1	06/22/21	0920	2141936

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2142117	95.3	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2142297	61.9	(15%-125%)

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Report Date: July 19, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-21

Project: WNUC01921

Sample ID: 547747006

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

Mtd.: Method

DL: Detection Limit

PF: Prep Factor

Lc/LC: Critical Level

RL: Reporting Limit

MDA: Minimum Detectable Activity

TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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Report Date: July 19, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-25
Sample ID: 547747007
Matrix: Sludge
Collect Date: 17-JUN-21
Receive Date: 18-JUN-21
Collector: Client
Moisture: 92.7%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		2490	+/-27.9	1.46	+/-397	0.500	pCi/g			MP2	07/13/21	1413	2142117	2
Uranium-235/236		124	+/-6.91	0.960	+/-20.8	0.500	pCi/g							
Uranium-238		546	+/-13.1	1.24	+/-87.6	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99		6.56	+/-0.560	0.552	+/-0.939	1.00	pCi/g			JJ3	06/30/21	2103	2142297	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AA1	06/22/21	0920	2141936

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2142117	20.9	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2142297	87	(15%-125%)

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Certificate of Analysis

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

Columbia, South Carolina 29205

Report Date: July 19, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-25

Project: WNUC01921

Sample ID: 547747007

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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QC Summary

Report Date: July 19, 2021

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Westinghouse Electric Company, LLC
PO Drawer R
Columbia, South Carolina

Contact: Ms. Cynthia Teague

Workorder: 547747

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Ion Chromatography											
Batch	2142141										
QC1204848866	547747001	DUP									
Fluoride		3.54		5.58	mg/kg	44.6*^		(+/-1.35)	LXA2	06/23/21	02:42
Nitrate-N	U	ND	U	ND	mg/kg	N/A					
QC1204848865	LCS										
Fluoride	24.8			26.2	mg/kg		106	(90%-110%)		06/22/21	21:44
Nitrate-N	24.8			25.0	mg/kg		101	(90%-110%)			
QC1204848864	MB										
Fluoride			U	ND	mg/kg					06/22/21	21:14
Nitrate-N			U	ND	mg/kg						
QC1204848867	547747001	MS									
Fluoride	33.4	3.54		34.9	mg/kg		93.9	(75%-125%)		06/23/21	03:12
Nitrate-N	33.4	U	ND	33.1	mg/kg		99.1	(75%-125%)			
Batch	2142337										
QC1204848996	547748006	DUP									
Fluoride		93.9		121	mg/kg	25.3		(0%-109%)	LXA2	06/23/21	01:46
Nitrate-N	J	6.17	J	6.23	mg/kg	0.84 ^		(+/-12.8)			
QC1204848995	LCS										
Fluoride	25.1			24.3	mg/kg		96.9	(90%-110%)		06/22/21	19:35
Nitrate-N	25.1			24.1	mg/kg		95.9	(90%-110%)			

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QC Summary

Workorder: 547747

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Ion Chromatography											
Batch	2142337										
QC1204848994		MB									
Fluoride			U	ND	mg/kg				LXA2	06/22/21	19:05
Nitrate-N			U	ND	mg/kg						
QC1204848997	547748006 MS										
Fluoride	326		93.9	365	mg/kg		83.2	(75%-125%)		06/23/21	02:16
Nitrate-N	326	J	6.17	304	mg/kg		91.2	(75%-125%)			
Metals Analysis-ICP											
Batch	2145611										
QC1204854821	547747001 DUP										
Arsenic		U	ND	U	ND	mg/L	N/A		LS	07/01/21	11:45
Barium			0.108		0.105	mg/L	3.23 ^	(+/-0.0500)			
Cadmium		U	ND	U	ND	mg/L	N/A				
Chromium		U	ND	U	ND	mg/L	N/A				
Lead		U	ND	U	ND	mg/L	N/A				
Selenium		U	ND	U	ND	mg/L	N/A				
Silver		U	ND	U	ND	mg/L	N/A				
QC1204854820	LCS										
Arsenic	5.00			4.64	mg/L		92.8	(80%-120%)		07/01/21	11:39
Barium	5.00			4.76	mg/L		95.2	(80%-120%)			

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QC Summary

Workorder: 547747

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2145611										
Cadmium	5.00			4.73	mg/L		94.6	(80%-120%)	LS	07/01/21	11:39
Chromium	5.00			4.77	mg/L		95.3	(80%-120%)			
Lead	5.00			4.75	mg/L		95	(80%-120%)			
Selenium	5.00			4.67	mg/L		93.4	(80%-120%)			
Silver	1.00			0.968	mg/L		96.8	(80%-120%)			
QC1204854819 MB											
Arsenic			U	ND	mg/L					07/01/21	11:33
Barium			U	ND	mg/L						
Cadmium			U	ND	mg/L						
Chromium			U	ND	mg/L						
Lead			U	ND	mg/L						
Selenium			U	ND	mg/L						
Silver			U	ND	mg/L						
QC1204849035 547747001 MS											
Arsenic	5.00	U	ND	4.67	mg/L		93.3	(75%-125%)		07/01/21	11:48
Barium	10.0		0.108	9.86	mg/L		97.5	(75%-125%)			
Cadmium	1.00	U	ND	0.936	mg/L		93.5	(75%-125%)			

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QC Summary

Workorder: 547747

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2145611										
Chromium	5.00	U	ND	4.79	mg/L		95.7	(75%-125%)	LS	07/01/21	11:48
Lead	5.00	U	ND	4.81	mg/L		96.3	(75%-125%)			
Selenium	1.00	U	ND	0.976	mg/L		93.7	(75%-125%)			
Silver	0.500	U	ND	0.492	mg/L		97.6	(75%-125%)			
QC1204854822 547747001 SDILT											
Arsenic		U	ND	U	ND	ug/L	N/A	(0%-20%)		07/01/21	11:52
Barium			10.8	J	2.19	ug/L	1.02	(0%-20%)			
Cadmium		U	ND	U	ND	ug/L	N/A	(0%-20%)			
Chromium		U	ND	U	ND	ug/L	N/A	(0%-20%)			
Lead		U	ND	U	ND	ug/L	N/A	(0%-20%)			
Selenium		U	ND	J	6.60	ug/L	N/A	(0%-20%)			
Silver		U	ND	U	ND	ug/L	N/A	(0%-20%)			
QC1204849034 TB											
Arsenic				U	ND	mg/L				07/01/21	11:36
Barium				U	ND	mg/L					
Cadmium				U	ND	mg/L					
Chromium				U	ND	mg/L					

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QC Summary

Workorder: 547747

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2145611										
Lead			U	ND	mg/L				LS	07/01/21	11:36
Selenium			U	ND	mg/L						
Silver			U	ND	mg/L						
Metals Analysis-Mercury											
Batch	2150022										
QC1204863210	547747001	DUP									
Mercury		U	ND	U	ND	mg/L	N/A		MTM1	07/15/21	11:08
QC1204863209	LCS										
Mercury		0.0200			0.0197	mg/L	98.7	(80%-120%)		07/15/21	11:02
QC1204863208	MB										
Mercury			U	ND	mg/L					07/15/21	10:59
QC1204849035	547747001	MS									
Mercury		0.0200	U	ND	0.0539	mg/L	270*	(75%-125%)		07/15/21	11:06
QC1204863212	547747001	PS									
Mercury		2.00	U	ND	1.96	ug/L	97.8	(80%-120%)		07/15/21	11:11
QC1204863211	547747001	SDILT									
Mercury			U	ND	U	ND	ug/L	N/A		(0%-10%)	07/15/21 11:09
QC1204849034	TB										
Mercury			U	ND	mg/L					07/15/21	11:01
Nutrient Analysis											
Batch	2142441										
QC1204849166	547747001	DUP									
Nitrogen, Ammonia		74.0		34.6	mg/kg	72.7*		(0%-20%)	AXH3	06/30/21	13:48

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QC Summary

Workorder: 547747

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Nutrient Analysis											
Batch	2142441										
QC1204849165	LCS										
Nitrogen, Ammonia	50.0			51.0	mg/kg		102	(90%-110%)	AXH3	06/30/21	13:42
QC1204849164	MB										
Nitrogen, Ammonia			U	ND	mg/kg					06/30/21	13:41
QC1204849167	547747001	MS									
Nitrogen, Ammonia	43.8	74.0		74.4	mg/kg		1 *	(90%-110%)		06/30/21	13:49
Semi-Volatile-GC/MS											
Batch	2143036										
QC1204850223	LCS										
1,1'-Biphenyl	1640			1140	ug/kg		70	(57%-118%)	NM1	06/28/21	16:14
1,2,4,5-Tetrachlorobenzene	1640			1160	ug/kg		70	(51%-110%)			
2,3,4,6-Tetrachlorophenol	1640			1250	ug/kg		76	(52%-120%)			
2,4,5-Trichlorophenol	1640			1230	ug/kg		75	(58%-120%)			
2,4,6-Trichlorophenol	1640			1170	ug/kg		71	(52%-119%)			
2,4-Dichlorophenol	1640			1120	ug/kg		69	(52%-116%)			
2,4-Dimethylphenol	1640			1100	ug/kg		67	(47%-96%)			
2,4-Dinitrophenol	1640		J	576	ug/kg		35	(18%-92%)			
2,4-Dinitrotoluene	1640			1330	ug/kg		81	(52%-120%)			
2,6-Dinitrotoluene	1640			1280	ug/kg		78	(58%-112%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
2-Chloronaphthalene	1640			1140	ug/kg		69	(49%-108%)	NM1	06/28/21	16:14
2-Chlorophenol	1640			1110	ug/kg		67	(55%-107%)			
2-Methyl-4,6-dinitrophenol	1640			962	ug/kg		59	(23%-110%)			
2-Methylnaphthalene	1640			1070	ug/kg		65	(47%-99%)			
2-Nitrophenol	1640			1120	ug/kg		68	(53%-113%)			
3,3'-Dichlorobenzidine	1640			1200	ug/kg		73	(35%-109%)			
4-Bromophenylphenylether	1640			1270	ug/kg		77	(56%-113%)			
4-Chloro-3-methylphenol	1640			1240	ug/kg		75	(54%-119%)			
4-Chloroaniline	1640			876	ug/kg		53	(36%-90%)			
4-Chlorophenylphenylether	1640			1190	ug/kg		73	(53%-117%)			
4-Nitrophenol	1640			1500	ug/kg		92	(39%-130%)			
Acenaphthene	1640			1110	ug/kg		68	(53%-104%)			
Acenaphthylene	1640			1150	ug/kg		70	(55%-104%)			
Acetophenone	1640			1210	ug/kg		74	(50%-103%)			
Anthracene	1640			1240	ug/kg		75	(54%-109%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Atrazine	1640			1620	ug/kg		99	(54%-133%)	NM1	06/28/21	16:14
Benzaldehyde	1640			336	ug/kg		20*	(25%-83%)			
Benzo(a)anthracene	1640			1330	ug/kg		81	(58%-110%)			
Benzo(a)pyrene	1640			1120	ug/kg		68	(50%-114%)			
Benzo(b)fluoranthene	1640			1180	ug/kg		72	(51%-111%)			
Benzo(ghi)perylene	1640			1450	ug/kg		89	(42%-122%)			
Benzo(k)fluoranthene	1640			1240	ug/kg		75	(49%-118%)			
Butylbenzylphthalate	1640			1300	ug/kg		79	(51%-123%)			
Caprolactam	1640			1230	ug/kg		75	(51%-122%)			
Carbazole	1640			1370	ug/kg		83	(51%-118%)			
Chrysene	1640			1260	ug/kg		77	(59%-112%)			
Di-n-butylphthalate	1640			1280	ug/kg		78	(55%-122%)			
Di-n-octylphthalate	1640			1350	ug/kg		83	(50%-135%)			
Dibenzo(a,h)anthracene	1640			1560	ug/kg		95	(48%-132%)			
Dibenzofuran	1640			1160	ug/kg		71	(54%-112%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Diethylphthalate	1640			1320	ug/kg		80	(58%-121%)	NM1	06/28/21	16:14
Dimethylphthalate	1640			1310	ug/kg		80	(52%-118%)			
Diphenylamine	1640			1310	ug/kg		80	(52%-107%)			
Fluoranthene	1640			1290	ug/kg		78	(52%-122%)			
Fluorene	1640			1190	ug/kg		73	(52%-110%)			
Hexachlorobenzene	1640			1270	ug/kg		78	(53%-111%)			
Hexachlorobutadiene	1640			1200	ug/kg		73	(49%-110%)			
Hexachlorocyclopentadiene	1640			734	ug/kg		45	(24%-85%)			
Hexachloroethane	1640			953	ug/kg		58	(46%-94%)			
Indeno(1,2,3-cd)pyrene	1640			1590	ug/kg		97	(47%-128%)			
Isophorone	1640			1280	ug/kg		78	(55%-105%)			
N-Nitrosodipropylamine	1640			1250	ug/kg		76	(45%-112%)			
Naphthalene	1640			1080	ug/kg		66	(53%-100%)			
Nitrobenzene	1640			1150	ug/kg		70	(52%-106%)			
Pentachlorophenol	1640			1130	ug/kg		69	(35%-118%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Phenanthrene	1640			1250	ug/kg		76	(52%-108%)	NM1	06/28/21	16:14
Phenol	1640			1140	ug/kg		69	(49%-111%)			
Pyrene	1640			1230	ug/kg		75	(45%-112%)			
bis(2-Chloro-1-methylethyl)ether	1640			1110	ug/kg		68	(39%-115%)			
bis(2-Chloroethoxy)methane	1640			1030	ug/kg		63	(52%-100%)			
bis(2-Chloroethyl) ether	1640			1060	ug/kg		65	(48%-104%)			
bis(2-Ethylhexyl)phthalate	1640			1190	ug/kg		73	(44%-127%)			
m,p-Cresols	1640			1230	ug/kg		75	(50%-118%)			
m-Nitroaniline	1640			1130	ug/kg		69	(40%-113%)			
o-Cresol	1640			1140	ug/kg		70	(53%-111%)			
o-Nitroaniline	1640			1360	ug/kg		83	(50%-119%)			
p-Nitroaniline	1640			1470	ug/kg		90	(38%-141%)			
**2,4,6-Tribromophenol	3280			2690	ug/kg		82	(26%-128%)			
**2-Fluorobiphenyl	1640			1040	ug/kg		64	(26%-118%)			
**2-Fluorophenol	3280			2200	ug/kg		67	(30%-108%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
**Nitrobenzene-d5	1640			1090	ug/kg		66	(28%-110%)	NM1	06/28/21	16:14
**Phenol-d5	3280			2400	ug/kg		73	(29%-116%)			
**p-Terphenyl-d14	1640			1150	ug/kg		70	(26%-130%)			
QC1204850222	MB										
1,1'-Biphenyl			U	ND	ug/kg					06/28/21	15:46
1,2,4,5-Tetrachlorobenzene			U	ND	ug/kg						
2,3,4,6-Tetrachlorophenol			U	ND	ug/kg						
2,4,5-Trichlorophenol			U	ND	ug/kg						
2,4,6-Trichlorophenol			U	ND	ug/kg						
2,4-Dichlorophenol			U	ND	ug/kg						
2,4-Dimethylphenol			U	ND	ug/kg						
2,4-Dinitrophenol			U	ND	ug/kg						
2,4-Dinitrotoluene			U	ND	ug/kg						
2,6-Dinitrotoluene			U	ND	ug/kg						
2-Chloronaphthalene			U	ND	ug/kg						
2-Chlorophenol			U	ND	ug/kg						

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
2-Methyl-4,6-dinitrophenol			U	ND	ug/kg				NM1	06/28/21	15:46
2-Methylnaphthalene			U	ND	ug/kg						
2-Nitrophenol			U	ND	ug/kg						
3,3'-Dichlorobenzidine			U	ND	ug/kg						
4-Bromophenylphenylether			U	ND	ug/kg						
4-Chloro-3-methylphenol			U	ND	ug/kg						
4-Chloroaniline			U	ND	ug/kg						
4-Chlorophenylphenylether			U	ND	ug/kg						
4-Nitrophenol			U	ND	ug/kg						
Acenaphthene			U	ND	ug/kg						
Acenaphthylene			U	ND	ug/kg						
Acetophenone			U	ND	ug/kg						
Anthracene			U	ND	ug/kg						
Atrazine			U	ND	ug/kg						
Benzaldehyde			U	ND	ug/kg						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Benzo(a)anthracene			U	ND	ug/kg				NM1	06/28/21	15:46
Benzo(a)pyrene			U	ND	ug/kg						
Benzo(b)fluoranthene			U	ND	ug/kg						
Benzo(ghi)perylene			U	ND	ug/kg						
Benzo(k)fluoranthene			U	ND	ug/kg						
Butylbenzylphthalate			U	ND	ug/kg						
Caprolactam			U	ND	ug/kg						
Carbazole			U	ND	ug/kg						
Chrysene			U	ND	ug/kg						
Di-n-butylphthalate			U	ND	ug/kg						
Di-n-octylphthalate			U	ND	ug/kg						
Dibenzo(a,h)anthracene			U	ND	ug/kg						
Dibenzofuran			U	ND	ug/kg						
Diethylphthalate			U	ND	ug/kg						
Dimethylphthalate			U	ND	ug/kg						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Diphenylamine			U	ND	ug/kg				NM1	06/28/21	15:46
Fluoranthene			U	ND	ug/kg						
Fluorene			U	ND	ug/kg						
Hexachlorobenzene			U	ND	ug/kg						
Hexachlorobutadiene			U	ND	ug/kg						
Hexachlorocyclopentadiene			U	ND	ug/kg						
Hexachloroethane			U	ND	ug/kg						
Indeno(1,2,3-cd)pyrene			U	ND	ug/kg						
Isophorone			U	ND	ug/kg						
N-Nitrosodipropylamine			U	ND	ug/kg						
Naphthalene			U	ND	ug/kg						
Nitrobenzene			U	ND	ug/kg						
Pentachlorophenol			U	ND	ug/kg						
Phenanthrene			U	ND	ug/kg						
Phenol			U	ND	ug/kg						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Pyrene			U	ND	ug/kg				NM1	06/28/21	15:46
bis(2-Chloro-1-methylethyl)ether			U	ND	ug/kg						
bis(2-Chloroethoxy)methane			U	ND	ug/kg						
bis(2-Chloroethyl) ether			U	ND	ug/kg						
bis(2-Ethylhexyl)phthalate			U	ND	ug/kg						
m,p-Cresols			U	ND	ug/kg						
m-Nitroaniline			U	ND	ug/kg						
o-Cresol			U	ND	ug/kg						
o-Nitroaniline			U	ND	ug/kg						
p-Nitroaniline			U	ND	ug/kg						
**2,4,6-Tribromophenol	3290			3000	ug/kg		91	(26%-128%)			
**2-Fluorobiphenyl	1650			1180	ug/kg		72	(26%-118%)			
**2-Fluorophenol	3290			2620	ug/kg		79	(30%-108%)			
**Nitrobenzene-d5	1650			1290	ug/kg		78	(28%-110%)			
**Phenol-d5	3290			2810	ug/kg		85	(29%-116%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
**p-Terphenyl-d14	1650			1320	ug/kg		80	(26%-130%)	NM1	06/28/21	15:46
QC1204850224 547747001 MS											
1,1'-Biphenyl	2260	U	ND	647	ug/kg		29	(19%-123%)		06/28/21	17:37
1,2,4,5-Tetrachlorobenzene	2260	U	ND	629	ug/kg		28	(24%-110%)			
2,3,4,6-Tetrachlorophenol	2260	U	ND	765	ug/kg		34	(28%-125%)			
2,4,5-Trichlorophenol	2260	U	ND	695	ug/kg		31	(29%-120%)			
2,4,6-Trichlorophenol	2260	U	ND	667	ug/kg		30	(26%-127%)			
2,4-Dichlorophenol	2260	U	ND	693	ug/kg		31	(23%-120%)			
2,4-Dimethylphenol	2260	U	ND	636	ug/kg		28	(20%-105%)			
2,4-Dinitrophenol	2260	U	ND	608	ug/kg	J	27*	(28%-120%)			
2,4-Dinitrotoluene	2260	U	ND	764	ug/kg		34	(28%-120%)			
2,6-Dinitrotoluene	2260	U	ND	749	ug/kg		33	(27%-120%)			
2-Chloronaphthalene	2260	U	ND	630	ug/kg		28	(16%-118%)			
2-Chlorophenol	2260	U	ND	705	ug/kg		31	(19%-108%)			
2-Methyl-4,6-dinitrophenol	2260	U	ND	731	ug/kg		32	(17%-112%)			
2-Methylnaphthalene	2260	U	ND	630	ug/kg		28	(19%-110%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
2-Nitrophenol	2260	U	ND	680	ug/kg		30	(20%-110%)	NM1	06/28/21	17:37
3,3'-Dichlorobenzidine	2260	U	ND	763	ug/kg		34	(12%-110%)			
4-Bromophenylphenylether	2260	U	ND	703	ug/kg		31	(25%-120%)			
4-Chloro-3-methylphenol	2260	U	ND	786	ug/kg		35	(27%-122%)			
4-Chloroaniline	2260	U	ND	518	ug/kg		23*	(26%-88%)			
4-Chlorophenylphenylether	2260	U	ND	678	ug/kg		30	(25%-124%)			
4-Nitrophenol	2260	U	ND	863	ug/kg		38	(16%-132%)			
Acenaphthene	2260	U	ND	635	ug/kg		28	(17%-113%)			
Acenaphthylene	2260	U	ND	657	ug/kg		29	(23%-112%)			
Acetophenone	2260	U	ND	781	ug/kg		35	(19%-118%)			
Anthracene	2260	U	ND	725	ug/kg		32	(21%-113%)			
Atrazine	2260	U	ND	880	ug/kg		39	(28%-133%)			
Benzaldehyde	2260	U	ND	621	ug/kg		28	(10%-97%)			
Benzo(a)anthracene	2260	U	ND	787	ug/kg		35	(24%-116%)			
Benzo(a)pyrene	2260	U	ND	687	ug/kg		30	(23%-120%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Benzo(b)fluoranthene	2260	U	ND	711	ug/kg		32	(22%-122%)	NM1	06/28/21	17:37
Benzo(ghi)perylene	2260	U	ND	779	ug/kg		35	(15%-120%)			
Benzo(k)fluoranthene	2260	U	ND	753	ug/kg		33	(22%-130%)			
Butylbenzylphthalate	2260	U	ND	791	ug/kg		35	(21%-133%)			
Caprolactam	2260	U	ND	789	ug/kg		35	(22%-125%)			
Carbazole	2260	U	ND	781	ug/kg		35	(19%-123%)			
Chrysene	2260	U	ND	733	ug/kg		32	(23%-120%)			
Di-n-butylphthalate	2260	U	ND	767	ug/kg		34	(28%-120%)			
Di-n-octylphthalate	2260	U	ND	879	ug/kg		39	(27%-132%)			
Dibenzo(a,h)anthracene	2260	U	ND	867	ug/kg		38	(17%-118%)			
Dibenzofuran	2260	U	ND	674	ug/kg		30	(24%-116%)			
Diethylphthalate	2260	U	ND	775	ug/kg		34	(29%-120%)			
Dimethylphthalate	2260	U	ND	746	ug/kg		33	(28%-120%)			
Diphenylamine	2260	U	ND	715	ug/kg		32	(23%-111%)			
Fluoranthene	2260	U	ND	784	ug/kg		35	(24%-122%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Fluorene	2260	U	ND		703	ug/kg	31	(20%-119%)	NM1	06/28/21	17:37
Hexachlorobenzene	2260	U	ND		705	ug/kg	31	(27%-113%)			
Hexachlorobutadiene	2260	U	ND		633	ug/kg	28	(18%-110%)			
Hexachlorocyclopentadiene	2260	U	ND	U	ND	ug/kg	0*	(18%-75%)			
Hexachloroethane	2260	U	ND		492	ug/kg	22	(18%-102%)			
Indeno(1,2,3-cd)pyrene	2260	U	ND		876	ug/kg	39	(14%-122%)			
Isophorone	2260	U	ND		771	ug/kg	34	(17%-110%)			
N-Nitrosodipropylamine	2260	U	ND		783	ug/kg	35	(18%-120%)			
Naphthalene	2260	U	ND		622	ug/kg	28	(18%-110%)			
Nitrobenzene	2260	U	ND		663	ug/kg	29	(21%-110%)			
Pentachlorophenol	2260	U	ND		700	ug/kg	31	(17%-128%)			
Phenanthrene	2260	U	ND		717	ug/kg	32	(20%-117%)			
Phenol	2260	U	ND		722	ug/kg	32	(18%-119%)			
Pyrene	2260	U	ND		689	ug/kg	31	(22%-124%)			
bis(2-Chloro-1-methylethyl)ether	2260	U	ND		654	ug/kg	29	(15%-114%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
bis(2-Chloroethoxy)methane	2260	U	ND	593	ug/kg		26	(23%-112%)	NM1	06/28/21	17:37
bis(2-Chloroethyl) ether	2260	U	ND	656	ug/kg		29	(19%-112%)			
bis(2-Ethylhexyl)phthalate	2260	U	ND	770	ug/kg		34	(19%-133%)			
m,p-Cresols	2260	U	ND	764	ug/kg		34	(24%-120%)			
m-Nitroaniline	2260	U	ND	658	ug/kg		29	(18%-106%)			
o-Cresol	2260	U	ND	747	ug/kg		33	(20%-120%)			
o-Nitroaniline	2260	U	ND	801	ug/kg		35	(26%-120%)			
p-Nitroaniline	2260	U	ND	922	ug/kg		41	(14%-133%)			
**2,4,6-Tribromophenol	4520		1060	1530	ug/kg		34	(26%-128%)			
**2-Fluorobiphenyl	2260		401	497	ug/kg		22*	(26%-118%)			
**2-Fluorophenol	4520		983	1340	ug/kg		30	(30%-108%)			
**Nitrobenzene-d5	2260		447	576	ug/kg		26*	(28%-110%)			
**Phenol-d5	4520		1080	1520	ug/kg		34	(29%-116%)			
**p-Terphenyl-d14	2260		486	631	ug/kg		28	(26%-130%)			
QC1204850225 547747001 MSD											
1,1'-Biphenyl	2260	U	ND	J	321	ug/kg	67*	14*	(0%-30%)	06/28/21	18:05

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
1,2,4,5-Tetrachlorobenzene	2260	U	ND	J	317	ug/kg	66*	14*	(0%-30%)	NM1	06/28/21 18:05
2,3,4,6-Tetrachlorophenol	2260	U	ND	J	339	ug/kg	77*	15*	(0%-30%)		
2,4,5-Trichlorophenol	2260	U	ND	J	330	ug/kg	71*	15*	(0%-30%)		
2,4,6-Trichlorophenol	2260	U	ND	J	320	ug/kg	70*	14*	(0%-30%)		
2,4-Dichlorophenol	2260	U	ND	J	311	ug/kg	76*	14*	(0%-30%)		
2,4-Dimethylphenol	2260	U	ND	J	288	ug/kg	75*	13*	(0%-30%)		
2,4-Dinitrophenol	2260	U	ND	U	ND	ug/kg	200*	0*	(0%-30%)		
2,4-Dinitrotoluene	2260	U	ND	J	362	ug/kg	72*	16*	(0%-30%)		
2,6-Dinitrotoluene	2260	U	ND	J	339	ug/kg	75*	15*	(0%-30%)		
2-Chloronaphthalene	2260	U	ND		316	ug/kg	67*	14*	(0%-30%)		
2-Chlorophenol	2260	U	ND	J	318	ug/kg	76*	14*	(0%-30%)		
2-Methyl-4,6-dinitrophenol	2260	U	ND	J	256	ug/kg	96*	11*	(0%-30%)		
2-Methylnaphthalene	2260	U	ND		307	ug/kg	69*	14*	(0%-30%)		
2-Nitrophenol	2260	U	ND	J	316	ug/kg	73*	14*	(0%-30%)		
3,3'-Dichlorobenzidine	2260	U	ND	J	319	ug/kg	82*	14	(0%-30%)		

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
4-Bromophenylphenylether	2260	U	ND	J	329	ug/kg	72*	15*	(0%-30%)	NM1	06/28/21 18:05
4-Chloro-3-methylphenol	2260	U	ND	J	357	ug/kg	75*	16*	(0%-30%)		
4-Chloroaniline	2260	U	ND	J	221	ug/kg	80*	10*	(0%-30%)		
4-Chlorophenylphenylether	2260	U	ND	J	331	ug/kg	69*	15*	(0%-30%)		
4-Nitrophenol	2260	U	ND	J	368	ug/kg	80*	16	(0%-30%)		
Acenaphthene	2260	U	ND		302	ug/kg	71*	13*	(0%-30%)		
Acenaphthylene	2260	U	ND		320	ug/kg	69*	14*	(0%-30%)		
Acetophenone	2260	U	ND	J	339	ug/kg	79*	15*	(0%-30%)		
Anthracene	2260	U	ND		336	ug/kg	73*	15*	(0%-30%)		
Atrazine	2260	U	ND	J	436	ug/kg	67*	19*	(0%-30%)		
Benzaldehyde	2260	U	ND	J	162	ug/kg	117*	7*	(0%-30%)		
Benzo(a)anthracene	2260	U	ND		368	ug/kg	72*	16*	(0%-30%)		
Benzo(a)pyrene	2260	U	ND		312	ug/kg	75*	14*	(0%-30%)		
Benzo(b)fluoranthene	2260	U	ND		322	ug/kg	75*	14*	(0%-30%)		
Benzo(ghi)perylene	2260	U	ND		340	ug/kg	79*	15	(0%-30%)		

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Benzo(k)fluoranthene	2260	U	ND		331	ug/kg	78*	15*	(0%-30%)	NM1	06/28/21 18:05
Butylbenzylphthalate	2260	U	ND		370	ug/kg	73*	16*	(0%-30%)		
Caprolactam	2260	U	ND	J	332	ug/kg	82*	15*	(0%-30%)		
Carbazole	2260	U	ND		372	ug/kg	71*	16*	(0%-30%)		
Chrysene	2260	U	ND		346	ug/kg	72*	15*	(0%-30%)		
Di-n-butylphthalate	2260	U	ND		369	ug/kg	70*	16*	(0%-30%)		
Di-n-octylphthalate	2260	U	ND		419	ug/kg	71*	19*	(0%-30%)		
Dibenzo(a,h)anthracene	2260	U	ND		366	ug/kg	81*	16*	(0%-30%)		
Dibenzofuran	2260	U	ND	J	332	ug/kg	68*	15*	(0%-30%)		
Diethylphthalate	2260	U	ND		374	ug/kg	70*	17*	(0%-30%)		
Dimethylphthalate	2260	U	ND		360	ug/kg	70*	16*	(0%-30%)		
Diphenylamine	2260	U	ND	J	333	ug/kg	73*	15*	(0%-30%)		
Fluoranthene	2260	U	ND		369	ug/kg	72*	16*	(0%-30%)		
Fluorene	2260	U	ND		333	ug/kg	71*	15*	(0%-30%)		
Hexachlorobenzene	2260	U	ND	J	336	ug/kg	71*	15*	(0%-30%)		

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Hexachlorobutadiene	2260	U	ND	J	329	ug/kg	63*	15*	(0%-30%)	NM1	06/28/21 18:05
Hexachlorocyclopentadiene	2260	U	ND	U	ND	ug/kg	N/A	0*	(0%-30%)		
Hexachloroethane	2260	U	ND	J	224	ug/kg	75*	10*	(0%-30%)		
Indeno(1,2,3-cd)pyrene	2260	U	ND		376	ug/kg	80*	17	(0%-30%)		
Isophorone	2260	U	ND	J	368	ug/kg	71*	16*	(0%-30%)		
N-Nitrosodipropylamine	2260	U	ND	J	350	ug/kg	76*	15*	(0%-30%)		
Naphthalene	2260	U	ND		311	ug/kg	67*	14*	(0%-30%)		
Nitrobenzene	2260	U	ND	J	323	ug/kg	69*	14*	(0%-30%)		
Pentachlorophenol	2260	U	ND	J	250	ug/kg	95*	11*	(0%-30%)		
Phenanthrene	2260	U	ND		339	ug/kg	72*	15*	(0%-30%)		
Phenol	2260	U	ND	J	330	ug/kg	75*	15*	(0%-30%)		
Pyrene	2260	U	ND		324	ug/kg	72*	14*	(0%-30%)		
bis(2-Chloro-1-methylethyl)ether	2260	U	ND	J	310	ug/kg	71*	14*	(0%-30%)		
bis(2-Chloroethoxy)methane	2260	U	ND	J	295	ug/kg	67*	13*	(0%-30%)		
bis(2-Chloroethyl) ether	2260	U	ND	J	301	ug/kg	74*	13*	(0%-30%)		

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
bis(2-Ethylhexyl)phthalate	2260	U	ND		349	ug/kg	75*	15*	(0%-30%)	NM1	06/28/21 18:05
m,p-Cresols	2260	U	ND	J	331	ug/kg	79*	15*	(0%-30%)		
m-Nitroaniline	2260	U	ND	J	275	ug/kg	82*	12*	(0%-30%)		
o-Cresol	2260	U	ND	J	322	ug/kg	79*	14*	(0%-30%)		
o-Nitroaniline	2260	U	ND	J	371	ug/kg	73*	16*	(0%-30%)		
p-Nitroaniline	2260	U	ND	J	419	ug/kg	75*	19	(0%-30%)		
**2,4,6-Tribromophenol	4520		1060		705	ug/kg		16*	(26%-128%)		
**2-Fluorobiphenyl	2260		401		257	ug/kg		11*	(26%-118%)		
**2-Fluorophenol	4520		983		603	ug/kg		13*	(30%-108%)		
**Nitrobenzene-d5	2260		447		285	ug/kg		13*	(28%-110%)		
**Phenol-d5	4520		1080		664	ug/kg		15*	(29%-116%)		
**p-Terphenyl-d14	2260		486		307	ug/kg		14*	(26%-130%)		
Batch	2145637										
QC1204854880	LCS										
1,4-Dichlorobenzene	0.0500				0.0298	mg/L		60	(42%-92%)	LXA1	07/01/21 19:45
2,4,5-Trichlorophenol	0.0500				0.0448	mg/L		90	(58%-137%)		
2,4,6-Trichlorophenol	0.0500				0.0411	mg/L		82	(60%-127%)		

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2145637										
2,4-Dinitrotoluene	0.0500			0.0422	mg/L		84	(55%-134%)	LXA1	07/01/21	19:45
Hexachlorobenzene	0.0500			0.0425	mg/L		85	(51%-118%)			
Hexachlorobutadiene	0.0500			0.0275	mg/L		55	(39%-103%)			
Hexachloroethane	0.0500			0.0272	mg/L		54	(36%-90%)			
Nitrobenzene	0.0500			0.0367	mg/L		73	(55%-110%)			
Pentachlorophenol	0.0500			0.0428	mg/L		86	(42%-132%)			
Pyridine	0.0500			0.0312	mg/L		62	(25%-90%)			
m,p-Cresols	0.0500			0.0318	mg/L		64	(39%-95%)			
o-Cresol	0.0500			0.0317	mg/L		63	(39%-102%)			
**2,4,6-Tribromophenol	0.100			0.0806	mg/L		81	(37%-132%)			
**2-Fluorobiphenyl	0.0500			0.0362	mg/L		72	(39%-112%)			
**2-Fluorophenol	0.100			0.0400	mg/L		40	(11%-79%)			
**Nitrobenzene-d5	0.0500			0.0338	mg/L		68	(39%-112%)			
**Phenol-d5	0.100			0.0310	mg/L		31	(15%-85%)			
**p-Terphenyl-d14	0.0500			0.0336	mg/L		67	(24%-129%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2145637										
QC1204854879	MB										
1,4-Dichlorobenzene			U	ND	mg/L				LXA1	07/01/21	18:17
2,4,5-Trichlorophenol			U	ND	mg/L						
2,4,6-Trichlorophenol			U	ND	mg/L						
2,4-Dinitrotoluene			U	ND	mg/L						
Hexachlorobenzene			U	ND	mg/L						
Hexachlorobutadiene			U	ND	mg/L						
Hexachloroethane			U	ND	mg/L						
Nitrobenzene			U	ND	mg/L						
Pentachlorophenol			U	ND	mg/L						
Pyridine			U	ND	mg/L						
m,p-Cresols			U	ND	mg/L						
o-Cresol			U	ND	mg/L						
**2,4,6-Tribromophenol	0.100			0.0816	mg/L		82	(37%-132%)			
**2-Fluorobiphenyl	0.0500			0.0385	mg/L		77	(39%-112%)			
**2-Fluorophenol	0.100			0.0455	mg/L		45	(11%-79%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2145637										
**Nitrobenzene-d5	0.0500			0.0365	mg/L		73	(39%-112%)	LXA1	07/01/21	18:17
**Phenol-d5	0.100			0.0340	mg/L		34	(15%-85%)			
**p-Terphenyl-d14	0.0500			0.0349	mg/L		70	(24%-129%)			
QC1204854881 547747001 MS											
1,4-Dichlorobenzene	0.250	U	ND	0.165	mg/L		66	(37%-90%)		07/01/21	20:45
2,4,5-Trichlorophenol	0.250	U	ND	0.220	mg/L		88	(49%-125%)			
2,4,6-Trichlorophenol	0.250	U	ND	0.201	mg/L		81	(47%-130%)			
2,4-Dinitrotoluene	0.250	U	ND	0.218	mg/L		87	(49%-136%)			
Hexachlorobenzene	0.250	U	ND	0.204	mg/L		82	(46%-116%)			
Hexachlorobutadiene	0.250	U	ND	0.146	mg/L		58	(24%-102%)			
Hexachloroethane	0.250	U	ND	0.152	mg/L		61	(27%-95%)			
Nitrobenzene	0.250	U	ND	0.191	mg/L		76	(44%-119%)			
Pentachlorophenol	0.250	U	ND	0.233	mg/L		93	(36%-139%)			
Pyridine	0.250	U	ND	0.165	mg/L		66	(22%-103%)			
m,p-Cresols	0.250	U	ND	0.161	mg/L		64	(35%-112%)			
o-Cresol	0.250	U	ND	0.160	mg/L		64	(37%-107%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2145637										
**2,4,6-Tribromophenol	0.500	0.419		0.406	mg/L		81	(37%-132%)	LXA1	07/01/21	20:45
**2-Fluorobiphenyl	0.250	0.182		0.162	mg/L		65	(39%-112%)			
**2-Fluorophenol	0.500	0.222		0.206	mg/L		41	(11%-79%)			
**Nitrobenzene-d5	0.250	0.186		0.169	mg/L		68	(39%-112%)			
**Phenol-d5	0.500	0.168		0.154	mg/L		31	(15%-85%)			
**p-Terphenyl-d14	0.250	0.197		0.176	mg/L		70	(24%-129%)			
QC1204854882 547747001 MSD											
1,4-Dichlorobenzene	0.250	U	ND	0.142	mg/L	15	57	(0%-51%)		07/01/21	21:14
2,4,5-Trichlorophenol	0.250	U	ND	0.201	mg/L	9	81	(0%-78%)			
2,4,6-Trichlorophenol	0.250	U	ND	0.183	mg/L	9	73	(0%-79%)			
2,4-Dinitrotoluene	0.250	U	ND	0.202	mg/L	8	81	(0%-42%)			
Hexachlorobenzene	0.250	U	ND	0.190	mg/L	7	76	(0%-75%)			
Hexachlorobutadiene	0.250	U	ND	0.129	mg/L	12	52	(0%-47%)			
Hexachloroethane	0.250	U	ND	0.132	mg/L	14	53	(0%-104%)			
Nitrobenzene	0.250	U	ND	0.165	mg/L	14	66	(0%-79%)			
Pentachlorophenol	0.250	U	ND	0.209	mg/L	11	84	(0%-82%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2145637										
Pyridine	0.250	U	ND	0.137	mg/L	19	55	(0%-70%)	LXA1	07/01/21	21:14
m,p-Cresols	0.250	U	ND	0.134	mg/L	18	53	(0%-38%)			
o-Cresol	0.250	U	ND	0.130	mg/L	21	52	(0%-42%)			
**2,4,6-Tribromophenol	0.500		0.419	0.367	mg/L		73	(37%-132%)			
**2-Fluorobiphenyl	0.250		0.182	0.158	mg/L		63	(39%-112%)			
**2-Fluorophenol	0.500		0.222	0.162	mg/L		32	(11%-79%)			
**Nitrobenzene-d5	0.250		0.186	0.148	mg/L		59	(39%-112%)			
**Phenol-d5	0.500		0.168	0.134	mg/L		27	(15%-85%)			
**p-Terphenyl-d14	0.250		0.197	0.154	mg/L		61	(24%-129%)			
QC1204849036	TB										
1,4-Dichlorobenzene			U	ND	mg/L					07/01/21	19:16
2,4,5-Trichlorophenol			U	ND	mg/L						
2,4,6-Trichlorophenol			U	ND	mg/L						
2,4-Dinitrotoluene			U	ND	mg/L						
Hexachlorobenzene			U	ND	mg/L						
Hexachlorobutadiene			U	ND	mg/L						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2145637										
Hexachloroethane			U	ND	mg/L				LXA1	07/01/21	19:16
Nitrobenzene			U	ND	mg/L						
Pentachlorophenol			U	ND	mg/L						
Pyridine			U	ND	mg/L						
m,p-Cresols			U	ND	mg/L						
o-Cresol			U	ND	mg/L						
**2,4,6-Tribromophenol	0.500			0.378	mg/L		76	(37%-132%)			
**2-Fluorobiphenyl	0.250			0.172	mg/L		69	(39%-112%)			
**2-Fluorophenol	0.500			0.207	mg/L		41	(11%-79%)			
**Nitrobenzene-d5	0.250			0.175	mg/L		70	(39%-112%)			
**Phenol-d5	0.500			0.151	mg/L		30	(15%-85%)			
**p-Terphenyl-d14	0.250			0.186	mg/L		74	(24%-129%)			
Volatile-GC/MS											
Batch	2146020										
QC1204855662	LCS										
1,1,1-Trichloroethane	50.0			46.6	ug/L		93	(70%-130%)	JM6	07/01/21	08:24
1,1,2,2-Tetrachloroethane	50.0			47.5	ug/L		95	(70%-130%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
1,1,2-Trichloroethane	50.0			49.3	ug/L		99	(70%-130%)	JM6	07/01/21	08:24
1,1-Dichloroethane	50.0			44.8	ug/L		90	(70%-130%)			
1,1-Dichloroethylene	50.0			43.1	ug/L		86	(70%-130%)			
1,2,3-Trichlorobenzene	50.0			49.9	ug/L		100	(70%-130%)			
1,2,4-Trichlorobenzene	50.0			50.2	ug/L		100	(70%-130%)			
1,2-Dibromo-3-chloropropane	50.0			54.8	ug/L		110	(70%-130%)			
1,2-Dibromoethane	50.0			48.9	ug/L		98	(70%-130%)			
1,2-Dichlorobenzene	50.0			48.4	ug/L		97	(70%-130%)			
1,2-Dichloroethane	50.0			47.7	ug/L		95	(70%-130%)			
1,2-Dichloropropane	50.0			45.4	ug/L		91	(70%-130%)			
1,3-Dichlorobenzene	50.0			48.3	ug/L		97	(70%-130%)			
1,4-Dichlorobenzene	50.0			48.3	ug/L		97	(70%-130%)			
2-Butanone	250			241	ug/L		96	(70%-130%)			
2-Hexanone	250			243	ug/L		97	(70%-130%)			
4-Methyl-2-pentanone	250			254	ug/L		102	(70%-130%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
Acetone	250			272	ug/L		109	(70%-130%)	JM6	07/01/21	08:24
Benzene	50.0			45.1	ug/L		90	(70%-130%)			
Bromochloromethane	50.0			50.4	ug/L		101	(70%-130%)			
Bromodichloromethane	50.0			50.3	ug/L		101	(70%-130%)			
Bromoform	50.0			55.5	ug/L		111	(70%-130%)			
Bromomethane	50.0			51.9	ug/L		104	(70%-130%)			
Carbon disulfide	250			218	ug/L		87	(70%-130%)			
Carbon tetrachloride	50.0			50.1	ug/L		100	(70%-130%)			
Chlorobenzene	50.0			47.1	ug/L		94	(70%-130%)			
Chloroethane	50.0			43.5	ug/L		87	(70%-130%)			
Chloroform	50.0			46.3	ug/L		93	(70%-130%)			
Chloromethane	50.0			41.3	ug/L		83	(70%-130%)			
Cyclohexane	50.0			46.6	ug/L		93	(70%-130%)			
Dibromochloromethane	50.0			56.7	ug/L		113	(70%-130%)			
Dichlorodifluoromethane	50.0			56.6	ug/L		113	(70%-130%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
Ethylbenzene	50.0			46.8	ug/L		94	(70%-130%)	JM6	07/01/21	08:24
Isopropylbenzene	50.0			47.5	ug/L		95	(70%-130%)			
Methyl acetate	250			250	ug/L		100	(70%-130%)			
Methylcyclohexane	50.0			47.0	ug/L		94	(70%-130%)			
Methylene chloride	50.0			49.6	ug/L		99	(70%-130%)			
Styrene	50.0			47.7	ug/L		95	(70%-130%)			
Tetrachloroethylene	50.0			45.8	ug/L		92	(70%-130%)			
Toluene	50.0			45.9	ug/L		92	(70%-130%)			
Trichloroethylene	50.0			46.9	ug/L		94	(70%-130%)			
Trichlorofluoromethane	50.0			47.6	ug/L		95	(70%-130%)			
Vinyl chloride	50.0			50.7	ug/L		101	(70%-130%)			
cis-1,2-Dichloroethylene	50.0			46.9	ug/L		94	(70%-130%)			
cis-1,3-Dichloropropylene	50.0			47.8	ug/L		96	(70%-130%)			
m,p-Xylenes	100			94.0	ug/L		94	(70%-130%)			
o-Xylene	50.0			46.9	ug/L		94	(70%-130%)			

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
tert-Butyl methyl ether	50.0			45.5	ug/L		91	(70%-130%)	JM6	07/01/21	08:24
trans-1,2-Dichloroethylene	50.0			45.6	ug/L		91	(70%-130%)			
trans-1,3-Dichloropropylene	50.0			49.1	ug/L		98	(70%-130%)			
**1,2-Dichloroethane-d4	50.0			50.1	ug/L		100	(73%-129%)			
**Bromofluorobenzene	50.0			50.0	ug/L		100	(72%-125%)			
**Toluene-d8	50.0			49.7	ug/L		99	(75%-123%)			
QC1204855663 MB											
1,1,1-Trichloroethane			U	ND	ug/L					07/01/21	09:42
1,1,2,2-Tetrachloroethane			U	ND	ug/L						
1,1,2-Trichloroethane			U	ND	ug/L						
1,1-Dichloroethane			U	ND	ug/L						
1,1-Dichloroethylene			U	ND	ug/L						
1,2,3-Trichlorobenzene			U	ND	ug/L						
1,2,4-Trichlorobenzene			U	ND	ug/L						
1,2-Dibromo-3-chloropropane			U	ND	ug/L						
1,2-Dibromoethane			U	ND	ug/L						

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
1,2-Dichlorobenzene			U	ND	ug/L				JM6	07/01/21	09:42
1,2-Dichloroethane			U	ND	ug/L						
1,2-Dichloropropane			U	ND	ug/L						
1,3-Dichlorobenzene			U	ND	ug/L						
1,4-Dichlorobenzene			U	ND	ug/L						
1,4-Dioxane			U	ND	ug/L						
2-Butanone			U	ND	ug/L						
2-Hexanone			U	ND	ug/L						
4-Methyl-2-pentanone			U	ND	ug/L						
Acetone			U	ND	ug/L						
Benzene			U	ND	ug/L						
Bromochloromethane			U	ND	ug/L						
Bromodichloromethane			U	ND	ug/L						
Bromoform			U	ND	ug/L						
Bromomethane			U	ND	ug/L						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
Carbon disulfide			U	ND	ug/L				JM6	07/01/21	09:42
Carbon tetrachloride			U	ND	ug/L						
Chlorobenzene			U	ND	ug/L						
Chloroethane			U	ND	ug/L						
Chloroform			U	ND	ug/L						
Chloromethane			U	ND	ug/L						
Cyclohexane			U	ND	ug/L						
Dibromochloromethane			U	ND	ug/L						
Dichlorodifluoromethane			U	ND	ug/L						
Ethylbenzene			U	ND	ug/L						
Isopropylbenzene			U	ND	ug/L						
Methyl acetate			U	ND	ug/L						
Methylcyclohexane			U	ND	ug/L						
Methylene chloride			U	ND	ug/L						
Styrene			U	ND	ug/L						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
Tetrachloroethylene			U	ND	ug/L				JM6	07/01/21	09:42
Toluene			U	ND	ug/L						
Trichloroethylene			U	ND	ug/L						
Trichlorofluoromethane			U	ND	ug/L						
Trichlorotrifluoroethane			U	ND	ug/L						
Vinyl chloride			U	ND	ug/L						
cis-1,2-Dichloroethylene			U	ND	ug/L						
cis-1,3-Dichloropropylene			U	ND	ug/L						
m,p-Xylenes			U	ND	ug/L						
o-Xylene			U	ND	ug/L						
tert-Butyl methyl ether			U	ND	ug/L						
trans-1,2-Dichloroethylene			U	ND	ug/L						
trans-1,3-Dichloropropylene			U	ND	ug/L						
**1,2-Dichloroethane-d4	50.0			49.3	ug/L		99	(73%-129%)			
**Bromofluorobenzene	50.0			48.6	ug/L		97	(72%-125%)			

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
**Toluene-d8	50.0			48.5	ug/L		97	(75%-123%)	JM6	07/01/21	09:42
QC1204855667 547748007 PS											
1,1,1-Trichloroethane	50.0	U	ND	52.4	ug/L		105	(67%-135%)		07/01/21	17:15
1,1,2,2-Tetrachloroethane	50.0	U	ND	46.5	ug/L		93	(58%-138%)			
1,1,2-Trichloroethane	50.0	U	ND	44.6	ug/L		89	(70%-126%)			
1,1-Dichloroethane	50.0	U	ND	47.7	ug/L		95	(70%-126%)			
1,1-Dichloroethylene	50.0	U	ND	47.8	ug/L		96	(61%-137%)			
1,2,3-Trichlorobenzene	50.0	J	0.350	52.7	ug/L		105	(50%-132%)			
1,2,4-Trichlorobenzene	50.0	U	ND	52.4	ug/L		105	(48%-134%)			
1,2-Dibromo-3-chloropropane	50.0	U	ND	58.0	ug/L		116	(58%-135%)			
1,2-Dibromoethane	50.0	U	ND	50.7	ug/L		101	(75%-128%)			
1,2-Dichlorobenzene	50.0	U	ND	51.0	ug/L		102	(60%-128%)			
1,2-Dichloroethane	50.0	U	ND	52.1	ug/L		104	(64%-129%)			
1,2-Dichloropropane	50.0	U	ND	47.2	ug/L		94	(68%-127%)			
1,3-Dichlorobenzene	50.0	U	ND	50.3	ug/L		101	(56%-127%)			
1,4-Dichlorobenzene	50.0	U	ND	49.9	ug/L		100	(51%-125%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
2-Butanone	250	53.3		302	ug/L		99	(38%-137%)	JM6	07/01/21	17:15
2-Hexanone	250	13.0		265	ug/L		101	(52%-136%)			
4-Methyl-2-pentanone	250	U	ND	263	ug/L		105	(60%-131%)			
Acetone	250			385	ug/L		117	(47%-140%)			
Benzene	50.0	U	ND	47.8	ug/L		96	(65%-122%)			
Bromochloromethane	50.0	U	ND	52.4	ug/L		105	(72%-131%)			
Bromodichloromethane	50.0			55.5	ug/L		107	(68%-137%)			
Bromoform	50.0	U	ND	54.2	ug/L		108	(62%-138%)			
Bromomethane	50.0	U	ND	59.6	ug/L		119	(61%-142%)			
Carbon disulfide	250	U	ND	241	ug/L		97	(59%-135%)			
Carbon tetrachloride	50.0	U	ND	55.8	ug/L		112	(63%-144%)			
Chlorobenzene	50.0	U	ND	49.6	ug/L		99	(63%-123%)			
Chloroethane	50.0	U	ND	49.4	ug/L		99	(64%-134%)			
Chloroform	50.0			57.7	ug/L		100	(69%-133%)			
Chloromethane	50.0	U	ND	45.7	ug/L		91	(45%-142%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
Cyclohexane	50.0	U	ND	51.3	ug/L		103	(55%-135%)	JM6	07/01/21	17:15
Dibromochloromethane	50.0	J	0.890	59.9	ug/L		118	(68%-142%)			
Dichlorodifluoromethane	50.0	U	ND	64.3	ug/L		129	(42%-155%)			
Ethylbenzene	50.0	U	ND	49.8	ug/L		100	(65%-124%)			
Isopropylbenzene	50.0	U	ND	47.9	ug/L		96	(56%-132%)			
Methyl acetate	250	U	ND	259	ug/L		103	(58%-140%)			
Methylcyclohexane	50.0	U	ND	50.7	ug/L		101	(58%-131%)			
Methylene chloride	50.0	U	ND	51.8	ug/L		104	(62%-125%)			
Styrene	50.0	U	ND	50.8	ug/L		102	(60%-131%)			
Tetrachloroethylene	50.0	U	ND	49.2	ug/L		98	(64%-129%)			
Toluene	50.0	U	ND	49.2	ug/L		98	(63%-121%)			
Trichloroethylene	50.0	U	ND	50.6	ug/L		101	(66%-126%)			
Trichlorofluoromethane	50.0	U	ND	55.1	ug/L		110	(59%-135%)			
Vinyl chloride	50.0	U	ND	57.0	ug/L		114	(58%-139%)			
cis-1,2-Dichloroethylene	50.0	U	ND	49.0	ug/L		98	(63%-131%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
cis-1,3-Dichloropropylene	50.0	U	ND	51.3	ug/L		103	(69%-132%)	JM6	07/01/21	17:15
m,p-Xylenes	100	U	ND	99.5	ug/L		99	(60%-126%)			
o-Xylene	50.0	U	ND	50.5	ug/L		101	(62%-125%)			
tert-Butyl methyl ether	50.0	U	ND	46.9	ug/L		94	(60%-133%)			
trans-1,2-Dichloroethylene	50.0	U	ND	49.0	ug/L		98	(65%-130%)			
trans-1,3-Dichloropropylene	50.0	U	ND	52.0	ug/L		104	(68%-132%)			
**1,2-Dichloroethane-d4	50.0		49.6	52.0	ug/L		104	(73%-129%)			
**Bromofluorobenzene	50.0		50.2	46.9	ug/L		94	(72%-125%)			
**Toluene-d8	50.0		50.7	50.3	ug/L		101	(75%-123%)			
QC1204855668 547748007 PSD											
1,1,1-Trichloroethane	50.0	U	ND	51.6	ug/L	2	103	(0%-20%)		07/01/21	17:42
1,1,2,2-Tetrachloroethane	50.0	U	ND	49.1	ug/L	5	98	(0%-20%)			
1,1,2-Trichloroethane	50.0	U	ND	46.5	ug/L	4	93	(0%-20%)			
1,1-Dichloroethane	50.0	U	ND	48.8	ug/L	2	98	(0%-20%)			
1,1-Dichloroethylene	50.0	U	ND	47.5	ug/L	1	95	(0%-20%)			
1,2,3-Trichlorobenzene	50.0	J	0.350	55.7	ug/L	6	111	(0%-20%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
1,2,4-Trichlorobenzene	50.0	U	ND	54.1	ug/L	3	108	(0%-20%)	JM6	07/01/21	17:42
1,2-Dibromo-3-chloropropane	50.0	U	ND	60.0	ug/L	3	120	(0%-20%)			
1,2-Dibromoethane	50.0	U	ND	52.1	ug/L	3	104	(0%-20%)			
1,2-Dichlorobenzene	50.0	U	ND	52.0	ug/L	2	104	(0%-20%)			
1,2-Dichloroethane	50.0	U	ND	51.6	ug/L	1	103	(0%-20%)			
1,2-Dichloropropane	50.0	U	ND	48.0	ug/L	2	96	(0%-20%)			
1,3-Dichlorobenzene	50.0	U	ND	50.8	ug/L	1	102	(0%-20%)			
1,4-Dichlorobenzene	50.0	U	ND	50.8	ug/L	2	102	(0%-20%)			
2-Butanone	250		53.3	314	ug/L	4	104	(0%-20%)			
2-Hexanone	250		13.0	275	ug/L	4	105	(0%-20%)			
4-Methyl-2-pentanone	250	U	ND	278	ug/L	6	111	(0%-20%)			
Acetone	250		93.2	389	ug/L	1	118	(0%-20%)			
Benzene	50.0	U	ND	48.5	ug/L	2	97	(0%-20%)			
Bromochloromethane	50.0	U	ND	54.4	ug/L	4	109	(0%-20%)			
Bromodichloromethane	50.0		1.97	55.8	ug/L	0	108	(0%-20%)			

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
Bromoform	50.0	U	ND	56.8	ug/L	5	114	(0%-20%)	JM6	07/01/21	17:42
Bromomethane	50.0	U	ND	56.8	ug/L	5	114	(0%-20%)			
Carbon disulfide	250	U	ND	239	ug/L	1	96	(0%-20%)			
Carbon tetrachloride	50.0	U	ND	55.3	ug/L	1	111	(0%-20%)			
Chlorobenzene	50.0	U	ND	50.6	ug/L	2	101	(0%-20%)			
Chloroethane	50.0	U	ND	47.6	ug/L	4	95	(0%-20%)			
Chloroform	50.0		7.93	57.9	ug/L	0	100	(0%-20%)			
Chloromethane	50.0	U	ND	44.2	ug/L	3	88	(0%-20%)			
Cyclohexane	50.0	U	ND	51.6	ug/L	1	103	(0%-20%)			
Dibromochloromethane	50.0	J	0.890	62.4	ug/L	4	123	(0%-20%)			
Dichlorodifluoromethane	50.0	U	ND	61.3	ug/L	5	123	(0%-20%)			
Ethylbenzene	50.0	U	ND	50.4	ug/L	1	101	(0%-20%)			
Isopropylbenzene	50.0	U	ND	49.3	ug/L	3	99	(0%-20%)			
Methyl acetate	250	U	ND	265	ug/L	3	106	(0%-20%)			
Methylcyclohexane	50.0	U	ND	51.3	ug/L	1	103	(0%-20%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
Methylene chloride	50.0	U	ND	53.0	ug/L	2	106	(0%-20%)	JM6	07/01/21	17:42
Styrene	50.0	U	ND	51.2	ug/L	1	102	(0%-20%)			
Tetrachloroethylene	50.0	U	ND	49.6	ug/L	1	99	(0%-20%)			
Toluene	50.0	U	ND	50.2	ug/L	2	100	(0%-20%)			
Trichloroethylene	50.0	U	ND	51.3	ug/L	1	103	(0%-20%)			
Trichlorofluoromethane	50.0	U	ND	52.3	ug/L	5	105	(0%-20%)			
Vinyl chloride	50.0	U	ND	54.5	ug/L	5	109	(0%-20%)			
cis-1,2-Dichloroethylene	50.0	U	ND	50.5	ug/L	3	101	(0%-20%)			
cis-1,3-Dichloropropylene	50.0	U	ND	52.2	ug/L	2	104	(0%-20%)			
m,p-Xylenes	100	U	ND	102	ug/L	2	102	(0%-20%)			
o-Xylene	50.0	U	ND	50.3	ug/L	0	101	(0%-20%)			
tert-Butyl methyl ether	50.0	U	ND	48.0	ug/L	2	96	(0%-20%)			
trans-1,2-Dichloroethylene	50.0	U	ND	49.1	ug/L	0	98	(0%-20%)			
trans-1,3-Dichloropropylene	50.0	U	ND	52.7	ug/L	1	105	(0%-20%)			
**1,2-Dichloroethane-d4	50.0		49.6	50.9	ug/L		102	(73%-129%)			

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
**Bromofluorobenzene	50.0	50.2		47.8	ug/L		96	(72%-125%)	JM6	07/01/21	17:42
**Toluene-d8	50.0	50.7		50.4	ug/L		101	(75%-123%)			
<hr/>											
Batch	2146071										
QC1204855742	LCS										
1,1,1-Trichloroethane	50.0			50.1	ug/kg		100	(71%-131%)	JEB	07/01/21	11:12
1,1,2,2-Tetrachloroethane	50.0			43.9	ug/kg		88	(69%-123%)			
1,1,2-Trichloroethane	50.0			45.4	ug/kg		91	(73%-117%)			
1,1-Dichloroethane	50.0			50.1	ug/kg		100	(72%-121%)			
1,1-Dichloroethylene	50.0			47.1	ug/kg		94	(68%-128%)			
1,2,3-Trichlorobenzene	50.0			39.1	ug/kg		78	(68%-124%)			
1,2,4-Trichlorobenzene	50.0			39.2	ug/kg		78	(66%-128%)			
1,2-Dibromo-3-chloropropane	50.0			38.2	ug/kg		76	(61%-134%)			
1,2-Dibromoethane	50.0			46.0	ug/kg		92	(76%-122%)			
1,2-Dichlorobenzene	50.0			41.0	ug/kg		82	(73%-116%)			
1,2-Dichloroethane	50.0			54.5	ug/kg		109	(66%-119%)			
1,2-Dichloropropane	50.0			49.6	ug/kg		99	(71%-120%)			
1,3-Dichlorobenzene	50.0			41.4	ug/kg		83	(71%-120%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
1,4-Dichlorobenzene	50.0			41.5	ug/kg		83	(71%-113%)	JEB	07/01/21	11:12
2-Butanone	250			283	ug/kg		113	(61%-134%)			
2-Hexanone	250			292	ug/kg		117	(58%-146%)			
4-Methyl-2-pentanone	250			260	ug/kg		104	(65%-126%)			
Acetone	250			269	ug/kg		108	(60%-138%)			
Benzene	50.0			47.5	ug/kg		95	(71%-120%)			
Bromochloromethane	50.0			46.5	ug/kg		93	(73%-123%)			
Bromodichloromethane	50.0			50.9	ug/kg		102	(72%-130%)			
Bromoform	50.0			40.8	ug/kg		82	(65%-134%)			
Bromomethane	50.0			56.0	ug/kg		112	(61%-138%)			
Carbon disulfide	250			242	ug/kg		97	(68%-133%)			
Carbon tetrachloride	50.0			52.4	ug/kg		105	(70%-136%)			
Chlorobenzene	50.0			43.4	ug/kg		87	(73%-118%)			
Chloroethane	50.0			44.5	ug/kg		89	(67%-125%)			
Chloroform	50.0			48.6	ug/kg		97	(75%-124%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
Chloromethane	50.0			61.1	ug/kg		122	(55%-131%)	JEB	07/01/21	11:12
Cyclohexane	50.0			46.6	ug/kg		93	(63%-128%)			
Dibromochloromethane	50.0			48.0	ug/kg		96	(72%-130%)			
Dichlorodifluoromethane	50.0			70.8	ug/kg		142	(48%-156%)			
Ethylbenzene	50.0			45.7	ug/kg		91	(71%-118%)			
Isopropylbenzene	50.0			44.8	ug/kg		90	(70%-122%)			
Methyl acetate	250			272	ug/kg		109	(61%-134%)			
Methylcyclohexane	50.0			44.2	ug/kg		88	(65%-127%)			
Methylene chloride	50.0			47.7	ug/kg		95	(70%-120%)			
Styrene	50.0			43.9	ug/kg		88	(72%-124%)			
Tetrachloroethylene	50.0			44.6	ug/kg		89	(70%-125%)			
Toluene	50.0			45.3	ug/kg		91	(71%-119%)			
Trichloroethylene	50.0			49.9	ug/kg		100	(72%-117%)			
Trichlorofluoromethane	50.0			54.2	ug/kg		108	(65%-131%)			
Vinyl chloride	50.0			62.6	ug/kg		125	(64%-132%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
cis-1,2-Dichloroethylene	50.0			45.1	ug/kg		90	(71%-124%)	JEB	07/01/21	11:12
cis-1,3-Dichloropropylene	50.0			48.1	ug/kg		96	(74%-129%)			
m,p-Xylenes	100			89.7	ug/kg		90	(71%-120%)			
o-Xylene	50.0			44.7	ug/kg		89	(71%-122%)			
tert-Butyl methyl ether	50.0			45.0	ug/kg		90	(64%-130%)			
trans-1,2-Dichloroethylene	50.0			48.3	ug/kg		97	(71%-122%)			
trans-1,3-Dichloropropylene	50.0			49.9	ug/kg		100	(74%-125%)			
**1,2-Dichloroethane-d4	50.0			52.4	ug/L		105	(76%-127%)			
**Bromofluorobenzene	50.0			53.7	ug/L		107	(70%-130%)			
**Toluene-d8	50.0			47.4	ug/L		95	(81%-120%)			
QC1204855744 MB											
1,1,1-Trichloroethane			U	ND	ug/kg					07/01/21	12:51
1,1,2,2-Tetrachloroethane			U	ND	ug/kg						
1,1,2-Trichloroethane			U	ND	ug/kg						
1,1-Dichloroethane			U	ND	ug/kg						
1,1-Dichloroethylene			U	ND	ug/kg						

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
1,2,3-Trichlorobenzene			U	ND	ug/kg				JEB	07/01/21	12:51
1,2,4-Trichlorobenzene			U	ND	ug/kg						
1,2-Dibromo-3-chloropropane			U	ND	ug/kg						
1,2-Dibromoethane			U	ND	ug/kg						
1,2-Dichlorobenzene			U	ND	ug/kg						
1,2-Dichloroethane			U	ND	ug/kg						
1,2-Dichloropropane			U	ND	ug/kg						
1,3-Dichlorobenzene			U	ND	ug/kg						
1,4-Dichlorobenzene			U	ND	ug/kg						
1,4-Dioxane			U	ND	ug/kg						
2-Butanone			U	ND	ug/kg						
2-Hexanone			U	ND	ug/kg						
4-Methyl-2-pentanone			U	ND	ug/kg						
Acetone			U	ND	ug/kg						
Benzene			U	ND	ug/kg						

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
Bromochloromethane			U	ND	ug/kg				JEB	07/01/21	12:51
Bromodichloromethane			U	ND	ug/kg						
Bromoform			U	ND	ug/kg						
Bromomethane			U	ND	ug/kg						
Carbon disulfide			U	ND	ug/kg						
Carbon tetrachloride			U	ND	ug/kg						
Chlorobenzene			U	ND	ug/kg						
Chloroethane			U	ND	ug/kg						
Chloroform			U	ND	ug/kg						
Chloromethane			U	ND	ug/kg						
Cyclohexane			U	ND	ug/kg						
Dibromochloromethane			U	ND	ug/kg						
Dichlorodifluoromethane			U	ND	ug/kg						
Ethylbenzene			U	ND	ug/kg						
Isopropylbenzene			U	ND	ug/kg						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
Methyl acetate			U	ND	ug/kg				JEB	07/01/21	12:51
Methylcyclohexane			U	ND	ug/kg						
Methylene chloride			U	ND	ug/kg						
Styrene			U	ND	ug/kg						
Tetrachloroethylene			U	ND	ug/kg						
Toluene			U	ND	ug/kg						
Trichloroethylene			U	ND	ug/kg						
Trichlorofluoromethane			U	ND	ug/kg						
Trichlorotrifluoroethane			U	ND	ug/kg						
Vinyl chloride			U	ND	ug/kg						
cis-1,2-Dichloroethylene			U	ND	ug/kg						
cis-1,3-Dichloropropylene			U	ND	ug/kg						
m,p-Xylenes			U	ND	ug/kg						
o-Xylene			U	ND	ug/kg						
tert-Butyl methyl ether			U	ND	ug/kg						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
trans-1,2-Dichloroethylene			U	ND	ug/kg				JEB	07/01/21	12:51
trans-1,3-Dichloropropylene			U	ND	ug/kg						
**1,2-Dichloroethane-d4	50.0			52.5	ug/L		105	(76%-127%)			
**Bromofluorobenzene	50.0			52.6	ug/L		105	(70%-130%)			
**Toluene-d8	50.0			48.1	ug/L		96	(81%-120%)			
QC1204855745 548352001 PS											
1,1,1-Trichloroethane	50.0	U	ND	52.2	ug/L		104	(60%-135%)		07/01/21	14:30
1,1,2,2-Tetrachloroethane	50.0	U	ND	44.3	ug/L		89	(53%-130%)			
1,1,2-Trichloroethane	50.0	U	ND	47.0	ug/L		94	(51%-132%)			
1,1-Dichloroethane	50.0	U	ND	53.6	ug/L		107	(62%-124%)			
1,1-Dichloroethylene	50.0	U	ND	50.7	ug/L		101	(53%-136%)			
1,2,3-Trichlorobenzene	50.0	U	ND	43.2	ug/L		86	(31%-137%)			
1,2,4-Trichlorobenzene	50.0	U	ND	43.0	ug/L		86	(29%-142%)			
1,2-Dibromo-3-chloropropane	50.0	U	ND	34.3	ug/L		69	(42%-135%)			
1,2-Dibromoethane	50.0	U	ND	46.8	ug/L		94	(55%-129%)			
1,2-Dichlorobenzene	50.0	U	ND	44.4	ug/L		89	(33%-128%)			

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Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS												
Batch	2146071											
1,2-Dichloroethane	50.0	U	ND		57.4	ug/L		115	(58%-122%)	JEB	07/01/21	14:30
1,2-Dichloropropane	50.0	U	ND		52.5	ug/L		105	(56%-121%)			
1,3-Dichlorobenzene	50.0	U	ND		45.1	ug/L		90	(36%-132%)			
1,4-Dichlorobenzene	50.0	U	ND		45.3	ug/L		91	(31%-125%)			
2-Butanone	250	BJ	2.53	B	282	ug/L		112	(36%-139%)			
2-Hexanone	250	U	ND		280	ug/L		112	(32%-146%)			
4-Methyl-2-pentanone	250	U	ND		256	ug/L		102	(48%-131%)			
Acetone	250	U	ND		267	ug/L		107	(33%-148%)			
Benzene	50.0	U	ND		50.4	ug/L		101	(54%-126%)			
Bromochloromethane	50.0	U	ND		49.0	ug/L		98	(59%-125%)			
Bromodichloromethane	50.0	U	ND		51.2	ug/L		102	(56%-130%)			
Bromoform	50.0	U	ND		37.2	ug/L		74	(50%-136%)			
Bromomethane	50.0	U	ND		43.1	ug/L		86	(33%-139%)			
Carbon disulfide	250	U	ND		254	ug/L		102	(49%-139%)			
Carbon tetrachloride	50.0	U	ND		53.1	ug/L		106	(51%-138%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
Chlorobenzene	50.0	U	ND	46.4	ug/L		93	(46%-126%)	JEB	07/01/21	14:30
Chloroethane	50.0	U	ND	45.0	ug/L		90	(48%-126%)			
Chloroform	50.0	U	ND	51.7	ug/L		103	(61%-126%)			
Chloromethane	50.0	U	ND	59.8	ug/L		120	(44%-143%)			
Cyclohexane	50.0	U	ND	50.6	ug/L		101	(42%-137%)			
Dibromochloromethane	50.0	U	ND	46.3	ug/L		93	(53%-132%)			
Dichlorodifluoromethane	50.0	U	ND	64.8	ug/L		130	(45%-149%)			
Ethylbenzene	50.0	U	ND	49.1	ug/L		98	(43%-128%)			
Isopropylbenzene	50.0	U	ND	49.3	ug/L		99	(39%-142%)			
Methyl acetate	250	U	ND	280	ug/L		112	(48%-144%)			
Methylcyclohexane	50.0	U	ND	49.1	ug/L		98	(34%-140%)			
Methylene chloride	50.0	U	ND	52.0	ug/L		104	(56%-124%)			
Styrene	50.0	U	ND	46.7	ug/L		93	(39%-132%)			
Tetrachloroethylene	50.0	U	ND	48.1	ug/L		96	(46%-134%)			
Toluene	50.0	U	ND	48.4	ug/L		97	(52%-127%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
Trichloroethylene	50.0	U	ND	53.4	ug/L		107	(52%-132%)	JEB	07/01/21	14:30
Trichlorofluoromethane	50.0	U	ND	52.1	ug/L		104	(52%-130%)			
Vinyl chloride	50.0	U	ND	57.8	ug/L		116	(53%-138%)			
cis-1,2-Dichloroethylene	50.0	U	ND	48.3	ug/L		97	(56%-128%)			
cis-1,3-Dichloropropylene	50.0	U	ND	49.6	ug/L		99	(49%-133%)			
m,p-Xylenes	100	U	ND	96.4	ug/L		96	(40%-128%)			
o-Xylene	50.0	U	ND	48.1	ug/L		96	(43%-129%)			
tert-Butyl methyl ether	50.0	U	ND	46.4	ug/L		93	(52%-135%)			
trans-1,2-Dichloroethylene	50.0	U	ND	51.8	ug/L		104	(54%-126%)			
trans-1,3-Dichloropropylene	50.0	U	ND	50.9	ug/L		102	(49%-134%)			
**1,2-Dichloroethane-d4	50.0		51.8	51.1	ug/L		102	(76%-127%)			
**Bromofluorobenzene	50.0		50.9	53.4	ug/L		107	(70%-130%)			
**Toluene-d8	50.0		47.0	47.3	ug/L		95	(81%-120%)			
QC1204855747 548352001 PSD											
1,1,1-Trichloroethane	50.0	U	ND	56.0	ug/L	7	112	(0%-20%)		07/01/21	14:54
1,1,2,2-Tetrachloroethane	50.0	U	ND	49.0	ug/L	10	98	(0%-20%)			

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Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS												
Batch	2146071											
1,1,2-Trichloroethane	50.0	U	ND		51.6	ug/L	9	103	(0%-20%)	JEB	07/01/21	14:54
1,1-Dichloroethane	50.0	U	ND		56.7	ug/L	6	113	(0%-20%)			
1,1-Dichloroethylene	50.0	U	ND		53.8	ug/L	6	108	(0%-20%)			
1,2,3-Trichlorobenzene	50.0	U	ND		45.9	ug/L	6	92	(0%-20%)			
1,2,4-Trichlorobenzene	50.0	U	ND		45.6	ug/L	6	91	(0%-20%)			
1,2-Dibromo-3-chloropropane	50.0	U	ND		40.4	ug/L	16	81	(0%-20%)			
1,2-Dibromoethane	50.0	U	ND		52.0	ug/L	10	104	(0%-20%)			
1,2-Dichlorobenzene	50.0	U	ND		47.3	ug/L	6	95	(0%-20%)			
1,2-Dichloroethane	50.0	U	ND		62.1	ug/L	8	124*	(0%-20%)			
1,2-Dichloropropane	50.0	U	ND		56.4	ug/L	7	113	(0%-20%)			
1,3-Dichlorobenzene	50.0	U	ND		48.1	ug/L	6	96	(0%-20%)			
1,4-Dichlorobenzene	50.0	U	ND		48.2	ug/L	6	96	(0%-20%)			
2-Butanone	250	BJ	2.53	B	323	ug/L	14	128	(0%-20%)			
2-Hexanone	250	U	ND		324	ug/L	15	130	(0%-20%)			
4-Methyl-2-pentanone	250	U	ND		289	ug/L	12	116	(0%-20%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
Acetone	250	U	ND	304	ug/L	13	122	(0%-20%)	JEB	07/01/21	14:54
Benzene	50.0	U	ND	54.0	ug/L	7	108	(0%-20%)			
Bromochloromethane	50.0	U	ND	52.6	ug/L	7	105	(0%-20%)			
Bromodichloromethane	50.0	U	ND	56.0	ug/L	9	112	(0%-20%)			
Bromoform	50.0	U	ND	42.2	ug/L	13	84	(0%-20%)			
Bromomethane	50.0	U	ND	43.7	ug/L	1	87	(0%-20%)			
Carbon disulfide	250	U	ND	270	ug/L	6	108	(0%-20%)			
Carbon tetrachloride	50.0	U	ND	57.3	ug/L	8	115	(0%-20%)			
Chlorobenzene	50.0	U	ND	49.4	ug/L	6	99	(0%-20%)			
Chloroethane	50.0	U	ND	46.0	ug/L	2	92	(0%-20%)			
Chloroform	50.0	U	ND	54.9	ug/L	6	110	(0%-20%)			
Chloromethane	50.0	U	ND	63.9	ug/L	7	128	(0%-20%)			
Cyclohexane	50.0	U	ND	54.5	ug/L	7	109	(0%-20%)			
Dibromochloromethane	50.0	U	ND	51.0	ug/L	10	102	(0%-20%)			
Dichlorodifluoromethane	50.0	U	ND	66.5	ug/L	3	133	(0%-20%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
Ethylbenzene	50.0	U	ND	51.9	ug/L	6	104	(0%-20%)	JEB	07/01/21	14:54
Isopropylbenzene	50.0	U	ND	52.1	ug/L	6	104	(0%-20%)			
Methyl acetate	250	U	ND	317	ug/L	12	127	(0%-20%)			
Methylcyclohexane	50.0	U	ND	52.6	ug/L	7	105	(0%-20%)			
Methylene chloride	50.0	U	ND	55.5	ug/L	6	111	(0%-20%)			
Styrene	50.0	U	ND	49.8	ug/L	6	100	(0%-20%)			
Tetrachloroethylene	50.0	U	ND	51.2	ug/L	6	102	(0%-20%)			
Toluene	50.0	U	ND	51.4	ug/L	6	103	(0%-20%)			
Trichloroethylene	50.0	U	ND	57.1	ug/L	7	114	(0%-20%)			
Trichlorofluoromethane	50.0	U	ND	54.2	ug/L	4	108	(0%-20%)			
Vinyl chloride	50.0	U	ND	61.5	ug/L	6	123	(0%-20%)			
cis-1,2-Dichloroethylene	50.0	U	ND	51.3	ug/L	6	103	(0%-20%)			
cis-1,3-Dichloropropylene	50.0	U	ND	54.6	ug/L	10	109	(0%-20%)			
m,p-Xylenes	100	U	ND	102	ug/L	6	102	(0%-20%)			
o-Xylene	50.0	U	ND	50.6	ug/L	5	101	(0%-20%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
tert-Butyl methyl ether	50.0	U	ND	50.7	ug/L	9	101	(0%-20%)	JEB	07/01/21	14:54
trans-1,2-Dichloroethylene	50.0	U	ND	54.9	ug/L	6	110	(0%-20%)			
trans-1,3-Dichloropropylene	50.0	U	ND	56.2	ug/L	10	112	(0%-20%)			
**1,2-Dichloroethane-d4	50.0		51.8	51.6	ug/L		103	(76%-127%)			
**Bromofluorobenzene	50.0		50.9	53.5	ug/L		107	(70%-130%)			
**Toluene-d8	50.0		47.0	47.0	ug/L		94	(81%-120%)			
<hr/>											
Batch	2149793										
QC1204862811	LCS										
1,1-Dichloroethylene	0.0500			0.0465	mg/L		93	(70%-130%)	PXY1	07/14/21	09:45
1,2-Dichloroethane	0.0500			0.0452	mg/L		90	(70%-130%)			
1,4-Dichlorobenzene	0.0500			0.0450	mg/L		90	(70%-130%)			
2-Butanone	0.250			0.218	mg/L		87	(70%-130%)			
Benzene	0.0500			0.0454	mg/L		91	(70%-130%)			
Carbon tetrachloride	0.0500			0.0494	mg/L		99	(70%-130%)			
Chlorobenzene	0.0500			0.0453	mg/L		91	(70%-130%)			
Chloroform	0.0500			0.0468	mg/L		94	(70%-130%)			
Tetrachloroethylene	0.0500			0.0461	mg/L		92	(70%-130%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2149793										
Trichloroethylene	0.0500			0.0472	mg/L		94	(70%-130%)	PXY1	07/14/21	09:45
Vinyl chloride	0.0500			0.0464	mg/L		93	(70%-130%)			
**1,2-Dichloroethane-d4	50.0			53.3	ug/L		107	(73%-129%)			
**Bromofluorobenzene	50.0			52.5	ug/L		105	(72%-125%)			
**Toluene-d8	50.0			50.2	ug/L		100	(75%-123%)			
QC1204862812	MB										
1,1-Dichloroethylene			U	ND	mg/L					07/14/21	11:05
1,2-Dichloroethane			U	ND	mg/L						
1,4-Dichlorobenzene			U	ND	mg/L						
2-Butanone			U	ND	mg/L						
Benzene			U	ND	mg/L						
Carbon tetrachloride			U	ND	mg/L						
Chlorobenzene			U	ND	mg/L						
Chloroform			U	ND	mg/L						
Tetrachloroethylene			U	ND	mg/L						
Trichloroethylene			U	ND	mg/L						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2149793										
Vinyl chloride			U	ND	mg/L				PXY1	07/14/21	11:05
**1,2-Dichloroethane-d4	50.0			53.1	ug/L		106	(73%-129%)			
**Bromofluorobenzene	50.0			52.1	ug/L		104	(72%-125%)			
**Toluene-d8	50.0			50.7	ug/L		101	(75%-123%)			
QC1204862813 547747001 PS											
1,1-Dichloroethylene	50.0	U	ND	40.2	ug/L		80	(61%-137%)		07/14/21	17:18
1,2-Dichloroethane	50.0	U	ND	47.2	ug/L		94	(64%-129%)			
1,4-Dichlorobenzene	50.0	U	ND	39.5	ug/L		79	(51%-125%)			
2-Butanone	250	BJ	2.42	B	222	ug/L	88	(38%-137%)			
Benzene	50.0	U	ND	41.8	ug/L		84	(65%-122%)			
Carbon tetrachloride	50.0	U	ND	40.5	ug/L		81	(63%-144%)			
Chlorobenzene	50.0	U	ND	39.5	ug/L		79	(63%-123%)			
Chloroform	50.0	U	ND	44.0	ug/L		88	(69%-133%)			
Tetrachloroethylene	50.0	U	ND	36.1	ug/L		72	(64%-129%)			
Trichloroethylene	50.0	U	ND	41.0	ug/L		82	(66%-126%)			
Vinyl chloride	50.0	U	ND	39.9	ug/L		80	(58%-139%)			

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QC Summary

Workorder: 547747

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2149793										
**1,2-Dichloroethane-d4	50.0	54.1		56.5	ug/L		113	(73%-129%)	PXY1	07/14/21	17:18
**Bromofluorobenzene	50.0	52.3		54.6	ug/L		109	(72%-125%)			
**Toluene-d8	50.0	50.4		51.8	ug/L		104	(75%-123%)			
QC1204862814 547747001 PSD											
1,1-Dichloroethylene	50.0	U	ND	38.6	ug/L	4	77	(0%-20%)		07/14/21	17:44
1,2-Dichloroethane	50.0	U	ND	46.9	ug/L	1	94	(0%-20%)			
1,4-Dichlorobenzene	50.0	U	ND	37.0	ug/L	6	74	(0%-20%)			
2-Butanone	250	BJ	2.42	B	216	ug/L	3	85	(0%-20%)		
Benzene	50.0	U	ND	41.5	ug/L	1	83	(0%-20%)			
Carbon tetrachloride	50.0	U	ND	39.9	ug/L	1	80	(0%-20%)			
Chlorobenzene	50.0	U	ND	38.0	ug/L	4	76	(0%-20%)			
Chloroform	50.0	U	ND	44.8	ug/L	2	90	(0%-20%)			
Tetrachloroethylene	50.0	U	ND	34.0	ug/L	6	68	(0%-20%)			
Trichloroethylene	50.0	U	ND	40.6	ug/L	1	81	(0%-20%)			
Vinyl chloride	50.0	U	ND	42.2	ug/L	6	84	(0%-20%)			
**1,2-Dichloroethane-d4	50.0	54.1		55.5	ug/L		111	(73%-129%)			

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2149793										
**Bromofluorobenzene	50.0	52.3		54.0	ug/L		108	(72%-125%)	PXY1	07/14/21	17:44
**Toluene-d8	50.0	50.4		51.8	ug/L		104	(75%-123%)			
QC1204849037	TB										
1,1-Dichloroethylene			U	ND	mg/L					07/14/21	12:24
1,2-Dichloroethane			U	ND	mg/L						
1,4-Dichlorobenzene			U	ND	mg/L						
2-Butanone			J	0.0226	mg/L						
Benzene			U	ND	mg/L						
Carbon tetrachloride			U	ND	mg/L						
Chlorobenzene			U	ND	mg/L						
Chloroform			U	ND	mg/L						
Tetrachloroethylene			U	ND	mg/L						
Trichloroethylene			U	ND	mg/L						
Vinyl chloride			U	ND	mg/L						
**1,2-Dichloroethane-d4	50.0			54.0	ug/L		108	(73%-129%)			
**Bromofluorobenzene	50.0			52.0	ug/L		104	(72%-125%)			

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2149793										
**Toluene-d8	50.0			51.5	ug/L		103	(75%-123%)	PXY1	07/14/21	12:24

Notes:

The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B The target analyte was detected in the associated blank.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E %difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Concentration of the target analyte exceeds the instrument calibration range
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- FB Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
- H Analytical holding time was exceeded
- J See case narrative for an explanation
- J Value is estimated
- JNX Non Calibrated Compound
- N Metals--The Matrix spike sample recovery is not within specified control limits
- N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N/A 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
- P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- R Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
UJ											
X											
Y											
Y											
Z											
^											
d											
e											
h											

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.

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QC Summary

Report Date: July 19, 2021
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Client : Westinghouse Electric Company, LLC
PO Drawer R

Columbia, South Carolina

Contact: Ms. Cynthia Teague

Workorder: 547747

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Alpha Spec									
Batch	2142117								
QC1204848598	547747001	DUP							
Uranium-233/234		42.5	35.3	pCi/g	18.6		(0%-20%)	MP2	07/13/21 19:34
		Uncert:	+/-1.65	+/-1.83					
		TPU:	+/-4.35	+/-4.06					
Uranium-235/236		1.70	1.93	pCi/g	12.4		(0%-20%)		
		Uncert:	+/-0.370	+/-0.485					
		TPU:	+/-0.404	+/-0.523					
Uranium-238		8.39	7.10	pCi/g	16.6		(0%-20%)		
		Uncert:	+/-0.737	+/-0.825					
		TPU:	+/-1.08	+/-1.10					
QC1204848599	LCS								
Uranium-233/234			25.1	pCi/g				MP2	07/13/21 19:17
		Uncert:	+/-1.48						
		TPU:	+/-2.93						
Uranium-235/236			1.61	pCi/g					
		Uncert:	+/-0.423						
		TPU:	+/-0.452						
Uranium-238	25.4		24.7	pCi/g		97	(75%-125%)		
		Uncert:	+/-1.46						
		TPU:	+/-2.88						
QC1204848597	MB								
Uranium-233/234		U	0.340	pCi/g				MP2	07/13/21 19:34
		Uncert:	+/-0.272						
		TPU:	+/-0.275						
Uranium-235/236		U	0.0503	pCi/g					
		Uncert:	+/-0.149						
		TPU:	+/-0.149						
Uranium-238		U	0.145	pCi/g					
		Uncert:	+/-0.158						
		TPU:	+/-0.159						
Rad Liquid Scintillation									
Batch	2142297								
QC1204848920	547747001	DUP							
Technetium-99		1.16	0.751	pCi/g	42.9		(0% - 100%)	JJ3	07/01/2107:58
		Uncert:	+/-0.343	+/-0.301					
		TPU:	+/-0.368	+/-0.313					
QC1204848921	LCS								
Technetium-99	28.7		28.1	pCi/g		97.8	(75%-125%)	JJ3	07/01/2109:10
		Uncert:	+/-1.76						
		TPU:	+/-3.67						
QC1204848919	MB								

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QC Summary

Workorder: 547747

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Liquid Scintillation										
Batch	2142297									
Technetium-99		U	0.0723	pCi/g				JJ3	07/01/21	06:45
	Uncert:		+/-0.211							
	TPU:		+/-0.211							

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

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

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QC Summary

Workorder: 547747

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<u>Parmname</u>	<u>NOM</u>	<u>Sample Qual</u>	<u>QC</u>	<u>Units</u>	<u>RPD%</u>	<u>REC%</u>	<u>Range</u>	<u>Anlst</u>	<u>Date</u>	<u>Time</u>
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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.

** Indicates analyte is a surrogate/tracer compound.

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

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

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

Technical Case Narrative
Westinghouse Electric Company PO
SDG #: 547747

GC/MS Volatile

Product: Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer

Preparation Method: SW846 8260D SC_NPDES

Preparation Procedure: GL-OA-E-038 REV# 28

Preparation Batch: 2146020

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547747008	TB-1
1204855662	Laboratory Control Sample (LCS)
1204855663	Method Blank (MB)
1204855667	547748007(SLS-RB2) Post Spike (PS)
1204855668	547748007(SLS-RB2) Post Spike Duplicate (PSD)

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: Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer

Analytical Method: SW846 8260D

Analytical Procedure: GL-OA-E-038 REV# 28

Analytical Batch: 2146071

Preparation Method: SW846 5035

Preparation Procedure: GL-OA-E-039 REV# 13

Preparation Batch: 2146069

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547747001	SLS-B1
547747002	SLS-1
547747003	SLS-B2
547747004	SLS-3
547747005	SLS-5
547747006	SLS-21
547747007	SLS-25
1204855742	Laboratory Control Sample (LCS)
1204855744	Method Blank (MB)
1204855745	548352001(NonSDG) Post Spike (PS)
1204855747	548352001(NonSDG) Post Spike Duplicate (PSD)

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.

Calibration Information

Continuing Calibration Verification Requirements

All Calibration Verification Standards (CCV) did not meet the acceptance criteria as outlined in Method 8260D for samples and the associated QC . However, the method allows for a designated number of outliers dependent on the requested analyte list. This SDG satisfied the 8260D outlier acceptance criteria. The results are reported.

Quality Control (QC) Information

Surrogate Recoveries

Surrogate recoveries, in sample (See Below) was outside the acceptance limits. Sample re-analysis confirmed matrix interference. The initial results are reported.

Sample	Analyte	Value
547747007 (SLS-25)	Bromofluorobenzene	150* (70%-130%)

Matrix Spike/Matrix Spike Duplicate Recovery Statement

The spike and/or spike duplicate (See Below) recoveries were not all within the acceptance limits. The recoveries were similar. It is believed possible matrix interference has been demonstrated.

Sample	Analyte	Value
1204855747 (Non SDG 548352001PSD)	1, 2-Dichloroethane	124* (58%-122%)

Internal Standard (ISTD) Acceptance

In samples 547747002 (SLS-1) and 547747007 (SLS-25), internal standard responses were outside the required acceptance criteria. Sample re-analysis confirmed matrix interference. The initial results are reported.

Technical Information

Sample Dilutions/Methanol Dilutions

Samples 1204855745 (Non SDG 548352001PS) and 1204855747 (Non SDG 548352001PSD) were analyzed using a methanol dilution extraction procedure because the sample matrices were not amenable to more concentrated analyses.

Product: Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer

Analytical Method: SW846 8260D

Analytical Procedure: GL-OA-E-038 REV# 28

Analytical Batch: 2149793

TCLP Preparation Method: SW846 1311

TCLP Preparation Procedure: GL-LB-E-006 REV# 22

TCLP Preparation Batch: 2142364

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547747001	SLS-B1
547747002	SLS-1
547747003	SLS-B2
547747005	SLS-5
547747006	SLS-21
547747007	SLS-25
1204849037	Tumble Blank (TB)
1204862811	Laboratory Control Sample (LCS)
1204862812	Method Blank (MB)
1204862813	547747001(SLS-B1) Post Spike (PS)
1204862814	547747001(SLS-B1) Post Spike Duplicate (PSD)

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.

Calibration Information

Continuing Calibration Verification Requirements

All Calibration Verification Standards (CCV) did not meet the acceptance criteria as outlined in Method 8260D for samples and the associated QC . However, the method allows for a designated number of outliers dependent on the requested analyte list. This SDG satisfied the 8260D outlier acceptance criteria. The results are reported.

Technical Information

Sample Dilutions/Methanol Dilutions

Due to problems associated with the nature of the TCLP matrix, volatile extracts are routinely diluted before analysis. The dilution factor does not increase detection limits above the regulatory limits required by the client.

Analyte	547747					
	001	002	003	005	006	007
1,1-Dichloroethylene	10X	10X	10X	10X	10X	10X
1,2-Dichloroethane	10X	10X	10X	10X	10X	10X
1,4-Dichlorobenzene	10X	10X	10X	10X	10X	10X
2-Butanone	10X	10X	10X	10X	10X	10X
Benzene	10X	10X	10X	10X	10X	10X
Carbon tetrachloride	10X	10X	10X	10X	10X	10X
Chlorobenzene	10X	10X	10X	10X	10X	10X
Chloroform	10X	10X	10X	10X	10X	10X
Tetrachloroethylene	10X	10X	10X	10X	10X	10X
Trichloroethylene	10X	10X	10X	10X	10X	10X
Vinyl chloride	10X	10X	10X	10X	10X	10X

GC/MS Semivolatile

Product: Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry

Analytical Method: SW846 3541/8270D

Analytical Procedure: GL-OA-E-009 REV# 45

Analytical Batch: 2143036

Preparation Method: SW846 3541

Preparation Procedure: GL-OA-E-066 REV# 9

Preparation Batch: 2143035

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547747001	SLS-B1
547747002	SLS-1
547747003	SLS-B2
547747004	SLS-3
547747005	SLS-5
547747006	SLS-21
1204850222	Method Blank (MB)
1204850223	Laboratory Control Sample (LCS)
1204850224	547747001(SLS-B1) Matrix Spike (MS)
1204850225	547747001(SLS-B1) Matrix Spike Duplicate (MSD)

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

Surrogate Recoveries

Samples (See Below) did not meet surrogate recovery acceptance criteria. Since the parent sample and associated MS/MSD pair displayed similar recoveries, the failures were attributed to matrix interference and the data results are reported.

Sample	Analyte	Value
1204850224 (SLS-B1MS)	2-Fluorobiphenyl	22* (26%-118%)
	Nitrobenzene-d5	26* (28%-110%)
1204850225 (SLS-B1MSD)	2, 4, 6-Tribromophenol	16* (26%-128%)
	2-Fluorobiphenyl	11* (26%-118%)
	2-Fluorophenol	13* (30%-108%)
	Nitrobenzene-d5	13* (28%-110%)
	Phenol-d5	15* (29%-116%)

	p-Terphenyl-d14	14* (26%-130%)
547747001 (SLS-B1)	2, 4, 6-Tribromophenol	23* (26%-128%)
	2-Fluorobiphenyl	18* (26%-118%)
	2-Fluorophenol	22* (30%-108%)
	Nitrobenzene-d5	20* (28%-110%)
	Phenol-d5	24* (29%-116%)
	p-Terphenyl-d14	21* (26%-130%)

Re-extract

Sample	Analyte	Value
547747002 (SLS-1)	2-Fluorobiphenyl	23* (26%-118%)
	2-Fluorophenol	27* (30%-108%)
	Nitrobenzene-d5	25* (28%-110%)

Laboratory Control Sample (LCS) Recovery

The LCS and/or LCSD (See Below) did not meet spike recovery acceptance criteria. The failures are known to be poor responding analytes as stated per the Method. This may account for the low recoveries and the data were reported.

Sample	Analyte	Value
1204850223 (LCS)	Benzaldehyde	20* (25%-83%)

Spike Recovery Statement

The MS or MSD (See Below) recovered spiked analytes outside of the established acceptance limits. As similar recoveries were displayed in the MS and MSD, the failures were attributed to sample matrix interference and the data were reported.

Sample	Analyte
1204850224 (SLS-B1MS)	Several
1204850225 (SLS-B1MSD)	Several

MS/MSD Relative Percent Difference (RPD) Statement

The relative percent differences (RPD) for the MS and MSD, (See Below), were not within the acceptance limits. The failures were attributed to matrix interference. The data were reported.

Sample	Analyte
1204850224MS and 1204850225MSD (SLS-B1)	Several

Technical Information

Sample Dilutions

Samples 547747003 (SLS-B2), 547747004 (SLS-3), 547747005 (SLS-5) and 547747006 (SLS-21) were diluted

because the extracts were very dark and/or viscous. The data from the dilutions are reported.

Product: Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry

Analytical Method: SW846 3510C/8270E

Analytical Procedure: GL-OA-E-009 REV# 45

Analytical Batch: 2145637

Preparation Method: SW846 3510C

Preparation Procedure: GL-OA-E-013 REV# 35

Preparation Batch: 2145607

TCLP Preparation Method: SW846 1311

TCLP Preparation Procedure: GL-LB-E-006 REV# 22

TCLP Preparation Batch: 2142363

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547747001	SLS-B1
547747002	SLS-1
547747003	SLS-B2
547747005	SLS-5
547747006	SLS-21
547747007	SLS-25
1204849036	Tumble Blank (TB)
1204854879	Method Blank (MB)
1204854880	Laboratory Control Sample (LCS)
1204854881	547747001(SLS-B1) Matrix Spike (MS)
1204854882	547747001(SLS-B1) Matrix Spike Duplicate (MSD)

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.

Metals

TCLP Preparation Method: SW846 1311

TCLP Preparation Procedure: GL-LB-E-006 REV# 22

TCLP Preparation Batch: 2142362

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547747001	SLS-B1
547747002	SLS-1
547747003	SLS-B2
547747005	SLS-5

547747006	SLS-21
547747007	SLS-25
1204849034	Tumble Blank (TB)
1204849035	547747001(SLS-B1S) Matrix Spike (MS)

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: Determination of Metals by ICP

Analytical Method: SW846 3010A/6010D

Analytical Procedure: GL-MA-E-013 REV# 32

Analytical Batch: 2145611

Preparation Method: SW846 3010A

Preparation Procedure: GL-MA-E-008 REV# 19

Preparation Batch: 2145610

TCLP Preparation Method: SW846 1311

TCLP Preparation Procedure: GL-LB-E-006 REV# 22

TCLP Preparation Batch: 2142362

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547747001	SLS-B1
547747002	SLS-1
547747003	SLS-B2
547747005	SLS-5
547747006	SLS-21
547747007	SLS-25
1204849034	Tumble Blank (TB)
1204854819	Method Blank (MB)ICP
1204854820	Laboratory Control Sample (LCS)
1204854822	547747001(SLS-B1L) Serial Dilution (SD)
1204854821	547747001(SLS-B1D) Sample Duplicate (DUP)
1204849035	547747001(SLS-B1S) Matrix Spike (MS)

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.

Technical Information

Preparation Information

The extracted samples and associated matrix QC were prepared at a ten times or greater dilution factor to minimize potential interferences from leached or filtered extracts.

Product: Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer

Analytical Method: SW846 7470A

Analytical Procedure: GL-MA-E-010 REV# 38

Analytical Batch: 2150022

Preparation Method: SW846 7470A Prep

Preparation Procedure: GL-MA-E-010 REV# 38

Preparation Batch: 2150019

TCLP Preparation Method: SW846 1311

TCLP Preparation Procedure: GL-LB-E-006 REV# 22

TCLP Preparation Batch: 2142362

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547747001	SLS-B1
547747002	SLS-1
547747003	SLS-B2
547747005	SLS-5
547747006	SLS-21
547747007	SLS-25
1204849034	Tumble Blank (TB)
1204863208	Method Blank (MB)CVAA
1204863209	Laboratory Control Sample (LCS)
1204863211	547747001(SLS-B1L) Serial Dilution (SD)
1204863210	547747001(SLS-B1D) Sample Duplicate (DUP)
1204849035	547747001(SLS-B1S) Matrix Spike (MS)
1204863212	547747001(SLS-B1PS) Post Spike (PS)

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

Matrix Spike (MS/MSD) Recovery Statement

The percent recoveries (%R) obtained from the MS/MSD analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MS/MSD (See Below) did not meet the recommended quality control acceptance criteria for percent recoveries for the following applicable analyte. The post spike recovery was within the required control limits. This verifies the absence of a matrix interference in the post-spike digested sample. The recovery may be attributed to possible sample matrix interference and/or non-homogeneity.

Sample	Analyte	Value
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1204849035 (SLS-B1MS)	Mercury	270* (75%-125%)
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Technical Information

Preparation Information

The extracted samples and associated matrix QC were prepared at a ten times or greater dilution factor to minimize potential interferences from leached or filtered extracts.

General Chemistry

Product: Ion Chromatography

Analytical Method: SW846 9056A

Analytical Procedure: GL-GC-E-086 REV# 29

Analytical Batches: 2142141 and 2142265

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547747001	SLS-B1
547747002	SLS-1
547747003	SLS-B2
547747004	SLS-3
1204848864	Method Blank (MB)
1204848865	Laboratory Control Sample (LCS)
1204848866	547747001(SLS-B1) Sample Duplicate (DUP)
1204848867	547747001(SLS-B1) Matrix Spike (MS)

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

Duplicate Relative Percent Difference (RPD) Statement

The Relative Percent Difference (RPD) between the sample and duplicate falls outside of the established acceptance limits because of the heterogeneous matrix of the sample:

Analyte	Sample	Value
Fluoride	1204848866 (SLS-B1DUP)	abs(5.58 - 3.54)* (+/-1.35 mg/kg)

Miscellaneous Information

Manual Integrations

Samples 1204848865 (LCS), 1204848866 (SLS-B1DUP) and 547747001 (SLS-B1) were manually integrated to correctly position the baseline as set in the calibration standards.

Product: Ion Chromatography

Analytical Method: SW846 9056A

Analytical Procedure: GL-GC-E-086 REV# 29

Analytical Batches: 2142337 and 2142334

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547747005	SLS-5
547747006	SLS-21
547747007	SLS-25
1204848994	Method Blank (MB)
1204848995	Laboratory Control Sample (LCS)
1204848996	547748006(SLS-B3) Sample Duplicate (DUP)
1204848997	547748006(SLS-B3) Matrix Spike (MS)

The samples in this SDG were analyzed on a "dry weight" 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: Ammonia Nitrogen

Analytical Method: EPA 350.1 Modified SC

Analytical Procedure: GL-GC-E-106 REV# 10

Analytical Batch: 2142441

Preparation Method: EPA 350.1 Modified Prep

Preparation Procedure: GL-GC-E-072 REV# 18

Preparation Batch: 2142440

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547747001	SLS-B1
547747002	SLS-1
547747003	SLS-B2
547747004	SLS-3
547747005	SLS-5
547747006	SLS-21
547747007	SLS-25
1204849164	Method Blank (MB)
1204849165	Laboratory Control Sample (LCS)
1204849166	547747001(SLS-B1) Sample Duplicate (DUP)
1204849167	547747001(SLS-B1) Matrix Spike (MS)

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

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The percent recoveries (%R) obtained from the spike analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The matrix spike recovered outside of the established acceptance limits due to matrix interference and/or non-homogeneity.

Analyte	Sample	Value
Nitrogen, Ammonia	1204849167 (SLS-B1MS)	1* (90%-110%)

Duplicate Relative Percent Difference (RPD) Statement

The Relative Percent Difference (RPD) between the sample and duplicate falls outside of the established acceptance limits because of the heterogeneous matrix of the sample:

Analyte	Sample	Value
Nitrogen, Ammonia	1204849166 (SLS-B1DUP)	72.7* (0%-20%)

Technical Information

Sample Dilutions

The following samples 547747002 (SLS-1), 547747005 (SLS-5), 547747006 (SLS-21) and 547747007 (SLS-25) were diluted because target analyte concentrations exceeded the calibration range. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	547747			
	002	005	006	007
Nitrogen, Ammonia	5X	5X	5X	5X

Radiochemistry

Product: Alphaspec U, Soil

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

Analytical Procedure: GL-RAD-A-011 REV# 28

Analytical Batch: 2142117

Preparation Method: Dry Soil Prep

Preparation Procedure: GL-RAD-A-021 REV# 24

Preparation Batch: 2141936

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547747001	SLS-B1
547747002	SLS-1
547747003	SLS-B2
547747004	SLS-3
547747005	SLS-5
547747006	SLS-21
547747007	SLS-25
1204848597	Method Blank (MB)
1204848598	547747001(SLS-B1) Sample Duplicate (DUP)
1204848599	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" 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: ASTM D 2216 (Modified)

Preparation Procedure: GL-OA-E-020 REV# 13

Preparation Batch: 2141936

Preparation Method: Dry Soil Prep

Preparation Procedure: GL-RAD-A-021 REV# 24

Preparation Batch: 2141936

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547747001	SLS-B1
547747002	SLS-1
547747003	SLS-B2
547747004	SLS-3
547747005	SLS-5
547747006	SLS-21
547747007	SLS-25
1204848280	547747001(SLS-B1) Sample Duplicate (DUP)

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, Soil

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

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

Analytical Batch: 2142297

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547747001	SLS-B1
547747002	SLS-1
547747003	SLS-B2
547747004	SLS-3
547747005	SLS-5
547747006	SLS-21
547747007	SLS-25
1204848919	Method Blank (MB)
1204848920	547747001(SLS-B1) Sample Duplicate (DUP)
1204848921	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.

GEL Laboratories LLC
 Chemistry | Radiochemistry | Radiobiology | Specialty Analytics
 Chain of Custody and Analytical Request
 GEL Work Order Number: GEL Project Manager: Lindsay Fabra
 Phone # 803.647.3171
 Fax #
 GEL Laboratories, LLC
 2040 Savage Road
 Charleston, SC 29407
 Phone: (843) 556-8171
 Fax: (843) 766-1178

Sample ID	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hh:mm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered:		Total number of containers	Isotopic Uranium (by individual isotope, alpha spec)	Tc-99	Fluoride	Nitrate	Ammonia	VOC	SVOC	TCLP (no pesticide, herbicide, or PCB)	Preservative Type (6)	Comments
						Yes, please supply isotopic info)	(7) Known or possible hazards											
SLS-B1	06-17-21	07:00	G		SL			8	X	X	X	X	X	X	X	X		All samples reported "as found"
SLS-1	06-17-21	07:20	G		SL			8	X	X	X	X	X	X	X	X		All samples reported "as found"
SLS-B2	06-17-21	07:30	G		SL			8	X	X	X	X	X	X	X	X		All samples reported "as found"
SLS-3	06-17-21	07:45	G		SL			7	X	X	X	X	X	X	X	X		All samples reported "as found"
SLS-5	06-17-21	08:05	G		SL			8	X	X	X	X	X	X	X	X		All samples reported "as found"
SLS-21	06-17-21	08:25	G		SL			8	X	X	X	X	X	X	X	X		All samples reported "as found"
SLS-25	06-17-21	08:55	G		SL			8	X	X	X	X	X	X	X	X		All samples reported "as found"
TB-1	06-17-21	09:00	TB		W			3							X			All samples reported "as found"

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
<i>[Signature]</i>	6/17/21	11:00	<i>[Signature]</i>	6/17/21	17:00
<i>[Signature]</i>	6-18-21	08:30	<i>[Signature]</i>	6/18/21	11:30
<i>[Signature]</i>	6-18-21	4:35	<i>[Signature]</i>	6/18/21	11:30

> For sample shipping and delivery details, see Sample Receipt & Review form (SRR).

TAT Requested: Normal: X Rush: Specify

Fax Results: Yes No

Select Deliverable: C of A QC Summary Level 1 Level 2 Level 3 Level 4

Additional Remarks:
 For Lab Receiving Use Only: Custody Seal Intact? Yes No Cooler Temp: 2 °C
 Sample Collection Time Zone: Eastern Pacific Central Mountain Other:

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

511

Client: WVUC SDG/AR/COC/Work Order: 547747
 Received By: TYE Date Received: 6/18/21

Carrier and Tracking Number
 FedEx Express FedEx Ground UPS Field Services Courier Other

Suspected Hazard Information
 *If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
 A) Shipped as a DOT Hazardous? Yes No Hazard Class Shipped: _____ UN#: _____
 If UN2910, Is the Radioactive Shipment Survey Compliant? Yes ___ No ___
 B) Did the client designate the samples to be received as radioactive? Yes No COC notation or radioactive stickers on containers equal client designation.
 C) Did the RSO classify the samples as radioactive? Yes No Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 CPM / mR/Hr
 Classified as: Rad 1 Rad 2 Rad 3
 D) Did the client designate samples are hazardous? Yes No COC notation or hazard labels on containers equal client designation.
 E) Did the RSO identify possible hazards? Yes No 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"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Preservation Method: <u>Wet Ice</u> Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP: <u>20</u>
4 Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Temperature Device Serial #: <u>IR2-20</u> Secondary Temperature Device Serial # (If Applicable):
5 Sample containers intact and sealed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6 Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sample ID's and Containers Affected: If Preservation added, Lot#:
7 Do any samples require Volatile Analysis?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	If Yes, are Encores or Soil Kits present for solids? Yes <input checked="" type="checkbox"/> No ___ NA ___ (If yes, take to VOA Freezer)
				Do liquid VOA vials contain acid preservation? Yes <input checked="" type="checkbox"/> No ___ NA ___ (If unknown, select No)
				Are liquid VOA vials free of headspace? Yes <input checked="" type="checkbox"/> No ___ NA ___ Sample ID's and containers affected:
8 Samples received within holding time?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ID's and containers affected:
10 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: No container count on COC Other (describe)
12 Are sample containers identifiable as GEL provided by use of GEL labels?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
13 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

List of current GEL Certifications as of 19 July 2021

State	Certification
Alabama	42200
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	SC000122021-1
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	T104704235-21-19
Utah NELAP	SC000122021-35
Vermont	VT87156
Virginia NELAP	460202
Washington	C780



July 20, 2021

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

Re: Sanitary Lagoon Sludge Characterization
Work Order: 547748

Dear Ms. Teague:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 18, 2021. 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. 4523.

Sincerely,

Samuel Hogan
Project Manager

Purchase Order: 4500822910 Line 1
Enclosures

GEL LABORATORIES LLC

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

**Certificate of Analysis Report
for**

WNUC010 Westinghouse Electric Company PO (4500822910)

Client SDG: 547748 GEL Work Order: 547748

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
- B The target analyte was detected in the associated blank.
- J See case narrative for an explanation
- J Value is estimated
- 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, Samuel Hogan.



Reviewed by _____

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: July 20, 2021

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

 Columbia, South Carolina 29205
 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-13	Project: WNUC01921
Sample ID: 547748001	Client ID: WNUC010
Matrix: Sludge	
Collect Date: 17-JUN-21 09:25	
Receive Date: 18-JUN-21	
Collector: Client	
Moisture: 92.7%	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		98.8	4.67	13.7	mg/kg	10.0	1	LXA2	06/22/21	2139	2142337	1
Nitrate-N	J	7.04	4.53	13.7	mg/kg	10.0	1					
Mercury Analysis-CVAA												
TCLP Hg "As Received"												
Mercury	U	ND	0.000670	0.00200	mg/L	10.0	1	MTM1	07/15/21	1125	2150022	2
Metals Analysis-ICP												
TCLP ICP Metals "As Received"												
Arsenic	U	ND	0.0500	0.300	mg/L	10.0	1	LS	07/01/21	1217	2145611	3
Barium		0.106	0.0100	0.0500	mg/L	10.0	1					
Cadmium	U	ND	0.0100	0.0500	mg/L	10.0	1					
Chromium	U	ND	0.0100	0.100	mg/L	10.0	1					
Lead	U	ND	0.0330	0.200	mg/L	10.0	1					
Selenium	U	ND	0.0600	0.300	mg/L	10.0	1					
Silver	U	ND	0.0100	0.0500	mg/L	10.0	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		2610	54.1	150	mg/kg	43.9	5	AXH3	06/30/21	1416	2142441	4
Semi-Volatile-GC/MS												
TCLP SVOC "As Received"												
1,4-Dichlorobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1	LXA1	07/02/21	0013	2145637	5
2,4,5-Trichlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
2,4,6-Trichlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
2,4-Dinitrotoluene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachlorobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachlorobutadiene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachloroethane	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Nitrobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Pentachlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Pyridine	U	ND	0.0150	0.0500	mg/L	0.00500	1					
m,p-Cresols	U	ND	0.0185	0.0500	mg/L	0.00500	1					
o-Cresol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
1,1'-Biphenyl	U	ND	1370	4550	ug/kg	0.0332	1	NM1	06/28/21	2053	2143036	6
1,2,4,5-Tetrachlorobenzene	U	ND	1370	4550	ug/kg	0.0332	1					

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Certificate of Analysis

Report Date: July 20, 2021

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

Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-13 Project: WNUC01921
Sample ID: 547748001 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
2,3,4,6-Tetrachlorophenol	U	ND	1370	4550	ug/kg	0.0332	1					
2,4,5-Trichlorophenol	U	ND	1370	4550	ug/kg	0.0332	1					
2,4,6-Trichlorophenol	U	ND	1370	4550	ug/kg	0.0332	1					
2,4-Dichlorophenol	U	ND	1370	4550	ug/kg	0.0332	1					
2,4-Dimethylphenol	U	ND	1370	4550	ug/kg	0.0332	1					
2,4-Dinitrophenol	U	ND	1370	9100	ug/kg	0.0332	1					
2,4-Dinitrotoluene	U	ND	1370	4550	ug/kg	0.0332	1					
2,6-Dinitrotoluene	U	ND	1370	4550	ug/kg	0.0332	1					
2-Chloronaphthalene	U	ND	137	455	ug/kg	0.0332	1					
2-Chlorophenol	U	ND	1370	4550	ug/kg	0.0332	1					
2-Methyl-4,6-dinitrophenol	U	ND	1370	4550	ug/kg	0.0332	1					
2-Methylnaphthalene	U	ND	137	455	ug/kg	0.0332	1					
2-Nitrophenol	U	ND	1370	4550	ug/kg	0.0332	1					
3,3'-Dichlorobenzidine	U	ND	1370	4550	ug/kg	0.0332	1					
4-Bromophenylphenylether	U	ND	1370	4550	ug/kg	0.0332	1					
4-Chloro-3-methylphenol	U	ND	1820	4550	ug/kg	0.0332	1					
4-Chloroaniline	U	ND	1370	4550	ug/kg	0.0332	1					
4-Chlorophenylphenylether	U	ND	1370	4550	ug/kg	0.0332	1					
4-Nitrophenol	U	ND	1370	4550	ug/kg	0.0332	1					
Acenaphthene	U	ND	137	455	ug/kg	0.0332	1					
Acenaphthylene	U	ND	137	455	ug/kg	0.0332	1					
Acetophenone	U	ND	1370	4550	ug/kg	0.0332	1					
Anthracene	U	ND	137	455	ug/kg	0.0332	1					
Atrazine	U	ND	1820	4550	ug/kg	0.0332	1					
Benzaldehyde	U	ND	1370	4550	ug/kg	0.0332	1					
Benzo(a)anthracene	U	ND	137	455	ug/kg	0.0332	1					
Benzo(a)pyrene	U	ND	137	455	ug/kg	0.0332	1					
Benzo(b)fluoranthene	U	ND	137	455	ug/kg	0.0332	1					
Benzo(ghi)perylene	U	ND	137	455	ug/kg	0.0332	1					
Benzo(k)fluoranthene	U	ND	137	455	ug/kg	0.0332	1					
Butylbenzylphthalate	U	ND	137	455	ug/kg	0.0332	1					
Caprolactam	U	ND	1370	4550	ug/kg	0.0332	1					
Carbazole	U	ND	137	455	ug/kg	0.0332	1					
Chrysene	U	ND	137	455	ug/kg	0.0332	1					
Di-n-butylphthalate	U	ND	137	455	ug/kg	0.0332	1					
Di-n-octylphthalate	U	ND	137	455	ug/kg	0.0332	1					

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Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-13	Project:	WNUC01921
Sample ID:	547748001	Client ID:	WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
Dibenzo(a,h)anthracene	U	ND	137	455	ug/kg	0.0332	1					
Dibenzofuran	U	ND	1370	4550	ug/kg	0.0332	1					
Diethylphthalate	U	ND	137	455	ug/kg	0.0332	1					
Dimethylphthalate	U	ND	137	455	ug/kg	0.0332	1					
Diphenylamine	U	ND	1370	4550	ug/kg	0.0332	1					
Fluoranthene	U	ND	137	455	ug/kg	0.0332	1					
Fluorene	U	ND	137	455	ug/kg	0.0332	1					
Hexachlorobenzene	U	ND	1370	4550	ug/kg	0.0332	1					
Hexachlorobutadiene	U	ND	1370	4550	ug/kg	0.0332	1					
Hexachlorocyclopentadiene	U	ND	1370	4550	ug/kg	0.0332	1					
Hexachloroethane	U	ND	1370	4550	ug/kg	0.0332	1					
Indeno(1,2,3-cd)pyrene	U	ND	137	455	ug/kg	0.0332	1					
Isophorone	U	ND	1370	4550	ug/kg	0.0332	1					
N-Nitrosodipropylamine	U	ND	1370	4550	ug/kg	0.0332	1					
Naphthalene	U	ND	137	455	ug/kg	0.0332	1					
Nitrobenzene	U	ND	1370	4550	ug/kg	0.0332	1					
Pentachlorophenol	U	ND	1370	4550	ug/kg	0.0332	1					
Phenanthrene	U	ND	137	455	ug/kg	0.0332	1					
Phenol	U	ND	1370	4550	ug/kg	0.0332	1					
Pyrene	U	ND	137	455	ug/kg	0.0332	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	1370	4550	ug/kg	0.0332	1					
bis(2-Chloroethoxy)methane	U	ND	1370	4550	ug/kg	0.0332	1					
bis(2-Chloroethyl) ether	U	ND	1370	4550	ug/kg	0.0332	1					
bis(2-Ethylhexyl)phthalate	J	218	137	455	ug/kg	0.0332	1					
m,p-Cresols	U	ND	1370	4550	ug/kg	0.0332	1					
m-Nitroaniline	U	ND	1370	4550	ug/kg	0.0332	1					
o-Cresol	U	ND	1370	4550	ug/kg	0.0332	1					
o-Nitroaniline	U	ND	1500	4550	ug/kg	0.0332	1					
p-Nitroaniline	U	ND	1370	4550	ug/kg	0.0332	1					
Volatile Organics												
TCLP Volatiles "As Received"												
1,1-Dichloroethylene	U	ND	0.00333	0.0100	mg/L		10	PXY1	07/14/21	1558	2149793	7
1,2-Dichloroethane	U	ND	0.00333	0.0100	mg/L		10					
1,4-Dichlorobenzene	U	ND	0.00333	0.0100	mg/L		10					
2-Butanone	BJ	0.0233	0.0167	0.0500	mg/L		10					
Benzene	U	ND	0.00333	0.0100	mg/L		10					

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Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-13	Project:	WNUC01921
Sample ID:	547748001	Client ID:	WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatiles Organics												
TCLP Volatiles "As Received"												
Carbon tetrachloride	U	ND	0.00333	0.0100	mg/L		10					
Chlorobenzene	U	ND	0.00333	0.0100	mg/L		10					
Chloroform	U	ND	0.00333	0.0100	mg/L		10					
Tetrachloroethylene	U	ND	0.00333	0.0100	mg/L		10					
Trichloroethylene	U	ND	0.00333	0.0100	mg/L		10					
Vinyl chloride	U	ND	0.00333	0.0100	mg/L		10					
SW846 8260 Volatiles "Dry Weight Corrected"												
1,1,1-Trichloroethane	U	ND	6.30	18.9	ug/kg	1.38	1	JEB	07/01/21	1900	2146071	8
1,1,2,2-Tetrachloroethane	U	ND	6.30	18.9	ug/kg	1.38	1					
1,1,2-Trichloroethane	U	ND	6.30	18.9	ug/kg	1.38	1					
1,1-Dichloroethane	U	ND	6.30	18.9	ug/kg	1.38	1					
1,1-Dichloroethylene	U	ND	6.30	18.9	ug/kg	1.38	1					
1,2,3-Trichlorobenzene	U	ND	6.30	18.9	ug/kg	1.38	1					
1,2,4-Trichlorobenzene	U	ND	6.30	18.9	ug/kg	1.38	1					
1,2-Dibromo-3-chloropropane	U	ND	9.46	18.9	ug/kg	1.38	1					
1,2-Dibromoethane	U	ND	6.30	18.9	ug/kg	1.38	1					
1,2-Dichlorobenzene	U	ND	6.30	18.9	ug/kg	1.38	1					
1,2-Dichloroethane	U	ND	6.30	18.9	ug/kg	1.38	1					
1,2-Dichloropropane	U	ND	6.30	18.9	ug/kg	1.38	1					
1,3-Dichlorobenzene	U	ND	6.30	18.9	ug/kg	1.38	1					
1,4-Dichlorobenzene		100	6.30	18.9	ug/kg	1.38	1					
1,4-Dioxane	U	ND	315	946	ug/kg	1.38	1					
2-Butanone		1020	31.5	94.6	ug/kg	1.38	1					
2-Hexanone	U	ND	31.5	94.6	ug/kg	1.38	1					
4-Methyl-2-pentanone	U	ND	31.5	94.6	ug/kg	1.38	1					
Acetone		4480	31.5	94.6	ug/kg	1.38	1					
Benzene	J	8.32	6.30	18.9	ug/kg	1.38	1					
Bromochloromethane	U	ND	6.30	18.9	ug/kg	1.38	1					
Bromodichloromethane	U	ND	6.30	18.9	ug/kg	1.38	1					
Bromoform	U	ND	6.30	18.9	ug/kg	1.38	1					
Bromomethane	U	ND	6.30	18.9	ug/kg	1.38	1					
Carbon disulfide		225	31.5	94.6	ug/kg	1.38	1					
Carbon tetrachloride	U	ND	6.30	18.9	ug/kg	1.38	1					
Chlorobenzene	U	ND	6.30	18.9	ug/kg	1.38	1					
Chloroethane	U	ND	6.30	18.9	ug/kg	1.38	1					
Chloroform	U	ND	6.30	18.9	ug/kg	1.38	1					

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

Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-13 Project: WNUC01921
Sample ID: 547748001 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "Dry Weight Corrected"												
Chloromethane	U	ND	6.30	18.9	ug/kg	1.38	1					
Cyclohexane	U	ND	6.30	18.9	ug/kg	1.38	1					
Dibromochloromethane	U	ND	6.30	18.9	ug/kg	1.38	1					
Dichlorodifluoromethane	U	ND	6.30	18.9	ug/kg	1.38	1					
Ethylbenzene	J	13.6	6.30	18.9	ug/kg	1.38	1					
Isopropylbenzene	U	ND	6.30	18.9	ug/kg	1.38	1					
Methyl acetate	U	ND	31.5	94.6	ug/kg	1.38	1					
Methylcyclohexane	U	ND	6.30	18.9	ug/kg	1.38	1					
Methylene chloride	J	37.3	31.5	94.6	ug/kg	1.38	1					
Styrene	U	ND	6.30	18.9	ug/kg	1.38	1					
Tetrachloroethylene	U	ND	6.30	18.9	ug/kg	1.38	1					
Toluene	J	7.19	6.30	18.9	ug/kg	1.38	1					
Trichloroethylene	U	ND	6.30	18.9	ug/kg	1.38	1					
Trichlorofluoromethane	U	ND	6.30	18.9	ug/kg	1.38	1					
Trichlorotrifluoroethane	U	ND	31.5	94.6	ug/kg	1.38	1					
Vinyl chloride	U	ND	6.30	18.9	ug/kg	1.38	1					
cis-1,2-Dichloroethylene	U	ND	6.30	18.9	ug/kg	1.38	1					
cis-1,3-Dichloropropylene	U	ND	6.30	18.9	ug/kg	1.38	1					
m,p-Xylenes		39.2	12.6	37.8	ug/kg	1.38	1					
o-Xylene	U	ND	6.30	18.9	ug/kg	1.38	1					
tert-Butyl methyl ether	U	ND	6.30	18.9	ug/kg	1.38	1					
trans-1,2-Dichloroethylene	U	ND	6.30	18.9	ug/kg	1.38	1					
trans-1,3-Dichloropropylene	U	ND	6.30	18.9	ug/kg	1.38	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	AXH3	06/29/21	1600	2142440
SW846 1311	SW846 1311 TCLP Leaching	JP2	06/29/21	1618	2142362
SW846 1311	SW846 1311 TCLP Leaching	JP2	06/29/21	1618	2142363
SW846 1311	SW846 1311 TCLP Volatiles Prep	JP2	06/29/21	1458	2142364
SW846 3010A	ICP-TRACE TCLP by SW846 3010A	HH1	06/30/21	1657	2145610
SW846 3510C	3510C BNA TCLP/SPLP Prep-GC/MS Analysis	SG2	07/01/21	1027	2145607
SW846 3541	Prep Method 3541 8270D BNA for Soil	CB1	06/28/21	0900	2143035
SW846 5035	5035 Prep	JEB	06/17/21	0925	2146069
SW846 7470A Prep	EPA 7470A Mercury Prep TCLP Liquid	AXS5	07/14/21	1248	2150019
SW846 9056A	SW846 9056A Total Anions in Soil	LXA2	06/22/21	1714	2142334

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 Columbia, South Carolina 29205
 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-13	Project: WNUC01921
Sample ID: 547748001	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
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The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 7470A	
3	SW846 3010A/6010D	
4	EPA 350.1 Modified SC	
5	SW846 3510C/8270E	
6	SW846 3541/8270D	
7	SW846 8260D	
8	SW846 8260D	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	TCLP SVOC "As Received"	0.127 mg/L	0.250	51	(39%-112%)
Nitrobenzene-d5	TCLP SVOC "As Received"	0.131 mg/L	0.250	52	(39%-112%)
p-Terphenyl-d14	TCLP SVOC "As Received"	0.151 mg/L	0.250	60	(24%-129%)
2,4,6-Tribromophenol	TCLP SVOC "As Received"	0.302 mg/L	0.500	60	(37%-132%)
2-Fluorophenol	TCLP SVOC "As Received"	0.204 mg/L	0.500	41	(11%-79%)
Phenol-d5	TCLP SVOC "As Received"	0.170 mg/L	0.500	34	(15%-85%)
2-Fluorobiphenyl	SW846 8270D SVOA, Solid "Dry Weight Corrected"	5050 ug/kg	22800	22*	(26%-118%)
Nitrobenzene-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"	5960 ug/kg	22800	26*	(28%-110%)
p-Terphenyl-d14	SW846 8270D SVOA, Solid "Dry Weight Corrected"	4870 ug/kg	22800	21*	(26%-130%)
2,4,6-Tribromophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"	12300 ug/kg	45500	27	(26%-128%)
2-Fluorophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"	12500 ug/kg	45500	27*	(30%-108%)
Phenol-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"	12900 ug/kg	45500	28*	(29%-116%)
1,2-Dichloroethane-d4	TCLP Volatiles "As Received"	0.556 mg/L	0.0500	111	(73%-129%)
Bromofluorobenzene	TCLP Volatiles "As Received"	0.535 mg/L	0.0500	107	(72%-125%)
Toluene-d8	TCLP Volatiles "As Received"	0.523 mg/L	0.0500	105	(75%-123%)
1,2-Dichloroethane-d4	SW846 8260 Volatiles "Dry Weight Corrected"	930 ug/kg	50.0	98	(76%-127%)
Bromofluorobenzene	SW846 8260 Volatiles "Dry Weight Corrected"	1480 ug/kg	50.0	157*	(70%-130%)
Toluene-d8	SW846 8260 Volatiles "Dry Weight Corrected"	1020 ug/kg	50.0	107	(81%-120%)

Notes:

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Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-13	Project:	WNUC01921
Sample ID:	547748001	Client ID:	WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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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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Company : Westinghouse Electric Company, LLC
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 Columbia, South Carolina 29205
 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-7	Project: WNUC01921
Sample ID: 547748002	Client ID: WNUC010
Matrix: Sludge	
Collect Date: 17-JUN-21 10:00	
Receive Date: 18-JUN-21	
Collector: Client	
Moisture: 95%	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		77.5	6.71	19.7	mg/kg	9.93	1	LXA2	06/22/21	2209	2142337	1
Nitrate-N	J	9.97	6.52	19.7	mg/kg	9.93	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		2480	87.8	244	mg/kg	49.0	5	AXH3	06/30/21	1417	2142441	2
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
1,1'-Biphenyl	U	ND	1970	6560	ug/kg	0.0330	1	NM1	06/28/21	2120	2143036	3
1,2,4,5-Tetrachlorobenzene	U	ND	1970	6560	ug/kg	0.0330	1					
2,3,4,6-Tetrachlorophenol	U	ND	1970	6560	ug/kg	0.0330	1					
2,4,5-Trichlorophenol	U	ND	1970	6560	ug/kg	0.0330	1					
2,4,6-Trichlorophenol	U	ND	1970	6560	ug/kg	0.0330	1					
2,4-Dichlorophenol	U	ND	1970	6560	ug/kg	0.0330	1					
2,4-Dimethylphenol	U	ND	1970	6560	ug/kg	0.0330	1					
2,4-Dinitrophenol	U	ND	1970	13100	ug/kg	0.0330	1					
2,4-Dinitrotoluene	U	ND	1970	6560	ug/kg	0.0330	1					
2,6-Dinitrotoluene	U	ND	1970	6560	ug/kg	0.0330	1					
2-Chloronaphthalene	U	ND	197	656	ug/kg	0.0330	1					
2-Chlorophenol	U	ND	1970	6560	ug/kg	0.0330	1					
2-Methyl-4,6-dinitrophenol	U	ND	1970	6560	ug/kg	0.0330	1					
2-Methylnaphthalene	U	ND	197	656	ug/kg	0.0330	1					
2-Nitrophenol	U	ND	1970	6560	ug/kg	0.0330	1					
3,3'-Dichlorobenzidine	U	ND	1970	6560	ug/kg	0.0330	1					
4-Bromophenylphenylether	U	ND	1970	6560	ug/kg	0.0330	1					
4-Chloro-3-methylphenol	U	ND	2620	6560	ug/kg	0.0330	1					
4-Chloroaniline	U	ND	1970	6560	ug/kg	0.0330	1					
4-Chlorophenylphenylether	U	ND	1970	6560	ug/kg	0.0330	1					
4-Nitrophenol	U	ND	1970	6560	ug/kg	0.0330	1					
Acenaphthene	U	ND	197	656	ug/kg	0.0330	1					
Acenaphthylene	U	ND	197	656	ug/kg	0.0330	1					
Acetophenone	U	ND	1970	6560	ug/kg	0.0330	1					
Anthracene	U	ND	197	656	ug/kg	0.0330	1					
Atrazine	U	ND	2620	6560	ug/kg	0.0330	1					
Benzaldehyde	U	ND	1970	6560	ug/kg	0.0330	1					
Benzo(a)anthracene	U	ND	197	656	ug/kg	0.0330	1					

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Certificate of Analysis

Report Date: July 20, 2021

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

Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-7 Project: WNUC01921
Sample ID: 547748002 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
Benzo(a)pyrene	U	ND	197	656	ug/kg	0.0330	1					
Benzo(b)fluoranthene	U	ND	197	656	ug/kg	0.0330	1					
Benzo(ghi)perylene	U	ND	197	656	ug/kg	0.0330	1					
Benzo(k)fluoranthene	U	ND	197	656	ug/kg	0.0330	1					
Butylbenzylphthalate	U	ND	197	656	ug/kg	0.0330	1					
Caprolactam	U	ND	1970	6560	ug/kg	0.0330	1					
Carbazole	U	ND	197	656	ug/kg	0.0330	1					
Chrysene	U	ND	197	656	ug/kg	0.0330	1					
Di-n-butylphthalate	U	ND	197	656	ug/kg	0.0330	1					
Di-n-octylphthalate	U	ND	197	656	ug/kg	0.0330	1					
Dibenzo(a,h)anthracene	U	ND	197	656	ug/kg	0.0330	1					
Dibenzofuran	U	ND	1970	6560	ug/kg	0.0330	1					
Diethylphthalate	U	ND	197	656	ug/kg	0.0330	1					
Dimethylphthalate	U	ND	197	656	ug/kg	0.0330	1					
Diphenylamine	U	ND	1970	6560	ug/kg	0.0330	1					
Fluoranthene	U	ND	197	656	ug/kg	0.0330	1					
Fluorene	U	ND	197	656	ug/kg	0.0330	1					
Hexachlorobenzene	U	ND	1970	6560	ug/kg	0.0330	1					
Hexachlorobutadiene	U	ND	1970	6560	ug/kg	0.0330	1					
Hexachlorocyclopentadiene	U	ND	1970	6560	ug/kg	0.0330	1					
Hexachloroethane	U	ND	1970	6560	ug/kg	0.0330	1					
Indeno(1,2,3-cd)pyrene	U	ND	197	656	ug/kg	0.0330	1					
Isophorone	U	ND	1970	6560	ug/kg	0.0330	1					
N-Nitrosodipropylamine	U	ND	1970	6560	ug/kg	0.0330	1					
Naphthalene	U	ND	197	656	ug/kg	0.0330	1					
Nitrobenzene	U	ND	1970	6560	ug/kg	0.0330	1					
Pentachlorophenol	U	ND	1970	6560	ug/kg	0.0330	1					
Phenanthrene	U	ND	197	656	ug/kg	0.0330	1					
Phenol	U	ND	1970	6560	ug/kg	0.0330	1					
Pyrene	U	ND	197	656	ug/kg	0.0330	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	1970	6560	ug/kg	0.0330	1					
bis(2-Chloroethoxy)methane	U	ND	1970	6560	ug/kg	0.0330	1					
bis(2-Chloroethyl) ether	U	ND	1970	6560	ug/kg	0.0330	1					
bis(2-Ethylhexyl)phthalate	J	367	197	656	ug/kg	0.0330	1					
m,p-Cresols	U	ND	1970	6560	ug/kg	0.0330	1					
m-Nitroaniline	U	ND	1970	6560	ug/kg	0.0330	1					

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Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-7	Project: WNUC01921
Sample ID: 547748002	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
o-Cresol	U	ND	1970	6560	ug/kg	0.0330	1					
o-Nitroaniline	U	ND	2160	6560	ug/kg	0.0330	1					
p-Nitroaniline	U	ND	1970	6560	ug/kg	0.0330	1					
Volatile Organics												
SW846 8260 Volatiles "Dry Weight Corrected"												
1,1,1-Trichloroethane	U	ND	7.98	24.0	ug/kg	1.20	1	JEB	07/01/21	1925	2146071	4
1,1,2,2-Tetrachloroethane	U	ND	7.98	24.0	ug/kg	1.20	1					
1,1,2-Trichloroethane	U	ND	7.98	24.0	ug/kg	1.20	1					
1,1-Dichloroethane	U	ND	7.98	24.0	ug/kg	1.20	1					
1,1-Dichloroethylene	U	ND	7.98	24.0	ug/kg	1.20	1					
1,2,3-Trichlorobenzene	U	ND	7.98	24.0	ug/kg	1.20	1					
1,2,4-Trichlorobenzene	U	ND	7.98	24.0	ug/kg	1.20	1					
1,2-Dibromo-3-chloropropane	U	ND	12.0	24.0	ug/kg	1.20	1					
1,2-Dibromoethane	U	ND	7.98	24.0	ug/kg	1.20	1					
1,2-Dichlorobenzene	U	ND	7.98	24.0	ug/kg	1.20	1					
1,2-Dichloroethane	U	ND	7.98	24.0	ug/kg	1.20	1					
1,2-Dichloropropane	U	ND	7.98	24.0	ug/kg	1.20	1					
1,3-Dichlorobenzene	U	ND	7.98	24.0	ug/kg	1.20	1					
1,4-Dichlorobenzene	U	ND	7.98	24.0	ug/kg	1.20	1					
1,4-Dioxane	U	ND	400	1200	ug/kg	1.20	1					
2-Butanone		213	40.0	120	ug/kg	1.20	1					
2-Hexanone	U	ND	40.0	120	ug/kg	1.20	1					
4-Methyl-2-pentanone	U	ND	40.0	120	ug/kg	1.20	1					
Acetone		1080	40.0	120	ug/kg	1.20	1					
Benzene	U	ND	7.98	24.0	ug/kg	1.20	1					
Bromochloromethane	U	ND	7.98	24.0	ug/kg	1.20	1					
Bromodichloromethane	U	ND	7.98	24.0	ug/kg	1.20	1					
Bromoform	U	ND	7.98	24.0	ug/kg	1.20	1					
Bromomethane	U	ND	7.98	24.0	ug/kg	1.20	1					
Carbon disulfide	J	82.9	40.0	120	ug/kg	1.20	1					
Carbon tetrachloride	U	ND	7.98	24.0	ug/kg	1.20	1					
Chlorobenzene	U	ND	7.98	24.0	ug/kg	1.20	1					
Chloroethane	U	ND	7.98	24.0	ug/kg	1.20	1					
Chloroform	U	ND	7.98	24.0	ug/kg	1.20	1					
Chloromethane	U	ND	7.98	24.0	ug/kg	1.20	1					
Cyclohexane	U	ND	7.98	24.0	ug/kg	1.20	1					

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-7	Project: WNUC01921
Sample ID: 547748002	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "Dry Weight Corrected"												
Dibromochloromethane	U	ND	7.98	24.0	ug/kg	1.20	1					
Dichlorodifluoromethane	U	ND	7.98	24.0	ug/kg	1.20	1					
Ethylbenzene	U	ND	7.98	24.0	ug/kg	1.20	1					
Isopropylbenzene	U	ND	7.98	24.0	ug/kg	1.20	1					
Methyl acetate	U	ND	40.0	120	ug/kg	1.20	1					
Methylcyclohexane	U	ND	7.98	24.0	ug/kg	1.20	1					
Methylene chloride	U	ND	40.0	120	ug/kg	1.20	1					
Styrene	U	ND	7.98	24.0	ug/kg	1.20	1					
Tetrachloroethylene	U	ND	7.98	24.0	ug/kg	1.20	1					
Toluene	U	ND	7.98	24.0	ug/kg	1.20	1					
Trichloroethylene	U	ND	7.98	24.0	ug/kg	1.20	1					
Trichlorofluoromethane	U	ND	7.98	24.0	ug/kg	1.20	1					
Trichlorotrifluoroethane	U	ND	40.0	120	ug/kg	1.20	1					
Vinyl chloride	U	ND	7.98	24.0	ug/kg	1.20	1					
cis-1,2-Dichloroethylene	U	ND	7.98	24.0	ug/kg	1.20	1					
cis-1,3-Dichloropropylene	U	ND	7.98	24.0	ug/kg	1.20	1					
m,p-Xylenes	U	ND	16.0	47.9	ug/kg	1.20	1					
o-Xylene	U	ND	7.98	24.0	ug/kg	1.20	1					
tert-Butyl methyl ether	U	ND	7.98	24.0	ug/kg	1.20	1					
trans-1,2-Dichloroethylene	U	ND	7.98	24.0	ug/kg	1.20	1					
trans-1,3-Dichloropropylene	U	ND	7.98	24.0	ug/kg	1.20	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	AXH3	06/29/21	1600	2142440
SW846 3541	Prep Method 3541 8270D BNA for Soil	CB1	06/28/21	0900	2143035
SW846 3541	Prep Method 3541 8270D BNA for Soil	JM3	06/30/21	1026	2145011
SW846 5035	5035 Prep	JEB	06/17/21	1000	2146069
SW846 9056A	SW846 9056A Total Anions in Soil	LXA2	06/22/21	1714	2142334

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Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-7	Project: WNUC01921
Sample ID: 547748002	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
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The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 9056A		
2	EPA 350.1 Modified SC		
3	SW846 3541/8270D		
4	SW846 8260D		

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 8270D SVOA, Solid "Dry Weight Corrected"	4800 ug/kg	32800	15*	(26%-118%)
Nitrobenzene-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"	5900 ug/kg	32800	18*	(28%-110%)
p-Terphenyl-d14	SW846 8270D SVOA, Solid "Dry Weight Corrected"	6140 ug/kg	32800	19*	(26%-130%)
2,4,6-Tribromophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"	13900 ug/kg	65600	21*	(26%-128%)
2-Fluorophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"	13900 ug/kg	65600	21*	(30%-108%)
Phenol-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"	16400 ug/kg	65600	25*	(29%-116%)
1,2-Dichloroethane-d4	SW846 8260 Volatiles "Dry Weight Corrected"	1130 ug/kg	50.0	95	(76%-127%)
Bromofluorobenzene	SW846 8260 Volatiles "Dry Weight Corrected"	1600 ug/kg	50.0	133*	(70%-130%)
Toluene-d8	SW846 8260 Volatiles "Dry Weight Corrected"	1220 ug/kg	50.0	102	(81%-120%)

Notes:

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: July 20, 2021

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

 Columbia, South Carolina 29205
 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-9	Project: WNUC01921
Sample ID: 547748003	Client ID: WNUC010
Matrix: Sludge	
Collect Date: 17-JUN-21 10:30	
Receive Date: 18-JUN-21	
Collector: Client	
Moisture: 87.8%	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		91.3	2.74	8.06	mg/kg	9.85	1	LXA2	06/22/21	2342	2142337	1
Nitrate-N	J	3.73	2.66	8.06	mg/kg	9.85	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		1900	19.4	53.8	mg/kg	26.3	5	AXH3	06/30/21	1418	2142441	2
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
1,1'-Biphenyl	U	ND	811	2700	ug/kg	0.0330	1	NM1	06/28/21	2148	2143036	3
1,2,4,5-Tetrachlorobenzene	U	ND	811	2700	ug/kg	0.0330	1					
2,3,4,6-Tetrachlorophenol	U	ND	811	2700	ug/kg	0.0330	1					
2,4,5-Trichlorophenol	U	ND	811	2700	ug/kg	0.0330	1					
2,4,6-Trichlorophenol	U	ND	811	2700	ug/kg	0.0330	1					
2,4-Dichlorophenol	U	ND	811	2700	ug/kg	0.0330	1					
2,4-Dimethylphenol	U	ND	811	2700	ug/kg	0.0330	1					
2,4-Dinitrophenol	U	ND	811	5410	ug/kg	0.0330	1					
2,4-Dinitrotoluene	U	ND	811	2700	ug/kg	0.0330	1					
2,6-Dinitrotoluene	U	ND	811	2700	ug/kg	0.0330	1					
2-Chloronaphthalene	U	ND	81.1	270	ug/kg	0.0330	1					
2-Chlorophenol	U	ND	811	2700	ug/kg	0.0330	1					
2-Methyl-4,6-dinitrophenol	U	ND	811	2700	ug/kg	0.0330	1					
2-Methylnaphthalene	U	ND	81.1	270	ug/kg	0.0330	1					
2-Nitrophenol	U	ND	811	2700	ug/kg	0.0330	1					
3,3'-Dichlorobenzidine	U	ND	811	2700	ug/kg	0.0330	1					
4-Bromophenylphenylether	U	ND	811	2700	ug/kg	0.0330	1					
4-Chloro-3-methylphenol	U	ND	1080	2700	ug/kg	0.0330	1					
4-Chloroaniline	U	ND	811	2700	ug/kg	0.0330	1					
4-Chlorophenylphenylether	U	ND	811	2700	ug/kg	0.0330	1					
4-Nitrophenol	U	ND	811	2700	ug/kg	0.0330	1					
Acenaphthene	U	ND	81.1	270	ug/kg	0.0330	1					
Acenaphthylene	U	ND	81.1	270	ug/kg	0.0330	1					
Acetophenone	U	ND	811	2700	ug/kg	0.0330	1					
Anthracene	U	ND	81.1	270	ug/kg	0.0330	1					
Atrazine	U	ND	1080	2700	ug/kg	0.0330	1					
Benzaldehyde	U	ND	811	2700	ug/kg	0.0330	1					
Benzo(a)anthracene	U	ND	81.1	270	ug/kg	0.0330	1					

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Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-9 Project: WNUC01921
Sample ID: 547748003 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
Benzo(a)pyrene	U	ND	81.1	270	ug/kg	0.0330	1					
Benzo(b)fluoranthene	J	89.2	81.1	270	ug/kg	0.0330	1					
Benzo(ghi)perylene	U	ND	81.1	270	ug/kg	0.0330	1					
Benzo(k)fluoranthene	U	ND	81.1	270	ug/kg	0.0330	1					
Butylbenzylphthalate	U	ND	81.1	270	ug/kg	0.0330	1					
Caprolactam	U	ND	811	2700	ug/kg	0.0330	1					
Carbazole	U	ND	81.1	270	ug/kg	0.0330	1					
Chrysene	U	ND	81.1	270	ug/kg	0.0330	1					
Di-n-butylphthalate	U	ND	81.1	270	ug/kg	0.0330	1					
Di-n-octylphthalate	U	ND	81.1	270	ug/kg	0.0330	1					
Dibenzo(a,h)anthracene	U	ND	81.1	270	ug/kg	0.0330	1					
Dibenzofuran	U	ND	811	2700	ug/kg	0.0330	1					
Diethylphthalate	U	ND	81.1	270	ug/kg	0.0330	1					
Dimethylphthalate	U	ND	81.1	270	ug/kg	0.0330	1					
Diphenylamine	U	ND	811	2700	ug/kg	0.0330	1					
Fluoranthene	J	230	81.1	270	ug/kg	0.0330	1					
Fluorene	U	ND	81.1	270	ug/kg	0.0330	1					
Hexachlorobenzene	U	ND	811	2700	ug/kg	0.0330	1					
Hexachlorobutadiene	U	ND	811	2700	ug/kg	0.0330	1					
Hexachlorocyclopentadiene	U	ND	811	2700	ug/kg	0.0330	1					
Hexachloroethane	U	ND	811	2700	ug/kg	0.0330	1					
Indeno(1,2,3-cd)pyrene	U	ND	81.1	270	ug/kg	0.0330	1					
Isophorone	U	ND	811	2700	ug/kg	0.0330	1					
N-Nitrosodipropylamine	U	ND	811	2700	ug/kg	0.0330	1					
Naphthalene	U	ND	81.1	270	ug/kg	0.0330	1					
Nitrobenzene	U	ND	811	2700	ug/kg	0.0330	1					
Pentachlorophenol	U	ND	811	2700	ug/kg	0.0330	1					
Phenanthrene	U	ND	81.1	270	ug/kg	0.0330	1					
Phenol	U	ND	811	2700	ug/kg	0.0330	1					
Pyrene	J	211	81.1	270	ug/kg	0.0330	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	811	2700	ug/kg	0.0330	1					
bis(2-Chloroethoxy)methane	U	ND	811	2700	ug/kg	0.0330	1					
bis(2-Chloroethyl) ether	U	ND	811	2700	ug/kg	0.0330	1					
bis(2-Ethylhexyl)phthalate		608	81.1	270	ug/kg	0.0330	1					
m,p-Cresols	U	ND	811	2700	ug/kg	0.0330	1					
m-Nitroaniline	U	ND	811	2700	ug/kg	0.0330	1					

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Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-9	Project: WNUC01921
Sample ID: 547748003	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
o-Cresol	U	ND	811	2700	ug/kg	0.0330	1					
o-Nitroaniline	U	ND	892	2700	ug/kg	0.0330	1					
p-Nitroaniline	U	ND	811	2700	ug/kg	0.0330	1					
Volatile Organics												
SW846 8260 Volatiles "Dry Weight Corrected"												
1,1,1-Trichloroethane	U	ND	3.69	11.1	ug/kg	1.36	1	JEB	07/01/21	1949	2146071	4
1,1,2,2-Tetrachloroethane	U	ND	3.69	11.1	ug/kg	1.36	1					
1,1,2-Trichloroethane	U	ND	3.69	11.1	ug/kg	1.36	1					
1,1-Dichloroethane	U	ND	3.69	11.1	ug/kg	1.36	1					
1,1-Dichloroethylene	U	ND	3.69	11.1	ug/kg	1.36	1					
1,2,3-Trichlorobenzene	U	ND	3.69	11.1	ug/kg	1.36	1					
1,2,4-Trichlorobenzene	U	ND	3.69	11.1	ug/kg	1.36	1					
1,2-Dibromo-3-chloropropane	U	ND	5.54	11.1	ug/kg	1.36	1					
1,2-Dibromoethane	U	ND	3.69	11.1	ug/kg	1.36	1					
1,2-Dichlorobenzene	U	ND	3.69	11.1	ug/kg	1.36	1					
1,2-Dichloroethane	U	ND	3.69	11.1	ug/kg	1.36	1					
1,2-Dichloropropane	U	ND	3.69	11.1	ug/kg	1.36	1					
1,3-Dichlorobenzene	U	ND	3.69	11.1	ug/kg	1.36	1					
1,4-Dichlorobenzene	U	ND	3.69	11.1	ug/kg	1.36	1					
1,4-Dioxane	U	ND	185	554	ug/kg	1.36	1					
2-Butanone		1060	18.5	55.4	ug/kg	1.36	1					
2-Hexanone	U	ND	18.5	55.4	ug/kg	1.36	1					
4-Methyl-2-pentanone	U	ND	18.5	55.4	ug/kg	1.36	1					
Acetone		4210	18.5	55.4	ug/kg	1.36	1					
Benzene	J	3.88	3.69	11.1	ug/kg	1.36	1					
Bromochloromethane	U	ND	3.69	11.1	ug/kg	1.36	1					
Bromodichloromethane	U	ND	3.69	11.1	ug/kg	1.36	1					
Bromoform	U	ND	3.69	11.1	ug/kg	1.36	1					
Bromomethane	U	ND	3.69	11.1	ug/kg	1.36	1					
Carbon disulfide		256	18.5	55.4	ug/kg	1.36	1					
Carbon tetrachloride	U	ND	3.69	11.1	ug/kg	1.36	1					
Chlorobenzene	U	ND	3.69	11.1	ug/kg	1.36	1					
Chloroethane	U	ND	3.69	11.1	ug/kg	1.36	1					
Chloroform	U	ND	3.69	11.1	ug/kg	1.36	1					
Chloromethane	U	ND	3.69	11.1	ug/kg	1.36	1					
Cyclohexane	U	ND	3.69	11.1	ug/kg	1.36	1					

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Report Date: July 20, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-9 Project: WNUC01921
Sample ID: 547748003 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "Dry Weight Corrected"												
Dibromochloromethane	U	ND	3.69	11.1	ug/kg	1.36	1					
Dichlorodifluoromethane	U	ND	3.69	11.1	ug/kg	1.36	1					
Ethylbenzene	J	5.32	3.69	11.1	ug/kg	1.36	1					
Isopropylbenzene	J	8.10	3.69	11.1	ug/kg	1.36	1					
Methyl acetate	U	ND	18.5	55.4	ug/kg	1.36	1					
Methylcyclohexane	U	ND	3.69	11.1	ug/kg	1.36	1					
Methylene chloride	U	ND	18.5	55.4	ug/kg	1.36	1					
Styrene	U	ND	3.69	11.1	ug/kg	1.36	1					
Tetrachloroethylene	U	ND	3.69	11.1	ug/kg	1.36	1					
Toluene	J	6.76	3.69	11.1	ug/kg	1.36	1					
Trichloroethylene	U	ND	3.69	11.1	ug/kg	1.36	1					
Trichlorofluoromethane	U	ND	3.69	11.1	ug/kg	1.36	1					
Trichlorotrifluoroethane	U	ND	18.5	55.4	ug/kg	1.36	1					
Vinyl chloride	U	ND	3.69	11.1	ug/kg	1.36	1					
cis-1,2-Dichloroethylene	U	ND	3.69	11.1	ug/kg	1.36	1					
cis-1,3-Dichloropropylene	U	ND	3.69	11.1	ug/kg	1.36	1					
m,p-Xylenes	J	18.4	7.40	22.2	ug/kg	1.36	1					
o-Xylene	U	ND	3.69	11.1	ug/kg	1.36	1					
tert-Butyl methyl ether	U	ND	3.69	11.1	ug/kg	1.36	1					
trans-1,2-Dichloroethylene	U	ND	3.69	11.1	ug/kg	1.36	1					
trans-1,3-Dichloropropylene	U	ND	3.69	11.1	ug/kg	1.36	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	AXH3	06/29/21	1600	2142440
SW846 3541	Prep Method 3541 8270D BNA for Soil	CB1	06/28/21	0900	2143035
SW846 3541	Prep Method 3541 8270D BNA for Soil	JM3	06/30/21	1026	2145011
SW846 5035	5035 Prep	JEB	06/17/21	1030	2146069
SW846 9056A	SW846 9056A Total Anions in Soil	LXA2	06/22/21	1714	2142334

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Report Date: July 20, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-9	Project: WNUC01921
Sample ID: 547748003	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
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The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 9056A		
2	EPA 350.1 Modified SC		
3	SW846 3541/8270D		
4	SW846 8260D		

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 8270D SVOA, Solid "Dry Weight Corrected"	2940 ug/kg	13500	22*	(26%-118%)
Nitrobenzene-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"	3320 ug/kg	13500	25*	(28%-110%)
p-Terphenyl-d14	SW846 8270D SVOA, Solid "Dry Weight Corrected"	3450 ug/kg	13500	25*	(26%-130%)
2,4,6-Tribromophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"	8150 ug/kg	27000	30	(26%-128%)
2-Fluorophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"	7780 ug/kg	27000	29*	(30%-108%)
Phenol-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"	8680 ug/kg	27000	32	(29%-116%)
1,2-Dichloroethane-d4	SW846 8260 Volatiles "Dry Weight Corrected"	537 ug/kg	50.0	97	(76%-127%)
Bromofluorobenzene	SW846 8260 Volatiles "Dry Weight Corrected"	855 ug/kg	50.0	154*	(70%-130%)
Toluene-d8	SW846 8260 Volatiles "Dry Weight Corrected"	576 ug/kg	50.0	104	(81%-120%)

Notes:

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: July 20, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-17	Project:	WNUC01921
Sample ID:	547748004	Client ID:	WNUC010
Matrix:	Sludge		
Collect Date:	17-JUN-21 10:55		
Receive Date:	18-JUN-21		
Collector:	Client		
Moisture:	96.5%		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		114	9.53	28.0	mg/kg	9.90	1	LXA2	06/23/21	0013	2142337	1
Nitrate-N	J	13.9	9.25	28.0	mg/kg	9.90	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		3640	116	322	mg/kg	45.5	5	AXH3	06/30/21	1419	2142441	2
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
1,1'-Biphenyl	U	ND	2820	9400	ug/kg	0.0332	1	NM1	06/28/21	2216	2143036	3
1,2,4,5-Tetrachlorobenzene	U	ND	2820	9400	ug/kg	0.0332	1					
2,3,4,6-Tetrachlorophenol	U	ND	2820	9400	ug/kg	0.0332	1					
2,4,5-Trichlorophenol	U	ND	2820	9400	ug/kg	0.0332	1					
2,4,6-Trichlorophenol	U	ND	2820	9400	ug/kg	0.0332	1					
2,4-Dichlorophenol	U	ND	2820	9400	ug/kg	0.0332	1					
2,4-Dimethylphenol	U	ND	2820	9400	ug/kg	0.0332	1					
2,4-Dinitrophenol	U	ND	2820	18800	ug/kg	0.0332	1					
2,4-Dinitrotoluene	U	ND	2820	9400	ug/kg	0.0332	1					
2,6-Dinitrotoluene	U	ND	2820	9400	ug/kg	0.0332	1					
2-Chloronaphthalene	U	ND	282	940	ug/kg	0.0332	1					
2-Chlorophenol	U	ND	2820	9400	ug/kg	0.0332	1					
2-Methyl-4,6-dinitrophenol	U	ND	2820	9400	ug/kg	0.0332	1					
2-Methylnaphthalene	U	ND	282	940	ug/kg	0.0332	1					
2-Nitrophenol	U	ND	2820	9400	ug/kg	0.0332	1					
3,3'-Dichlorobenzidine	U	ND	2820	9400	ug/kg	0.0332	1					
4-Bromophenylphenylether	U	ND	2820	9400	ug/kg	0.0332	1					
4-Chloro-3-methylphenol	U	ND	3760	9400	ug/kg	0.0332	1					
4-Chloroaniline	U	ND	2820	9400	ug/kg	0.0332	1					
4-Chlorophenylphenylether	U	ND	2820	9400	ug/kg	0.0332	1					
4-Nitrophenol	U	ND	2820	9400	ug/kg	0.0332	1					
Acenaphthene	U	ND	282	940	ug/kg	0.0332	1					
Acenaphthylene	U	ND	282	940	ug/kg	0.0332	1					
Acetophenone	U	ND	2820	9400	ug/kg	0.0332	1					
Anthracene	U	ND	282	940	ug/kg	0.0332	1					
Atrazine	U	ND	3760	9400	ug/kg	0.0332	1					
Benzaldehyde	U	ND	2820	9400	ug/kg	0.0332	1					
Benzo(a)anthracene	U	ND	282	940	ug/kg	0.0332	1					

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-17 Project: WNUC01921
Sample ID: 547748004 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
Benzo(a)pyrene	U	ND	282	940	ug/kg	0.0332	1					
Benzo(b)fluoranthene	U	ND	282	940	ug/kg	0.0332	1					
Benzo(ghi)perylene	U	ND	282	940	ug/kg	0.0332	1					
Benzo(k)fluoranthene	U	ND	282	940	ug/kg	0.0332	1					
Butylbenzylphthalate	U	ND	282	940	ug/kg	0.0332	1					
Caprolactam	U	ND	2820	9400	ug/kg	0.0332	1					
Carbazole	U	ND	282	940	ug/kg	0.0332	1					
Chrysene	U	ND	282	940	ug/kg	0.0332	1					
Di-n-butylphthalate	U	ND	282	940	ug/kg	0.0332	1					
Di-n-octylphthalate	U	ND	282	940	ug/kg	0.0332	1					
Dibenzo(a,h)anthracene	U	ND	282	940	ug/kg	0.0332	1					
Dibenzofuran	U	ND	2820	9400	ug/kg	0.0332	1					
Diethylphthalate	U	ND	282	940	ug/kg	0.0332	1					
Dimethylphthalate	U	ND	282	940	ug/kg	0.0332	1					
Diphenylamine	U	ND	2820	9400	ug/kg	0.0332	1					
Fluoranthene	U	ND	282	940	ug/kg	0.0332	1					
Fluorene	U	ND	282	940	ug/kg	0.0332	1					
Hexachlorobenzene	U	ND	2820	9400	ug/kg	0.0332	1					
Hexachlorobutadiene	U	ND	2820	9400	ug/kg	0.0332	1					
Hexachlorocyclopentadiene	U	ND	2820	9400	ug/kg	0.0332	1					
Hexachloroethane	U	ND	2820	9400	ug/kg	0.0332	1					
Indeno(1,2,3-cd)pyrene	U	ND	282	940	ug/kg	0.0332	1					
Isophorone	U	ND	2820	9400	ug/kg	0.0332	1					
N-Nitrosodipropylamine	U	ND	2820	9400	ug/kg	0.0332	1					
Naphthalene	U	ND	282	940	ug/kg	0.0332	1					
Nitrobenzene	U	ND	2820	9400	ug/kg	0.0332	1					
Pentachlorophenol	U	ND	2820	9400	ug/kg	0.0332	1					
Phenanthrene	U	ND	282	940	ug/kg	0.0332	1					
Phenol	U	ND	2820	9400	ug/kg	0.0332	1					
Pyrene	U	ND	282	940	ug/kg	0.0332	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	2820	9400	ug/kg	0.0332	1					
bis(2-Chloroethoxy)methane	U	ND	2820	9400	ug/kg	0.0332	1					
bis(2-Chloroethyl) ether	U	ND	2820	9400	ug/kg	0.0332	1					
bis(2-Ethylhexyl)phthalate	U	ND	282	940	ug/kg	0.0332	1					
m,p-Cresols	U	ND	2820	9400	ug/kg	0.0332	1					
m-Nitroaniline	U	ND	2820	9400	ug/kg	0.0332	1					

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Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-17	Project: WNUC01921
Sample ID: 547748004	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
o-Cresol	U	ND	2820	9400	ug/kg	0.0332	1					
o-Nitroaniline	U	ND	3100	9400	ug/kg	0.0332	1					
p-Nitroaniline	U	ND	2820	9400	ug/kg	0.0332	1					
Volatile Organics												
SW846 8260 Volatiles "Dry Weight Corrected"												
1,1,1-Trichloroethane	U	ND	13.8	41.5	ug/kg	1.47	1	JEB	07/01/21	2014	2146071	4
1,1,2,2-Tetrachloroethane	U	ND	13.8	41.5	ug/kg	1.47	1					
1,1,2-Trichloroethane	U	ND	13.8	41.5	ug/kg	1.47	1					
1,1-Dichloroethane	U	ND	13.8	41.5	ug/kg	1.47	1					
1,1-Dichloroethylene	U	ND	13.8	41.5	ug/kg	1.47	1					
1,2,3-Trichlorobenzene	U	ND	13.8	41.5	ug/kg	1.47	1					
1,2,4-Trichlorobenzene	U	ND	13.8	41.5	ug/kg	1.47	1					
1,2-Dibromo-3-chloropropane	U	ND	20.8	41.5	ug/kg	1.47	1					
1,2-Dibromoethane	U	ND	13.8	41.5	ug/kg	1.47	1					
1,2-Dichlorobenzene	U	ND	13.8	41.5	ug/kg	1.47	1					
1,2-Dichloroethane	U	ND	13.8	41.5	ug/kg	1.47	1					
1,2-Dichloropropane	U	ND	13.8	41.5	ug/kg	1.47	1					
1,3-Dichlorobenzene	U	ND	13.8	41.5	ug/kg	1.47	1					
1,4-Dichlorobenzene	U	ND	13.8	41.5	ug/kg	1.47	1					
1,4-Dioxane	U	ND	69.2	2080	ug/kg	1.47	1					
2-Butanone		421	69.2	208	ug/kg	1.47	1					
2-Hexanone	U	ND	69.2	208	ug/kg	1.47	1					
4-Methyl-2-pentanone	U	ND	69.2	208	ug/kg	1.47	1					
Acetone		2080	69.2	208	ug/kg	1.47	1					
Benzene	U	ND	13.8	41.5	ug/kg	1.47	1					
Bromochloromethane	U	ND	13.8	41.5	ug/kg	1.47	1					
Bromodichloromethane	U	ND	13.8	41.5	ug/kg	1.47	1					
Bromoform	U	ND	13.8	41.5	ug/kg	1.47	1					
Bromomethane	U	ND	13.8	41.5	ug/kg	1.47	1					
Carbon disulfide	J	94.7	69.2	208	ug/kg	1.47	1					
Carbon tetrachloride	U	ND	13.8	41.5	ug/kg	1.47	1					
Chlorobenzene	U	ND	13.8	41.5	ug/kg	1.47	1					
Chloroethane	U	ND	13.8	41.5	ug/kg	1.47	1					
Chloroform	U	ND	13.8	41.5	ug/kg	1.47	1					
Chloromethane	U	ND	13.8	41.5	ug/kg	1.47	1					
Cyclohexane	U	ND	13.8	41.5	ug/kg	1.47	1					

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Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-17 Project: WNUC01921
Sample ID: 547748004 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "Dry Weight Corrected"												
Dibromochloromethane	U	ND	13.8	41.5	ug/kg	1.47	1					
Dichlorodifluoromethane	U	ND	13.8	41.5	ug/kg	1.47	1					
Ethylbenzene	U	ND	13.8	41.5	ug/kg	1.47	1					
Isopropylbenzene	U	ND	13.8	41.5	ug/kg	1.47	1					
Methyl acetate	U	ND	69.2	208	ug/kg	1.47	1					
Methylcyclohexane	U	ND	13.8	41.5	ug/kg	1.47	1					
Methylene chloride	U	ND	69.2	208	ug/kg	1.47	1					
Styrene	U	ND	13.8	41.5	ug/kg	1.47	1					
Tetrachloroethylene	U	ND	13.8	41.5	ug/kg	1.47	1					
Toluene	U	ND	13.8	41.5	ug/kg	1.47	1					
Trichloroethylene	U	ND	13.8	41.5	ug/kg	1.47	1					
Trichlorofluoromethane	U	ND	13.8	41.5	ug/kg	1.47	1					
Trichlorotrifluoroethane	U	ND	69.2	208	ug/kg	1.47	1					
Vinyl chloride	U	ND	13.8	41.5	ug/kg	1.47	1					
cis-1,2-Dichloroethylene	U	ND	13.8	41.5	ug/kg	1.47	1					
cis-1,3-Dichloropropylene	U	ND	13.8	41.5	ug/kg	1.47	1					
m,p-Xylenes	J	38.2	27.7	83.0	ug/kg	1.47	1					
o-Xylene	U	ND	13.8	41.5	ug/kg	1.47	1					
tert-Butyl methyl ether	U	ND	13.8	41.5	ug/kg	1.47	1					
trans-1,2-Dichloroethylene	U	ND	13.8	41.5	ug/kg	1.47	1					
trans-1,3-Dichloropropylene	U	ND	13.8	41.5	ug/kg	1.47	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	AXH3	06/29/21	1600	2142440
SW846 3541	Prep Method 3541 8270D BNA for Soil	CB1	06/28/21	0900	2143035
SW846 3541	Prep Method 3541 8270D BNA for Soil	JM3	06/30/21	1026	2145011
SW846 5035	5035 Prep	JEB	06/17/21	1055	2146069
SW846 9056A	SW846 9056A Total Anions in Soil	LXA2	06/22/21	1714	2142334

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Certificate of Analysis

Report Date: July 20, 2021

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

 Columbia, South Carolina 29205
 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-17	Project: WNUC01921
Sample ID: 547748004	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
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The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	EPA 350.1 Modified SC	
3	SW846 3541/8270D	
4	SW846 8260D	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2-Fluorobiphenyl	SW846 8270D SVOA, Solid "Dry Weight Corrected"	4460 ug/kg	47000	9*	(26%-118%)
Nitrobenzene-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"	5360 ug/kg	47000	11*	(28%-110%)
p-Terphenyl-d14	SW846 8270D SVOA, Solid "Dry Weight Corrected"	5380 ug/kg	47000	11*	(26%-130%)
2,4,6-Tribromophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"	11700 ug/kg	94000	12*	(26%-128%)
2-Fluorophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"	12600 ug/kg	94000	13*	(30%-108%)
Phenol-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"	14400 ug/kg	94000	15*	(29%-116%)
1,2-Dichloroethane-d4	SW846 8260 Volatiles "Dry Weight Corrected"	1920 ug/kg	50.0	92	(76%-127%)
Bromofluorobenzene	SW846 8260 Volatiles "Dry Weight Corrected"	2620 ug/kg	50.0	126	(70%-130%)
Toluene-d8	SW846 8260 Volatiles "Dry Weight Corrected"	1990 ug/kg	50.0	96	(81%-120%)

Notes:

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: July 20, 2021

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

 Columbia, South Carolina 29205
 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-19	Project: WNUC01921
Sample ID: 547748005	Client ID: WNUC010
Matrix: Sludge	
Collect Date: 17-JUN-21 11:25	
Receive Date: 18-JUN-21	
Collector: Client	
Moisture: 92.4%	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		93.0	4.49	13.2	mg/kg	10.0	1	LXA2	06/23/21	0044	2142337	1
Nitrate-N	J	6.39	4.36	13.2	mg/kg	10.0	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		3240	56.1	156	mg/kg	47.2	5	AXH3	06/30/21	1420	2142441	2
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
1,1'-Biphenyl	U	ND	6480	21600	ug/kg	0.0327	5	NM1	06/28/21	2244	2143036	3
1,2,4,5-Tetrachlorobenzene	U	ND	6480	21600	ug/kg	0.0327	5					
2,3,4,6-Tetrachlorophenol	U	ND	6480	21600	ug/kg	0.0327	5					
2,4,5-Trichlorophenol	U	ND	6480	21600	ug/kg	0.0327	5					
2,4,6-Trichlorophenol	U	ND	6480	21600	ug/kg	0.0327	5					
2,4-Dichlorophenol	U	ND	6480	21600	ug/kg	0.0327	5					
2,4-Dimethylphenol	U	ND	6480	21600	ug/kg	0.0327	5					
2,4-Dinitrophenol	U	ND	6480	43200	ug/kg	0.0327	5					
2,4-Dinitrotoluene	U	ND	6480	21600	ug/kg	0.0327	5					
2,6-Dinitrotoluene	U	ND	6480	21600	ug/kg	0.0327	5					
2-Chloronaphthalene	U	ND	648	2160	ug/kg	0.0327	5					
2-Chlorophenol	U	ND	6480	21600	ug/kg	0.0327	5					
2-Methyl-4,6-dinitrophenol	U	ND	6480	21600	ug/kg	0.0327	5					
2-Methylnaphthalene	U	ND	648	2160	ug/kg	0.0327	5					
2-Nitrophenol	U	ND	6480	21600	ug/kg	0.0327	5					
3,3'-Dichlorobenzidine	U	ND	6480	21600	ug/kg	0.0327	5					
4-Bromophenylphenylether	U	ND	6480	21600	ug/kg	0.0327	5					
4-Chloro-3-methylphenol	U	ND	8640	21600	ug/kg	0.0327	5					
4-Chloroaniline	U	ND	6480	21600	ug/kg	0.0327	5					
4-Chlorophenylphenylether	U	ND	6480	21600	ug/kg	0.0327	5					
4-Nitrophenol	U	ND	6480	21600	ug/kg	0.0327	5					
Acenaphthene	U	ND	648	2160	ug/kg	0.0327	5					
Acenaphthylene	U	ND	648	2160	ug/kg	0.0327	5					
Acetophenone	U	ND	6480	21600	ug/kg	0.0327	5					
Anthracene	U	ND	648	2160	ug/kg	0.0327	5					
Atrazine	U	ND	8640	21600	ug/kg	0.0327	5					
Benzaldehyde	U	ND	6480	21600	ug/kg	0.0327	5					
Benzo(a)anthracene	U	ND	648	2160	ug/kg	0.0327	5					

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Certificate of Analysis

Report Date: July 20, 2021

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

Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-19 Project: WNUC01921
Sample ID: 547748005 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
Benzo(a)pyrene	U	ND	648	2160	ug/kg	0.0327	5					
Benzo(b)fluoranthene	U	ND	648	2160	ug/kg	0.0327	5					
Benzo(ghi)perylene	U	ND	648	2160	ug/kg	0.0327	5					
Benzo(k)fluoranthene	U	ND	648	2160	ug/kg	0.0327	5					
Butylbenzylphthalate	U	ND	648	2160	ug/kg	0.0327	5					
Caprolactam	U	ND	6480	21600	ug/kg	0.0327	5					
Carbazole	U	ND	648	2160	ug/kg	0.0327	5					
Chrysene	U	ND	648	2160	ug/kg	0.0327	5					
Di-n-butylphthalate	U	ND	648	2160	ug/kg	0.0327	5					
Di-n-octylphthalate	U	ND	648	2160	ug/kg	0.0327	5					
Dibenzo(a,h)anthracene	U	ND	648	2160	ug/kg	0.0327	5					
Dibenzofuran	U	ND	6480	21600	ug/kg	0.0327	5					
Diethylphthalate	U	ND	648	2160	ug/kg	0.0327	5					
Dimethylphthalate	U	ND	648	2160	ug/kg	0.0327	5					
Diphenylamine	U	ND	6480	21600	ug/kg	0.0327	5					
Fluoranthene	U	ND	648	2160	ug/kg	0.0327	5					
Fluorene	U	ND	648	2160	ug/kg	0.0327	5					
Hexachlorobenzene	U	ND	6480	21600	ug/kg	0.0327	5					
Hexachlorobutadiene	U	ND	6480	21600	ug/kg	0.0327	5					
Hexachlorocyclopentadiene	U	ND	6480	21600	ug/kg	0.0327	5					
Hexachloroethane	U	ND	6480	21600	ug/kg	0.0327	5					
Indeno(1,2,3-cd)pyrene	U	ND	648	2160	ug/kg	0.0327	5					
Isophorone	U	ND	6480	21600	ug/kg	0.0327	5					
N-Nitrosodipropylamine	U	ND	6480	21600	ug/kg	0.0327	5					
Naphthalene	U	ND	648	2160	ug/kg	0.0327	5					
Nitrobenzene	U	ND	6480	21600	ug/kg	0.0327	5					
Pentachlorophenol	U	ND	6480	21600	ug/kg	0.0327	5					
Phenanthrene	U	ND	648	2160	ug/kg	0.0327	5					
Phenol	U	ND	6480	21600	ug/kg	0.0327	5					
Pyrene	U	ND	648	2160	ug/kg	0.0327	5					
bis(2-Chloro-1-methylethyl)ether	U	ND	6480	21600	ug/kg	0.0327	5					
bis(2-Chloroethoxy)methane	U	ND	6480	21600	ug/kg	0.0327	5					
bis(2-Chloroethyl) ether	U	ND	6480	21600	ug/kg	0.0327	5					
bis(2-Ethylhexyl)phthalate	U	ND	648	2160	ug/kg	0.0327	5					
m,p-Cresols	U	ND	6480	21600	ug/kg	0.0327	5					
m-Nitroaniline	U	ND	6480	21600	ug/kg	0.0327	5					

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Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-19	Project: WNUC01921
Sample ID: 547748005	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 8270D SVOA, Solid "Dry Weight Corrected"												
o-Cresol	U	ND	6480	21600	ug/kg	0.0327	5					
o-Nitroaniline	U	ND	7120	21600	ug/kg	0.0327	5					
p-Nitroaniline	U	ND	6480	21600	ug/kg	0.0327	5					
Volatile Organics												
SW846 8260 Volatiles "Dry Weight Corrected"												
1,1,1-Trichloroethane	U	ND	5.83	17.5	ug/kg	1.33	1	JEB	07/01/21	2038	2146071	4
1,1,2,2-Tetrachloroethane	U	ND	5.83	17.5	ug/kg	1.33	1					
1,1,2-Trichloroethane	U	ND	5.83	17.5	ug/kg	1.33	1					
1,1-Dichloroethane	U	ND	5.83	17.5	ug/kg	1.33	1					
1,1-Dichloroethylene	U	ND	5.83	17.5	ug/kg	1.33	1					
1,2,3-Trichlorobenzene	U	ND	5.83	17.5	ug/kg	1.33	1					
1,2,4-Trichlorobenzene	U	ND	5.83	17.5	ug/kg	1.33	1					
1,2-Dibromo-3-chloropropane	U	ND	8.76	17.5	ug/kg	1.33	1					
1,2-Dibromoethane	U	ND	5.83	17.5	ug/kg	1.33	1					
1,2-Dichlorobenzene		27.5	5.83	17.5	ug/kg	1.33	1					
1,2-Dichloroethane	U	ND	5.83	17.5	ug/kg	1.33	1					
1,2-Dichloropropane	U	ND	5.83	17.5	ug/kg	1.33	1					
1,3-Dichlorobenzene	U	ND	5.83	17.5	ug/kg	1.33	1					
1,4-Dichlorobenzene		87.7	5.83	17.5	ug/kg	1.33	1					
1,4-Dioxane	U	ND	292	876	ug/kg	1.33	1					
2-Butanone		1270	29.2	87.6	ug/kg	1.33	1					
2-Hexanone	U	ND	29.2	87.6	ug/kg	1.33	1					
4-Methyl-2-pentanone	U	ND	29.2	87.6	ug/kg	1.33	1					
Acetone		4960	29.2	87.6	ug/kg	1.33	1					
Benzene		17.9	5.83	17.5	ug/kg	1.33	1					
Bromochloromethane	U	ND	5.83	17.5	ug/kg	1.33	1					
Bromodichloromethane	U	ND	5.83	17.5	ug/kg	1.33	1					
Bromoform	U	ND	5.83	17.5	ug/kg	1.33	1					
Bromomethane	U	ND	5.83	17.5	ug/kg	1.33	1					
Carbon disulfide		316	29.2	87.6	ug/kg	1.33	1					
Carbon tetrachloride	U	ND	5.83	17.5	ug/kg	1.33	1					
Chlorobenzene	U	ND	5.83	17.5	ug/kg	1.33	1					
Chloroethane	U	ND	5.83	17.5	ug/kg	1.33	1					
Chloroform	U	ND	5.83	17.5	ug/kg	1.33	1					
Chloromethane	U	ND	5.83	17.5	ug/kg	1.33	1					
Cyclohexane	U	ND	5.83	17.5	ug/kg	1.33	1					

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Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-19	Project: WNUC01921
Sample ID: 547748005	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "Dry Weight Corrected"												
Dibromochloromethane	U	ND	5.83	17.5	ug/kg	1.33	1					
Dichlorodifluoromethane	U	ND	5.83	17.5	ug/kg	1.33	1					
Ethylbenzene	J	14.4	5.83	17.5	ug/kg	1.33	1					
Isopropylbenzene	J	9.81	5.83	17.5	ug/kg	1.33	1					
Methyl acetate	U	ND	29.2	87.6	ug/kg	1.33	1					
Methylcyclohexane	U	ND	5.83	17.5	ug/kg	1.33	1					
Methylene chloride	U	ND	29.2	87.6	ug/kg	1.33	1					
Styrene	U	ND	5.83	17.5	ug/kg	1.33	1					
Tetrachloroethylene	U	ND	5.83	17.5	ug/kg	1.33	1					
Toluene	J	11.7	5.83	17.5	ug/kg	1.33	1					
Trichloroethylene	U	ND	5.83	17.5	ug/kg	1.33	1					
Trichlorofluoromethane	U	ND	5.83	17.5	ug/kg	1.33	1					
Trichlorotrifluoroethane	U	ND	29.2	87.6	ug/kg	1.33	1					
Vinyl chloride	U	ND	5.83	17.5	ug/kg	1.33	1					
cis-1,2-Dichloroethylene	U	ND	5.83	17.5	ug/kg	1.33	1					
cis-1,3-Dichloropropylene	U	ND	5.83	17.5	ug/kg	1.33	1					
m,p-Xylenes		62.5	11.7	35.0	ug/kg	1.33	1					
o-Xylene	U	ND	5.83	17.5	ug/kg	1.33	1					
tert-Butyl methyl ether	U	ND	5.83	17.5	ug/kg	1.33	1					
trans-1,2-Dichloroethylene	U	ND	5.83	17.5	ug/kg	1.33	1					
trans-1,3-Dichloropropylene	U	ND	5.83	17.5	ug/kg	1.33	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	AXH3	06/29/21	1600	2142440
SW846 3541	Prep Method 3541 8270D BNA for Soil	CB1	06/28/21	0900	2143035
SW846 5035	5035 Prep	JEB	06/17/21	1125	2146069
SW846 9056A	SW846 9056A Total Anions in Soil	LXA2	06/22/21	1714	2142334

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 9056A		
2	EPA 350.1 Modified SC		
3	SW846 3541/8270D		
4	SW846 8260D		

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits

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Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-19 Project: WNUC01921
Sample ID: 547748005 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
Surrogate/Tracer Recovery	Test				Result	Nominal		Recovery%		Acceptable Limits	
2-Fluorobiphenyl	SW846 8270D SVOA, Solid "Dry Weight Corrected"				8660 ug/kg	21600		40		(26%-118%)	
Nitrobenzene-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"				9840 ug/kg	21600		46		(28%-110%)	
p-Terphenyl-d14	SW846 8270D SVOA, Solid "Dry Weight Corrected"				11100 ug/kg	21600		51		(26%-130%)	
2,4,6-Tribromophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"				21000 ug/kg	43200		49		(26%-128%)	
2-Fluorophenol	SW846 8270D SVOA, Solid "Dry Weight Corrected"				22200 ug/kg	43200		51		(30%-108%)	
Phenol-d5	SW846 8270D SVOA, Solid "Dry Weight Corrected"				24800 ug/kg	43200		57		(29%-116%)	
1,2-Dichloroethane-d4	SW846 8260 Volatiles "Dry Weight Corrected"				1000 ug/kg	50.0		114		(76%-127%)	
Bromofluorobenzene	SW846 8260 Volatiles "Dry Weight Corrected"				1590 ug/kg	50.0		182*		(70%-130%)	
Toluene-d8	SW846 8260 Volatiles "Dry Weight Corrected"				1090 ug/kg	50.0		125*		(81%-120%)	

Notes:

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-B3	Project:	WNUC01921
Sample ID:	547748006	Client ID:	WNUC010
Matrix:	Sludge		
Collect Date:	17-JUN-21 11:30		
Receive Date:	18-JUN-21		
Collector:	Client		
Moisture:	92.3%		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Fluoride and Nitrate "Dry Weight Corrected"												
Fluoride		93.9	4.39	12.9	mg/kg	9.90	1	LXA2	06/23/21	0115	2142337	1
Nitrate-N	J	6.17	4.26	12.9	mg/kg	9.90	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "Dry Weight Corrected"												
Nitrogen, Ammonia		3740	81.5	226	mg/kg	34.7	10	AXH3	06/30/21	1421	2142441	2
Volatile Organics												
SW846 8260 Volatiles "Dry Weight Corrected"												
1,1,1-Trichloroethane	U	ND	6.14	18.4	ug/kg	1.41	1	JEB	07/01/21	2103	2146071	3
1,1,2,2-Tetrachloroethane	J	9.58	6.14	18.4	ug/kg	1.41	1					
1,1,2-Trichloroethane	U	ND	6.14	18.4	ug/kg	1.41	1					
1,1-Dichloroethane	U	ND	6.14	18.4	ug/kg	1.41	1					
1,1-Dichloroethylene	U	ND	6.14	18.4	ug/kg	1.41	1					
1,2,3-Trichlorobenzene	U	ND	6.14	18.4	ug/kg	1.41	1					
1,2,4-Trichlorobenzene	U	ND	6.14	18.4	ug/kg	1.41	1					
1,2-Dibromo-3-chloropropane	U	ND	9.21	18.4	ug/kg	1.41	1					
1,2-Dibromoethane	U	ND	6.14	18.4	ug/kg	1.41	1					
1,2-Dichlorobenzene		22.5	6.14	18.4	ug/kg	1.41	1					
1,2-Dichloroethane	U	ND	6.14	18.4	ug/kg	1.41	1					
1,2-Dichloropropane	U	ND	6.14	18.4	ug/kg	1.41	1					
1,3-Dichlorobenzene	U	ND	6.14	18.4	ug/kg	1.41	1					
1,4-Dichlorobenzene		77.9	6.14	18.4	ug/kg	1.41	1					
1,4-Dioxane	U	ND	307	921	ug/kg	1.41	1					
2-Butanone		1240	30.7	92.1	ug/kg	1.41	1					
2-Hexanone	U	ND	30.7	92.1	ug/kg	1.41	1					
4-Methyl-2-pentanone	U	ND	30.7	92.1	ug/kg	1.41	1					
Acetone		4910	30.7	92.1	ug/kg	1.41	1					
Benzene	J	14.4	6.14	18.4	ug/kg	1.41	1					
Bromochloromethane	U	ND	6.14	18.4	ug/kg	1.41	1					
Bromodichloromethane	U	ND	6.14	18.4	ug/kg	1.41	1					
Bromoform	U	ND	6.14	18.4	ug/kg	1.41	1					
Bromomethane	U	ND	6.14	18.4	ug/kg	1.41	1					
Carbon disulfide		283	30.7	92.1	ug/kg	1.41	1					
Carbon tetrachloride	U	ND	6.14	18.4	ug/kg	1.41	1					
Chlorobenzene	U	ND	6.14	18.4	ug/kg	1.41	1					
Chloroethane	U	ND	6.14	18.4	ug/kg	1.41	1					

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Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-B3	Project: WNUC01921
Sample ID: 547748006	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "Dry Weight Corrected"												
Chloroform	U	ND	6.14	18.4	ug/kg	1.41	1					
Chloromethane	U	ND	6.14	18.4	ug/kg	1.41	1					
Cyclohexane	U	ND	6.14	18.4	ug/kg	1.41	1					
Dibromochloromethane	U	ND	6.14	18.4	ug/kg	1.41	1					
Dichlorodifluoromethane	U	ND	6.14	18.4	ug/kg	1.41	1					
Ethylbenzene	J	11.8	6.14	18.4	ug/kg	1.41	1					
Isopropylbenzene	J	7.92	6.14	18.4	ug/kg	1.41	1					
Methyl acetate	U	ND	30.7	92.1	ug/kg	1.41	1					
Methylcyclohexane	U	ND	6.14	18.4	ug/kg	1.41	1					
Methylene chloride	U	ND	30.7	92.1	ug/kg	1.41	1					
Styrene	U	ND	6.14	18.4	ug/kg	1.41	1					
Tetrachloroethylene	U	ND	6.14	18.4	ug/kg	1.41	1					
Toluene	J	9.77	6.14	18.4	ug/kg	1.41	1					
Trichloroethylene	U	ND	6.14	18.4	ug/kg	1.41	1					
Trichlorofluoromethane	U	ND	6.14	18.4	ug/kg	1.41	1					
Trichlorotrifluoroethane	U	ND	30.7	92.1	ug/kg	1.41	1					
Vinyl chloride	U	ND	6.14	18.4	ug/kg	1.41	1					
cis-1,2-Dichloroethylene	U	ND	6.14	18.4	ug/kg	1.41	1					
cis-1,3-Dichloropropylene	U	ND	6.14	18.4	ug/kg	1.41	1					
m,p-Xylenes		52.1	12.3	36.9	ug/kg	1.41	1					
o-Xylene	U	ND	6.14	18.4	ug/kg	1.41	1					
tert-Butyl methyl ether	U	ND	6.14	18.4	ug/kg	1.41	1					
trans-1,2-Dichloroethylene	U	ND	6.14	18.4	ug/kg	1.41	1					
trans-1,3-Dichloropropylene	U	ND	6.14	18.4	ug/kg	1.41	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Modified Prep	EPA 350.1 Mod. Ammonia Nitrogen Prep	AXH3	06/29/21	1600	2142440
SW846 3541	Prep Method 3541 8270D BNA for Soil	CB1	06/28/21	0900	2143035
SW846 5035	5035 Prep	JEB	06/17/21	1130	2146069
SW846 9056A	SW846 9056A Total Anions in Soil	LXA2	06/22/21	1714	2142334

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Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-B3 Project: WNUC01921
Sample ID: 547748006 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
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The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	EPA 350.1 Modified SC	
3	SW846 8260D	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	SW846 8260 Volatiles "Dry Weight Corrected"	932 ug/kg	50.0	101	(76%-127%)
Bromofluorobenzene	SW846 8260 Volatiles "Dry Weight Corrected"	1470 ug/kg	50.0	160*	(70%-130%)
Toluene-d8	SW846 8260 Volatiles "Dry Weight Corrected"	1020 ug/kg	50.0	111	(81%-120%)

Notes:

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: July 20, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-RB2	Project:	WNUC01921
Sample ID:	547748007	Client ID:	WNUC010
Matrix:	Water		
Collect Date:	17-JUN-21 12:15		
Receive Date:	18-JUN-21		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
SW846 9056A Anions "As Received"												
Fluoride	U	ND	0.0330	0.100	mg/L		1	LXA2	06/18/21	1808	2141103	1
Nitrate-N	J	0.0754	0.0330	0.100	mg/L		1					
Mercury Analysis-CVAA												
TCLP Hg "As Received"												
Mercury	U	ND	0.000670	0.00200	mg/L	10.0	1	MTM1	07/15/21	1132	2150025	2
Metals Analysis-ICP												
TCLP ICP Metals "As Received"												
Arsenic	U	ND	0.0500	0.300	mg/L	10.0	1	LS	07/01/21	1114	2145673	3
Barium	U	ND	0.0100	0.0500	mg/L	10.0	1					
Cadmium	U	ND	0.0100	0.0500	mg/L	10.0	1					
Chromium	U	ND	0.0100	0.100	mg/L	10.0	1					
Lead	U	ND	0.0330	0.200	mg/L	10.0	1					
Selenium	U	ND	0.0600	0.300	mg/L	10.0	1					
Silver	U	ND	0.0100	0.0500	mg/L	10.0	1					
Nutrient Analysis												
EPA 350.1 Nitrogen, Ammonia "As Received"												
Nitrogen, Ammonia		0.140	0.0170	0.0500	mg/L	1.00	1	AXH3	07/02/21	1027	2145958	4
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												
1,1'-Biphenyl	U	ND	3.00	10.0	ug/L	0.00100	1	LXA1	06/22/21	2148	2141555	5
1,2,4,5-Tetrachlorobenzene	U	ND	3.00	10.0	ug/L	0.00100	1					
2,3,4,6-Tetrachlorophenol	U	ND	3.00	10.0	ug/L	0.00100	1					
2,4,5-Trichlorophenol	U	ND	3.00	10.0	ug/L	0.00100	1					
2,4,6-Trichlorophenol	U	ND	3.00	10.0	ug/L	0.00100	1					
2,4-Dichlorophenol	U	ND	3.00	10.0	ug/L	0.00100	1					
2,4-Dimethylphenol	U	ND	3.00	10.0	ug/L	0.00100	1					
2,4-Dinitrophenol	U	ND	5.00	20.0	ug/L	0.00100	1					
2,4-Dinitrotoluene	U	ND	3.00	10.0	ug/L	0.00100	1					
2,6-Dinitrotoluene	U	ND	3.00	10.0	ug/L	0.00100	1					
2-Chloronaphthalene	U	ND	0.410	1.00	ug/L	0.00100	1					
2-Chlorophenol	U	ND	3.00	10.0	ug/L	0.00100	1					
2-Methyl-4,6-dinitrophenol	U	ND	3.00	10.0	ug/L	0.00100	1					
2-Methylnaphthalene	U	ND	0.300	1.00	ug/L	0.00100	1					
2-Nitrophenol	U	ND	3.00	10.0	ug/L	0.00100	1					

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Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-RB2 Project: WNUC01921
Sample ID: 547748007 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												
3,3'-Dichlorobenzidine	U	ND	3.00	10.0	ug/L	0.00100	1					
4-Bromophenylphenylether	U	ND	3.00	10.0	ug/L	0.00100	1					
4-Chloro-3-methylphenol	U	ND	3.00	10.0	ug/L	0.00100	1					
4-Chloroaniline	U	ND	3.30	10.0	ug/L	0.00100	1					
4-Chlorophenylphenylether	U	ND	3.00	10.0	ug/L	0.00100	1					
4-Nitrophenol	U	ND	3.00	10.0	ug/L	0.00100	1					
Acenaphthene	U	ND	0.300	1.00	ug/L	0.00100	1					
Acenaphthylene	U	ND	0.300	1.00	ug/L	0.00100	1					
Acetophenone	U	ND	3.00	10.0	ug/L	0.00100	1					
Anthracene	U	ND	0.300	1.00	ug/L	0.00100	1					
Atrazine	U	ND	3.00	10.0	ug/L	0.00100	1					
Benzaldehyde	U	ND	3.00	10.0	ug/L	0.00100	1					
Benzo(a)anthracene	U	ND	0.300	1.00	ug/L	0.00100	1					
Benzo(a)pyrene	U	ND	0.300	1.00	ug/L	0.00100	1					
Benzo(b)fluoranthene	U	ND	0.300	1.00	ug/L	0.00100	1					
Benzo(ghi)perylene	U	ND	0.300	1.00	ug/L	0.00100	1					
Benzo(k)fluoranthene	U	ND	0.300	1.00	ug/L	0.00100	1					
Butylbenzylphthalate	U	ND	0.300	10.0	ug/L	0.00100	1					
Caprolactam	U	ND	3.00	10.0	ug/L	0.00100	1					
Carbazole	U	ND	0.300	1.00	ug/L	0.00100	1					
Chrysene	U	ND	0.300	1.00	ug/L	0.00100	1					
Di-n-butylphthalate	J	0.530	0.300	10.0	ug/L	0.00100	1					
Di-n-octylphthalate	U	ND	0.300	10.0	ug/L	0.00100	1					
Dibenzo(a,h)anthracene	U	ND	0.300	1.00	ug/L	0.00100	1					
Dibenzofuran	U	ND	3.00	10.0	ug/L	0.00100	1					
Diethylphthalate	U	ND	0.300	10.0	ug/L	0.00100	1					
Dimethylphthalate	U	ND	0.300	10.0	ug/L	0.00100	1					
Diphenylamine	U	ND	3.00	10.0	ug/L	0.00100	1					
Fluoranthene	U	ND	0.300	1.00	ug/L	0.00100	1					
Fluorene	U	ND	0.300	1.00	ug/L	0.00100	1					
Hexachlorobenzene	U	ND	3.00	10.0	ug/L	0.00100	1					
Hexachlorobutadiene	U	ND	3.00	10.0	ug/L	0.00100	1					
Hexachlorocyclopentadiene	U	ND	3.00	10.0	ug/L	0.00100	1					
Hexachloroethane	U	ND	3.00	10.0	ug/L	0.00100	1					
Indeno(1,2,3-cd)pyrene	U	ND	0.300	1.00	ug/L	0.00100	1					
Isophorone	U	ND	3.50	10.0	ug/L	0.00100	1					

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Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-RB2	Project: WNUC01921
Sample ID: 547748007	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												
N-Nitrosodipropylamine	U	ND	3.00	10.0	ug/L	0.00100	1					
Naphthalene	U	ND	0.300	1.00	ug/L	0.00100	1					
Nitrobenzene	U	ND	3.00	10.0	ug/L	0.00100	1					
Pentachlorophenol	U	ND	3.00	10.0	ug/L	0.00100	1					
Phenanthrene	U	ND	0.300	1.00	ug/L	0.00100	1					
Phenol	U	ND	3.00	10.0	ug/L	0.00100	1					
Pyrene	U	ND	0.300	1.00	ug/L	0.00100	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	3.00	10.0	ug/L	0.00100	1					
bis(2-Chloroethoxy)methane	U	ND	3.00	10.0	ug/L	0.00100	1					
bis(2-Chloroethyl) ether	U	ND	3.00	10.0	ug/L	0.00100	1					
bis(2-Ethylhexyl)phthalate	B	1.06	0.300	1.00	ug/L	0.00100	1					
m,p-Cresols	U	ND	3.70	10.0	ug/L	0.00100	1					
m-Nitroaniline	U	ND	3.00	10.0	ug/L	0.00100	1					
o-Cresol	U	ND	3.00	10.0	ug/L	0.00100	1					
o-Nitroaniline	U	ND	3.00	10.0	ug/L	0.00100	1					
p-Nitroaniline	U	ND	3.00	10.0	ug/L	0.00100	1					
TCLP SVOC "As Received"												
1,4-Dichlorobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1	LXA1	07/02/21	0042	2145637	6
2,4,5-Trichlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
2,4,6-Trichlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
2,4-Dinitrotoluene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachlorobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachlorobutadiene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Hexachloroethane	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Nitrobenzene	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Pentachlorophenol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Pyridine	U	ND	0.0150	0.0500	mg/L	0.00500	1					
m,p-Cresols	U	ND	0.0185	0.0500	mg/L	0.00500	1					
o-Cresol	U	ND	0.0150	0.0500	mg/L	0.00500	1					
Volatile Organics												
SW846 8260 Volatiles "As Received"												
1,1,1-Trichloroethane	U	ND	0.333	1.00	ug/L		1	JM6	07/01/21	1221	2146020	7
1,1,2,2-Tetrachloroethane	U	ND	0.333	1.00	ug/L		1					
1,1,2-Trichloroethane	U	ND	0.333	1.00	ug/L		1					
1,1-Dichloroethane	U	ND	0.333	1.00	ug/L		1					

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Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-RB2 Project: WNUC01921
Sample ID: 547748007 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "As Received"												
1,1-Dichloroethylene	U	ND	0.333	1.00	ug/L		1					
1,2,3-Trichlorobenzene	J	0.350	0.333	1.00	ug/L		1					
1,2,4-Trichlorobenzene	U	ND	0.333	1.00	ug/L		1					
1,2-Dibromo-3-chloropropane	U	ND	0.333	1.00	ug/L		1					
1,2-Dibromoethane	U	ND	0.333	1.00	ug/L		1					
1,2-Dichlorobenzene	U	ND	0.333	1.00	ug/L		1					
1,2-Dichloroethane	U	ND	0.333	1.00	ug/L		1					
1,2-Dichloropropane	U	ND	0.333	1.00	ug/L		1					
1,3-Dichlorobenzene	U	ND	0.333	1.00	ug/L		1					
1,4-Dichlorobenzene	U	ND	0.333	1.00	ug/L		1					
1,4-Dioxane	U	ND	16.7	50.0	ug/L		1					
2-Butanone		53.3	1.67	5.00	ug/L		1					
2-Hexanone		13.0	1.67	5.00	ug/L		1					
4-Methyl-2-pentanone	U	ND	1.67	5.00	ug/L		1					
Acetone		93.2	1.74	5.00	ug/L		1					
Benzene	U	ND	0.333	1.00	ug/L		1					
Bromochloromethane	U	ND	0.333	1.00	ug/L		1					
Bromodichloromethane		1.97	0.333	1.00	ug/L		1					
Bromoform	U	ND	0.333	1.00	ug/L		1					
Bromomethane	U	ND	0.337	1.00	ug/L		1					
Carbon disulfide	U	ND	1.67	5.00	ug/L		1					
Carbon tetrachloride	U	ND	0.333	1.00	ug/L		1					
Chlorobenzene	U	ND	0.333	1.00	ug/L		1					
Chloroethane	U	ND	0.333	1.00	ug/L		1					
Chloroform		7.93	0.333	1.00	ug/L		1					
Chloromethane	U	ND	0.333	1.00	ug/L		1					
Cyclohexane	U	ND	0.333	1.00	ug/L		1					
Dibromochloromethane	J	0.890	0.333	1.00	ug/L		1					
Dichlorodifluoromethane	U	ND	0.355	1.00	ug/L		1					
Ethylbenzene	U	ND	0.333	1.00	ug/L		1					
Isopropylbenzene	U	ND	0.333	1.00	ug/L		1					
Methyl acetate	U	ND	1.67	5.00	ug/L		1					
Methylcyclohexane	U	ND	0.333	1.00	ug/L		1					
Methylene chloride	U	ND	1.67	2.00	ug/L		1					
Styrene	U	ND	0.333	1.00	ug/L		1					
Tetrachloroethylene	U	ND	0.333	1.00	ug/L		1					

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 Columbia, South Carolina 29205
 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-RB2	Project: WNUC01921
Sample ID: 547748007	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatil Organics												
SW846 8260 Volatiles "As Received"												
Toluene	U	ND	0.333	1.00	ug/L		1					
Trichloroethylene	U	ND	0.333	1.00	ug/L		1					
Trichlorofluoromethane	U	ND	0.333	1.00	ug/L		1					
Trichlorotrifluoroethane	U	ND	2.98	5.00	ug/L		1					
Vinyl chloride	U	ND	0.333	1.00	ug/L		1					
cis-1,2-Dichloroethylene	U	ND	0.333	1.00	ug/L		1					
cis-1,3-Dichloropropylene	U	ND	0.333	1.00	ug/L		1					
m,p-Xylenes	U	ND	0.667	2.00	ug/L		1					
o-Xylene	U	ND	0.333	1.00	ug/L		1					
tert-Butyl methyl ether	U	ND	0.333	1.00	ug/L		1					
trans-1,2-Dichloroethylene	U	ND	0.333	1.00	ug/L		1					
trans-1,3-Dichloropropylene	U	ND	0.333	1.00	ug/L		1					
TCLP Volatiles "As Received"												
1,1-Dichloroethylene	U	ND	0.00333	0.0100	mg/L		10	PXY1	07/14/21	1625	2149793	8
1,2-Dichloroethane	U	ND	0.00333	0.0100	mg/L		10					
1,4-Dichlorobenzene	U	ND	0.00333	0.0100	mg/L		10					
2-Butanone	B	0.0715	0.0167	0.0500	mg/L		10					
Benzene	U	ND	0.00333	0.0100	mg/L		10					
Carbon tetrachloride	U	ND	0.00333	0.0100	mg/L		10					
Chlorobenzene	U	ND	0.00333	0.0100	mg/L		10					
Chloroform	J	0.00700	0.00333	0.0100	mg/L		10					
Tetrachloroethylene	U	ND	0.00333	0.0100	mg/L		10					
Trichloroethylene	U	ND	0.00333	0.0100	mg/L		10					
Vinyl chloride	U	ND	0.00333	0.0100	mg/L		10					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.1 Prep	EPA 350.1 Ammonia Nitrogen Prep	AXH3	07/02/21	1001	2145957
SW846 1311	SW846 1311 TCLP Leaching	JP2	06/30/21	1318	2142003
SW846 1311	SW846 1311 TCLP Leaching	JP2	06/30/21	1318	2142004
SW846 1311	SW846 1311 TCLP Volatiles Prep	JP2	06/30/21	1318	2142005
SW846 3010A	ICP-TRACE TCLP by SW846 3010A	HH1	06/30/21	1655	2145671
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	AXH5	06/22/21	0536	2141546
SW846 3510C	3510C BNA TCLP/SPLP Prep-GC/MS Analysis	SG2	07/01/21	1027	2145607
SW846 7470A Prep	EPA 7470A Mercury Prep TCLP Liquid	AXS5	07/14/21	1248	2150024

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 Contact: Ms. Cynthia Teague
 Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-RB2	Project: WNUC01921
Sample ID: 547748007	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
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The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 7470A	
3	SW846 3010A/6010D	
4	EPA 350.1 SC	
5	SW846 3510C/8270D	
6	SW846 3510C/8270E	
7	SW846 8260D SC_NPDES	
8	SW846 8260D	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
2,4,6-Tribromophenol	SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"	67.1 ug/L	100	67	(37%-132%)
2-Fluorophenol	SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"	32.4 ug/L	100	32	(11%-79%)
Phenol-d5	SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"	26.2 ug/L	100	26	(15%-85%)
2-Fluorobiphenyl	SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"	32.6 ug/L	50.0	65	(39%-112%)
Nitrobenzene-d5	SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"	29.9 ug/L	50.0	60	(39%-112%)
p-Terphenyl-d14	SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"	28.5 ug/L	50.0	57	(24%-129%)
2-Fluorobiphenyl	TCLP SVOC "As Received"	0.212 mg/L	0.250	85	(39%-112%)
Nitrobenzene-d5	TCLP SVOC "As Received"	0.215 mg/L	0.250	86	(39%-112%)
p-Terphenyl-d14	TCLP SVOC "As Received"	0.200 mg/L	0.250	80	(24%-129%)
2,4,6-Tribromophenol	TCLP SVOC "As Received"	0.451 mg/L	0.500	90	(37%-132%)
2-Fluorophenol	TCLP SVOC "As Received"	0.241 mg/L	0.500	48	(11%-79%)
Phenol-d5	TCLP SVOC "As Received"	0.181 mg/L	0.500	36	(15%-85%)
1,2-Dichloroethane-d4	SW846 8260 Volatiles "As Received"	49.6 ug/L	50.0	99	(73%-129%)
Bromofluorobenzene	SW846 8260 Volatiles "As Received"	50.2 ug/L	50.0	100	(72%-125%)
Toluene-d8	SW846 8260 Volatiles "As Received"	50.7 ug/L	50.0	101	(75%-123%)
1,2-Dichloroethane-d4	TCLP Volatiles "As Received"	0.548 mg/L	0.0500	110	(73%-129%)
Bromofluorobenzene	TCLP Volatiles "As Received"	0.536 mg/L	0.0500	107	(72%-125%)
Toluene-d8	TCLP Volatiles "As Received"	0.521 mg/L	0.0500	104	(75%-123%)

Notes:

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Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-RB2	Project: WNUC01921
Sample ID: 547748007	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
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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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Company : Westinghouse Electric Company, LLC
Address : PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: TB-2	Project: WNUC01921
Sample ID: 547748008	Client ID: WNUC010
Matrix: Water	
Collect Date: 17-JUN-21 13:00	
Receive Date: 18-JUN-21	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "As Received"												
1,1,1-Trichloroethane	U	ND	0.333	1.00	ug/L		1	JM6	07/01/21	1248	2146020	1
1,1,2,2-Tetrachloroethane	U	ND	0.333	1.00	ug/L		1					
1,1,2-Trichloroethane	U	ND	0.333	1.00	ug/L		1					
1,1-Dichloroethane	U	ND	0.333	1.00	ug/L		1					
1,1-Dichloroethylene	U	ND	0.333	1.00	ug/L		1					
1,2,3-Trichlorobenzene	U	ND	0.333	1.00	ug/L		1					
1,2,4-Trichlorobenzene	U	ND	0.333	1.00	ug/L		1					
1,2-Dibromo-3-chloropropane	U	ND	0.333	1.00	ug/L		1					
1,2-Dibromoethane	U	ND	0.333	1.00	ug/L		1					
1,2-Dichlorobenzene	U	ND	0.333	1.00	ug/L		1					
1,2-Dichloroethane	U	ND	0.333	1.00	ug/L		1					
1,2-Dichloropropane	U	ND	0.333	1.00	ug/L		1					
1,3-Dichlorobenzene	U	ND	0.333	1.00	ug/L		1					
1,4-Dichlorobenzene	U	ND	0.333	1.00	ug/L		1					
1,4-Dioxane	U	ND	16.7	50.0	ug/L		1					
2-Butanone	U	ND	1.67	5.00	ug/L		1					
2-Hexanone	U	ND	1.67	5.00	ug/L		1					
4-Methyl-2-pentanone	U	ND	1.67	5.00	ug/L		1					
Acetone	U	ND	1.74	5.00	ug/L		1					
Benzene	U	ND	0.333	1.00	ug/L		1					
Bromochloromethane	U	ND	0.333	1.00	ug/L		1					
Bromodichloromethane	U	ND	0.333	1.00	ug/L		1					
Bromoform	U	ND	0.333	1.00	ug/L		1					
Bromomethane	U	ND	0.337	1.00	ug/L		1					
Carbon disulfide	U	ND	1.67	5.00	ug/L		1					
Carbon tetrachloride	U	ND	0.333	1.00	ug/L		1					
Chlorobenzene	U	ND	0.333	1.00	ug/L		1					
Chloroethane	U	ND	0.333	1.00	ug/L		1					
Chloroform	U	ND	0.333	1.00	ug/L		1					
Chloromethane	U	ND	0.333	1.00	ug/L		1					
Cyclohexane	U	ND	0.333	1.00	ug/L		1					
Dibromochloromethane	U	ND	0.333	1.00	ug/L		1					
Dichlorodifluoromethane	U	ND	0.355	1.00	ug/L		1					
Ethylbenzene	U	ND	0.333	1.00	ug/L		1					
Isopropylbenzene	U	ND	0.333	1.00	ug/L		1					
Methyl acetate	U	ND	1.67	5.00	ug/L		1					

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Certificate of Analysis

Report Date: July 20, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: TB-2	Project: WNUC01921
Sample ID: 547748008	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
Volatil Organics											
SW846 8260 Volatiles "As Received"											
Methylcyclohexane	U	ND	0.333	1.00	ug/L		1				
Methylene chloride	U	ND	1.67	2.00	ug/L		1				
Styrene	U	ND	0.333	1.00	ug/L		1				
Tetrachloroethylene	U	ND	0.333	1.00	ug/L		1				
Toluene	U	ND	0.333	1.00	ug/L		1				
Trichloroethylene	U	ND	0.333	1.00	ug/L		1				
Trichlorofluoromethane	U	ND	0.333	1.00	ug/L		1				
Trichlorotrifluoroethane	U	ND	2.98	5.00	ug/L		1				
Vinyl chloride	U	ND	0.333	1.00	ug/L		1				
cis-1,2-Dichloroethylene	U	ND	0.333	1.00	ug/L		1				
cis-1,3-Dichloropropylene	U	ND	0.333	1.00	ug/L		1				
m,p-Xylenes	U	ND	0.667	2.00	ug/L		1				
o-Xylene	U	ND	0.333	1.00	ug/L		1				
tert-Butyl methyl ether	U	ND	0.333	1.00	ug/L		1				
trans-1,2-Dichloroethylene	U	ND	0.333	1.00	ug/L		1				
trans-1,3-Dichloropropylene	U	ND	0.333	1.00	ug/L		1				

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 8260D SC_NPDES		

Surrogate/Tracer	Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4		SW846 8260 Volatiles "As Received"	50.2 ug/L	50.0	100	(73%-129%)
Bromofluorobenzene		SW846 8260 Volatiles "As Received"	50.3 ug/L	50.0	101	(72%-125%)
Toluene-d8		SW846 8260 Volatiles "As Received"	50.5 ug/L	50.0	101	(75%-123%)

Notes:

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

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

Columbia, South Carolina 29205

Report Date: July 20, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-13
Sample ID: 547748001
Matrix: Sludge
Collect Date: 17-JUN-21
Receive Date: 18-JUN-21
Collector: Client
Moisture: 92.7%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		1840	+/-56.8	2.62	+/-573	0.500	pCi/g			MP2	07/13/21	1439	2142117	2
Uranium-235/236		91.9	+/-14.2	1.69	+/-31.8	0.500	pCi/g							
Uranium-238		435	+/-27.6	2.32	+/-137	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Techneium-99		7.88	+/-0.614	0.564	+/-1.09	1.00	pCi/g			JJ3	06/30/21	2215	2142297	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AA1	06/22/21	0920	2141936

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2142117	31.5	(15%-125%)
Techneium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2142297	84.2	(15%-125%)

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Certificate of Analysis

Company : Westinghouse Electric Company,
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Columbia, South Carolina 29205

Report Date: July 20, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-13

Project: WNUC01921

Sample ID: 547748001

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Report Date: July 20, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-7
Sample ID: 547748002
Matrix: Sludge
Collect Date: 17-JUN-21
Receive Date: 18-JUN-21
Collector: Client
Moisture: 95%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		1390	+/-40.3	1.78	+/-361	0.500	pCi/g			MP2	07/13/21	1439	2142117	2
Uranium-235/236		62.1	+/-9.49	1.76	+/-18.6	0.500	pCi/g							
Uranium-238		250	+/-17.1	1.64	+/-66.6	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99		2.75	+/-0.425	0.528	+/-0.530	1.00	pCi/g			JJ3	06/30/21	2328	2142297	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AA1	06/22/21	0920	2141936

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2142117	38.3	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2142297	84.2	(15%-125%)

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Report Date: July 20, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-7

Project: WNUC01921

Sample ID: 547748002

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Report Date: July 20, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-9
Sample ID: 547748003
Matrix: Sludge
Collect Date: 17-JUN-21
Receive Date: 18-JUN-21
Collector: Client
Moisture: 87.8%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		1660	+/-46.9	1.92	+/-453	0.500	pCi/g			MP2	07/13/21	1439	2142117	2
Uranium-235/236		76.5	+/-11.2	2.17	+/-23.6	0.500	pCi/g							
Uranium-238		391	+/-22.8	1.62	+/-109	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99		23.6	+/-0.840	0.457	+/-2.84	1.00	pCi/g			JJ3	07/01/21	0040	2142297	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AA1	06/22/21	0920	2141936

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2142117	34.4	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2142297	85.4	(15%-125%)

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Report Date: July 20, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-9

Project: WNUC01921

Sample ID: 547748003

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

Mtd.: Method

DL: Detection Limit

PF: Prep Factor

Lc/LC: Critical Level

RL: Reporting Limit

MDA: Minimum Detectable Activity

TPU: Total Propagated Uncertainty

MDC: Minimum Detectable Concentration

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Certificate of Analysis

Company : Westinghouse Electric Company,
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Columbia, South Carolina 29205

Report Date: July 20, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-17
Sample ID: 547748004
Matrix: Sludge
Collect Date: 17-JUN-21
Receive Date: 18-JUN-21
Collector: Client
Moisture: 96.5%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		2580	+/-63.9	3.11	+/-798	0.500	pCi/g			MP2	07/13/21	1439	2142117	2
Uranium-235/236		141	+/-16.6	2.40	+/-46.5	0.500	pCi/g							
Uranium-238		467	+/-27.2	1.74	+/-147	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99		1.77	+/-0.354	0.482	+/-0.409	1.00	pCi/g			JJ3	07/01/21	0153	2142297	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AA1	06/22/21	0920	2141936

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2142117	28.6	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2142297	85.6	(15%-125%)

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Company : Westinghouse Electric Company,
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Report Date: July 20, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-17

Project: WNUC01921

Sample ID: 547748004

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : Westinghouse Electric Company,
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Columbia, South Carolina 29205

Report Date: July 20, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-19
Sample ID: 547748005
Matrix: Sludge
Collect Date: 17-JUN-21
Receive Date: 18-JUN-21
Collector: Client
Moisture: 92.4%

Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

Rad Alpha Spec Analysis

Alphaspec U, Soil "Dry Weight Corrected"

Uranium-233/234		2180	+/-61.4	2.79	+/-692	0.500	pCi/g			MP2	07/13/21	1439	2142117	2
Uranium-235/236		121	+/-16.1	2.34	+/-41.4	0.500	pCi/g							
Uranium-238		538	+/-30.5	3.30	+/-172	0.500	pCi/g							

Rad Liquid Scintillation Analysis

Liquid Scint Tc99, Soil "As Received"

Technetium-99		10.2	+/-0.633	0.523	+/-1.34	1.00	pCi/g			JJ3	07/01/21	0305	2142297	3
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The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AA1	06/22/21	0920	2141936

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2142117	25.2	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2142297	86.3	(15%-125%)

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Certificate of Analysis

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

Columbia, South Carolina 29205

Report Date: July 20, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-19

Project: WNUC01921

Sample ID: 547748005

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : Westinghouse Electric Company,
Address : LLC
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Columbia, South Carolina 29205

Report Date: July 20, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-B3

Project: WNUC01921

Sample ID: 547748006

Client ID: WNUC010

Matrix: Sludge

Collect Date: 17-JUN-21

Receive Date: 18-JUN-21

Collector: Client

Moisture: 92.3%

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids														
<i>"As Received"</i>														
Rad Alpha Spec Analysis														
<i>Alphaspec U, Soil "Dry Weight Corrected"</i>														
Uranium-233/234		2180	+/-61.4	2.70	+/-682	0.500	pCi/g			MP2	07/13/21	1439	2142117	2
Uranium-235/236		119	+/-16.0	3.17	+/-40.5	0.500	pCi/g							
Uranium-238		511	+/-29.7	2.68	+/-162	0.500	pCi/g							
Rad Liquid Scintillation Analysis														
<i>Liquid Scint Tc99, Soil "As Received"</i>														
Technetium-99		12.9	+/-0.677	0.499	+/-1.63	1.00	pCi/g			JJ3	07/01/21	0533	2142297	3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AA1	06/22/21	0920	2141936

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, U-02-RC Modified
3	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer	Alphaspec U, Soil "Dry Weight Corrected"	2142117	27.9	(15%-125%)
Technetium-99m Tracer	Liquid Scint Tc99, Soil "As Received"	2142297	81.9	(15%-125%)

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Certificate of Analysis

Company : Westinghouse Electric Company,
Address : LLC
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Columbia, South Carolina 29205

Report Date: July 20, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-B3

Project: WNUC01921

Sample ID: 547748006

Client ID: WNUC010

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

The MDC is a sample specific MDC.

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

Lc/LC: Critical Level

MDA: Minimum Detectable Activity

MDC: Minimum Detectable Concentration

Mtd.: Method

PF: Prep Factor

RL: Reporting Limit

TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC

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Certificate of Analysis

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

Columbia, South Carolina 29205

Report Date: July 20, 2021

Contact: Ms. Cynthia Teague

Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-RB2

Project: WNUC01921

Sample ID: 547748007

Client ID: WNUC010

Matrix: Water

Collect Date: 17-JUN-21

Receive Date: 18-JUN-21

Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
<i>Alphaspec U, Liquid "As Received"</i>														
Pct Uranium-235	U	0.000	+/-				percent			MP2	07/13/21	0832	2142119	1
Uranium-233/234	U	-0.137	+/-0.158	0.556	+/-0.158	1.00	pCi/L							
Uranium-235/236	U	0.0877	+/-0.247	0.263	+/-0.247	1.00	pCi/L							
Uranium-238	U	0.162	+/-0.286	0.434	+/-0.287	1.00	pCi/L							
Rad Liquid Scintillation Analysis														
<i>Liquid Scint Tc99, Liquid "As Received"</i>														
Technetium-99	U	1.44	+/-19.2	33.3	+/-19.2	50.0	pCi/L			JJ3	06/28/21	0221	2141574	2

The following Analytical Methods were performed

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

Surrogate/Tracer	Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Uranium-232 Tracer		Alphaspec U, Liquid "As Received"	2142119	99.5	(15%-125%)
Technetium-99m Tracer		Liquid Scint Tc99, Liquid "As Received"	2141574	90.6	(15%-125%)

Notes:
The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Mtd.: Method
DL: Detection Limit	PF: Prep Factor
Lc/LC: Critical Level	RL: Reporting Limit
MDA: Minimum Detectable Activity	TPU: Total Propagated Uncertainty
MDC: Minimum Detectable Concentration	

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QC Summary

Report Date: July 20, 2021

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Westinghouse Electric Company, LLC

PO Drawer R
Columbia, South Carolina

Contact: Ms. Cynthia Teague

Workorder: 547748

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Ion Chromatography											
Batch	2141103										
QC1204846750	547609001	DUP									
Fluoride		0.253		0.255	mg/L	0.473 ^		(+/-0.100)	LXA2	06/18/21	22:36
Nitrate-N		2.68		2.71	mg/L	0.992		(0%-20%)			
QC1204846749	LCS										
Fluoride	2.50			2.64	mg/L		106	(90%-110%)		06/18/21	22:06
Nitrate-N	2.50			2.53	mg/L		101	(90%-110%)			
QC1204846748	MB										
Fluoride			U	0.0330	mg/L					06/18/21	21:36
Nitrate-N			U	0.0330	mg/L						
QC1204846752	547609001	PS									
Fluoride	2.50	0.253		2.82	mg/L		103	(90%-110%)		06/18/21	23:05
Nitrate-N	2.50	2.68		5.31	mg/L		105	(90%-110%)			
Batch	2142337										
QC1204848996	547748006	DUP									
Fluoride		93.9		121	mg/kg	25.3		(0%-109%)	LXA2	06/23/21	01:46
Nitrate-N	J	6.17	J	6.23	mg/kg	0.84 ^		(+/-12.8)			
QC1204848995	LCS										
Fluoride	25.1			24.3	mg/kg		96.9	(90%-110%)		06/22/21	19:35
Nitrate-N	25.1			24.1	mg/kg		95.9	(90%-110%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Ion Chromatography											
Batch	2142337										
QC1204848994		MB									
Fluoride			U	ND	mg/kg				LXA2	06/22/21	19:05
Nitrate-N			U	ND	mg/kg						
QC1204848997	547748006	MS									
Fluoride	326		93.9	365	mg/kg		83.2	(75%-125%)		06/23/21	02:16
Nitrate-N	326	J	6.17	304	mg/kg		91.2	(75%-125%)			
Metals Analysis-ICP											
Batch	2145611										
QC1204854821	547747001	DUP									
Arsenic			U	ND	U	ND	mg/L	N/A		LS	07/01/21 11:45
Barium			0.108		0.105	mg/L	3.23	^ (+/-0.0500)			
Cadmium			U	ND	U	ND	mg/L	N/A			
Chromium			U	ND	U	ND	mg/L	N/A			
Lead			U	ND	U	ND	mg/L	N/A			
Selenium			U	ND	U	ND	mg/L	N/A			
Silver			U	ND	U	ND	mg/L	N/A			
QC1204854820	LCS										
Arsenic	5.00			4.64	mg/L		92.8	(80%-120%)		07/01/21	11:39
Barium	5.00			4.76	mg/L		95.2	(80%-120%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2145611										
Cadmium	5.00			4.73	mg/L		94.6	(80%-120%)	LS	07/01/21	11:39
Chromium	5.00			4.77	mg/L		95.3	(80%-120%)			
Lead	5.00			4.75	mg/L		95	(80%-120%)			
Selenium	5.00			4.67	mg/L		93.4	(80%-120%)			
Silver	1.00			0.968	mg/L		96.8	(80%-120%)			
QC1204854819	MB										
Arsenic			U	ND	mg/L					07/01/21	11:33
Barium			U	ND	mg/L						
Cadmium			U	ND	mg/L						
Chromium			U	ND	mg/L						
Lead			U	ND	mg/L						
Selenium			U	ND	mg/L						
Silver			U	ND	mg/L						
QC1204849035	547747001 MS										
Arsenic	5.00	U	ND	4.67	mg/L		93.3	(75%-125%)		07/01/21	11:48
Barium	10.0		0.108	9.86	mg/L		97.5	(75%-125%)			
Cadmium	1.00	U	ND	0.936	mg/L		93.5	(75%-125%)			

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2145611										
Chromium	5.00	U	ND	4.79	mg/L		95.7	(75%-125%)	LS	07/01/21	11:48
Lead	5.00	U	ND	4.81	mg/L		96.3	(75%-125%)			
Selenium	1.00	U	ND	0.976	mg/L		93.7	(75%-125%)			
Silver	0.500	U	ND	0.492	mg/L		97.6	(75%-125%)			
QC1204854822 547747001 SDILT											
Arsenic		U	ND	U	ND	ug/L	N/A	(0%-20%)		07/01/21	11:52
Barium			10.8	J	2.19	ug/L	1.02	(0%-20%)			
Cadmium		U	ND	U	ND	ug/L	N/A	(0%-20%)			
Chromium		U	ND	U	ND	ug/L	N/A	(0%-20%)			
Lead		U	ND	U	ND	ug/L	N/A	(0%-20%)			
Selenium		U	ND	J	6.60	ug/L	N/A	(0%-20%)			
Silver		U	ND	U	ND	ug/L	N/A	(0%-20%)			
QC1204849034 TB											
Arsenic				U	ND	mg/L				07/01/21	11:36
Barium				U	ND	mg/L					
Cadmium				U	ND	mg/L					
Chromium				U	ND	mg/L					

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2145611										
Lead			U	ND	mg/L				LS	07/01/21	11:36
Selenium			U	ND	mg/L						
Silver			U	ND	mg/L						
Batch	2145673										
QC1204854941	547748007 DUP										
Arsenic	U	ND	U	ND	mg/L	N/A			LS	07/01/21	11:17
Barium	U	ND	U	ND	mg/L	N/A					
Cadmium	U	ND	U	ND	mg/L	N/A					
Chromium	U	ND	U	ND	mg/L	N/A					
Lead	U	ND	U	ND	mg/L	N/A					
Selenium	U	ND	U	ND	mg/L	N/A					
Silver	U	ND	U	ND	mg/L	N/A					
QC1204854940	LCS										
Arsenic	5.00			4.87	mg/L		97.5	(80%-120%)		07/01/21	11:11
Barium	5.00			4.94	mg/L		98.8	(80%-120%)			
Cadmium	5.00			4.89	mg/L		97.8	(80%-120%)			
Chromium	5.00			4.94	mg/L		98.9	(80%-120%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2145673										
Lead	5.00			4.95	mg/L		98.9	(80%-120%)	LS	07/01/21	11:11
Selenium	5.00			4.76	mg/L		95.2	(80%-120%)			
Silver	1.00			0.998	mg/L		99.8	(80%-120%)			
QC1204854939 MB											
Arsenic			U	ND	mg/L					07/01/21	11:05
Barium			U	ND	mg/L						
Cadmium			U	ND	mg/L						
Chromium			U	ND	mg/L						
Lead			U	ND	mg/L						
Selenium			U	ND	mg/L						
Silver			U	ND	mg/L						
QC1204848449 547748007 MS											
Arsenic	5.00	U	ND	4.96	mg/L		98.6	(75%-125%)		07/01/21	11:20
Barium	5.00	U	ND	5.03	mg/L		100	(75%-125%)			
Cadmium	5.00	U	ND	5.01	mg/L		100	(75%-125%)			
Chromium	5.00	U	ND	5.03	mg/L		101	(75%-125%)			
Lead	5.00	U	ND	5.03	mg/L		101	(75%-125%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2145673										
Selenium	5.00	U	ND	4.95	mg/L		98.7	(75%-125%)	LS	07/01/21	11:20
Silver	1.00	U	ND	1.01	mg/L		101	(75%-125%)			
QC1204854942 547748007 SDILT											
Arsenic		U	ND	U	ND	ug/L	N/A	(0%-20%)		07/01/21	11:24
Barium		U	ND	U	ND	ug/L	N/A	(0%-20%)			
Cadmium		U	ND	U	ND	ug/L	N/A	(0%-20%)			
Chromium		U	ND	U	ND	ug/L	N/A	(0%-20%)			
Lead		U	ND	U	ND	ug/L	N/A	(0%-20%)			
Selenium		U	ND	U	ND	ug/L	N/A	(0%-20%)			
Silver		U	ND	U	ND	ug/L	N/A	(0%-20%)			
QC1204848448 TB											
Arsenic			U	ND	mg/L					07/01/21	11:08
Barium			U	ND	mg/L						
Cadmium			U	ND	mg/L						
Chromium			U	ND	mg/L						
Lead			U	ND	mg/L						
Selenium			U	ND	mg/L						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2145673										
Silver			U	ND	mg/L				LS	07/01/21	11:08
Metals Analysis-Mercury											
Batch	2150022										
QC1204863210	547747001	DUP									
Mercury			U	ND	U	ND	mg/L	N/A	MTM1	07/15/21	11:08
QC1204863209	LCS										
Mercury	0.0200				0.0197	mg/L	98.7	(80%-120%)		07/15/21	11:02
QC1204863208	MB										
Mercury			U	ND	mg/L					07/15/21	10:59
QC1204849035	547747001	MS									
Mercury	0.0200	U		ND	0.0539	mg/L	270*	(75%-125%)		07/15/21	11:06
QC1204863212	547747001	PS									
Mercury	2.00	U		ND	1.96	ug/L	97.8	(80%-120%)		07/15/21	11:11
QC1204863211	547747001	SDILT									
Mercury		U		ND	U	ND	ug/L	N/A		(0%-10%)	07/15/21 11:09
QC1204849034	TB										
Mercury			U	ND	mg/L					07/15/21	11:01
Batch	2150025										
QC1204863215	547748007	DUP									
Mercury			U	ND	U	ND	mg/L	N/A	MTM1	07/15/21	11:38
QC1204863214	LCS										
Mercury	0.0200				0.0195	mg/L	97.4	(80%-120%)		07/15/21	11:31

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-Mercury											
Batch	2150025										
QC1204863213	MB										
Mercury			U	ND	mg/L				MTM1	07/15/21	11:27
QC1204863620	547748007	MS									
Mercury	0.0200	U	ND	0.0197	mg/L		98.7	(75%-125%)		07/15/21	11:39
QC1204863621	547748007	SDILT									
Mercury		U	ND	U	ND	ug/L	N/A	(0%-10%)		07/15/21	11:41
QC1204848448	TB										
Mercury			U	ND	mg/L					07/15/21	11:29
Nutrient Analysis											
Batch	2142441										
QC1204849166	547747001	DUP									
Nitrogen, Ammonia			74.0	34.6	mg/kg	72.7*		(0%-20%)	AXH3	06/30/21	13:48
QC1204849165	LCS										
Nitrogen, Ammonia	50.0			51.0	mg/kg		102	(90%-110%)		06/30/21	13:42
QC1204849164	MB										
Nitrogen, Ammonia			U	ND	mg/kg					06/30/21	13:41
QC1204849167	547747001	MS									
Nitrogen, Ammonia	43.8		74.0	74.4	mg/kg		1*	(90%-110%)		06/30/21	13:49
Batch	2145958										
QC1204855465	548564001	DUP									
Nitrogen, Ammonia			0.155	0.119	mg/L	26.3*^		(+/-0.0250)	AXH3	07/02/21	10:37
QC1204855464	LCS										
Nitrogen, Ammonia	1.00			1.02	mg/L		102	(90%-110%)		07/02/21	10:26

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Nutrient Analysis											
Batch	2145958										
QC1204855463	MB										
Nitrogen, Ammonia			U	ND	mg/L				AXH3	07/02/21	10:25
QC1204855466	548564001	MS									
Nitrogen, Ammonia	1.00	0.155		1.05	mg/L		89.5*	(90%-110%)		07/02/21	10:38
Semi-Volatile-GC/MS											
Batch	2141555										
QC1204847575	LCS										
1,1'-Biphenyl	50.0			36.2	ug/L		72	(44%-144%)	LXA1	06/23/21	20:02
1,2,4,5-Tetrachlorobenzene	50.0			31.0	ug/L		62	(41%-111%)			
2,3,4,6-Tetrachlorophenol	50.0			37.5	ug/L		75	(51%-131%)			
2,4,5-Trichlorophenol	50.0			31.9	ug/L		64	(58%-137%)			
2,4,6-Trichlorophenol	50.0			34.5	ug/L		69	(60%-127%)			
2,4-Dichlorophenol	50.0			28.0	ug/L		56*	(58%-119%)			
2,4-Dimethylphenol	50.0			23.9	ug/L		48	(46%-99%)			
2,4-Dinitrophenol	50.0			36.0	ug/L		72	(28%-151%)			
2,4-Dinitrotoluene	50.0			39.7	ug/L		79	(55%-134%)			
2,6-Dinitrotoluene	50.0			40.4	ug/L		81	(59%-126%)			
2-Chloronaphthalene	50.0			33.3	ug/L		67	(47%-108%)			
2-Chlorophenol	50.0			25.0	ug/L		50	(46%-107%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2141555										
2-Methyl-4,6-dinitrophenol	50.0			39.1	ug/L		78	(42%-149%)	LXA1	06/23/21	20:02
2-Methylnaphthalene	50.0			32.0	ug/L		64	(48%-104%)			
2-Nitrophenol	50.0			30.4	ug/L		61	(56%-115%)			
3,3'-Dichlorobenzidine	50.0			38.5	ug/L		77	(56%-137%)			
4-Bromophenylphenylether	50.0			35.5	ug/L		71	(49%-114%)			
4-Chloro-3-methylphenol	50.0			25.9	ug/L		52 *	(56%-118%)			
4-Chloroaniline	50.0			32.9	ug/L		66	(59%-122%)			
4-Chlorophenylphenylether	50.0			36.2	ug/L		72	(56%-120%)			
4-Nitrophenol	50.0			12.9	ug/L		26	(21%-110%)			
Acenaphthene	50.0			35.0	ug/L		70	(51%-109%)			
Acenaphthylene	50.0			35.5	ug/L		71	(51%-108%)			
Acetophenone	50.0			33.5	ug/L		67	(50%-111%)			
Anthracene	50.0			35.7	ug/L		71	(56%-110%)			
Atrazine	50.0			39.4	ug/L		79	(54%-133%)			
Benzaldehyde	50.0			29.6	ug/L		59	(41%-111%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2141555										
Benzo(a)anthracene	50.0			35.1	ug/L		70	(60%-112%)	LXA1	06/23/21	20:02
Benzo(a)pyrene	50.0			27.5	ug/L		55	(55%-110%)			
Benzo(b)fluoranthene	50.0			31.6	ug/L		63	(54%-111%)			
Benzo(ghi)perylene	50.0			31.7	ug/L		63	(44%-133%)			
Benzo(k)fluoranthene	50.0			31.8	ug/L		64	(54%-117%)			
Butylbenzylphthalate	50.0			33.8	ug/L		68	(54%-118%)			
Caprolactam	50.0			12.5	ug/L		25	(20%-75%)			
Carbazole	50.0			39.2	ug/L		78	(55%-120%)			
Chrysene	50.0			34.0	ug/L		68	(59%-116%)			
Di-n-butylphthalate	50.0			33.8	ug/L		68	(55%-122%)			
Di-n-octylphthalate	50.0			30.1	ug/L		60	(50%-125%)			
Dibenzo(a,h)anthracene	50.0			31.9	ug/L		64	(42%-130%)			
Dibenzofuran	50.0			37.0	ug/L		74	(55%-122%)			
Diethylphthalate	50.0			37.3	ug/L		75	(60%-121%)			
Dimethylphthalate	50.0			36.0	ug/L		72	(62%-123%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2141555										
Diphenylamine	50.0			37.6	ug/L		75	(48%-117%)	LXA1	06/23/21	20:02
Fluoranthene	50.0			34.1	ug/L		68	(54%-121%)			
Fluorene	50.0			36.9	ug/L		74	(56%-111%)			
Hexachlorobenzene	50.0			35.1	ug/L		70	(51%-118%)			
Hexachlorobutadiene	50.0			24.9	ug/L		50	(39%-103%)			
Hexachlorocyclopentadiene	50.0			18.3	ug/L		37	(30%-95%)			
Hexachloroethane	50.0			24.1	ug/L		48	(36%-90%)			
Indeno(1,2,3-cd)pyrene	50.0			32.9	ug/L		66	(48%-128%)			
Isophorone	50.0			34.5	ug/L		69	(58%-113%)			
N-Nitrosodipropylamine	50.0			33.5	ug/L		67	(49%-118%)			
Naphthalene	50.0			31.6	ug/L		63	(49%-103%)			
Nitrobenzene	50.0			31.8	ug/L		64	(55%-110%)			
Pentachlorophenol	50.0			33.0	ug/L		66	(42%-132%)			
Phenanthrene	50.0			36.3	ug/L		73	(56%-110%)			
Phenol	50.0			12.4	ug/L		25	(12%-90%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2141555										
Pyrene	50.0			36.0	ug/L		72	(43%-122%)	LXA1	06/23/21	20:02
bis(2-Chloro-1-methylethyl)ether	50.0			30.6	ug/L		61	(42%-115%)			
bis(2-Chloroethoxy)methane	50.0			30.4	ug/L		61	(56%-108%)			
bis(2-Chloroethyl) ether	50.0			31.9	ug/L		64	(47%-108%)			
bis(2-Ethylhexyl)phthalate	50.0		B	28.5	ug/L		57	(47%-118%)			
m,p-Cresols	50.0			22.1	ug/L		44	(39%-95%)			
m-Nitroaniline	50.0			37.4	ug/L		75	(55%-140%)			
o-Cresol	50.0			22.8	ug/L		46	(39%-102%)			
o-Nitroaniline	50.0			35.8	ug/L		72	(59%-123%)			
p-Nitroaniline	50.0			39.7	ug/L		79	(52%-149%)			
**2,4,6-Tribromophenol	100			67.9	ug/L		68	(37%-132%)			
**2-Fluorobiphenyl	50.0			32.4	ug/L		65	(39%-112%)			
**2-Fluorophenol	100			30.5	ug/L		30	(11%-79%)			
**Nitrobenzene-d5	50.0			29.7	ug/L		59	(39%-112%)			
**Phenol-d5	100			24.4	ug/L		24	(15%-85%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2141555										
**p-Terphenyl-d14	50.0			23.9	ug/L		48	(24%-129%)	LXA1	06/23/21	20:02
QC1204847574	MB										
1,1'-Biphenyl			U	3.00	ug/L					06/22/21	15:00
1,2,4,5-Tetrachlorobenzene			U	3.00	ug/L						
2,3,4,6-Tetrachlorophenol			U	3.00	ug/L						
2,4,5-Trichlorophenol			U	3.00	ug/L						
2,4,6-Trichlorophenol			U	3.00	ug/L						
2,4-Dichlorophenol			U	3.00	ug/L						
2,4-Dimethylphenol			U	3.00	ug/L						
2,4-Dinitrophenol			U	5.00	ug/L						
2,4-Dinitrotoluene			U	3.00	ug/L						
2,6-Dinitrotoluene			U	3.00	ug/L						
2-Chloronaphthalene			U	0.410	ug/L						
2-Chlorophenol			U	3.00	ug/L						
2-Methyl-4,6-dinitrophenol			U	3.00	ug/L						
2-Methylnaphthalene			U	0.300	ug/L						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2141555										
2-Nitrophenol			U	3.00	ug/L				LXA1	06/22/21	15:00
3,3'-Dichlorobenzidine			U	3.00	ug/L						
4-Bromophenylphenylether			U	3.00	ug/L						
4-Chloro-3-methylphenol			U	3.00	ug/L						
4-Chloroaniline			U	3.30	ug/L						
4-Chlorophenylphenylether			U	3.00	ug/L						
4-Nitrophenol			U	3.00	ug/L						
Acenaphthene			U	0.300	ug/L						
Acenaphthylene			U	0.300	ug/L						
Acetophenone			U	3.00	ug/L						
Anthracene			U	0.300	ug/L						
Atrazine			U	3.00	ug/L						
Benzaldehyde			U	3.00	ug/L						
Benzo(a)anthracene			U	0.300	ug/L						
Benzo(a)pyrene			U	0.300	ug/L						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2141555										
Benzo(b)fluoranthene			U	0.300	ug/L				LXA1	06/22/21	15:00
Benzo(ghi)perylene			U	0.300	ug/L						
Benzo(k)fluoranthene			U	0.300	ug/L						
Butylbenzylphthalate			U	0.300	ug/L						
Caprolactam			U	3.00	ug/L						
Carbazole			U	0.300	ug/L						
Chrysene			U	0.300	ug/L						
Di-n-butylphthalate			U	0.300	ug/L						
Di-n-octylphthalate			U	0.300	ug/L						
Dibenzo(a,h)anthracene			U	0.300	ug/L						
Dibenzofuran			U	3.00	ug/L						
Diethylphthalate			U	0.300	ug/L						
Dimethylphthalate			U	0.300	ug/L						
Diphenylamine			U	3.00	ug/L						
Fluoranthene			U	0.300	ug/L						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2141555										
Fluorene			U	0.300	ug/L				LXA1	06/22/21	15:00
Hexachlorobenzene			U	3.00	ug/L						
Hexachlorobutadiene			U	3.00	ug/L						
Hexachlorocyclopentadiene			U	3.00	ug/L						
Hexachloroethane			U	3.00	ug/L						
Indeno(1,2,3-cd)pyrene			U	0.300	ug/L						
Isophorone			U	3.50	ug/L						
N-Nitrosodipropylamine			U	3.00	ug/L						
Naphthalene			U	0.300	ug/L						
Nitrobenzene			U	3.00	ug/L						
Pentachlorophenol			U	3.00	ug/L						
Phenanthrene			U	0.300	ug/L						
Phenol			U	3.00	ug/L						
Pyrene			U	0.300	ug/L						
bis(2-Chloro-1-methylethyl)ether			U	3.00	ug/L						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2141555										
bis(2-Chloroethoxy)methane			U	3.00	ug/L				LXA1	06/22/21	15:00
bis(2-Chloroethyl) ether			U	3.00	ug/L						
bis(2-Ethylhexyl)phthalate			J	0.370	ug/L						
m,p-Cresols			U	3.70	ug/L						
m-Nitroaniline			U	3.00	ug/L						
o-Cresol			U	3.00	ug/L						
o-Nitroaniline			U	3.00	ug/L						
p-Nitroaniline			U	3.00	ug/L						
**2,4,6-Tribromophenol	100			64.1	ug/L		64	(37%-132%)			
**2-Fluorobiphenyl	50.0			30.8	ug/L		62	(39%-112%)			
**2-Fluorophenol	100			30.1	ug/L		30	(11%-79%)			
**Nitrobenzene-d5	50.0			27.6	ug/L		55	(39%-112%)			
**Phenol-d5	100			23.4	ug/L		23	(15%-85%)			
**p-Terphenyl-d14	50.0			23.7	ug/L		47	(24%-129%)			
QC1204847580 547484001 MS											
1,1'-Biphenyl	104	U	3.00	81.8	ug/L		79	(39%-117%)		06/22/21	20:40

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 2141555											
1,2,4,5-Tetrachlorobenzene	104	U	3.00	73.2	ug/L		70	(35%-117%)	LXA1	06/22/21	20:40
2,3,4,6-Tetrachlorophenol	104	U	3.00	83.9	ug/L		80	(43%-134%)			
2,4,5-Trichlorophenol	104	U	3.00	83.1	ug/L		80	(49%-125%)			
2,4,6-Trichlorophenol	104	U	3.00	87.1	ug/L		84	(47%-130%)			
2,4-Dichlorophenol	104	U	3.00	85.6	ug/L		82	(49%-119%)			
2,4-Dimethylphenol	104	U	3.00	74.4	ug/L		71	(40%-111%)			
2,4-Dinitrophenol	104	U	5.00	59.3	ug/L		57	(25%-154%)			
2,4-Dinitrotoluene	104	U	3.00	89.6	ug/L		86	(49%-136%)			
2,6-Dinitrotoluene	104	U	3.00	89.2	ug/L		86	(49%-126%)			
2-Chloronaphthalene	104	U	0.410	75.3	ug/L		72	(36%-120%)			
2-Chlorophenol	104	U	3.00	83.6	ug/L		80	(42%-113%)			
2-Methyl-4,6-dinitrophenol	104	U	3.00	68.5	ug/L		66	(30%-145%)			
2-Methylnaphthalene	104	U	0.300	73.1	ug/L		70	(37%-109%)			
2-Nitrophenol	104	U	3.00	85.9	ug/L		82	(42%-120%)			
3,3'-Dichlorobenzidine	104	U	3.00	64.4	ug/L		62	(38%-130%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2141555										
4-Bromophenylphenylether	104	U	3.00	79.8	ug/L		77	(43%-121%)	LXA1	06/22/21	20:40
4-Chloro-3-methylphenol	104	U	3.00	83.5	ug/L		80	(42%-123%)			
4-Chloroaniline	104	U	3.30	89.1	ug/L		86	(41%-126%)			
4-Chlorophenylphenylether	104	U	3.00	79.1	ug/L		76	(47%-122%)			
4-Nitrophenol	104	U	3.00	41.2	ug/L		40	(20%-98%)			
Acenaphthene	104	U	0.300	75.7	ug/L		73	(43%-118%)			
Acenaphthylene	104	U	0.300	80.6	ug/L		77	(39%-120%)			
Acetophenone	104	U	3.00	89.9	ug/L		86	(39%-118%)			
Anthracene	104	U	0.300	76.1	ug/L		73	(46%-117%)			
Atrazine	104	U	3.00	88.9	ug/L		85	(43%-133%)			
Benzaldehyde	104	U	3.00	74.0	ug/L		71	(29%-109%)			
Benzo(a)anthracene	104	U	0.300	78.7	ug/L		76	(48%-118%)			
Benzo(a)pyrene	104	U	0.300	65.6	ug/L		63	(42%-112%)			
Benzo(b)fluoranthene	104	U	0.300	75.1	ug/L		72	(43%-118%)			
Benzo(ghi)perylene	104	U	0.300	64.3	ug/L		62	(32%-121%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2141555										
Benzo(k)fluoranthene	104	U	0.300	76.6	ug/L		73	(46%-118%)	LXA1	06/22/21	20:40
Butylbenzylphthalate	104	U	0.300	72.6	ug/L		70	(43%-124%)			
Caprolactam	104	U	3.00	51.9	ug/L		50	(26%-74%)			
Carbazole	104	U	0.300	77.1	ug/L		74	(47%-127%)			
Chrysene	104	U	0.300	77.5	ug/L		74	(47%-121%)			
Di-n-butylphthalate	104	U	0.300	71.3	ug/L		68	(45%-124%)			
Di-n-octylphthalate	104	U	0.300	75.7	ug/L		73	(38%-128%)			
Dibenzo(a,h)anthracene	104	U	0.300	66.7	ug/L		64	(33%-131%)			
Dibenzofuran	104	U	3.00	80.9	ug/L		78	(46%-117%)			
Diethylphthalate	104	U	0.300	79.3	ug/L		76	(49%-128%)			
Dimethylphthalate	104	U	0.300	86.0	ug/L		83	(50%-130%)			
Diphenylamine	104	U	3.00	83.6	ug/L		80	(41%-118%)			
Fluoranthene	104	U	0.300	75.9	ug/L		73	(44%-121%)			
Fluorene	104	U	0.300	77.6	ug/L		74	(44%-119%)			
Hexachlorobenzene	104	U	3.00	78.7	ug/L		76	(46%-116%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2141555										
Hexachlorobutadiene	104	U	3.00		62.0	ug/L	60	(24%-102%)	LXA1	06/22/21	20:40
Hexachlorocyclopentadiene	104	U	3.00	J	16.0	ug/L	15*	(18%-89%)			
Hexachloroethane	104	U	3.00		56.6	ug/L	54	(27%-95%)			
Indeno(1,2,3-cd)pyrene	104	U	0.300		74.3	ug/L	71	(35%-130%)			
Isophorone	104	U	3.50		89.6	ug/L	86	(42%-116%)			
N-Nitrosodipropylamine	104	U	3.00		87.6	ug/L	84	(36%-121%)			
Naphthalene	104	U	0.300		76.2	ug/L	73	(34%-104%)			
Nitrobenzene	104	U	3.00		83.4	ug/L	80	(44%-119%)			
Pentachlorophenol	104	U	3.00		66.8	ug/L	64	(36%-139%)			
Phenanthrene	104	U	0.300		76.8	ug/L	74	(48%-112%)			
Phenol	104	U	3.00		55.5	ug/L	53	(23%-71%)			
Pyrene	104	U	0.300		73.6	ug/L	71	(39%-120%)			
bis(2-Chloro-1-methylethyl)ether	104	U	3.00		73.4	ug/L	70	(32%-122%)			
bis(2-Chloroethoxy)methane	104	U	3.00		77.2	ug/L	74	(41%-118%)			
bis(2-Chloroethyl) ether	104	U	3.00		84.2	ug/L	81	(39%-112%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2141555										
bis(2-Ethylhexyl)phthalate	104	BJ	0.520	B	71.6	ug/L	68	(37%-120%)	LXA1	06/22/21	20:40
m,p-Cresols	104	U	3.70		86.3	ug/L	83	(35%-112%)			
m-Nitroaniline	104	U	3.00		87.9	ug/L	84	(39%-149%)			
o-Cresol	104	U	3.00		86.8	ug/L	83	(37%-107%)			
o-Nitroaniline	104	U	3.00		86.3	ug/L	83	(25%-141%)			
p-Nitroaniline	104	U	3.00		84.8	ug/L	81	(39%-149%)			
**2,4,6-Tribromophenol	208		74.7		160	ug/L	77	(37%-132%)			
**2-Fluorobiphenyl	104		33.4		74.3	ug/L	71	(39%-112%)			
**2-Fluorophenol	208		34.2		115	ug/L	55	(11%-79%)			
**Nitrobenzene-d5	104		32.6		76.2	ug/L	73	(39%-112%)			
**Phenol-d5	208		27.6		102	ug/L	49	(15%-85%)			
**p-Terphenyl-d14	104		19.8		62.8	ug/L	60	(24%-129%)			
QC1204847581 547484001 MSD											
1,1'-Biphenyl	104	U	3.00		79.6	ug/L	3	76	(0%-42%)		06/22/21 21:14
1,2,4,5-Tetrachlorobenzene	104	U	3.00		69.6	ug/L	5	67	(0%-44%)		
2,3,4,6-Tetrachlorophenol	104	U	3.00		86.9	ug/L	4	83	(0%-69%)		

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2141555										
2,4,5-Trichlorophenol	104	U	3.00	85.6	ug/L	3	82	(0%-78%)	LXA1	06/22/21	21:14
2,4,6-Trichlorophenol	104	U	3.00	85.5	ug/L	2	82	(0%-79%)			
2,4-Dichlorophenol	104	U	3.00	78.5	ug/L	9	75	(0%-42%)			
2,4-Dimethylphenol	104	U	3.00	68.8	ug/L	8	66	(0%-42%)			
2,4-Dinitrophenol	104	U	5.00	59.2	ug/L	0	57	(0%-106%)			
2,4-Dinitrotoluene	104	U	3.00	90.6	ug/L	1	87	(0%-42%)			
2,6-Dinitrotoluene	104	U	3.00	89.4	ug/L	0	86	(0%-78%)			
2-Chloronaphthalene	104	U	0.410	72.0	ug/L	5	69	(0%-50%)			
2-Chlorophenol	104	U	3.00	72.0	ug/L	15	69	(0%-78%)			
2-Methyl-4,6-dinitrophenol	104	U	3.00	67.1	ug/L	2	64	(0%-86%)			
2-Methylnaphthalene	104	U	0.300	64.9	ug/L	12	62	(0%-53%)			
2-Nitrophenol	104	U	3.00	77.8	ug/L	10	75	(0%-69%)			
3,3'-Dichlorobenzidine	104	U	3.00	52.9	ug/L	20	51	(0%-55%)			
4-Bromophenylphenylether	104	U	3.00	80.7	ug/L	1	77	(0%-78%)			
4-Chloro-3-methylphenol	104	U	3.00	78.3	ug/L	6	75	(0%-41%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2141555										
4-Chloroaniline	104	U	3.30	81.2	ug/L	9	78	(0%-76%)	LXA1	06/22/21	21:14
4-Chlorophenylphenylether	104	U	3.00	79.0	ug/L	0	76	(0%-77%)			
4-Nitrophenol	104	U	3.00	40.9	ug/L	1	39	(0%-110%)			
Acenaphthene	104	U	0.300	75.0	ug/L	1	72	(0%-47%)			
Acenaphthylene	104	U	0.300	78.0	ug/L	3	75	(0%-49%)			
Acetophenone	104	U	3.00	76.1	ug/L	17	73	(0%-46%)			
Anthracene	104	U	0.300	77.4	ug/L	2	74	(0%-49%)			
Atrazine	104	U	3.00	87.8	ug/L	1	84	(0%-42%)			
Benzaldehyde	104	U	3.00	62.5	ug/L	17	60	(0%-49%)			
Benzo(a)anthracene	104	U	0.300	81.3	ug/L	3	78	(0%-46%)			
Benzo(a)pyrene	104	U	0.300	67.7	ug/L	3	65	(0%-78%)			
Benzo(b)fluoranthene	104	U	0.300	81.1	ug/L	8	78	(0%-45%)			
Benzo(ghi)perylene	104	U	0.300	52.3	ug/L	21	50	(0%-58%)			
Benzo(k)fluoranthene	104	U	0.300	82.5	ug/L	7	79	(0%-54%)			
Butylbenzylphthalate	104	U	0.300	82.2	ug/L	12	79	(0%-48%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2141555										
Caprolactam	104	U	3.00		49.0	ug/L	6	47	(0%-116%)	LXA1	06/22/21 21:14
Carbazole	104	U	0.300		74.4	ug/L	4	71	(0%-82%)		
Chrysene	104	U	0.300		79.3	ug/L	2	76	(0%-47%)		
Di-n-butylphthalate	104	U	0.300		71.5	ug/L	0	69	(0%-47%)		
Di-n-octylphthalate	104	U	0.300		78.8	ug/L	4	76	(0%-80%)		
Dibenzo(a,h)anthracene	104	U	0.300		56.8	ug/L	16	55	(0%-60%)		
Dibenzofuran	104	U	3.00		81.0	ug/L	0	78	(0%-78%)		
Diethylphthalate	104	U	0.300		78.7	ug/L	1	76	(0%-50%)		
Dimethylphthalate	104	U	0.300		83.8	ug/L	3	80	(0%-50%)		
Diphenylamine	104	U	3.00		83.4	ug/L	0	80	(0%-79%)		
Fluoranthene	104	U	0.300		74.4	ug/L	2	71	(0%-49%)		
Fluorene	104	U	0.300		78.7	ug/L	1	76	(0%-47%)		
Hexachlorobenzene	104	U	3.00		81.1	ug/L	3	78	(0%-75%)		
Hexachlorobutadiene	104	U	3.00		50.1	ug/L	21	48	(0%-47%)		
Hexachlorocyclopentadiene	104	U	3.00	J	13.7	ug/L	15	13*	(0%-92%)		

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2141555										
Hexachloroethane	104	U	3.00		42.4	ug/L	29	41	(0%-104%)	LXA1	06/22/21 21:14
Indeno(1,2,3-cd)pyrene	104	U	0.300		59.2	ug/L	23	57	(0%-57%)		
Isophorone	104	U	3.50		82.5	ug/L	8	79	(0%-43%)		
N-Nitrosodipropylamine	104	U	3.00		76.5	ug/L	14	73	(0%-102%)		
Naphthalene	104	U	0.300		64.8	ug/L	16	62	(0%-54%)		
Nitrobenzene	104	U	3.00		74.3	ug/L	11	71	(0%-79%)		
Pentachlorophenol	104	U	3.00		68.6	ug/L	3	66	(0%-82%)		
Phenanthrene	104	U	0.300		78.0	ug/L	2	75	(0%-47%)		
Phenol	104	U	3.00		50.4	ug/L	10	48	(0%-42%)		
Pyrene	104	U	0.300		86.6	ug/L	16	83	(0%-53%)		
bis(2-Chloro-1-methylethyl)ether	104	U	3.00		62.3	ug/L	16	60	(0%-81%)		
bis(2-Chloroethoxy)methane	104	U	3.00		69.6	ug/L	10	67	(0%-44%)		
bis(2-Chloroethyl) ether	104	U	3.00		70.9	ug/L	17	68	(0%-45%)		
bis(2-Ethylhexyl)phthalate	104	BJ	0.520	B	79.1	ug/L	10	75	(0%-49%)		
m,p-Cresols	104	U	3.70		74.6	ug/L	15	72	(0%-38%)		

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2141555										
m-Nitroaniline	104	U	3.00	89.1	ug/L	1	86	(0%-74%)	LXA1	06/22/21	21:14
o-Cresol	104	U	3.00	74.5	ug/L	15	72	(0%-42%)			
o-Nitroaniline	104	U	3.00	87.0	ug/L	1	83	(0%-79%)			
p-Nitroaniline	104	U	3.00	84.1	ug/L	1	81	(0%-80%)			
**2,4,6-Tribromophenol	208		74.7	164	ug/L		79	(37%-132%)			
**2-Fluorobiphenyl	104		33.4	72.4	ug/L		69	(39%-112%)			
**2-Fluorophenol	208		34.2	102	ug/L		49	(11%-79%)			
**Nitrobenzene-d5	104		32.6	69.9	ug/L		67	(39%-112%)			
**Phenol-d5	208		27.6	95.4	ug/L		46	(15%-85%)			
**p-Terphenyl-d14	104		19.8	73.2	ug/L		70	(24%-129%)			
<hr/>											
Batch	2143036										
QC1204850223	LCS										
1,1'-Biphenyl	1640			1140	ug/kg		70	(57%-118%)	NM1	06/28/21	16:14
1,2,4,5-Tetrachlorobenzene	1640			1160	ug/kg		70	(51%-110%)			
2,3,4,6-Tetrachlorophenol	1640			1250	ug/kg		76	(52%-120%)			
2,4,5-Trichlorophenol	1640			1230	ug/kg		75	(58%-120%)			
2,4,6-Trichlorophenol	1640			1170	ug/kg		71	(52%-119%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
2,4-Dichlorophenol	1640			1120	ug/kg		69	(52%-116%)	NM1	06/28/21	16:14
2,4-Dimethylphenol	1640			1100	ug/kg		67	(47%-96%)			
2,4-Dinitrophenol	1640		J	576	ug/kg		35	(18%-92%)			
2,4-Dinitrotoluene	1640			1330	ug/kg		81	(52%-120%)			
2,6-Dinitrotoluene	1640			1280	ug/kg		78	(58%-112%)			
2-Chloronaphthalene	1640			1140	ug/kg		69	(49%-108%)			
2-Chlorophenol	1640			1110	ug/kg		67	(55%-107%)			
2-Methyl-4,6-dinitrophenol	1640			962	ug/kg		59	(23%-110%)			
2-Methylnaphthalene	1640			1070	ug/kg		65	(47%-99%)			
2-Nitrophenol	1640			1120	ug/kg		68	(53%-113%)			
3,3'-Dichlorobenzidine	1640			1200	ug/kg		73	(35%-109%)			
4-Bromophenylphenylether	1640			1270	ug/kg		77	(56%-113%)			
4-Chloro-3-methylphenol	1640			1240	ug/kg		75	(54%-119%)			
4-Chloroaniline	1640			876	ug/kg		53	(36%-90%)			
4-Chlorophenylphenylether	1640			1190	ug/kg		73	(53%-117%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
4-Nitrophenol	1640			1500	ug/kg		92	(39%-130%)	NM1	06/28/21	16:14
Acenaphthene	1640			1110	ug/kg		68	(53%-104%)			
Acenaphthylene	1640			1150	ug/kg		70	(55%-104%)			
Acetophenone	1640			1210	ug/kg		74	(50%-103%)			
Anthracene	1640			1240	ug/kg		75	(54%-109%)			
Atrazine	1640			1620	ug/kg		99	(54%-133%)			
Benzaldehyde	1640			336	ug/kg		20*	(25%-83%)			
Benzo(a)anthracene	1640			1330	ug/kg		81	(58%-110%)			
Benzo(a)pyrene	1640			1120	ug/kg		68	(50%-114%)			
Benzo(b)fluoranthene	1640			1180	ug/kg		72	(51%-111%)			
Benzo(ghi)perylene	1640			1450	ug/kg		89	(42%-122%)			
Benzo(k)fluoranthene	1640			1240	ug/kg		75	(49%-118%)			
Butylbenzylphthalate	1640			1300	ug/kg		79	(51%-123%)			
Caprolactam	1640			1230	ug/kg		75	(51%-122%)			
Carbazole	1640			1370	ug/kg		83	(51%-118%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Chrysene	1640			1260	ug/kg		77	(59%-112%)	NM1	06/28/21	16:14
Di-n-butylphthalate	1640			1280	ug/kg		78	(55%-122%)			
Di-n-octylphthalate	1640			1350	ug/kg		83	(50%-135%)			
Dibenzo(a,h)anthracene	1640			1560	ug/kg		95	(48%-132%)			
Dibenzofuran	1640			1160	ug/kg		71	(54%-112%)			
Diethylphthalate	1640			1320	ug/kg		80	(58%-121%)			
Dimethylphthalate	1640			1310	ug/kg		80	(52%-118%)			
Diphenylamine	1640			1310	ug/kg		80	(52%-107%)			
Fluoranthene	1640			1290	ug/kg		78	(52%-122%)			
Fluorene	1640			1190	ug/kg		73	(52%-110%)			
Hexachlorobenzene	1640			1270	ug/kg		78	(53%-111%)			
Hexachlorobutadiene	1640			1200	ug/kg		73	(49%-110%)			
Hexachlorocyclopentadiene	1640			734	ug/kg		45	(24%-85%)			
Hexachloroethane	1640			953	ug/kg		58	(46%-94%)			
Indeno(1,2,3-cd)pyrene	1640			1590	ug/kg		97	(47%-128%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Isophorone	1640			1280	ug/kg		78	(55%-105%)	NM1	06/28/21	16:14
N-Nitrosodipropylamine	1640			1250	ug/kg		76	(45%-112%)			
Naphthalene	1640			1080	ug/kg		66	(53%-100%)			
Nitrobenzene	1640			1150	ug/kg		70	(52%-106%)			
Pentachlorophenol	1640			1130	ug/kg		69	(35%-118%)			
Phenanthrene	1640			1250	ug/kg		76	(52%-108%)			
Phenol	1640			1140	ug/kg		69	(49%-111%)			
Pyrene	1640			1230	ug/kg		75	(45%-112%)			
bis(2-Chloro-1-methylethyl)ether	1640			1110	ug/kg		68	(39%-115%)			
bis(2-Chloroethoxy)methane	1640			1030	ug/kg		63	(52%-100%)			
bis(2-Chloroethyl) ether	1640			1060	ug/kg		65	(48%-104%)			
bis(2-Ethylhexyl)phthalate	1640			1190	ug/kg		73	(44%-127%)			
m,p-Cresols	1640			1230	ug/kg		75	(50%-118%)			
m-Nitroaniline	1640			1130	ug/kg		69	(40%-113%)			
o-Cresol	1640			1140	ug/kg		70	(53%-111%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
o-Nitroaniline	1640			1360	ug/kg		83	(50%-119%)	NM1	06/28/21	16:14
p-Nitroaniline	1640			1470	ug/kg		90	(38%-141%)			
**2,4,6-Tribromophenol	3280			2690	ug/kg		82	(26%-128%)			
**2-Fluorobiphenyl	1640			1040	ug/kg		64	(26%-118%)			
**2-Fluorophenol	3280			2200	ug/kg		67	(30%-108%)			
**Nitrobenzene-d5	1640			1090	ug/kg		66	(28%-110%)			
**Phenol-d5	3280			2400	ug/kg		73	(29%-116%)			
**p-Terphenyl-d14	1640			1150	ug/kg		70	(26%-130%)			
QC1204850222 MB											
1,1'-Biphenyl			U	ND	ug/kg					06/28/21	15:46
1,2,4,5-Tetrachlorobenzene			U	ND	ug/kg						
2,3,4,6-Tetrachlorophenol			U	ND	ug/kg						
2,4,5-Trichlorophenol			U	ND	ug/kg						
2,4,6-Trichlorophenol			U	ND	ug/kg						
2,4-Dichlorophenol			U	ND	ug/kg						
2,4-Dimethylphenol			U	ND	ug/kg						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
2,4-Dinitrophenol			U	ND	ug/kg				NM1	06/28/21	15:46
2,4-Dinitrotoluene			U	ND	ug/kg						
2,6-Dinitrotoluene			U	ND	ug/kg						
2-Chloronaphthalene			U	ND	ug/kg						
2-Chlorophenol			U	ND	ug/kg						
2-Methyl-4,6-dinitrophenol			U	ND	ug/kg						
2-Methylnaphthalene			U	ND	ug/kg						
2-Nitrophenol			U	ND	ug/kg						
3,3'-Dichlorobenzidine			U	ND	ug/kg						
4-Bromophenylphenylether			U	ND	ug/kg						
4-Chloro-3-methylphenol			U	ND	ug/kg						
4-Chloroaniline			U	ND	ug/kg						
4-Chlorophenylphenylether			U	ND	ug/kg						
4-Nitrophenol			U	ND	ug/kg						
Acenaphthene			U	ND	ug/kg						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Acenaphthylene			U	ND	ug/kg				NM1	06/28/21	15:46
Acetophenone			U	ND	ug/kg						
Anthracene			U	ND	ug/kg						
Atrazine			U	ND	ug/kg						
Benzaldehyde			U	ND	ug/kg						
Benzo(a)anthracene			U	ND	ug/kg						
Benzo(a)pyrene			U	ND	ug/kg						
Benzo(b)fluoranthene			U	ND	ug/kg						
Benzo(ghi)perylene			U	ND	ug/kg						
Benzo(k)fluoranthene			U	ND	ug/kg						
Butylbenzylphthalate			U	ND	ug/kg						
Caprolactam			U	ND	ug/kg						
Carbazole			U	ND	ug/kg						
Chrysene			U	ND	ug/kg						
Di-n-butylphthalate			U	ND	ug/kg						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Di-n-octylphthalate			U	ND	ug/kg				NM1	06/28/21	15:46
Dibenzo(a,h)anthracene			U	ND	ug/kg						
Dibenzofuran			U	ND	ug/kg						
Diethylphthalate			U	ND	ug/kg						
Dimethylphthalate			U	ND	ug/kg						
Diphenylamine			U	ND	ug/kg						
Fluoranthene			U	ND	ug/kg						
Fluorene			U	ND	ug/kg						
Hexachlorobenzene			U	ND	ug/kg						
Hexachlorobutadiene			U	ND	ug/kg						
Hexachlorocyclopentadiene			U	ND	ug/kg						
Hexachloroethane			U	ND	ug/kg						
Indeno(1,2,3-cd)pyrene			U	ND	ug/kg						
Isophorone			U	ND	ug/kg						
N-Nitrosodipropylamine			U	ND	ug/kg						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Naphthalene			U	ND	ug/kg				NM1	06/28/21	15:46
Nitrobenzene			U	ND	ug/kg						
Pentachlorophenol			U	ND	ug/kg						
Phenanthrene			U	ND	ug/kg						
Phenol			U	ND	ug/kg						
Pyrene			U	ND	ug/kg						
bis(2-Chloro-1-methylethyl)ether			U	ND	ug/kg						
bis(2-Chloroethoxy)methane			U	ND	ug/kg						
bis(2-Chloroethyl) ether			U	ND	ug/kg						
bis(2-Ethylhexyl)phthalate			U	ND	ug/kg						
m,p-Cresols			U	ND	ug/kg						
m-Nitroaniline			U	ND	ug/kg						
o-Cresol			U	ND	ug/kg						
o-Nitroaniline			U	ND	ug/kg						
p-Nitroaniline			U	ND	ug/kg						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
**2,4,6-Tribromophenol	3290			3000	ug/kg		91	(26%-128%)	NM1	06/28/21	15:46
**2-Fluorobiphenyl	1650			1180	ug/kg		72	(26%-118%)			
**2-Fluorophenol	3290			2620	ug/kg		79	(30%-108%)			
**Nitrobenzene-d5	1650			1290	ug/kg		78	(28%-110%)			
**Phenol-d5	3290			2810	ug/kg		85	(29%-116%)			
**p-Terphenyl-d14	1650			1320	ug/kg		80	(26%-130%)			
QC1204850224 547747001 MS											
1,1'-Biphenyl	2260	U	ND	647	ug/kg		29	(19%-123%)		06/28/21	17:37
1,2,4,5-Tetrachlorobenzene	2260	U	ND	629	ug/kg		28	(24%-110%)			
2,3,4,6-Tetrachlorophenol	2260	U	ND	765	ug/kg		34	(28%-125%)			
2,4,5-Trichlorophenol	2260	U	ND	695	ug/kg		31	(29%-120%)			
2,4,6-Trichlorophenol	2260	U	ND	667	ug/kg		30	(26%-127%)			
2,4-Dichlorophenol	2260	U	ND	693	ug/kg		31	(23%-120%)			
2,4-Dimethylphenol	2260	U	ND	636	ug/kg		28	(20%-105%)			
2,4-Dinitrophenol	2260	U	ND	608	ug/kg	J	27*	(28%-120%)			
2,4-Dinitrotoluene	2260	U	ND	764	ug/kg		34	(28%-120%)			

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
2,6-Dinitrotoluene	2260	U	ND	749	ug/kg		33	(27%-120%)	NM1	06/28/21	17:37
2-Chloronaphthalene	2260	U	ND	630	ug/kg		28	(16%-118%)			
2-Chlorophenol	2260	U	ND	705	ug/kg		31	(19%-108%)			
2-Methyl-4,6-dinitrophenol	2260	U	ND	731	ug/kg		32	(17%-112%)			
2-Methylnaphthalene	2260	U	ND	630	ug/kg		28	(19%-110%)			
2-Nitrophenol	2260	U	ND	680	ug/kg		30	(20%-110%)			
3,3'-Dichlorobenzidine	2260	U	ND	763	ug/kg		34	(12%-110%)			
4-Bromophenylphenylether	2260	U	ND	703	ug/kg		31	(25%-120%)			
4-Chloro-3-methylphenol	2260	U	ND	786	ug/kg		35	(27%-122%)			
4-Chloroaniline	2260	U	ND	518	ug/kg		23 *	(26%-88%)			
4-Chlorophenylphenylether	2260	U	ND	678	ug/kg		30	(25%-124%)			
4-Nitrophenol	2260	U	ND	863	ug/kg		38	(16%-132%)			
Acenaphthene	2260	U	ND	635	ug/kg		28	(17%-113%)			
Acenaphthylene	2260	U	ND	657	ug/kg		29	(23%-112%)			
Acetophenone	2260	U	ND	781	ug/kg		35	(19%-118%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Anthracene	2260	U	ND	725	ug/kg		32	(21%-113%)	NM1	06/28/21	17:37
Atrazine	2260	U	ND	880	ug/kg		39	(28%-133%)			
Benzaldehyde	2260	U	ND	621	ug/kg		28	(10%-97%)			
Benzo(a)anthracene	2260	U	ND	787	ug/kg		35	(24%-116%)			
Benzo(a)pyrene	2260	U	ND	687	ug/kg		30	(23%-120%)			
Benzo(b)fluoranthene	2260	U	ND	711	ug/kg		32	(22%-122%)			
Benzo(ghi)perylene	2260	U	ND	779	ug/kg		35	(15%-120%)			
Benzo(k)fluoranthene	2260	U	ND	753	ug/kg		33	(22%-130%)			
Butylbenzylphthalate	2260	U	ND	791	ug/kg		35	(21%-133%)			
Caprolactam	2260	U	ND	789	ug/kg		35	(22%-125%)			
Carbazole	2260	U	ND	781	ug/kg		35	(19%-123%)			
Chrysene	2260	U	ND	733	ug/kg		32	(23%-120%)			
Di-n-butylphthalate	2260	U	ND	767	ug/kg		34	(28%-120%)			
Di-n-octylphthalate	2260	U	ND	879	ug/kg		39	(27%-132%)			
Dibenzo(a,h)anthracene	2260	U	ND	867	ug/kg		38	(17%-118%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Dibenzofuran	2260	U	ND	674	ug/kg		30	(24%-116%)	NM1	06/28/21	17:37
Diethylphthalate	2260	U	ND	775	ug/kg		34	(29%-120%)			
Dimethylphthalate	2260	U	ND	746	ug/kg		33	(28%-120%)			
Diphenylamine	2260	U	ND	715	ug/kg		32	(23%-111%)			
Fluoranthene	2260	U	ND	784	ug/kg		35	(24%-122%)			
Fluorene	2260	U	ND	703	ug/kg		31	(20%-119%)			
Hexachlorobenzene	2260	U	ND	705	ug/kg		31	(27%-113%)			
Hexachlorobutadiene	2260	U	ND	633	ug/kg		28	(18%-110%)			
Hexachlorocyclopentadiene	2260	U	ND	U	ND	ug/kg	0*	(18%-75%)			
Hexachloroethane	2260	U	ND	492	ug/kg		22	(18%-102%)			
Indeno(1,2,3-cd)pyrene	2260	U	ND	876	ug/kg		39	(14%-122%)			
Isophorone	2260	U	ND	771	ug/kg		34	(17%-110%)			
N-Nitrosodipropylamine	2260	U	ND	783	ug/kg		35	(18%-120%)			
Naphthalene	2260	U	ND	622	ug/kg		28	(18%-110%)			
Nitrobenzene	2260	U	ND	663	ug/kg		29	(21%-110%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Pentachlorophenol	2260	U	ND	700	ug/kg		31	(17%-128%)	NM1	06/28/21	17:37
Phenanthrene	2260	U	ND	717	ug/kg		32	(20%-117%)			
Phenol	2260	U	ND	722	ug/kg		32	(18%-119%)			
Pyrene	2260	U	ND	689	ug/kg		31	(22%-124%)			
bis(2-Chloro-1-methylethyl)ether	2260	U	ND	654	ug/kg		29	(15%-114%)			
bis(2-Chloroethoxy)methane	2260	U	ND	593	ug/kg		26	(23%-112%)			
bis(2-Chloroethyl) ether	2260	U	ND	656	ug/kg		29	(19%-112%)			
bis(2-Ethylhexyl)phthalate	2260	U	ND	770	ug/kg		34	(19%-133%)			
m,p-Cresols	2260	U	ND	764	ug/kg		34	(24%-120%)			
m-Nitroaniline	2260	U	ND	658	ug/kg		29	(18%-106%)			
o-Cresol	2260	U	ND	747	ug/kg		33	(20%-120%)			
o-Nitroaniline	2260	U	ND	801	ug/kg		35	(26%-120%)			
p-Nitroaniline	2260	U	ND	922	ug/kg		41	(14%-133%)			
**2,4,6-Tribromophenol	4520		1060	1530	ug/kg		34	(26%-128%)			
**2-Fluorobiphenyl	2260		401	497	ug/kg		22 *	(26%-118%)			

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
**2-Fluorophenol	4520	983		1340	ug/kg		30	(30%-108%)	NM1	06/28/21	17:37
**Nitrobenzene-d5	2260	447		576	ug/kg		26*	(28%-110%)			
**Phenol-d5	4520	1080		1520	ug/kg		34	(29%-116%)			
**p-Terphenyl-d14	2260	486		631	ug/kg		28	(26%-130%)			
QC1204850225 547747001 MSD											
1,1'-Biphenyl	2260	U	ND	J	321	ug/kg	67*	14*	(0%-30%)		06/28/21 18:05
1,2,4,5-Tetrachlorobenzene	2260	U	ND	J	317	ug/kg	66*	14*	(0%-30%)		
2,3,4,6-Tetrachlorophenol	2260	U	ND	J	339	ug/kg	77*	15*	(0%-30%)		
2,4,5-Trichlorophenol	2260	U	ND	J	330	ug/kg	71*	15*	(0%-30%)		
2,4,6-Trichlorophenol	2260	U	ND	J	320	ug/kg	70*	14*	(0%-30%)		
2,4-Dichlorophenol	2260	U	ND	J	311	ug/kg	76*	14*	(0%-30%)		
2,4-Dimethylphenol	2260	U	ND	J	288	ug/kg	75*	13*	(0%-30%)		
2,4-Dinitrophenol	2260	U	ND	U	ND	ug/kg	200*	0*	(0%-30%)		
2,4-Dinitrotoluene	2260	U	ND	J	362	ug/kg	72*	16*	(0%-30%)		
2,6-Dinitrotoluene	2260	U	ND	J	339	ug/kg	75*	15*	(0%-30%)		
2-Chloronaphthalene	2260	U	ND		316	ug/kg	67*	14*	(0%-30%)		

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
2-Chlorophenol	2260	U	ND	J	318	ug/kg	76*	14*	(0%-30%)	NM1	06/28/21 18:05
2-Methyl-4,6-dinitrophenol	2260	U	ND	J	256	ug/kg	96*	11*	(0%-30%)		
2-Methylnaphthalene	2260	U	ND		307	ug/kg	69*	14*	(0%-30%)		
2-Nitrophenol	2260	U	ND	J	316	ug/kg	73*	14*	(0%-30%)		
3,3'-Dichlorobenzidine	2260	U	ND	J	319	ug/kg	82*	14	(0%-30%)		
4-Bromophenylphenylether	2260	U	ND	J	329	ug/kg	72*	15*	(0%-30%)		
4-Chloro-3-methylphenol	2260	U	ND	J	357	ug/kg	75*	16*	(0%-30%)		
4-Chloroaniline	2260	U	ND	J	221	ug/kg	80*	10*	(0%-30%)		
4-Chlorophenylphenylether	2260	U	ND	J	331	ug/kg	69*	15*	(0%-30%)		
4-Nitrophenol	2260	U	ND	J	368	ug/kg	80*	16	(0%-30%)		
Acenaphthene	2260	U	ND		302	ug/kg	71*	13*	(0%-30%)		
Acenaphthylene	2260	U	ND		320	ug/kg	69*	14*	(0%-30%)		
Acetophenone	2260	U	ND	J	339	ug/kg	79*	15*	(0%-30%)		
Anthracene	2260	U	ND		336	ug/kg	73*	15*	(0%-30%)		
Atrazine	2260	U	ND	J	436	ug/kg	67*	19*	(0%-30%)		

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Benzaldehyde	2260	U	ND	J	162	ug/kg	117*	7*	(0%-30%)	NM1	06/28/21 18:05
Benzo(a)anthracene	2260	U	ND		368	ug/kg	72*	16*	(0%-30%)		
Benzo(a)pyrene	2260	U	ND		312	ug/kg	75*	14*	(0%-30%)		
Benzo(b)fluoranthene	2260	U	ND		322	ug/kg	75*	14*	(0%-30%)		
Benzo(ghi)perylene	2260	U	ND		340	ug/kg	79*	15	(0%-30%)		
Benzo(k)fluoranthene	2260	U	ND		331	ug/kg	78*	15*	(0%-30%)		
Butylbenzylphthalate	2260	U	ND		370	ug/kg	73*	16*	(0%-30%)		
Caprolactam	2260	U	ND	J	332	ug/kg	82*	15*	(0%-30%)		
Carbazole	2260	U	ND		372	ug/kg	71*	16*	(0%-30%)		
Chrysene	2260	U	ND		346	ug/kg	72*	15*	(0%-30%)		
Di-n-butylphthalate	2260	U	ND		369	ug/kg	70*	16*	(0%-30%)		
Di-n-octylphthalate	2260	U	ND		419	ug/kg	71*	19*	(0%-30%)		
Dibenzo(a,h)anthracene	2260	U	ND		366	ug/kg	81*	16*	(0%-30%)		
Dibenzofuran	2260	U	ND	J	332	ug/kg	68*	15*	(0%-30%)		
Diethylphthalate	2260	U	ND		374	ug/kg	70*	17*	(0%-30%)		

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Dimethylphthalate	2260	U	ND		360	ug/kg	70*	16*	(0%-30%)	NM1	06/28/21 18:05
Diphenylamine	2260	U	ND	J	333	ug/kg	73*	15*	(0%-30%)		
Fluoranthene	2260	U	ND		369	ug/kg	72*	16*	(0%-30%)		
Fluorene	2260	U	ND		333	ug/kg	71*	15*	(0%-30%)		
Hexachlorobenzene	2260	U	ND	J	336	ug/kg	71*	15*	(0%-30%)		
Hexachlorobutadiene	2260	U	ND	J	329	ug/kg	63*	15*	(0%-30%)		
Hexachlorocyclopentadiene	2260	U	ND	U	ND	ug/kg	N/A	0*	(0%-30%)		
Hexachloroethane	2260	U	ND	J	224	ug/kg	75*	10*	(0%-30%)		
Indeno(1,2,3-cd)pyrene	2260	U	ND		376	ug/kg	80*	17	(0%-30%)		
Isophorone	2260	U	ND	J	368	ug/kg	71*	16*	(0%-30%)		
N-Nitrosodipropylamine	2260	U	ND	J	350	ug/kg	76*	15*	(0%-30%)		
Naphthalene	2260	U	ND		311	ug/kg	67*	14*	(0%-30%)		
Nitrobenzene	2260	U	ND	J	323	ug/kg	69*	14*	(0%-30%)		
Pentachlorophenol	2260	U	ND	J	250	ug/kg	95*	11*	(0%-30%)		
Phenanthrene	2260	U	ND		339	ug/kg	72*	15*	(0%-30%)		

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
Phenol	2260	U	ND	J	330	ug/kg	75*	15*	(0%-30%)	NM1	06/28/21 18:05
Pyrene	2260	U	ND		324	ug/kg	72*	14*	(0%-30%)		
bis(2-Chloro-1-methylethyl)ether	2260	U	ND	J	310	ug/kg	71*	14*	(0%-30%)		
bis(2-Chloroethoxy)methane	2260	U	ND	J	295	ug/kg	67*	13*	(0%-30%)		
bis(2-Chloroethyl) ether	2260	U	ND	J	301	ug/kg	74*	13*	(0%-30%)		
bis(2-Ethylhexyl)phthalate	2260	U	ND		349	ug/kg	75*	15*	(0%-30%)		
m,p-Cresols	2260	U	ND	J	331	ug/kg	79*	15*	(0%-30%)		
m-Nitroaniline	2260	U	ND	J	275	ug/kg	82*	12*	(0%-30%)		
o-Cresol	2260	U	ND	J	322	ug/kg	79*	14*	(0%-30%)		
o-Nitroaniline	2260	U	ND	J	371	ug/kg	73*	16*	(0%-30%)		
p-Nitroaniline	2260	U	ND	J	419	ug/kg	75*	19	(0%-30%)		
**2,4,6-Tribromophenol	4520		1060		705	ug/kg		16*	(26%-128%)		
**2-Fluorobiphenyl	2260		401		257	ug/kg		11*	(26%-118%)		
**2-Fluorophenol	4520		983		603	ug/kg		13*	(30%-108%)		
**Nitrobenzene-d5	2260		447		285	ug/kg		13*	(28%-110%)		

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2143036										
**Phenol-d5	4520	1080		664	ug/kg		15 *	(29%-116%)	NM1	06/28/21	18:05
**p-Terphenyl-d14	2260	486		307	ug/kg		14 *	(26%-130%)			
Batch	2145637										
QC1204854880	LCS										
1,4-Dichlorobenzene	0.0500			0.0298	mg/L		60	(42%-92%)	LXA1	07/01/21	19:45
2,4,5-Trichlorophenol	0.0500			0.0448	mg/L		90	(58%-137%)			
2,4,6-Trichlorophenol	0.0500			0.0411	mg/L		82	(60%-127%)			
2,4-Dinitrotoluene	0.0500			0.0422	mg/L		84	(55%-134%)			
Hexachlorobenzene	0.0500			0.0425	mg/L		85	(51%-118%)			
Hexachlorobutadiene	0.0500			0.0275	mg/L		55	(39%-103%)			
Hexachloroethane	0.0500			0.0272	mg/L		54	(36%-90%)			
Nitrobenzene	0.0500			0.0367	mg/L		73	(55%-110%)			
Pentachlorophenol	0.0500			0.0428	mg/L		86	(42%-132%)			
Pyridine	0.0500			0.0312	mg/L		62	(25%-90%)			
m,p-Cresols	0.0500			0.0318	mg/L		64	(39%-95%)			
o-Cresol	0.0500			0.0317	mg/L		63	(39%-102%)			
**2,4,6-Tribromophenol	0.100			0.0806	mg/L		81	(37%-132%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2145637										
**2-Fluorobiphenyl	0.0500			0.0362	mg/L		72	(39%-112%)	LXA1	07/01/21	19:45
**2-Fluorophenol	0.100			0.0400	mg/L		40	(11%-79%)			
**Nitrobenzene-d5	0.0500			0.0338	mg/L		68	(39%-112%)			
**Phenol-d5	0.100			0.0310	mg/L		31	(15%-85%)			
**p-Terphenyl-d14	0.0500			0.0336	mg/L		67	(24%-129%)			
QC1204854879	MB										
1,4-Dichlorobenzene			U	ND	mg/L					07/01/21	18:17
2,4,5-Trichlorophenol			U	ND	mg/L						
2,4,6-Trichlorophenol			U	ND	mg/L						
2,4-Dinitrotoluene			U	ND	mg/L						
Hexachlorobenzene			U	ND	mg/L						
Hexachlorobutadiene			U	ND	mg/L						
Hexachloroethane			U	ND	mg/L						
Nitrobenzene			U	ND	mg/L						
Pentachlorophenol			U	ND	mg/L						
Pyridine			U	ND	mg/L						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2145637										
m,p-Cresols			U	ND	mg/L				LXA1	07/01/21	18:17
o-Cresol			U	ND	mg/L						
**2,4,6-Tribromophenol	0.100			0.0816	mg/L		82	(37%-132%)			
**2-Fluorobiphenyl	0.0500			0.0385	mg/L		77	(39%-112%)			
**2-Fluorophenol	0.100			0.0455	mg/L		45	(11%-79%)			
**Nitrobenzene-d5	0.0500			0.0365	mg/L		73	(39%-112%)			
**Phenol-d5	0.100			0.0340	mg/L		34	(15%-85%)			
**p-Terphenyl-d14	0.0500			0.0349	mg/L		70	(24%-129%)			
QC1204854881 547747001 MS											
1,4-Dichlorobenzene	0.250	U	ND	0.165	mg/L		66	(37%-90%)		07/01/21	20:45
2,4,5-Trichlorophenol	0.250	U	ND	0.220	mg/L		88	(49%-125%)			
2,4,6-Trichlorophenol	0.250	U	ND	0.201	mg/L		81	(47%-130%)			
2,4-Dinitrotoluene	0.250	U	ND	0.218	mg/L		87	(49%-136%)			
Hexachlorobenzene	0.250	U	ND	0.204	mg/L		82	(46%-116%)			
Hexachlorobutadiene	0.250	U	ND	0.146	mg/L		58	(24%-102%)			
Hexachloroethane	0.250	U	ND	0.152	mg/L		61	(27%-95%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2145637										
Nitrobenzene	0.250	U	ND	0.191	mg/L		76	(44%-119%)	LXA1	07/01/21	20:45
Pentachlorophenol	0.250	U	ND	0.233	mg/L		93	(36%-139%)			
Pyridine	0.250	U	ND	0.165	mg/L		66	(22%-103%)			
m,p-Cresols	0.250	U	ND	0.161	mg/L		64	(35%-112%)			
o-Cresol	0.250	U	ND	0.160	mg/L		64	(37%-107%)			
**2,4,6-Tribromophenol	0.500		0.419	0.406	mg/L		81	(37%-132%)			
**2-Fluorobiphenyl	0.250		0.182	0.162	mg/L		65	(39%-112%)			
**2-Fluorophenol	0.500		0.222	0.206	mg/L		41	(11%-79%)			
**Nitrobenzene-d5	0.250		0.186	0.169	mg/L		68	(39%-112%)			
**Phenol-d5	0.500		0.168	0.154	mg/L		31	(15%-85%)			
**p-Terphenyl-d14	0.250		0.197	0.176	mg/L		70	(24%-129%)			
QC1204854882 547747001 MSD											
1,4-Dichlorobenzene	0.250	U	ND	0.142	mg/L	15	57	(0%-51%)		07/01/21	21:14
2,4,5-Trichlorophenol	0.250	U	ND	0.201	mg/L	9	81	(0%-78%)			
2,4,6-Trichlorophenol	0.250	U	ND	0.183	mg/L	9	73	(0%-79%)			
2,4-Dinitrotoluene	0.250	U	ND	0.202	mg/L	8	81	(0%-42%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2145637										
Hexachlorobenzene	0.250	U	ND	0.190	mg/L	7	76	(0%-75%)	LXA1	07/01/21	21:14
Hexachlorobutadiene	0.250	U	ND	0.129	mg/L	12	52	(0%-47%)			
Hexachloroethane	0.250	U	ND	0.132	mg/L	14	53	(0%-104%)			
Nitrobenzene	0.250	U	ND	0.165	mg/L	14	66	(0%-79%)			
Pentachlorophenol	0.250	U	ND	0.209	mg/L	11	84	(0%-82%)			
Pyridine	0.250	U	ND	0.137	mg/L	19	55	(0%-70%)			
m,p-Cresols	0.250	U	ND	0.134	mg/L	18	53	(0%-38%)			
o-Cresol	0.250	U	ND	0.130	mg/L	21	52	(0%-42%)			
**2,4,6-Tribromophenol	0.500		0.419	0.367	mg/L		73	(37%-132%)			
**2-Fluorobiphenyl	0.250		0.182	0.158	mg/L		63	(39%-112%)			
**2-Fluorophenol	0.500		0.222	0.162	mg/L		32	(11%-79%)			
**Nitrobenzene-d5	0.250		0.186	0.148	mg/L		59	(39%-112%)			
**Phenol-d5	0.500		0.168	0.134	mg/L		27	(15%-85%)			
**p-Terphenyl-d14	0.250		0.197	0.154	mg/L		61	(24%-129%)			
QC1204848450 TB 1,4-Dichlorobenzene			U	ND	mg/L					07/01/21	18:46

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2145637										
2,4,5-Trichlorophenol			U	ND	mg/L				LXA1	07/01/21	18:46
2,4,6-Trichlorophenol			U	ND	mg/L						
2,4-Dinitrotoluene			U	ND	mg/L						
Hexachlorobenzene			U	ND	mg/L						
Hexachlorobutadiene			U	ND	mg/L						
Hexachloroethane			U	ND	mg/L						
Nitrobenzene			U	ND	mg/L						
Pentachlorophenol			U	ND	mg/L						
Pyridine			U	ND	mg/L						
m,p-Cresols			U	ND	mg/L						
o-Cresol			U	ND	mg/L						
**2,4,6-Tribromophenol	0.500			0.391	mg/L		78	(37%-132%)			
**2-Fluorobiphenyl	0.250			0.194	mg/L		78	(39%-112%)			
**2-Fluorophenol	0.500			0.229	mg/L		46	(11%-79%)			
**Nitrobenzene-d5	0.250			0.196	mg/L		78	(39%-112%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2145637										
**Phenol-d5	0.500			0.172	mg/L		34	(15%-85%)	LXA1	07/01/21	18:46
**p-Terphenyl-d14	0.250			0.166	mg/L		66	(24%-129%)			
QC1204849036	TB										
1,4-Dichlorobenzene			U	ND	mg/L					07/01/21	19:16
2,4,5-Trichlorophenol			U	ND	mg/L						
2,4,6-Trichlorophenol			U	ND	mg/L						
2,4-Dinitrotoluene			U	ND	mg/L						
Hexachlorobenzene			U	ND	mg/L						
Hexachlorobutadiene			U	ND	mg/L						
Hexachloroethane			U	ND	mg/L						
Nitrobenzene			U	ND	mg/L						
Pentachlorophenol			U	ND	mg/L						
Pyridine			U	ND	mg/L						
m,p-Cresols			U	ND	mg/L						
o-Cresol			U	ND	mg/L						
**2,4,6-Tribromophenol	0.500			0.378	mg/L		76	(37%-132%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	2145637										
**2-Fluorobiphenyl	0.250			0.172	mg/L		69	(39%-112%)	LXA1	07/01/21	19:16
**2-Fluorophenol	0.500			0.207	mg/L		41	(11%-79%)			
**Nitrobenzene-d5	0.250			0.175	mg/L		70	(39%-112%)			
**Phenol-d5	0.500			0.151	mg/L		30	(15%-85%)			
**p-Terphenyl-d14	0.250			0.186	mg/L		74	(24%-129%)			
Volatile-GC/MS											
Batch	2146020										
QC1204855662	LCS										
1,1,1-Trichloroethane	50.0			46.6	ug/L		93	(70%-130%)	JM6	07/01/21	08:24
1,1,2,2-Tetrachloroethane	50.0			47.5	ug/L		95	(70%-130%)			
1,1,2-Trichloroethane	50.0			49.3	ug/L		99	(70%-130%)			
1,1-Dichloroethane	50.0			44.8	ug/L		90	(70%-130%)			
1,1-Dichloroethylene	50.0			43.1	ug/L		86	(70%-130%)			
1,2,3-Trichlorobenzene	50.0			49.9	ug/L		100	(70%-130%)			
1,2,4-Trichlorobenzene	50.0			50.2	ug/L		100	(70%-130%)			
1,2-Dibromo-3-chloropropane	50.0			54.8	ug/L		110	(70%-130%)			
1,2-Dibromoethane	50.0			48.9	ug/L		98	(70%-130%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
1,2-Dichlorobenzene	50.0			48.4	ug/L		97	(70%-130%)	JM6	07/01/21	08:24
1,2-Dichloroethane	50.0			47.7	ug/L		95	(70%-130%)			
1,2-Dichloropropane	50.0			45.4	ug/L		91	(70%-130%)			
1,3-Dichlorobenzene	50.0			48.3	ug/L		97	(70%-130%)			
1,4-Dichlorobenzene	50.0			48.3	ug/L		97	(70%-130%)			
2-Butanone	250			241	ug/L		96	(70%-130%)			
2-Hexanone	250			243	ug/L		97	(70%-130%)			
4-Methyl-2-pentanone	250			254	ug/L		102	(70%-130%)			
Acetone	250			272	ug/L		109	(70%-130%)			
Benzene	50.0			45.1	ug/L		90	(70%-130%)			
Bromochloromethane	50.0			50.4	ug/L		101	(70%-130%)			
Bromodichloromethane	50.0			50.3	ug/L		101	(70%-130%)			
Bromoform	50.0			55.5	ug/L		111	(70%-130%)			
Bromomethane	50.0			51.9	ug/L		104	(70%-130%)			
Carbon disulfide	250			218	ug/L		87	(70%-130%)			

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<u>Parmname</u>	<u>NOM</u>	<u>Sample</u>	<u>Qual</u>	<u>QC</u>	<u>Units</u>	<u>RPD/D%</u>	<u>REC%</u>	<u>Range</u>	<u>Anlst</u>	<u>Date</u>	<u>Time</u>
Volatile-GC/MS											
Batch	2146020										
Carbon tetrachloride	50.0			50.1	ug/L		100	(70%-130%)	JM6	07/01/21	08:24
Chlorobenzene	50.0			47.1	ug/L		94	(70%-130%)			
Chloroethane	50.0			43.5	ug/L		87	(70%-130%)			
Chloroform	50.0			46.3	ug/L		93	(70%-130%)			
Chloromethane	50.0			41.3	ug/L		83	(70%-130%)			
Cyclohexane	50.0			46.6	ug/L		93	(70%-130%)			
Dibromochloromethane	50.0			56.7	ug/L		113	(70%-130%)			
Dichlorodifluoromethane	50.0			56.6	ug/L		113	(70%-130%)			
Ethylbenzene	50.0			46.8	ug/L		94	(70%-130%)			
Isopropylbenzene	50.0			47.5	ug/L		95	(70%-130%)			
Methyl acetate	250			250	ug/L		100	(70%-130%)			
Methylcyclohexane	50.0			47.0	ug/L		94	(70%-130%)			
Methylene chloride	50.0			49.6	ug/L		99	(70%-130%)			
Styrene	50.0			47.7	ug/L		95	(70%-130%)			
Tetrachloroethylene	50.0			45.8	ug/L		92	(70%-130%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
Toluene	50.0			45.9	ug/L		92	(70%-130%)	JM6	07/01/21	08:24
Trichloroethylene	50.0			46.9	ug/L		94	(70%-130%)			
Trichlorofluoromethane	50.0			47.6	ug/L		95	(70%-130%)			
Vinyl chloride	50.0			50.7	ug/L		101	(70%-130%)			
cis-1,2-Dichloroethylene	50.0			46.9	ug/L		94	(70%-130%)			
cis-1,3-Dichloropropylene	50.0			47.8	ug/L		96	(70%-130%)			
m,p-Xylenes	100			94.0	ug/L		94	(70%-130%)			
o-Xylene	50.0			46.9	ug/L		94	(70%-130%)			
tert-Butyl methyl ether	50.0			45.5	ug/L		91	(70%-130%)			
trans-1,2-Dichloroethylene	50.0			45.6	ug/L		91	(70%-130%)			
trans-1,3-Dichloropropylene	50.0			49.1	ug/L		98	(70%-130%)			
**1,2-Dichloroethane-d4	50.0			50.1	ug/L		100	(73%-129%)			
**Bromofluorobenzene	50.0			50.0	ug/L		100	(72%-125%)			
**Toluene-d8	50.0			49.7	ug/L		99	(75%-123%)			
QC1204855663 MB											
1,1,1-Trichloroethane			U	ND	ug/L					07/01/21	09:42

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
1,1,2,2-Tetrachloroethane			U	ND	ug/L				JM6	07/01/21	09:42
1,1,2-Trichloroethane			U	ND	ug/L						
1,1-Dichloroethane			U	ND	ug/L						
1,1-Dichloroethylene			U	ND	ug/L						
1,2,3-Trichlorobenzene			U	ND	ug/L						
1,2,4-Trichlorobenzene			U	ND	ug/L						
1,2-Dibromo-3-chloropropane			U	ND	ug/L						
1,2-Dibromoethane			U	ND	ug/L						
1,2-Dichlorobenzene			U	ND	ug/L						
1,2-Dichloroethane			U	ND	ug/L						
1,2-Dichloropropane			U	ND	ug/L						
1,3-Dichlorobenzene			U	ND	ug/L						
1,4-Dichlorobenzene			U	ND	ug/L						
1,4-Dioxane			U	ND	ug/L						
2-Butanone			U	ND	ug/L						

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
2-Hexanone			U	ND	ug/L				JM6	07/01/21	09:42
4-Methyl-2-pentanone			U	ND	ug/L						
Acetone			U	ND	ug/L						
Benzene			U	ND	ug/L						
Bromochloromethane			U	ND	ug/L						
Bromodichloromethane			U	ND	ug/L						
Bromoform			U	ND	ug/L						
Bromomethane			U	ND	ug/L						
Carbon disulfide			U	ND	ug/L						
Carbon tetrachloride			U	ND	ug/L						
Chlorobenzene			U	ND	ug/L						
Chloroethane			U	ND	ug/L						
Chloroform			U	ND	ug/L						
Chloromethane			U	ND	ug/L						
Cyclohexane			U	ND	ug/L						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
Dibromochloromethane			U	ND	ug/L				JM6	07/01/21	09:42
Dichlorodifluoromethane			U	ND	ug/L						
Ethylbenzene			U	ND	ug/L						
Isopropylbenzene			U	ND	ug/L						
Methyl acetate			U	ND	ug/L						
Methylcyclohexane			U	ND	ug/L						
Methylene chloride			U	ND	ug/L						
Styrene			U	ND	ug/L						
Tetrachloroethylene			U	ND	ug/L						
Toluene			U	ND	ug/L						
Trichloroethylene			U	ND	ug/L						
Trichlorofluoromethane			U	ND	ug/L						
Trichlorotrifluoroethane			U	ND	ug/L						
Vinyl chloride			U	ND	ug/L						
cis-1,2-Dichloroethylene			U	ND	ug/L						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
cis-1,3-Dichloropropylene			U	ND	ug/L				JM6	07/01/21	09:42
m,p-Xylenes			U	ND	ug/L						
o-Xylene			U	ND	ug/L						
tert-Butyl methyl ether			U	ND	ug/L						
trans-1,2-Dichloroethylene			U	ND	ug/L						
trans-1,3-Dichloropropylene			U	ND	ug/L						
**1,2-Dichloroethane-d4	50.0			49.3	ug/L		99	(73%-129%)			
**Bromofluorobenzene	50.0			48.6	ug/L		97	(72%-125%)			
**Toluene-d8	50.0			48.5	ug/L		97	(75%-123%)			
QC1204855667 547748007 PS											
1,1,1-Trichloroethane	50.0	U	ND	52.4	ug/L		105	(67%-135%)		07/01/21	17:15
1,1,2,2-Tetrachloroethane	50.0	U	ND	46.5	ug/L		93	(58%-138%)			
1,1,2-Trichloroethane	50.0	U	ND	44.6	ug/L		89	(70%-126%)			
1,1-Dichloroethane	50.0	U	ND	47.7	ug/L		95	(70%-126%)			
1,1-Dichloroethylene	50.0	U	ND	47.8	ug/L		96	(61%-137%)			
1,2,3-Trichlorobenzene	50.0	J	0.350	52.7	ug/L		105	(50%-132%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
1,2,4-Trichlorobenzene	50.0	U	ND	52.4	ug/L		105	(48%-134%)	JM6	07/01/21	17:15
1,2-Dibromo-3-chloropropane	50.0	U	ND	58.0	ug/L		116	(58%-135%)			
1,2-Dibromoethane	50.0	U	ND	50.7	ug/L		101	(75%-128%)			
1,2-Dichlorobenzene	50.0	U	ND	51.0	ug/L		102	(60%-128%)			
1,2-Dichloroethane	50.0	U	ND	52.1	ug/L		104	(64%-129%)			
1,2-Dichloropropane	50.0	U	ND	47.2	ug/L		94	(68%-127%)			
1,3-Dichlorobenzene	50.0	U	ND	50.3	ug/L		101	(56%-127%)			
1,4-Dichlorobenzene	50.0	U	ND	49.9	ug/L		100	(51%-125%)			
2-Butanone	250		53.3	302	ug/L		99	(38%-137%)			
2-Hexanone	250		13.0	265	ug/L		101	(52%-136%)			
4-Methyl-2-pentanone	250	U	ND	263	ug/L		105	(60%-131%)			
Acetone	250		93.2	385	ug/L		117	(47%-140%)			
Benzene	50.0	U	ND	47.8	ug/L		96	(65%-122%)			
Bromochloromethane	50.0	U	ND	52.4	ug/L		105	(72%-131%)			
Bromodichloromethane	50.0		1.97	55.5	ug/L		107	(68%-137%)			

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
Bromoform	50.0	U	ND	54.2	ug/L		108	(62%-138%)	JM6	07/01/21	17:15
Bromomethane	50.0	U	ND	59.6	ug/L		119	(61%-142%)			
Carbon disulfide	250	U	ND	241	ug/L		97	(59%-135%)			
Carbon tetrachloride	50.0	U	ND	55.8	ug/L		112	(63%-144%)			
Chlorobenzene	50.0	U	ND	49.6	ug/L		99	(63%-123%)			
Chloroethane	50.0	U	ND	49.4	ug/L		99	(64%-134%)			
Chloroform	50.0		7.93	57.7	ug/L		100	(69%-133%)			
Chloromethane	50.0	U	ND	45.7	ug/L		91	(45%-142%)			
Cyclohexane	50.0	U	ND	51.3	ug/L		103	(55%-135%)			
Dibromochloromethane	50.0	J	0.890	59.9	ug/L		118	(68%-142%)			
Dichlorodifluoromethane	50.0	U	ND	64.3	ug/L		129	(42%-155%)			
Ethylbenzene	50.0	U	ND	49.8	ug/L		100	(65%-124%)			
Isopropylbenzene	50.0	U	ND	47.9	ug/L		96	(56%-132%)			
Methyl acetate	250	U	ND	259	ug/L		103	(58%-140%)			
Methylcyclohexane	50.0	U	ND	50.7	ug/L		101	(58%-131%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
Methylene chloride	50.0	U	ND	51.8	ug/L		104	(62%-125%)	JM6	07/01/21	17:15
Styrene	50.0	U	ND	50.8	ug/L		102	(60%-131%)			
Tetrachloroethylene	50.0	U	ND	49.2	ug/L		98	(64%-129%)			
Toluene	50.0	U	ND	49.2	ug/L		98	(63%-121%)			
Trichloroethylene	50.0	U	ND	50.6	ug/L		101	(66%-126%)			
Trichlorofluoromethane	50.0	U	ND	55.1	ug/L		110	(59%-135%)			
Vinyl chloride	50.0	U	ND	57.0	ug/L		114	(58%-139%)			
cis-1,2-Dichloroethylene	50.0	U	ND	49.0	ug/L		98	(63%-131%)			
cis-1,3-Dichloropropylene	50.0	U	ND	51.3	ug/L		103	(69%-132%)			
m,p-Xylenes	100	U	ND	99.5	ug/L		99	(60%-126%)			
o-Xylene	50.0	U	ND	50.5	ug/L		101	(62%-125%)			
tert-Butyl methyl ether	50.0	U	ND	46.9	ug/L		94	(60%-133%)			
trans-1,2-Dichloroethylene	50.0	U	ND	49.0	ug/L		98	(65%-130%)			
trans-1,3-Dichloropropylene	50.0	U	ND	52.0	ug/L		104	(68%-132%)			
**1,2-Dichloroethane-d4	50.0		49.6	52.0	ug/L		104	(73%-129%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
**Bromofluorobenzene	50.0	50.2		46.9	ug/L		94	(72%-125%)	JM6	07/01/21	17:15
**Toluene-d8	50.0	50.7		50.3	ug/L		101	(75%-123%)			
QC1204855668 547748007 PSD											
1,1,1-Trichloroethane	50.0	U	ND	51.6	ug/L	2	103	(0%-20%)		07/01/21	17:42
1,1,2,2-Tetrachloroethane	50.0	U	ND	49.1	ug/L	5	98	(0%-20%)			
1,1,2-Trichloroethane	50.0	U	ND	46.5	ug/L	4	93	(0%-20%)			
1,1-Dichloroethane	50.0	U	ND	48.8	ug/L	2	98	(0%-20%)			
1,1-Dichloroethylene	50.0	U	ND	47.5	ug/L	1	95	(0%-20%)			
1,2,3-Trichlorobenzene	50.0	J	0.350	55.7	ug/L	6	111	(0%-20%)			
1,2,4-Trichlorobenzene	50.0	U	ND	54.1	ug/L	3	108	(0%-20%)			
1,2-Dibromo-3-chloropropane	50.0	U	ND	60.0	ug/L	3	120	(0%-20%)			
1,2-Dibromoethane	50.0	U	ND	52.1	ug/L	3	104	(0%-20%)			
1,2-Dichlorobenzene	50.0	U	ND	52.0	ug/L	2	104	(0%-20%)			
1,2-Dichloroethane	50.0	U	ND	51.6	ug/L	1	103	(0%-20%)			
1,2-Dichloropropane	50.0	U	ND	48.0	ug/L	2	96	(0%-20%)			
1,3-Dichlorobenzene	50.0	U	ND	50.8	ug/L	1	102	(0%-20%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
1,4-Dichlorobenzene	50.0	U	ND	50.8	ug/L	2	102	(0%-20%)	JM6	07/01/21	17:42
2-Butanone	250		53.3	314	ug/L	4	104	(0%-20%)			
2-Hexanone	250		13.0	275	ug/L	4	105	(0%-20%)			
4-Methyl-2-pentanone	250	U	ND	278	ug/L	6	111	(0%-20%)			
Acetone	250		93.2	389	ug/L	1	118	(0%-20%)			
Benzene	50.0	U	ND	48.5	ug/L	2	97	(0%-20%)			
Bromochloromethane	50.0	U	ND	54.4	ug/L	4	109	(0%-20%)			
Bromodichloromethane	50.0		1.97	55.8	ug/L	0	108	(0%-20%)			
Bromoform	50.0	U	ND	56.8	ug/L	5	114	(0%-20%)			
Bromomethane	50.0	U	ND	56.8	ug/L	5	114	(0%-20%)			
Carbon disulfide	250	U	ND	239	ug/L	1	96	(0%-20%)			
Carbon tetrachloride	50.0	U	ND	55.3	ug/L	1	111	(0%-20%)			
Chlorobenzene	50.0	U	ND	50.6	ug/L	2	101	(0%-20%)			
Chloroethane	50.0	U	ND	47.6	ug/L	4	95	(0%-20%)			
Chloroform	50.0		7.93	57.9	ug/L	0	100	(0%-20%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
Chloromethane	50.0	U	ND	44.2	ug/L	3	88	(0%-20%)	JM6	07/01/21	17:42
Cyclohexane	50.0	U	ND	51.6	ug/L	1	103	(0%-20%)			
Dibromochloromethane	50.0	J	0.890	62.4	ug/L	4	123	(0%-20%)			
Dichlorodifluoromethane	50.0	U	ND	61.3	ug/L	5	123	(0%-20%)			
Ethylbenzene	50.0	U	ND	50.4	ug/L	1	101	(0%-20%)			
Isopropylbenzene	50.0	U	ND	49.3	ug/L	3	99	(0%-20%)			
Methyl acetate	250	U	ND	265	ug/L	3	106	(0%-20%)			
Methylcyclohexane	50.0	U	ND	51.3	ug/L	1	103	(0%-20%)			
Methylene chloride	50.0	U	ND	53.0	ug/L	2	106	(0%-20%)			
Styrene	50.0	U	ND	51.2	ug/L	1	102	(0%-20%)			
Tetrachloroethylene	50.0	U	ND	49.6	ug/L	1	99	(0%-20%)			
Toluene	50.0	U	ND	50.2	ug/L	2	100	(0%-20%)			
Trichloroethylene	50.0	U	ND	51.3	ug/L	1	103	(0%-20%)			
Trichlorofluoromethane	50.0	U	ND	52.3	ug/L	5	105	(0%-20%)			
Vinyl chloride	50.0	U	ND	54.5	ug/L	5	109	(0%-20%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146020										
cis-1,2-Dichloroethylene	50.0	U	ND	50.5	ug/L	3	101	(0%-20%)	JM6	07/01/21	17:42
cis-1,3-Dichloropropylene	50.0	U	ND	52.2	ug/L	2	104	(0%-20%)			
m,p-Xylenes	100	U	ND	102	ug/L	2	102	(0%-20%)			
o-Xylene	50.0	U	ND	50.3	ug/L	0	101	(0%-20%)			
tert-Butyl methyl ether	50.0	U	ND	48.0	ug/L	2	96	(0%-20%)			
trans-1,2-Dichloroethylene	50.0	U	ND	49.1	ug/L	0	98	(0%-20%)			
trans-1,3-Dichloropropylene	50.0	U	ND	52.7	ug/L	1	105	(0%-20%)			
**1,2-Dichloroethane-d4	50.0		49.6	50.9	ug/L		102	(73%-129%)			
**Bromofluorobenzene	50.0		50.2	47.8	ug/L		96	(72%-125%)			
**Toluene-d8	50.0		50.7	50.4	ug/L		101	(75%-123%)			
<hr/>											
Batch	2146071										
QC1204855742	LCS										
1,1,1-Trichloroethane	50.0			50.1	ug/kg		100	(71%-131%)	JEB	07/01/21	11:12
1,1,2,2-Tetrachloroethane	50.0			43.9	ug/kg		88	(69%-123%)			
1,1,2-Trichloroethane	50.0			45.4	ug/kg		91	(73%-117%)			
1,1-Dichloroethane	50.0			50.1	ug/kg		100	(72%-121%)			
1,1-Dichloroethylene	50.0			47.1	ug/kg		94	(68%-128%)			

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
1,2,3-Trichlorobenzene	50.0			39.1	ug/kg		78	(68%-124%)	JEB	07/01/21	11:12
1,2,4-Trichlorobenzene	50.0			39.2	ug/kg		78	(66%-128%)			
1,2-Dibromo-3-chloropropane	50.0			38.2	ug/kg		76	(61%-134%)			
1,2-Dibromoethane	50.0			46.0	ug/kg		92	(76%-122%)			
1,2-Dichlorobenzene	50.0			41.0	ug/kg		82	(73%-116%)			
1,2-Dichloroethane	50.0			54.5	ug/kg		109	(66%-119%)			
1,2-Dichloropropane	50.0			49.6	ug/kg		99	(71%-120%)			
1,3-Dichlorobenzene	50.0			41.4	ug/kg		83	(71%-120%)			
1,4-Dichlorobenzene	50.0			41.5	ug/kg		83	(71%-113%)			
2-Butanone	250			283	ug/kg		113	(61%-134%)			
2-Hexanone	250			292	ug/kg		117	(58%-146%)			
4-Methyl-2-pentanone	250			260	ug/kg		104	(65%-126%)			
Acetone	250			269	ug/kg		108	(60%-138%)			
Benzene	50.0			47.5	ug/kg		95	(71%-120%)			
Bromochloromethane	50.0			46.5	ug/kg		93	(73%-123%)			

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
Bromodichloromethane	50.0			50.9	ug/kg		102	(72%-130%)	JEB	07/01/21	11:12
Bromoform	50.0			40.8	ug/kg		82	(65%-134%)			
Bromomethane	50.0			56.0	ug/kg		112	(61%-138%)			
Carbon disulfide	250			242	ug/kg		97	(68%-133%)			
Carbon tetrachloride	50.0			52.4	ug/kg		105	(70%-136%)			
Chlorobenzene	50.0			43.4	ug/kg		87	(73%-118%)			
Chloroethane	50.0			44.5	ug/kg		89	(67%-125%)			
Chloroform	50.0			48.6	ug/kg		97	(75%-124%)			
Chloromethane	50.0			61.1	ug/kg		122	(55%-131%)			
Cyclohexane	50.0			46.6	ug/kg		93	(63%-128%)			
Dibromochloromethane	50.0			48.0	ug/kg		96	(72%-130%)			
Dichlorodifluoromethane	50.0			70.8	ug/kg		142	(48%-156%)			
Ethylbenzene	50.0			45.7	ug/kg		91	(71%-118%)			
Isopropylbenzene	50.0			44.8	ug/kg		90	(70%-122%)			
Methyl acetate	250			272	ug/kg		109	(61%-134%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
Methylcyclohexane	50.0			44.2	ug/kg		88	(65%-127%)	JEB	07/01/21	11:12
Methylene chloride	50.0			47.7	ug/kg		95	(70%-120%)			
Styrene	50.0			43.9	ug/kg		88	(72%-124%)			
Tetrachloroethylene	50.0			44.6	ug/kg		89	(70%-125%)			
Toluene	50.0			45.3	ug/kg		91	(71%-119%)			
Trichloroethylene	50.0			49.9	ug/kg		100	(72%-117%)			
Trichlorofluoromethane	50.0			54.2	ug/kg		108	(65%-131%)			
Vinyl chloride	50.0			62.6	ug/kg		125	(64%-132%)			
cis-1,2-Dichloroethylene	50.0			45.1	ug/kg		90	(71%-124%)			
cis-1,3-Dichloropropylene	50.0			48.1	ug/kg		96	(74%-129%)			
m,p-Xylenes	100			89.7	ug/kg		90	(71%-120%)			
o-Xylene	50.0			44.7	ug/kg		89	(71%-122%)			
tert-Butyl methyl ether	50.0			45.0	ug/kg		90	(64%-130%)			
trans-1,2-Dichloroethylene	50.0			48.3	ug/kg		97	(71%-122%)			
trans-1,3-Dichloropropylene	50.0			49.9	ug/kg		100	(74%-125%)			

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
**1,2-Dichloroethane-d4	50.0			52.4	ug/L		105	(76%-127%)	JEB	07/01/21	11:12
**Bromofluorobenzene	50.0			53.7	ug/L		107	(70%-130%)			
**Toluene-d8	50.0			47.4	ug/L		95	(81%-120%)			
QC1204855744 MB											
1,1,1-Trichloroethane			U	ND	ug/kg					07/01/21	12:51
1,1,2,2-Tetrachloroethane			U	ND	ug/kg						
1,1,2-Trichloroethane			U	ND	ug/kg						
1,1-Dichloroethane			U	ND	ug/kg						
1,1-Dichloroethylene			U	ND	ug/kg						
1,2,3-Trichlorobenzene			U	ND	ug/kg						
1,2,4-Trichlorobenzene			U	ND	ug/kg						
1,2-Dibromo-3-chloropropane			U	ND	ug/kg						
1,2-Dibromoethane			U	ND	ug/kg						
1,2-Dichlorobenzene			U	ND	ug/kg						
1,2-Dichloroethane			U	ND	ug/kg						
1,2-Dichloropropane			U	ND	ug/kg						

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<u>Parmname</u>	<u>NOM</u>	<u>Sample</u>	<u>Qual</u>	<u>QC</u>	<u>Units</u>	<u>RPD/D%</u>	<u>REC%</u>	<u>Range</u>	<u>Anlst</u>	<u>Date</u>	<u>Time</u>
Volatile-GC/MS											
Batch	2146071										
1,3-Dichlorobenzene			U	ND	ug/kg				JEB	07/01/21	12:51
1,4-Dichlorobenzene			U	ND	ug/kg						
1,4-Dioxane			U	ND	ug/kg						
2-Butanone			U	ND	ug/kg						
2-Hexanone			U	ND	ug/kg						
4-Methyl-2-pentanone			U	ND	ug/kg						
Acetone			U	ND	ug/kg						
Benzene			U	ND	ug/kg						
Bromochloromethane			U	ND	ug/kg						
Bromodichloromethane			U	ND	ug/kg						
Bromoform			U	ND	ug/kg						
Bromomethane			U	ND	ug/kg						
Carbon disulfide			U	ND	ug/kg						
Carbon tetrachloride			U	ND	ug/kg						
Chlorobenzene			U	ND	ug/kg						

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
Chloroethane			U	ND	ug/kg				JEB	07/01/21	12:51
Chloroform			U	ND	ug/kg						
Chloromethane			U	ND	ug/kg						
Cyclohexane			U	ND	ug/kg						
Dibromochloromethane			U	ND	ug/kg						
Dichlorodifluoromethane			U	ND	ug/kg						
Ethylbenzene			U	ND	ug/kg						
Isopropylbenzene			U	ND	ug/kg						
Methyl acetate			U	ND	ug/kg						
Methylcyclohexane			U	ND	ug/kg						
Methylene chloride			U	ND	ug/kg						
Styrene			U	ND	ug/kg						
Tetrachloroethylene			U	ND	ug/kg						
Toluene			U	ND	ug/kg						
Trichloroethylene			U	ND	ug/kg						

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
Trichlorofluoromethane			U	ND	ug/kg				JEB	07/01/21	12:51
Trichlorotrifluoroethane			U	ND	ug/kg						
Vinyl chloride			U	ND	ug/kg						
cis-1,2-Dichloroethylene			U	ND	ug/kg						
cis-1,3-Dichloropropylene			U	ND	ug/kg						
m,p-Xylenes			U	ND	ug/kg						
o-Xylene			U	ND	ug/kg						
tert-Butyl methyl ether			U	ND	ug/kg						
trans-1,2-Dichloroethylene			U	ND	ug/kg						
trans-1,3-Dichloropropylene			U	ND	ug/kg						
**1,2-Dichloroethane-d4	50.0			52.5	ug/L		105	(76%-127%)			
**Bromofluorobenzene	50.0			52.6	ug/L		105	(70%-130%)			
**Toluene-d8	50.0			48.1	ug/L		96	(81%-120%)			
QC1204855745 548352001 PS											
1,1,1-Trichloroethane	50.0	U	ND	52.2	ug/L		104	(60%-135%)		07/01/21	14:30
1,1,2,2-Tetrachloroethane	50.0	U	ND	44.3	ug/L		89	(53%-130%)			

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Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS												
Batch	2146071											
1,1,2-Trichloroethane	50.0	U	ND		47.0	ug/L		94	(51%-132%)	JEB	07/01/21	14:30
1,1-Dichloroethane	50.0	U	ND		53.6	ug/L		107	(62%-124%)			
1,1-Dichloroethylene	50.0	U	ND		50.7	ug/L		101	(53%-136%)			
1,2,3-Trichlorobenzene	50.0	U	ND		43.2	ug/L		86	(31%-137%)			
1,2,4-Trichlorobenzene	50.0	U	ND		43.0	ug/L		86	(29%-142%)			
1,2-Dibromo-3-chloropropane	50.0	U	ND		34.3	ug/L		69	(42%-135%)			
1,2-Dibromoethane	50.0	U	ND		46.8	ug/L		94	(55%-129%)			
1,2-Dichlorobenzene	50.0	U	ND		44.4	ug/L		89	(33%-128%)			
1,2-Dichloroethane	50.0	U	ND		57.4	ug/L		115	(58%-122%)			
1,2-Dichloropropane	50.0	U	ND		52.5	ug/L		105	(56%-121%)			
1,3-Dichlorobenzene	50.0	U	ND		45.1	ug/L		90	(36%-132%)			
1,4-Dichlorobenzene	50.0	U	ND		45.3	ug/L		91	(31%-125%)			
2-Butanone	250	BJ	2.53	B	282	ug/L		112	(36%-139%)			
2-Hexanone	250	U	ND		280	ug/L		112	(32%-146%)			
4-Methyl-2-pentanone	250	U	ND		256	ug/L		102	(48%-131%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
Acetone	250	U	ND	267	ug/L		107	(33%-148%)	JEB	07/01/21	14:30
Benzene	50.0	U	ND	50.4	ug/L		101	(54%-126%)			
Bromochloromethane	50.0	U	ND	49.0	ug/L		98	(59%-125%)			
Bromodichloromethane	50.0	U	ND	51.2	ug/L		102	(56%-130%)			
Bromoform	50.0	U	ND	37.2	ug/L		74	(50%-136%)			
Bromomethane	50.0	U	ND	43.1	ug/L		86	(33%-139%)			
Carbon disulfide	250	U	ND	254	ug/L		102	(49%-139%)			
Carbon tetrachloride	50.0	U	ND	53.1	ug/L		106	(51%-138%)			
Chlorobenzene	50.0	U	ND	46.4	ug/L		93	(46%-126%)			
Chloroethane	50.0	U	ND	45.0	ug/L		90	(48%-126%)			
Chloroform	50.0	U	ND	51.7	ug/L		103	(61%-126%)			
Chloromethane	50.0	U	ND	59.8	ug/L		120	(44%-143%)			
Cyclohexane	50.0	U	ND	50.6	ug/L		101	(42%-137%)			
Dibromochloromethane	50.0	U	ND	46.3	ug/L		93	(53%-132%)			
Dichlorodifluoromethane	50.0	U	ND	64.8	ug/L		130	(45%-149%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
Ethylbenzene	50.0	U	ND	49.1	ug/L		98	(43%-128%)	JEB	07/01/21	14:30
Isopropylbenzene	50.0	U	ND	49.3	ug/L		99	(39%-142%)			
Methyl acetate	250	U	ND	280	ug/L		112	(48%-144%)			
Methylcyclohexane	50.0	U	ND	49.1	ug/L		98	(34%-140%)			
Methylene chloride	50.0	U	ND	52.0	ug/L		104	(56%-124%)			
Styrene	50.0	U	ND	46.7	ug/L		93	(39%-132%)			
Tetrachloroethylene	50.0	U	ND	48.1	ug/L		96	(46%-134%)			
Toluene	50.0	U	ND	48.4	ug/L		97	(52%-127%)			
Trichloroethylene	50.0	U	ND	53.4	ug/L		107	(52%-132%)			
Trichlorofluoromethane	50.0	U	ND	52.1	ug/L		104	(52%-130%)			
Vinyl chloride	50.0	U	ND	57.8	ug/L		116	(53%-138%)			
cis-1,2-Dichloroethylene	50.0	U	ND	48.3	ug/L		97	(56%-128%)			
cis-1,3-Dichloropropylene	50.0	U	ND	49.6	ug/L		99	(49%-133%)			
m,p-Xylenes	100	U	ND	96.4	ug/L		96	(40%-128%)			
o-Xylene	50.0	U	ND	48.1	ug/L		96	(43%-129%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
tert-Butyl methyl ether	50.0	U	ND	46.4	ug/L		93	(52%-135%)	JEB	07/01/21	14:30
trans-1,2-Dichloroethylene	50.0	U	ND	51.8	ug/L		104	(54%-126%)			
trans-1,3-Dichloropropylene	50.0	U	ND	50.9	ug/L		102	(49%-134%)			
**1,2-Dichloroethane-d4	50.0		51.8	51.1	ug/L		102	(76%-127%)			
**Bromofluorobenzene	50.0		50.9	53.4	ug/L		107	(70%-130%)			
**Toluene-d8	50.0		47.0	47.3	ug/L		95	(81%-120%)			
QC1204855746 548352001 PS											
1,4-Dioxane	2500	U	ND	2040	ug/L		82	(41%-152%)		07/01/21	15:19
Trichlorotrifluoroethane	250	U	ND	291	ug/L		116	(44%-138%)			
**1,2-Dichloroethane-d4	50.0		51.8	51.0	ug/L		102	(76%-127%)			
**Bromofluorobenzene	50.0		50.9	53.5	ug/L		107	(70%-130%)			
**Toluene-d8	50.0		47.0	47.4	ug/L		95	(81%-120%)			
QC1204855747 548352001 PSD											
1,1,1-Trichloroethane	50.0	U	ND	56.0	ug/L	7	112	(0%-20%)		07/01/21	14:54
1,1,2,2-Tetrachloroethane	50.0	U	ND	49.0	ug/L	10	98	(0%-20%)			
1,1,2-Trichloroethane	50.0	U	ND	51.6	ug/L	9	103	(0%-20%)			
1,1-Dichloroethane	50.0	U	ND	56.7	ug/L	6	113	(0%-20%)			

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
1,1-Dichloroethylene	50.0	U	ND	53.8	ug/L	6	108	(0%-20%)	JEB	07/01/21	14:54
1,2,3-Trichlorobenzene	50.0	U	ND	45.9	ug/L	6	92	(0%-20%)			
1,2,4-Trichlorobenzene	50.0	U	ND	45.6	ug/L	6	91	(0%-20%)			
1,2-Dibromo-3-chloropropane	50.0	U	ND	40.4	ug/L	16	81	(0%-20%)			
1,2-Dibromoethane	50.0	U	ND	52.0	ug/L	10	104	(0%-20%)			
1,2-Dichlorobenzene	50.0	U	ND	47.3	ug/L	6	95	(0%-20%)			
1,2-Dichloroethane	50.0	U	ND	62.1	ug/L	8	124*	(0%-20%)			
1,2-Dichloropropane	50.0	U	ND	56.4	ug/L	7	113	(0%-20%)			
1,3-Dichlorobenzene	50.0	U	ND	48.1	ug/L	6	96	(0%-20%)			
1,4-Dichlorobenzene	50.0	U	ND	48.2	ug/L	6	96	(0%-20%)			
2-Butanone	250	BJ	2.53	B	323	ug/L	14	128	(0%-20%)		
2-Hexanone	250	U	ND	324	ug/L	15	130	(0%-20%)			
4-Methyl-2-pentanone	250	U	ND	289	ug/L	12	116	(0%-20%)			
Acetone	250	U	ND	304	ug/L	13	122	(0%-20%)			
Benzene	50.0	U	ND	54.0	ug/L	7	108	(0%-20%)			

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
Bromochloromethane	50.0	U	ND	52.6	ug/L	7	105	(0%-20%)	JEB	07/01/21	14:54
Bromodichloromethane	50.0	U	ND	56.0	ug/L	9	112	(0%-20%)			
Bromoform	50.0	U	ND	42.2	ug/L	13	84	(0%-20%)			
Bromomethane	50.0	U	ND	43.7	ug/L	1	87	(0%-20%)			
Carbon disulfide	250	U	ND	270	ug/L	6	108	(0%-20%)			
Carbon tetrachloride	50.0	U	ND	57.3	ug/L	8	115	(0%-20%)			
Chlorobenzene	50.0	U	ND	49.4	ug/L	6	99	(0%-20%)			
Chloroethane	50.0	U	ND	46.0	ug/L	2	92	(0%-20%)			
Chloroform	50.0	U	ND	54.9	ug/L	6	110	(0%-20%)			
Chloromethane	50.0	U	ND	63.9	ug/L	7	128	(0%-20%)			
Cyclohexane	50.0	U	ND	54.5	ug/L	7	109	(0%-20%)			
Dibromochloromethane	50.0	U	ND	51.0	ug/L	10	102	(0%-20%)			
Dichlorodifluoromethane	50.0	U	ND	66.5	ug/L	3	133	(0%-20%)			
Ethylbenzene	50.0	U	ND	51.9	ug/L	6	104	(0%-20%)			
Isopropylbenzene	50.0	U	ND	52.1	ug/L	6	104	(0%-20%)			

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
Methyl acetate	250	U	ND	317	ug/L	12	127	(0%-20%)	JEB	07/01/21	14:54
Methylcyclohexane	50.0	U	ND	52.6	ug/L	7	105	(0%-20%)			
Methylene chloride	50.0	U	ND	55.5	ug/L	6	111	(0%-20%)			
Styrene	50.0	U	ND	49.8	ug/L	6	100	(0%-20%)			
Tetrachloroethylene	50.0	U	ND	51.2	ug/L	6	102	(0%-20%)			
Toluene	50.0	U	ND	51.4	ug/L	6	103	(0%-20%)			
Trichloroethylene	50.0	U	ND	57.1	ug/L	7	114	(0%-20%)			
Trichlorofluoromethane	50.0	U	ND	54.2	ug/L	4	108	(0%-20%)			
Vinyl chloride	50.0	U	ND	61.5	ug/L	6	123	(0%-20%)			
cis-1,2-Dichloroethylene	50.0	U	ND	51.3	ug/L	6	103	(0%-20%)			
cis-1,3-Dichloropropylene	50.0	U	ND	54.6	ug/L	10	109	(0%-20%)			
m,p-Xylenes	100	U	ND	102	ug/L	6	102	(0%-20%)			
o-Xylene	50.0	U	ND	50.6	ug/L	5	101	(0%-20%)			
tert-Butyl methyl ether	50.0	U	ND	50.7	ug/L	9	101	(0%-20%)			
trans-1,2-Dichloroethylene	50.0	U	ND	54.9	ug/L	6	110	(0%-20%)			

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2146071										
trans-1,3-Dichloropropylene	50.0	U	ND	56.2	ug/L	10	112	(0%-20%)	JEB	07/01/21	14:54
**1,2-Dichloroethane-d4	50.0		51.8	51.6	ug/L		103	(76%-127%)			
**Bromofluorobenzene	50.0		50.9	53.5	ug/L		107	(70%-130%)			
**Toluene-d8	50.0		47.0	47.0	ug/L		94	(81%-120%)			
<hr/>											
Batch	2149793										
QC1204862811	LCS										
1,1-Dichloroethylene	0.0500			0.0465	mg/L		93	(70%-130%)	PXY1	07/14/21	09:45
1,2-Dichloroethane	0.0500			0.0452	mg/L		90	(70%-130%)			
1,4-Dichlorobenzene	0.0500			0.0450	mg/L		90	(70%-130%)			
2-Butanone	0.250			0.218	mg/L		87	(70%-130%)			
Benzene	0.0500			0.0454	mg/L		91	(70%-130%)			
Carbon tetrachloride	0.0500			0.0494	mg/L		99	(70%-130%)			
Chlorobenzene	0.0500			0.0453	mg/L		91	(70%-130%)			
Chloroform	0.0500			0.0468	mg/L		94	(70%-130%)			
Tetrachloroethylene	0.0500			0.0461	mg/L		92	(70%-130%)			
Trichloroethylene	0.0500			0.0472	mg/L		94	(70%-130%)			
Vinyl chloride	0.0500			0.0464	mg/L		93	(70%-130%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2149793										
**1,2-Dichloroethane-d4	50.0			53.3	ug/L		107	(73%-129%)	PXY1	07/14/21	09:45
**Bromofluorobenzene	50.0			52.5	ug/L		105	(72%-125%)			
**Toluene-d8	50.0			50.2	ug/L		100	(75%-123%)			
QC1204862812 MB											
1,1-Dichloroethylene			U	ND	mg/L					07/14/21	11:05
1,2-Dichloroethane			U	ND	mg/L						
1,4-Dichlorobenzene			U	ND	mg/L						
2-Butanone			U	ND	mg/L						
Benzene			U	ND	mg/L						
Carbon tetrachloride			U	ND	mg/L						
Chlorobenzene			U	ND	mg/L						
Chloroform			U	ND	mg/L						
Tetrachloroethylene			U	ND	mg/L						
Trichloroethylene			U	ND	mg/L						
Vinyl chloride			U	ND	mg/L						
**1,2-Dichloroethane-d4	50.0			53.1	ug/L		106	(73%-129%)			

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2149793										
**Bromofluorobenzene	50.0			52.1	ug/L		104	(72%-125%)	PXY1	07/14/21	11:05
**Toluene-d8	50.0			50.7	ug/L		101	(75%-123%)			
QC1204862813 547747001 PS											
1,1-Dichloroethylene	50.0	U	ND	40.2	ug/L		80	(61%-137%)		07/14/21	17:18
1,2-Dichloroethane	50.0	U	ND	47.2	ug/L		94	(64%-129%)			
1,4-Dichlorobenzene	50.0	U	ND	39.5	ug/L		79	(51%-125%)			
2-Butanone	250	BJ	2.42	B	222	ug/L	88	(38%-137%)			
Benzene	50.0	U	ND	41.8	ug/L		84	(65%-122%)			
Carbon tetrachloride	50.0	U	ND	40.5	ug/L		81	(63%-144%)			
Chlorobenzene	50.0	U	ND	39.5	ug/L		79	(63%-123%)			
Chloroform	50.0	U	ND	44.0	ug/L		88	(69%-133%)			
Tetrachloroethylene	50.0	U	ND	36.1	ug/L		72	(64%-129%)			
Trichloroethylene	50.0	U	ND	41.0	ug/L		82	(66%-126%)			
Vinyl chloride	50.0	U	ND	39.9	ug/L		80	(58%-139%)			
**1,2-Dichloroethane-d4	50.0		54.1	56.5	ug/L		113	(73%-129%)			
**Bromofluorobenzene	50.0		52.3	54.6	ug/L		109	(72%-125%)			

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2149793										
**Toluene-d8	50.0	50.4		51.8	ug/L		104	(75%-123%)	PXY1	07/14/21	17:18
QC1204862814 547747001 PSD											
1,1-Dichloroethylene	50.0	U	ND	38.6	ug/L	4	77	(0%-20%)		07/14/21	17:44
1,2-Dichloroethane	50.0	U	ND	46.9	ug/L	1	94	(0%-20%)			
1,4-Dichlorobenzene	50.0	U	ND	37.0	ug/L	6	74	(0%-20%)			
2-Butanone	250	BJ	2.42	B	216	ug/L	3	85	(0%-20%)		
Benzene	50.0	U	ND	41.5	ug/L	1	83	(0%-20%)			
Carbon tetrachloride	50.0	U	ND	39.9	ug/L	1	80	(0%-20%)			
Chlorobenzene	50.0	U	ND	38.0	ug/L	4	76	(0%-20%)			
Chloroform	50.0	U	ND	44.8	ug/L	2	90	(0%-20%)			
Tetrachloroethylene	50.0	U	ND	34.0	ug/L	6	68	(0%-20%)			
Trichloroethylene	50.0	U	ND	40.6	ug/L	1	81	(0%-20%)			
Vinyl chloride	50.0	U	ND	42.2	ug/L	6	84	(0%-20%)			
**1,2-Dichloroethane-d4	50.0		54.1	55.5	ug/L		111	(73%-129%)			
**Bromofluorobenzene	50.0		52.3	54.0	ug/L		108	(72%-125%)			
**Toluene-d8	50.0		50.4	51.8	ug/L		104	(75%-123%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2149793										
QC1204848451	TB										
1,1-Dichloroethylene			U	ND	mg/L				PXY1	07/14/21	11:58
1,2-Dichloroethane			U	ND	mg/L						
1,4-Dichlorobenzene			U	ND	mg/L						
2-Butanone			J	0.0200	mg/L						
Benzene			U	ND	mg/L						
Carbon tetrachloride			U	ND	mg/L						
Chlorobenzene			U	ND	mg/L						
Chloroform			U	ND	mg/L						
Tetrachloroethylene			U	ND	mg/L						
Trichloroethylene			U	ND	mg/L						
Vinyl chloride			U	ND	mg/L						
**1,2-Dichloroethane-d4	50.0			53.3	ug/L		107	(73%-129%)			
**Bromofluorobenzene	50.0			51.8	ug/L		104	(72%-125%)			
**Toluene-d8	50.0			50.2	ug/L		100	(75%-123%)			
QC1204849037	TB										
1,1-Dichloroethylene			U	ND	mg/L					07/14/21	12:24

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QC Summary

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	2149793										
1,2-Dichloroethane			U	ND	mg/L				PXY1	07/14/21	12:24
1,4-Dichlorobenzene			U	ND	mg/L						
2-Butanone			J	0.0226	mg/L						
Benzene			U	ND	mg/L						
Carbon tetrachloride			U	ND	mg/L						
Chlorobenzene			U	ND	mg/L						
Chloroform			U	ND	mg/L						
Tetrachloroethylene			U	ND	mg/L						
Trichloroethylene			U	ND	mg/L						
Vinyl chloride			U	ND	mg/L						
**1,2-Dichloroethane-d4	50.0			54.0	ug/L		108	(73%-129%)			
**Bromofluorobenzene	50.0			52.0	ug/L		104	(72%-125%)			
**Toluene-d8	50.0			51.5	ug/L		103	(75%-123%)			

Notes:

The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported

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QC Summary

Workorder: 547748

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
A											
A											
B											
B											
C											
C											
D											
D											
E											
E											
E											
E											
FB											
FB											
H											
H											
J											
J											
J											
JNX											
JNX											
N											
N											
N											
N											
N/A											
N/A											
N1											
N1											
ND											
ND											
NJ											
NJ											
P											
P											
Q											
Q											
R											
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UJ											
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X											
X											
Y											
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Z											
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QC Summary

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<u>Parmname</u>	<u>NOM</u>	<u>Sample Qual</u>	<u>QC</u>	<u>Units</u>	<u>RPD/D%</u>	<u>REC%</u>	<u>Range</u>	<u>Anlst</u>	<u>Date</u>	<u>Time</u>
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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.

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QC Summary

Report Date: July 20, 2021
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Client : Westinghouse Electric Company, LLC
PO Drawer R

Columbia, South Carolina

Contact: Ms. Cynthia Teague

Workorder: 547748

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	2142117										
QC1204848598	547747001	DUP									
Uranium-233/234		42.5		35.3	pCi/g	18.6		(0%-20%)	MP2	07/13/21	19:34
		Uncert:	+/-1.65	+/-1.83							
		TPU:	+/-4.35	+/-4.06							
Uranium-235/236		1.70		1.93	pCi/g	12.4		(0%-20%)			
		Uncert:	+/-0.370	+/-0.485							
		TPU:	+/-0.404	+/-0.523							
Uranium-238		8.39		7.10	pCi/g	16.6		(0%-20%)			
		Uncert:	+/-0.737	+/-0.825							
		TPU:	+/-1.08	+/-1.10							
QC1204848599	LCS										
Uranium-233/234				25.1	pCi/g				MP2	07/13/21	19:17
		Uncert:		+/-1.48							
		TPU:		+/-2.93							
Uranium-235/236				1.61	pCi/g						
		Uncert:		+/-0.423							
		TPU:		+/-0.452							
Uranium-238	25.4			24.7	pCi/g		97	(75%-125%)			
		Uncert:		+/-1.46							
		TPU:		+/-2.88							
QC1204848597	MB										
Uranium-233/234			U	0.340	pCi/g				MP2	07/13/21	19:34
		Uncert:		+/-0.272							
		TPU:		+/-0.275							
Uranium-235/236			U	0.0503	pCi/g						
		Uncert:		+/-0.149							
		TPU:		+/-0.149							
Uranium-238			U	0.145	pCi/g						
		Uncert:		+/-0.158							
		TPU:		+/-0.159							
Batch	2142119										
QC1204848601	547748007	DUP									
Pct Uranium-235		U	0.000	U	0.000	percent	0	(0%-20%)	MP2	07/13/21	10:32
Uranium-233/234		U	-0.137	U	0.0147	pCi/L	0	N/A			
		Uncert:	+/-0.158	+/-0.226							
		TPU:	+/-0.158	+/-0.227							
Uranium-235/236		U	0.0877	U	-0.0572	pCi/L	0	N/A			
		Uncert:	+/-0.247	+/-0.173							
		TPU:	+/-0.247	+/-0.173							
Uranium-238		U	0.162	U	0.0334	pCi/L	0	N/A			
		Uncert:	+/-0.286	+/-0.186							
		TPU:	+/-0.287	+/-0.186							

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QC Summary

Workorder: 547748

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Alpha Spec									
Batch	2142119								
QC1204848602	LCS								
Pct Uranium-235			0.552	percent				MP2	07/13/2108:32
Uranium-233/234			24.1	pCi/L					
		Uncert:	+/-2.24						
		TPU:	+/-3.77						
Uranium-235/236			0.889	pCi/L					
		Uncert:	+/-0.502						
		TPU:	+/-0.514						
Uranium-238	26.5		24.9	pCi/L		93.8	(75%-125%)		
		Uncert:	+/-2.26						
		TPU:	+/-3.85						
QC1204848600	MB								
Pct Uranium-235		U	0.000	percent				MP2	07/13/2108:32
Uranium-233/234		U	-0.0656	pCi/L					
		Uncert:	+/-0.151						
		TPU:	+/-0.151						
Uranium-235/236		U	0.0958	pCi/L					
		Uncert:	+/-0.220						
		TPU:	+/-0.220						
Uranium-238		U	0.104	pCi/L					
		Uncert:	+/-0.207						
		TPU:	+/-0.207						
Rad Liquid Scintillation									
Batch	2141574								
QC1204847629	547456016	DUP							
Technetium-99		U	8.19	U	18.3	pCi/L	0	N/A JJ3	06/28/2103:05
		Uncert:	+/-21.3		+/-20.3				
		TPU:	+/-21.3		+/-20.4				
QC1204847630	LCS								
Technetium-99		824			752	pCi/L	91.2	(75%-125%) JJ3	06/28/2103:27
		Uncert:			+/-37.1				
		TPU:			+/-91.3				
QC1204847628	MB								
Technetium-99			U		8.81	pCi/L		JJ3	06/28/2102:43
		Uncert:			+/-18.8				
		TPU:			+/-18.8				
Batch	2142297								
QC1204848920	547747001	DUP							
Technetium-99			1.16		0.751	pCi/g	42.9	(0% - 100%) JJ3	07/01/2107:58
		Uncert:	+/-0.343		+/-0.301				
		TPU:	+/-0.368		+/-0.313				
QC1204848921	LCS								
Technetium-99		28.7			28.1	pCi/g	97.8	(75%-125%) JJ3	07/01/2109:10
		Uncert:			+/-1.76				
		TPU:			+/-3.67				
QC1204848919	MB								

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QC Summary

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Liquid Scintillation										
Batch	2142297									
Technetium-99		U	0.0723	pCi/g				JJ3	07/01/21	06:45
	Uncert:		+/-0.211							
	TPU:		+/-0.211							

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

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

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QC Summary

Workorder: 547748

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<u>Parmname</u>	<u>NOM</u>	<u>Sample Qual</u>	<u>QC</u>	<u>Units</u>	<u>RPD%</u>	<u>REC%</u>	<u>Range</u>	<u>Anlst</u>	<u>Date</u>	<u>Time</u>
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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.

** Indicates analyte is a surrogate/tracer compound.

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

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

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

Technical Case Narrative
Westinghouse Electric Company PO
SDG #: 547748

GC/MS Volatile

Product: Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer

Preparation Method: SW846 8260D SC_NPDES

Preparation Procedure: GL-OA-E-038 REV# 28

Preparation Batch: 2146020

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748007	SLS-RB2
547748008	TB-2
1204855662	Laboratory Control Sample (LCS)
1204855663	Method Blank (MB)
1204855667	547748007(SLS-RB2) Post Spike (PS)
1204855668	547748007(SLS-RB2) Post Spike Duplicate (PSD)

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: Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer

Analytical Method: SW846 8260D

Analytical Procedure: GL-OA-E-038 REV# 28

Analytical Batch: 2146071

Preparation Method: SW846 5035

Preparation Procedure: GL-OA-E-039 REV# 13

Preparation Batch: 2146069

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748001	SLS-13
547748002	SLS-7
547748003	SLS-9
547748004	SLS-17
547748005	SLS-19
547748006	SLS-B3
1204855742	Laboratory Control Sample (LCS)
1204855744	Method Blank (MB)
1204855745	548352001(NonSDG) Post Spike (PS)
1204855746	548352001(NonSDG) Post Spike (PS)

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.

Calibration Information

Continuing Calibration Verification Requirements

All Calibration Verification Standards (CCV) did not meet the acceptance criteria as outlined in Method 8260D for samples and the associated QC . However, the method allows for a designated number of outliers dependent on the requested analyte list. This SDG satisfied the 8260D outlier acceptance criteria. The results are reported.

Quality Control (QC) Information

Surrogate Recoveries

Surrogate recoveries, in samples (See Below) were outside the acceptance limits. Sample re-analysis confirmed matrix interference. The initial results are reported.

Sample	Analyte	Value
547748001 (SLS-13)	Bromofluorobenzene	157* (70%-130%)
547748002 (SLS-7)	Bromofluorobenzene	133* (70%-130%)
547748003 (SLS-9)	Bromofluorobenzene	154* (70%-130%)
547748005 (SLS-19)	Bromofluorobenzene	182* (70%-130%)
	Toluene-d8	125* (81%-120%)
547748006 (SLS-B3)	Bromofluorobenzene	160* (70%-130%)

Matrix Spike/Matrix Spike Duplicate Recovery Statement

The spike and/or spike duplicate (See Below) recoveries were not all within the acceptance limits. The recoveries were similar. It is believed possible matrix interference has been demonstrated.

Sample	Analyte	Value
1204855747 (Non SDG 548352001PSD)	1, 2-Dichloroethane	124* (58%-122%)

Internal Standard (ISTD) Acceptance

In samples 547748001 (SLS-13), 547748003 (SLS-9), 547748005 (SLS-19) and 547748006 (SLS-B3), internal standard responses were outside the required acceptance criteria. Sample re-analysis confirmed matrix interference. The initial results are reported.

Technical Information

Sample Dilutions/Methanol Dilutions

Samples 1204855745 (Non SDG 548352001PS), 1204855746 (Non SDG 548352001PS) and 1204855747 (Non SDG 548352001PSD) were analyzed using a methanol dilution extraction procedure because the sample matrices were not amenable to more concentrated analyses.

Product: Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer

Analytical Method: SW846 8260D

Analytical Procedure: GL-OA-E-038 REV# 28

Analytical Batch: 2149793

TCLP Preparation Method: SW846 1311

TCLP Preparation Procedure: GL-LB-E-006 REV# 22

TCLP Preparation Batches: 2142005 and 2142364

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748001	SLS-13
547748007	SLS-RB2
1204848451	Tumble Blank (TB)
1204849037	Tumble Blank (TB)
1204862811	Laboratory Control Sample (LCS)
1204862812	Method Blank (MB)
1204862813	547747001(SLS-B1) Post Spike (PS)
1204862814	547747001(SLS-B1) Post Spike Duplicate (PSD)

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.

Calibration Information

Continuing Calibration Verification Requirements

All Calibration Verification Standards (CCV) did not meet the acceptance criteria as outlined in Method 8260D for samples and the associated QC . However, the method allows for a designated number of outliers dependent on the requested analyte list. This SDG satisfied the 8260D outlier acceptance criteria. The results are reported.

Technical Information

Sample Dilutions/Methanol Dilutions

Due to problems associated with the nature of the TCLP matrix, volatile extracts are routinely diluted before analysis. The dilution factor does not increase detection limits above the regulatory limits required by the client.

Analyte	547748	
	001	007
1,1-Dichloroethylene	10X	10X
1,2-Dichloroethane	10X	10X
1,4-Dichlorobenzene	10X	10X
2-Butanone	10X	10X
Benzene	10X	10X
Carbon tetrachloride	10X	10X
Chlorobenzene	10X	10X

Chloroform	10X	10X
Tetrachloroethylene	10X	10X
Trichloroethylene	10X	10X
Vinyl chloride	10X	10X

GC/MS Semivolatile

Product: Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry

Analytical Method: SW846 3510C/8270D

Analytical Procedure: GL-OA-E-009 REV# 45

Analytical Batch: 2141555

Preparation Method: SW846 3510C

Preparation Procedure: GL-OA-E-013 REV# 35

Preparation Batch: 2141546

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748007	SLS-RB2
1204847574	Method Blank (MB)
1204847575	Laboratory Control Sample (LCS)
1204847580	547484001(NonSDG) Matrix Spike (MS)
1204847581	547484001(NonSDG) Matrix Spike Duplicate (MSD)

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.

Calibration Information

Initial Calibration

The ICV (initial calibration verification) standard recovered above the acceptance criteria for several target analytes. The daily CCV was well within acceptance criteria for all requested target analytes. This non-compliance had no adverse impact on the data as the failed analytes were not detected in the associated samples. The data were reported.

Quality Control (QC) Information

Method Blank (MB) Statement

The MB1204847574 (MB) displayed target analytes below the reporting limit. As these analytes were not detected above the reporting limit in the associated sample, the data were reported and qualified accordingly.

Laboratory Control Sample (LCS) Recovery

The LCS and/or LCSD (See Below) did not meet spike recovery acceptance criteria. The failures are known to be poor responding analytes as stated per the Method. This may account for the low recoveries and the data were reported.

Sample	Analyte	Value
1204847575 (LCS)	2, 4-Dichlorophenol	56* (58%-119%)
	4-Chloro-3-methylphenol	52* (56%-118%)

Spike Recovery Statement

The MS or MSD (See Below) recovered spiked analytes outside of the established acceptance limits. As similar recoveries were displayed in the MS and MSD, the failures were attributed to sample matrix interference and the data were reported.

Sample	Analyte	Value
1204847580 (Non SDG 547484001MS)	Hexachlorocyclopentadiene	15* (18%-89%)
1204847581 (Non SDG 547484001MSD)	Hexachlorocyclopentadiene	13* (18%-89%)

Technical Information

Sample Re-extraction/Re-analysis

The LCS 1204847575 (LCS) was re-analyzed due to marginally low spike recoveries. The re-analysis data were reported.

Product: Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry

Analytical Method: SW846 3541/8270D

Analytical Procedure: GL-OA-E-009 REV# 45

Analytical Batch: 2143036

Preparation Method: SW846 3541

Preparation Procedure: GL-OA-E-066 REV# 9

Preparation Batch: 2143035

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748001	SLS-13
547748002	SLS-7
547748003	SLS-9
547748004	SLS-17
547748005	SLS-19
1204850222	Method Blank (MB)
1204850223	Laboratory Control Sample (LCS)
1204850224	547747001(SLS-B1) Matrix Spike (MS)
1204850225	547747001(SLS-B1) Matrix Spike Duplicate (MSD)

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

Surrogate Recoveries

Samples (See Below) did not meet surrogate recovery acceptance criteria. Since the parent sample and associated MS/MSD pair displayed similar recoveries, the failures were attributed to matrix interference and the data results are reported.

Sample	Analyte	Value
1204850224 (SLS-B1MS)	2-Fluorobiphenyl	22* (26%-118%)
	Nitrobenzene-d5	26* (28%-110%)
1204850225 (SLS-B1MSD)	2, 4, 6-Tribromophenol	16* (26%-128%)
	2-Fluorobiphenyl	11* (26%-118%)
	2-Fluorophenol	13* (30%-108%)
	Nitrobenzene-d5	13* (28%-110%)
	Phenol-d5	15* (29%-116%)
	p-Terphenyl-d14	14* (26%-130%)

Sample (See Below) did not meet surrogate recovery acceptance criteria. Since there is insufficient sample remaining to perform a re-extraction, the results from this extraction are reported.

Sample	Analyte	Value
547748001 (SLS-13)	2-Fluorobiphenyl	22* (26%-118%)
	2-Fluorophenol	27* (30%-108%)
	Nitrobenzene-d5	26* (28%-110%)
	Phenol-d5	28* (29%-116%)
	p-Terphenyl-d14	21* (26%-130%)

Samples did not meet surrogate recoveries due to the matrix of the sample extracts. Extracts contained solids/water layers and in some cases solidified in the vial. Due to the matrix anomalies and surrogate recoveries, data results should be viewed as estimated.

Sample	Analyte	Value
547748002 (SLS-7)	2, 4, 6-Tribromophenol	21* (26%-128%)
	2-Fluorobiphenyl	15* (26%-118%)
	2-Fluorophenol	21* (30%-108%)
	Nitrobenzene-d5	18* (28%-110%)
	Phenol-d5	25* (29%-116%)
	p-Terphenyl-d14	19* (26%-130%)
547748003 (SLS-9)	2-Fluorobiphenyl	22* (26%-118%)
	2-Fluorophenol	29* (30%-108%)
	Nitrobenzene-d5	25* (28%-110%)

	p-Terphenyl-d14	25* (26%-130%)
547748004 (SLS-17)	2, 4, 6-Tribromophenol	12* (26%-128%)
	2-Fluorobiphenyl	9* (26%-118%)
	2-Fluorophenol	13* (30%-108%)
	Nitrobenzene-d5	11* (28%-110%)
	Phenol-d5	15* (29%-116%)
	p-Terphenyl-d14	11* (26%-130%)

Laboratory Control Sample (LCS) Recovery

The LCS and/or LCSD (See Below) did not meet spike recovery acceptance criteria. The failures are known to be poor responding analytes as stated per the Method. This may account for the low recoveries and the data were reported.

Sample	Analyte	Value
1204850223 (LCS)	Benzaldehyde	20* (25%-83%)

Spike Recovery Statement

The MS or MSD (See Below) recovered spiked analytes outside of the established acceptance limits. As similar recoveries were displayed in the MS and MSD, the failures were attributed to sample matrix interference and the data were reported.

Sample	Analyte
1204850224 (SLS-B1MS)	Several
1204850225 (SLS-B1MSD)	Several

MS/MSD Relative Percent Difference (RPD) Statement

The relative percent differences (RPD) for the MS and MSD, (See Below), were not within the acceptance limits. The failures were attributed to matrix interference. The data were reported.

Sample	Analyte
1204850224MS and 1204850225MSD (SLS-B1)	Several

Technical Information

Sample Dilutions

Sample 547748005 (SLS-19) was diluted because the extract was very dark and/or viscous. The data from the dilution are reported.

Product: Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry

Analytical Method: SW846 3510C/8270E

Analytical Procedure: GL-OA-E-009 REV# 45

Analytical Batch: 2145637

Preparation Method: SW846 3510C
Preparation Procedure: GL-OA-E-013 REV# 35
Preparation Batch: 2145607

TCLP Preparation Method: SW846 1311
TCLP Preparation Procedure: GL-LB-E-006 REV# 22
TCLP Preparation Batches: 2142004 and 2142363

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748001	SLS-13
547748007	SLS-RB2
1204848450	Tumble Blank (TB)
1204849036	Tumble Blank (TB)
1204854879	Method Blank (MB)
1204854880	Laboratory Control Sample (LCS)
1204854881	547747001(SLS-B1) Matrix Spike (MS)
1204854882	547747001(SLS-B1) Matrix Spike Duplicate (MSD)

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.

Metals

TCLP Preparation Method: SW846 1311
TCLP Preparation Procedure: GL-LB-E-006 REV# 22
TCLP Preparation Batch: 2142362

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748001	SLS-13
1204849034	Tumble Blank (TB)
1204849035	547747001(SLS-B1S) Matrix Spike (MS)

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: Determination of Metals by ICP
Analytical Method: SW846 3010A/6010D

Analytical Procedure: GL-MA-E-013 REV# 32

Analytical Batch: 2145611

Preparation Method: SW846 3010A

Preparation Procedure: GL-MA-E-008 REV# 19

Preparation Batch: 2145610

TCLP Preparation Method: SW846 1311

TCLP Preparation Procedure: GL-LB-E-006 REV# 22

TCLP Preparation Batch: 2142362

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748001	SLS-13
1204849034	Tumble Blank (TB)
1204854819	Method Blank (MB)ICP
1204854820	Laboratory Control Sample (LCS)
1204854822	547747001(SLS-B1L) Serial Dilution (SD)
1204854821	547747001(SLS-B1D) Sample Duplicate (DUP)
1204849035	547747001(SLS-B1S) Matrix Spike (MS)

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.

Technical Information

Preparation Information

The extracted samples and associated matrix QC were prepared at a ten times or greater dilution factor to minimize potential interferences from leached or filtered extracts.

TCLP Preparation Method: SW846 1311

TCLP Preparation Procedure: GL-LB-E-006 REV# 22

TCLP Preparation Batch: 2142003

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748007	SLS-RB2
1204848448	Tumble Blank (TB)

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.

Technical Information

Extraction Process Statement

limited sample used for filtration due to limited volume.

Product: Determination of Metals by ICP

Analytical Method: SW846 3010A/6010D

Analytical Procedure: GL-MA-E-013 REV# 32

Analytical Batch: 2145673

Preparation Method: SW846 3010A

Preparation Procedure: GL-MA-E-008 REV# 19

Preparation Batch: 2145671

TCLP Preparation Method: SW846 1311

TCLP Preparation Procedure: GL-LB-E-006 REV# 22

TCLP Preparation Batch: 2142003

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748007	SLS-RB2
1204848448	Tumble Blank (TB)
1204854939	Method Blank (MB)ICP
1204854940	Laboratory Control Sample (LCS)
1204854942	547748007(SLS-RB2L) Serial Dilution (SD)
1204854941	547748007(SLS-RB2D) Sample Duplicate (DUP)
1204848449	547748007(SLS-RB2S) Matrix Spike (MS)

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.

Technical Information

Preparation Information

The extracted samples and associated matrix QC were prepared at a ten times or greater dilution factor to minimize potential interferences from leached or filtered extracts.

Product: Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer

Analytical Method: SW846 7470A

Analytical Procedure: GL-MA-E-010 REV# 38

Analytical Batch: 2150022

Preparation Method: SW846 7470A Prep

Preparation Procedure: GL-MA-E-010 REV# 38

Preparation Batch: 2150019

TCLP Preparation Method: SW846 1311

TCLP Preparation Procedure: GL-LB-E-006 REV# 22

TCLP Preparation Batch: 2142362

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748001	SLS-13
1204849034	Tumble Blank (TB)
1204863208	Method Blank (MB)CVAA
1204863209	Laboratory Control Sample (LCS)
1204863211	547747001(SLS-B1L) Serial Dilution (SD)
1204863210	547747001(SLS-B1D) Sample Duplicate (DUP)
1204849035	547747001(SLS-B1S) Matrix Spike (MS)
1204863212	547747001(SLS-B1PS) Post Spike (PS)

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

Matrix Spike (MS/MSD) Recovery Statement

The percent recoveries (%R) obtained from the MS/MSD analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MS/MSD (See Below) did not meet the recommended quality control acceptance criteria for percent recoveries for the following applicable analyte. The post spike recovery was within the required control limits. This verifies the absence of a matrix interference in the post-spike digested sample. The recovery may be attributed to possible sample matrix interference and/or non-homogeneity.

Sample	Analyte	Value
1204849035 (SLS-B1MS)	Mercury	270* (75%-125%)

Technical Information

Preparation Information

The extracted samples and associated matrix QC were prepared at a ten times or greater dilution factor to minimize potential interferences from leached or filtered extracts.

Product: Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer

Analytical Method: SW846 7470A

Analytical Procedure: GL-MA-E-010 REV# 38

Analytical Batch: 2150025

Preparation Method: SW846 7470A Prep

Preparation Procedure: GL-MA-E-010 REV# 38

Preparation Batch: 2150024

TCLP Preparation Method: SW846 1311

TCLP Preparation Procedure: GL-LB-E-006 REV# 22

TCLP Preparation Batch: 2142003

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748007	SLS-RB2
1204848448	Tumble Blank (TB)
1204863213	Method Blank (MB)CVAA
1204863214	Laboratory Control Sample (LCS)
1204863621	547748007(SLS-RB2L) Serial Dilution (SD)
1204863215	547748007(SLS-RB2D) Sample Duplicate (DUP)
1204863620	547748007(SLS-RB2S) Matrix Spike (MS)

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.

Technical Information

Preparation Information

The extracted samples and associated matrix QC were prepared at a ten times or greater dilution factor to minimize potential interferences from leached or filtered extracts.

General Chemistry

Product: Ion Chromatography

Analytical Method: SW846 9056A

Analytical Procedure: GL-GC-E-086 REV# 29

Analytical Batch: 2141103

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748007	SLS-RB2
1204846748	Method Blank (MB)
1204846749	Laboratory Control Sample (LCS)
1204846750	547609001(NonSDG) Sample Duplicate (DUP)
1204846752	547609001(NonSDG) Post Spike (PS)

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.

Technical Information

Sample Dilutions

The following samples 1204846750 (Non SDG 547609001DUP) and 1204846752 (Non SDG 547609001PS) were diluted because target analyte concentrations exceeded the calibration range. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Miscellaneous Information

Manual Integrations

Sample 1204846749 (LCS) was manually integrated to correctly position the baseline as set in the calibration standards.

Product: Ion Chromatography

Analytical Method: SW846 9056A

Analytical Procedure: GL-GC-E-086 REV# 29

Analytical Batches: 2142337 and 2142334

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748001	SLS-13
547748002	SLS-7
547748003	SLS-9
547748004	SLS-17
547748005	SLS-19
547748006	SLS-B3
1204848994	Method Blank (MB)
1204848995	Laboratory Control Sample (LCS)
1204848996	547748006(SLS-B3) Sample Duplicate (DUP)
1204848997	547748006(SLS-B3) Matrix Spike (MS)

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.

Miscellaneous Information

Manual Integrations

Sample 547748006 (SLS-B3) was manually integrated to correctly position the baseline as set in the calibration standards.

Product: Ammonia Nitrogen

Analytical Method: EPA 350.1 Modified SC
Analytical Procedure: GL-GC-E-106 REV# 10
Analytical Batch: 2142441

Preparation Method: EPA 350.1 Modified Prep
Preparation Procedure: GL-GC-E-072 REV# 18
Preparation Batch: 2142440

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748001	SLS-13
547748002	SLS-7
547748003	SLS-9
547748004	SLS-17
547748005	SLS-19
547748006	SLS-B3
1204849164	Method Blank (MB)
1204849165	Laboratory Control Sample (LCS)
1204849166	547747001(SLS-B1) Sample Duplicate (DUP)
1204849167	547747001(SLS-B1) Matrix Spike (MS)

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

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The percent recoveries (%R) obtained from the spike analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The matrix spike recovered outside of the established acceptance limits due to matrix interference and/or non-homogeneity.

Analyte	Sample	Value
Nitrogen, Ammonia	1204849167 (SLS-B1MS)	1* (90%-110%)

Duplicate Relative Percent Difference (RPD) Statement

The Relative Percent Difference (RPD) between the sample and duplicate falls outside of the established acceptance limits because of the heterogeneous matrix of the sample:

Analyte	Sample	Value
Nitrogen, Ammonia	1204849166 (SLS-B1DUP)	72.7* (0%-20%)

Technical Information

Sample Dilutions

The following samples 547748001 (SLS-13), 547748002 (SLS-7), 547748003 (SLS-9), 547748004 (SLS-17), 547748005 (SLS-19) and 547748006 (SLS-B3) were diluted because target analyte concentrations exceeded the

calibration range. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	547748					
	001	002	003	004	005	006
Nitrogen, Ammonia	5X	5X	5X	5X	5X	10X

Product: Ammonia Nitrogen

Analytical Method: EPA 350.1 SC

Analytical Procedure: GL-GC-E-106 REV# 10

Analytical Batch: 2145958

Preparation Method: EPA 350.1 Prep

Preparation Procedure: GL-GC-E-072 REV# 18

Preparation Batch: 2145957

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748007	SLS-RB2
1204855463	Method Blank (MB)
1204855464	Laboratory Control Sample (LCS)
1204855465	548564001(NonSDG) Sample Duplicate (DUP)
1204855466	548564001(NonSDG) Matrix Spike (MS)

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

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The percent recoveries (%R) obtained from the spike analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The matrix spike recovered outside of the established acceptance limits due to matrix interference and/or non-homogeneity.

Analyte	Sample	Value
Nitrogen, Ammonia	1204855466 (Non SDG 548564001MS)	89.5* (90%-110%)

Radiochemistry

Product: Alphaspec U, Soil

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

Analytical Procedure: GL-RAD-A-011 REV# 28

Analytical Batch: 2142117

Preparation Method: Dry Soil Prep

Preparation Procedure: GL-RAD-A-021 REV# 24

Preparation Batch: 2141936

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748001	SLS-13
547748002	SLS-7
547748003	SLS-9
547748004	SLS-17
547748005	SLS-19
547748006	SLS-B3
1204848597	Method Blank (MB)
1204848598	547747001(SLS-B1) Sample Duplicate (DUP)
1204848599	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" 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: Alphaspec U, Liquid

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

Analytical Procedure: GL-RAD-A-011 REV# 28

Analytical Batch: 2142119

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748007	SLS-RB2
1204848600	Method Blank (MB)
1204848601	547748007(SLS-RB2) Sample Duplicate (DUP)
1204848602	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.

Product: Dry Weight

Preparation Method: ASTM D 2216 (Modified)

Preparation Procedure: GL-OA-E-020 REV# 13

Preparation Batch: 2141936

Preparation Method: Dry Soil Prep

Preparation Procedure: GL-RAD-A-021 REV# 24

Preparation Batch: 2141936

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748001	SLS-13
547748002	SLS-7
547748003	SLS-9
547748004	SLS-17
547748005	SLS-19
547748006	SLS-B3
1204848280	547747001(SLS-B1) Sample Duplicate (DUP)

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: 2141574

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748007	SLS-RB2
1204847628	Method Blank (MB)
1204847629	547456016(SLS-RB-1) Sample Duplicate (DUP)
1204847630	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.

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: 2142297

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
547748001	SLS-13
547748002	SLS-7
547748003	SLS-9
547748004	SLS-17
547748005	SLS-19
547748006	SLS-B3
1204848919	Method Blank (MB)
1204848920	547747001(SLS-B1) Sample Duplicate (DUP)
1204848921	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.

Sample ID	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (a)	Field Filtered (b)	Sample Matrix (c)	Should this sample be considered:		Total number of containers	Sample Analysis Requested (5) (Fill in the number of containers for each test)							Comments
						Yes, please supply isotopic info.	(7) Known or possible hazards		Isotopic Uranium (by individual)	Tc-99	Fluoride	Nitrate	Ammonia	VOC	SVOC	
SLS-13	06-17-21	09:25	G		SL			8	X	X	X	X	X	X	X	All samples reported "as found"
SLS-7	06-17-21	10:00	G		SL			7	X	X	X	X	X	X	X	All samples reported "as found"
SLS-9	06-17-21	10:30	G		SL			7	X	X	X	X	X	X	X	All samples reported "as found"
SLS-17	06-17-21	10:55	G		SL			7	X	X	X	X	X	X	X	All samples reported "as found"
SLS-19	06-17-21	11:25	G		SL			7	X	X	X	X	X	X	X	All samples reported "as found"
SLS-B3	06-17-21	11:30	G		SL			7	X	X	X	X	X	X	X	All samples reported "as found"
SLS-RB2	06-17-21	12:15	EG		W			8	X	X	X	X	X	X	X	All samples reported "as found"
TB-2	06-17-21	13:00	TB		W			3						X		

Chain of Custody Signatures			
Relinquished By (Signed)	Date	Time	Received by (signed)
<i>[Signature]</i>	6/17/21	17:00	<i>[Signature]</i>
<i>[Signature]</i>	6/18/21	08:30	<i>[Signature]</i>
<i>[Signature]</i>	6/18/21	4:30	<i>[Signature]</i>

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

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 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=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**
 Characteristic Hazards: FL = Flammable/Ignitable, CO = Corrosive, RE = Reactive
 Listed Waste: LW = Listed Waste (F,K,P and U-listed wastes.)
 Waste code(s):
 TSCA Regulated: PCB = Polychlorinated biphenyls
 RCRA Metals: As = Arsenic, Hg = Mercury, Ba = Barium, Se = Selenium, Cd = Cadmium, Ag = Silver, Cr = Chromium, MR = Misc. RCRA metals
 Pb = Lead
 Other: OT = Other / Unknown
 Description: 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

5th

Client: WVUC SDG/AR/COC/Work Order: 547748
 Received By: TYE Date Received: 6/18/21

Carrier and Tracking Number
 FedEx Express FedEx Ground UPS Field Services Courier Other

Suspected Hazard Information
 *If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
 A) Shipped as a DOT Hazardous? Yes No Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes ___ No ___
 B) Did the client designate the samples to be received as radioactive? Yes No COC notation or radioactive stickers on containers equal client designation.
 C) Did the RSO classify the samples as radioactive? Yes No Maximum Net Counts Observed (Observed Counts - Area Background Counts): 0 CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
 D) Did the client designate samples are hazardous? Yes No COC notation or hazard labels on containers equal client designation.
 E) Did the RSO identify possible hazards? Yes No If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

Sample Receipt Criteria	Yes	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>	<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"/>	<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"/>	<input checked="" type="checkbox"/>	Preservation Method: <u>Wet Ice</u> Ice Packs Dry ice None Other: TEMP: <u>2C</u> *all temperatures recorded in Celsius
4 Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Temperature Device Serial #: <u>IR2-20</u> Secondary Temperature Device Serial # (If Applicable):
5 Sample containers intact and sealed?	<input checked="" type="checkbox"/>	<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"/>	<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"/>	<input checked="" type="checkbox"/>	If Yes, are Encores or Soil Kits present for solids? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> NA (If yes, take to VOA Freezer):
			Do liquid VOA vials contain acid preservation? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> NA (If unknown, select No)
			Are liquid VOA vials free of headspace? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> NA
8 Samples received within holding time?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ID's and containers affected:
10 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>	<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"/>	<input checked="" type="checkbox"/>	Circle Applicable: No container count on COC Other (describe)
12 Are sample containers identifiable as GEL provided by use of GEL labels?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
13 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

List of current GEL Certifications as of 20 July 2021

State	Certification
Alabama	42200
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	SC000122021-1
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	T104704235-21-19
Utah NELAP	SC000122021-35
Vermont	VT87156
Virginia NELAP	460202
Washington	C780



November 10, 2021

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

Re: Sanitary Lagoon Sludge Characterization
Work Order: 560741

Dear Ms. Teague:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 18, 2021. 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. 4523.

Sincerely,

Samuel Hogan
Project Manager

Purchase Order: 4500822910 Line 1
Enclosures

GEL LABORATORIES LLC

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

Certificate of Analysis Report for

WNUC010 Westinghouse Electric Company PO (4500822910)

Client SDG: 560741 GEL Work Order: 560741

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
- J See case narrative for an explanation
- J Value is estimated
- P Organics—The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.
- 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, Samuel Hogan.



Reviewed by _____

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: November 10, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-B1	Project:	WNUC01921
Sample ID:	560741001	Client ID:	WNUC010
Matrix:	Sludge		
Collect Date:	17-JUN-21 07:00		
Receive Date:	18-JUN-21		
Collector:	Client		
Moisture:	26.8%		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP												
SW846 3050B/6010D Metals, Solid "Dry Weight Corrected"												
Aluminum		1660	8.88	26.1	mg/kg	95.6	1	TXT1	11/09/21	0122	2192720	1
Arsenic	J	0.970	0.653	3.92	mg/kg	95.6	1					
Barium		14.8	0.131	0.653	mg/kg	95.6	1					
Beryllium	U	ND	0.131	0.653	mg/kg	95.6	1					
Cadmium	U	ND	0.131	0.653	mg/kg	95.6	1					
Calcium		439	10.4	32.7	mg/kg	95.6	1					
Chromium		6.08	0.196	1.31	mg/kg	95.6	1					
Cobalt	J	0.464	0.196	0.653	mg/kg	95.6	1					
Copper		10.5	0.392	2.61	mg/kg	95.6	1					
Iron		1880	10.4	32.7	mg/kg	95.6	1					
Lead		3.70	0.431	2.61	mg/kg	95.6	1					
Magnesium		69.1	11.1	39.2	mg/kg	95.6	1					
Manganese		7.69	0.261	1.31	mg/kg	95.6	1					
Sodium		51.0	9.14	32.7	mg/kg	95.6	1					
Vanadium		3.33	0.131	0.653	mg/kg	95.6	1					
Zinc		70.3	0.522	2.61	mg/kg	95.6	1					
Antimony	U	ND	0.431	2.61	mg/kg	95.6	1	JWJ	11/09/21	1605	2192720	2
Nickel		15.2	0.196	0.653	mg/kg	95.6	1					
Selenium	U	ND	0.653	3.92	mg/kg	95.6	1					
Silver		9.87	0.131	0.653	mg/kg	95.6	1					
Thallium	U	ND	0.653	2.61	mg/kg	95.6	1					
Potassium		86.9	8.36	32.7	mg/kg	95.6	1	JWJ	11/09/21	1803	2192720	3
Semi-Volatiles-PCB												
SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"												
Aroclor-1016	U	ND	0.00744	0.0223	mg/kg	0.0327	5	SH4	11/04/21	1316	2192807	4
Aroclor-1221	U	ND	0.00744	0.0223	mg/kg	0.0327	5					
Aroclor-1232	U	ND	0.00744	0.0223	mg/kg	0.0327	5					
Aroclor-1242	U	ND	0.00744	0.0223	mg/kg	0.0327	5					
Aroclor-1248	U	ND	0.00744	0.0223	mg/kg	0.0327	5					
Aroclor-1260	U	ND	0.00744	0.0223	mg/kg	0.0327	5					
Aroclor-1262	U	ND	0.00744	0.0223	mg/kg	0.0327	5					
Aroclor-1254	J	0.0154	0.00744	0.0223	mg/kg	0.0327	5	SH4	11/04/21	1316	2192807	5
Aroclor-1268	J	0.0104	0.00744	0.0223	mg/kg	0.0327	5					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
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GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: November 10, 2021

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

Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-B1 Project: WNUC01921
Sample ID: 560741001 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
SW846 3050B	SW846 3050B	Prep		RG1	11/02/21		1630		2192717		
SW846 3541	Prep Method 3541	PCB Prep Soil		CB1	11/03/21		0639		2192804		

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 3050B/6010D		
2	SW846 3050B/6010D		
3	SW846 3050B/6010D		
4	SW846 3541/8082A		
5	SW846 3541/8082A		

Surrogate/Tracer	Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Decachlorobiphenyl		SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"	0.00627 mg/kg	0.00893	70	(24%-138%)
4cmx		SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"	0.00574 mg/kg	0.00893	64	(25%-119%)

Notes:

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: November 10, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-1	Project: WNUC01921
Sample ID: 560741002	Client ID: WNUC010
Matrix: Sludge	
Collect Date: 17-JUN-21 07:20	
Receive Date: 18-JUN-21	
Collector: Client	
Moisture: 31.4%	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP												
SW846 3050B/6010D Metals, Solid "Dry Weight Corrected"												
Aluminum		5130	8.51	25.0	mg/kg	85.9	1	TXT1	11/09/21	0145	2192720	1
Arsenic		3.86	0.626	3.75	mg/kg	85.9	1					
Barium		54.7	0.125	0.626	mg/kg	85.9	1					
Beryllium	J	0.277	0.125	0.626	mg/kg	85.9	1					
Cadmium	J	0.209	0.125	0.626	mg/kg	85.9	1					
Calcium		4410	10.0	31.3	mg/kg	85.9	1					
Chromium		11.3	0.188	1.25	mg/kg	85.9	1					
Cobalt		1.63	0.188	0.626	mg/kg	85.9	1					
Copper		52.1	0.375	2.50	mg/kg	85.9	1					
Iron		2980	10.0	31.3	mg/kg	85.9	1					
Lead		10.1	0.413	2.50	mg/kg	85.9	1					
Magnesium		205	10.6	37.5	mg/kg	85.9	1					
Manganese		16.8	0.250	1.25	mg/kg	85.9	1					
Sodium		118	8.76	31.3	mg/kg	85.9	1					
Vanadium		5.32	0.125	0.626	mg/kg	85.9	1					
Zinc		101	0.501	2.50	mg/kg	85.9	1					
Antimony	U	ND	0.413	2.50	mg/kg	85.9	1	JWJ	11/09/21	1626	2192720	2
Nickel		22.9	0.188	0.626	mg/kg	85.9	1					
Selenium	U	ND	0.626	3.75	mg/kg	85.9	1					
Silver		63.1	0.125	0.626	mg/kg	85.9	1					
Thallium	U	ND	0.626	2.50	mg/kg	85.9	1					
Potassium		197	8.01	31.3	mg/kg	85.9	1	JWJ	11/09/21	1823	2192720	3
Semi-Volatiles-PCB												
SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"												
Aroclor-1016	U	ND	0.00806	0.0242	mg/kg	0.0332	5	SH4	11/04/21	1330	2192807	4
Aroclor-1221	U	ND	0.00806	0.0242	mg/kg	0.0332	5					
Aroclor-1232	U	ND	0.00806	0.0242	mg/kg	0.0332	5					
Aroclor-1242	U	ND	0.00806	0.0242	mg/kg	0.0332	5					
Aroclor-1248	U	ND	0.00806	0.0242	mg/kg	0.0332	5					
Aroclor-1254		0.171	0.00806	0.0242	mg/kg	0.0332	5					
Aroclor-1260	P	0.0757	0.00806	0.0242	mg/kg	0.0332	5					
Aroclor-1262	U	ND	0.00806	0.0242	mg/kg	0.0332	5					
Aroclor-1268		0.0824	0.00806	0.0242	mg/kg	0.0332	5					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
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Certificate of Analysis

Report Date: November 10, 2021

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

Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-1
Sample ID: 560741002
Project: WNUC01921
Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
SW846 3050B	SW846 3050B	Prep		RG1	11/02/21		1630		2192717		
SW846 3541	Prep Method 3541	PCB Prep Soil		CB1	11/03/21		0639		2192804		

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 3050B/6010D		
2	SW846 3050B/6010D		
3	SW846 3050B/6010D		
4	SW846 3541/8082A		
5	SW846 3541/8082A		

Surrogate/Tracer	Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Decachlorobiphenyl		SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"	0.0106 mg/kg	0.00968	109	(24%-138%)
4cmx		SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"	0.00518 mg/kg	0.00968	54	(25%-119%)

Notes:

Column headers are defined as follows:

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

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Certificate of Analysis

Report Date: November 10, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-B2	Project:	WNUC01921
Sample ID:	560741003	Client ID:	WNUC010
Matrix:	Sludge		
Collect Date:	17-JUN-21 07:30		
Receive Date:	18-JUN-21		
Collector:	Client		
Moisture:	24.6%		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP												
SW846 3050B/6010D Metals, Solid "Dry Weight Corrected"												
Aluminum		2150	7.70	22.7	mg/kg	85.5	1	TXT1	11/09/21	0147	2192720	1
Arsenic	J	2.29	0.567	3.40	mg/kg	85.5	1					
Barium		22.5	0.113	0.567	mg/kg	85.5	1					
Beryllium	U	ND	0.113	0.567	mg/kg	85.5	1					
Cadmium	J	0.142	0.113	0.567	mg/kg	85.5	1					
Calcium		658	9.06	28.3	mg/kg	85.5	1					
Chromium		34.8	0.170	1.13	mg/kg	85.5	1					
Cobalt		0.956	0.170	0.567	mg/kg	85.5	1					
Copper		46.8	0.340	2.27	mg/kg	85.5	1					
Iron		2560	9.06	28.3	mg/kg	85.5	1					
Lead		5.48	0.374	2.27	mg/kg	85.5	1					
Magnesium		133	9.63	34.0	mg/kg	85.5	1					
Manganese		9.83	0.227	1.13	mg/kg	85.5	1					
Sodium		69.7	7.93	28.3	mg/kg	85.5	1					
Vanadium		5.10	0.113	0.567	mg/kg	85.5	1					
Zinc		121	0.453	2.27	mg/kg	85.5	1					
Antimony	U	ND	0.374	2.27	mg/kg	85.5	1	JWJ	11/09/21	1629	2192720	2
Nickel		143	0.170	0.567	mg/kg	85.5	1					
Selenium	J	0.663	0.567	3.40	mg/kg	85.5	1					
Silver		23.9	0.113	0.567	mg/kg	85.5	1					
Thallium	U	ND	0.567	2.27	mg/kg	85.5	1					
Potassium		109	7.25	28.3	mg/kg	85.5	1	JWJ	11/09/21	1827	2192720	3
Semi-Volatiles-PCB												
SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"												
Aroclor-1016	U	ND	0.00730	0.0219	mg/kg	0.0331	5	SH4	11/04/21	1345	2192807	4
Aroclor-1221	U	ND	0.00730	0.0219	mg/kg	0.0331	5					
Aroclor-1232	U	ND	0.00730	0.0219	mg/kg	0.0331	5					
Aroclor-1242	U	ND	0.00730	0.0219	mg/kg	0.0331	5					
Aroclor-1248	U	ND	0.00730	0.0219	mg/kg	0.0331	5					
Aroclor-1260	U	ND	0.00730	0.0219	mg/kg	0.0331	5					
Aroclor-1262	U	ND	0.00730	0.0219	mg/kg	0.0331	5					
Aroclor-1254	J	0.00943	0.00730	0.0219	mg/kg	0.0331	5	SH4	11/04/21	1345	2192807	5
Aroclor-1268	J	0.00927	0.00730	0.0219	mg/kg	0.0331	5					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
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Report Date: November 10, 2021

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

Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-B2 Project: WNUC01921
Sample ID: 560741003 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
SW846 3050B	SW846 3050B	Prep		RG1	11/02/21		1630		2192717		
SW846 3541	Prep Method 3541	PCB Prep Soil		CB1	11/03/21		0639		2192804		

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 3050B/6010D		
2	SW846 3050B/6010D		
3	SW846 3050B/6010D		
4	SW846 3541/8082A		
5	SW846 3541/8082A		

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
4cmx	SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"	0.00488 mg/kg	0.00877	56	(25%-119%)
Decachlorobiphenyl	SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"	0.00582 mg/kg	0.00877	66	(24%-138%)

Notes:

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: November 10, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-5	Project:	WNUC01921
Sample ID:	560741004	Client ID:	WNUC010
Matrix:	Sludge		
Collect Date:	17-JUN-21 08:05		
Receive Date:	18-JUN-21		
Collector:	Client		
Moisture:	37.1%		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP												
SW846 3050B/6010D Metals, Solid "Dry Weight Corrected"												
Aluminum		6380	10.0	29.5	mg/kg	92.8	1	TXT1	11/09/21	0150	2192720	1
Arsenic	J	4.08	0.737	4.42	mg/kg	92.8	1					
Barium		41.0	0.147	0.737	mg/kg	92.8	1					
Beryllium	U	ND	0.147	0.737	mg/kg	92.8	1					
Cadmium	J	0.222	0.147	0.737	mg/kg	92.8	1					
Calcium		5340	11.8	36.8	mg/kg	92.8	1					
Chromium		14.6	0.221	1.47	mg/kg	92.8	1					
Cobalt		1.65	0.221	0.737	mg/kg	92.8	1					
Copper		77.1	0.442	2.95	mg/kg	92.8	1					
Iron		4190	11.8	36.8	mg/kg	92.8	1					
Lead		12.7	0.486	2.95	mg/kg	92.8	1					
Magnesium		320	12.5	44.2	mg/kg	92.8	1					
Manganese		24.7	0.295	1.47	mg/kg	92.8	1					
Sodium		144	10.3	36.8	mg/kg	92.8	1					
Vanadium		7.18	0.147	0.737	mg/kg	92.8	1					
Zinc		165	0.590	2.95	mg/kg	92.8	1					
Antimony	U	ND	0.486	2.95	mg/kg	92.8	1	JWJ	11/09/21	1632	2192720	2
Nickel		19.0	0.221	0.737	mg/kg	92.8	1					
Selenium	U	ND	0.737	4.42	mg/kg	92.8	1					
Thallium	U	ND	0.737	2.95	mg/kg	92.8	1					
Silver		200	0.295	1.47	mg/kg	92.8	2	JWJ	11/09/21	1637	2192720	3
Potassium		283	9.43	36.8	mg/kg	92.8	1	JWJ	11/09/21	1836	2192720	4
Semi-Volatiles-PCB												
SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"												
Aroclor-1016	U	ND	0.00882	0.0265	mg/kg	0.0333	5	SH4	11/04/21	1359	2192807	5
Aroclor-1221	U	ND	0.00882	0.0265	mg/kg	0.0333	5					
Aroclor-1232	U	ND	0.00882	0.0265	mg/kg	0.0333	5					
Aroclor-1242	U	ND	0.00882	0.0265	mg/kg	0.0333	5					
Aroclor-1248	U	ND	0.00882	0.0265	mg/kg	0.0333	5					
Aroclor-1254		0.153	0.00882	0.0265	mg/kg	0.0333	5					
Aroclor-1260	P	0.0651	0.00882	0.0265	mg/kg	0.0333	5					
Aroclor-1262	U	ND	0.00882	0.0265	mg/kg	0.0333	5					
Aroclor-1268		0.0610	0.00882	0.0265	mg/kg	0.0333	5					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
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Certificate of Analysis

Report Date: November 10, 2021

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

Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-5 Project: WNUC01921
Sample ID: 560741004 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
SW846 3050B	SW846 3050B	Prep		RG1	11/02/21		1630		2192717		
SW846 3541	Prep Method 3541	PCB Prep Soil		CB1	11/03/21		0639		2192804		

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 3050B/6010D		
2	SW846 3050B/6010D		
3	SW846 3050B/6010D		
4	SW846 3050B/6010D		
5	SW846 3541/8082A		
6	SW846 3541/8082A		

Surrogate/Tracer	Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Decachlorobiphenyl		SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"	0.00779 mg/kg	0.0106	74	(24%-138%)
4cmx		SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"	0.00621 mg/kg	0.0106	59	(25%-119%)

Notes:

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: November 10, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-21	Project: WNUC01921
Sample ID: 560741005	Client ID: WNUC010
Matrix: Sludge	
Collect Date: 17-JUN-21 08:25	
Receive Date: 18-JUN-21	
Collector: Client	
Moisture: 33.4%	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP												
SW846 3050B/6010D Metals, Solid "Dry Weight Corrected"												
Aluminum		1490	10.1	29.8	mg/kg	99.4	1	TXT1	11/09/21	0153	2192720	1
Beryllium	J	0.243	0.149	0.746	mg/kg	99.4	1					
Cadmium		1.53	0.149	0.746	mg/kg	99.4	1					
Calcium		9540	11.9	37.3	mg/kg	99.4	1					
Sodium		151	10.4	37.3	mg/kg	99.4	1					
Nickel		874	0.224	0.746	mg/kg	99.4	1	JWJ	11/09/21	1640	2192720	2
Arsenic	U	ND	7.46	44.8	mg/kg	99.4	10	TXT1	11/09/21	0157	2192720	3
Barium		86.0	1.49	7.46	mg/kg	99.4	10					
Chromium		344	2.24	14.9	mg/kg	99.4	10					
Cobalt		9.69	2.24	7.46	mg/kg	99.4	10					
Copper		306	4.48	29.8	mg/kg	99.4	10					
Iron		158000	119	373	mg/kg	99.4	10					
Lead	J	20.1	4.92	29.8	mg/kg	99.4	10					
Magnesium		1050	127	448	mg/kg	99.4	10					
Manganese		585	2.98	14.9	mg/kg	99.4	10					
Vanadium		8.77	1.49	7.46	mg/kg	99.4	10					
Zinc		1210	5.97	29.8	mg/kg	99.4	10					
Antimony	J	9.89	4.92	29.8	mg/kg	99.4	10	JWJ	11/09/21	1643	2192720	4
Selenium	U	ND	7.46	44.8	mg/kg	99.4	10					
Silver		336	1.49	7.46	mg/kg	99.4	10					
Thallium	J	12.0	7.46	29.8	mg/kg	99.4	10					
Potassium	J	211	95.5	373	mg/kg	99.4	10	JWJ	11/09/21	1846	2192720	5

Semi-Volatiles-PCB

SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"

Aroclor-1016	U	ND	0.00819	0.0246	mg/kg	0.0328	5	SH4	11/04/21	1413	2192807	6
Aroclor-1221	U	ND	0.00819	0.0246	mg/kg	0.0328	5					
Aroclor-1232	U	ND	0.00819	0.0246	mg/kg	0.0328	5					
Aroclor-1242	U	ND	0.00819	0.0246	mg/kg	0.0328	5					
Aroclor-1248	U	ND	0.00819	0.0246	mg/kg	0.0328	5					
Aroclor-1254		0.0489	0.00819	0.0246	mg/kg	0.0328	5					
Aroclor-1260	U	ND	0.00819	0.0246	mg/kg	0.0328	5					
Aroclor-1262	U	ND	0.00819	0.0246	mg/kg	0.0328	5					
Aroclor-1268		0.0333	0.00819	0.0246	mg/kg	0.0328	5	SH4	11/04/21	1413	2192807	7

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
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Certificate of Analysis

Report Date: November 10, 2021

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

Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-21 Project: WNUC01921
Sample ID: 560741005 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
SW846 3050B	SW846 3050B	Prep		RG1	11/02/21		1630		2192717		
SW846 3541	Prep Method 3541	PCB Prep Soil		CB1	11/03/21		0639		2192804		

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 3050B/6010D		
2	SW846 3050B/6010D		
3	SW846 3050B/6010D		
4	SW846 3050B/6010D		
5	SW846 3050B/6010D		
6	SW846 3541/8082A		
7	SW846 3541/8082A		

Surrogate/Tracer	Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Decachlorobiphenyl		SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"	0.00824 mg/kg	0.00984	84	(24%-138%)
4cmx		SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"	0.00614 mg/kg	0.00984	62	(25%-119%)

Notes:

Column headers are defined as follows:

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

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Certificate of Analysis

Report Date: November 10, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-25	Project:	WNUC01921
Sample ID:	560741006	Client ID:	WNUC010
Matrix:	Sludge		
Collect Date:	17-JUN-21 08:55		
Receive Date:	18-JUN-21		
Collector:	Client		
Moisture:	92.7%		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP												
SW846 3050B/6010D Metals, Solid "Dry Weight Corrected"												
Aluminum		24400	84.4	248	mg/kg	90.7	1	TXT1	11/09/21	0159	2192720	1
Arsenic	J	36.1	6.21	37.2	mg/kg	90.7	1					
Barium		295	1.24	6.21	mg/kg	90.7	1					
Beryllium	U	ND	1.24	6.21	mg/kg	90.7	1					
Cadmium		8.27	1.24	6.21	mg/kg	90.7	1					
Calcium		52500	99.3	310	mg/kg	90.7	1					
Chromium		104	1.86	12.4	mg/kg	90.7	1					
Cobalt		22.3	1.86	6.21	mg/kg	90.7	1					
Copper		1280	3.72	24.8	mg/kg	90.7	1					
Iron		27600	99.3	310	mg/kg	90.7	1					
Lead		107	4.10	24.8	mg/kg	90.7	1					
Magnesium		1990	105	372	mg/kg	90.7	1					
Manganese		122	2.48	12.4	mg/kg	90.7	1					
Sodium		1480	86.9	310	mg/kg	90.7	1					
Vanadium		38.6	1.24	6.21	mg/kg	90.7	1					
Zinc		4430	4.96	24.8	mg/kg	90.7	1					
Antimony	J	4.81	4.10	24.8	mg/kg	90.7	1	JWJ	11/09/21	1645	2192720	2
Nickel		292	1.86	6.21	mg/kg	90.7	1					
Selenium	U	ND	6.21	37.2	mg/kg	90.7	1					
Thallium	U	ND	6.21	24.8	mg/kg	90.7	1					
Silver		1440	6.21	31.0	mg/kg	90.7	5	JWJ	11/09/21	1648	2192720	3
Potassium		935	79.4	310	mg/kg	90.7	1	JWJ	11/09/21	1855	2192720	4
Semi-Volatiles-PCB												
SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"												
Aroclor-1016	U	ND	0.0751	0.226	mg/kg	0.0330	5	SH4	11/04/21	1427	2192807	5
Aroclor-1221	U	ND	0.0751	0.226	mg/kg	0.0330	5					
Aroclor-1232	U	ND	0.0751	0.226	mg/kg	0.0330	5					
Aroclor-1242	U	ND	0.0751	0.226	mg/kg	0.0330	5					
Aroclor-1248	U	ND	0.0751	0.226	mg/kg	0.0330	5					
Aroclor-1260	U	ND	0.0751	0.226	mg/kg	0.0330	5					
Aroclor-1262	U	ND	0.0751	0.226	mg/kg	0.0330	5					
Aroclor-1254		0.397	0.0751	0.226	mg/kg	0.0330	5	SH4	11/04/21	1427	2192807	6
Aroclor-1268		0.354	0.0751	0.226	mg/kg	0.0330	5					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
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Certificate of Analysis

Report Date: November 10, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-25	Project: WNUC01921
Sample ID: 560741006	Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
SW846 3050B	SW846 3050B Prep			RG1	11/02/21		1630		2192717		
SW846 3541	Prep Method 3541 PCB Prep Soil			CB1	11/03/21		0639		2192804		

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 3050B/6010D		
2	SW846 3050B/6010D		
3	SW846 3050B/6010D		
4	SW846 3050B/6010D		
5	SW846 3541/8082A		
6	SW846 3541/8082A		

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
4cmx	SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"	0.0514 mg/kg	0.0902	57	(25%-119%)
Decachlorobiphenyl	SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"	0.0781 mg/kg	0.0902	87	(24%-138%)

Notes:

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: November 10, 2021

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Westinghouse Electric Company, LLC

PO Drawer R
Columbia, South Carolina

Contact: Ms. Cynthia Teague

Workorder: 560741

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2192720										
QC1204946562	LCS										
Aluminum	481			477	mg/kg		99.2	(80%-120%)	TXT1	11/09/21	01:19
Antimony	48.1			43.4	mg/kg		90.3	(80%-120%)	JWJ	11/09/21	16:02
Arsenic	48.1			45.9	mg/kg		95.4	(80%-120%)	TXT1	11/09/21	01:19
Barium	48.1			45.7	mg/kg		95.1	(80%-120%)			
Beryllium	48.1			48.2	mg/kg		100	(80%-120%)			
Cadmium	48.1			45.1	mg/kg		93.7	(80%-120%)			
Calcium	481			479	mg/kg		99.7	(80%-120%)			
Chromium	48.1			45.3	mg/kg		94.1	(80%-120%)			
Cobalt	48.1			45.2	mg/kg		94.1	(80%-120%)			
Copper	48.1			46.9	mg/kg		97.5	(80%-120%)			
Iron	481			495	mg/kg		103	(80%-120%)			
Lead	48.1			46.1	mg/kg		95.8	(80%-120%)			
Magnesium	481			485	mg/kg		101	(80%-120%)			
Manganese	48.1			46.6	mg/kg		97	(80%-120%)			

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QC Summary

Workorder: 560741

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2192720										
Nickel	48.1			44.7	mg/kg		92.9	(80%-120%)	JWJ	11/09/21	16:02
Potassium	481			465	mg/kg		96.8	(80%-120%)		11/09/21	18:00
Selenium	48.1			43.4	mg/kg		90.2	(80%-120%)		11/09/21	16:02
Silver	9.62			9.32	mg/kg		97	(80%-120%)			
Sodium	481			480	mg/kg		99.8	(80%-120%)	TXT1	11/09/21	01:19
Thallium	48.1			46.1	mg/kg		95.9	(80%-120%)	JWJ	11/09/21	16:02
Vanadium	48.1			46.5	mg/kg		96.8	(80%-120%)	TXT1	11/09/21	01:19
Zinc	48.1			44.7	mg/kg		92.9	(80%-120%)			
QC1204946561	MB										
Aluminum			U	ND	mg/kg					11/09/21	01:15
Antimony			U	ND	mg/kg				JWJ	11/09/21	15:59
Arsenic			U	ND	mg/kg				TXT1	11/09/21	01:15
Barium			U	ND	mg/kg						
Beryllium			U	ND	mg/kg						
Cadmium			U	ND	mg/kg						
Calcium			U	ND	mg/kg						

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QC Summary

Workorder: 560741

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2192720										
Chromium			U	ND	mg/kg				TXT1	11/09/21	01:15
Cobalt			U	ND	mg/kg						
Copper			J	0.818	mg/kg						
Iron				16.3	mg/kg						
Lead			U	ND	mg/kg						
Magnesium			U	ND	mg/kg						
Manganese			U	ND	mg/kg						
Nickel			U	ND	mg/kg				JWJ	11/09/21	15:59
Potassium			U	ND	mg/kg					11/09/21	17:57
Selenium			U	ND	mg/kg					11/09/21	15:59
Silver			U	ND	mg/kg						
Sodium			J	7.83	mg/kg				TXT1	11/09/21	01:15
Thallium			U	ND	mg/kg				JWJ	11/09/21	15:59
Vanadium			U	ND	mg/kg				TXT1	11/09/21	01:15
Zinc			J	0.412	mg/kg						

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch 2192720											
QC1204946563 560741001 MS											
Aluminum	652	1660		4260	mg/kg		399*	(75%-125%)	TXT1	11/09/21	01:25
Antimony	65.2	U	ND	57.4	mg/kg		88.1	(75%-125%)	JWJ	11/09/21	16:08
Arsenic	65.2	J	0.970	58.8	mg/kg		88.7	(75%-125%)	TXT1	11/09/21	01:25
Barium	65.2		14.8	77.2	mg/kg		95.8	(75%-125%)			
Beryllium	65.2	U	ND	64.1	mg/kg		98.2	(75%-125%)			
Cadmium	65.2	U	ND	58.9	mg/kg		90.2	(75%-125%)			
Calcium	652		439	1060	mg/kg		95.8	(75%-125%)			
Chromium	65.2		6.08	67.6	mg/kg		94.3	(75%-125%)			
Cobalt	65.2	J	0.464	60.5	mg/kg		92.2	(75%-125%)			
Copper	65.2		10.5	73.8	mg/kg		97.2	(75%-125%)			
Iron	652		1880	2800	mg/kg		142*	(75%-125%)			
Lead	65.2		3.70	63.4	mg/kg		91.6	(75%-125%)			
Magnesium	652		69.1	745	mg/kg		104	(75%-125%)			
Manganese	65.2		7.69	70.3	mg/kg		96	(75%-125%)			
Nickel	65.2		15.2	81.3	mg/kg		101	(75%-125%)	JWJ	11/09/21	16:08

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2192720										
Potassium	652	86.9		715	mg/kg		96.4	(75%-125%)	JWJ	11/09/21	18:06
Selenium	65.2	U	ND	57.6	mg/kg		88.4	(75%-125%)		11/09/21	16:08
Silver	13.0			21.6	mg/kg		89.8	(75%-125%)			
Sodium	652	51.0		688	mg/kg		97.7	(75%-125%)	TXT1	11/09/21	01:25
Thallium	65.2	U	ND	60.9	mg/kg		93.4	(75%-125%)	JWJ	11/09/21	16:08
Vanadium	65.2		3.33	65.2	mg/kg		95	(75%-125%)	TXT1	11/09/21	01:25
Zinc	65.2		70.3	94.6	mg/kg		37.3*	(75%-125%)			
QC1204946564 560741001 MSD											
Aluminum	637		1660	4700	mg/kg	9.74	477*	(0%-20%)		11/09/21	01:28
Antimony	63.7	U	ND	54.7	mg/kg	4.93	85.8	(0%-20%)	JWJ	11/09/21	16:11
Arsenic	63.7	J	0.970	58.6	mg/kg	0.423	90.4	(0%-20%)	TXT1	11/09/21	01:28
Barium	63.7		14.8	78.8	mg/kg	1.97	100	(0%-20%)			
Beryllium	63.7	U	ND	62.8	mg/kg	2.02	98.4	(0%-20%)			
Cadmium	63.7	U	ND	57.8	mg/kg	1.83	90.6	(0%-20%)			
Calcium	637		439	1100	mg/kg	3.59	104	(0%-20%)			
Chromium	63.7		6.08	68.8	mg/kg	1.81	98.4	(0%-20%)			

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2192720										
Cobalt	63.7	J	0.464	59.2	mg/kg	2.22	92.2	(0%-20%)	TXT1	11/09/21	01:28
Copper	63.7		10.5	76.2	mg/kg	3.24	103	(0%-20%)			
Iron	637		1880	4770	mg/kg	52*	454*	(0%-20%)			
Lead	63.7		3.70	63.4	mg/kg	0.0775	93.7	(0%-20%)			
Magnesium	637		69.1	746	mg/kg	0.201	106	(0%-20%)			
Manganese	63.7		7.69	71.6	mg/kg	1.85	100	(0%-20%)			
Nickel	63.7		15.2	78.0	mg/kg	4.17	98.6	(0%-20%)	JWJ	11/09/21	16:11
Potassium	637		86.9	712	mg/kg	0.381	98.2	(0%-20%)		11/09/21	18:09
Selenium	63.7	U	ND	55.1	mg/kg	4.55	86.4	(0%-20%)		11/09/21	16:11
Silver	12.7		9.87	22.1	mg/kg	2.38	96	(0%-20%)			
Sodium	637		51.0	673	mg/kg	2.16	97.6	(0%-20%)	TXT1	11/09/21	01:28
Thallium	63.7	U	ND	58.0	mg/kg	4.9	91	(0%-20%)	JWJ	11/09/21	16:11
Vanadium	63.7		3.33	66.5	mg/kg	1.9	99.1	(0%-20%)	TXT1	11/09/21	01:28
Zinc	63.7		70.3	100	mg/kg	5.79	47*	(0%-20%)			
QC1204951764 560741001 PS											
Aluminum	5000		12700	17300	ug/L		92.9	(75%-125%)		11/09/21	01:31

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QC Summary

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2192720										
Iron	5000	14400		18700	ug/L		85.4	(75%-125%)	TXT1	11/09/21	01:31
Zinc	500	538		984	ug/L		89.2	(75%-125%)			
QC1204946565 560741001 SDILT											
Aluminum		12700		2560	ug/L	.87		(0%-20%)		11/09/21	01:34
Antimony	U	ND	U	ND	ug/L	N/A		(0%-20%)	JWJ	11/09/21	16:17
Arsenic	J	7.43	J	8.17	ug/L	450		(0%-20%)	TXT1	11/09/21	01:34
Barium		113		23.3	ug/L	3.03		(0%-20%)			
Beryllium	U	ND	U	ND	ug/L	N/A		(0%-20%)			
Cadmium	U	ND	U	ND	ug/L	N/A		(0%-20%)			
Calcium		3360		694	ug/L	3.24		(0%-20%)			
Chromium		46.6	J	9.77	ug/L	4.92		(0%-20%)			
Cobalt	J	3.55	U	ND	ug/L	N/A		(0%-20%)			
Copper		80.0	J	17.8	ug/L	11.2		(0%-20%)			
Iron		14400		2910	ug/L	1.08		(0%-20%)			
Lead		28.4	J	9.57	ug/L	68.7		(0%-20%)			
Magnesium		529	J	112	ug/L	5.76		(0%-20%)			

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2192720										
Manganese		58.9		12.0	ug/L	1.61		(0%-20%)	TXT1	11/09/21	01:34
Nickel		116		26.0	ug/L	11.6		(0%-20%)	JWJ	11/09/21	16:17
Potassium		665	J	132	ug/L	.741		(0%-20%)		11/09/21	18:14
Selenium	U	ND	U	ND	ug/L	N/A		(0%-20%)		11/09/21	16:17
Silver		75.5		17.2	ug/L	13.9		(0%-20%)			
Sodium		391	J	84.5	ug/L	8.08		(0%-20%)	TXT1	11/09/21	01:34
Thallium	U	ND	U	ND	ug/L	N/A		(0%-20%)	JWJ	11/09/21	16:17
Vanadium		25.5		5.15	ug/L	.918		(0%-20%)	TXT1	11/09/21	01:34
Zinc		538		115	ug/L	6.52		(0%-20%)			
Semi-Volatiles-PCB											
Batch	2192807										
QC1204946763	LCS										
Aroclor-1016	0.0333			0.0263	mg/kg		79	(70%-130%)	SH4	11/04/21	10:47
Aroclor-1260	0.0333			0.0271	mg/kg		81	(70%-130%)			
**4cmx	0.00665			0.00525	mg/kg		79	(25%-119%)			
**Decachlorobiphenyl	0.00665			0.00557	mg/kg		84	(24%-138%)			
QC1204946762	MB										
Aroclor-1016			U	ND	mg/kg					11/04/21	10:35

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatiles-PCB											
Batch	2192807										
Aroclor-1221			U	ND	mg/kg				SH4	11/04/21	10:35
Aroclor-1232			U	ND	mg/kg						
Aroclor-1242			U	ND	mg/kg						
Aroclor-1248			U	ND	mg/kg						
Aroclor-1254			U	ND	mg/kg						
Aroclor-1260			U	ND	mg/kg						
Aroclor-1262			U	ND	mg/kg						
Aroclor-1268			U	ND	mg/kg						
**4cmx	0.00666			0.00515	mg/kg		77	(25%-119%)			
**Decachlorobiphenyl	0.00666			0.00545	mg/kg		82	(24%-138%)			
QC1204946764 559488001 MS											
Aroclor-1016	0.0331	U	ND	0.203	mg/kg		613*	(25%-130%)		11/04/21	11:13
Aroclor-1260	0.0331		1.44	1.23	mg/kg		0*	(28%-131%)			
**4cmx	0.00662		0.00528	0.00455	mg/kg		69	(25%-119%)			
**Decachlorobiphenyl	0.00662		0.00519	0.00669	mg/kg		101	(24%-138%)			
QC1204946765 559488001 MSD											
Aroclor-1016	0.0332	U	ND	0.218	mg/kg	7	656*	(0%-35%)		11/04/21	11:27

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatiles-PCB											
Batch	2192807										
Aroclor-1260	0.0332	1.44		1.39	mg/kg	13	0*	(0%-37%)	SH4	11/04/21	11:27
**4cmx	0.00665	0.00528		0.00439	mg/kg		66	(25%-119%)			
**Decachlorobiphenyl	0.00665	0.00519		0.00670	mg/kg		101	(24%-138%)			

Notes:

The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B The target analyte was detected in the associated blank.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E %difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Concentration of the target analyte exceeds the instrument calibration range
- FB Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
- H Analytical holding time was exceeded
- J See case narrative for an explanation
- J Value is estimated
- JNX Non Calibrated Compound
- N Metals--The Matrix spike sample recovery is not within specified control limits
- N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N/A RPD or %Recovery limits do not apply.
- NI 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
- P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- R Sample results are rejected

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
U											
UJ											
X											
Y											
Y											
^											
h											

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

Technical Case Narrative
Westinghouse Electric Company PO
SDG #: 560741

GC Semivolatile PCB

Product: Analysis of The Analysis of Polychlorinated Biphenyls by GC/ECD by ECD

Analytical Method: SW846 3541/8082A

Analytical Procedure: GL-OA-E-040 REV# 25

Analytical Batch: 2192807

Preparation Method: SW846 3541

Preparation Procedure: GL-OA-E-066 REV# 9

Preparation Batch: 2192804

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
560741001	SLS-B1
560741002	SLS-1
560741003	SLS-B2
560741004	SLS-5
560741005	SLS-21
560741006	SLS-25
1204946762	Method Blank (MB)
1204946763	Laboratory Control Sample (LCS)
1204946764	559488001(NonSDG) Matrix Spike (MS)
1204946765	559488001(NonSDG) Matrix Spike Duplicate (MSD)

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

Matrix Spike (MS/MSD) Recovery Statement

The MS or MSD (See Below) did not meet spike recovery acceptance limits due to dilution and high level of Aroclors in the parent sample.

Sample	Analyte	Value
1204946764 (Non SDG 559488001MS)	Aroclor-1016	613* (25%-130%)
	Aroclor-1260	0* (28%-131%)
1204946765 (Non SDG 559488001MSD)	Aroclor-1016	656* (25%-130%)
	Aroclor-1260	0* (28%-131%)

Technical Information

Preparation/Analytical Method Verification

All reported analyte detections in client and quality control samples were within the established retention time windows. Reported analyte concentrations were confirmed on dissimilar columns.

Sample Dilutions

Samples 1204946764 (Non SDG 559488001MS) and 1204946765 (Non SDG 559488001MSD) were diluted due to high concentrations of target analytes in the samples. Samples 560741001 (SLS-B1), 560741002 (SLS-1), 560741003 (SLS-B2), 560741004 (SLS-5), 560741005 (SLS-21) and 560741006 (SLS-25) were diluted prior to analysis due to the presence of high sulfur content.

Miscellaneous Information

Manual integrations

Samples 1204946763 (LCS), 1204946764 (Non SDG 559488001MS), 1204946765 (Non SDG 559488001MSD), 560741001 (SLS-B1), 560741002 (SLS-1), 560741003 (SLS-B2), 560741004 (SLS-5), 560741005 (SLS-21) and 560741006 (SLS-25) required manual integration to correctly position the baseline as set in the calibration standard injections.

Metals

Product: Determination of Metals by ICP

Analytical Method: SW846 3050B/6010D

Analytical Procedure: GL-MA-E-013 REV# 32

Analytical Batch: 2192720

Preparation Method: SW846 3050B

Preparation Procedure: GL-MA-E-009 REV# 29

Preparation Batch: 2192717

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
560741001	SLS-B1
560741002	SLS-1
560741003	SLS-B2
560741004	SLS-5
560741005	SLS-21
560741006	SLS-25
1204946561	Method Blank (MB) ICP
1204946562	Laboratory Control Sample (LCS)
1204946565	560741001(SLS-B1L) Serial Dilution (SD)
1204946563	560741001(SLS-B1S) Matrix Spike (MS)
1204946564	560741001(SLS-B1SD) Matrix Spike Duplicate (MSD)
1204951764	560741001(SLS-B1PS) Post Spike (PS)

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.

Calibration Information

CRDL/PQL Requirements

The PQL standard recoveries for SW846 6010C or 6010D met the control limits with the exception of silver and potassium. Client sample concentrations were less than the MDL or greater than two times the PQL; therefore the data were not adversely affected. 560741001 (SLS-B1), 560741002 (SLS-1), 560741003 (SLS-B2), 560741004 (SLS-5), 560741005 (SLS-21) and 560741006 (SLS-25).

Quality Control (QC) Information

Matrix Spike (MS/MSD) Recovery Statement

The percent recoveries (%R) obtained from the MS/MSD analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MS/MSD (See Below) did not meet the recommended quality control acceptance criteria for percent recoveries for the following applicable analytes. The post spike recoveries were within the required control limits. This verifies the absence of a matrix interference in the post-spike digested sample. The recoveries may be attributed to possible sample matrix interference and/or non-homogeneity.

Sample	Analyte	Value
1204946563 (SLS-B1MS)	Aluminum	399* (75%-125%)
	Iron	142* (75%-125%)
	Zinc	37.3* (75%-125%)
1204946564 (SLS-B1MSD)	Aluminum	477* (75%-125%)
	Iron	454* (75%-125%)
	Zinc	47* (75%-125%)

MS/MSD Relative Percent Difference (RPD) Statement

The RPD values between qualifying analyte results in the MS and MSD were not within the acceptance limits. Sample non-homogeneity and/or possible matrix interferences may be suspected.

Sample	Analyte	Value
1204946563MS and 1204946564MSD (SLS-B1)	Iron	RPD 52* (0%-20%)

Technical Information

Preparation/Analytical Method Verification

Method SW-846 3050B is not a total digestion technique for most samples. It is a very strong acid digestion that will dissolve almost all elements that could become environmentally available. By design, elements bound in silicate structures are not normally dissolved by this procedure as they are not usually mobile in the environment.

Sample Dilutions

Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range. Samples were diluted to ensure that the silver

concentrations were within the linear calibration range of the instrument. 560741004 (SLS-5) and 560741006 (SLS-25). Sample was diluted in order to bring raw values for iron within the linear range of the instrument, and for the analytes interfered with, in order to ensure that the inter-element correction factors were valid. 560741005 (SLS-21).

Analyte	560741		
	004	005	006
Antimony	1X	10X	1X
Arsenic	1X	10X	1X
Barium	1X	10X	1X
Chromium	1X	10X	1X
Cobalt	1X	10X	1X
Copper	1X	10X	1X
Iron	1X	10X	1X
Lead	1X	10X	1X
Magnesium	1X	10X	1X
Manganese	1X	10X	1X
Potassium	1X	10X	1X
Selenium	1X	10X	1X
Silver	2X	10X	5X
Thallium	1X	10X	1X
Vanadium	1X	10X	1X
Zinc	1X	10X	1X

Radiochemistry

Product: Dry Weight

Preparation Method: ASTM D 2216 (Modified)

Preparation Procedure: GL-OA-E-020 REV# 13

Preparation Batch: 2192599

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
560741001	SLS-B1
560741002	SLS-1
560741003	SLS-B2
560741004	SLS-5
560741005	SLS-21
560741006	SLS-25

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.

Miscellaneous Information

Additional Comments

Batch data transferred from batch 2141936.

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.

Sample ID	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hh:mm)	QC Code (a)	Field Filtered (b)	Sample Matrix (c)	Total number of containers	Should this sample be considered:		Isotopic Uranium (by individual isotope, alpha spec)	Tc-99	Fluoride	Nitrate	Ammonia	VOC	SVOC	TCLP (no pesticide, herbicide, or PCB)	Preservative Type (6)	Comments
							Yes, please supply isotopic info.	(7) Known or possible hazards										
SLS-B1	06-17-21	07:00	G		SL	8		X	X	X	X	X	X	X	X	X		All samples reported "as found"
SLS-1	06-17-21	07:20	G		SL	8		X	X	X	X	X	X	X	X	X		All samples reported "as found"
SLS-B2	06-17-21	07:30	G		SL	8		X	X	X	X	X	X	X	X	X		All samples reported "as found"
SLS-3	06-17-21	07:45	G		SL	7		X	X	X	X	X	X	X	X	X		All samples reported "as found"
SLS-5	06-17-21	08:05	G		SL	8		X	X	X	X	X	X	X	X	X		All samples reported "as found"
SLS-21	06-17-21	08:25	G		SL	8		X	X	X	X	X	X	X	X	X		All samples reported "as found"
SLS-25	06-17-21	08:55	G		SL	8		X	X	X	X	X	X	X	X	X		All samples reported "as found"
TB-1	06-17-21	09:00	TB		W	3								X				All samples reported "as found"

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
<i>[Signature]</i>	6/17/21	11:00	<i>[Signature]</i>	6/17/21	17:00
<i>[Signature]</i>	6-18-21	08:30	<i>[Signature]</i>	6/18/21	11:30
<i>[Signature]</i>	6-18-21	4:35	<i>[Signature]</i>	6/18/21	11:30

Additional Remarks:
 For Lab Receiving Use Only: Custody Seal Intact? Yes No Cooler Temp: 2 °C
 Sample Collection Time Zone: Eastern Pacific Central Mountain Other:

Chain of Custody Signatures

TAT Requested: Normal: Rush: No
 Fax Results: Yes No
 Select Deliverable: C of A QC Summary Level 1 Level 2 Level 3 Level 4

Additional Remarks:
 For sample shipping and delivery details, see Sample Receipt & Review form (SRR).

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

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

511

Client: WVUC SDG/AR/COC/Work Order: 547747
 Received By: TYE Date Received: 6/18/21

Carrier and Tracking Number: _____
 FedEx Express FedEx Ground UPS Field Services Courier 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? Yes No
 Hazard Class Shipped: _____ UN#: _____
 If UN2910, Is the Radioactive Shipment Survey Compliant? Yes ___ No ___
 B) Did the client designate the samples to be received as radioactive? Yes No
 COC notation or radioactive stickers on containers equal client designation.
 C) Did the RSO classify the samples as radioactive? Yes No
 Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 CPM / mR/Hr
 Classified as: Rad 1 Rad 2 Rad 3
 D) Did the client designate samples are hazardous? Yes No
 COC notation or hazard labels on containers equal client designation.
 E) Did the RSO identify possible hazards? Yes No
 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"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Preservation Method: <u>Wet Ice</u> Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP: <u>20</u>
4 Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Temperature Device Serial #: <u>IR2-20</u> Secondary Temperature Device Serial # (If Applicable):
5 Sample containers intact and sealed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6 Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sample ID's and Containers Affected: If Preservation added, Lot#:
7 Do any samples require Volatile Analysis?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	If Yes, are Encores or Soil Kits present for solids? Yes <input checked="" type="checkbox"/> No ___ NA ___ (If yes, take to VOA Freezer)
				Do liquid VOA vials contain acid preservation? Yes <input checked="" type="checkbox"/> No ___ NA ___ (If unknown, select No)
				Are liquid VOA vials free of headspace? Yes <input checked="" type="checkbox"/> No ___ NA ___ Sample ID's and containers affected:
8 Samples received within holding time?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ID's and containers affected:
10 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: No container count on COC Other (describe)
12 Are sample containers identifiable as GEL provided by use of GEL labels?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
13 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

List of current GEL Certifications as of 10 November 2021

State	Certification
Alabama	42200
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	SC000122021-1
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	T104704235-21-19
Utah NELAP	SC000122021-36
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

November 10, 2021

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

Re: Sanitary Lagoon Sludge Characterization
Work Order: 560742

Dear Ms. Teague:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 18, 2021. 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. 4523.

Sincerely,

Samuel Hogan
Project Manager

Purchase Order: 4500822910 Line 1
Enclosures

GEL LABORATORIES LLC

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

**Certificate of Analysis Report
for**

WNUC010 Westinghouse Electric Company PO (4500822910)

Client SDG: 560742 GEL Work Order: 560742

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
- J See case narrative for an explanation
- J Value is estimated
- 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, Samuel Hogan.



Reviewed by _____

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: November 10, 2021

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

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID:	SLS-13	Project:	WNUC01921
Sample ID:	560742001	Client ID:	WNUC010
Matrix:	Sludge		
Collect Date:	17-JUN-21 09:25		
Receive Date:	18-JUN-21		
Collector:	Client		
Moisture:	92.7%		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Metals Analysis-ICP												
SW846 3050B/6010D Metals, Solid "Dry Weight Corrected"												
Aluminum		21500	81.1	239	mg/kg	87.1	1	TXT1	11/09/21	0202	2192720	1
Arsenic	J	35.4	5.97	35.8	mg/kg	87.1	1					
Barium		352	1.19	5.97	mg/kg	87.1	1					
Beryllium	U	ND	1.19	5.97	mg/kg	87.1	1					
Cadmium		19.6	1.19	5.97	mg/kg	87.1	1					
Calcium		77900	95.5	298	mg/kg	87.1	1					
Chromium		159	1.79	11.9	mg/kg	87.1	1					
Cobalt		39.2	1.79	5.97	mg/kg	87.1	1					
Copper		1710	3.58	23.9	mg/kg	87.1	1					
Iron		28400	95.5	298	mg/kg	87.1	1					
Lead		107	3.94	23.9	mg/kg	87.1	1					
Magnesium		2220	101	358	mg/kg	87.1	1					
Manganese		151	2.39	11.9	mg/kg	87.1	1					
Sodium		1900	83.5	298	mg/kg	87.1	1					
Vanadium		33.6	1.19	5.97	mg/kg	87.1	1					
Zinc		4810	4.77	23.9	mg/kg	87.1	1					
Antimony	J	11.1	3.94	23.9	mg/kg	87.1	1	JWJ	11/09/21	1651	2192720	2
Nickel		381	1.79	5.97	mg/kg	87.1	1					
Selenium	J	7.24	5.97	35.8	mg/kg	87.1	1					
Thallium	U	ND	5.97	23.9	mg/kg	87.1	1					
Silver		2060	2.39	11.9	mg/kg	87.1	2	JWJ	11/09/21	1701	2192720	3
Potassium		1220	76.4	298	mg/kg	87.1	1	JWJ	11/09/21	1902	2192720	4

Semi-Volatiles-PCB

SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"

Aroclor-1016	U	ND	0.0757	0.227	mg/kg	0.0332	5	SH4	11/04/21	1441	2192807	5
Aroclor-1221	U	ND	0.0757	0.227	mg/kg	0.0332	5					
Aroclor-1232	U	ND	0.0757	0.227	mg/kg	0.0332	5					
Aroclor-1242	U	ND	0.0757	0.227	mg/kg	0.0332	5					
Aroclor-1248	U	ND	0.0757	0.227	mg/kg	0.0332	5					
Aroclor-1254	J	0.135	0.0757	0.227	mg/kg	0.0332	5					
Aroclor-1260	U	ND	0.0757	0.227	mg/kg	0.0332	5					
Aroclor-1262	U	ND	0.0757	0.227	mg/kg	0.0332	5					
Aroclor-1268		0.447	0.0757	0.227	mg/kg	0.0332	5	SH4	11/04/21	1441	2192807	6

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
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GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: November 10, 2021

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

Columbia, South Carolina 29205
Contact: Ms. Cynthia Teague
Project: Sanitary Lagoon Sludge Characterization

Client Sample ID: SLS-13 Project: WNUC01921
Sample ID: 560742001 Client ID: WNUC010

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time Batch	Method
SW846 3050B	SW846 3050B Prep			RG1	11/02/21		1630		2192717		
SW846 3541	Prep Method 3541 PCB Prep Soil			CB1	11/03/21		0639		2192804		

The following Analytical Methods were performed:

Method	Description	Analyst	Comments
1	SW846 3050B/6010D		
2	SW846 3050B/6010D		
3	SW846 3050B/6010D		
4	SW846 3050B/6010D		
5	SW846 3541/8082A		
6	SW846 3541/8082A		

Surrogate/Tracer	Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Decachlorobiphenyl		SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"	0.0946 mg/kg	0.0909	104	(24%-138%)
4cmx		SW846 3541/8082A PCB, Solid (Automated Soxhlet) "Dry Weight Corrected"	0.0525 mg/kg	0.0909	58	(25%-119%)

Notes:

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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QC Summary

Report Date: November 10, 2021

Page 1 of 11

Westinghouse Electric Company, LLC

PO Drawer R
Columbia, South Carolina

Contact: Ms. Cynthia Teague

Workorder: 560742

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2192720										
QC1204946562	LCS										
Aluminum	481			477	mg/kg		99.2	(80%-120%)	TXT1	11/09/21	01:19
Antimony	48.1			43.4	mg/kg		90.3	(80%-120%)	JWJ	11/09/21	16:02
Arsenic	48.1			45.9	mg/kg		95.4	(80%-120%)	TXT1	11/09/21	01:19
Barium	48.1			45.7	mg/kg		95.1	(80%-120%)			
Beryllium	48.1			48.2	mg/kg		100	(80%-120%)			
Cadmium	48.1			45.1	mg/kg		93.7	(80%-120%)			
Calcium	481			479	mg/kg		99.7	(80%-120%)			
Chromium	48.1			45.3	mg/kg		94.1	(80%-120%)			
Cobalt	48.1			45.2	mg/kg		94.1	(80%-120%)			
Copper	48.1			46.9	mg/kg		97.5	(80%-120%)			
Iron	481			495	mg/kg		103	(80%-120%)			
Lead	48.1			46.1	mg/kg		95.8	(80%-120%)			
Magnesium	481			485	mg/kg		101	(80%-120%)			
Manganese	48.1			46.6	mg/kg		97	(80%-120%)			

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QC Summary

Workorder: 560742

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2192720										
Nickel	48.1			44.7	mg/kg		92.9	(80%-120%)	JWJ	11/09/21	16:02
Potassium	481			465	mg/kg		96.8	(80%-120%)		11/09/21	18:00
Selenium	48.1			43.4	mg/kg		90.2	(80%-120%)		11/09/21	16:02
Silver	9.62			9.32	mg/kg		97	(80%-120%)			
Sodium	481			480	mg/kg		99.8	(80%-120%)	TXT1	11/09/21	01:19
Thallium	48.1			46.1	mg/kg		95.9	(80%-120%)	JWJ	11/09/21	16:02
Vanadium	48.1			46.5	mg/kg		96.8	(80%-120%)	TXT1	11/09/21	01:19
Zinc	48.1			44.7	mg/kg		92.9	(80%-120%)			
QC1204946561	MB										
Aluminum			U	ND	mg/kg					11/09/21	01:15
Antimony			U	ND	mg/kg				JWJ	11/09/21	15:59
Arsenic			U	ND	mg/kg				TXT1	11/09/21	01:15
Barium			U	ND	mg/kg						
Beryllium			U	ND	mg/kg						
Cadmium			U	ND	mg/kg						
Calcium			U	ND	mg/kg						

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QC Summary

Workorder: 560742

Page 3 of 11

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2192720										
Chromium			U	ND	mg/kg				TXT1	11/09/21	01:15
Cobalt			U	ND	mg/kg						
Copper			J	0.818	mg/kg						
Iron				16.3	mg/kg						
Lead			U	ND	mg/kg						
Magnesium			U	ND	mg/kg						
Manganese			U	ND	mg/kg						
Nickel			U	ND	mg/kg				JWJ	11/09/21	15:59
Potassium			U	ND	mg/kg					11/09/21	17:57
Selenium			U	ND	mg/kg					11/09/21	15:59
Silver			U	ND	mg/kg						
Sodium			J	7.83	mg/kg				TXT1	11/09/21	01:15
Thallium			U	ND	mg/kg				JWJ	11/09/21	15:59
Vanadium			U	ND	mg/kg				TXT1	11/09/21	01:15
Zinc			J	0.412	mg/kg						

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QC Summary

Workorder: 560742

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch 2192720											
QC1204946563 560741001 MS											
Aluminum	652	1660		4260	mg/kg		399*	(75%-125%)	TXT1	11/09/21	01:25
Antimony	65.2	U	ND	57.4	mg/kg		88.1	(75%-125%)	JWJ	11/09/21	16:08
Arsenic	65.2	J	0.970	58.8	mg/kg		88.7	(75%-125%)	TXT1	11/09/21	01:25
Barium	65.2		14.8	77.2	mg/kg		95.8	(75%-125%)			
Beryllium	65.2	U	ND	64.1	mg/kg		98.2	(75%-125%)			
Cadmium	65.2	U	ND	58.9	mg/kg		90.2	(75%-125%)			
Calcium	652		439	1060	mg/kg		95.8	(75%-125%)			
Chromium	65.2		6.08	67.6	mg/kg		94.3	(75%-125%)			
Cobalt	65.2	J	0.464	60.5	mg/kg		92.2	(75%-125%)			
Copper	65.2		10.5	73.8	mg/kg		97.2	(75%-125%)			
Iron	652		1880	2800	mg/kg		142*	(75%-125%)			
Lead	65.2		3.70	63.4	mg/kg		91.6	(75%-125%)			
Magnesium	652		69.1	745	mg/kg		104	(75%-125%)			
Manganese	65.2		7.69	70.3	mg/kg		96	(75%-125%)			
Nickel	65.2		15.2	81.3	mg/kg		101	(75%-125%)	JWJ	11/09/21	16:08

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2192720										
Potassium	652	86.9		715	mg/kg		96.4	(75%-125%)	JWJ	11/09/21	18:06
Selenium	65.2	U	ND	57.6	mg/kg		88.4	(75%-125%)		11/09/21	16:08
Silver	13.0			21.6	mg/kg		89.8	(75%-125%)			
Sodium	652	51.0		688	mg/kg		97.7	(75%-125%)	TXT1	11/09/21	01:25
Thallium	65.2	U	ND	60.9	mg/kg		93.4	(75%-125%)	JWJ	11/09/21	16:08
Vanadium	65.2		3.33	65.2	mg/kg		95	(75%-125%)	TXT1	11/09/21	01:25
Zinc	65.2		70.3	94.6	mg/kg		37.3*	(75%-125%)			
QC1204946564 560741001 MSD											
Aluminum	637		1660	4700	mg/kg	9.74	477*	(0%-20%)		11/09/21	01:28
Antimony	63.7	U	ND	54.7	mg/kg	4.93	85.8	(0%-20%)	JWJ	11/09/21	16:11
Arsenic	63.7	J	0.970	58.6	mg/kg	0.423	90.4	(0%-20%)	TXT1	11/09/21	01:28
Barium	63.7		14.8	78.8	mg/kg	1.97	100	(0%-20%)			
Beryllium	63.7	U	ND	62.8	mg/kg	2.02	98.4	(0%-20%)			
Cadmium	63.7	U	ND	57.8	mg/kg	1.83	90.6	(0%-20%)			
Calcium	637		439	1100	mg/kg	3.59	104	(0%-20%)			
Chromium	63.7		6.08	68.8	mg/kg	1.81	98.4	(0%-20%)			

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2192720										
Cobalt	63.7	J	0.464	59.2	mg/kg	2.22	92.2	(0%-20%)	TXT1	11/09/21	01:28
Copper	63.7		10.5	76.2	mg/kg	3.24	103	(0%-20%)			
Iron	637		1880	4770	mg/kg	52*	454*	(0%-20%)			
Lead	63.7		3.70	63.4	mg/kg	0.0775	93.7	(0%-20%)			
Magnesium	637		69.1	746	mg/kg	0.201	106	(0%-20%)			
Manganese	63.7		7.69	71.6	mg/kg	1.85	100	(0%-20%)			
Nickel	63.7		15.2	78.0	mg/kg	4.17	98.6	(0%-20%)	JWJ	11/09/21	16:11
Potassium	637		86.9	712	mg/kg	0.381	98.2	(0%-20%)		11/09/21	18:09
Selenium	63.7	U	ND	55.1	mg/kg	4.55	86.4	(0%-20%)		11/09/21	16:11
Silver	12.7		9.87	22.1	mg/kg	2.38	96	(0%-20%)			
Sodium	637		51.0	673	mg/kg	2.16	97.6	(0%-20%)	TXT1	11/09/21	01:28
Thallium	63.7	U	ND	58.0	mg/kg	4.9	91	(0%-20%)	JWJ	11/09/21	16:11
Vanadium	63.7		3.33	66.5	mg/kg	1.9	99.1	(0%-20%)	TXT1	11/09/21	01:28
Zinc	63.7		70.3	100	mg/kg	5.79	47*	(0%-20%)			
QC1204951764 560741001 PS											
Aluminum	5000		12700	17300	ug/L		92.9	(75%-125%)		11/09/21	01:31

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QC Summary

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2192720										
Iron	5000	14400		18700	ug/L		85.4	(75%-125%)	TXT1	11/09/21	01:31
Zinc	500	538		984	ug/L		89.2	(75%-125%)			
QC1204946565 560741001 SDILT											
Aluminum		12700		2560	ug/L	.87		(0%-20%)		11/09/21	01:34
Antimony	U	ND	U	ND	ug/L	N/A		(0%-20%)	JWJ	11/09/21	16:17
Arsenic	J	7.43	J	8.17	ug/L	450		(0%-20%)	TXT1	11/09/21	01:34
Barium		113		23.3	ug/L	3.03		(0%-20%)			
Beryllium	U	ND	U	ND	ug/L	N/A		(0%-20%)			
Cadmium	U	ND	U	ND	ug/L	N/A		(0%-20%)			
Calcium		3360		694	ug/L	3.24		(0%-20%)			
Chromium		46.6	J	9.77	ug/L	4.92		(0%-20%)			
Cobalt	J	3.55	U	ND	ug/L	N/A		(0%-20%)			
Copper		80.0	J	17.8	ug/L	11.2		(0%-20%)			
Iron		14400		2910	ug/L	1.08		(0%-20%)			
Lead		28.4	J	9.57	ug/L	68.7		(0%-20%)			
Magnesium		529	J	112	ug/L	5.76		(0%-20%)			

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-ICP											
Batch	2192720										
Manganese		58.9		12.0	ug/L	1.61		(0%-20%)	TXT1	11/09/21	01:34
Nickel		116		26.0	ug/L	11.6		(0%-20%)	JWJ	11/09/21	16:17
Potassium		665	J	132	ug/L	.741		(0%-20%)		11/09/21	18:14
Selenium	U	ND	U	ND	ug/L	N/A		(0%-20%)		11/09/21	16:17
Silver		75.5		17.2	ug/L	13.9		(0%-20%)			
Sodium		391	J	84.5	ug/L	8.08		(0%-20%)	TXT1	11/09/21	01:34
Thallium	U	ND	U	ND	ug/L	N/A		(0%-20%)	JWJ	11/09/21	16:17
Vanadium		25.5		5.15	ug/L	.918		(0%-20%)	TXT1	11/09/21	01:34
Zinc		538		115	ug/L	6.52		(0%-20%)			
Semi-Volatiles-PCB											
Batch	2192807										
QC1204946763	LCS										
Aroclor-1016	0.0333			0.0263	mg/kg		79	(70%-130%)	SH4	11/04/21	10:47
Aroclor-1260	0.0333			0.0271	mg/kg		81	(70%-130%)			
**4cmx	0.00665			0.00525	mg/kg		79	(25%-119%)			
**Decachlorobiphenyl	0.00665			0.00557	mg/kg		84	(24%-138%)			
QC1204946762	MB										
Aroclor-1016			U	ND	mg/kg					11/04/21	10:35

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatiles-PCB											
Batch	2192807										
Aroclor-1221			U	ND	mg/kg				SH4	11/04/21	10:35
Aroclor-1232			U	ND	mg/kg						
Aroclor-1242			U	ND	mg/kg						
Aroclor-1248			U	ND	mg/kg						
Aroclor-1254			U	ND	mg/kg						
Aroclor-1260			U	ND	mg/kg						
Aroclor-1262			U	ND	mg/kg						
Aroclor-1268			U	ND	mg/kg						
**4cmx	0.00666			0.00515	mg/kg		77	(25%-119%)			
**Decachlorobiphenyl	0.00666			0.00545	mg/kg		82	(24%-138%)			
QC1204946764 559488001 MS											
Aroclor-1016	0.0331	U	ND	0.203	mg/kg		613*	(25%-130%)		11/04/21	11:13
Aroclor-1260	0.0331		1.44	1.23	mg/kg		0*	(28%-131%)			
**4cmx	0.00662		0.00528	0.00455	mg/kg		69	(25%-119%)			
**Decachlorobiphenyl	0.00662		0.00519	0.00669	mg/kg		101	(24%-138%)			
QC1204946765 559488001 MSD											
Aroclor-1016	0.0332	U	ND	0.218	mg/kg	7	656*	(0%-35%)		11/04/21	11:27

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Semi-Volatiles-PCB											
Batch	2192807										
Aroclor-1260	0.0332	1.44		1.39	mg/kg	13	0*	(0%-37%)	SH4	11/04/21	11:27
**4cmx	0.00665	0.00528		0.00439	mg/kg		66	(25%-119%)			
**Decachlorobiphenyl	0.00665	0.00519		0.00670	mg/kg		101	(24%-138%)			

Notes:

The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B The target analyte was detected in the associated blank.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E %difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Concentration of the target analyte exceeds the instrument calibration range
- FB Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
- H Analytical holding time was exceeded
- J See case narrative for an explanation
- J Value is estimated
- JNX Non Calibrated Compound
- N Metals--The Matrix spike sample recovery is not within specified control limits
- N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N/A RPD or %Recovery limits do not apply.
- NI 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
- P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- R Sample results are rejected

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
U		Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.									
UJ		Compound cannot be extracted									
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.									
Y		QC Samples were not spiked with this compound									
^		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.

**Technical Case Narrative
Westinghouse Electric Company PO
SDG #: 560742**

GC Semivolatile PCB

Product: Analysis of The Analysis of Polychlorinated Biphenyls by GC/ECD by ECD

Analytical Method: SW846 3541/8082A

Analytical Procedure: GL-OA-E-040 REV# 25

Analytical Batch: 2192807

Preparation Method: SW846 3541

Preparation Procedure: GL-OA-E-066 REV# 9

Preparation Batch: 2192804

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
560742001	SLS-13
1204946762	Method Blank (MB)
1204946763	Laboratory Control Sample (LCS)
1204946764	559488001(NonSDG) Matrix Spike (MS)
1204946765	559488001(NonSDG) Matrix Spike Duplicate (MSD)

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

Matrix Spike (MS/MSD) Recovery Statement

The MS or MSD (See Below) did not meet spike recovery acceptance limits due to dilution and high level of Aroclors in the parent sample.

Sample	Analyte	Value
1204946764 (Non SDG 559488001MS)	Aroclor-1016	613* (25%-130%)
	Aroclor-1260	0* (28%-131%)
1204946765 (Non SDG 559488001MSD)	Aroclor-1016	656* (25%-130%)
	Aroclor-1260	0* (28%-131%)

Technical Information

Preparation/Analytical Method Verification

All reported analyte detections in client and quality control samples were within the established retention time windows. Reported analyte concentrations were confirmed on dissimilar columns.

Sample Dilutions

Samples 1204946764 (Non SDG 559488001MS) and 1204946765 (Non SDG 559488001MSD) were diluted due to high concentrations of target analytes in the samples. Sample 560742001 (SLS-13) was diluted prior to analysis due to the presence of high sulfur content.

Miscellaneous Information

Manual integrations

Samples 1204946763 (LCS), 1204946764 (Non SDG 559488001MS), 1204946765 (Non SDG 559488001MSD) and 560742001 (SLS-13) required manual integration to correctly position the baseline as set in the calibration standard injections.

Metals

Product: Determination of Metals by ICP

Analytical Method: SW846 3050B/6010D

Analytical Procedure: GL-MA-E-013 REV# 32

Analytical Batch: 2192720

Preparation Method: SW846 3050B

Preparation Procedure: GL-MA-E-009 REV# 29

Preparation Batch: 2192717

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
560742001	SLS-13
1204946561	Method Blank (MB)ICP
1204946562	Laboratory Control Sample (LCS)
1204946565	560741001(SLS-B1L) Serial Dilution (SD)
1204946563	560741001(SLS-B1S) Matrix Spike (MS)
1204946564	560741001(SLS-B1SD) Matrix Spike Duplicate (MSD)
1204951764	560741001(SLS-B1PS) Post Spike (PS)

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.

Calibration Information

CRDL/PQL Requirements

The PQL standard recoveries for SW846 6010C or 6010D met the control limits with the exception of silver and potassium. Client sample concentrations were less than the MDL or greater than two times the PQL; therefore the data were not adversely affected. 560742001 (SLS-13).

Quality Control (QC) Information

Matrix Spike (MS/MSD) Recovery Statement

The percent recoveries (%R) obtained from the MS/MSD analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MS/MSD (See Below) did not meet the recommended quality control acceptance criteria for percent recoveries for the following applicable analytes. The post spike recoveries were within the required control limits. This verifies the absence of a matrix interference in the post-spike digested sample. The recoveries may be attributed to possible sample matrix interference and/or non-homogeneity.

Sample	Analyte	Value
1204946563 (SLS-B1MS)	Aluminum	399* (75%-125%)
	Iron	142* (75%-125%)
	Zinc	37.3* (75%-125%)
1204946564 (SLS-B1MSD)	Aluminum	477* (75%-125%)
	Iron	454* (75%-125%)
	Zinc	47* (75%-125%)

MS/MSD Relative Percent Difference (RPD) Statement

The RPD values between qualifying analyte results in the MS and MSD were not within the acceptance limits. Sample non-homogeneity and/or possible matrix interferences may be suspected.

Sample	Analyte	Value
1204946563MS and 1204946564MSD (SLS-B1)	Iron	RPD 52* (0%-20%)

Technical Information

Preparation/Analytical Method Verification

Method SW-846 3050B is not a total digestion technique for most samples. It is a very strong acid digestion that will dissolve almost all elements that could become environmentally available. By design, elements bound in silicate structures are not normally dissolved by this procedure as they are not usually mobile in the environment.

Sample Dilutions

Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range. Sample was diluted to ensure that the silver concentration was within the linear calibration range of the instrument. 560742001 (SLS-13).

Analyte	560742
	001
Silver	2X

Radiochemistry

Product: Dry Weight

Preparation Method: ASTM D 2216 (Modified)

Preparation Procedure: GL-OA-E-020 REV# 13

Preparation Batch: 2192599

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
560742001	SLS-13

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.

Miscellaneous Information

Additional Comments

Batch data transferred from batch 2141936.

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.

Sample ID	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (a)	Field Filtered (b)	Sample Matrix (c)	Total number of containers	Sample Analysis Requested (5) (Fill in the number of containers for each test)							Comments
							Isotopic Uranium (by individual isotope, alpha spec)	Tc-99	Fluoride	Nitrate	Ammonia	VOC	SVOC	
SLS-13	06-17-21	09:25	G		SL	8	X	X	X	X	X	X	X	All samples reported "as found"
SLS-7	06-17-21	10:00	G		SL	7	X	X	X	X	X	X	X	All samples reported "as found"
SLS-9	06-17-21	10:30	G		SL	7	X	X	X	X	X	X	X	All samples reported "as found"
SLS-17	06-17-21	10:55	G		SL	7	X	X	X	X	X	X	X	All samples reported "as found"
SLS-19	06-17-21	11:25	G		SL	7	X	X	X	X	X	X	X	All samples reported "as found"
SLS-B3	06-17-21	11:30	G		SL	7	X	X	X	X	X	X	X	All samples reported "as found"
SLS-RB2	06-17-21	12:15	EG		W	8	X	X	X	X	X	X	X	All samples reported "as found"
TB-2	06-17-21	13:00	TB		W	3								

Chain of Custody Signatures			
Relinquished By (Signed)	Date	Time	Received by (signed)
<i>[Signature]</i>	6/17/21	17:00	<i>[Signature]</i>
<i>[Signature]</i>	6/18/21	08:30	<i>[Signature]</i>
<i>[Signature]</i>	6/18/21	4:30	<i>[Signature]</i>

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

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 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=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
 Characteristic Hazards: FL = Flammable/Ignitable, CO = Corrosive, RE = Reactive
 Listed Waste: LW = Listed Waste (F,K,P and U-listed wastes.)
 Waste code(s):
 TSCA Regulated: PCB = Polychlorinated biphenyls
 RCRA Metals: As = Arsenic, Hg = Mercury, Ba = Barium, Se = Selenium, Cd = Cadmium, Ag = Silver, Cr = Chromium, MR = Misc. RCRA metals
 Pb = Lead
 Other: OT = Other / Unknown
 Description: 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

511

Client: WVUC SDG/AR/COC/Work Order: 547748
 Received By: TYE Date Received: 6/18/21

Carrier and Tracking Number
 FedEx Express FedEx Ground UPS Field Services Courier Other

Suspected Hazard Information
 *If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
 A) Shipped as a DOT Hazardous? Yes No Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes ___ No ___
 B) Did the client designate the samples to be received as radioactive? Yes No COC notation or radioactive stickers on containers equal client designation.
 C) Did the RSO classify the samples as radioactive? Yes No Maximum Net Counts Observed (Observed Counts - Area Background Counts): 0 CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
 D) Did the client designate samples are hazardous? Yes No COC notation or hazard labels on containers equal client designation.
 E) Did the RSO identify possible hazards? Yes No If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

Sample Receipt Criteria	Yes	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>	<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"/>	<input checked="" type="checkbox"/>	Circle Applicable: Client contacted and provided COC COC created upon receipt
3 Samples requiring cold preservation within (0 ≤ deg. C)?*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Preservation Method: <u>Wet Ice</u> Ice Packs Dry ice None Other: <u>TEMP: 2C</u> *all temperatures recorded in Celsius
4 Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Temperature Device Serial #: <u>IR2-20</u> Secondary Temperature Device Serial # (If Applicable):
5 Sample containers intact and sealed?	<input checked="" type="checkbox"/>	<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"/>	<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"/>	<input checked="" type="checkbox"/>	If Yes, are Encores or Soil Kits present for solids? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> NA (If yes, take to VOA Freezer):
			Do liquid VOA vials contain acid preservation? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> NA (If unknown, select No)
			Are liquid VOA vials free of headspace? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> NA
8 Samples received within holding time?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ID's and containers affected:
10 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>	<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"/>	<input checked="" type="checkbox"/>	Circle Applicable: No container count on COC Other (describe)
12 Are sample containers identifiable as GEL provided by use of GEL labels?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
13 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

List of current GEL Certifications as of 10 November 2021

State	Certification
Alabama	42200
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	SC000122021-1
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	T104704235-21-19
Utah NELAP	SC000122021-36
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Attachment 2
Sanitary Lagoon Sampling Field Notes

LW 299543
 cal Dec 11/21
 Bkg 7500 cpm

Sanitary Lagoon Sampling

6/15/21		Start time 6:15 am			
07:05 am	Sample #	Total Depth	Sed Depth	γ scan	Desc
	SLS-02 #2	~4 FT	~1 FT	Bkg	Black Sludge
	#4 SLS-04 07:15	~4 FT	~1 FT	Bkg	gray Sludge
	#6 SLS-06 07:30	~4 FT	~1 FT	Bkg	Black
	#8 too deep no run				
	#10 SLS-10 07:50	~4 FT	~1 FT	Bkg	Black Sludge
	#11 SLS-11 08:15	~4 FT	~1 FT	Bkg	Black, runny
	#15 SLS-15 08:30	~4 FT	~1 FT	Bkg	Black runny
	#16 SLS-16 08:45	~4	~1	Bkg	Black runny
	#20 SLS-20 09:10	~4	~1	Bkg	Black runny
	#24 SLS-24 09:40	~4	~1	Bkg	Black runny
	#23 SLS-23 09:05	~4	~1	Bkg	Black runny
	#22 SLS-22 10:25	~4	~1	Bkg	Black runny
	#8 SLS-08 12:30	~6.5	~0.25'	Bkg	supersat low precip, black
	#12 SLS-12 12:50	~6.5	~0.25	Bkg	" "
	#14 SLS-14 13:10	~6.5	~0.25	Bkg	" "
	#18 SLS-18 13:35	~6.5	~0.25	Bkg	" "
	SLS-RB-1 13:45				

PI D SN:

Lud 2221 299522
 Cal Due 7/24/21
 Bkg 6,000

Sanitary Logum 6/17/21

Loc / ID	time	total Dep	Seal Depth	Scan	PI D	Desc	
					0	Black & gritty	
SLS-B1	07:00	~4	~1	Bkg	0	Black & Grity	
SLS-1	7:20	~4	~1	Bkg	0	" "	
SLS-3	07:45	~4	~1	Bkg	0	gy/Black grity	
SLS-5	08:05	~4	~2	Bkg	0	Black grity	
SLS-21	08:25	~4	~2	Bkg	0	sandy black	
SLS-25	08:55	~4	~1	Bkg	0	Black runny	
SLS-13	09:25	~6	~0.25	Bkg	10	" "	
SLS-7	10:00	~6	~0.25	Bkg	0	" "	
SLS-9	10:30	~4	~0.25	Bkg	0	" "	
SLS-17	10:55	~6	~0.25	Bkg	0	" "	
SLS-19	11:25	~4	~0.25	Bkg	0	" "	
SLS-B2	07:30	_____					FP for SLS-1
SLS-B3	11:30	_____					FP for SLS-19
SLS-RB2	12:15						