

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Westinghouse Electric Company

5801 Bluff Rd.
Hopkins, SC 29061
Attention: Diana Joyner

Project Name: CVOC

Lot Number: **UH14136**

Date Completed: 08/16/2019



08/16/2019 3:55 PM

Approved and released by:
Project Manager: Grant Wilton



The electronic signature above is the equivalent of a handwritten signature.
This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010001

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative Westinghouse Electric Company Lot Number: UH14136

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary
Westinghouse Electric Company
Lot Number: UH14136
Project Name: CVOC
Project Number:

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	L-1 (10-15)	Aqueous	08/14/2019 1500	08/14/2019
002	L-1 (28-33)	Aqueous	08/14/2019 1612	08/14/2019
003	L-1 (48-53)	Aqueous	08/14/2019 1802	08/14/2019
004	TB-1	Aqueous	08/14/2019 1810	08/14/2019

(4 samples)

SHEALY ENVIRONMENTAL SERVICES, INC.

Detection Summary
Westinghouse Electric Company
Lot Number: UH14136
Project Name: CVOC
Project Number:

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
002	L-1 (28-33)	Aqueous	cis-1,2-Dichloroethene	8260D	3.8		ug/L	6
002	L-1 (28-33)	Aqueous	Vinyl chloride	8260D	2.7		ug/L	6

(2 detections)

Volatile Organic Compounds by GC/MS

Client: Westinghouse Electric Company	Laboratory ID: UH14136-001
Description: L-1 (10-15)	Matrix: Aqueous
Date Sampled: 08/14/2019 1500	Project Name: CVOC
Date Received: 08/14/2019	Project Number:

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	08/15/2019 2223	STM		26047

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	Units	Run
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	ug/L	1
Tetrachloroethene	127-18-4	8260D	ND		1.0	ug/L	1
Trichloroethene	79-01-6	8260D	ND		1.0	ug/L	1
Vinyl chloride	75-01-4	8260D	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		112	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		100	70-130

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range
 ND = Not detected at or above the LOQ N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40%
 H = Out of holding time W = Reported on wet weight basis

Shealy Environmental Services, Inc.
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Volatile Organic Compounds by GC/MS

Client: Westinghouse Electric Company	Laboratory ID: UH14136-002
Description: L-1 (28-33)	Matrix: Aqueous
Date Sampled: 08/14/2019 1612	Project Name: CVOC
Date Received: 08/14/2019	Project Number:

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	08/15/2019 2246	STM		26047

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	Units	Run
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	3.8		1.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	ug/L	1
Tetrachloroethene	127-18-4	8260D	ND		1.0	ug/L	1
Trichloroethene	79-01-6	8260D	ND		1.0	ug/L	1
Vinyl chloride	75-01-4	8260D	2.7		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		117	70-130
Toluene-d8		96	70-130

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range
 ND = Not detected at or above the LOQ N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40%
 H = Out of holding time W = Reported on wet weight basis

Shealy Environmental Services, Inc.
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Volatile Organic Compounds by GC/MS

Client: Westinghouse Electric Company	Laboratory ID: UH14136-003
Description: L-1 (48-53)	Matrix: Aqueous
Date Sampled: 08/14/2019 1802	Project Name: CVOC
Date Received: 08/14/2019	Project Number:

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	08/15/2019 2311	STM		26047

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	Units	Run
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	ug/L	1
Tetrachloroethene	127-18-4	8260D	ND		1.0	ug/L	1
Trichloroethene	79-01-6	8260D	ND		1.0	ug/L	1
Vinyl chloride	75-01-4	8260D	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		117	70-130
Toluene-d8		97	70-130

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range
 ND = Not detected at or above the LOQ N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40%
 H = Out of holding time W = Reported on wet weight basis

Shealy Environmental Services, Inc.
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Volatile Organic Compounds by GC/MS

Client: Westinghouse Electric Company	Laboratory ID: UH14136-004
Description: TB-1	Matrix: Aqueous
Date Sampled: 08/14/2019 1810	Project Name: CVOC
Date Received: 08/14/2019	Project Number:

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	08/15/2019 2159	STM		26047

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	Units	Run
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	ug/L	1
Tetrachloroethene	127-18-4	8260D	ND		1.0	ug/L	1
Trichloroethene	79-01-6	8260D	ND		1.0	ug/L	1
Vinyl chloride	75-01-4	8260D	ND		1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		112	70-130
Toluene-d8		94	70-130

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range
 ND = Not detected at or above the LOQ N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40%
 H = Out of holding time W = Reported on wet weight basis

Shealy Environmental Services, Inc.
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

**Chain of Custody
and
Miscellaneous Documents**



Chain of Custody Record

SHEALY ENVIRONMENTAL SERVICES, INC.
 106 Vantage Point Drive • West Columbia, SC 29172
 Telephone No. 803-791-8700 Fax No. 803-791-9111
 www.shealylab.com

Number 101199

Client: Westinghouse Columbia Fuel Fabrication Facility Address: 5801 Bluff Road City: Hopkins State: SC Zip Code:	Report to Contact: Diana Joyner Sample's Signature: <i>Charles K Suddeth</i> Printed Name: Charles K Suddeth	Telephone No. / E-mail: 803-647-1920 / joynerdp@westinghouse.com Analyze (Attach list if more space is needed)	Quote No.: Page: 1 of 1 UH14136 C/W: _____ Remarks / Cooler I.D.: _____
Project No.: _____ Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	No. of Containers by Preservative Type
L-1 (10-15)	8/14/19	1500	HCL 3 HNO3 H2O2 H2SO4 H3PO4 H2O
L-1 (28-33)	8/14/19	1612	HCL 3 HNO3 H2O2 H2SO4 H3PO4 H2O
L-1 (48-53)	8/14/19	1802	HCL 3 HNO3 H2O2 H2SO4 H3PO4 H2O
TB-1	8/14/19	1810	HCL 2 HNO3 H2O2 H2SO4 H3PO4 H2O
Analyze for Chlorinated VOCs only			

Turn Around Time Required (Prior lab approval required for expedited MAT.) <input type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush (Specify) 24 hr (ASAP)	Sample Disposal <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab	Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison <input type="checkbox"/> Unknown	OC Requirements (Specify)
1. Relinquished by: <i>Charles K Suddeth</i> Date: 8/14/19 Time: 12:07	1. Received by: _____ Date: _____ Time: _____	1. Received by: _____ Date: _____ Time: _____	Date: _____ Time: _____
2. Relinquished by: _____ Date: _____ Time: _____	2. Received by: _____ Date: _____ Time: _____	2. Received by: _____ Date: _____ Time: _____	Date: _____ Time: _____
3. Relinquished by: _____ Date: _____ Time: _____	3. Received by: _____ Date: _____ Time: _____	3. Received by: _____ Date: _____ Time: _____	Date: _____ Time: _____
4. Relinquished by: _____ Date: _____ Time: _____	4. Laboratory received by: <i>Jarby Nusto</i> Date: 8/14/19 Time: 1907	4. Laboratory received by: _____ Date: _____ Time: _____	Date: _____ Time: _____

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAG USE ONLY: Yes No
 Receipt Temp: **5.0 °C**

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
Document Number: ME001 RC-14

Page 1 of 1
Effective Date: 8/2/2018

Sample Receipt Checklist (SRC)

Client: Westinghouse Columbia Fuel Cooler Inspected by/date: DMN / 08/14/19 Lot #: UH14136

Means of receipt: <input type="checkbox"/> SESI <input checked="" type="checkbox"/> Client <input type="checkbox"/> LPS <input type="checkbox"/> FedEx <input type="checkbox"/> Other: _____	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1. Were custody seals present on the cooler?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	2. If custody seals were present, were they intact and unbroken?
pH Strip ID: NA Chlorine Strip ID: NA Tested by: NA	
Original temperature upon receipt / Derived (Corrected) temperature upon receipt %Solid Snap-Cup ID: NA	
5.0 / 5.0 °C NA / NA °C NA / NA °C NA / NA °C	
Method: <input type="checkbox"/> Temperature Blank <input checked="" type="checkbox"/> Against Bottles IR Gun ID: 5 IR Gun Correction Factor: 0 °C	
Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Ice Packs <input type="checkbox"/> Dry Ice <input type="checkbox"/> None	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	4. Is the commercial courier's packing slip attached to this form?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5. Were proper custody procedures (retinquished/received) followed?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6. Were sample IDs listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7. Were sample IDs listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8. Was collection date & time listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9. Was collection date & time listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10. Did all container label information (ID, date, time) agree with the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11. Were tests to be performed listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13. Was adequate sample volume available?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA	16. For VOA and RSK-175 samples, were bubbles present >"pca-size" (¼" or 6mm in diameter) in any of the VOA vials?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	19. Were all applicable NH ₃ /TKN/cyanide/phenol/625 (< 0.5mg/l.) samples free of residual chlorine?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	20. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	21. Was the quote number listed on the container label? If yes, Quote # NA
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)	
Sample(s) NA were received incorrectly preserved and were adjusted accordingly in sample receiving with NA mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # NA	
Time of preservation NA. If more than one preservative is needed, please note in the comments below.	
Sample(s) NA were received with bubbles >6 mm in diameter.	
Samples(s) NA were received with TRC > 0.5 mg/L (If #19 is no) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na ₂ S ₂ O ₃) with Shealy ID: NA	
SR barcode labels applied by: BMG Date: 08/14/19	
Comments:	