

Westinghouse Electric Company

Nuclear Fuel

Columbia Fuel Fabrication Facility

5801 Bluff Road

Hopkins, South Carolina 29061

USA

SCDHEC, BLWM Kim Kuhn 2600 Bull Street Columbia, SC 29201 Direct tel: 803.647.1920 Direct fax: 803.695.3964

e-mail: joynerdp@westinghouse.com

Your ref:

Our ref: LTR-RAC-21-24

March 11, 2021

Subject: February 2021 CA Progress Report

#### Ms. Kuhn:

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

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

In response to the above requirements, the following is being reported to the Department since the last progress report submitted on **February 15, 2021.** The following progress report is for work occurring from **February 1-28, 2021**:

- (a) Actions during the previous month:
  - Westinghouse began implementation of the Final Remedial Investigation (RI) Work Plan on 6/10/19. To comply with **Item 4** of the CA, the following actions were completed this month.
  - Completed the following activities to support the Southern Storage Area (SSA) Operable Unit (OU) Work Plan:

Page 2 of 4

 Completed excavation and confirmatory soil sampling under intermodal container C-21 for tetrachloroethylene on February 23, 2021. Additional information is reported in section (b) "Results of sampling and tests" below.

- Completed the following to support the **Phase II RI** Work Plan:
  - Completed installation and development of permanent monitoring well W-106 on the Upper Sunset Lake Dike.
  - o Redeveloped permanent monitoring well W-25.
  - Collected groundwater samples from all 14 newly installed wells (W-98-100, W-102-112).
  - o Collected the additional Primary Soil Gas Survey Area devices.
  - o Initiated investigative activities for groundwater screening borings L-48 through L-58 that were proposed in the January 14th teleconference:
    - Cleared paths to the boring locations.
    - Conducted underground utility survey.
    - Completed collection of lithologic data and groundwater screening at borings L-50, L-51 and L-56 through L-58.
    - Began collecting lithologic data from boring L-49 before drilling operations were postponed because of weather conditions.
  - O Submitted RI Phase II Work Plan Addendum "Sediment Sampling Plan to Bound the Extent of Uranium Around SED-44" (LTR-RAC-21-20) on February 12, 2021.
  - o Continued East Lagoon closure activities.

#### (b) Results of sampling and tests:

#### Soil Sampling Underneath C-21 and Remediation

- On September 10, 2020, initial soil sampling was conducted under intermodal container C-21.
  - Systematic and bias soil sampling was conducted in accordance with the approved SSAOU Soil Sampling Work Plan.
  - Additional soil sampling events were conducted on November 5, 2020 and January 26, 2021.
- Results from initial and subsequent soil sampling events indicated that C-21 exceeded the RSL (0.0023 mg/kg) for tetrachloroethylene at locations C-21-A (bias) and C-21-3 (systematic) and at subsequent sampling location C-21a (bias).
- Soil that exceeded the RSL for tetrachloroethylene was excavated, and the affected areas were sampled again (confirmatory sampling).
- Two confirmatory soil sampling events were conducted underneath intermodal container C-21 on February 8, 2021 and February 23, 2021. All confirmatory results were below the RSL for tetrachloroethylene, meaning that the remedial action was complete.
- Analytical results of the soil sampling along with a graphic are included in this monthly report as **Attachments A-B**.

#### **Primary Soil Gas Survey Area**

• Results from the additional soil gas screening were received and identify two potential source areas for delineation via soil sampling. The Beacon Environmental Map Report of the Primary Soil Gas Survey Area is included in this monthly report as **Attachment C**.

#### **Groundwater Screening**

- Groundwater screening results from borings L-50, L-51 and L-56 through L-58 were received in February 2021. Groundwater from borings L-50 and L-51 was impacted with chlorinated volatile organic compounds (CVOCs) above the maximum contaminant level for tetrachloroethylene. Groundwater screening results from borings L-56 through L-58 indicate that the impacted groundwater does not migrate further to the west towards the property boundary. The groundwater screening analytical results for L-50, L-51 and L-56 through L-58 were tabulated and are included as Attachment D.
- (c) Brief description of all actions which are scheduled for the next month:
  In accordance with **Item 4** of the CA, Westinghouse will continue to implement the Work Plan to include the following actions:
  - Complete the collection of lithologic data and groundwater screening from borings L-48, L-49 and L-52 through L-55.
  - Install pressure transducers in the five monitoring wells around the Gator Pond (W-4, W-15, W-16, W-27 and W-92).
  - Install the three additional staff gauges in the Phase II Remedial Investigation Work Plan
  - Install pressure transducers and VuLink telemetry systems at each staff gauge location.
  - Conduct sediment sampling in Upper Sunset Lake to bound impact at location SED-44 and in one additional sediment transect in Upper Sunset Lake approximately 25 feet west of the Upper Sunset Dike.
  - Host a site visit with DHEC on March 11 to observe sediment sampling in Upper Sunset Lake, East Lagoon closure activities, and groundwater screening.
  - Survey site installations (monitoring wells, staff gauges, etc) and lithologic borings to support further development of the Conceptual Site Model and the Black Mingo confining clay structure contour map.
  - Continue East Lagoon closure activities.
- (d) Percentage of work completed and any delays encountered or anticipated:
  - 25% of Phase II Work Scope Completed.
  - Currently there are no anticipated delays.

Respectfully,

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

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

Attachment A: SSAOU Tabulated Soil Sampling Results and Drawing

**Attachment B:** C-21 Sampling Events and Lab Reports

Attachment C: Beacon Environmental Map Report (Soil Gas Surveys)

**Attachment D:** Tabulated Groundwater Screening Results (L-50, L-51 and L-56 through L-58)

## Attachment A

### **SSAOU** Tabulated Soil Sampling Results and Drawing

Tabulated Soil Sampling Results for Intermodal Containers/Sealands C-21

#### **Sampling Events:**

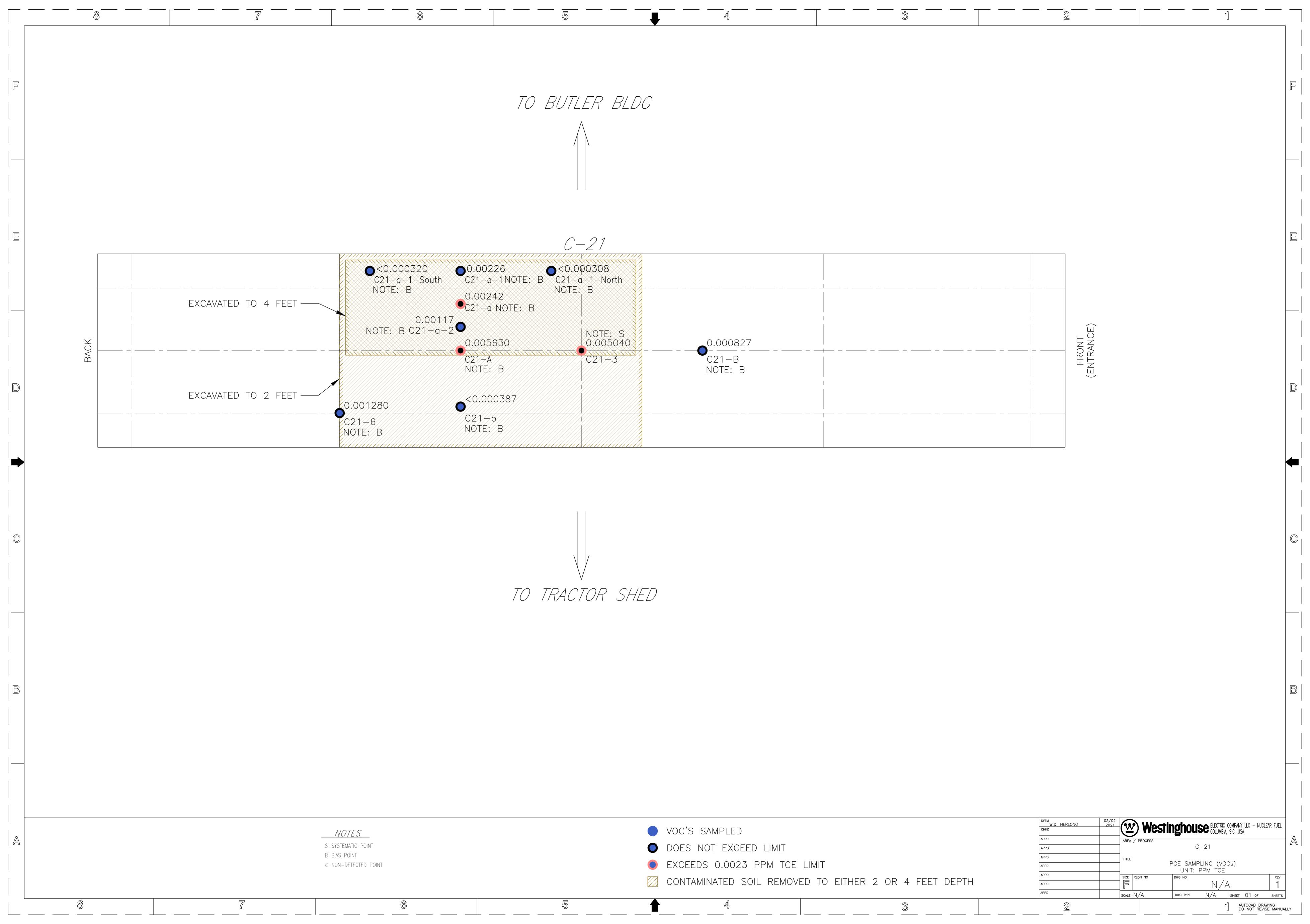
September 10, 2020 November 5, 2020 January 26, 2021 February 8, 2021 February 23, 2021

Drawing with Soil Sampling Results

# **Sealand Soil Analysis Tetrachloroethylene Results Compilation** C-21

ID	Date Sampled Lab Report #	< or =	Result (mg/kg)	Notes
C-21-3	9/10/2020 GEL WO 521515	=	0.005040	Systematic excavation required
C-21-6	9/10/2020 GEL WO 521515	=	0.001280	Bias
C-21-A	11/5/2020 GEL WO 526713	=	0.005630	Bias excavation required
C-21-B	11/5/2020 GEL WO 526713	=	0.000827	Bias
C-21-a	1/26/2021 GEL WO 533288	=	0.002420	Bias excavation required
C-21-b	1/26/2021 GEL WO 533288	<	0.000387	Bias
C-21-a-1	2/8/2021 GEL WO 534641	=	0.002260	Bias
C-21-a-2	2/8/2021 GEL WO 534641	=	0.001170	Bias
C-21-a-1-North	2/23/2021 GEL WO 525611	<	0.000308	bias
C-21-a-1-South	2/23/2021 GEL WO 525611	<	0.000320	Bias

Residential Use Screening Level (RUSL): 0.0023 mg/kg



#### Attachment B

#### C-21 Sampling Events and Lab Reports

#### First Sampling Event

Reported in Nov 2020 Progress Report

Sampling conducted: September 10,12 &15, 2020

GEL Work Order: 521515

Report Date: September 30, 2020

#### **Second Sampling Event**

Sampling conducted: November 5, 2020

GEL Work Order: 526713

Report Date: November 11, 2020

#### **Third Sampling Event**

Sampling conducted: January 26, 2021

GEL Work Order: 533288

Report Date: February 3, 2021

#### **Confirmatory Sampling Event**

Sampling conducted: February 8, 2021

GEL Work Order: 534641

Report Date: February 16, 2021

#### **Confirmatory Sampling Event**

Sampling conducted: February 23, 2021 GEL Work Order: 535611

Report Date: February 26, 2021



#### a member of The GEL Group INC







PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843.556.8171 F 843.766.1178

gel.com

November 11, 2020

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

Re: Sealand Soil Sampling Work Order: 526713

Dear Ms. Teague:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on November 06, 2020. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

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

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4443.

Sincerely,

Lindsay Fabra

Ludy Fabra

Project Manager

Purchase Order: PO 4500778461

Enclosures



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## Certificate of Analysis Report for

WNUC009 Westinghouse Electric Co, LLC Client SDG: 526713 GEL Work Order: 526713

#### 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, Lindsay Fabra.

Reviewed by		Ludy tabra	
·	Reviewed by		

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## **Analytical Detections Summary**

SDG/Report#	526713	Client	Westinghouse Electric Co, LLC
Project ID	Sealand Soil Sampling		

GEL ID	Client Sample ID	Method	CAS	Analyte	Result	Q
526713001	C-21-A	SW846 8260D	127-18-4	Tetrachloroethylene	0.00563 mg/kg	

NOTE: This report only lists detections greater than the reporting level. Reporting level is the LOQ, PQL, MDC, or Client-provided limit.

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## **Certificate of Analysis**

Report Date: November 11, 2020

WNUCSealand

WNUC009

Project:

Client ID:

**Analyst Comments** 

Company: Westinghouse Electric Company, LLC

Address: PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague Project: Sealand Soil Sampling

Client Sample ID: C-21-A Sample ID: 526713001

Matrix: Soil

Collect Date: 05-NOV-20 14:07
Receive Date: 06-NOV-20
Collector: Client

6.42%

Parameter Qualifier Result DL RL Units PF DF Analyst Date Time Batch Method

Volatile Organics

Totals Tetrachloroethylene VOA only "Dry Weight Corrected"

Description

The following Prep Methods were performed:

Moisture:

 Method
 Description
 Analyst
 Date
 Time
 Prep Batch

 SW846 5035
 5035 Prep
 JP1
 11/05/20
 1407
 2060806

The following Analytical Methods were performed:

SW846 8260D Result Surrogate/Tracer Recovery Test Nominal Recovery% Acceptable Limits 1,2-Dichloroethane-d4 Totals Tetrachloroethylene VOA only "Dry Weight 0.0428 mg/kg 0.0500 (81% - 124%)Corrected' Bromofluorobenzene Totals Tetrachloroethylene VOA only "Dry Weight 0.0432 mg/kg 0.0500 98 (70%-130%) Corrected" Toluene-d8 Totals Tetrachloroethylene VOA only "Dry Weight 0.0420 mg/kg 0.0500 96 (81%-120%)

#### Notes:

Method

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

Corrected"

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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## **Certificate of Analysis**

Project:

Client ID:

Report Date: November 11, 2020

WNUCSealand

WNUC009

Company: Westinghouse Electric Company, LLC

Address: PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague Project: Sealand Soil Sampling

Client Sample ID: C-21-B Sample ID: 526713002

Matrix: Soil

Collect Date: 05-NOV-20 14:15
Receive Date: 06-NOV-20
Collector: Client

Moisture: 4.98%

Parameter Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch Method
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Volatile Organics

Totals Tetrachloroethylene VOA only "Dry Weight Corrected"

Tetrachloroethylene J 0.000827 0.000296 0.000889 mg/kg 0.845 1 PXY1 11/10/20 1440 2060807

The following Prep Methods were performed:

 Method
 Description
 Analyst
 Date
 Time
 Prep Batch

 SW846 5035
 5035 Prep
 JP1
 11/05/20
 1415
 2060806

The following Analytical Methods were performed:

Method De					
1 SW846 8260D					
Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0425 mg/kg	0.0500	96	(81%-124%)
Bromofluorobenzene	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0439 mg/kg	0.0500	99	(70%-130%)
Toluene-d8	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0424 mg/kg	0.0500	95	(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**

Project:

Client ID:

Report Date: November 11, 2020

WNUCSealand

WNUC009

Company: Westinghouse Electric Company, LLC

Address: PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague Project: Sealand Soil Sampling

Client Sample ID: C-22-C Sample ID: 526713003

Matrix: Soil

Collect Date: 05-NOV-20 14:21
Receive Date: 06-NOV-20

Collector: Client Moisture: 7.11%

Parameter Qualifier Result	DL RL	Units PF	DF Analyst Date	Time Batch Method
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Volatile Organics

Totals Tetrachloroethylene VOA only "Dry Weight Corrected"

The following Prep Methods were performed:

 Method
 Description
 Analyst
 Date
 Time
 Prep Batch

 SW846 5035
 5035 Prep
 JP1
 11/05/20
 1421
 2060806

The following Analytical Methods were performed:

Method De	escription		Analyst Co	mments	
1 SW846 8260D					
Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0446 mg/kg	0.0500	94	(81%-124%)
Bromofluorobenzene	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0472 mg/kg	0.0500	99	(70%-130%)
Toluene-d8	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0460 mg/kg	0.0500	97	(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: November 11, 2020

WNUCSealand

WNUC009

Project:

Client ID:

Company: Westinghouse Electric Company, LLC

Address: PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague Project: Sealand Soil Sampling

Client Sample ID: C-22-D Sample ID: 526713004

Matrix: Soil

Collect Date: 05-NOV-20 14:29 06-NOV-20 Receive Date: Collector: Client

7.12%

Qualifier RL Parameter DL Units PF DF Analyst Date Time Batch Method Result

Volatile Organics

Totals Tetrachloroethylene VOA only "Dry Weight Corrected"

0.000839 0.000363 0.00109 Tetrachloroethylene mg/kg 1.01 1 JP1 11/09/20 2112 2060807

The following Prep Methods were performed:

Moisture:

Method Prep Batch Description Analyst Date Time SW846 5035 5035 Prep JP1 11/05/20 2060806 1429

The following Analytical Methods were performed:

Description **Analyst Comments** SW846 8260D Result Surrogate/Tracer Recovery Test Nominal Recovery% Acceptable Limits 1,2-Dichloroethane-d4 Totals Tetrachloroethylene VOA only "Dry Weight 0.0510 mg/kg 0.0500 94 (81% - 124%)Corrected' Bromofluorobenzene Totals Tetrachloroethylene VOA only "Dry Weight 0.0533 mg/kg 0.0500 98 (70%-130%) Corrected" Toluene-d8 Totals Tetrachloroethylene VOA only "Dry Weight 0.0530 mg/kg 0.0500 97 (81%-120%) Corrected"

#### Notes:

Method

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

SQL: Sample Quantitation Limit MDC: Minimum Detectable Concentration

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## **Certificate of Analysis**

Project:

Client ID:

Report Date: November 11, 2020

WNUCSealand

WNUC009

Company: Westinghouse Electric Company, LLC

Address: PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague Project: Sealand Soil Sampling

Client Sample ID: C-23-E Sample ID: 526713005

Matrix: Soil

Collect Date: 05-NOV-20 14:38
Receive Date: 06-NOV-20
Collector: Client

Moisture: 6.21%

Volatile Organics

Totals Tetrachloroethylene VOA only "Dry Weight Corrected"

Tetrachloroethylene U ND 0.000273 0.000819 mg/kg 0.768 1 JP1 11/09/20 2138 2060807 1

The following Prep Methods were performed:

 Method
 Description
 Analyst
 Date
 Time
 Prep Batch

 SW846 5035
 5035 Prep
 JP1
 11/05/20
 1438
 2060806

The following Analytical Methods were performed:

Method D	escription		Analyst Co	omments	
1 SW846 8260D					
Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0403 mg/kg	0.0500	98	(81%-124%)
Bromofluorobenzene	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0397 mg/kg	0.0500	97	(70%-130%)
Toluene-d8	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0385 mg/kg	0.0500	94	(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**

Project:

Client ID:

Report Date: November 11, 2020

WNUCSealand

WNUC009

Company: Westinghouse Electric Company, LLC

Address: PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague Project: Sealand Soil Sampling

Client Sample ID: C-23-F Sample ID: 526713006

Matrix: Soil

Collect Date: 05-NOV-20 14:45
Receive Date: 06-NOV-20
Collector: Client

Moisture: 8.16%

Volatile Organics

Totals Tetrachloroethylene VOA only "Dry Weight Corrected"

The following Prep Methods were performed:

 Method
 Description
 Analyst
 Date
 Time
 Prep Batch

 SW846 5035
 5035 Prep
 JP1
 11/05/20
 1445
 2060806

The following Analytical Methods were performed:

Method De					
1 SW846 8260D					
Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0421 mg/kg	0.0500	93	(81%-124%)
Bromofluorobenzene	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0433 mg/kg	0.0500	96	(70%-130%)
Toluene-d8	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0432 mg/kg	0.0500	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**

Project:

Client ID:

Report Date: November 11, 2020

WNUCSealand

WNUC009

Company: Westinghouse Electric Company, LLC

Address: PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague Project: Sealand Soil Sampling

Client Sample ID: C-21-A Sample ID: 526713001

Matrix: Soil

Collect Date: 05-NOV-20 14:07
Receive Date: 06-NOV-20
Collector: Client
Moisture: 6.42%

Parameter Qualifier Result Uncertainty MDC RL Units PF DF Analyst Date Time Batch Method

#### **Notes:**

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

Column headers are defined as follows:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

Report Date: November 11, 2020

WNUCSealand

WNUC009

Company: Westinghouse Electric Company, LLC

Address: PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague Project: Sealand Soil Sampling

Client Sample ID: C-21-B Sample ID: 526713002

Matrix: Soil

Collect Date: 05-NOV-20 14:15
Receive Date: 06-NOV-20
Collector: Client

Moisture: 4.98%

Parameter Qualifier Result Uncertainty MDC RL Units PF DF Analyst Date Time Batch Method

#### **Notes:**

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

Column headers are defined as follows:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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### **Certificate of Analysis**

Project:

Client ID:

Report Date: November 11, 2020

WNUCSealand

WNUC009

Company: Westinghouse Electric Company, LLC

Address: PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague Project: Sealand Soil Sampling

Client Sample ID: C-22-C Sample ID: 526713003

Matrix: Soil

Collect Date: 05-NOV-20 14:21
Receive Date: 06-NOV-20
Collector: Client

Moisture: 7.11%

Parameter Qualifier Result Uncertainty MDC RL Units PF DF Analyst Date Time Batch Method

#### **Notes:**

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

Column headers are defined as follows:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

Report Date: November 11, 2020

WNUCSealand

WNUC009

Company: Westinghouse Electric Company, LLC

Address: PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague Project: Sealand Soil Sampling

Client Sample ID: C-22-D Sample ID: 526713004

Matrix: Soil

Collect Date: 05-NOV-20 14:29
Receive Date: 06-NOV-20
Collector: Client
Moisture: 7.12%

Parameter Qualifier Result Uncertainty MDC RL Units PF DF Analyst Date Time Batch Method

#### **Notes:**

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

Column headers are defined as follows:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

Report Date: November 11, 2020

WNUCSealand

WNUC009

Company: Westinghouse Electric Company, LLC

Address: PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague Project: Sealand Soil Sampling

Client Sample ID: C-23-E Sample ID: 526713005

Matrix: Soil

Collect Date: 05-NOV-20 14:38
Receive Date: 06-NOV-20
Collector: Client

Moisture: 6.21%

Parameter Qualifier Result Uncertainty MDC RL Units PF DF Analyst Date Time Batch Method

#### Notes:

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

Column headers are defined as follows:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 14 of 25 SDG: 526713

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**Certificate of Analysis** 

Project:

Client ID:

Report Date: November 11, 2020

WNUCSealand

WNUC009

Company: Westinghouse Electric Company, LLC

Address: PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague Project: Sealand Soil Sampling

Client Sample ID: C-23-F Sample ID: 526713006

Matrix: Soil

Collect Date: 05-NOV-20 14:45
Receive Date: 06-NOV-20
Collector: Client

Moisture: 8.16%

Parameter Qualifier Result Uncertainty MDC RL Units PF DF Analyst Date Time Batch Method

#### **Notes:**

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

Column headers are defined as follows:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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## **QC Summary**

Westinghouse Electric Company, LLC

PO Drawer R

Columbia, South Carolina

Contact: Ms. Cynthia Teague

Workorder: 526713

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Volatile-GC/MS Batch 2060807									
QC1204690065 LCS Tetrachloroethylene	0.0500		0.0462	mg/kg		92	(68%-129%)	JP1	11/09/20 16:44
**1,2-Dichloroethane-d4	50.0		52.8	ug/L		106	(81%-124%)		
**Bromofluorobenzene	50.0		48.7	ug/L		97	(70%-130%)		
**Toluene-d8	50.0		47.8	ug/L		96	(81%-120%)		
QC1204691060 LCS Tetrachloroethylene	0.0500		0.0543	mg/kg		109	(68%-129%)	PXY1	11/10/20 11:33
**1,2-Dichloroethane-d4	50.0		50.4	ug/L		101	(81%-124%)		
**Bromofluorobenzene	50.0		49.4	ug/L		99	(70%-130%)		
**Toluene-d8	50.0		48.7	ug/L		97	(81%-120%)		
QC1204690066 LCSD Tetrachloroethylene	0.0500		0.0449	mg/kg	3	90	(0%-20%)	JP1	11/09/20 17:11
**1,2-Dichloroethane-d4	50.0		50.5	ug/L		101	(81%-124%)		
**Bromofluorobenzene	50.0		48.1	ug/L		96	(70%-130%)		
**Toluene-d8	50.0		47.7	ug/L		95	(81%-120%)		
QC1204690064 MB Tetrachloroethylene		U	ND	mg/kg					11/09/20 18:58

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Page 1 of 3

Report Date: November 11, 2020

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

## **QC Summary**

Workorder: 526713									Page 2 of 3
Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Volatile-GC/MS Batch 2060807									
**1,2-Dichloroethane-d4	50.0		49.7	ug/L		99	(81%-124%)	JP1	11/09/20 18:58
**Bromofluorobenzene	50.0		49.3	ug/L		99	(70%-130%)		
**Toluene-d8	50.0		48.6	ug/L		97	(81%-120%)		
QC1204691059 MB Tetrachloroethylene		U	ND	mg/kg				PXY1	11/10/20 13:20
**1,2-Dichloroethane-d4	50.0		50.2	ug/L		100	(81%-124%)		
**Bromofluorobenzene	50.0		49.6	ug/L		99	(70%-130%)		
**Toluene-d8	50.0		49.3	ug/L		99	(81%-120%)		

#### **Notes:**

Workorder:

526713

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
- The TIC is a suspected aldol-condensation product Α
- В 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
- Ε Concentration of the target analyte exceeds the instrument calibration range
- Η Analytical holding time was exceeded
- J See case narrative for an explanation
- Value is estimated T
- JNX Non Calibrated Compound
- Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based N on nearest internal standard response factor
- Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest N internal standard response factor
- N/A RPD or %Recovery limits do not apply.

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## **QC Summary**

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

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 Sample results are rejected

526713

Workorder:

- 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 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.

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**QC Summary** 

Report Date: November 11, 2020

Page 1 of 2

Westinghouse Electric Company, LLC

PO Drawer R

Columbia, South Carolina

Contact: Ms. Cynthia Teague

Workorder: 526713

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

#### Notes:

The Qualifiers in this report are defined as follows:

- \*\* Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- BD Results are either below the MDC or tracer recovery is low
- FA Failed analysis.
- H Analytical holding time was exceeded
- J See case narrative for an explanation
- J Value is estimated
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- M M if above MDC and less than LLD
- $M \qquad REMP \; Result > MDC/CL \; and < RDL$
- 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**

526713 Page 2 of 2

-Parmname NOM Sample Qual  $\mathbf{QC}$ 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.

Workorder:

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

Page 20 of 25 SDG: 526713

<sup>^</sup> 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.

<sup>\*</sup> 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.

#### Technical Case Narrative Westinghouse Electric Co, LLC SDG #: 526713

#### **GC/MS Volatile**

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

**Analytical Method:** SW846 8260D

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

Analytical Batch: 2060807

**Preparation Method:** SW846 5035

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

**Preparation Batch:** 2060806

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

<b>GEL Sample ID#</b>	<b>Client Sample Identification</b>
526713001	C-21-A
526713002	C-21-B
526713003	C-22-C
526713004	C-22-D
526713005	C-23-E
526713006	C-23-F
1204690064	Method Blank (MB)
1204690065	Laboratory Control Sample (LCS)
1204690066	Laboratory Control Sample Duplicate (LCSD)
1204691059	Method Blank (MB)
1204691060	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-extraction/Re-analysis

Sample 526713003 (C-22-C) was re-analyzed due to unacceptable surrogate or internal standard recoveries in the initial analysis. The re-analyses confirmed/and or passed and were reported.

## **Radiochemistry**

**Product:** Dry Weight

**Preparation Method:** ASTM D 2216 (Modified) **Preparation Procedure:** GL-OA-E-020 REV# 13

**Preparation Batch:** 2060271

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

GEL Sample ID#	Client Sample Identification
526713001	C-21-A
526713002	C-21-B
526713004	C-22-D
526713005	C-23-E
526713006	C-23-F
1204688783	526713001(C-21-A) 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:** Dry Weight

<u>Preparation Method:</u> ASTM D 2216 (Modified) <u>Preparation Procedure:</u> GL-OA-E-020 REV# 13

**Preparation Batch: 2060827** 

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

GEL Sample ID#	Client Sample Identification
526713003	C-22-C

1204690111 526713003(C-22-C) 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.

#### **Certification Statement**

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

Page 22 of 25 SDG: 526713

GEL Laboratories, LLC 2040 Savage Road Charleston, SC 29407 Phone: (843) 556-8171	Fax: (843) 766-1178 (Fill in the number of containers for south teet)	< Preservative Type (6).	Comments	Note: extra sample is required for sample specific QC								Specify: Sday (Subject b Surcharge)		Level 2	<ul> <li>&lt;0.00.65 pm TCE</li> <li>&lt;0.00.65 l No Gooter Term: 4.00</li> </ul>	[ ] Other,			cal, N≕Nasai		Please provide any additional details below regarding handling and/or disnowal	***************************************		
alty Analytics	Sample Analysis Requested (5)	amets	considered;	Costopic info colopic info colopic info solopic info	d ()	X	× 7	××				TAT Requested: Normal: Rush: X	Fax Results: [] Yes No	ल्ले ।	36 For Lab Receiving Use Only: Custody Seal Intact? [ ] Yes	Sample Collection Time Zone: [ ] Eastern [ ] Pacific [ ] Central [ ] Mountain	plicate Sample, $G = Grab$ , $C = Composite$		n, 3L-3nuge, 53=50nu Waste, O=On, F=Filter, P=Wipe, U=Urine, F=Fec B/74704 - 1).	Sodium Thiosulfate, If no preservative is added = leave field blank	OT= Other / Unknown	(i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)	Description:	
52/7 CEL Laboratories I Redichemistry I Reducest Chain of Custody and Analytical Request	Phone #83-312-4171	exploration Sampling Fax #	Its To: A	*Date Collected Collected Collected (Wilterry) QC Field Sample (mm-did-yy) (fibram) Code **O Fillered **O Marry **O	05 P LOH 0	SHI	05 5 124 02-9-11 1-05-	1438	11.05-20 1445 G SOI			ine Received buffermed) Date Tri	oy (signed) Date	25.80 m/s/11 200 1100 c	1, 620 13		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 Fillered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered.  1.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Water W=Water MI=Misor I inside CO-Co.21 co.	6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).	Are there any known or possible hazards Characteristic Hazards I istact Woods	e LW=Listed V	CO - Collosive (F.K.) and U-listed wastes.)  RE = Reactive Waste code(s):	TSCA Regulated PCR = Polychlogiasisd	biphenyls
Page: Of Project # 5ch Selection of GER Quote #: Will College Of Selection of GER	Shindhouse		Crews 12 Crews	Sample ID posites - indicate start and stop date to	G-21-A	C.2B	C-22-D	C-23-E	C-23-F		10	Refinquished By (Signed) Date Time	2001	Lacation	3419 11670 135	* For sample shipping and defivery details, see Sample Receipt & Review forln (SRR.) <ol> <li>Chain of Custody Number = Client Determined</li> </ol>	2) QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Daplica	<ol> <li>Fried Fulered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered.</li> <li>Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Water W=Water W=Water W= Mater, Full = Missel Liquid CO.</li> </ol>	5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided b) Preservative Tyme: HA = Hydrachleric Acid NI = Nititio Acid Ctt = Co. 11. 11. 11. 11. 11. 11. 11. 11. 11. 1	.) Are there any known or possible hazards Charac	<b>1</b>	AS = Arsenic Hg= Mercury	<del></del>	MR= Miscellaneous RCRA metals

GEP	Laboratories LLC
-----	------------------

PLE RECEIPT & REVIEW FORM 1267

C	ient: WNUC			S	DG/AR/COC/Work Order:							
R	eceived By: SLB			$\top$	Date Received: NOV 6, 2020							
	Carrier and Tracking Number		***************************************		Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other							
Suspected Hazard Information					f Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.							
A):	Shipped as a DOT Hazardous?			1	zard Class Shipped: UN#:  If UN2910, Is the Radioactive Shipment Survey Compliant? YesNo							
B) rec	Did the client designate the samples are to be every exercise to be every exercise?		/	cc	C notation or radioactive stickers on containers equal client designation.							
	Did the RSO classify the samples as oactive?		-	M	eximum Net Counts Observed* (Observed Counts - Area Background Counts):CPM / mR/Hr Classified as: Rad 1							
<u>D)</u>	Did the client designate samples are hazardous?		/	1	C notation or hazard labels on containers equal client designation,							
E)	Did the RSO identify possible hazards?	<u> </u>	_	If I	O or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:							
	Sample Receipt Criteria	Yes	ž	ž								
1	Shipping containers received intact and sealed?	/			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)							
2	Chain of custody documents included with shipment?	/			Circle Applicable: Client contacted and provided COC COC created upon receipt							
3	Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$ ?*	/			Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP:C							
4	Daily check performed and passed on IR temperature gun?	_			Temperature Device Serial #: T.Q - ZC Secondary Temperature Device Serial # (If Applicable):							
5	Sample containers intact and sealed?				Circle Applicable: Seals broken Damaged container Leaking container Other (describe)							
6	Samples requiring chemical preservation at proper pH?		_		Sample ID's and Containers Affected:  If Preservation added, Lot#:							
7	Do any samples require Volatile Analysis?	_			If Yes, are Eucores or Soil Kits present for solids? YesNo NA (If yes, take to VOA Freezer)  Do liquid VOA vials contain acid preservation? Yes No NA (If unknown, select No)  Are liquid VOA vials free of headspace? Yes No NA  Sample ID's and containers affected:							
8	Samples received within holding time?				ID's and tests affected:							
9	Sample ID's on COC match ID's on bottles?				ID's and containers affected:							
10	Date & time on COC match date & time on bottles?	1			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?				Circle Applicable: No container count on COC Other (describe)							
12	Are sample containers identifiable as GEL provided by use of GEL labels?			/								
13	COC form is properly signed in relinquished/received sections?				Circle Applicable: Not relinquished Other (describe)							
Con	ments (Use Continuation Form if needed):		on controlled in									
					C11 1.10150							

GL-CHL-SR-001 Rev 7

List of current GEL Certifications as of 11 November 2020

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	T104704235-20-17
Utah NELAP	SC000122020-33
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
,, admington	2,00











PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843.556.8171 F 843.766.1178

gel.com

February 03, 2021

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

Re: Sealand Soil Sampling Work Order: 533288

Dear Ms. Teague:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on January 27, 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. 4443.

Sincerely,

Samuel Hogan for Lindsay Fabra Project Manager

Purchase Order: PO 4500778461

Enclosures



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

## Certificate of Analysis Report for

WNUC009 Westinghouse Electric Co, LLC (4500778461) Client SDG: 533288 GEL Work Order: 533288

#### The Qualifiers in this report are defined as follows:

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

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

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

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

Reviewed by

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

**Certificate of Analysis** 

Report Date: February 3, 2021

WNUCSealand

WNUC009

Project:

Client ID:

**Analyst Comments** 

Company: Westinghouse Electric Company, LLC

Address: PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague Project: Sealand Soil Sampling

Client Sample ID: C-21-a Sample ID: 533288001

Matrix: Soil

Collect Date: 26-JAN-21 14:55
Receive Date: 27-JAN-21
Collector: Client

9.66%

Parameter Qualifier Result DL RL Units PF DF Analyst Date Time Batch Method

Volatile Organics

Totals Tetrachloroethylene VOA only "Dry Weight Corrected"

Description

Tetrachloroethylene 0.00242 0.000298 0.000896 mg/kg 0.809 1 PXY1 02/02/21 1531 2087144

The following Prep Methods were performed:

Moisture:

 Method
 Description
 Analyst
 Date
 Time
 Prep Batch

 SW846 5035
 5035 Prep
 PXY1
 01/26/21
 1455
 2087142

The following Analytical Methods were performed:

SW846 8260D Result Surrogate/Tracer Recovery Test Nominal Recovery% Acceptable Limits 1,2-Dichloroethane-d4 Totals Tetrachloroethylene VOA only "Dry Weight 0.0454 mg/kg 0.0500 101 (76% - 127%)Corrected' Bromofluorobenzene Totals Tetrachloroethylene VOA only "Dry Weight 0.0453 mg/kg 0.0500 101 (70%-130%) Corrected" Toluene-d8 Totals Tetrachloroethylene VOA only "Dry Weight 0.0446 mg/kg 0.0500 100 (81%-120%)

#### Notes:

Method

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

Corrected"

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 3 of 12 SDG: 533288

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

**Certificate of Analysis** 

Project:

Client ID:

Report Date: February 3, 2021

WNUCSealand

WNUC009

Company: Westinghouse Electric Company, LLC

Address: PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague Project: Sealand Soil Sampling

Client Sample ID: C-21-b Sample ID: 533288002

Matrix: Soil

Collect Date: 26-JAN-21 15:01
Receive Date: 27-JAN-21
Collector: Client

Moisture: 12.5%

	Para	meter (	Qualifier	Result	DL	RL	Units	PF	DF	Analyst L	Date '	Time B	atch	Metho	d
--	------	---------	-----------	--------	----	----	-------	----	----	-----------	--------	--------	------	-------	---

Volatile Organics

Totals Tetrachloroethylene VOA only "Dry Weight Corrected"

Tetrachloroethylene U ND 0.000387 0.00116 mg/kg 1.02 1 PXY1 01/29/21 2038 2087144

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 5035	5035 Prep	PXY1	01/26/21	1501	2087142

The following Analytical Methods were performed:

Method De	escription		Analyst Co	mments	
1 SV	/846 8260D				
Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0578 mg/kg	0.0500	100	(81%-124%)
Bromofluorobenzene	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0618 mg/kg	0.0500	106	(70%-130%)
Toluene-d8	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0581 mg/kg	0.0500	100	(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

Page 4 of 12 SDG: 533288

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**QC Summary** 

Report Date: February 3, 2021

Page 1 of 3

Westinghouse Electric Company, LLC

PO Drawer R

Columbia, South Carolina

Contact: Ms. Cynthia Teague

Workorder: 533288

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Volatile-GC/MS Batch 2087144								
QC1204743513 LCS Tetrachloroethylene	0.0500		0.0453	mg/kg		91	(68%-129%) PXY1	01/29/21 10:28
**1,2-Dichloroethane-d4	50.0		53.5	ug/L		107	(81%-124%)	
**Bromofluorobenzene	50.0		54.0	ug/L		108	(70%-130%)	
**Toluene-d8	50.0		52.0	ug/L		104	(81%-120%)	
QC1204745019 LCS Tetrachloroethylene	0.0500		0.0469	mg/kg		94	(70%-125%)	02/02/21 10:04
**1,2-Dichloroethane-d4	50.0		50.7	ug/L		101	(76%-127%)	
**Bromofluorobenzene	50.0		50.3	ug/L		101	(70%-130%)	
**Toluene-d8	50.0		50.4	ug/L		101	(81%-120%)	
QC1204743514 LCSD Tetrachloroethylene	0.0500		0.0459	mg/kg	1	92	(0%-20%)	01/29/21 10:56
**1,2-Dichloroethane-d4	50.0		52.0	ug/L		104	(81%-124%)	
**Bromofluorobenzene	50.0		52.0	ug/L		104	(70%-130%)	
**Toluene-d8	50.0		50.9	ug/L		102	(81%-120%)	
QC1204743512 MB Tetrachloroethylene		U	ND	mg/kg				01/29/21 13:22

Page 5 of 12 SDG: 533288

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# **QC Summary**

Workorder: 533288								Page 2 of 3
Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Volatile-GC/MS Batch 2087144								
**1,2-Dichloroethane-d4	50.0		51.2	ug/L		102	(81%-124%) PXY	1 01/29/21 13:22
**Bromofluorobenzene	50.0		51.9	ug/L		104	(70%-130%)	
**Toluene-d8	50.0		51.4	ug/L		103	(81%-120%)	
QC1204745018 MB Tetrachloroethylene		U	ND	mg/kg				02/02/21 12:32
**1,2-Dichloroethane-d4	50.0		50.2	ug/L		100	(76%-127%)	
**Bromofluorobenzene	50.0		50.4	ug/L		101	(70%-130%)	
**Toluene-d8	50.0		50.7	ug/L		101	(81%-120%)	

#### **Notes:**

Workorder:

533288

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
- The TIC is a suspected aldol-condensation product Α
- В 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
- Ε Concentration of the target analyte exceeds the instrument calibration range
- Η Analytical holding time was exceeded
- J See case narrative for an explanation
- Value is estimated T
- JNX Non Calibrated Compound
- Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based N on nearest internal standard response factor
- Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest N internal standard response factor
- N/A RPD or %Recovery limits do not apply.

Page 6 of 12 SDG: 533288

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# **QC Summary**

Page 3 of 3 Parmname **NOM** Sample Qual QC Units RPD% REC% Range Anlst Date Time N<sub>1</sub> See case narrative Analyte concentration is not detected above the detection limit ND 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%.

R Sample results are rejected

533288

Workorder:

Q

- 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

One or more quality control criteria have not been met. Refer to the applicable narrative or DER.

- 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.

Page 7 of 12 SDG: 533288

## Technical Case Narrative Westinghouse Electric Co, LLC SDG #: 533288

## **GC/MS Volatile**

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

**Analytical Method:** SW846 8260D

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

Analytical Batch: 2087144

**Preparation Method:** SW846 5035

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

**Preparation Batch:** 2087142

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

GEL Sample ID#	Client Sample Identification
533288001	C-21-a
533288002	C-21-b
1204743512	Method Blank (MB)
1204743513	Laboratory Control Sample (LCS)
1204743514	Laboratory Control Sample Duplicate (LCSD)
1204745018	Method Blank (MB)
1204745019	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-extraction/Re-analysis

Sample 533288001 (C-21-a) was re-analyzed due to unacceptable surrogate or internal standard recoveries in the initial analysis. The re-analyses confirmed/and or passed and were reported.

# $\underline{\textbf{Radiochemistry}}$

**Product:** Dry Weight

<u>Preparation Method:</u> ASTM D 2216 (Modified) <u>Preparation Procedure:</u> GL-OA-E-020 REV# 13

**Preparation Batch:** 2086192

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

GEL Sample ID# Client Sample Identification

533288001 C-21-a 533288002 C-21-b

1204741708 533382001(NonSDG) 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.

#### **Certification Statement**

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

Page 9 of 12 SDG: 533288

age: 1 of 2	ļ		[] [] (]	77	Jorgt	ahoratorie	_			GEL Laboratories, LLC	TIC
GCO Number (1).	<del></del>	15500 V	gel.com Chain	<b>~</b>	try   Radiochi	Chemistry   Radiochemistry   Radiobioassay   Specialty Analytics of Custody and Analytical Request	≂L.C bioassay 15 <b>al Redii</b>	pecialty est	Analytics	Charleston, SC 29407 Phone: (843) 556-8171	407
PO # 4500778461, Line 1	GEL Worl	GEL Work Order Number:		9	EL Projec	GEL Project Manager:				Fax: (843) 766-1178	7.8
Olient Name: Westinghouse			Phone # 803.312.4171	3.312.4171			Sam	ple An	Sample Analysis Requested (5) (Fill in	he number of con	(Fill in the number of containers for each test)
Uroject/Site Name:			Fax# 803.695.3964	95.3964		Should this	E-100	S			< Preservative Type (6)
Address: 5801 Bluff Road, Hopkins, SC 29061						sample be considered:	. be red:		2112		
Collected By: Randy Crews	Send Resu	Send Results To: teaguecj@westinghouse.com	westingho	use.com				SHOWA	- Cupao		Comments  Note: extra sample is
ര ജ	datestime	*Date Collected (mm-dd-yy)	*Time Collected (Military) (bhmm)	QC F	Field Sample Filtered (3) Matrix (4)	E a Radioactive yes, please sup	(7) Known or possible Haza	Total number	Valuania I		required for sample specific QC
C-21-a		1/26/2021	1455	Ð	os			-X			
C-21-b		1/26/2021	1501	Ð	SO			×			
								-			
								-			
	Chain of Cust	Chain of Custody Signatures						TA	TAT Requested: Normal:	Rush: X Spe	Specify: 5 days (1 week)
Relinquished By (Signed) Date	Time	Received by (signed)		Date T	Time		Fax Results: [ ] Yes	S: [ ] Y	fes [x]No		
1 Randy Crews W-2451-27-2021	<b>%</b> (0)	1 Secure Location	1 01-27-	27-2021	10%	<b>U</b> ,	select Del	verable		[ ] level 1 [ ] Level 2	vel 2 [ ] Level 3 [ ] Level 4
2 Secure Location 01-27-2021 / 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	2/1/2	J. M. CORNE	THE STATE OF THE S	類	121	5/44	Additional Remarks.  For Lab Receiving	Remar eceivin	Additional Remarks:  Additional Receiving Use Only: Custody Seal Intact? [] Yes Samma Collection Time Time Time   Decision   Decisio		[] No Cooler Temp: 2 °C
1.) Chain of Custody Number = Client Determined	diagram adhine a	mio(************************************	ont)						me :     Labour     Labour		rouncam L J Curei.
2.) QC Codes: $N \approx Normal Sample$ , $TB = Trip Blank$ , $FD = Field Duplicate$ , $EB = Equipment Blank$ , $MS = Matrix Spike$	= Field Duplicate, EF	:= Equipment Blank,	MS = Matrix S		ASD = Matrix	Sample, $MSD$ = Matrix Spike Duplicate Sample, $G$ = Grab, $C$ = Composite	Sample, G	· Grab, C	:= Composite		
3.) Field Filtered: For liquid matrices, indicate with a - Y - for yea the sample was field filtered or - N - for sample was not field filtered.  A) Matrix Codes DW=Dinibition Water CW=Commission Water WW-Water Water	for yes the sample wa	s field filtered or - N -	for sample was	not field filtered.	ed.	5 1000	9-99	7770 737	A CANADA MARKET MAKES MAKES	- 2 2 -	
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).	ed (i.e. 8260B, 6010B	7470A) and number of	of containers pre	wided for each	(i.e. 8260B -	3, 6010B/7470A	-1).		ic, C-Oii, F-Fried, F-Wipe, C-Oille, F	-Fecal, iv-ivasai	
6.) Preservative Type: HA = Hydrochloric Acid, IN = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank	c Acid, SH = Sodium	Hydroxide, SA = Sulf	ıric Acid, AA =	Ascorbic Acid	i, HX = Hexan	e, ST = Sodium	Thiosulfate	If no pre	servative is added = leave field blank		
RCRA Metals  As = Arsenic Hg= Mercury	Characteristic Hazards   FL = Flammable/Ignitabl   CO = Corrosive   RE = Reactive	Characteristic Hazards FL = Flammable/Ignitable CO = Corrosive RE = Reactive	Listed Waste LW= Listed W (F, K, P and U-I) Waste code(s):	Listed Waste  LW= Listed Waste  (F.K.P and U-listed wastes.)  Waste code(s):	wastes.)	91 <b>0</b>	Other  OT= Other / Unknown (i.e.: High/low pH, asbest misc. health hazards, etc.)	-/ Unkr Iow pH h hazar	Other  OT = Other / Unknown  (i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)		Please provide any additional details below regarding handling and/or disposal concerns. (i.e.: Origin of sample(s), type of stle collected from, odd matrices, etc.)
Ba = Barium Se= Selenium Cd = Cadmium Ag= Silver	TSCA Regulated	lated				~ ' 	Description:				
Cr=Chromium MR=Misc RCRA metals Pb=Lead	PCB = Polyr biph	Polychlorinated biphenyls									

GEE   Laboratories ilic			533288
Client: \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			SAMPLE RECEIPT & REVIEW FORM
Received By: TVE			SDG/AR/COC/Work Order:
Carrier and Tracking Number			Date Received:  Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other
Suspected Hazard Information	Yes	ž	"If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		V	Flazard Class Shipped: UN#:  If UN2910, Is the Radioactive Shipment Survey Compliant? YesNo
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?		V	Maximum Net Counts Observed* (Observed Counts - Area Background Counts):CPM / mR/Hr Classified as: Rad 1
D) Did the client designate samples are hazardous	7	/	COC notation or hazard labels on containers equal client designation.  If D'or E is yes, select Hazards below.
E) Did the RSO identify possible hazards?		V	PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:
Sample Receipt Criteria	Yes	N N	Comments/Qualifiers (Required for Non-Conforming Items)
Shipping containers received intact and scaled?	V	7	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Chain of custody documents included with shipment?	V		Circle Applicable: Client contacted and provided COC COC created upon receipt
3 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	V		Preservation Method Wet Ice Ice Packs Dry ice None Other: "all temperatures be consorted in Celsius TEMP:
Daily check performed and passed on IR temperature gun?	V		Temperature Device Serial #: 1R3-19 Secondary Temperature Device Serial # (If Applicable):
5 Sample containers intact and sealed?	4		Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6 Samples requiring chemical preservation at proper pH?	V		Sample ID's and Containers Affected:  If Preservation added, Lotif;
7 Do any samples require Volatile Analysis?	V		If Yes, are Encores or Soil Kits present for solids? Yes No NA (If yes, take to VOA Freezer)  Do liquid VOA vials contain acid preservation? Yes No NA (If unknown, select No)  Are liquid VOA vials free of headspace? Yes No NA  Sample ID's and containers affected:
8 Samples received within holding time?	V		ID's and tests affected:
Sample ID's on COC match ID's on bottles?	V		ID's and containers affected:
Date & time on COC match date & time on bottles?	V	2	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
Number of containers received match number indicated on COC?			Circle Applicable: No container count on COC Other (describe)
Are sample containers identifiable as GEL provided by use of GEL tabets?			
COC form is properly signed in relinquished/received sections?	V		Circle Applicable: Not relinquished Other (describe)
omments (Use Continuation Form if needed):			

GL-CHL-SR-001 Rev 7

List of current GEL Certifications as of 03 February 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	T104704235-21-18
Utah NELAP	SC000122020-34
	VT87156
Vermont	
Virginia NELAP	460202
Washington	C780











PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843.556.8171 F 843.766.1178

gel.com

February 16, 2021

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

Re: Sealand Soil Sampling Work Order: 534641

Dear Ms. Teague:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 10, 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. 4443.

Sincerely,

Lindsay Fabra

Ludy Falsa

Project Manager

Purchase Order: PO 4500778461

Enclosures



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# Certificate of Analysis Report for

WNUC009 Westinghouse Electric Co, LLC (4500778461) Client SDG: 534641 GEL Work Order: 534641

## The Qualifiers in this report are defined as follows:

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

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

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

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

	Ludy Fabra	
Reviewed by		

Page 2 of 17 SDG: 534641













PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407

P 843.556.8171

F 843.766.1178

# **Analytical Detections Summary**

SDG/Report#	534641	Client	Westinghouse Electric Co, LLC (4500778461)
Project ID	Sealand Soil Sampling		

GEL ID	Client Sample ID	Method	CAS	Analyte	Result	Q
534641001	C-21-a-1	SW846 8260D	127-18-4	Tetrachloroethylene	0.00226 mg/kg	
534641002	C-21-a-2	SW846 8260D	127-18-4	Tetrachloroethylene	0.00117 mg/kg	

NOTE: This report only lists detections greater than the reporting level. Reporting level is the LOQ, PQL, MDC, or Client-provided limit.

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**Certificate of Analysis** 

Project:

Client ID:

Report Date: February 16, 2021

WNUCSealand

WNUC009

Company: Westinghouse Electric Company, LLC

Address: PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague Project: Sealand Soil Sampling

Client Sample ID: C-21-a-1 Sample ID: 534641001

Matrix: Soil

Collect Date: 08-FEB-21 13:30 Receive Date: 10-FEB-21 Collector: Client

Moisture: 11.7%

Volatile Organics

Totals Tetrachloroethylene VOA only "Dry Weight Corrected"

Tetrachloroethylene 0.00226 0.000230 0.000690 mg/kg 0.610 l JP1 02/12/21 0139 2092093 l

The following Prep Methods were performed:

 Method
 Description
 Analyst
 Date
 Time
 Prep Batch

 SW846 5035
 5035 Prep
 JP1
 02/08/21
 1330
 2092092

The following Analytical Methods were performed:

Method D	escription		Analyst Co	omments	
1 SV	V846 8260D				
Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0332 mg/kg	0.0500	96	(76%-127%)
Bromofluorobenzene	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0336 mg/kg	0.0500	97	(70%-130%)
Toluene-d8	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0339 mg/kg	0.0500	98	(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

Page 4 of 17 SDG: 534641

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**Certificate of Analysis** 

Project:

Client ID:

Report Date: February 16, 2021

WNUCSealand

WNUC009

Company: Westinghouse Electric Company, LLC

Address: PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague Project: Sealand Soil Sampling

Client Sample ID: C-21-a-2 Sample ID: 534641002

Matrix: Soil

Collect Date: 08-FEB-21 13:20
Receive Date: 10-FEB-21
Collector: Client

Moisture: 14.6%

Parameter Qualifier Result	DL RL	Units PF	DF Analyst Date	Time Batch Method
----------------------------	-------	----------	-----------------	-------------------

Volatile Organics

Totals Tetrachloroethylene VOA only "Dry Weight Corrected"

Tetrachloroethylene 0.00117 0.000365 0.00109 mg/kg 0.935 1 JP1 02/12/21 0204 2092093 1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 5035	5035 Prep	JP1	02/08/21	1320	2092092

The following Analytical Methods were performed:

Method De	scription	·	Analyst Co	omments	
1 SW	846 8260D		-		
Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0522 mg/kg	0.0500	95	(76%-127%)
Bromofluorobenzene	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0527 mg/kg	0.0500	96	(70%-130%)
Toluene-d8	Totals Tetrachloroethylene VOA only "Dry Weight Corrected"	0.0540 mg/kg	0.0500	99	(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

Page 5 of 17 SDG: 534641

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

Project:

Client ID:

**Certificate of Analysis** 

Report Date: February 16, 2021

WNUCSealand

WNUC009

Company: Westinghouse Electric Company, LLC

Address: PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague Project: Sealand Soil Sampling

Client Sample ID: C-21-a-1 Sample ID: 534641001

Matrix: Soil

Collect Date: 08-FEB-21 13:30
Receive Date: 10-FEB-21
Collector: Client
Moisture: 11.7%

Parameter Qualifier Result Uncertainty MDC RL Units PF DF Analyst Date Time Batch Method

#### **Notes:**

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

Column headers are defined as follows:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 6 of 17 SDG: 534641

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

**Certificate of Analysis** 

Report Date: February 16, 2021

Company:

Westinghouse Electric Company, LLC

Address:

PO Drawer R

Columbia, South Carolina 29205

Result Uncertainty

Contact: Project:

Ms. Cynthia Teague Sealand Soil Sampling

Client Sample ID:

C-21-a-2

Sample ID:

534641002

Matrix:

Soil

Collect Date:

08-FEB-21 13:20

Receive Date:

10-FEB-21

Collector: Moisture:

Client

14.6%

Qualifier

MDC

RL

Units

PF

Project:

Client ID:

DF Analyst Date

WNUCSealand

WNUC009

Time Batch Method

Notes:

Parameter

Counting Uncertainty is 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 PF: Prep Factor RL: Reporting Limit

MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration

SQL: Sample Quantitation Limit

Page 7 of 17 SDG: 534641

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**QC Summary** 

Report Date: February 16, 2021

Page 1 of 3

Westinghouse Electric Company, LLC

PO Drawer R

Columbia, South Carolina

Contact: Ms. Cynthia Teague

Workorder: 534641

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range An	lst Date Time
Volatile-GC/MS Batch 2092093 —								
QC1204752977 LCS Tetrachloroethylene	0.0500		0.0521	mg/kg		104	(70%-125%)	JP1 02/11/21 18:04
**1,2-Dichloroethane-d4	50.0		48.0	ug/L		96	(76%-127%)	
**Bromofluorobenzene	50.0		46.9	ug/L		94	(70%-130%)	
**Toluene-d8	50.0		47.3	ug/L		95	(81%-120%)	
QC1204752975 MB Tetrachloroethylene		U	ND	mg/kg				02/11/21 19:45
**1,2-Dichloroethane-d4	50.0		47.6	ug/L		95	(76%-127%)	
**Bromofluorobenzene	50.0		47.4	ug/L		95	(70%-130%)	
**Toluene-d8	50.0		47.9	ug/L		96	(81%-120%)	
QC1204752978 533811010 PS Tetrachloroethylene	50.0 U	ND	45.7	ug/L		91	(46%-134%)	02/12/21 02:29
**1,2-Dichloroethane-d4	50.0	45.5	48.0	ug/L		96	(76%-127%)	
**Bromofluorobenzene	50.0	50.1	51.7	ug/L		103	(70%-130%)	
**Toluene-d8	50.0	49.2	51.1	ug/L		102	(81%-120%)	
QC1204752979 533811010 PSD Tetrachloroethylene	50.0 U	ND	45.2	ug/L	1	90	(0%-20%)	02/12/21 02:54

Page 8 of 17 SDG: 534641

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# **QC Summary**

534641 Page 2 of 3 **Parmname NOM** Sample Qual QC Units RPD% REC% Range Anlst Date Time Volatile-GC/MS 2092093 Batch \*\*1,2-Dichloroethane-d4 50.0 45.5 47.7 ug/L 95 (76% - 127%)JP1 02/12/21 02:54 50.0 50.1 52.3 105 \*\*Bromofluorobenzene ug/L (70% - 130%)\*\*Toluene-d8 50.0 49.2 48.8 ug/L 98 (81%-120%)

#### **Notes:**

Workorder:

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
- В 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
- Е Concentration of the target analyte exceeds the instrument calibration range
- Н Analytical holding time was exceeded
- J See case narrative for an explanation
- J Value is estimated
- JNX Non Calibrated Compound
- Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based N on nearest internal standard response factor
- Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest Ν internal standard response factor
- N/A RPD or %Recovery limits do not apply.
- N1See 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
- 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 QC Samples were not spiked with this compound

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# **QC Summary**

534641 Page 3 of 3 **Parmname** NOM Sample Qual  $\mathbf{QC}$ Units RPD% REC% Range Anlst Date Time

- RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
- Preparation or preservation holding time was exceeded h

Workorder:

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.

Page 10 of 17 SDG: 534641

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**QC Summary** 

Westinghouse Electric Company, LLC

PO Drawer R

Columbia, South Carolina

Contact: Ms. Cynthia Teague

Workorder: 534641

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

#### Notes:

The Qualifiers in this report are defined as follows:

- \*\* Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- BD Results are either below the MDC or tracer recovery is low
- FA Failed analysis.
- H Analytical holding time was exceeded
- J See case narrative for an explanation
- J Value is estimated
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- M M if above MDC and less than LLD
- $M \qquad REMP \ Result > MDC/CL \ and < RDL$
- 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

Page 11 of 17 SDG: 534641

Page 1 of 2

Report Date: February 16, 2021

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

# **QC Summary**

534641 Page 2 of 2

-Parmname NOM Sample Qual  $\mathbf{QC}$ 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.

Workorder:

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

Page 12 of 17 SDG: 534641

<sup>^</sup> 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.

<sup>\*</sup> 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.

#### **Technical Case Narrative** Westinghouse Electric Co, LLC SDG #: 534641

## **GC/MS Volatile**

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

**Analytical Method:** SW846 8260D

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

Analytical Batch: 2092093

**Preparation Method:** SW846 5035

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

**Preparation Batch:** 2092092

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

<b>GEL Sample ID#</b>	<b>Client Sample Identification</b>
534641001	C-21-a-1
534641002	C-21-a-2
1204752975	Method Blank (MB)
1204752977	Laboratory Control Sample (LCS)
1204752978	533811010(NonSDG) Post Spike (PS)
1204752979	533811010(NonSDG) Post Spike Duplicate (PSD)

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.

# **Radiochemistry**

**Product:** Dry Weight

**Preparation Method:** ASTM D 2216 (Modified) Preparation Procedure: GL-OA-E-020 REV# 13

**Preparation Batch: 2091638** 

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

<b>GEL Sample ID#</b>	Client Sample Identification
534641001	C-21-a-1
534641002	C-21-a-2
1204752056	534641001(C-21-a-1) Sample Duplicate (DUP)

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

Page 13 of 17 SDG: 534641

## **Data Summary:**

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

## **Certification Statement**

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

Page 14 of 17 SDG: 534641

age: 1 of 1					phora	ahoratoriae				GEL Lab	GEL Laboratories, LLC	
GEL Ouote #: WNUC009	7	ノアリアにつ			C C C C C C C C C C C C C C C C C C C	Chemistre   Badjochamistre   Badjochamistre   Sacriate Analytics	LLC Obligaseav	Snerialfy	Anglidice	Charleston SC 20	2040 Savage Koad	
18		<u></u>	Chain	ੱ	stody an	of Custody and Analytical Request	al Regi	Jest	Airdiyiicə	Phone: (8	Chanes (843) 556-8171	
PO # 4500778461, Line 1	GEL Work	GEL Work Order Number:			GEL Proj	GEL Project Manager:	:			Fax: (843	Fax: (843) 766-1178	
Client Name: Westinghouse			Phone # 803.312.4171	3.312.417	y		San	ıple An	Sample Analysis Requested <sup>(5)</sup> (F)	II in the number	(Fill in the number of containers for each test)	each test)
froject/Site Name:		-	Fax # 803.695.	595.3964		Should this	10000000					< Preservative Type (6)
Address: 5801 Bluff Road, Hopkins, SC 29061						sample be considered:	le be ered:	<u> </u>				
Collected By: Randy Crews FLANS	Send Resul	Send Results To: teaguecj@westinghouse.com	westingho	use.com		H)	rds	Jana da			Ž	Comments Note: extra sample is
Sample ID * For composites - indicate start and stop date time	tetime	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (3) F	Field Sample Filtered <sup>(3)</sup> Matrix <sup>(4)</sup>	Radioactive yes, please sup isotopic info.)	(7) Kaown or possible Haza	Total number Totrachlor			9.	required for sample specific QC
C-21-a-1		2/8/2021	1330	G	SO	) (		<u>×</u>				
C-21-a-2		2/8/2021	1320	G	SO			×				
Ü	hain of Custo	Chain of Custody Signatures	<b>*</b>			•		TA	TAT Requested: Normal:	Rush:	X Specify: 5 days (1 week)	(1 week)
Relinquíshed By (Signed) Date Time	me	Received by (signed)		Date	Time		Fax Results: [   Yes	ts: [ ] Y	No.			
1 Randy Crews 12 (22-10-2021 [	1000	1 Secure Location		02-10-2021	1022		Select Deliverable: [	iverable	~	ary [ ] level 1	[ ] Level 2	[ ] Level 3 [ ] Level 4
2 Secure Location 02-10-2021	Dilin	2 <b>/////</b> 2	2.10	2	0.4%	,	Additional Remarks:	l Remark	;s;		l I	
3 4 1 3 - 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Sample Receipt	& Review Com	37/7Z	3/2 (	5	\$5 Samole C	For Lab I	Receiving Time Zo.	Sample Collection Time Zone [1 Pastern [1 Pacific [1] Central	Intact? [ ] Yes	[ ] No Cooler Temp:	mp: b oc
1.) Chain of Custody Number =: Client Determined		7										- Caro
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	Field Duplicate, EB	= Equipment Blank,	MS = Matrix S	pike Sample	MSD = Matri	s Spike Duplicate	s 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	r yes the sample was	field filtered or - N -	for sample was	not field filtered	ered.							
4.) Matrix Codes. DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Water, WL=Water, ML=Mise Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal	SW=Surface Water,	WW=Waste Water, V	V=Water, ML	™ise Liqui	l, SO=Soil, SD	"Sediment, SL"	Sludge, SS≕	solid Waste	e, O=Oil, F=Filter, P=Wipe, U=L	rine, F=Fecal, N=N	asal	
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, SH = Nifric Acid, SH = Suffuric Acid, AA = Assorbic Acid, HX = Hexane, ST = Sodium Thiosulfate. If no preservative is added = Feave field blank.	(i.e. <b>8260B</b> , <b>6010B</b> / kcid, <b>SH</b> = Sodium F	7470A) and number o lydroxide, SA = Sulfu	f containers pre	ovided for ea Ascorbic A	ch (i.e. <i>8260B</i> cid, <b>HX</b> = Hexa	-3, 6010B7470, me, ST = Sodiun	f - 1). η Thiosulfate	. If no pres	servative is added = leave field bla	يد		
7) KNOWN OR POSSIBLE HAZARDS	Characteristic Hazards	ic Hazards	Listed Waste	Vaste			Other				Please provide any additional details	additional details
RCRA Metals  As = Arsenic Hg= Mercury  Ra = Bartinn Se= Selentium	FL = Flammable CO = Corrosive RE = Reactive	FL = Flammable/Ignitable CO = Corrosive RE = Reactive	LW= Listed W (F.K,P and U-I Waste code(s):		I Waste U-listed wastes.) (s):		OT= Other / Unknown (i.e.: High/low pH, asbeste misc. health hazards, etc.)	r / Unkn /low pH, th hazare	OT=Other / Unknown (i.e.: High/low pH, asbestos, beryllium, irritants, other misc. health hazards, etc.)	nts, other	below regarding hi concerns. (i.e.: Or of site collected fro	below regarding handling and/or disposal concerns. (i.e.: Origin of sample(s), type of site collected from, odd matrices, etc.)
	TSCA Regulated	ated					<i>Description:</i>	ä				
Cr = Chromnum MR= Misc. RCRA metals Pb = Lead	PCB = Polychlori	nlorinated										
	A. Color	a.										

GEL	Laboratories LLC
-----	------------------

2 SAMPLE RECEIPT & REVIEW FORM

53464	
11101	I

CI	ient: WNUC	_		SD	G/AR/COC/Work Order:	
Re	ceived By: ZKW			Da	te Received: 2/10/24	· · · · · · · · · · · · · · · · · · ·
	Carrier and Tracking Number				Circle Applicable: FedEx Express FedEx Ground UPS Field Services Councy	Other
Su	spected Hazard Information	Yes	Š	*If	Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for	further investigation.
A)5	Shipped as a DOT Hazardous?		2	Haz	ard Class Shipped: UN#:  If UN2910, Is the Radioactive Shipment Survey Compliant? Yes No	
	Did the client designate the samples are to be gived as radioactive?			CO	C notation or radioactive stickers on containers equal client designation.	
	Did the RSO classify the samples as toactive?		•	Ma	ximum Net Counts Observed* (Observed Counts - Area Background Counts):CPM/ m Classified as: Rad 1	IR/Hr
D)	Did the client designate samples are hazardous?				C notation or hazard labels on containers equal client designation.	
E) ]	Did the RSO identify possible hazards?				or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:	
L	Sample Receipt Criteria	Yes	NA	ž	Comments/Qualifiers (Required for Non-Conforming Items)	
1	Shipping containers received intact and sealed?	•			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)	
2	Chain of custody documents included with shipment?				Circle Applicable: Client contacted and provided COC COC created upon receipt  Preservation Method: Vet 10 Ice Packs Dry ice None Other:	
3	Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$ ?*	ب	_		*all temperatures are recorded in Celsius TE	MP: / C
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: <u>IR3-18</u> Secondary Temperature Device Serial # (If Applicable):	N
5	Sample containers intact and sealed?	_		*********	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)	i i i i i i i i i i i i i i i i i i i
6	Samples requiring chemical preservation at proper pH?	_	_		Sample ID's and Containers Affected:  If Preservation added, Lot#:	(A)
7	Do any samples require Volatile Analysis?	-			If Yes, are Encores or Soil Kits present for solids? Yes No NA_(If yes, take to VOA Fr  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:	eezer)
8	Samples received within holding time?				ID's and tests affected:	
9	Sample ID's on COC match ID's on bottles?				ID's and containers affected:	
10	Date & time on COC match date & time on bottles?	_			Circle Applicable: No dates on containers No times on containers COC missing info Other (o	describe)
11	Number of containers received match number indicated on COC?	_			Circle Applicable: No container count on COC Other (describe)	
12	Are sample containers identifiable as GEL provided by use of GEL labels? COC form is properly signed in			,	Circle Applicable: Not relinquished Other (describe)	,
13	relinquished/received sections?	-			- variables (deserted)	
Con	nments (Use Continuation Form if needed):					

List of current GEL Certifications as of 16 February 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	SC000122020-34
Vermont	VT87156
	460202
Virginia NELAP	
Washington	C780











PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843.556.8171 F 843.766.1178

gel.com

February 26, 2021

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

Re: Sealand Soil Sampling Work Order: 535611

Dear Ms. Teague:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 24, 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. 4443.

Sincerely,

Lindsay Fabra

Project Manager

Ludy Falsa

Purchase Order: PO 4500778461

Enclosures



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

# Certificate of Analysis Report for

WNUC009 Westinghouse Electric Co, LLC (4500778461) Client SDG: 535611 GEL Work Order: 535611

## 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, Lindsay Fabra.

	Ludy talra	
Reviewed by	. •	

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

**Certificate of Analysis** 

Report Date: February 26, 2021

WNUCSealand

WNUC009

Project:

Client ID:

Company: Westinghouse Electric Company, LLC

Address: PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague Project: Sealand Soil Sampling

Client Sample ID: C-21-a-1-North Sample ID: 535611001

Matrix: Soil

Moisture:

Collect Date: 23-FEB-21 09:08 24-FEB-21 Receive Date: Collector: Client

13.5%

RL Parameter Qualifier DL Units PF DF Analyst Date Time Batch Method Result

Volatile Organics

Totals Tetrachloroethylene VOA only "Dry Weight Corrected"

0.000308 mg/kg Tetrachloroethylene 0.000924 0.800 1 PXY1 02/25/21 1206 2096146

The following Prep Methods were performed:

Method Prep Batch Description Analyst Date Time SW846 5035 5035 Prep PXY1 02/23/21 2096144 0908

The following Analytical Methods were performed:

Description **Analyst Comments** SW846 8260D Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits 1,2-Dichloroethane-d4 Totals Tetrachloroethylene VOA only "Dry Weight 0.0459 mg/kg 0.0500 (76% - 127%)Corrected' Bromofluorobenzene Totals Tetrachloroethylene VOA only "Dry Weight 0.0450 mg/kg 0.0500 97 (70%-130%) Corrected" Toluene-d8 Totals Tetrachloroethylene VOA only "Dry Weight 0.0448 mg/kg 0.0500 97 (81%-120%)

#### Notes:

Method

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

Corrected"

SQL: Sample Quantitation Limit MDC: Minimum Detectable Concentration

Page 3 of 12 SDG: 535611

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

**Certificate of Analysis** 

Report Date: February 26, 2021

WNUCSealand

WNUC009

Project:

Client ID:

Company: Westinghouse Electric Company, LLC

Address: PO Drawer R

Columbia, South Carolina 29205

Contact: Ms. Cynthia Teague Project: Sealand Soil Sampling

Client Sample ID: C-21-a-2-South Sample ID: 535611002

Matrix: Soil

Collect Date: 23-FEB-21 09:16 24-FEB-21 Receive Date:

Collector: Client Moisture: 14.5%

RL Parameter Qualifier DL Units PF DF Analyst Date Time Batch Method Result

Volatile Organics

Totals Tetrachloroethylene VOA only "Dry Weight Corrected"

0.000320 mg/kg Tetrachloroethylene 0.000960 0.821 1 PXY1 02/25/21 1236 2096146

The following Prep Methods were performed:

Method Prep Batch Description Analyst Date Time SW846 5035 5035 Prep PXY1 02/23/21 2096144 0916

The following Analytical Methods were performed:

Description **Analyst Comments** SW846 8260D Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits 1,2-Dichloroethane-d4 Totals Tetrachloroethylene VOA only "Dry Weight 0.0479 mg/kg 0.0500 100 (76% - 127%)Corrected' Bromofluorobenzene Totals Tetrachloroethylene VOA only "Dry Weight 0.0485 mg/kg 0.0500 101 (70%-130%) Corrected" Toluene-d8 Totals Tetrachloroethylene VOA only "Dry Weight 0.0460 mg/kg 0.0500 96 (81%-120%)

Notes:

Method

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

Corrected"

MDC: Minimum Detectable Concentration **SQL: Sample Quantitation Limit** 

Page 4 of 12 SDG: 535611

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

# **QC Summary**

Report Date: February 26, 2021

Page 1 of 3

Westinghouse Electric Company, LLC

PO Drawer R

Columbia, South Carolina

**Contact:** Ms. Cynthia Teague

Workorder:

535611

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Volatile-GC/MS Batch 2096146 —								
QC1204759891 LCS Tetrachloroethylene	0.0500		0.0481	mg/kg		96	(70%-125%) PXY1	02/25/21 10:10
**1,2-Dichloroethane-d4	50.0		44.5	ug/L		89	(76%-127%)	
**Bromofluorobenzene	50.0		49.3	ug/L		99	(70%-130%)	
**Toluene-d8	50.0		51.1	ug/L		102	(81%-120%)	
QC1204759890 MB Tetrachloroethylene		U	ND	mg/kg				02/25/21 11:08
**1,2-Dichloroethane-d4	50.0		46.3	ug/L		93	(76%-127%)	
**Bromofluorobenzene	50.0		48.0	ug/L		96	(70%-130%)	
**Toluene-d8	50.0		48.4	ug/L		97	(81%-120%)	
QC1204759892 535667001 PS Tetrachloroethylene	50.0 U	ND	40.3	ug/L		81	(46%-134%)	02/25/21 20:25
**1,2-Dichloroethane-d4	50.0	50.3	49.8	ug/L		100	(76%-127%)	
**Bromofluorobenzene	50.0	48.7	49.1	ug/L		98	(70%-130%)	
**Toluene-d8	50.0	48.3	47.7	ug/L		95	(81%-120%)	
QC1204759893 535667001 PSD Tetrachloroethylene	50.0 U	ND	41.1	ug/L	2	82	(0%-20%)	02/25/21 20:54

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# **QC Summary**

535611 Page 2 of 3 **Parmname NOM** Sample Qual QC Units RPD% REC% Range Anlst Date Time Volatile-GC/MS 2096146 Batch \*\*1,2-Dichloroethane-d4 50.0 50.3 47.8 ug/L 96 (76%-127%) PXY1 02/25/21 20:54 50.0 48.7 49.2 \*\*Bromofluorobenzene ug/L 98 (70% - 130%)\*\*Toluene-d8 50.0 48.3 46.7 ug/L 93 (81%-120%)

#### **Notes:**

Workorder:

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
- В 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
- Е Concentration of the target analyte exceeds the instrument calibration range
- Н Analytical holding time was exceeded
- J See case narrative for an explanation
- J Value is estimated
- JNX Non Calibrated Compound
- Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based N on nearest internal standard response factor
- Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest Ν internal standard response factor
- N/A RPD or %Recovery limits do not apply.
- N1See 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
- 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 QC Samples were not spiked with this compound

Page 6 of 12 SDG: 535611

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## **QC Summary**

Workorder: 535611

Page 3 of 3

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

Armname NOM Sample Qual QC Units RPD% REC% Range Anlst Date Ti

A 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.

Page 7 of 12 SDG: 535611

#### Technical Case Narrative Westinghouse Electric Co, LLC SDG #: 535611

## **GC/MS Volatile**

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

**Analytical Method:** SW846 8260D

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

Analytical Batch: 2096146

**Preparation Method:** SW846 5035

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

**Preparation Batch:** 2096144

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

GEL Sample ID#	Client Sample Identification
535611001	C-21-a-1-North
535611002	C-21-a-2-South
1204759890	Method Blank (MB)
1204759891	Laboratory Control Sample (LCS)
1204759892	535667001(NonSDG) Post Spike (PS)
1204759893	535667001(NonSDG) Post Spike Duplicate (PSD)

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.

# **Radiochemistry**

**Product:** Dry Weight

<u>Preparation Method:</u> ASTM D 2216 (Modified) <u>Preparation Procedure:</u> GL-OA-E-020 REV# 13

**Preparation Batch:** 2095952

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

GEL Sample ID# Client Sample Identification

535611001 C-21-a-1-North 535611002 C-21-a-2-South

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

Page 8 of 12 SDG: 535611

## **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**

The duplicate for sample 535611001 was accidentally spilled when taking dry weights. The DUP has been removed as there is no accurate data and no additional sample to dry. 535611001 (C-21-a-1-North).

#### **Certification Statement**

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

Page 9 of 12 SDG: 535611

Page: 1 of 1				aboratories	hories					G	GEL Laboratories, LLC	es, LLC		
GEL Quote #: WNUC009		geloc	Cheil Cheil	get.com   Chemistry   Radiochemistry   R	emistry I Ra	diobioassay	l Specialty	Analytics		ָ ט	Charleston, SC 29407		535(all	
1, Line 1	GEL Work Order Number:	5	5	GEL Project Manager:	ct Manag	er:	162n				Phone: (843) 556-8171 Fax: (843) 766-1178		)	
Olient Name: Westinghouse	d	Phone # 803.3	3.312.4171	7.1			mple An	Sample Analysis Requested (5)		ill in the	number of co	ontainers	(Fill in the number of containers for each test)	
goject/Site Name:	<u> </u>	Fax # 803.695.	595.3964		Sho	Should this							< Preservative Type (6)	
Address: 5801 Bluff Road, Hopkins, SC 29061					San Cons	sample be considered:	1							
Gollected By: Randy Crews Water Send I	Send Results To: teaguecj@westinghouse.com	westingho	use.com		JI)	rds							Comments Note: extra samule is	
Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2) F	Field Sample Filtered <sup>(3)</sup> Matrix <sup>(4)</sup>	E of Radioactive yes, please sur isotopic info.)	(7) Known or	Total number						required for sample specific QC	
C-21-a-1-North	2/23/2021	8060	Ð	SO			×							
C-21-a-2-South	2/23/2021	9160	9	os			×    -							
														T
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Chain of C	Chain of Custody Signatures						-	TAT Requested:	Normal:		Rush: X	Specific	Snecify: 2 days TOT	1
ľ	Received by (signed)		Date	Time		Fax Resu	Fax Results: [ ] Yes	ss [x]No					101 C100	
Randy Crews 72(ALA) 802-24-2021 0938	1 Secure Location	.77	02-24-2021	95.50		Select Do	Select Deliverable: [	_	QC Sumn	nary [ ]	1	[ ] Level 2 [	[ 1 Level 3   1 Level 4	T
Secure Location 02-24-2021 1715	2 100 SSD	了	422	o Zaza	1880 1880 1880	Addition For Lab	Additional Remarks: For Lab Receiving U	Additional Remarks:  For Lab Receiving Use Only: Custody Seal Intact? [] Yes	stody Seal	Intact? [	1 1 1	Coo	1 1 11	
Some Sumpte Supposed and neuron, see Sumple Actept & Revery form (SAR)  Chain of Custody Number = Client Determined  Chain of Custody Number = Client Determined  OC 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  Field Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered.  Matrix Codes: DW=Drinking Water, GW=Surface Water, WW=Water, W=Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Soild Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal	c. EB = Equipment Blank, Mile was field filtered or - N - for Water, WW=Waste Water, W=	S = Matrix S <sub>i</sub> r sample was "Water, ML"	not field filt	, MSD = Matrix ered. 1, SO=Soil, SD=	Spike Duplic	ate Sample, G	Tume Zo	Sumple Confection 1 the Zone? [ ] Eastern [ ] Pacific [ ] Central ike Duplicate Sample, G = Grab, C = Composite diment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Na	Pac	utic [ ]	Central [ ]	Mountain	[ ] Mountain [ ] Other:	
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	dium Hydroxide, SA = Sulfuric	Acid, AA =	Ascorbic A	cid, HX = Hexar	e, ST = Sodi	oa - 1). um Thiosulfat	e, If no pres	rvative is added ==	eave field bl	ank				····
	Characteristic Hazards FL = Flammable/Ignitable CO = Corrosive RE = Reactive TSCA Regulated PCB = Polychlorinated	Listed Waste LW= Listed W (F.K.P and U-I Waste code(s):	Listed Waste L.W= Listed Waste (F.K.P and U-listea Waste code(s):	Listed Waste LW= Listed Waste (F.K.P and U-listed wastes.) Waste code(s):	<b>-</b> 1   1	Other OT=Other/(i.e.: High/lc misc. health Description:	Other OT= Other / Unknown (i.e.: High/low pH, asbest misc. health hazards, etc.) Description:	Other  OT=Other / Unknown (i.e.: High/low pH, asbestos, beryllium, irritants, other misc, health hazards, etc.) Description:	lium, trrito	mts, other		ve provide v regardin erns. (i.e e collected	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.)	
b = Lead	biphenyls										<u>                                     </u>			

	CEE Laboratories LLC			
C	Client: WALL	<del></del>		SAMPLE RECEIPT & REVIEW FORM
R	eceived By: TVE			SDG/AR/COC/Work Order: 535 6 1 -H.
	Carrier and Tracking Number			Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other
Su	spected Hazard Information	Yes	å	"If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
	Shipped as a DOT Hazardous?		V	Hazard Class Shipped: UN#:  If UN2910, Is the Radioactive Shipment Survey Compliant? YesNo
B) rec	Did the client designate the samples are to be cived as radioactive?		V	COC notation or radioactive stickers on containers equal client designation.
C) rad	Did the RSO classify the samples as ioactive?		1	Maximum Net Counts Observed* (Observed Counts - Area Background Counts):CPM / mR/Hr Classified as: Rad 1
D)	Did the client designate samples are hazardous	:7	V	COZ notation or hazard labels on containers equal client designation.
E) ]	Did the RSO identify possible hazards?		V	lf D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:
_	Sample Receipt Criteria	Yes	VV.	උ Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and scaled?	V		Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	V		Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$ ?*	M		Preservation Method: Wet Ice Ice Packs Dry ice None Other: "all temperatures are recorded in Celsius TEMP:
4	Daily check performed and passed on IR temperature gun?			Temperature Device Serial #12 IR3 19 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	V		Circle Applicable: Seals broken Dantaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	Ţ		Sample ID's and Containers Affected:
7	Do any samples require Volatile Analysis?	/		If Preservation added, Lottl:  If Yes, are Encores or Soil Kits present for solids? Yes No NA (If yes, take to VOA Freezer)  Do liquid VOA vials contain acid preservation? Yes No NA (If unknown, select No)  Are liquid VOA vials free of headspace? Yes No NA  Sample ID's and containers affected:
8	Samples received within holding time?	V		ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	V		ID's and containers affected:
10	Date & time on COC match date & time on bottles?	V		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?	V		Circle Applicable: No container count on COC Other (describe)
^- (	Are sample containers identifiable as GEL provided by use of GEL labels?		1	
r I	COC form is properly signed in elinquished/received sections?	V		Circle Applicable: Not relinquished Other (describe)
_UMN	nents (Use Continuation Form if needed):			

List of current GEL Certifications as of 26 February 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	SC000122020-34
Vermont	VT87156
	460202
Virginia NELAP	
Washington	C780

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**Beacon Environmental Map Report (Soil Gas Surveys)** 



#### Beacon Environmental

2203A Commerce Road, Suite 1 Forest Hill, MD 21050 USA 1.410.838.8780

#### CERTIFICATE OF ANALYSIS

Beacon Proposal No.: 201103R03 Beacon Project No.: 0005603

#### **Project Description:**

Project Site: Westinghouse-CFFF Hopkins, SC

Client PO No.: 130171

Prepared for:
Jeremy Grant
AECOM

101 Research Drive Columbia, SC 29203

Ryan W. Schneider Senior Project Manager

February 12, 2021

All data meet requirements as specified in the Beacon Environmental Services, Inc. Quality Assurance Project Plan and the results relate only to the samples reported. The work performed was in accordance with ISO/IEC 17025:2017 requirements, except samples were analyzed within a 24-hour tune window. This report shall not be reproduced, except in full, without written approval of the laboratory. Release of the data contained in this data package has been authorized by the Laboratory Director or his signee, as verified by the following signatures:

Steven C. Thornley Laboratory Director

Steven ( Thornley

Peter B. Kelly Interim Quality Manager



AECOMProject Site:Westinghouse-CFFFBeacon Proposal:201103R03101 Research DriveProject Location:Hopkins, SCBeacon Project No.:0005603Columbia, SC 29203Project Manager:Jeremy GrantReported:02/12/2021

Lab Sample ID: 0005603-02		SG-26 Soil Gas			Method:	EPA 8260C
Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File l	ID
Tetrachloroethene	127-18-4	74		10	S210203	306.D

Lab Sample ID:	0005603-03	SG-27	Method:	EPA 8260C
		Soil Gas		

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Vinyl Chloride	75-01-4	19		10	S21020307.D
cis-1,2-Dichloroethene	156-59-2	38		10	S21020307.D
Trichloroethene	79-01-6	56		10	S21020307.D
Tetrachloroethene	127-18-4	388		10	S21020307.D

Lab Sample ID:	0005603-04	SG-27 Dup	Method:	EPA 8260C
		Soil Gas		

Analyte	CAS#	Result (ng) Q	LOQ (ng)	File ID
Vinyl Chloride	75-01-4	11	10	S21020308.D
cis-1,2-Dichloroethene	156-59-2	35	10	S21020308.D
Trichloroethene	79-01-6	67	10	S21020308.D
Tetrachloroethene	127-18-4	224	10	S21020308.D

Lab Sample ID:	0005603-05	SG-28	Method:	EPA 8260C
		Soil Gas		

Analyte	CAS#	Result (ng) Q	LOQ (ng)	File ID
Trichloroethene	79-01-6	15	10	S21020309.D
Tetrachloroethene	127-18-4	89	10	S21020309.D



AECOMProject Site:Westinghouse-CFFFBeacon Proposal:201103R03101 Research DriveProject Location:Hopkins, SCBeacon Project No.:0005603Columbia, SC 29203Project Manager:Jeremy GrantReported:02/12/2021

#### Summary of Compound Detections- Mass

Lab Sample ID: 0005603-06		SG-29 Soil Gas			Method:	EPA 82600
Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File	: ID
Trichloroethene	79-01-6	241		10	S21020	)310.D
Tetrachloroethene	127-18-4	3,420		10	S21020	)310.D
Lab Sample ID: 0005603-07		SG-30 Soil Gas			Method:	EPA 82600
Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File	· ID
Trichloroethene	79-01-6	17		10	S21020	0311.D
Tetrachloroethene	127-18-4	148		10	S21020	0311.D
Lab Sample ID: 0005603-08		SG-31 Soil Gas			Method:	EPA 82600
Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File	· ID
Tetrachloroethene	127-18-4	55		10	S21020	)312.D
Lab Sample ID: 0005603-09		SG-32			Method:	EPA 8260

Result

(ng)

17

298

2,900

Q

CAS#

156-59-2

79-01-6

127-18-4

0005603

Analyte

cis-1,2-Dichloroethene

Trichloroethene

Tetrachloroethene

File ID

S21020313.D

S21020313.D

S21020313.D

LOQ

(ng)

10

10

10



AECOMProject Site:Westinghouse-CFFFBeacon Proposal:201103R03101 Research DriveProject Location:Hopkins, SCBeacon Project No.:0005603Columbia, SC 29203Project Manager:Jeremy GrantReported:02/12/2021

### Summary of Compound Detections- Mass

Lab Sample ID: 0005603-10		SG-33 Soil Gas			Method: EPA 82600
Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1-Dichloroethene	75-35-4	11		10	S21020314.D
trans-1,2-Dichloroethene	156-60-5	38		10	S21020314.D
cis-1,2-Dichloroethene	156-59-2	129		10	S21020314.D
Trichloroethene	79-01-6	1,710		10	S21020314.D
Tetrachloroethene	127-18-4	7,110		10	S21020314.D
Lab Sample ID: 0005603-11		SG-34 Soil Gas			Method: EPA 82600
Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Tetrachloroethene	127-18-4	12		10	S21020315.D
Lab Sample ID: 0005603-12		SG-35 Soil Gas			Method: EPA 82600
Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Tetrachloroethene	127-18-4	224		10	S21020316.D
Lab Sample ID: 0005603-13		SG-36 Soil Gas			Method: EPA 82600
Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID

27

1,080

79-01-6

127-18-4

Trichloroethene

Tetrachloroethene

S21020317.D

S21020317.D

10

10



Trichloroethene

Tetrachloroethene

# **Map Report**

AECOMProject Site:Westinghouse-CFFFBeacon Proposal:201103R03101 Research DriveProject Location:Hopkins, SCBeacon Project No.:0005603Columbia, SC 29203Project Manager:Jeremy GrantReported:02/12/2021

## Summary of Compound Detections- Mass

Lab Sample ID: 0005603-14		SG-37 Soil Gas		Method: EPA 8260C
Analyte	CAS#	Result (ng) Q	LOQ (ng)	File ID
cis-1,2-Dichloroethene	156-59-2	90	10	S21020318.D

604

6,680

10

10

S21020318.D

S21020318.D

79-01-6

127-18-4

Lab Sample ID:	0005603-15	SG-38	Method:	EPA 8260C
		Soil Gas		

CAS#	Result (ng) Q	LOQ (ng) File ID
75-01-4	59	10 S21020319.D
75-35-4	45	10 S21020319.D
76-13-1	11	10 S21020319.D
156-60-5	6,720	10 S21020319.D
75-34-3	22	10 S21020319.D
156-59-2	5,840	10 S21020319.D
67-66-3	18	10 S21020319.D
79-01-6	10,100	10 S21020319.D
127-18-4	8,780	10 S21020319.D
	75-01-4 75-35-4 76-13-1 156-60-5 75-34-3 156-59-2 67-66-3 79-01-6	CAS#     (ng)     Q       75-01-4     59       75-35-4     45       76-13-1     11       156-60-5     6,720       75-34-3     22       156-59-2     5,840       67-66-3     18       79-01-6     10,100

Lab Sample ID: 0005603-16		SG-39 Soil Gas			Method: EPA	A 8260C
Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID	
Tetrachloroethene	127-18-4	24		10	S21020320.I	)

Lab Sample ID: 0005603-17		SG-40 Soil Gas			Method:	EPA 8260C
Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File	ID
Tetrachloroethene	127-18-4	221		10	S21020	)321.D



Tetrachloroethene

# **Map Report**

AECOMProject Site:Westinghouse-CFFFBeacon Proposal:201103R03101 Research DriveProject Location:Hopkins, SCBeacon Project No.:0005603Columbia, SC 29203Project Manager:Jeremy GrantReported:02/12/2021

## Summary of Compound Detections- Mass

Lab Sample ID: 0005603-18		SG-41 Soil Gas			Method: EPA 8260C
Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Trichloroethene	79-01-6	48		10	S21020322.D
Tetrachloroethene	127-18-4	1,220		10	S21020322.D
Lab Sample ID: 0005603-19		SG-42 Soil Gas			Method: EPA 8260C
Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Trichloroethene	79-01-6	20		10	S21020323.D

Lab Sample ID:	0005603-20	SG-43	Method:	EPA 8260C
		Soil Gas		

102

10

S21020323.D

127-18-4

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Trichloroethene	79-01-6	33		10	S21020324.D
Tetrachloroethene	127-18-4	1,080		10	S21020324.D

Lab Sample ID	: 0005603-21	SG-44 Method	: EPA 8260C
		Soil Gas	

Analyte	CAS#	Result (ng) Q	LOQ (ng)	File ID
Trichloroethene	79-01-6	66	10	S21020325.D
Tetrachloroethene	127-18-4	757	10	S21020325.D



AECOMProject Site:Westinghouse-CFFFBeacon Proposal:201103R03101 Research DriveProject Location:Hopkins, SCBeacon Project No.:0005603Columbia, SC 29203Project Manager:Jeremy GrantReported:02/12/2021

Lab Sample ID:	0005603-22	SG-45	Method:	EPA 8260C
		Soil Gas		

			* * * * * * * * * * * * * * * * * * * *	
Analyte	CAS#	Result (ng) Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	12	10	S21020326.D
trans-1,2-Dichloroethene	156-60-5	136	10	S21020326.D
cis-1,2-Dichloroethene	156-59-2	85	10	S21020326.D
Chloroform	67-66-3	17	10	S21020326.D
Trichloroethene	79-01-6	2,440	10	S21020326.D
Tetrachloroethene	127-18-4	8,590	10	S21020326.D

Lab Sample ID: 0005603-23		SG-46 Soil Gas			Method:	EPA 8260C
Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File	ID
Tetrachloroethene	127-18-4	121		10	S21020	327.D

Lab Sample ID:	0005603-25	SG-48	Method:	EPA 8260C
		Soil Gas		

CAS#	Result (ng)	Q	LOQ (ng)	File ID
75-01-4	10		10	S21020329.D
75-35-4	59		10	S21020329.D
156-60-5	245		10	S21020329.D
156-59-2	2,820		10	S21020329.D
79-01-6	4,860		10	S21020329.D
127-18-4	5,210		10	S21020329.D
	75-01-4 75-35-4 156-60-5 156-59-2 79-01-6	CAS# (ng)  75-01-4  10  75-35-4  59  156-60-5  245  156-59-2  2,820  79-01-6  4,860	CAS# (ng) Q  75-01-4 10 75-35-4 59 156-60-5 245 156-59-2 2,820 79-01-6 4,860	CAS#     (ng)     Q     (ng)       75-01-4     10     10       75-35-4     59     10       156-60-5     245     10       156-59-2     2,820     10       79-01-6     4,860     10

Lab Sample ID:	0005603-26	SG-49	Method:	EPA 8260C
		Soil Gas		

Analyte	CAS#	Result (ng) Q	LOQ (ng)	File ID
Trichloroethene	79-01-6	12	10	S21020330.D
Tetrachloroethene	127-18-4	57	10	S21020330.D



AECOMProject Site:Westinghouse-CFFFBeacon Proposal:201103R03101 Research DriveProject Location:Hopkins, SCBeacon Project No.:0005603Columbia, SC 29203Project Manager:Jeremy GrantReported:02/12/2021

Lab Sample ID: 0005603-27	S	G-49 Dup Soil Gas		Method: EPA 826		
Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID	
Tetrachloroethene	127-18-4	47		10	S21020331.D	
Lab Sample ID: 0005603-28		SG-50 Soil Gas			Method: EPA 82600	
Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID	
Trichloroethene	79-01-6	11		10	S21020332.D	
Tetrachloroethene	127-18-4	118		10	S21020332.D	

Lab Sample ID: 0005603-29		SG-51 Soil Gas			Method:	EPA 8260C
Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File	ID
Tetrachloroethene	127-18-4	24		10	S21020	333.D

Lab Sample ID:	0005603-30	SG-52	Method:	EPA 8260C
		Soil Gas		

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloroform	67-66-3	22		10	S21020334.D
Trichloroethene	79-01-6	18		10	S21020334.D
Tetrachloroethene	127-18-4	584		10	S21020334.D



AECOMProject Site:Westinghouse-CFFFBeacon Proposal:201103R03101 Research DriveProject Location:Hopkins, SCBeacon Project No.:0005603Columbia, SC 29203Project Manager:Jeremy GrantReported:02/12/2021

Lab Sample ID:	0005603-31	SG-53	Method:	EPA 8260C
		Soil Gas		

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Vinyl Chloride	75-01-4	32		10	S21020335.D
1,1-Dichloroethene	75-35-4	68		10	S21020335.D
trans-1,2-Dichloroethene	156-60-5	353		10	S21020335.D
cis-1,2-Dichloroethene	156-59-2	4,510		10	S21020335.D
Trichloroethene	79-01-6	4,240		10	S21020335.D
Tetrachloroethene	127-18-4	2,860		10	S21020335.D



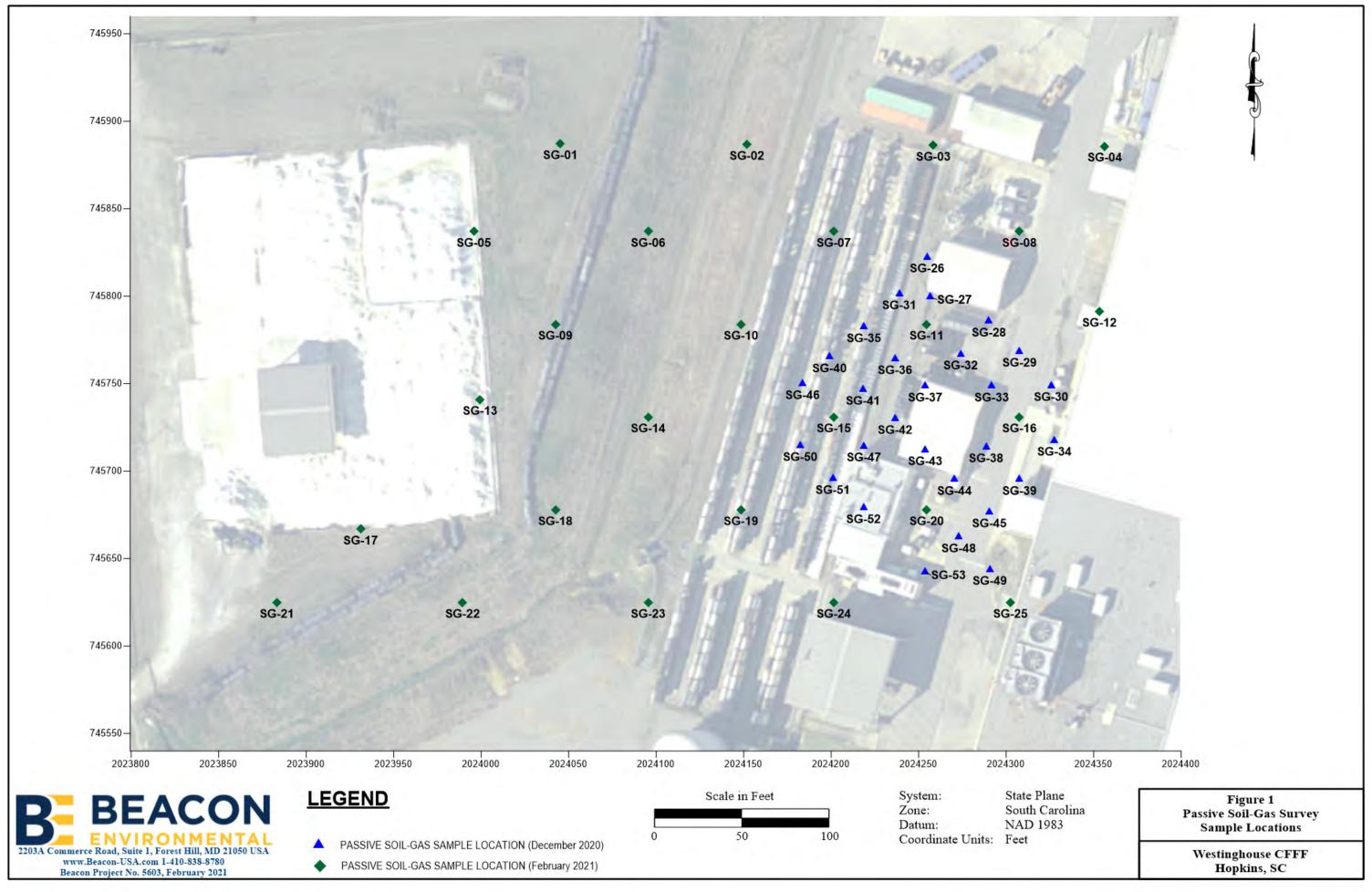
2203A Commerce Road, Suite 1 Forest Hill, MD 21050 USA 1.410.838.8780

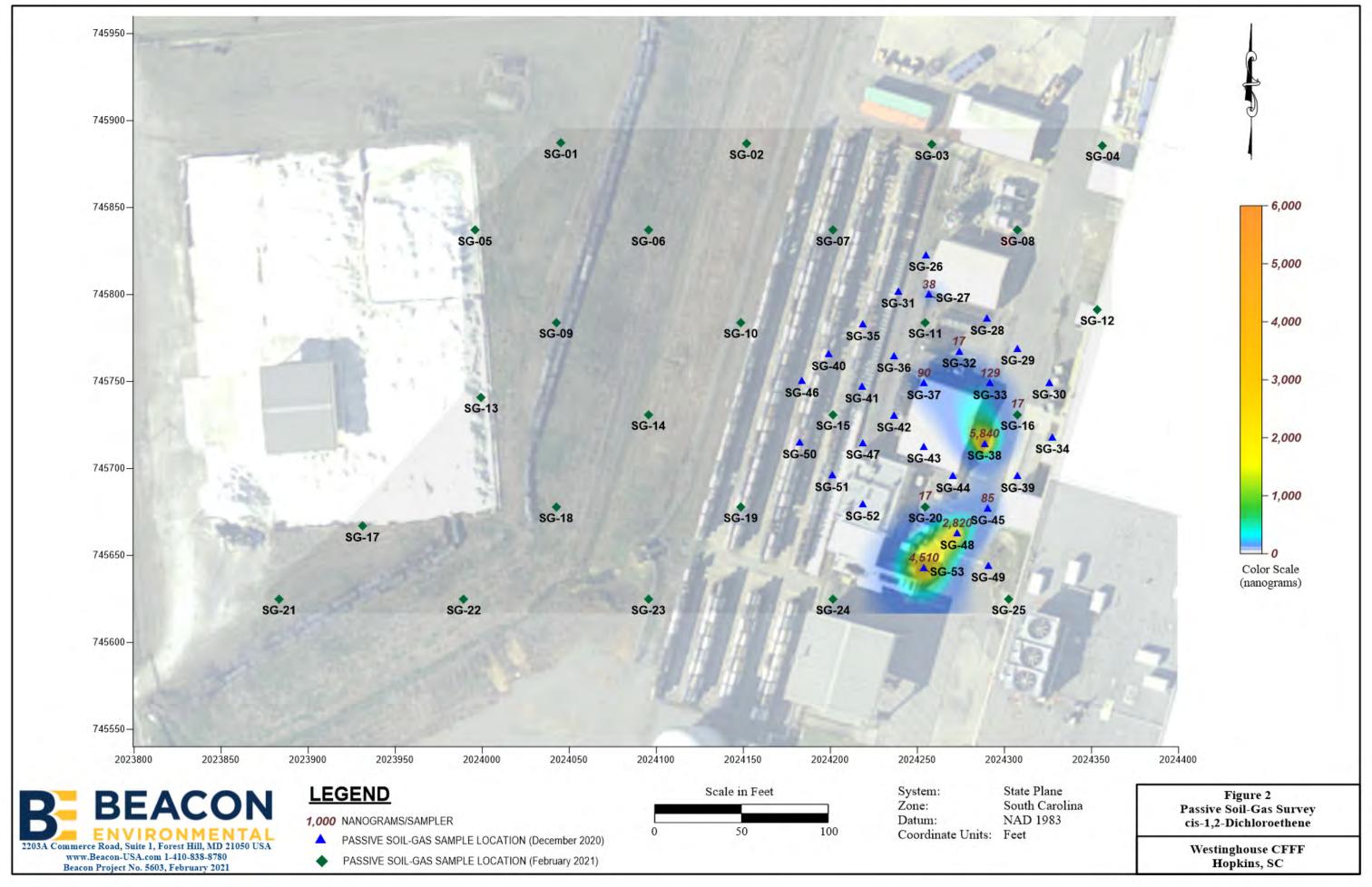
AECOMProject Site:Westinghouse-CFFFBeacon Proposal:201103R03101 Research DriveProject Location:Hopkins, SCBeacon Project No.:0005603Columbia, SC 29203Project Manager:Jeremy GrantReported:02/12/2021

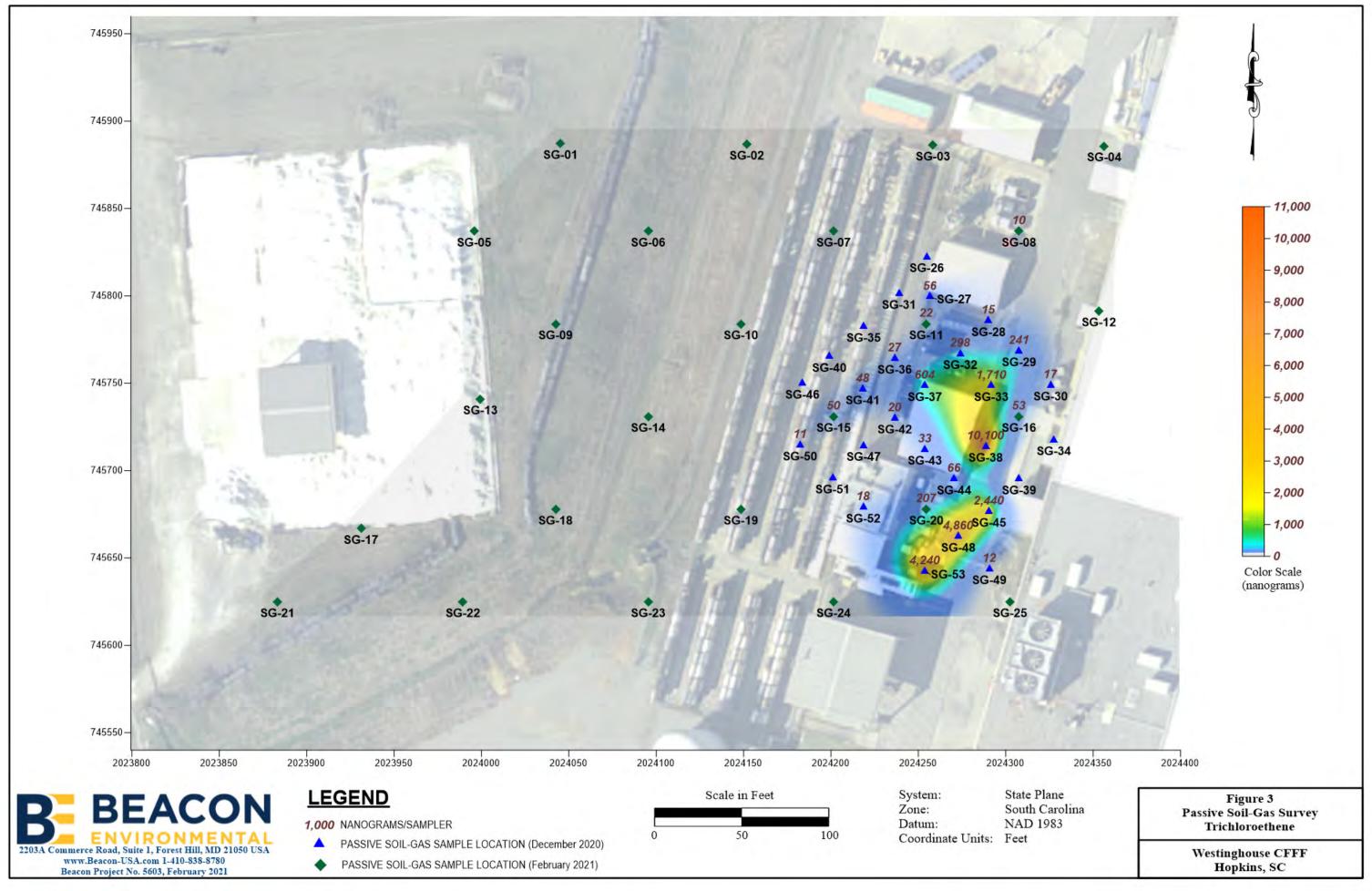
### Map Data Summary Table

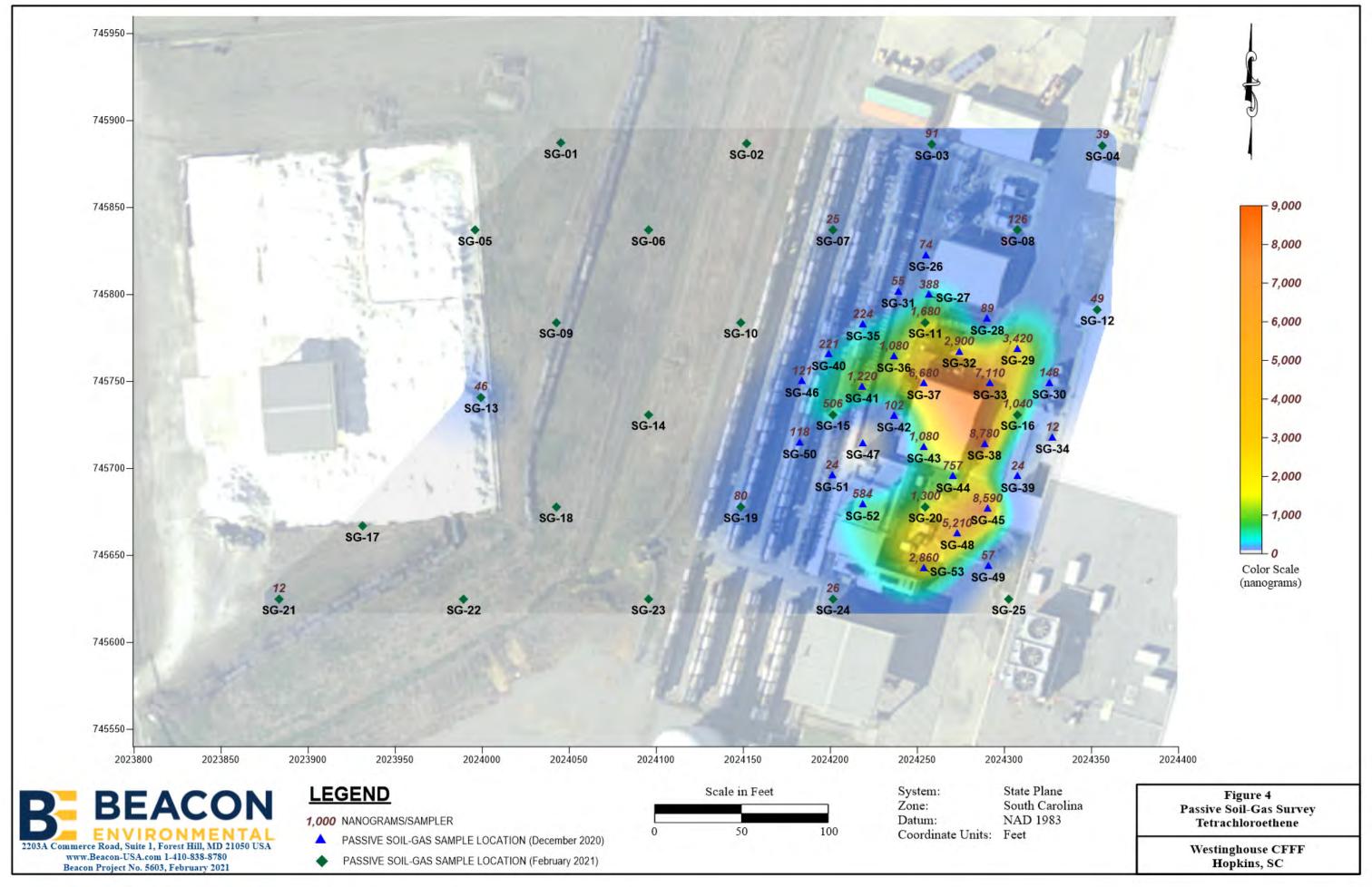
Sample locations are shown on **Figure 1**. The following table lists number of detections on field samples from the current survey, the reporting limit, and the maximum value for each mapped compound. The table also includes the transformation and interpolation method for the compound distribution maps provided.

Figure No.	Compound	Number of Detections	LOQ (ng)	Max Value (ng)	Transformation Method	Interpolation Method
2	cis-1,2-Dichloroethene	8	10	5,840	Log	Kriging
3	Trichloroethene	19	10	10,100	Log	Kriging
4	Tetrachloroethene	27	10	8,780	Log	Kriging









# **Attachment D**

Tabulated Groundwater Screening Results L-50, L-51 and L-56 through L-58

#### February 2021 Groundwater Screening Analytical Results Westinghouse Columbia Fuel Fabrication Facility, Hopkins, SC

	Location	L-50	L-50	L-50	L-51	L-51	L-56	L-56	L-56	L-57	L-57	L-58	L-58	L-58
	Date	2/19/2021	2/19/2021	2/19/2021	2/22/2021	2/22/2021	2/17/2021	2/17/2021	2/17/2021	2/16/2021	2/17/2021	2/16/2021	2/16/2021	2/16/2021
	Type	N	N	FD	N	N	N	N	N	N	N	N	N	N
I	Depth (feet)	20-24	46-50	46-50	21-25	41-45	22-26	33-37	41-45	26-30	42-46	23-27	31-35	40-44
Analyte	MCL													
1,1-Dichloroethene	7	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2-Dichloroethane	5	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
cis-1,2-Dichloroether	ne 70	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Tetrachloroethene	5	22	9	8.7	87	110	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
trans-1,2-Dichloroeth	ene 100	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Trichloroethene	5	< 1 U	< 1 U	< 1 U	2.2	1.8	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Vinyl chloride	2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U

#### Notes

Concentrations in micrograms per liter

N - normal sample

FD - field duplicate sample

MCL - Maximum Contaminant Level

Bold concentrations indicate detections

Concentrations in shaded cells exceed their MCL

U = not detected above reporting detection limit