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GOLDER

REPORT

2018 GROUNDWATER MONITORING SUMMARY REPORT

Former Electrolux Home Products, Inc. Facility

Jefferson, Iowa

Submitted to:

Electrolux Home Products, Inc.
10200 David Taylor Drive
Charlotte, NC 28262

Submitted by:

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Distribution List

Doug Ucci -- BSI Services and Solutions East Inc.

Doug Arnold -- Alston & Bird LLP

GOLDER

January 24, 2019

Project No.: 103-87305.02

Andrew Stienecker, Associate General Counsel
Electrolux Home Products, Inc.
10200 David Taylor Drive
Charlotte, NC 28262

**RE: 2018 GROUNDWATER MONITORING SUMMARY REPORT
FORMER ELECTROLUX HOME PRODUCTS, INC. FACILITY
JEFFERSON, IOWA**

Dear Andrew:

Golder Associates Inc. (Golder) is pleased to present this 2018 Groundwater Monitoring Summary Report for the former Electrolux Home Products, Inc. facility located in Jefferson, Iowa (Site), which summarizes groundwater monitoring activities completed during 2018. Please contact the undersigned if you have any questions.

Sincerely,

GOLDER ASSOCIATES INC.

James S. Peace, PG
Senior Hydrogeologist

Alistair P. T. Macdonald, CPG, LSP
Senior Program Leader and Principal

Attachments

cc: Doug Ucci – BSI Services and Solutions East Inc.
Doug Arnold – Alston & Bird LLP

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1.0 INTRODUCTION

The former Electrolux Home Products, Inc. (Electrolux) manufacturing facility is located at 601 East Central Street in Jefferson, Greene County, Iowa (Site) (see Figure 1). Approximately 7.5 acres of the 20.75-acre property owned by Electrolux was used for manufacturing (herein referred as the "facility" or ("former manufacturing area"). Electrolux previously leased the remainder of the property, south and east of the facility for agricultural use (see Figure 2). The agricultural leases have since been terminated. The former manufacturing area was previously improved by a 75,542 square-foot single-story manufacturing/office/warehouse building constructed in 1960, with additions constructed in 1973, 1984, 1988, and 1992 (see Figure 3).

The Site was developed in 1960 to manufacture dishwasher motor transmissions. Electrolux closed the facility in March 2011, decommissioned and removed the manufacturing equipment and other items from the facility buildings, and demolished the buildings. The concrete building slabs, parking areas, perimeter chain-link fence, and sidewalks are still in place.

2.0 GROUNDWATER MONITORING

Golder sampled groundwater twice in 2018 in accordance with the Groundwater Monitoring Plan (GMP) dated June 7, 2017 (Golder. 2017) and recommendations provided in the 2017 Annual Report. The first sampling event occurred on July 24 and 25, 2018. The second sampling event occurred on November 5 and 6, 2018. The groundwater monitoring events included:

- Collecting a round of water level measurements from nine monitoring wells screened in the yellow/brown till and one monitoring well screened in the Pleistocene Sand and Gravel unit prior to groundwater sampling.
- Collecting groundwater samples from the eight monitoring wells illustrated in Figure 3.
- Groundwater and Quality Assurance/Quality Control (QA/QC) samples collected during the July sampling event were submitted to state-certified laboratories for analysis of volatile organic compounds (VOCs) and monitored natural attenuation (MNA) parameters including dissolved gases (methane, ethane, and ethene), chloride, sulfate, sulfide, alkalinity, iron, manganese, and total organic carbon (TOC).
- Groundwater and QA/QC samples collected during the November sampling event were submitted to a state-certified laboratory for analysis of VOCs.

Golder collected groundwater samples using a bladder pump and EPA low-flow sampling techniques in accordance with the GMP. Each well was purged under low-flow conditions until field water quality parameters stabilized to within 10% of the previous reading. Flow rates ranged from 100 milliliters per minute (ml/min) to 800 ml/min. Golder collected the groundwater samples following the stabilization of field water quality parameters. A copy of the groundwater collection forms is provided in Appendix A. Following sample collection, Golder placed the samples on ice and met a courier to transport the samples to TestAmerica Laboratories, Inc. in Cedar Falls, Iowa (TestAmerica). Golder shipped the dissolved gas samples to Pace Analytical in Pittsburgh, PA via FedEx.

2.1 Summary of Analytical Results

Groundwater analytical results for 2018 and previous sampling events are summarized in Table 1 (VOCs and field water quality parameters) and Table 2 (MNA parameters). Laboratory analytical reports are provided in Appendix B. United States Environmental Protection Agency (USEPA) Maximum Concentration Levels (EPA MCLs) and/or Iowa Department of Natural Resources (IDNR) statewide groundwater standards are included in Table 1 to provide a frame-of-reference for data evaluation.

The 2018 analytical results are consistent with previous results. The CVOC-impacted groundwater remains on Site and has not impacted the Pleistocene Sand and Gravel aquifer. MNA data indicates that natural attenuation is occurring on Site.

2.2 Quality Assurance/Quality Control

An integral component of the sampling program is the implementation of a QA/QC program. Golder collected the following field QA/QC samples to confirm sample collection, handling, and storage methods are adequate to assess sample integrity:

- Golder collected one field duplicate during each sampling round. Golder calculated the relative percent difference (RPD) value for each analyzed parameter from the sample collected from MW-47D in July 2018. The RPDs were within the tolerance interval of 20% for all analyzed parameters with the exception of trans-1,2-dichloroethane (trans-1,2-DCE - 25%). The trans-1,2-DCE results are considered estimated.
- Golder collected an equipment blank during each sample round. TestAmerica detected cis-1,2-dichloroethene (cis-1,2-DCE) above the reporting limit in both the equipment blank collected in July 2018 and the equipment blank collected in October 2018. Pace detected low levels of the dissolved gases in the equipment blank collected in July 2018. The associated sample results are potentially biased high.
- Golder included a VOC trip blank with each set of samples. TestAmerica did not detect any VOCs at concentrations above the reporting limits in any trip blanks.

Golder reviewed the chain-of-custody forms for completeness and lapses in chain-of-custody protocols. Golder found the forms complete and did not identify lapses in custody. TestAmerica and Pace received each of the coolers at temperatures of 6°Celsius (C) or cooler, consistent with current EPA protocols that specify a temperature range of 4°C ±2°C.

3.0 CLOSING

Golder completed the 2018 semi-annual monitoring events in accordance with the GMP and recommendations provided in the 2017 Annual Report. The 2018 analytical data are consistent with previous results confirming that the groundwater plume is stable and naturally attenuating. The horizontal and vertical extent of CVOC-impacted groundwater is well understood and remains on Site. The United States Environmental Protection Agency (USEPA) confirmed Electrolux's findings that groundwater impacts have not migrated beyond the Site boundary by completing two groundwater assessment studies performed by their subcontractor Toeroek Associates, Inc. (Toeroek) including:

- *Groundwater Sampling Event Report of Findings, Rev. 01*, Former Electrolux, Inc. Facility, Jefferson, Iowa, Contract No. EP-W-13-002, Task Order 035, Technical Directive No. 4, June 2, 2017.
- *Monitoring Well Installation and Groundwater Sampling Event Final Report of Findings*, Former Electrolux, Inc. Facility, Jefferson, Iowa, Contract No. EP-W-13-002, Task Order 035, Technical Directive No. 8, July 26, 2018.

CVOCs have never been detected in the Pleistocene Sand and Gravel Aquifer groundwater samples at concentrations above the laboratory reporting limits. The Pleistocene Sand and Gravel Aquifer is the only potential exposure pathway identified on Site.

4.0 REFERENCES

Golder Associates, 2017, "Groundwater Monitoring Plan, Former Electrolux Home Products, Inc. Facility, Jefferson, Iowa" June 7, 2017.

Golder Associates, 2017, "Groundwater Monitoring Summary Report, Former Electrolux Home Products, Inc. Facility, Jefferson, Iowa" January 23, 2018

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TABLES

Table 1: Summary of Detected Constituents in Groundwater
Former Electrolux Manufacturing Facility
Jefferson, Iowa

			Yellow-Brown Till																								
			MW-43D												MW-46												
			Dec 2012	Mar 2013	Oct 2013	Apr 2014	Jul 2014	Oct 2014	Jul 2017	Nov 2017	Jul 2018	Nov 2018	Dec 2012		Mar 2013	Oct 2013	Apr 2014	Jul 2014		Oct 2014	Jul 2017	Nov 2017		Jul 2018	Nov 2018
Analyte	**MCL**	**Iowa DNR**	N	FD	N	N	N	N	N	N	N	N	N	FD	N	N	N	N	FD	N	N	FD	N	N	N
Volatile Organic Compounds (ug/L)																											
Tetrachloroethene	**5**	**1,700**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**13.2**	**10.5**	**<10**	**14.7**	1.23	<10	**11.5**	**<100**	**23.4**	**18.4**	**<100**	**11.6**	**<100**
Trichloroethene	**5**	**75**	**9.13**	4.7	4.7	2.28	<1	<1	<1	<1	<1	<1	3.03	**16,100**	**15,400**	**2,140**	**15,900**	**1,640**	**313**	**21,000**	**14,700**	**19,700**	**14,900**	**13,300**	**10,200**	**14,300**
cis-1,2-Dichloroethene	**70**	**350**	<1	<1	<1	<1	<1	<1	<1	<1	5.23	12.1	**38.7**	<100	**290**	**1,950**	**424**	**74.5**	**359**	**883**	**1,230**	**522**	**445**	**569**	**359**
Vinyl Chloride	**2**	**10**	<1	<1	<1	<1	<1	<1	<1	<1	<1	**3.59**	<1	<1	<10	1.05	<1	<10	<10	<100	<10	1.09	<100	<100	<100
1,1,1-Trichloroethane	**200**	70,000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<10	<10	<100	<1	<1	<100	<1	<100
1,1,2-Trichloroethane	**5**	61	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<10	<10	<100	<1	<1	<100	<1	<100
1,1-Dichloroethane	NS	700	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<10	<10	<100	<1	<1	<100	<1	<100
1,1-Dichloroethene	**7**	**180**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	5.85	6.44	**<20**	**10.4**	**2.61**	**<20**	**<20**	**<200**	**12.3**	**8.79**	**<200**	6.04	<100
1,2-Dichloroethane	**5**	38	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<10	<10	<100	<1	<1	<100	<1	<100
2-Butanone	NS	21,000	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100	<10	<10	<100	<100	<1000	<10	<10	<1000	<10	<1000
Acetone	NS	32,000	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100	<10	<10	<100	<100	<1000	<10	<10	<1000	<10	<1000
Benzene	**5**	64	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<5	<5	**<50**	<0.5	<0.5	<50	<0.5	<50
Carbon Disulfide	NS	3,500	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<10	<10	<100	<1	<1	<100	<1	<100
Chloroform	**80**	NS	7.99	3.4	3.56	1.61	<1	<1	<1	<1	<1	<1	<3	1.72	1.88	<10	<1	<1	<10	<10	<100	<1	<1	<100	<3	<300
Toluene	1,000	5,000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<10	<10	<100	<1	<1	<100	<1	<100
trans-1,2-Dichloroethene	**100**	**700**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	3.11	4.09	<10	23.7	3.71	<10	<10	<100	15.3	7.55	<100	<100	<100
Xylenes, Total	10,000	50,000	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<30	<3	<3	<30	<30	<300	<3	<3	<300	<3	<300
Field Parameters																											
pH	NS	NS	7.34	-	7.04	7.06	7.34	6.92	7.03	7.34	6.69	6.79	6.65	6.97	-	7.04	6.81	7.11	6.93	-	6.93	7.06	-	6.87	6.99	6.56
Specific conductance (mS/cm)	NS	NS	0.870	-	0.790	0.782	0.715	0.721	0.741	0.729	0.81	0.851	0.754	0.563	-	0.771	0.719	0.692	0.76	-	0.770	0.880	-	0.810	0.825	0.802
Temperature (Degrees Celsius)	NS	NS	12.00	-	10.20	15.07	12.25	13.86	14.2	17.72	14.4	16.58	13.85	8.4	-	10.97	17.2	12.8	15	-	15.3	21.19	-	14.23	15.49	12.92
ORP (millivolts)	NS	NS	56.1	-	51.7	-76	58.2	191.5	-81.4	114.6	-16.4	183.6	57.2	40.2	-	-36.0	-94.5	-3.1	-24.4	-	-79.2	4.2	-	50.0	134.9	16.1
DO (mg/L)	NS	NS	2.68	-	1.77	0.26	2.35	0.72	0.24	2.78	0.45	0.3	0.47	0.5	-	0.49	0.2	0.02	0.33	-	0.14	0.55	-	1.97	0.5	2.77

Notes:
ug/L = microgram per liter
mS/cm = milliSiemens per centimeter
mg/L = milligrams per liter
MCL = Environmental Protection Agency's Maximum Contaminant Level 1
Iowa DNR = Statewide Groundwater Standard
Bold = Result above MCL and/or Iowa DNR
NS = No standard
NR = Not recorded
N = normal sample
FD = field duplicate sample

Table 1: Summary of Detected Constituents in Groundwater
Former Electrolux Manufacturing Facility
Jefferson, Iowa

			Yellow-Brown Till																													
			MW-47D														MW-56D						MW-57									
			Dec 2012		Mar 2013	Oct 2013	Apr 2014		Jul 2014	Oct 2014	Dec 2014	Mar 2015	Jul 2017	Nov 2017	Jul 2018		Nov 2018	Mar 2013	Jul 2017	Nov 2017	Jul 2018	Nov 2018	Mar 2013	Apr 2014		Jul 2014	Oct 2014	Jul 2017	Nov 2017	Jul 2018	Nov 2018
Analyte	**MCL**	**Iowa DNR**	N	FD	N	N	N	FD	N	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	FD	N	N	N	N	N	N
Volatile Organic Compounds (ug/L)																																
Tetrachloroethene	**5**	**1,700**	**<1000**	**<1000**	**<100**	**6.98**	3.56	3.47	<100	**4.04**	<100	4.84	3.91	<100	2.13	2.35	<10	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	1.02	<10	<1	<10
Trichloroethene	**5**	**76**	**43,300**	**42,700**	**32,000**	**10,200**	**43,100**	**43,200**	**25,300**	**26,700**	**25,500**	**28,800**	**25,800**	**18,500**	**15,000**	**15,200**	**20,500**	<1	<1	<1	<1	<1	**672**	**865**	**953**	**1,100**	**853**	**919**	**576**	**689**	**543**
cis-1,2-Dichloroethene	**70**	**350**	**5,480**	**4,900**	**7,340**	**5,500**	**21,900**	**19,500**	**20,900**	**26,800**	**35,700**	**37,000**	**94,400**	**84,000**	**70,900**	**74,400**	**79,000**	<1	<1	<1	<1	<1	4.34	6.11	7.91	<10	8.78	6.53	<10	13.7	<10
Vinyl Chloride	**2**	**10**	<1000	<1000	<100	**134**	**392**	**388**	**452**	**567**	**503**	**491**	**1,500**	**3,310**	**10,600**	**11,100**	**11,600**	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<10	<1	<10
1,1,1-Trichloroethane	**200**	70,000	<1000	<1000	<100	<1	<1	<1	<100	<1	<100	<1	<1	<100	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<10	<1	<10
1,1,2-Trichloroethane	**5**	61	<1000	<1000	<100	<1	<1	<1	<100	<1	<100	<1	<1	<100	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<10	<1	<10
1,1-Dichloroethane	NS	700	<1000	<1000	<100	<1	<1	<1	<100	<1	<100	<1	<1	<100	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<10	<1	<10
1,1-Dichloroethene	**7**	**180**	<2000	<2000	<200	**116**	**175**	**176**	<200	**123**	<200	**110**	**158**	**<200**	**168**	**162**	**141**	<2	<2	<2	<2	<2	<2	2.97	2.64	<20	<2	<2	<20	<2	<20
1,2-Dichloroethane	**5**	38	<1000	<1000	<100	<1	<1	<1	<100	<1	<100	<1	<1	<100	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<10	<1	<10
2-Butanone	NS	21,000	<10000	<10000	<1000	<10	<10	<10	<1000	<10	<1000	<10	<10	<1000	<10	<10	<100	<10	<10	<10	<10	<10	<10	<10	<10	<100	<10	<10	<100	<10	<100
Acetone	NS	32,000	<10000	<10000	<1000	<10	<10	<10	<1000	<10	<1000	<10	<10	<1000	<10	<10	<100	<10	<10	<10	<10	<10	<10	<10	<10	<100	<10	<10	<100	<10	<100
Benzene	**5**	64	**<500**	**<500**	**<50**	<0.5	<0.5	<0.5	<50	<0.5	<50	<0.5	<0.5	<50	0.581	0.554	<5	<0.5	<0.5	0.5	0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<5	<0.5	<5
Carbon Disulfide	NS	3,500	<1000	<1000	<100	<1	<1	<1	<100	<1	<100	<1	<1	<100	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<10	<1	<10
Chloroform	**80**	NS	**<1000**	**<1000**	**<100**	<1	<1	<1	<100	<1	<100	<1	<1	<100	<1	<1	<30	1.96	<1	<1	<1	<3	<1	<1	<1	<10	<1	<1	<10	<1	<30
Toluene	1,000	5,000	<1000	<1000	<100	<1	<1	<1	<100	<1	<100	<1	<1	<100	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<10	<1	<10
trans-1,2-Dichloroethene	**100**	**700**	**<1000**	**<1000**	<100	**182**	**343**	**161**	<100	**577**	**124**	**321**	**417**	**356**	**545**	**704**	**464**	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<10	<1	<10
Xylenes, Total	10,000	50,000	<3000	<3000	<300	<3	<3	<3	<300	<3	<300	<3	<3	<300	<3	<3	<30	<3	<3	<3	<3	<3	<3	<3	<3	<30	<3	<3	<30	<3	<30
Field Parameters																																
pH	NS	NS	7.2	-	7.11	7.06	6.98	-	7.02	6.89	7.25	6.74	7.13	6.09	6.84	-	6.61	7.91	7.46	6.93	6.44	7.24	7.1	7.07	-	6.97	6.93	7.15	6.76	6.71	6.61
Specific conductance (mS/cm)	NS	NS	0.74	-	0.982	1.462	1.238	-	1.119	1.330	1.340	1.310	1.650	1.607	1.608	-	1.451	0.685	0.867	1.024	1.000	0.904	0.619	0.792	-	0.821	0.792	0.846	0.848	0.942	0.801
Temperature (Degrees Celsius)	NS	NS	14.56	-	12.6	19.58	13.62	-	19.04	16.8	12.47	12.38	18.9	14.74	19.03	-	14.37	9.49	14.71	10.95	15.65	13.62	11.95	12.06	-	14.11	15.2	14.68	13.27	16.43	13.67
ORP (millivolts)	NS	NS	-155	-	-19.5	-25.7	-26.3	-	50.4	-122.9	-26	-41	-72.4	-35	-41	-	-40.2	26.1	64.7	-57.3	177.8	136.6	21.0	11.3	-	12.8	-74	-15.6	10.3	49.4	13.3
DO (mg/L)	NS	NS	0.29	-	0.45	0.24	0.40	-	0.32	0.17	0.00	0.00	0.62	0.44	0.31	-	2.30	0.64	3.77	0.34	0.29	1.53	0.34	0.38	-	0.42	0.16	0.23	0.35	0.34	0.39

Notes:
ug/L = microgram per liter
mS/cm = milliSiemens per centimeter
mg/L = milligrams per liter
MCL = Environmental Protection Agency's Maximum Contaminant Level 1
Iowa DNR = Statewide Groundwater Standard
Bold = Result above MCL and/or Iowa DNR
NS = No standard
NR = Not recorded
N = normal sample
FD = field duplicate sample

Table 1: Summary of Detected Constituents in Groundwater
Former Electrolux Manufacturing Facility
Jefferson, Iowa

			Yellow-Brown Till							Dark Gray Till															Pleistocene Sand and Gravel							
			MW-66							MW-65															MW-67							
			Nov 2015	Jul 2016		July 2017	Nov 2017	Jul 2018	Nov 2018	Oct 2013	Apr 2014	Jul 2014	Oct 2014		Dec 2014		Mar 2015		Jul 2016	Jul 2017	Nov 2017	Jul 2018	Nov 2018	Nov 2015	Jul 2016	Jul 2017		Nov 2017	Jul 2018	Nov 2018
Analyte	MCL	Iowa DNR	N	N	FD	N	N	N	N	N	N	N	FD	N	N	FD	N	FD	N	N	N	N	N	N	N	FD	N	FD	N	N	N	N
Volatile Organic Compounds (ug/L)																																
Tetrachloroethene	5	1,700	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	79	3.94	8.38	8.79	7.85	11.5	11.3	16.7	<1	2.42	44.7	799	826	1,730	1,630	2,370	2,340	2,420	1,670	3,230	3,400	2,960	3,010	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	70	350	<1	<1	<1	<1	<1	<1	<1	<1	1.27	2.17	15	17.1	22.8	20.6	29.7	28.1	61.3	799	121	3.96	395	279	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	2	98	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.41	1.32	1.69	1.9	<1	1.33	2.1	<100	49.8	49.8	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	200	70,000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	61	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	NS	700	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	7	700	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<20	<2	<2	<2	<2	<2	<2	<2	<2
1,2-Dichloroethane	5	38	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	NS	21,000	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100	<100	<10	<10	<10	<10	<10	<10	<10	<10
Acetone	NS	32,000	<10	<10	<10	<10	<10	<10	<90	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100	<900	<10	<10	<10	<10	<10	<10	<10	<10
Benzene	5	84	<0.5	<0.5	<0.5	<0.5	0.5	0.5	<.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	9.706	<0.5	0.5	<0.5	<5	<5	<0.5	<0.5	<0.5	<0.5	0.5	0.5	0.5	<0.5
Carbon Disulfide	NS	3,500	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	80	80	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<30	<30	2.05	2.2	<1	<1	<1	<1	<1	<3
Toluene	1,000	5,000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<30	<10	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	100	700	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.99	11.3	10.8	<100	17.4	16.4	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, Total	10,000	50,000	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<30	<30	<3	<3	<3	<3	<3	<3	<3	<3
Field Parameters																																
pH	NS	NS	8.58	8.79	-	8.99	8.87	8.78	8.55	8.67	8.98	8.92	-	7.02	7.20	-	8.66	-	8.87	7.04	6.50	8.90	5.91	-	7.11	-	6.88	7.01	-	8.7	8.46	8.39
Specific conductance (mS/cm)	NS	NS	0.755	0.845	-	0.806	0.287	0.861	0.815	0.757	0.777	0.912	-	0.94	0.951	-	0.998	-	0.955	0.980	1.035	1.002	0.940	-	0.891	-	0.980	0.909	-	1.022	0.999	0.973
Temperature (Degrees Celsius)	NS	NS	12.13	13.91	-	14.24	11.16	15.71	12.10	18.97	18.90	17.73	-	18.30	8.83	-	3.56	-	18.71	16.50	13.74	17.76	12.88	-	12.56	-	13.01	17.10	-	10.43	13.87	11.01
ORP (millivolts)	NS	NS	-92.3	82.7	-	-22.6	-66.4	84.8	49.2	-83.4	-212.4	-85.5	-	-47.2	-4	-	-87	-	-32.6	-118.4	-75.7	-80	26	-	-267	-	4.4	-52.4	-	-30.5	40.6	14.2
DO (mg/L)	NS	NS	3.48	0.58	-	0.80	0.34	0.27	0.41	0.43	0.23	1.57	-	0.48	0.0	-	0.2	-	0.63	0.45	0.22	0.26	0.36	-	4.71	-	0.47	0.88	-	0.34	0.44	0.58

Notes:
ug/L = microgram per liter
mS/cm = millisiemens per centimeter
mg/L = milligrams per liter
MCL = Environmental Protection Agency's Maximum Contaminant Level 1
Iowa DNR = Statewide Groundwater Standard
Bold = Result above MCL and/or Iowa DNR
NS = No standard
NR = Not reported
N = normal sample
FD = field duplicate sample

Prepared by:
Checked by:
Reviewed by:

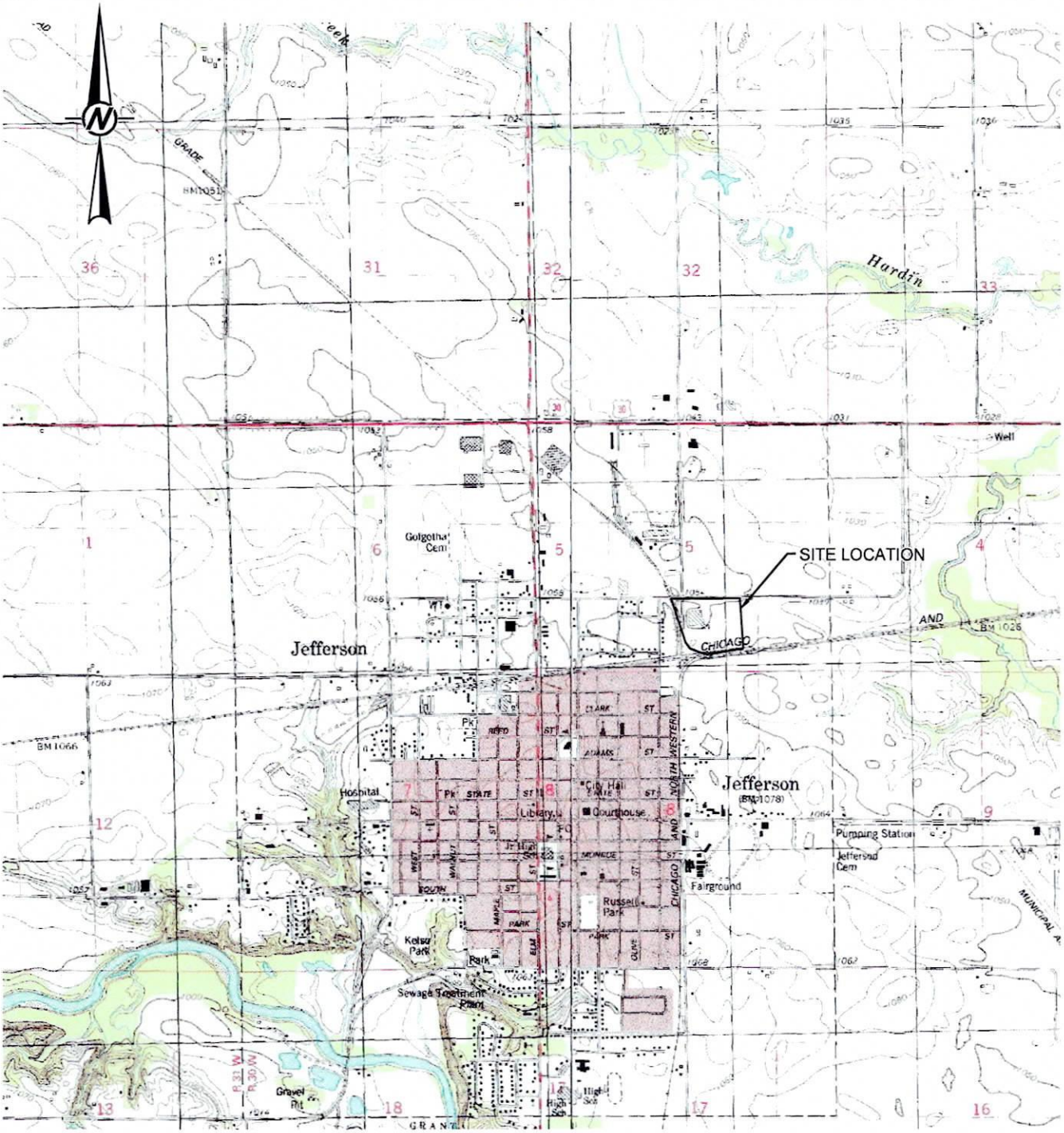
Table 2: Summary of Evidence of Natural Degradation of CVOCs
Former Electrolux Manufacturing Facility
Jefferson, Iowa

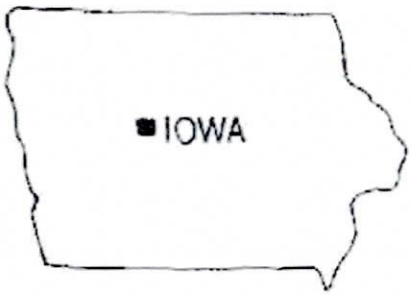
Well Screen Geology	Well ID	Sample Date	Sample Type	Dissolved Gases (ug/L)			Metals (mg/L)		Natural Attenuation Parameters (mg/L)			
				Methane	Ethane	Ethene	Iron	Manganese	Alkalinity	Sulfate	Chloride	TOC
Yellow-Brown Till	MW-43D	Oct 2013	N	2.9	0.32	4.3	<0.1	1.19	NA	26.3	NA	2.63
		Apr 2014	N	2.5	0.24	0.3	0.255	0.454	NA	20.1	11	2.25
		Jul 2014	N	0.59	0.032	0.033	<0.1	0.21	NA	21.1	12.3	1.9
		Oct 2014	N	3.8	0.47	0.14	<0.1	0.862	NA	15.2	10.9	1.89
		Jul 2017	N	1.1	0.13	0.011 J	<0.5	0.676	386	15.4	9.54	1.48
		Jul 2018	N	0.44 J	0.028 J	0.017 J	<0.5	0.7	355	18.2	11.1	1.61
	MW-46	Oct 2013	N	20	2.2	2.5	0.391	0.653	NA	22.8	NA	1.82
		Apr 2014	N	12	1.1	0.48	0.21	0.643	NA	27.7	<5	2.08
		Jul 2014	FD	0.4	0.15	0.037	0.252	0.0433	NA	16.8	<5	2.97
		Jul 2014	N	7.1	0.73	0.45	0.136	0.79	NA	25.4	<5	1.42
		Oct 2014	N	7.1	1.4	0.88	0.234	0.772	NA	22	<5	1.69
		Jul 2017	N	2.8	2	1.2	<0.5	0.792	427	24.1	<5	1.16
		Jul 2018	N	1.2	0.92	0.45	<0.5	0.782	395	31.8	<5	1.35
	MW-47D	Oct 2013	N	98	3.4	140	0.474	0.705	NA	16.3	NA	2.12
		Apr 2014	FD	160	2.9	280	1.7	0.747	NA	25	143	2.52
		Apr 2014	N	160	2.7	270	0.613	0.729	NA	25.4	144	2.42
		Jul 2014	N	140	2.3	220	0.82	0.697	NA	19.8	144	2.67
		Oct 2014	N	180	2.8	280	1.32	0.692	NA	13.1	147	2.03
		Dec 2014	N	NA	NA	NA	1.43	0.723	416	12.5	203	2.03
		Mar 2015	N	NA	NA	NA	2.04	0.718	454	9.86	155	2.05
		Jul 2017	N	450	5.7	540	5.6	0.755	391	9.29	228	3.12
		Jul 2018	N	720	6.8	2,000	4.08	0.766	316	8.89	268	6.29
		Jul 2018	FD	590	5.6	1,800	3.79	0.762	321	8.78	261	5.9
	MW-56D	Jul 2017	N	0.35 J	0.013 J	0.029 J	<0.5	0.278	350	137	<5	2.12
		Jul 2018	N	0.50 J	0.0087 J	0.13	<0.5	0.676	375	141	<5	1.48
	MW-57	Apr 2014	FD	2	0.033	0.12	0.202	0.648	NA	55.1	15	2.12
		Apr 2014	N	2	0.098	0.11	0.217	0.701	NA	54.4	15.1	1.89
		Jul 2014	N	1.6	0.025	0.091	0.175	0.686	NA	55.6	15.6	1.76
		Oct 2014	N	2	0.044	0.17	0.368	0.616	NA	47	14.6	2.07
		Jul 2017	N	2.8	0.024 J	0.05 J	1.33	0.619	391	55.2	17.4	2.02
		Jul 2018	N	4.2	0.020 J	0.056 J	2.29	0.68	341	66.6	20.4	2.53
	MW-66	Jul 2017	N	1.8	0.046 J	0.5	<0.5	0.621	443	46.4	<5	<1
		Jul 2018	N	1.9	0.054 J	0.19	<0.5	0.613	400	51.7	<5	1.47
Dark Gray Till	MW-65	Oct 2013	N	91	0.6	0.42	24.3	1.61	NA	8.24	NA	4.36
		Apr 2014	N	110	0.38	3	1.76	0.378	NA	2.16	3.18	4.1
		Jul 2014	N	84	0.18	0.25	1.67	0.352	NA	<5	7.33	3.47
		Oct 2014	FD	44	0.12	0.34	2.92	0.349	NA	1.88	2.23	3.96
		Oct 2014	N	36	0.1	0.29	3.06	0.369	NA	1.98	3.02	3.92
		Dec 2014	N	NA	NA	NA	4.91	0.345	530	1.98	2.26	4.46
		Dec 2014	FD	NA	NA	NA	4.91	0.335	539	2.01	2.38	4.41
		Mar 2015	N	NA	NA	NA	4.53	0.345	585	1.65	2.32	3.81
		Mar 2015	FD	NA	NA	NA	4.15	0.328	579	1.69	2.26	3.83
		Jul 2017	N	890	0.33	4	2.84	0.299	567	<5	<5	3.74
		Jul 2018	N	190	0.37	6.8	3.12	0.297	518	<5	<5	3.56
Pleistocene Sand and Gravel	MW-67	Jul 2017	FD	2.1	0.041 J	0.1	0.643	1.99	484	73.4	<5	1.71
		Jul 2017	N	2.1	0.038 J	0.096 J	0.63	1.93	489	71.8	<5	1.68
		Jul 2018	N	3.0	0.032 J	0.17	0.619	1.65	449	80.5	<5	1.74

Notes:
ALK = Alkalinity, Total
FD = field duplicate sample
N = normal sample
TOC = Total Organic Carbon
VOCs = Volatile Organic Compounds
J = estimated detection
NA= not analyzed for

Prepared by: DFS
Checkedy by: LDA
Reviewed by: JSP

FIGURES





0 1/4 1/2 3/4
SCALE MILE

PROJECT

ELECTROLUX HOME PRODUCTS
JEFFERSON, IOWA

TITLE

SITE LOCATION MAP

GOLDER

PROJECT No.		103-87305	FILE No.	10387305M001
DESIGN	JSP	2018-01-08	SCALE	AS SHOWN
CADD	RWC	2018-01-08	FIGURE	
CHECK	DFS	2018-01-08		1
REVIEW	APTM	2018-01-08		

REFERENCE

Base maps taken from U.S.G.S map titled, "East Jefferson, Iowa" and "West Jefferson, Iowa", dated 1986.

J:\Drawings\2010\103-87305 Electrolux Jefferson, Iowa\ST_M\PRODUCTION\10387305M001.dwg | Layout: 1 SITE LOCATION MAP | Modified: RClark 01/08/2018 9:48 AM | Plotted: rclark 01/02/2019

LEGEND

- Approximate Site Property Boundary
- Former Manufacturing Area

REFERENCES

1. Imagery of Jefferson Iowa taken from the United States Department of Agriculture - Farm Service Agency, 2009 National Agriculture Imagery Program. Photo Date: 2010.

2. North American Datum 1983 Iowa State Plane North in Feet

FIGURE NARRATIVE

This figure shows the approximate site property boundary and developed portion of the site. The site property boundary is an approximation and has not been surveyed by a licensed surveyor.

0 100 200 400 Feet

N

GOLDER

FILE No.	Electrolux_Jefferson		
PROJECT No.	103-87305	REV	0

SCALE	AS SHOWN
DATE	01/08/2017
DESIGN	CDS
GIS	SHL
CHECK	DFS
REVIEW	APTM

Site Vicinity Map

Electrolux Home Products - Jefferson, IA

FIGURE 2

Map: V:\001 GIS Projects\2010\electrolux_jefferson\jefferson.mxd | Modified: 1/2/2019 11:59:42 AM | Plotted: 1/4/2019 9:59:13 AM by CSCHAEFER

LEGEND

	Approximate Site Property Boundary
	Fence
	Edge of gravel
MW-59	Monitoring well screened in Yellow/Brown Till
MW-62	Monitoring well screened in Dark Grey Till
MW-67	Monitoring well screened in Pleistocene Sand and Gravel
	Former Buildings (slab remains)

NOTES

1.) BM #1 elev. = 1052.49 (NAVD 88) center top non-operating bolt on fire hydrant Northwest of main building.

2.) JEO consulting group did not find useful NGS monuments in the Jefferson area. A USGS 24,000k Topographic map elevation (1054.00) at the intersection of Mulberry Street and East Central Street as the assumed NAVD 88 elevation. This elevation agreed with the elevation generated from Geoid-09.

3.) The coordinates for this site are approximate Iowa State Plane North 1401 with a ground scale factor of 1.0000463418.

REFERENCES

Basemap taken from JEO Consulting Group, Inc. drawing titled, "Electrolux Home Products base map", dated 11/21/10, revised May 2012.

FIGURE NARRATIVE

This figure shows the former buildings and monitoring wells subject to semi-annual sampling at the former Electrolux Home Products facility in Jefferson, Iowa. The features shown on the concrete slab are locations of former concrete-lined floor pits and drains.

0 30 60 90
SCALE FEET

PROJECT
ELECTROLUX HOME PRODUCTS
JEFFERSON, IOWA

TITLE
SITE PLAN ILLUSTRATING MONITORING WELL LOCATIONS

GOLDER

PROJECT No.		103-8730501	FILE No.	10387309M002_8
DESIGN	DFS	2018-06-29	SCALE	AS SHOWN
CADD	RWC	2018-06-29	FIGURE	
CHECK	DFS	2018-06-29		3
REVIEW	APTM	2018-06-29		

APPENDIX A

GROUNDWATER COLLECTION FORMS

GROUNDWATER SAMPLE COLLECTION FORM

Golder Associates

SITE DESCRIPTION

Project Name: Electrolux/Jefferson/IA
Project Number: 103-87305.01
Location: Jefferson, Iowa

WEATHER CONDITIONS

Temperature:
Wind:
Precipitation:

SAMPLE DESCRIPTION

Sample ID: MW-43D
Date: 7/25/18
Time at Well Site:
Time of Sample Collection: 1130
Sampled by: AP
Sampling Method: Bladder Pump
Type of Sampling Equipment: 1/4-inch x 1/4-inch Poly tubing

FIELD BLANK NOTES

Field Blank Name:
Field Blank /Rinse Water type:
Lot Number:
Analyses:

VOLUME OF WATER TO BE PURGED

Casing Inside Diameter: 2 inches
Casing Volume: gal/ft
Column of Water in Well: feet
Volume of Water in Well: gallons
Well Volumes to Purge:
Min. Volume to be Purged: gallons
Method of Purging: Bladder
Well Purged Dry? Yes (No)

COLUMN OF WATER IN WELL BEFORE PURGE

Total Depth of Well: 40.75 ft TOC
Depth to Water : 6.75 ft TOC
Column of Water in Well: ft
Depth to Water after Purge: 12.18 ft TOC

Appearance of Sample:

WELL PURGE CONTROL

	Purge 1	Purge 2	Purge 3	Purge 4	Purge 5	Purge 6	
Time:	1050	1100	1110	1115	1120	1125	1130
Volume Removed (liters):	1	2	3	3.5	4	4.5	5
pH:	6.94	6.87	6.85	6.83	6.82	6.82	6.79
Specific Conductance (uS/cm):	0.857	0.852	0.849	0.849	0.851	0.851	0.851
Temperature (Degrees C):	18.77	17.33	16.90	16.82	16.67	16.63	16.58
Turbidity (NTU):	–	–	–	–	–	–	–
ORP ~~Eh~~ (millivolts):	171.7	172.9	176.8	179.5	180.8	182.1	183.6
DO (mg/l) :	1.73	0.70	0.42	0.38	0.37	0.32	0.30

Starting Purge Time: 1040
Ending Purge Time: 1125
Average Purge Rate: 100 ml/min
Total Volume Purged: 5 liters

SAMPLE CONTAINERS REQUIRED

Analysis	Container Number, Type and Size	Filter	Preservative and Source
Volatiles (8260C)	(2) 40 ml vials	NA	HCL
Inert Gases	(3) 40 ml vials	NA	HCL
TOC	(2) 40 ml vials	NA	H_2SO_4
ALK, Chloride, Sulfate	(1) Liter	NA	None
Iron + Manganese	(1) 250 ml	NA	Nitric
Sulfide	(1) 500 ml	NA	Zn Acetate/NaOH

Chain of Custody #:
Shuttle ID:
Trip Blank ID:
Lab Name:
Air Bill #:

REMARKS: 2" - 0.163 gal/ft 1" - 0.014 gal/ft
1.5" - 0.0918 gal/ft

Field Team Leader: Alan Phillips

GROUNDWATER SAMPLE COLLECTION FORM

Golder Associates

SITE DESCRIPTION

Project Name: Electrolux/Jefferson/IA
Project Number: 103-87305.01
Location: Jefferson, Iowa

WEATHER CONDITIONS

Temperature:
Wind:
Precipitation:

SAMPLE DESCRIPTION

Sample ID: MW-46
Date: 7/24/18
Time at Well Site:
Time of Sample Collection: 2025
Sampled by: AP
Sampling Method: Bladder Pump
Type of Sampling Equipment: 1/4-inch x 1/4-inch Poly tubing

FIELD BLANK NOTES

Field Blank Name:
Field Blank /Rinse Water type:
Lot Number:
Analyses:

VOLUME OF WATER TO BE PURGED

Casing Inside Diameter: 2 inches
Casing Volume: gal/ft
Column of Water in Well: feet
Volume of Water in Well: gallons
Well Volumes to Purge:
Min. Volume to be Purged: gallons
Method of Purging: Bladder
Well Purged Dry?: Yes No

COLUMN OF WATER IN WELL BEFORE PURGE

Total Depth of Well: 41.17 ft TOC
Depth to Water: 7.78 ft TOC
Column of Water in Well: ft
Depth to Water after Purge: 9.29 ft TOC

Appearance of Sample:

WELL PURGE CONTROL

	Purge 1	Purge 2	Purge 3	Purge 4	Purge 5	Purge 6
Time:	1950	2000	2005	2010	2015	2020
Volume Removed (liters):	1	2	2.5	3	3.5	4
pH:	6.92	6.97	6.98	6.98	6.98	6.99
Specific Conductance (uS/cm):	0.777	0.814	0.825	0.825	0.825	0.825
Temperature (Degrees C):	16.36	15.89	15.75	15.63	15.54	15.49
Turbidity (NTU):	-	-	-	-	-	-
ORP ~~Eh (millivolts)~~:	118.5	126.9	130.6	133.0	134.4	134.9
DO (mg/l) :	2.03	0.66	0.52	0.46	0.42	0.50

Starting Purge Time: 1940
Ending Purge Time: 2020
Average Purge Rate: 100 ml/min
Total Volume Purged: 4.0 liters

SAMPLE CONTAINERS REQUIRED

Analysis	Container Number, Type and Size	Filter	Preservative and Source
Volatiles (8260C)	(2) 40 ml vials	NA	HCL
Inert Gases	(3) 40 ml vials	NA	HCL
TOC	(2) 40 ml vials	NA	H2SO4
ALK, Chloride, Sulfate	(1) Liter	NA	None
Iron + Manganese	(1) 250 ml	NA	Nitric
Sulfide	(1) 500 ml	NA	Zn Acetate/ NaOH

Chain of Custody #:
Shuttle ID:
Trip Blank ID:
Lab Name:
Air Bill #:

REMARKS: 2" - 0.163 gal/ft 1" - 0.014 gal/ft
1.5" - 0.0918 gal/ft

Field Team Leader: Alan Phillips

GROUNDWATER SAMPLE COLLECTION FORM

Golder Associates

SITE DESCRIPTION

Project Name: Electrolux/Jefferson/IA
Project Number: 103-87305.01
Location: Jefferson, Iowa

WEATHER CONDITIONS

Temperature:
Wind:
Precipitation:

SAMPLE DESCRIPTION

Sample ID: MW 47D
Date: 7/24/18
Time at Well Site:
Time of Sample Collection: 1725
Sampled by: AP
Sampling Method: Bladder Pump
Type of Sampling Equipment: 1/4-inch x 1/4-inch Poly tubing

FIELD BLANK NOTES

Field Blank Name:
Field Blank /Rinse Water type:
Lot Number:
Analyses:

VOLUME OF WATER TO BE PURGED

Casing Inside Diameter: 2 inches
Casing Volume: gal/ft
Column of Water in Well: feet
Volume of Water in Well: gallons
Well Volumes to Purge:
Min. Volume to be Purged: gallons
Method of Purging: Bladder
Well Purged Dry?: Yes (No)

COLUMN OF WATER IN WELL BEFORE PURGE

Total Depth of Well: 42.02 ft TOC
Depth to Water: 7.89 ft TOC
Column of Water in Well: ft
Depth to Water after Purge: 8.58 ft TOC

Appearance of Sample:

WELL PURGE CONTROL

	Purge 1	Purge 2	Purge 3	Purge 4	Purge 5	Purge 6
Time:	1650	1700	1710	1715	1720	
Volume Removed (liters):	1	2	3	3.5	4	
pH:	6.77	6.81	6.83	6.84	6.84	
Specific Conductance (uS/cm):	1,596	1,622	1,607	1,606	1,608	
Temperature (Degrees C):	20.73	19.58	19.13	19.09	19.03	
Turbidity (NTU):	–	–	–	–	–	
ORP ~~Eh (millivolts)~~:	-31.5	-42.4	-43.4	-41.9	-41.0	
DO (mg/l):	1.47	0.55	0.33	0.37	0.31	

Starting Purge Time: 1640
Ending Purge Time: 1720
Average Purge Rate: 100 ml/min
Total Volume Purged: 4.0 liters

SAMPLE CONTAINERS REQUIRED

Analysis	Container Number, Type and Size	Filter	Preservative and Source
Volatiles (8260C)	(2) 40 ml vials	NA	HCL
Inert Gases	(3) 40ml vials	NA	HCL
TOC	(2) 40ml vials	NA	H2SO4
ALK, Chloride, Sulfate	(1) Liter	NA	None
Iron + Manganese	(1) 250 ml	NA	Nitric
Sulfide	(1) 500 ml	NA	ZN Acetate / NaOH

Chain of Custody #:
Shuttle ID:
Trip Blank ID:
Lab Name:
Air Bill #:

REMARKS: 2" - 0.163 gal/ft 1" - 0.014 gal/ft
1.5" - 0.0918 gal/ft
Field Duplicate 01 collected here

Field Team Leader: Alan Phillips

GROUNDWATER SAMPLE COLLECTION FORM

Golder Associates

SITE DESCRIPTION

Project Name: Electrolux/Jefferson/IA
Project Number: 103-87305.01
Location: Jefferson, Iowa

WEATHER CONDITIONS

Temperature:
Wind:
Precipitation:

SAMPLE DESCRIPTION

Sample ID: MW-56D
Date: 7/29/16
Time at Well Site:
Time of Sample Collection: 1530
Sampled by:
Sampling Method: Bladder Pump
Type of Sampling Equipment: 1/4-inch x 1/4-inch Poly tubing

FIELD BLANK NOTES

Field Blank Name:
Field Blank /Rinse Water type:
Lot Number:
Analyses:

VOLUME OF WATER TO BE PURGED

Casing Inside Diameter: 2 inches
Casing Volume: gal/ft
Column of Water in Well: feet
Volume of Water in Well: gallons
Well Volumes to Purge:
Min. Volume to be Purged: gallons
Method of Purging: Bladder
Well Purged Dry?: Yes No

COLUMN OF WATER IN WELL BEFORE PURGE

Total Depth of Well: 39.75 ft TOC
Depth to Water : 7.63 ft TOC
Column of Water in Well: ft
Depth to Water after Purge: 16.31 ft TOC

Appearance of Sample:

WELL PURGE CONTROL

	Purge 1	Purge 2	Purge 3	Purge 4	Purge 5	Purge 6
Time:	1455	1505	1515	1520	1525	
Volume Removed (liters):	1	2	3	3.5	4	
pH:	6.69	6.53	6.46	6.45	6.44	
Specific Conductance (uS/cm):	0.996	0.999	1.001	1.001	1.000	
Temperature (Degrees C):	15.95	16.17	15.74	15.67	15.65	
Turbidity (NTU):	—	—	—	—	—	
ORP ~~Eh (millivolts)~~:	159.0	164.8	173.1	174.8	177.8	
DO (mg/l) :	2.25	0.53	0.36	0.31	0.29	

Starting Purge Time: 1445
Ending Purge Time: 1525
Average Purge Rate: 100 ml/min
Total Volume Purged: 4.0 liters

SAMPLE CONTAINERS REQUIRED

Analysis	Container Number, Type and Size	Filter	Preservative and Source
Volatiles (8260C)	(2) 40 ml vials	NA	HCL
Inert Gases	(3) 40 ml vials	NA	HCL
TOC	(2) 40 ml vials	NA	H_2SO_4
Alk, Chloride, Sulfate	(1) Liter	NA	None
Iron + Manganese	(1) 250 ml	NA	Nitric
Sulfide	(1) 500 ml	NA	Zn Acetate / Na OH

Chain of Custody #:
Shuttle ID:
Trip Blank ID:
Lab Name:
Air Bill #:

REMARKS: 2" - 0.163 gal/ft 1" - 0.014 gal/ft
1.5" - 0.0918 gal/ft

Field Team Leader: Alan Phillips

GROUNDWATER SAMPLE COLLECTION FORM

Golder Associates

SITE DESCRIPTION

Project Name: Electrolux/Jefferson/IA
Project Number: 103-87305.01
Location: Jefferson, Iowa

WEATHER CONDITIONS

Temperature:
Wind:
Precipitation:

SAMPLE DESCRIPTION

Sample ID: MW-57
Date: 7/25/18
Time at Well Site:
Time of Sample Collection: 0955
Sampled by: Alan Phillips
Sampling Method: Bladder Pump
Type of Sampling Equipment: 1/4-inch x 1/4-inch Poly tubing

FIELD BLANK NOTES

Field Blank Name:
Field Blank /Rinse Water type:
Lot Number:
Analyses:

VOLUME OF WATER TO BE PURGED

Casing Inside Diameter: 2 inches
Casing Volume: gal/ft
Column of Water in Well: feet
Volume of Water in Well: gallons
Well Volumes to Purge:
Min. Volume to be Purged: gallons
Method of Purging: Bladder
Well Purged Dry?: Yes (No)

COLUMN OF WATER IN WELL BEFORE PURGE

Total Depth of Well: 35.40 ft TOC
Depth to Water: 6.30 ft TOC
Column of Water in Well: ft
Depth to Water after Purge: 7.48 ft TOC

Appearance of Sample:

WELL PURGE CONTROL

	Purge 1	Purge 2	Purge 3	Purge 4	Purge 5	Purge 6
Time:	0910	0920	0930	0940	0945	0950
Volume Removed (liters):	1	2	3	4	4.5	5
pH:	6.73	6.69	6.70	6.72	6.72	6.71
Specific Conductance (uS/cm):	0.841	0.879	0.907	0.935	0.937	0.942
Temperature (Degrees C):	17.56	17.22	16.92	16.50	16.48	16.43
Turbidity (NTU):	–	–	–	–	–	–
Eh (millivolts):	32.0	39.4	51.3	52.1	51.2	49.4
DO (mg/l) :	0.94	0.63	0.55	0.42	0.37	0.34

Starting Purge Time: 0900
Ending Purge Time: 0950
Average Purge Rate: 100 ml/min
Total Volume Purged: 5.0 liters

SAMPLE CONTAINERS REQUIRED

Analysis	Container Number, Type and Size	Filter	Preservative and Source
Volatiles (8260C)	(2) 40 ml vials	NA	HCL
Invert Gases	(3) 40 ml Vials	NA	HCL
TOC	(2) 40 ml Vials	NA.	H_2SO_4
Alk, Chloride, Sulfate	(1) Liter	NA	None
Iron + Manganese	(1) 250 ml	NA	Nitric
Sulfide	(1) 500 ml	NA	Zn Acetate / NaOH

Chain of Custody #:
Shuttle ID:
Trip Blank ID:
Lab Name:
Air Bill #:

REMARKS: 2" - 0.163 gal/ft 1" - 0.014 gal/ft
1.5" - 0.0918 gal/ft

Field Team Leader: Alan Phillips

GROUNDWATER SAMPLE COLLECTION FORM

Golder Associates

SITE DESCRIPTION

Project Name: Electrolux/Jefferson/IA
Project Number: 103-87305.01
Location: Jefferson, Iowa

WEATHER CONDITIONS

Temperature:
Wind:
Precipitation:

SAMPLE DESCRIPTION

Sample ID: MW-65
Date: 7/29/18
Time at Well Site:
Time of Sample Collection: 1850
Sampled by: AP
Sampling Method: Bladder Pump
Type of Sampling Equipment: 1/4-inch x 1/4-inch Poly tubing

FIELD BLANK NOTES

Field Blank Name:
Field Blank /Rinse Water type:
Lot Number:
Analyses:

VOLUME OF WATER TO BE PURGED

Casing Inside Diameter: 2 inches
Casing Volume: gal/ft
Column of Water in Well: feet
Volume of Water in Well: gallons
Well Volumes to Purge:
Min. Volume to be Purged: gallons
Method of Purging: Bladder
Well Purged Dry?: Yes (No)

COLUMN OF WATER IN WELL BEFORE PURGE

Total Depth of Well: 72.39 ft TOC
Depth to Water : 26.52 ft TOC
Column of Water in Well: ft
Depth to Water after Purge: 52.33 ft TOC

Appearance of Sample:

WELL PURGE CONTROL

	Purge 1	Purge 2	Purge 3	Purge 4	Purge 5	Purge 6
Time:	1820	1830	1840	1845		
Volume Removed (liters):	1	2	3	3.5		
pH:	6.80	6.80	6.80	6.80		
Specific Conductance (uS/cm):	1.012	1.004	1.002	1.002		
Temperature (Degrees C):	18.12	17.94	17.90	17.78		
Turbidity (NTU):	–	–	–	–		
ORP Eh (millivolts):	-37.3	-49.0	-50.3	-50.0		
DO (mg/l) :	0.22	0.11	0.09	0.09		

Starting Purge Time: 1810
Ending Purge Time: 1845
Average Purge Rate: 100 ml/min
Total Volume Purged: 3.5 liters

SAMPLE CONTAINERS REQUIRED

Analysis	Container Number, Type and Size	Filter	Preservative and Source
Volatiles (8260C)	(2) 40 ml vials	NA	HCL
Inert Gases	(3) 40 ml vials	NA	HCL
TOC	(2) 40 ml vials	NA	H2SO4
Alk, Chloride, Sulfate	(1) Liter	NA	None
Iron + Manganese	(1) 250 ml	NA	Nitric
Sulfide	(1) 500 ml	NA	Zn Acetate / NaOH

Chain of Custody #:
Shuttle ID:
Trip Blank ID:
Lab Name:
Air Bill #:

REMARKS: 2" - 0.163 gal/ft 1" - 0.014 gal/ft
1.5" - 0.0918 gal/ft

Field Team Leader: Alan Phillips

GROUNDWATER SAMPLE COLLECTION FORM

Golder Associates

SITE DESCRIPTION

Project Name: Electrolux/Jefferson/IA
Project Number: 103-87305.01
Location: Jefferson, Iowa

WEATHER CONDITIONS

Temperature: 69
Wind: light from NW
Precipitation: none

SAMPLE DESCRIPTION

Sample ID: MW-66
Date: 7/24/18
Time at Well Site:
Time of Sample Collection: 1245
Sampled by: AP
Sampling Method: Bladder Pump
Type of Sampling Equipment: 1/4-inch x 1/4-inch Poly tubing

FIELD BLANK NOTES

Field Blank Name:
Field Blank /Rinse Water type:
Lot Number:
Analyses:

VOLUME OF WATER TO BE PURGED

Casing Inside Diameter: 2 inches
Casing Volume: gal/ft
Column of Water in Well: feet
Volume of Water in Well: gallons
Well Volumes to Purge:
Min. Volume to be Purged: gallons
Method of Purging: Bladder
Well Purged Dry?: Yes (No)

COLUMN OF WATER IN WELL BEFORE PURGE

Total Depth of Well: 55 ft TOC
Depth to Water : 13.66 ft TOC
Column of Water in Well: ft
Depth to Water after Purge: 15.13 ft TOC

Appearance of Sample:

WELL PURGE CONTROL

	Purge 1	Purge 2	Purge 3	Purge 4	Purge 5	Purge 6
Time:	1210	1215	1225	1230	1235	1240
Volume Removed (liters):	1	1.5	2.5	3	3.5	4.0
pH:	6.94	6.90	6.87	6.85	6.81	6.76
Specific Conductance (uS/cm):	.882	0.882	0.881	0.882	0.880	0.881
Temperature (Degrees C):	16.80	16.56	15.82	15.70	15.76	15.71
Turbidity (NTU):	–	–	–	–	–	–
~~Eh~~ ORP (millivolts):	94.7	88.5	84.5	82.1	82.0	84.9
DO (mg/l) :	2.42	0.90	0.40	0.36	0.32	0.27

Starting Purge Time: 1200
Ending Purge Time: 1240
Average Purge Rate: 100 ml/min
Total Volume Purged: 4.0 liters

SAMPLE CONTAINERS REQUIRED

Analysis	Container Number, Type and Size	Filter	Preservative and Source
Volatiles (8260C)	(2) 40 ml vials	NA	HCL
Inert Gases	(3) 40 ml vials	NA	HCL
TOC	(2) 40 ml vials	NA	H_2SO_4
Alk, Chloride, Sulfate	(1) liter	NA	None
Iron + Manganese	(1) 250 ml	NA	Nitric
Sulfide	(1) 500 ml	NA	Zn Acetate / NaOH

Chain of Custody #:
Shuttle ID:
Trip Blank ID:
Lab Name:
Air Bill #:

REMARKS: 2" - 0.163 gal/ft 1" - 0.014 gal/ft
1.5" - 0.0918 gal/ft

Field Team Leader: Alan Phillips

GROUNDWATER SAMPLE COLLECTION FORM

Golder Associates

SITE DESCRIPTION

Project Name: Electrolux/Jefferson/IA
Project Number: 103-87305.01
Location: Jefferson, Iowa

WEATHER CONDITIONS

Temperature: 69
Wind: light from NW
Precipitation: none

SAMPLE DESCRIPTION

Sample ID: MW-67
Date: 7/24/18
Time at Well Site:
Time of Sample Collection: 1050
Sampled by: A Phillips
Sampling Method: Bladder Pump
Type of Sampling Equipment: 1/4-inch x 1/4-inch Poly tubing

FIELD BLANK NOTES

Field Blank Name:
Field Blank /Rinse Water type:

Lot Number:
Analyses:

VOLUME OF WATER TO BE PURGED

Casing Inside Diameter: 2 inches
Casing Volume: gal/ft
Column of Water in Well: feet
Volume of Water in Well: gallons
Well Volumes to Purge:
Min. Volume to be Purged: gallons
Method of Purging: Bladder
Well Purged Dry?: Yes No

COLUMN OF WATER IN WELL BEFORE PURGE

Total Depth of Well: 97 ft TOC
Depth to Water: 54.60 ft TOC
Column of Water in Well: ft
Depth to Water after Purge: 54.67 ft TOC

Appearance of Sample:

WELL PURGE CONTROL

	Purge 1	Purge 2	Purge 3	Purge 4	Purge 5	Purge 6
Time:	1015	1020	1025	1030	1035	1040
Volume Removed (liters):	1	1.5	2	2.5	3	3.5
pH:	6.56	6.56	6.55	6.52	6.49	6.46
Specific Conductance (uS/cm):	.918	.939	0.968	0985	0.995	0.999
Temperature (Degrees C):	14.29	13.95	13.87	13.82	13.87	13.87
Turbidity (NTU):	–	–	–	–	–	–
ORP ~~Eh~~ (millivolts):	126.4	101.6	67.4	35.4	37.6	40.8
DO (mg/l):	5.32	1.70	1.00	0.51	0.54	0.44

Starting Purge Time: 1005
Ending Purge Time: 1040
Average Purge Rate: 100 ml/min
Total Volume Purged: 35 liters

SAMPLE CONTAINERS REQUIRED

Analysis	Container Number, Type and Size	Filter	Preservative and Source
Volatiles (8260C)	(2) 40 ml vials	NA	HCL
Inert Gases	(3) 40 ml Vials	NA	HCL
TOC	(2) 40 ml Vials	NA	H_2SO_4
Alk, Chloride, Sulfate	(1) Liter	NA	None
Iron + Manganese	(1) 250 ml	NA	Nitric
Sulfide	(1) 500 ml	NA	Zn Acetate/ NaOH

Chain of Custody #:
Shuttle ID:
Trip Blank ID:
Lab Name:
Air Bill #:

REMARKS: 2" - 0.163 gal/ft 1" - 0.014 gal/ft
1.5" - 0.0918 gal/ft
MS and MSD collected

Field Team Leader: Alan Phillips

GROUNDWATER SAMPLE COLLECTION FORM

Golder Associates

SITE DESCRIPTION

Project Name: Electrolux/Jefferson/IA
Project Number: 103-87305.01
Location: Jefferson, Iowa

WEATHER CONDITIONS

Temperature: 37°F
Wind: WNW 19 mph
Precipitation: none

SAMPLE DESCRIPTION

Sample ID: MW-43D
Date: 11/6/18
Time at Well Site:
Time of Sample Collection: 1340
Sampled by: AP
Sampling Method: Bladder Pump
Type of Sampling Equipment: 1/4-inch x 1/4-inch Poly tubing

FIELD BLANK NOTES

Field Blank Name:
Field Blank /Rinse Water type:
Lot Number:
Analyses:

VOLUME OF WATER TO BE PURGED

Casing Inside Diameter: 2 inches
Casing Volume: gal/ft
Column of Water in Well: feet
Volume of Water in Well: gallons
Well Volumes to Purge:
Min. Volume to be Purged: gallons
Method of Purging: Bladder
Well Purged Dry?: Yes (No)

COLUMN OF WATER IN WELL BEFORE PURGE

Total Depth of Well: 40.75 ft TOC
Depth to Water : 5.52 ft TOC
Column of Water in Well: ft
Depth to Water after Purge: 9.65 ft TOC

Appearance of Sample:

WELL PURGE CONTROL

	Purge 1	Purge 2	Purge 3	Purge 4	Purge 5	Purge 6
Time:	1305	1315	1330	1335	1340	
Volume Removed (liters):	.5	1.5	3.0	3.5	4.0	
pH:	6.78	6.65	6.65	6.64	6.65	
Specific Conductance (uS/cm):	752	756	754	754	754	
Temperature (Degrees C):	14.50	14.16	13.92	13.92	13.85	
Turbidity (NTU):	–	–	–	–	–	
ORP ~~Eh~~ (millivolts):	133.0	84.5	66.5	62.2	57.2	
DO (mg/l) :	2.97	0.83	0.55	0.56	0.47	

Starting Purge Time: 1300
Ending Purge Time: 1340
Average Purge Rate: 100 ml/min
Total Volume Purged: 4.0 liters

SAMPLE CONTAINERS REQUIRED

Analysis	Container Number, Type and Size	Filter	Preservative and Source
Volatiles (8260C)	(2) 40 ml vials	NA	HCL

Chain of Custody #:
Shuttle ID:
Trip Blank ID:
Lab Name:
Air Bill #:

REMARKS: 2" - 0.163 gal/ft 1" - 0.014 gal/ft
1.5" - 0.0918 gal/ft

Field Team Leader: Alan Phillips

GROUNDWATER SAMPLE COLLECTION FORM

Golder Associates

SITE DESCRIPTION

Project Name: Electrolux/Jefferson/IA
Project Number: 103-87305.01
Location: Jefferson, Iowa

WEATHER CONDITIONS

Temperature: 37°F
Wind: WNW 21 mph
Precipitation: none

SAMPLE DESCRIPTION

Sample ID: MW-46
Date: 4/6/19
Time at Well Site:
Time of Sample Collection: 1205
Sampled by: AP
Sampling Method: Bladder Pump
Type of Sampling Equipment: 1/4-inch x 1/4-inch Poly tubing

FIELD BLANK NOTES

Field Blank Name:
Field Blank /Rinse Water type:
Lot Number:
Analyses:

VOLUME OF WATER TO BE PURGED

Casing Inside Diameter: 2 inches
Casing Volume: gal/ft
Column of Water in Well: feet
Volume of Water in Well: gallons
Well Volumes to Purge:
Min. Volume to be Purged: gallons
Method of Purging: Bladder
Well Purged Dry?: Yes (No)

COLUMN OF WATER IN WELL BEFORE PURGE

Total Depth of Well: 41.17 ft TOC
Depth to Water : 6.61 ft TOC
Column of Water in Well: ft
Depth to Water after Purge: 8.11 ft TOC

Appearance of Sample:

WELL PURGE CONTROL

	Purge 1	Purge 2	Purge 3	Purge 4	Purge 5	Purge 6
Time:	1125	1135	1145	1155	1200	1205
Volume Removed (liters):	.5	1.5	2.5	3.5	4.0	4.5
pH:	-8.13	-8.39	6.64	6.56	6.59	6.56
Specific Conductance (uS/cm):	519	751	825	808	804	802
Temperature (Degrees C):	12.26	13.00	12.84	12.79	12.93	12.92
Turbidity (NTU):	–	–	–	–	–	–
ORP ~~Eh~~ (millivolts):	352.7	328.8	12.7	15.5	14.3	16.1
DO (mg/l) :	6.05	1.90	3.45	3.06	2.48	2.17

Starting Purge Time: 1120
Ending Purge Time: 1205
Average Purge Rate: 100 ml/min
Total Volume Purged: 4.5 liters

SAMPLE CONTAINERS REQUIRED

Analysis	Container Number, Type and Size	Filter	Preservative and Source
Volatiles (8260C)	(2) 40 ml vials	NA	HCL

Chain of Custody #:
Shuttle ID:
Trip Blank ID:
Lab Name:
Air Bill #:

REMARKS: 2" - 0.163 gal/ft 1" - 0.014 gal/ft
1.5" - 0.0918 gal/ft

Field Team Leader: [signature]

GROUNDWATER SAMPLE COLLECTION FORM

Golder Associates

SITE DESCRIPTION

Project Name: Electrolux/Jefferson/IA
Project Number: 103-87305.01
Location: Jefferson, Iowa

WEATHER CONDITIONS

Temperature: 37°F
Wind: WNW 21 mph
Precipitation: none

SAMPLE DESCRIPTION

Sample ID: MW-47D
Date: 11/6/19
Time at Well Site:
Time of Sample Collection: 1035
Sampled by: AP
Sampling Method: Bladder Pump
Type of Sampling Equipment: 1/4-inch x 1/4-inch Poly tubing

FIELD BLANK NOTES

Field Blank Name:
Field Blank /Rinse Water type:
Lot Number:
Analyses:

VOLUME OF WATER TO BE PURGED

Casing Inside Diameter: inches
Casing Volume: gal/ft
Column of Water in Well: feet
Volume of Water in Well: gallons
Well Volumes to Purge:
Min Volume to be Purged: gallons
Method of Purging: Bladder
Well Purged Dry?: Yes (No)

COLUMN OF WATER IN WELL BEFORE PURGE

Total Depth of Well: 42.02 ft TOC
Depth to Water: 6.78 ft TOC
Column of Water in Well: ft
Depth to Water after Purge: 7.03 ft TOC

Appearance of Sample:

WELL PURGE CONTROL

	Purge 1	Purge 2	Purge 3	Purge 4	Purge 5	Purge 6	
Time:	0955	1005	1015	1020	1025	1030	1035
Volume Removed (liters):	.5	1.5	2.5	3.0	3.5	4.0	4.5
pH:	6.60	6.75	6.69	6.67	6.65	6.61	6.61
Specific Conductance (uS/cm):	1480	1455	1459	1487	1478	1462	1451
Temperature (Degrees C):	13.42	14.28	14.52	14.47	14.38	14.32	14.37
Turbidity (NTU):	–	–	–	–	–	–	–
ORP ~~Eh~~ (millivolts):	-8.2	-37.3	-40.1	-39.8	-40.2	-39.4	-40.2
DO (mg/l) :	3.97	3.17	2.75	2.67	2.55	2.39	2.30

Starting Purge Time: 0950
Ending Purge Time: 1035
Average Purge Rate: 100 ml/min
Total Volume Purged: 4.5 liters

SAMPLE CONTAINERS REQUIRED

Analysis	Container Number, Type and Size	Filter	Preservative and Source
Volatiles (8260C)	(2) 40 ml vials	NA	HCL

Chain of Custody #:
Shuttle ID:
Trip Blank ID:
Lab Name:
Air Bill #:

REMARKS: 2" - 0.163 gal/ft 1" - 0.014 gal/ft
1.5" - 0.0918 gal/ft

Field Team Leader: Alan Phillips

GROUNDWATER SAMPLE COLLECTION FORM

Golder Associates

SITE DESCRIPTION

Project Name: Electrolux/Jefferson/IA
Project Number: 103-87305.01
Location: Jefferson, Iowa

WEATHER CONDITIONS

Temperature: 45°F
Wind:
Precipitation: raining

SAMPLE DESCRIPTION

Sample ID: MW-5-6D
Date: 11/5/18
Time at Well Site:
Time of Sample Collection: 1520
Sampled by: AP
Sampling Method: Bladder Pump
Type of Sampling Equipment: 1/4-inch x 1/4-inch Poly tubing

FIELD BLANK NOTES

Field Blank Name:
Field Blank /Rinse Water type:
Lot Number:
Analyses:

VOLUME OF WATER TO BE PURGED

Casing Inside Diameter: inches
Casing Volume: gal/ft
Column of Water in Well: feet
Volume of Water in Well: gallons
Well Volumes to Purge:
Min Volume to be Purged: gallons
Method of Purging: Bladder
Well Purged Dry?: Yes No

COLUMN OF WATER IN WELL BEFORE PURGE

Total Depth of Well: 39.75 ft TOC
Depth to Water: 6.44 ft TOC
Column of Water in Well: ft
Depth to Water after Purge: 12.48 ft TOC

Appearance of Sample:

WELL PURGE CONTROL

	Purge 1	Purge 2	Purge 3	Purge 4	Purge 5	Purge 6
Time:	1450	1500	1505	1515	1520	
Volume Removed (liters):	.5	1.5	2.0	2.0	3.5	
pH:			~7.86	~7.97	~7.93	
Specific Conductance (uS/cm):	925	1031	967	937	932	
Temperature (Degrees C):	11.95	11.80	11.80	11.74	11.69	
Turbidity (NTU):	–	–	–	–	–	
ORP ~~Eh~~ (millivolts):		840.5	748.0	787.1	788.1	
DO (mg/l):		3.06	3.20	3.30	3.02	

← add pH cal okay

← add

Starting Purge Time: 1445
Ending Purge Time: 1520
Average Purge Rate: 100 ml/min
Total Volume Purged: 3.5 liters

Possible meter malfunction. pH gave negative reading and ORP seems abnormally high. Additional field readings were taken on 11/7

SAMPLE CONTAINERS REQUIRED

Analysis	Container Number, Type and Size	Filter	Preservative and Source
Volatiles (8260C)	(2) 40 ml vials	NA	HCL

Chain of Custody #:
Shuttle ID:
Trip Blank ID:
Lab Name:
Air Bill #:

REMARKS: 2" - 0.163 gal/ft 1" - 0.014 gal/ft
1.5" - 0.0918 gal/ft

Field Team Leader: Alex Phillips

Final Field parameter readings

pH = 7.24
ORP = 136.6 mV

SC = 904 uS/cm
temp = 13.62°C
DO = 1.53 mg/L

these field parameter reading were recorded 11/7/18 at 1600

GROUNDWATER SAMPLE COLLECTION FORM

Golder Associates

SITE DESCRIPTION

Project Name: Electrolux/Jefferson/IA
Project Number: 103-87305.01
Location: Jefferson, Iowa

WEATHER CONDITIONS

Temperature: 37°F
Wind: WNW 19 mph
Precipitation: none

SAMPLE DESCRIPTION

Sample ID: MW-57
Date: 11/6/18
Time at Well Site:
Time of Sample Collection: 1505
Sampled by: AP
Sampling Method: Bladder Pump
Type of Sampling Equipment: 1/4-inch x 1/4-inch Poly tubing

FIELD BLANK NOTES

Field Blank Name:
Field Blank /Rinse Water type:
Lot Number:
Analyses:

VOLUME OF WATER TO BE PURGED

Casing Inside Diameter: inches
Casing Volume: gal/ft
Column of Water in Well: feet
Volume of Water in Well: gallons
Well Volumes to Purge:
Min. Volume to be Purged: gallons
Method of Purging: Bladder
Well Purged Dry?: Yes No

COLUMN OF WATER IN WELL BEFORE PURGE

Total Depth of Well: 35.40 ft TOC
Depth to Water: 5.18 ft TOC
Column of Water in Well: ft
Depth to Water after Purge: 6.34 ft TOC

Appearance of Sample:

WELL PURGE CONTROL

	Purge 1	Purge 2	Purge 3	Purge 4	Purge 5	Purge 6
Time:	1435	1445	1455	1500	1505	
Volume Removed (liters):	0.8	2.4	4.0	4.8	5.6	
pH:	6.40	6.76	6.66	6.62	6.61	
Specific Conductance (uS/cm):	657	613	785	793	801	
Temperature (Degrees C):	13.72	13.66	13.67	13.69	13.67	
Turbidity (NTU):	–	–	–	–	–	
ORP ~~Eh~~ (millivolts):	112.5	35.7	22.2	18.6	13.3	
DO (mg/l) :	3.16	0.69	0.51	0.46	0.39	

Starting Purge Time: 1430
Ending Purge Time: 1505
Average Purge Rate: 160 ml/min
Total Volume Purged: 5.6 liters

SAMPLE CONTAINERS REQUIRED

Analysis	Container Number, Type and Size	Filter	Preservative and Source
Volatiles (8260C)	(2) 40 ml vials	NA	HCL

Chain of Custody #:
Shuttle ID:
Trip Blank ID:
Lab Name:
Air Bill #:

REMARKS: 2" - 0.163 gal/ft 1" - 0.014 gal/ft
1.5" - 0.0918 gal/ft

Rinsate Blank 01 collected @ 1535

Field Team Leader: Alan Phillips

GROUNDWATER SAMPLE COLLECTION FORM

Golder Associates

SITE DESCRIPTION

Project Name: Electrolux/Jefferson/IA
Project Number: 103-87305.01
Location: Jefferson, Iowa

WEATHER CONDITIONS

Temperature: 37°F
Wind: SNW 21 mph
Precipitation: none

SAMPLE DESCRIPTION

Sample ID: MW-65
Date: 11/6/18
Time at Well Site:
Time of Sample Collection: 0925
Sampled by: AP
Sampling Method: Bladder Pump
Type of Sampling Equipment: 1/4-inch x 1/4-inch Poly tubing

FIELD BLANK NOTES

Field Blank Name:
Field Blank /Rinse Water type:
Lot Number:
Analyses:

VOLUME OF WATER TO BE PURGED

Casing Inside Diameter: inches
Casing Volume: gal/ft
Column of Water in Well: feet
Volume of Water in Well: gallons
Well Volumes to Purge:
Min Volume to be Purged: gallons
Method of Purging: Bladder
Well Purged Dry?: Yes No

COLUMN OF WATER IN WELL BEFORE PURGE

Total Depth of Well: 32.39 ft TOC
Depth to Water: 25.95 ft TOC
Column of Water in Well: ft
Depth to Water after Purge: 32.15 ft TOC

Appearance of Sample:

WELL PURGE CONTROL

	Purge 1	Purge 2	Purge 3	Purge 4	Purge 5	Purge 6
Time:	0850	0900	0910	0915	0920	0925
Volume Removed (liters):	.5	1.5	2.5	3.0	3.5	4.0
pH:	5.26	5.44	5.03	5.76	5.90	5.91
Specific Conductance (uS/cm):	953	944	945	942	940	940
Temperature (Degrees C):	13.12	13.03	12.96	13.03	12.94	12.89
Turbidity (NTU):	–	–	–	–	–	–
ORP ~~Eh~~ (millivolts):	53.5	43.2	37.7	34.8	26.2	26.0
DO (mg/l):	1.13	0.72	0.45	0.37	0.37	0.38

Starting Purge Time: 0845
Ending Purge Time:
Average Purge Rate: 100 ml/min
Total Volume Purged: 4.0 liters

SAMPLE CONTAINERS REQUIRED

Analysis	Container Number, Type and Size	Filter	Preservative and Source
Volatiles (8260C)	(2) 40 ml vials	NA	HCL

Chain of Custody #:
Shuttle ID:
Trip Blank ID:
Lab Name:
Air Bill #:

REMARKS: 2" - 0.163 gal/ft 1" - 0.014 gal/ft
1.5" - 0.0918 gal/ft
Field Duplicate 01 collected here

Field Team Leader: Alan Phillips

GROUNDWATER SAMPLE COLLECTION FORM

Golder Associates

SITE DESCRIPTION

Project Name: Electrolux/Jefferson/IA
Project Number: 103-87305.01
Location: Jefferson, Iowa

WEATHER CONDITIONS

Temperature: 45° F
Wind:
Precipitation: Rain

SAMPLE DESCRIPTION

Sample ID: MW-66
Date: 11/5/16
Time at Well Site:
Time of Sample Collection: 1310
Sampled by: AP
Sampling Method: Bladder Pump
Type of Sampling Equipment: 1/4-inch x 1/4-inch Poly tubing

FIELD BLANK NOTES

Field Blank Name:
Field Blank /Rinse Water type:
Lot Number:
Analyses:

VOLUME OF WATER TO BE PURGED

Casing Inside Diameter: inches
Casing Volume: gal/ft
Column of Water in Well: feet
Volume of Water in Well: gallons
Well Volumes to Purge:
Min. Volume to be Purged: gallons
Method of Purging: Bladder
Well Purged Dry?: Yes (No)

COLUMN OF WATER IN WELL BEFORE PURGE

Total Depth of Well: 55 ft TOC
Depth to Water: 12.02 ft TOC
Column of Water in Well: ft
Depth to Water after Purge: 14.64 ft TOC

Appearance of Sample:

WELL PURGE CONTROL

	Purge 1	Purge 2	Purge 3	Purge 4	Purge 5	Purge 6
Time:	1235	1245	1255	1300	1305	1310
Volume Removed (liters):	.5	1.5	2.5	3.0	3.5	4.0
pH:	6.78	6.68	6.60	6.58	6.55	6.55
Specific Conductance (uS/cm):	805	814	815	815	816	815
Temperature (Degrees C):	12.36	12.34	12.30	12.25	12.22	12.19
Turbidity (NTU):	–	–	–	–	–	–
ORP ~~Eh~~ (millivolts):	-153.8	-131.7	-77.3	-58.7	54.9	49.2
DO (mg/l):	3.73	0.78	0.64	0.52	0.46	0.41

Starting Purge Time: 1230
Ending Purge Time: 1310
Average Purge Rate: 100 ml/min
Total Volume Purged: 4.0 liters

SAMPLE CONTAINERS REQUIRED

Analysis	Container Number, Type and Size	Filter	Preservative and Source
Volatiles (8260C)	(2) 40 ml vials	NA	HCL

Chain of Custody #:
Shuttle ID:
Trip Blank ID:
Lab Name:
Air Bill #:

REMARKS: 2" - 0.163 gal/ft 1" - 0.014 gal/ft
1.5" - 0.0918 gal/ft

Field Team Leader: Alan Phillips

GROUNDWATER SAMPLE COLLECTION FORM

Golder Associates

SITE DESCRIPTION

Project Name: Electrolux/Jefferson/IA
Project Number: 103-87305.01
Location: Jefferson, Iowa

WEATHER CONDITIONS

Temperature: 45°F
Wind:
Precipitation: rain

SAMPLE DESCRIPTION

Sample ID: MW-67
Date: 11/5/18
Time at Well Site:
Time of Sample Collection: 1135
Sampled by: AP
Sampling Method: Bladder Pump
Type of Sampling Equipment: 1/4-inch x 1/4-inch Poly tubing

FIELD BLANK NOTES

Field Blank Name:
Field Blank /Rinse Water type:
Lot Number:
Analyses:

VOLUME OF WATER TO BE PURGED

Casing Inside Diameter: inches
Casing Volume: gal/ft
Column of Water in Well: feet
Volume of Water in Well: gallons
Well Volumes to Purge:
Min Volume to be Purged: gallons
Method of Purging: Bladder
Well Purged Dry?: Yes (No)

COLUMN OF WATER IN WELL BEFORE PURGE

Total Depth of Well: 97 ft TOC
Depth to Water: 54.0 ft TOC
Column of Water in Well: ft
Depth to Water after Purge: 54.0 ft TOC

Appearance of Sample:

WELL PURGE CONTROL

	Purge 1	Purge 2	Purge 3	Purge 4	Purge 5	Purge 6	
Time	1100	1105	1115	1125	1130	1135	1140
Volume Removed (liters)	.8	1.6	3.2	4.8	5.6	6.4	7.2
pH	5.77	6.13	6.40	6.44	6.42	6.43	6.39
Specific Conductance (uS/cm)	808	846	887	919	921	924	925
Temperature (Degrees C)	11.20	11.14	11.04	11.05	11.04	11.04	11.01
Turbidity (NTU)	–	–	–	–	–	–	–
ORP ~~Eh~~ (millivolts)	-24.4	-47.8	-11.4	6.4	9.3	12.8	14.2
DO (mg/l)	5.17	1.85	0.77	0.78	0.69	0.56	0.55

Starting Purge Time: 1055
Ending Purge Time: 1135
Average Purge Rate: 800 ml/min
Total Volume Purged: 6.4 liters

SAMPLE CONTAINERS REQUIRED

Analysis	Container Number, Type and Size	Filter	Preservative and Source
Volatiles (8260C)	(2) 40 ml vials	NA	HCL

Chain of Custody #:
Shuttle ID:
Trip Blank ID:
Lab Name:
Air Bill #:

REMARKS: 2" - 0.163 gal/ft 1" - 0.014 gal/ft
1.5" - 0.0918 gal/ft
MS and MSD collected

Field Team Leader: Alex Phillips

APPENDIX B
LABORATORY ANALYTICAL REPORTS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319)277-2401

TestAmerica Job ID: 310-135464-1
TestAmerica Sample Delivery Group: 103-87305.01
Client Project/Site: Electrolux - Jefferson, IA

For:
Golder Associates Inc.
670 North Commercial Street
Suite 103
Manchester, New Hampshire 03101

Attn: James Peace

Authorized for release by:
8/8/2018 5:10:11 PM

Shawn Hayes, Senior Project Manager
(319)229-8211
shawn.hayes@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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Job ID: 310-135464-1

Laboratory: TestAmerica Cedar Falls

Narrative

Job Narrative
310-135464-1

Comments
No additional comments.

Receipt
The samples were received on 7/25/2018 5:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 4.7° C, 4.9° C and 5.3° C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-135464-1
SDG: 103-87305.01

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-135464-1	MW-67	Water	07/24/18 10:50	07/25/18 17:50
310-135464-2	MW-66	Water	07/24/18 12:45	07/25/18 17:50
310-135464-3	MW-56D	Water	07/24/18 15:30	07/25/18 17:50
310-135464-4	MW-47D	Water	07/24/18 17:25	07/25/18 17:50
310-135464-5	MW-65	Water	07/24/18 18:50	07/25/18 17:50
310-135464-6	MW-46	Water	07/24/18 20:25	07/25/18 17:50
310-135464-7	MW-57	Water	07/25/18 09:55	07/25/18 17:50
310-135464-8	MW-43D	Water	07/25/18 11:30	07/25/18 17:50
310-135464-9	Field Duplicate 01	Water	07/24/18 12:00	07/25/18 17:50
310-135464-10	Rinstate Blank 01	Water	07/25/18 12:30	07/25/18 17:50
310-135464-11	Trip Blank	Water	07/24/18 00:00	07/25/18 17:50

Detection Summary

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-135464-1
SDG: 103-87305.01

Client Sample ID: MW-67 — Lab Sample ID: 310-135464-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	80.5		5.00		mg/L	5		9056A	Total/NA
Iron	0.619		0.500		mg/L	1		6010C	Total/NA
Manganese	1.65	F1	0.0100		mg/L	1		6010C	Total/NA
Total Organic Carbon - Duplicates	1.74		1.00		mg/L	1		9060	Total/NA
Alkalinity as CaCO3	449		5.00		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	449		5.00		mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-66 — Lab Sample ID: 310-135464-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	11.3		1.00		ug/L	1		8260C	Total/NA
Sulfate	51.7		5.00		mg/L	5		9056A	Total/NA
Manganese	0.613		0.0100		mg/L	1		6010C	Total/NA
Total Organic Carbon - Duplicates	1.47		1.00		mg/L	1		9060	Total/NA
Alkalinity as CaCO3	400		5.00		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	400		5.00		mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-56D — Lab Sample ID: 310-135464-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	141		5.00		mg/L	5		9056A	Total/NA
Manganese	0.676		0.0100		mg/L	1		6010C	Total/NA
Total Organic Carbon - Duplicates	1.48		1.00		mg/L	1		9060	Total/NA
Alkalinity as CaCO3	375		5.00		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	375		5.00		mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-47D — Lab Sample ID: 310-135464-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.581		0.500		ug/L	1		8260C	Total/NA
1,1-Dichloroethene	168		2.00		ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	70900		1000		ug/L	1000		8260C	Total/NA
trans-1,2-Dichloroethene	545		100		ug/L	100		8260C	Total/NA
Tetrachloroethene	2.13		1.00		ug/L	1		8260C	Total/NA
Trichloroethene	15000		100		ug/L	100		8260C	Total/NA
Vinyl chloride	10600		100		ug/L	100		8260C	Total/NA
Chloride	268		20.0		mg/L	20		9056A	Total/NA
Sulfate	8.89		5.00		mg/L	5		9056A	Total/NA
Iron	4.08		0.500		mg/L	1		6010C	Total/NA
Manganese	0.766		0.0100		mg/L	1		6010C	Total/NA
Total Organic Carbon - Duplicates	6.29		1.00		mg/L	1		9060	Total/NA
Alkalinity as CaCO3	316		5.00		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	316		5.00		mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-65 — Lab Sample ID: 310-135464-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	318		100		ug/L	100		8260C	Total/NA
Trichloroethene	3440		100		ug/L	100		8260C	Total/NA
Iron	3.12		0.500		mg/L	1		6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-65 (Continued) — Lab Sample ID: 310-135464-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.297		0.0100		mg/L	1		6010C	Total/NA
Total Organic Carbon - Duplicates	3.56		1.00		mg/L	1		9060	Total/NA
Alkalinity as CaCO3	518		5.00		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	518		5.00		mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-46 — Lab Sample ID: 310-135464-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	6.04		2.00		ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	569		100		ug/L	100		8260C	Total/NA
Tetrachloroethene	11.6		1.00		ug/L	1		8260C	Total/NA
Trichloroethene	10200		100		ug/L	100		8260C	Total/NA
Sulfate	31.8		5.00		mg/L	5		9056A	Total/NA
Manganese	0.782		0.0100		mg/L	1		6010C	Total/NA
Total Organic Carbon - Duplicates	1.35		1.00		mg/L	1		9060	Total/NA
Alkalinity as CaCO3	395		5.00		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	395		5.00		mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-57 — Lab Sample ID: 310-135464-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	13.7		1.00		ug/L	1		8260C	Total/NA
Trichloroethene	689		10.0		ug/L	10		8260C	Total/NA
Chloride	20.4		5.00		mg/L	5		9056A	Total/NA
Sulfate	66.6		5.00		mg/L	5		9056A	Total/NA
Iron	2.29		0.500		mg/L	1		6010C	Total/NA
Manganese	0.680		0.0100		mg/L	1		6010C	Total/NA
Total Organic Carbon - Duplicates	2.53		1.00		mg/L	1		9060	Total/NA
Alkalinity as CaCO3	341		5.00		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	341		5.00		mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-43D — Lab Sample ID: 310-135464-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	5.23		1.00		ug/L	1		8260C	Total/NA
Chloride	11.1		5.00		mg/L	5		9056A	Total/NA
Sulfate	18.2		5.00		mg/L	5		9056A	Total/NA
Manganese	0.700		0.0100		mg/L	1		6010C	Total/NA
Total Organic Carbon - Duplicates	1.61		1.00		mg/L	1		9060	Total/NA
Alkalinity as CaCO3	355		5.00		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	355		5.00		mg/L	1		SM 2320B	Total/NA

Client Sample ID: Field Duplicate 01 — Lab Sample ID: 310-135464-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.554		0.500		ug/L	1		8260C	Total/NA
1,1-Dichloroethene	162		2.00		ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	74400		1000		ug/L	1000		8260C	Total/NA
trans-1,2-Dichloroethene	704		100		ug/L	100		8260C	Total/NA
Tetrachloroethene	2.35		1.00		ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: Field Duplicate 01 (Continued) — Lab Sample ID: 310-135464-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	15200		100		ug/L	100		8260C	Total/NA
Vinyl chloride	11100		100		ug/L	100		8260C	Total/NA
Chloride	261		20.0		mg/L	20		9056A	Total/NA
Sulfate	8.78		5.00		mg/L	5		9056A	Total/NA
Iron	3.79		0.500		mg/L	1		6010C	Total/NA
Manganese	0.762		0.0100		mg/L	1		6010C	Total/NA
Total Organic Carbon - Duplicates	5.90		1.00		mg/L	1		9060	Total/NA
Alkalinity as CaCO3	321		5.00		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	321		5.00		mg/L	1		SM 2320B	Total/NA

Client Sample ID: Rinstate Blank 01 — Lab Sample ID: 310-135464-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	6.83		1.00		ug/L	1		8260C	Total/NA
Alkalinity as CaCO3	13.2		5.00		mg/L	1		2320B	Total/NA
Total Organic Carbon - Duplicates	5.88		1.00		mg/L	1		9060	Total/NA

Client Sample ID: Trip Blank — Lab Sample ID: 310-135464-11

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-135464-1
SDG: 103-87305.01

Client Sample ID: MW-67

Date Collected: 07/24/18 10:50
Date Received: 07/25/18 17:50

Lab Sample ID: 310-135464-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			07/31/18 12:28	1
Benzene	<0.500		0.500		ug/L			07/31/18 12:28	1
Bromobenzene	<1.00		1.00		ug/L			07/31/18 12:28	1
Bromochloromethane	<5.00		5.00		ug/L			07/31/18 12:28	1
Bromodichloromethane	<1.00		1.00		ug/L			07/31/18 12:28	1
Bromoform	<5.00		5.00		ug/L			07/31/18 12:28	1
Bromomethane	<4.00		4.00		ug/L			07/31/18 12:28	1
2-Butanone (MEK)	<10.0		10.0		ug/L			07/31/18 12:28	1
n-Butylbenzene	<1.00		1.00		ug/L			07/31/18 12:28	1
sec-Butylbenzene	<1.00		1.00		ug/L			07/31/18 12:28	1
tert-Butylbenzene	<1.00		1.00		ug/L			07/31/18 12:28	1
Carbon disulfide	<1.00		1.00		ug/L			07/31/18 12:28	1
Carbon tetrachloride	<2.00		2.00		ug/L			07/31/18 12:28	1
Chlorobenzene	<1.00		1.00		ug/L			07/31/18 12:28	1
Chlorodibromomethane	<5.00		5.00		ug/L			07/31/18 12:28	1
Chloroethane	<4.00		4.00		ug/L			07/31/18 12:28	1
Chloroform	<3.00		3.00		ug/L			07/31/18 12:28	1
Chloromethane	<3.00		3.00		ug/L			07/31/18 12:28	1
2-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 12:28	1
4-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 12:28	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			07/31/18 12:28	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			07/31/18 12:28	1
Dibromomethane	<1.00		1.00		ug/L			07/31/18 12:28	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 12:28	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 12:28	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 12:28	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			07/31/18 12:28	1
1,1-Dichloroethane	<1.00		1.00		ug/L			07/31/18 12:28	1
1,2-Dichloroethane	<1.00		1.00		ug/L			07/31/18 12:28	1
1,1-Dichloroethene	<2.00		2.00		ug/L			07/31/18 12:28	1
cis-1,2-Dichloroethene	<1.00	F1 F2	1.00		ug/L			07/31/18 12:28	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			07/31/18 12:28	1
1,2-Dichloropropane	<1.00		1.00		ug/L			07/31/18 12:28	1
1,3-Dichloropropane	<1.00		1.00		ug/L			07/31/18 12:28	1
2,2-Dichloropropane	<4.00	F1	4.00		ug/L			07/31/18 12:28	1
1,1-Dichloropropene	<1.00		1.00		ug/L			07/31/18 12:28	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 12:28	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 12:28	1
Ethylbenzene	<1.00		1.00		ug/L			07/31/18 12:28	1
Hexachlorobutadiene	<5.00		5.00		ug/L			07/31/18 12:28	1
Hexane	<1.00		1.00		ug/L			07/31/18 12:28	1
Isopropylbenzene	<1.00		1.00		ug/L			07/31/18 12:28	1
p-Isopropyltoluene	<1.00		1.00		ug/L			07/31/18 12:28	1
Methylene Chloride	<5.00		5.00		ug/L			07/31/18 12:28	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			07/31/18 12:28	1
Naphthalene	<5.00		5.00		ug/L			07/31/18 12:28	1
N-Propylbenzene	<1.00		1.00		ug/L			07/31/18 12:28	1
Styrene	<1.00		1.00		ug/L			07/31/18 12:28	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 12:28	1

Client Sample ID: MW-67

Date Collected: 07/24/18 10:50
Date Received: 07/25/18 17:50

Lab Sample ID: 310-135464-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 12:28	1
Tetrachloroethene	<1.00		1.00		ug/L			07/31/18 12:28	1
Toluene	<1.00		1.00		ug/L			07/31/18 12:28	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 12:28	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 12:28	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			07/31/18 12:28	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			07/31/18 12:28	1
Trichloroethene	<1.00		1.00		ug/L			07/31/18 12:28	1
Trichlorofluoromethane	<4.00		4.00		ug/L			07/31/18 12:28	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			07/31/18 12:28	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 12:28	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 12:28	1
Vinyl chloride	<1.00		1.00		ug/L			07/31/18 12:28	1
Xylenes, Total	<3.00		3.00		ug/L			07/31/18 12:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*		*07/31/18 12:28*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*07/31/18 12:28*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/31/18 12:28*	*1*

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00		5.00		mg/L			07/30/18 21:56	5
Sulfate	**80.5**		5.00		mg/L			07/30/18 21:56	5

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.619**		0.500		mg/L		07/27/18 08:22	07/30/18 20:12	1
Manganese	**1.65**	**F1**	0.0100		mg/L		07/27/18 08:22	07/30/18 20:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<1.00		1.00		mg/L			07/31/18 07:29	1
Total Organic Carbon - Duplicates	**1.74**		1.00		mg/L			07/29/18 08:29	1
Alkalinity as CaCO3	**449**		5.00		mg/L			07/31/18 11:06	1
Bicarbonate Alkalinity as CaCO3	**449**		5.00		mg/L			07/31/18 11:06	1
Carbonate Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Hydroxide Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Phenolphthalein Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-135464-1
SDG: 103-87305.01

Client Sample ID: MW-66
Date Collected: 07/24/18 12:45
Date Received: 07/25/18 17:50

Lab Sample ID: 310-135464-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			07/31/18 12:51	1
Benzene	<0.500		0.500		ug/L			07/31/18 12:51	1
Bromobenzene	<1.00		1.00		ug/L			07/31/18 12:51	1
Bromochloromethane	<5.00		5.00		ug/L			07/31/18 12:51	1
Bromodichloromethane	<1.00		1.00		ug/L			07/31/18 12:51	1
Bromoform	<5.00		5.00		ug/L			07/31/18 12:51	1
Bromomethane	<4.00		4.00		ug/L			07/31/18 12:51	1
2-Butanone (MEK)	<10.0		10.0		ug/L			07/31/18 12:51	1
n-Butylbenzene	<1.00		1.00		ug/L			07/31/18 12:51	1
sec-Butylbenzene	<1.00		1.00		ug/L			07/31/18 12:51	1
tert-Butylbenzene	<1.00		1.00		ug/L			07/31/18 12:51	1
Carbon disulfide	<1.00		1.00		ug/L			07/31/18 12:51	1
Carbon tetrachloride	<2.00		2.00		ug/L			07/31/18 12:51	1
Chlorobenzene	<1.00		1.00		ug/L			07/31/18 12:51	1
Chlorodibromomethane	<5.00		5.00		ug/L			07/31/18 12:51	1
Chloroethane	<4.00		4.00		ug/L			07/31/18 12:51	1
Chloroform	<3.00		3.00		ug/L			07/31/18 12:51	1
Chloromethane	<3.00		3.00		ug/L			07/31/18 12:51	1
2-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 12:51	1
4-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 12:51	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			07/31/18 12:51	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			07/31/18 12:51	1
Dibromomethane	<1.00		1.00		ug/L			07/31/18 12:51	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 12:51	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 12:51	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 12:51	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			07/31/18 12:51	1
1,1-Dichloroethane	<1.00		1.00		ug/L			07/31/18 12:51	1
1,2-Dichloroethane	<1.00		1.00		ug/L			07/31/18 12:51	1
1,1-Dichloroethene	<2.00		2.00		ug/L			07/31/18 12:51	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			07/31/18 12:51	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			07/31/18 12:51	1
1,2-Dichloropropane	<1.00		1.00		ug/L			07/31/18 12:51	1
1,3-Dichloropropane	<1.00		1.00		ug/L			07/31/18 12:51	1
2,2-Dichloropropane	<4.00		4.00		ug/L			07/31/18 12:51	1
1,1-Dichloropropene	<1.00		1.00		ug/L			07/31/18 12:51	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 12:51	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 12:51	1
Ethylbenzene	<1.00		1.00		ug/L			07/31/18 12:51	1
Hexachlorobutadiene	<5.00		5.00		ug/L			07/31/18 12:51	1
Hexane	<1.00		1.00		ug/L			07/31/18 12:51	1
Isopropylbenzene	<1.00		1.00		ug/L			07/31/18 12:51	1
p-Isopropyltoluene	<1.00		1.00		ug/L			07/31/18 12:51	1
Methylene Chloride	<5.00		5.00		ug/L			07/31/18 12:51	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			07/31/18 12:51	1
Naphthalene	<5.00		5.00		ug/L			07/31/18 12:51	1
N-Propylbenzene	<1.00		1.00		ug/L			07/31/18 12:51	1
Styrene	<1.00		1.00		ug/L			07/31/18 12:51	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 12:51	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-135464-1
SDG: 103-87305.01

Client Sample ID: MW-66
Date Collected: 07/24/18 12:45
Date Received: 07/25/18 17:50

Lab Sample ID: 310-135464-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 12:51	1
Tetrachloroethene	<1.00		1.00		ug/L			07/31/18 12:51	1
Toluene	<1.00		1.00		ug/L			07/31/18 12:51	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 12:51	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 12:51	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			07/31/18 12:51	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			07/31/18 12:51	1
Trichloroethene	**11.3**		1.00		ug/L			07/31/18 12:51	1
Trichlorofluoromethane	<4.00		4.00		ug/L			07/31/18 12:51	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			07/31/18 12:51	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 12:51	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 12:51	1
Vinyl chloride	<1.00		1.00		ug/L			07/31/18 12:51	1
Xylenes, Total	<3.00		3.00		ug/L			07/31/18 12:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*		*07/31/18 12:51*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*07/31/18 12:51*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/31/18 12:51*	*1*

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00		5.00		mg/L			07/30/18 23:16	5
Sulfate	**51.7**		5.00		mg/L			07/30/18 23:16	5

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.500		0.500		mg/L		07/27/18 08:22	07/30/18 20:20	1
Manganese	**0.613**		0.0100		mg/L		07/27/18 08:22	07/30/18 20:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<1.00		1.00		mg/L			07/31/18 07:38	1
Total Organic Carbon - Duplicates	**1.47**		1.00		mg/L			07/29/18 09:09	1
Alkalinity as CaCO3	**400**		5.00		mg/L			07/31/18 11:06	1
Bicarbonate Alkalinity as CaCO3	**400**		5.00		mg/L			07/31/18 11:06	1
Carbonate Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Hydroxide Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Phenolphthalein Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-135464-1
SDG: 103-87305.01

Client Sample ID: MW-56D
Date Collected: 07/24/18 15:30
Date Received: 07/25/18 17:50

Lab Sample ID: 310-135464-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			07/31/18 13:15	1
Benzene	<0.500		0.500		ug/L			07/31/18 13:15	1
Bromobenzene	<1.00		1.00		ug/L			07/31/18 13:15	1
Bromochloromethane	<5.00		5.00		ug/L			07/31/18 13:15	1
Bromodichloromethane	<1.00		1.00		ug/L			07/31/18 13:15	1
Bromoform	<5.00		5.00		ug/L			07/31/18 13:15	1
Bromomethane	<4.00		4.00		ug/L			07/31/18 13:15	1
2-Butanone (MEK)	<10.0		10.0		ug/L			07/31/18 13:15	1
n-Butylbenzene	<1.00		1.00		ug/L			07/31/18 13:15	1
sec-Butylbenzene	<1.00		1.00		ug/L			07/31/18 13:15	1
tert-Butylbenzene	<1.00		1.00		ug/L			07/31/18 13:15	1
Carbon disulfide	<1.00		1.00		ug/L			07/31/18 13:15	1
Carbon tetrachloride	<2.00		2.00		ug/L			07/31/18 13:15	1
Chlorobenzene	<1.00		1.00		ug/L			07/31/18 13:15	1
Chlorodibromomethane	<5.00		5.00		ug/L			07/31/18 13:15	1
Chloroethane	<4.00		4.00		ug/L			07/31/18 13:15	1
Chloroform	<3.00		3.00		ug/L			07/31/18 13:15	1
Chloromethane	<3.00		3.00		ug/L			07/31/18 13:15	1
2-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 13:15	1
4-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 13:15	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			07/31/18 13:15	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			07/31/18 13:15	1
Dibromomethane	<1.00		1.00		ug/L			07/31/18 13:15	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 13:15	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 13:15	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 13:15	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			07/31/18 13:15	1
1,1-Dichloroethane	<1.00		1.00		ug/L			07/31/18 13:15	1
1,2-Dichloroethane	<1.00		1.00		ug/L			07/31/18 13:15	1
1,1-Dichloroethene	<2.00		2.00		ug/L			07/31/18 13:15	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			07/31/18 13:15	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			07/31/18 13:15	1
1,2-Dichloropropane	<1.00		1.00		ug/L			07/31/18 13:15	1
1,3-Dichloropropane	<1.00		1.00		ug/L			07/31/18 13:15	1
2,2-Dichloropropane	<4.00		4.00		ug/L			07/31/18 13:15	1
1,1-Dichloropropene	<1.00		1.00		ug/L			07/31/18 13:15	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 13:15	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 13:15	1
Ethylbenzene	<1.00		1.00		ug/L			07/31/18 13:15	1
Hexachlorobutadiene	<5.00		5.00		ug/L			07/31/18 13:15	1
Hexane	<1.00		1.00		ug/L			07/31/18 13:15	1
Isopropylbenzene	<1.00		1.00		ug/L			07/31/18 13:15	1
p-Isopropyltoluene	<1.00		1.00		ug/L			07/31/18 13:15	1
Methylene Chloride	<5.00		5.00		ug/L			07/31/18 13:15	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			07/31/18 13:15	1
Naphthalene	<5.00		5.00		ug/L			07/31/18 13:15	1
N-Propylbenzene	<1.00		1.00		ug/L			07/31/18 13:15	1
Styrene	<1.00		1.00		ug/L			07/31/18 13:15	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 13:15	1

Client Sample ID: MW-56D
Date Collected: 07/24/18 15:30
Date Received: 07/25/18 17:50

Lab Sample ID: 310-135464-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 13:15	1
Tetrachloroethene	<1.00		1.00		ug/L			07/31/18 13:15	1
Toluene	<1.00		1.00		ug/L			07/31/18 13:15	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 13:15	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 13:15	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			07/31/18 13:15	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			07/31/18 13:15	1
Trichloroethene	<1.00		1.00		ug/L			07/31/18 13:15	1
Trichlorofluoromethane	<4.00		4.00		ug/L			07/31/18 13:15	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			07/31/18 13:15	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 13:15	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 13:15	1
Vinyl chloride	<1.00		1.00		ug/L			07/31/18 13:15	1
Xylenes, Total	<3.00		3.00		ug/L			07/31/18 13:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*07/31/18 13:15*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*07/31/18 13:15*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/31/18 13:15*	*1*

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00		5.00		mg/L			07/30/18 23:32	5
Sulfate	**141**		5.00		mg/L			07/30/18 23:32	5

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.500		0.500		mg/L		07/27/18 08:22	07/30/18 20:22	1
Manganese	**0.676**		0.0100		mg/L		07/27/18 08:22	07/30/18 20:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<1.00		1.00		mg/L			07/31/18 07:41	1
Total Organic Carbon - Duplicates	**1.48**		1.00		mg/L			07/29/18 09:28	1
Alkalinity as CaCO3	**375**		5.00		mg/L			07/31/18 11:06	1
Bicarbonate Alkalinity as CaCO3	**375**		5.00		mg/L			07/31/18 11:06	1
Carbonate Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Hydroxide Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Phenolphthalein Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-135464-1
SDG: 103-87305.01

Client Sample ID: MW-47D
Date Collected: 07/24/18 17:25
Date Received: 07/25/18 17:50

Lab Sample ID: 310-135464-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			07/31/18 13:39	1
Benzene	**0.581**		0.500		ug/L			07/31/18 13:39	1
Bromobenzene	<1.00		1.00		ug/L			07/31/18 13:39	1
Bromochloromethane	<5.00		5.00		ug/L			07/31/18 13:39	1
Bromodichloromethane	<1.00		1.00		ug/L			07/31/18 13:39	1
Bromoform	<5.00		5.00		ug/L			07/31/18 13:39	1
Bromomethane	<4.00		4.00		ug/L			07/31/18 13:39	1
2-Butanone (MEK)	<10.0		10.0		ug/L			07/31/18 13:39	1
n-Butylbenzene	<1.00		1.00		ug/L			07/31/18 13:39	1
sec-Butylbenzene	<1.00		1.00		ug/L			07/31/18 13:39	1
tert-Butylbenzene	<1.00		1.00		ug/L			07/31/18 13:39	1
Carbon disulfide	<1.00		1.00		ug/L			07/31/18 13:39	1
Carbon tetrachloride	<2.00		2.00		ug/L			07/31/18 13:39	1
Chlorobenzene	<1.00		1.00		ug/L			07/31/18 13:39	1
Chlorodibromomethane	<5.00		5.00		ug/L			07/31/18 13:39	1
Chloroethane	<4.00		4.00		ug/L			07/31/18 13:39	1
Chloroform	<3.00		3.00		ug/L			07/31/18 13:39	1
Chloromethane	<3.00		3.00		ug/L			07/31/18 13:39	1
2-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 13:39	1
4-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 13:39	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			07/31/18 13:39	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			07/31/18 13:39	1
Dibromomethane	<1.00		1.00		ug/L			07/31/18 13:39	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 13:39	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 13:39	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 13:39	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			07/31/18 13:39	1
1,1-Dichloroethane	<1.00		1.00		ug/L			07/31/18 13:39	1
1,2-Dichloroethane	<1.00		1.00		ug/L			07/31/18 13:39	1
1,1-Dichloroethene	**168**		2.00		ug/L			07/31/18 13:39	1
cis-1,2-Dichloroethene	**70900**		1000		ug/L			08/02/18 14:02	1000
trans-1,2-Dichloroethene	**545**		100		ug/L			08/01/18 20:38	100
1,2-Dichloropropane	<1.00		1.00		ug/L			07/31/18 13:39	1
1,3-Dichloropropane	<1.00		1.00		ug/L			07/31/18 13:39	1
2,2-Dichloropropane	<400		400		ug/L			08/01/18 20:38	100
1,1-Dichloropropene	<1.00		1.00		ug/L			07/31/18 13:39	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 13:39	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 13:39	1
Ethylbenzene	<1.00		1.00		ug/L			07/31/18 13:39	1
Hexachlorobutadiene	<5.00		5.00		ug/L			07/31/18 13:39	1
Hexane	<1.00		1.00		ug/L			07/31/18 13:39	1
Isopropylbenzene	<1.00		1.00		ug/L			07/31/18 13:39	1
p-Isopropyltoluene	<1.00		1.00		ug/L			07/31/18 13:39	1
Methylene Chloride	<5.00		5.00		ug/L			07/31/18 13:39	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			07/31/18 13:39	1
Naphthalene	<5.00		5.00		ug/L			07/31/18 13:39	1
N-Propylbenzene	<1.00		1.00		ug/L			07/31/18 13:39	1
Styrene	<1.00		1.00		ug/L			07/31/18 13:39	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 13:39	1

Client Sample ID: MW-47D

Date Collected: 07/24/18 17:25
Date Received: 07/25/18 17:50

Lab Sample ID: 310-135464-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 13:39	1
Tetrachloroethene	**2.13**		1.00		ug/L			07/31/18 13:39	1
Toluene	<1.00		1.00		ug/L			07/31/18 13:39	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 13:39	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 13:39	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			07/31/18 13:39	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			07/31/18 13:39	1
Trichloroethene	**15000**		100		ug/L			08/01/18 20:38	100
Trichlorofluoromethane	<4.00		4.00		ug/L			07/31/18 13:39	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			07/31/18 13:39	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 13:39	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 13:39	1
Vinyl chloride	**10600**		100		ug/L			08/01/18 20:38	100
Xylenes, Total	<3.00		3.00		ug/L			07/31/18 13:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*		*07/31/18 13:39*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*08/01/18 20:38*	*100*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*08/02/18 14:02*	*1000*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*07/31/18 13:39*	*1*
Dibromofluoromethane (Surr)	*88*		*80 - 120*		*08/01/18 20:38*	*100*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*08/02/18 14:02*	*1000*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/31/18 13:39*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*08/01/18 20:38*	*100*
Toluene-d8 (Surr)	*93*		*80 - 120*		*08/02/18 14:02*	*1000*

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**268**		20.0		mg/L			07/31/18 09:48	20
Sulfate	**8.89**		5.00		mg/L			07/30/18 23:49	5

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**4.08**		0.500		mg/L		07/27/18 08:22	07/30/18 20:24	1
Manganese	**0.766**		0.0100		mg/L		07/27/18 08:22	07/30/18 20:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<1.00		1.00		mg/L			07/31/18 07:44	1
Total Organic Carbon - Duplicates	**6.29**		1.00		mg/L			07/29/18 09:48	1
Alkalinity as CaCO3	**316**		5.00		mg/L			07/31/18 11:06	1
Bicarbonate Alkalinity as CaCO3	**316**		5.00		mg/L			07/31/18 11:06	1
Carbonate Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Hydroxide Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Phenolphthalein Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-135464-1
SDG: 103-87305.01

Client Sample ID: MW-65

Date Collected: 07/24/18 18:50
Date Received: 07/25/18 17:50

Lab Sample ID: 310-135464-5

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			07/31/18 14:03	1
Benzene	<0.500		0.500		ug/L			07/31/18 14:03	1
Bromobenzene	<1.00		1.00		ug/L			07/31/18 14:03	1
Bromochloromethane	<5.00		5.00		ug/L			07/31/18 14:03	1
Bromodichloromethane	<1.00		1.00		ug/L			07/31/18 14:03	1
Bromoform	<5.00		5.00		ug/L			07/31/18 14:03	1
Bromomethane	<4.00		4.00		ug/L			07/31/18 14:03	1
2-Butanone (MEK)	<10.0		10.0		ug/L			07/31/18 14:03	1
n-Butylbenzene	<1.00		1.00		ug/L			07/31/18 14:03	1
sec-Butylbenzene	<1.00		1.00		ug/L			07/31/18 14:03	1
tert-Butylbenzene	<1.00		1.00		ug/L			07/31/18 14:03	1
Carbon disulfide	<1.00		1.00		ug/L			07/31/18 14:03	1
Carbon tetrachloride	<2.00		2.00		ug/L			07/31/18 14:03	1
Chlorobenzene	<1.00		1.00		ug/L			07/31/18 14:03	1
Chlorodibromomethane	<5.00		5.00		ug/L			07/31/18 14:03	1
Chloroethane	<4.00		4.00		ug/L			07/31/18 14:03	1
Chloroform	<3.00		3.00		ug/L			07/31/18 14:03	1
Chloromethane	<3.00		3.00		ug/L			07/31/18 14:03	1
2-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 14:03	1
4-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 14:03	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			07/31/18 14:03	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			07/31/18 14:03	1
Dibromomethane	<1.00		1.00		ug/L			07/31/18 14:03	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 14:03	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 14:03	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 14:03	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			07/31/18 14:03	1
1,1-Dichloroethane	<1.00		1.00		ug/L			07/31/18 14:03	1
1,2-Dichloroethane	<1.00		1.00		ug/L			07/31/18 14:03	1
1,1-Dichloroethene	<2.00		2.00		ug/L			07/31/18 14:03	1
cis-1,2-Dichloroethene	**318**		100		ug/L			08/01/18 20:16	100
trans-1,2-Dichloroethene	<100		100		ug/L			08/01/18 20:16	100
1,2-Dichloropropane	<1.00		1.00		ug/L			07/31/18 14:03	1
1,3-Dichloropropane	<1.00		1.00		ug/L			07/31/18 14:03	1
2,2-Dichloropropane	<4.00		4.00		ug/L			07/31/18 14:03	1
1,1-Dichloropropene	<1.00		1.00		ug/L			07/31/18 14:03	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 14:03	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 14:03	1
Ethylbenzene	<1.00		1.00		ug/L			07/31/18 14:03	1
Hexachlorobutadiene	<5.00		5.00		ug/L			07/31/18 14:03	1
Hexane	<1.00		1.00		ug/L			07/31/18 14:03	1
Isopropylbenzene	<1.00		1.00		ug/L			07/31/18 14:03	1
p-Isopropyltoluene	<1.00		1.00		ug/L			07/31/18 14:03	1
Methylene Chloride	<5.00		5.00		ug/L			07/31/18 14:03	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			07/31/18 14:03	1
Naphthalene	<5.00		5.00		ug/L			07/31/18 14:03	1
N-Propylbenzene	<1.00		1.00		ug/L			07/31/18 14:03	1
Styrene	<1.00		1.00		ug/L			07/31/18 14:03	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 14:03	1

Client Sample ID: MW-65
Date Collected: 07/24/18 18:50
Date Received: 07/25/18 17:50

Lab Sample ID: 310-135464-5
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 14:03	1
Tetrachloroethene	<1.00		1.00		ug/L			07/31/18 14:03	1
Toluene	<1.00		1.00		ug/L			07/31/18 14:03	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 14:03	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 14:03	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			07/31/18 14:03	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			07/31/18 14:03	1
Trichloroethene	**3440**		100		ug/L			08/01/18 20:16	100
Trichlorofluoromethane	<4.00		4.00		ug/L			07/31/18 14:03	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			07/31/18 14:03	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 14:03	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 14:03	1
Vinyl chloride	<100		100		ug/L			08/01/18 20:16	100
Xylenes, Total	<3.00		3.00		ug/L			07/31/18 14:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*80 - 120*		*07/31/18 14:03*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*08/01/18 20:16*	*100*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*07/31/18 14:03*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*08/01/18 20:16*	*100*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/31/18 14:03*	*1*
Toluene-d8 (Surr)	*93*		*80 - 120*		*08/01/18 20:16*	*100*

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00		5.00		mg/L			07/31/18 00:05	5
Sulfate	<5.00		5.00		mg/L			07/31/18 00:05	5

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**3.12**		0.500		mg/L		07/27/18 08:22	07/30/18 20:25	1
Manganese	**0.297**		0.0100		mg/L		07/27/18 08:22	07/30/18 20:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<1.00		1.00		mg/L			07/31/18 07:47	1
Total Organic Carbon - Duplicates	**3.56**		1.00		mg/L			07/29/18 10:09	1
Alkalinity as CaCO3	**518**		5.00		mg/L			07/31/18 11:06	1
Bicarbonate Alkalinity as CaCO3	**518**		5.00		mg/L			07/31/18 11:06	1
Carbonate Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Hydroxide Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Phenolphthalein Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-135464-1
SDG: 103-87305.01

Client Sample ID: MW-46
Date Collected: 07/24/18 20:25
Date Received: 07/25/18 17:50

Lab Sample ID: 310-135464-6
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			07/31/18 14:26	1
Benzene	<0.500		0.500		ug/L			07/31/18 14:26	1
Bromobenzene	<1.00		1.00		ug/L			07/31/18 14:26	1
Bromochloromethane	<5.00		5.00		ug/L			07/31/18 14:26	1
Bromodichloromethane	<1.00		1.00		ug/L			07/31/18 14:26	1
Bromoform	<5.00		5.00		ug/L			07/31/18 14:26	1
Bromomethane	<4.00		4.00		ug/L			07/31/18 14:26	1
2-Butanone (MEK)	<10.0		10.0		ug/L			07/31/18 14:26	1
n-Butylbenzene	<1.00		1.00		ug/L			07/31/18 14:26	1
sec-Butylbenzene	<1.00		1.00		ug/L			07/31/18 14:26	1
tert-Butylbenzene	<1.00		1.00		ug/L			07/31/18 14:26	1
Carbon disulfide	<1.00		1.00		ug/L			07/31/18 14:26	1
Carbon tetrachloride	<2.00		2.00		ug/L			07/31/18 14:26	1
Chlorobenzene	<1.00		1.00		ug/L			07/31/18 14:26	1
Chlorodibromomethane	<5.00		5.00		ug/L			07/31/18 14:26	1
Chloroethane	<4.00		4.00		ug/L			07/31/18 14:26	1
Chloroform	<3.00		3.00		ug/L			07/31/18 14:26	1
Chloromethane	<3.00		3.00		ug/L			07/31/18 14:26	1
2-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 14:26	1
4-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 14:26	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			07/31/18 14:26	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			07/31/18 14:26	1
Dibromomethane	<1.00		1.00		ug/L			07/31/18 14:26	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 14:26	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 14:26	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 14:26	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			07/31/18 14:26	1
1,1-Dichloroethane	<1.00		1.00		ug/L			07/31/18 14:26	1
1,2-Dichloroethane	<1.00		1.00		ug/L			07/31/18 14:26	1
1,1-Dichloroethene	**6.04**		2.00		ug/L			07/31/18 14:26	1
cis-1,2-Dichloroethene	**569**		100		ug/L			08/01/18 19:54	100
trans-1,2-Dichloroethene	<100		100		ug/L			08/01/18 19:54	100
1,2-Dichloropropane	<1.00		1.00		ug/L			07/31/18 14:26	1
1,3-Dichloropropane	<1.00		1.00		ug/L			07/31/18 14:26	1
2,2-Dichloropropane	<4.00		4.00		ug/L			07/31/18 14:26	1
1,1-Dichloropropene	<1.00		1.00		ug/L			07/31/18 14:26	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 14:26	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 14:26	1
Ethylbenzene	<1.00		1.00		ug/L			07/31/18 14:26	1
Hexachlorobutadiene	<5.00		5.00		ug/L			07/31/18 14:26	1
Hexane	<1.00		1.00		ug/L			07/31/18 14:26	1
Isopropylbenzene	<1.00		1.00		ug/L			07/31/18 14:26	1
p-Isopropyltoluene	<1.00		1.00		ug/L			07/31/18 14:26	1
Methylene Chloride	<5.00		5.00		ug/L			07/31/18 14:26	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			07/31/18 14:26	1
Naphthalene	<5.00		5.00		ug/L			07/31/18 14:26	1
N-Propylbenzene	<1.00		1.00		ug/L			07/31/18 14:26	1
Styrene	<1.00		1.00		ug/L			07/31/18 14:26	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 14:26	1

Client Sample ID: MW-46

Date Collected: 07/24/18 20:25
Date Received: 07/25/18 17:50

Lab Sample ID: 310-135464-6
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 14:26	1
Tetrachloroethene	**11.6**		1.00		ug/L			07/31/18 14:26	1
Toluene	<1.00		1.00		ug/L			07/31/18 14:26	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 14:26	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 14:26	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			07/31/18 14:26	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			07/31/18 14:26	1
Trichloroethene	**10200**		100		ug/L			08/01/18 19:54	100
Trichlorofluoromethane	<4.00		4.00		ug/L			07/31/18 14:26	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			07/31/18 14:26	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 14:26	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 14:26	1
Vinyl chloride	<100		100		ug/L			08/01/18 19:54	100
Xylenes, Total	<3.00		3.00		ug/L			07/31/18 14:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*80 - 120*		*07/31/18 14:26*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*08/01/18 19:54*	*100*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*07/31/18 14:26*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*08/01/18 19:54*	*100*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/31/18 14:26*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*08/01/18 19:54*	*100*

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00		5.00		mg/L			07/31/18 00:20	5
Sulfate	**31.8**		5.00		mg/L			07/31/18 00:20	5

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.500		0.500		mg/L		07/27/18 08:22	07/30/18 20:31	1
Manganese	**0.782**		0.0100		mg/L		07/27/18 08:22	07/30/18 20:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<1.00		1.00		mg/L			07/31/18 07:50	1
Total Organic Carbon - Duplicates	**1.35**		1.00		mg/L			07/29/18 10:28	1
Alkalinity as CaCO3	**395**		5.00		mg/L			07/31/18 11:06	1
Bicarbonate Alkalinity as CaCO3	**395**		5.00		mg/L			07/31/18 11:06	1
Carbonate Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Hydroxide Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Phenolphthalein Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-135464-1
SDG: 103-87305.01

Client Sample ID: MW-57
Date Collected: 07/25/18 09:55
Date Received: 07/25/18 17:50

Lab Sample ID: 310-135464-7
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			07/31/18 14:50	1
Benzene	<0.500		0.500		ug/L			07/31/18 14:50	1
Bromobenzene	<1.00		1.00		ug/L			07/31/18 14:50	1
Bromochloromethane	<5.00		5.00		ug/L			07/31/18 14:50	1
Bromodichloromethane	<1.00		1.00		ug/L			07/31/18 14:50	1
Bromoform	<5.00		5.00		ug/L			07/31/18 14:50	1
Bromomethane	<4.00		4.00		ug/L			07/31/18 14:50	1
2-Butanone (MEK)	<10.0		10.0		ug/L			07/31/18 14:50	1
n-Butylbenzene	<1.00		1.00		ug/L			07/31/18 14:50	1
sec-Butylbenzene	<1.00		1.00		ug/L			07/31/18 14:50	1
tert-Butylbenzene	<1.00		1.00		ug/L			07/31/18 14:50	1
Carbon disulfide	<1.00		1.00		ug/L			07/31/18 14:50	1
Carbon tetrachloride	<2.00		2.00		ug/L			07/31/18 14:50	1
Chlorobenzene	<1.00		1.00		ug/L			07/31/18 14:50	1
Chlorodibromomethane	<5.00		5.00		ug/L			07/31/18 14:50	1
Chloroethane	<4.00		4.00		ug/L			07/31/18 14:50	1
Chloroform	<3.00		3.00		ug/L			07/31/18 14:50	1
Chloromethane	<3.00		3.00		ug/L			07/31/18 14:50	1
2-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 14:50	1
4-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 14:50	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			07/31/18 14:50	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			07/31/18 14:50	1
Dibromomethane	<1.00		1.00		ug/L			07/31/18 14:50	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 14:50	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 14:50	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 14:50	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			07/31/18 14:50	1
1,1-Dichloroethane	<1.00		1.00		ug/L			07/31/18 14:50	1
1,2-Dichloroethane	<1.00		1.00		ug/L			07/31/18 14:50	1
1,1-Dichloroethene	<2.00		2.00		ug/L			07/31/18 14:50	1
cis-1,2-Dichloroethene	**13.7**		1.00		ug/L			07/31/18 14:50	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			07/31/18 14:50	1
1,2-Dichloropropane	<1.00		1.00		ug/L			07/31/18 14:50	1
1,3-Dichloropropane	<1.00		1.00		ug/L			07/31/18 14:50	1
2,2-Dichloropropane	<4.00		4.00		ug/L			07/31/18 14:50	1
1,1-Dichloropropene	<1.00		1.00		ug/L			07/31/18 14:50	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 14:50	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 14:50	1
Ethylbenzene	<1.00		1.00		ug/L			07/31/18 14:50	1
Hexachlorobutadiene	<5.00		5.00		ug/L			07/31/18 14:50	1
Hexane	<1.00		1.00		ug/L			07/31/18 14:50	1
Isopropylbenzene	<1.00		1.00		ug/L			07/31/18 14:50	1
p-Isopropyltoluene	<1.00		1.00		ug/L			07/31/18 14:50	1
Methylene Chloride	<5.00		5.00		ug/L			07/31/18 14:50	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			07/31/18 14:50	1
Naphthalene	<5.00		5.00		ug/L			07/31/18 14:50	1
N-Propylbenzene	<1.00		1.00		ug/L			07/31/18 14:50	1
Styrene	<1.00		1.00		ug/L			07/31/18 14:50	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 14:50	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-135464-1
SDG: 103-87305.01

Client Sample ID: MW-57

Date Collected: 07/25/18 09:55
Date Received: 07/25/18 17:50

Lab Sample ID: 310-135464-7

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 14:50	1
Tetrachloroethene	<1.00		1.00		ug/L			07/31/18 14:50	1
Toluene	<1.00		1.00		ug/L			07/31/18 14:50	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 14:50	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 14:50	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			07/31/18 14:50	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			07/31/18 14:50	1
Trichloroethene	**689**		10.0		ug/L			08/01/18 18:05	10
Trichlorofluoromethane	<4.00		4.00		ug/L			07/31/18 14:50	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			07/31/18 14:50	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 14:50	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 14:50	1
Vinyl chloride	<1.00		1.00		ug/L			07/31/18 14:50	1
Xylenes, Total	<3.00		3.00		ug/L			07/31/18 14:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*07/31/18 14:50*	*1*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*		*08/01/18 18:05*	*10*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*07/31/18 14:50*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*08/01/18 18:05*	*10*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/31/18 14:50*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*08/01/18 18:05*	*10*

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**20.4**		5.00		mg/L			07/31/18 00:36	5
Sulfate	**66.6**		5.00		mg/L			07/31/18 00:36	5

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**2.29**		0.500		mg/L		07/27/18 08:22	07/30/18 20:33	1
Manganese	**0.680**		0.0100		mg/L		07/27/18 08:22	07/30/18 20:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<1.00		1.00		mg/L			07/31/18 07:54	1
Total Organic Carbon - Duplicates	**2.53**		1.00		mg/L			07/29/18 10:47	1
Alkalinity as CaCO3	**341**		5.00		mg/L			07/31/18 11:06	1
Bicarbonate Alkalinity as CaCO3	**341**		5.00		mg/L			07/31/18 11:06	1
Carbonate Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Hydroxide Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Phenolphthalein Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1

Client Sample ID: MW-43D

Date Collected: 07/25/18 11:30
Date Received: 07/25/18 17:50

Lab Sample ID: 310-135464-8
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			07/31/18 15:14	1
Benzene	<0.500		0.500		ug/L			07/31/18 15:14	1
Bromobenzene	<1.00		1.00		ug/L			07/31/18 15:14	1
Bromochloromethane	<5.00		5.00		ug/L			07/31/18 15:14	1
Bromodichloromethane	<1.00		1.00		ug/L			07/31/18 15:14	1
Bromoform	<5.00		5.00		ug/L			07/31/18 15:14	1
Bromomethane	<4.00		4.00		ug/L			07/31/18 15:14	1
2-Butanone (MEK)	<10.0		10.0		ug/L			07/31/18 15:14	1
n-Butylbenzene	<1.00		1.00		ug/L			07/31/18 15:14	1
sec-Butylbenzene	<1.00		1.00		ug/L			07/31/18 15:14	1
tert-Butylbenzene	<1.00		1.00		ug/L			07/31/18 15:14	1
Carbon disulfide	<1.00		1.00		ug/L			07/31/18 15:14	1
Carbon tetrachloride	<2.00		2.00		ug/L			07/31/18 15:14	1
Chlorobenzene	<1.00		1.00		ug/L			07/31/18 15:14	1
Chlorodibromomethane	<5.00		5.00		ug/L			07/31/18 15:14	1
Chloroethane	<4.00		4.00		ug/L			07/31/18 15:14	1
Chloroform	<3.00		3.00		ug/L			07/31/18 15:14	1
Chloromethane	<3.00		3.00		ug/L			07/31/18 15:14	1
2-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 15:14	1
4-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 15:14	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			07/31/18 15:14	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			07/31/18 15:14	1
Dibromomethane	<1.00		1.00		ug/L			07/31/18 15:14	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 15:14	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 15:14	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 15:14	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			07/31/18 15:14	1
1,1-Dichloroethane	<1.00		1.00		ug/L			07/31/18 15:14	1
1,2-Dichloroethane	<1.00		1.00		ug/L			07/31/18 15:14	1
1,1-Dichloroethene	<2.00		2.00		ug/L			07/31/18 15:14	1
cis-1,2-Dichloroethene	**5.23**		1.00		ug/L			07/31/18 15:14	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			07/31/18 15:14	1
1,2-Dichloropropane	<1.00		1.00		ug/L			07/31/18 15:14	1
1,3-Dichloropropane	<1.00		1.00		ug/L			07/31/18 15:14	1
2,2-Dichloropropane	<4.00		4.00		ug/L			07/31/18 15:14	1
1,1-Dichloropropene	<1.00		1.00		ug/L			07/31/18 15:14	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 15:14	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 15:14	1
Ethylbenzene	<1.00		1.00		ug/L			07/31/18 15:14	1
Hexachlorobutadiene	<5.00		5.00		ug/L			07/31/18 15:14	1
Hexane	<1.00		1.00		ug/L			07/31/18 15:14	1
Isopropylbenzene	<1.00		1.00		ug/L			07/31/18 15:14	1
p-Isopropyltoluene	<1.00		1.00		ug/L			07/31/18 15:14	1
Methylene Chloride	<5.00		5.00		ug/L			07/31/18 15:14	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			07/31/18 15:14	1
Naphthalene	<5.00		5.00		ug/L			07/31/18 15:14	1
N-Propylbenzene	<1.00		1.00		ug/L			07/31/18 15:14	1
Styrene	<1.00		1.00		ug/L			07/31/18 15:14	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 15:14	1

Client Sample ID: MW-43D
Date Collected: 07/25/18 11:30
Date Received: 07/25/18 17:50

Lab Sample ID: 310-135464-8
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 15:14	1
Tetrachloroethene	<1.00		1.00		ug/L			07/31/18 15:14	1
Toluene	<1.00		1.00		ug/L			07/31/18 15:14	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 15:14	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 15:14	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			07/31/18 15:14	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			07/31/18 15:14	1
Trichloroethene	<1.00		1.00		ug/L			08/01/18 16:39	1
Trichlorofluoromethane	<4.00		4.00		ug/L			07/31/18 15:14	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			07/31/18 15:14	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 15:14	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 15:14	1
Vinyl chloride	<1.00		1.00		ug/L			07/31/18 15:14	1
Xylenes, Total	<3.00		3.00		ug/L			07/31/18 15:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*		*07/31/18 15:14*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*08/01/18 16:39*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*07/31/18 15:14*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*08/01/18 16:39*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/31/18 15:14*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*08/01/18 16:39*	*1*

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**11.1**		5.00		mg/L			07/31/18 00:51	5
Sulfate	**18.2**		5.00		mg/L			07/31/18 00:51	5

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.500		0.500		mg/L		07/27/18 08:22	07/30/18 20:34	1
Manganese	**0.700**		0.0100		mg/L		07/27/18 08:22	07/30/18 20:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<1.00		1.00		mg/L			07/31/18 07:57	1
Total Organic Carbon - Duplicates	**1.61**		1.00		mg/L			07/29/18 11:07	1
Alkalinity as CaCO3	**355**		5.00		mg/L			07/31/18 11:06	1
Bicarbonate Alkalinity as CaCO3	**355**		5.00		mg/L			07/31/18 11:06	1
Carbonate Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Hydroxide Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Phenolphthalein Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-135464-1
SDG: 103-87305.01

Client Sample ID: Field Duplicate 01
Date Collected: 07/24/18 12:00
Date Received: 07/25/18 17:50

Lab Sample ID: 310-135464-9
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			07/31/18 15:37	1
Benzene	**0.554**		0.500		ug/L			07/31/18 15:37	1
Bromobenzene	<1.00		1.00		ug/L			07/31/18 15:37	1
Bromochloromethane	<5.00		5.00		ug/L			07/31/18 15:37	1
Bromodichloromethane	<1.00		1.00		ug/L			07/31/18 15:37	1
Bromoform	<5.00		5.00		ug/L			07/31/18 15:37	1
Bromomethane	<4.00		4.00		ug/L			07/31/18 15:37	1
2-Butanone (MEK)	<10.0		10.0		ug/L			07/31/18 15:37	1
n-Butylbenzene	<1.00		1.00		ug/L			07/31/18 15:37	1
sec-Butylbenzene	<1.00		1.00		ug/L			07/31/18 15:37	1
tert-Butylbenzene	<1.00		1.00		ug/L			07/31/18 15:37	1
Carbon disulfide	<1.00		1.00		ug/L			07/31/18 15:37	1
Carbon tetrachloride	<2.00		2.00		ug/L			07/31/18 15:37	1
Chlorobenzene	<1.00		1.00		ug/L			07/31/18 15:37	1
Chlorodibromomethane	<5.00		5.00		ug/L			07/31/18 15:37	1
Chloroethane	<4.00		4.00		ug/L			07/31/18 15:37	1
Chloroform	<3.00		3.00		ug/L			07/31/18 15:37	1
Chloromethane	<3.00		3.00		ug/L			07/31/18 15:37	1
2-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 15:37	1
4-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 15:37	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			07/31/18 15:37	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			07/31/18 15:37	1
Dibromomethane	<1.00		1.00		ug/L			07/31/18 15:37	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 15:37	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 15:37	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 15:37	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			07/31/18 15:37	1
1,1-Dichloroethane	<1.00		1.00		ug/L			07/31/18 15:37	1
1,2-Dichloroethane	<1.00		1.00		ug/L			07/31/18 15:37	1
1,1-Dichloroethene	**162**		2.00		ug/L			07/31/18 15:37	1
cis-1,2-Dichloroethene	**74400**		1000		ug/L			08/02/18 13:40	1000
trans-1,2-Dichloroethene	**704**		100		ug/L			08/01/18 19:32	100
1,2-Dichloropropane	<1.00		1.00		ug/L			07/31/18 15:37	1
1,3-Dichloropropane	<1.00		1.00		ug/L			07/31/18 15:37	1
2,2-Dichloropropane	<4.00		4.00		ug/L			07/31/18 15:37	1
1,1-Dichloropropene	<1.00		1.00		ug/L			07/31/18 15:37	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 15:37	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 15:37	1
Ethylbenzene	<1.00		1.00		ug/L			07/31/18 15:37	1
Hexachlorobutadiene	<5.00		5.00		ug/L			07/31/18 15:37	1
Hexane	<1.00		1.00		ug/L			07/31/18 15:37	1
Isopropylbenzene	<1.00		1.00		ug/L			07/31/18 15:37	1
p-Isopropyltoluene	<1.00		1.00		ug/L			07/31/18 15:37	1
Methylene Chloride	<5.00		5.00		ug/L			07/31/18 15:37	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			07/31/18 15:37	1
Naphthalene	<5.00		5.00		ug/L			07/31/18 15:37	1
N-Propylbenzene	<1.00		1.00		ug/L			07/31/18 15:37	1
Styrene	<1.00		1.00		ug/L			07/31/18 15:37	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 15:37	1

Client Sample ID: Field Duplicate 01

Lab Sample ID: 310-135464-9

Date Collected: 07/24/18 12:00
Matrix: Water
Date Received: 07/25/18 17:50

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 15:37	1
Tetrachloroethene	**2.35**		1.00		ug/L			07/31/18 15:37	1
Toluene	<1.00		1.00		ug/L			07/31/18 15:37	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 15:37	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 15:37	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			07/31/18 15:37	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			07/31/18 15:37	1
Trichloroethene	**15200**		100		ug/L			08/01/18 19:32	100
Trichlorofluoromethane	<4.00		4.00		ug/L			07/31/18 15:37	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			07/31/18 15:37	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 15:37	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 15:37	1
Vinyl chloride	**11100**		100		ug/L			08/01/18 19:32	100
Xylenes, Total	<3.00		3.00		ug/L			07/31/18 15:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*		*07/31/18 15:37*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*08/01/18 19:32*	*100*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*08/02/18 13:40*	*1000*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*07/31/18 15:37*	*1*
Dibromofluoromethane (Surr)	*89*		*80 - 120*		*08/01/18 19:32*	*100*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*08/02/18 13:40*	*1000*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/31/18 15:37*	*1*
Toluene-d8 (Surr)	*92*		*80 - 120*		*08/01/18 19:32*	*100*
Toluene-d8 (Surr)	*95*		*80 - 120*		*08/02/18 13:40*	*1000*

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**261**		20.0		mg/L			07/31/18 10:04	20
Sulfate	**8.78**		5.00		mg/L			07/31/18 01:07	5

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**3.79**		0.500		mg/L		07/27/18 08:22	07/30/18 20:36	1
Manganese	**0.762**		0.0100		mg/L		07/27/18 08:22	07/30/18 20:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<1.00		1.00		mg/L			07/31/18 08:00	1
Total Organic Carbon - Duplicates	**5.90**		1.00		mg/L			07/29/18 11:45	1
Alkalinity as CaCO3	**321**		5.00		mg/L			07/31/18 11:06	1
Bicarbonate Alkalinity as CaCO3	**321**		5.00		mg/L			07/31/18 11:06	1
Carbonate Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Hydroxide Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Phenolphthalein Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1

Client Sample ID: Rinstate Blank 01

Lab Sample ID: 310-135464-10

Date Collected: 07/25/18 12:30
Matrix: Water
Date Received: 07/25/18 17:50

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			07/31/18 16:01	1
Benzene	<0.500		0.500		ug/L			07/31/18 16:01	1
Bromobenzene	<1.00		1.00		ug/L			07/31/18 16:01	1
Bromochloromethane	<5.00		5.00		ug/L			07/31/18 16:01	1
Bromodichloromethane	<1.00		1.00		ug/L			07/31/18 16:01	1
Bromoform	<5.00		5.00		ug/L			07/31/18 16:01	1
Bromomethane	<4.00		4.00		ug/L			07/31/18 16:01	1
2-Butanone (MEK)	<10.0		10.0		ug/L			07/31/18 16:01	1
n-Butylbenzene	<1.00		1.00		ug/L			07/31/18 16:01	1
sec-Butylbenzene	<1.00		1.00		ug/L			07/31/18 16:01	1
tert-Butylbenzene	<1.00		1.00		ug/L			07/31/18 16:01	1
Carbon disulfide	<1.00		1.00		ug/L			07/31/18 16:01	1
Carbon tetrachloride	<2.00		2.00		ug/L			07/31/18 16:01	1
Chlorobenzene	<1.00		1.00		ug/L			07/31/18 16:01	1
Chlorodibromomethane	<5.00		5.00		ug/L			07/31/18 16:01	1
Chloroethane	<4.00		4.00		ug/L			07/31/18 16:01	1
Chloroform	<3.00		3.00		ug/L			07/31/18 16:01	1
Chloromethane	<3.00		3.00		ug/L			07/31/18 16:01	1
2-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 16:01	1
4-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 16:01	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			07/31/18 16:01	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			07/31/18 16:01	1
Dibromomethane	<1.00		1.00		ug/L			07/31/18 16:01	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 16:01	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 16:01	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 16:01	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			07/31/18 16:01	1
1,1-Dichloroethane	<1.00		1.00		ug/L			07/31/18 16:01	1
1,2-Dichloroethane	<1.00		1.00		ug/L			07/31/18 16:01	1
1,1-Dichloroethene	<2.00		2.00		ug/L			07/31/18 16:01	1
cis-1,2-Dichloroethene	**6.83**		1.00		ug/L			08/01/18 17:01	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			07/31/18 16:01	1
1,2-Dichloropropane	<1.00		1.00		ug/L			07/31/18 16:01	1
1,3-Dichloropropane	<1.00		1.00		ug/L			07/31/18 16:01	1
2,2-Dichloropropane	<4.00		4.00		ug/L			07/31/18 16:01	1
1,1-Dichloropropene	<1.00		1.00		ug/L			07/31/18 16:01	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 16:01	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 16:01	1
Ethylbenzene	<1.00		1.00		ug/L			07/31/18 16:01	1
Hexachlorobutadiene	<5.00		5.00		ug/L			07/31/18 16:01	1
Hexane	<1.00		1.00		ug/L			07/31/18 16:01	1
Isopropylbenzene	<1.00		1.00		ug/L			07/31/18 16:01	1
p-Isopropyltoluene	<1.00		1.00		ug/L			07/31/18 16:01	1
Methylene Chloride	<5.00		5.00		ug/L			07/31/18 16:01	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			07/31/18 16:01	1
Naphthalene	<5.00		5.00		ug/L			07/31/18 16:01	1
N-Propylbenzene	<1.00		1.00		ug/L			07/31/18 16:01	1
Styrene	<1.00		1.00		ug/L			07/31/18 16:01	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 16:01	1

Client Sample ID: Rinstate Blank 01

Lab Sample ID: 310-135464-10

Date Collected: 07/25/18 12:30

Matrix: Water

Date Received: 07/25/18 17:50

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 16:01	1
Tetrachloroethene	<1.00		1.00		ug/L			07/31/18 16:01	1
Toluene	<1.00		1.00		ug/L			07/31/18 16:01	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 16:01	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 16:01	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			07/31/18 16:01	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			07/31/18 16:01	1
Trichloroethene	<1.00		1.00		ug/L			08/01/18 17:01	1
Trichlorofluoromethane	<4.00		4.00		ug/L			07/31/18 16:01	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			07/31/18 16:01	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 16:01	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 16:01	1
Vinyl chloride	<1.00		1.00		ug/L			08/01/18 17:01	1
Xylenes, Total	<3.00		3.00		ug/L			07/31/18 16:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*80 - 120*		*07/31/18 16:01*	*1*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*		*08/01/18 17:01*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*07/31/18 16:01*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*08/01/18 17:01*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/31/18 16:01*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*08/01/18 17:01*	*1*

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.00		1.00		mg/L			08/01/18 12:50	1
Sulfate	<1.00		1.00		mg/L			08/01/18 12:50	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.500		0.500		mg/L		07/27/18 08:22	07/30/18 20:38	1
Manganese	<0.0100		0.0100		mg/L		07/27/18 08:22	07/30/18 20:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**13.2**		5.00		mg/L			08/02/18 12:55	1
Sulfide	<1.00		1.00		mg/L			07/31/18 08:03	1
Total Organic Carbon - Duplicates	**5.88**		1.00		mg/L			07/29/18 12:06	1

Client Sample ID: Trip Blank

Lab Sample ID: 310-135464-11

Date Collected: 07/24/18 00:00
Matrix: Water
Date Received: 07/25/18 17:50

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			07/31/18 08:30	1
Benzene	<0.500		0.500		ug/L			07/31/18 08:30	1
Bromobenzene	<1.00		1.00		ug/L			07/31/18 08:30	1
Bromochloromethane	<5.00		5.00		ug/L			07/31/18 08:30	1
Bromodichloromethane	<1.00		1.00		ug/L			07/31/18 08:30	1
Bromoform	<5.00		5.00		ug/L			07/31/18 08:30	1
Bromomethane	<4.00		4.00		ug/L			07/31/18 08:30	1
2-Butanone (MEK)	<10.0		10.0		ug/L			07/31/18 08:30	1
n-Butylbenzene	<1.00		1.00		ug/L			07/31/18 08:30	1
sec-Butylbenzene	<1.00		1.00		ug/L			07/31/18 08:30	1
tert-Butylbenzene	<1.00		1.00		ug/L			07/31/18 08:30	1
Carbon disulfide	<1.00		1.00		ug/L			07/31/18 08:30	1
Carbon tetrachloride	<2.00		2.00		ug/L			07/31/18 08:30	1
Chlorobenzene	<1.00		1.00		ug/L			07/31/18 08:30	1
Chlorodibromomethane	<5.00		5.00		ug/L			07/31/18 08:30	1
Chloroethane	<4.00		4.00		ug/L			07/31/18 08:30	1
Chloroform	<3.00		3.00		ug/L			07/31/18 08:30	1
Chloromethane	<3.00		3.00		ug/L			07/31/18 08:30	1
2-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 08:30	1
4-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 08:30	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			07/31/18 08:30	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			07/31/18 08:30	1
Dibromomethane	<1.00		1.00		ug/L			07/31/18 08:30	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 08:30	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 08:30	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 08:30	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			07/31/18 08:30	1
1,1-Dichloroethane	<1.00		1.00		ug/L			07/31/18 08:30	1
1,2-Dichloroethane	<1.00		1.00		ug/L			07/31/18 08:30	1
1,1-Dichloroethene	<2.00		2.00		ug/L			07/31/18 08:30	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			07/31/18 08:30	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			07/31/18 08:30	1
1,2-Dichloropropane	<1.00		1.00		ug/L			07/31/18 08:30	1
1,3-Dichloropropane	<1.00		1.00		ug/L			07/31/18 08:30	1
2,2-Dichloropropane	<4.00		4.00		ug/L			07/31/18 08:30	1
1,1-Dichloropropene	<1.00		1.00		ug/L			07/31/18 08:30	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 08:30	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 08:30	1
Ethylbenzene	<1.00		1.00		ug/L			07/31/18 08:30	1
Hexachlorobutadiene	<5.00		5.00		ug/L			07/31/18 08:30	1
Hexane	<1.00		1.00		ug/L			07/31/18 08:30	1
Isopropylbenzene	<1.00		1.00		ug/L			07/31/18 08:30	1
p-Isopropyltoluene	<1.00		1.00		ug/L			07/31/18 08:30	1
Methylene Chloride	<5.00		5.00		ug/L			07/31/18 08:30	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			07/31/18 08:30	1
Naphthalene	<5.00		5.00		ug/L			07/31/18 08:30	1
N-Propylbenzene	<1.00		1.00		ug/L			07/31/18 08:30	1
Styrene	<1.00		1.00		ug/L			07/31/18 08:30	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 08:30	1

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-135464-1
SDG: 103-87305.01

Client Sample ID: Trip Blank
Date Collected: 07/24/18 00:00
Date Received: 07/25/18 17:50

Lab Sample ID: 310-135464-11
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 08:30	1
Tetrachloroethene	<1.00		1.00		ug/L			07/31/18 08:30	1
Toluene	<1.00		1.00		ug/L			07/31/18 08:30	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 08:30	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 08:30	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			07/31/18 08:30	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			07/31/18 08:30	1
Trichloroethene	<1.00		1.00		ug/L			07/31/18 08:30	1
Trichlorofluoromethane	<4.00		4.00		ug/L			07/31/18 08:30	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			07/31/18 08:30	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 08:30	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 08:30	1
Vinyl chloride	<1.00		1.00		ug/L			07/31/18 08:30	1
Xylenes, Total	<3.00		3.00		ug/L			07/31/18 08:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*80 - 120*		*07/31/18 08:30*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*07/31/18 08:30*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*07/31/18 08:30*	*1*

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-135464-1
SDG: 103-87305.01

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)
310-135464-1	MW-67	108	97	99
310-135464-1 MS	MW-67	102	101	98
310-135464-1 MSD	MW-67	102	103	101
310-135464-2	MW-66	107	100	99
310-135464-3	MW-56D	103	99	98
310-135464-4	MW-47D	108	102	104
310-135464-4	MW-47D	102	88	94
310-135464-4	MW-47D	103	95	93
310-135464-4 MS	MW-47D	98	99	95
310-135464-4 MSD	MW-47D	100	94	95
310-135464-5	MW-65	110	96	98
310-135464-5	MW-65	102	99	93
310-135464-6	MW-46	113	100	100
310-135464-6	MW-46	101	95	94
310-135464-7	MW-57	103	102	98
310-135464-7	MW-57	106	95	96
310-135464-8	MW-43D	107	98	99
310-135464-8	MW-43D	103	96	97
310-135464-9	Field Duplicate 01	106	100	104
310-135464-9	Field Duplicate 01	105	89	92
310-135464-9	Field Duplicate 01	99	93	95
310-135464-10	Rinstate Blank 01	117	101	100
310-135464-10	Rinstate Blank 01	106	97	94
310-135464-11	Trip Blank	109	99	97
LCS 310-210825/6	Lab Control Sample	103	101	102
LCS 310-210825/7	Lab Control Sample	114	100	99
LCS 310-211067/5	Lab Control Sample	102	103	94
LCS 310-211067/6	Lab Control Sample	99	100	97
LCS 310-211073/5	Lab Control Sample	99	99	93
LCS 310-211073/6	Lab Control Sample	102	96	93
MB 310-210825/8	Method Blank	108	100	96
MB 310-211067/7	Method Blank	102	95	92
MB 310-211073/7	Method Blank	101	96	91

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 310-210825/8
Matrix: Water
Analysis Batch: 210825

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			07/31/18 08:07	1
Benzene	<0.500		0.500		ug/L			07/31/18 08:07	1
Bromobenzene	<1.00		1.00		ug/L			07/31/18 08:07	1
Bromochloromethane	<5.00		5.00		ug/L			07/31/18 08:07	1
Bromodichloromethane	<1.00		1.00		ug/L			07/31/18 08:07	1
Bromoform	<5.00		5.00		ug/L			07/31/18 08:07	1
Bromomethane	<4.00		4.00		ug/L			07/31/18 08:07	1
2-Butanone (MEK)	<10.0		10.0		ug/L			07/31/18 08:07	1
n-Butylbenzene	<1.00		1.00		ug/L			07/31/18 08:07	1
sec-Butylbenzene	<1.00		1.00		ug/L			07/31/18 08:07	1
tert-Butylbenzene	<1.00		1.00		ug/L			07/31/18 08:07	1
Carbon disulfide	<1.00		1.00		ug/L			07/31/18 08:07	1
Carbon tetrachloride	<2.00		2.00		ug/L			07/31/18 08:07	1
Chlorobenzene	<1.00		1.00		ug/L			07/31/18 08:07	1
Chlorodibromomethane	<5.00		5.00		ug/L			07/31/18 08:07	1
Chloroethane	<4.00		4.00		ug/L			07/31/18 08:07	1
Chloroform	<3.00		3.00		ug/L			07/31/18 08:07	1
Chloromethane	<3.00		3.00		ug/L			07/31/18 08:07	1
2-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 08:07	1
4-Chlorotoluene	<1.00		1.00		ug/L			07/31/18 08:07	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			07/31/18 08:07	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			07/31/18 08:07	1
Dibromomethane	<1.00		1.00		ug/L			07/31/18 08:07	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 08:07	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 08:07	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			07/31/18 08:07	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			07/31/18 08:07	1
1,1-Dichloroethane	<1.00		1.00		ug/L			07/31/18 08:07	1
1,2-Dichloroethane	<1.00		1.00		ug/L			07/31/18 08:07	1
1,1-Dichloroethene	<2.00		2.00		ug/L			07/31/18 08:07	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			07/31/18 08:07	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			07/31/18 08:07	1
1,2-Dichloropropane	<1.00		1.00		ug/L			07/31/18 08:07	1
1,3-Dichloropropane	<1.00		1.00		ug/L			07/31/18 08:07	1
2,2-Dichloropropane	<4.00		4.00		ug/L			07/31/18 08:07	1
1,1-Dichloropropene	<1.00		1.00		ug/L			07/31/18 08:07	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 08:07	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			07/31/18 08:07	1
Ethylbenzene	<1.00		1.00		ug/L			07/31/18 08:07	1
Hexachlorobutadiene	<5.00		5.00		ug/L			07/31/18 08:07	1
Hexane	<1.00		1.00		ug/L			07/31/18 08:07	1
Isopropylbenzene	<1.00		1.00		ug/L			07/31/18 08:07	1
p-Isopropyltoluene	<1.00		1.00		ug/L			07/31/18 08:07	1
Methylene Chloride	<5.00		5.00		ug/L			07/31/18 08:07	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			07/31/18 08:07	1
Naphthalene	<5.00		5.00		ug/L			07/31/18 08:07	1
N-Propylbenzene	<1.00		1.00		ug/L			07/31/18 08:07	1
Styrene	<1.00		1.00		ug/L			07/31/18 08:07	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-210825/8
Matrix: Water
Analysis Batch: 210825

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 08:07	1
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			07/31/18 08:07	1
Tetrachloroethene	<1.00		1.00		ug/L			07/31/18 08:07	1
Toluene	<1.00		1.00		ug/L			07/31/18 08:07	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 08:07	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			07/31/18 08:07	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			07/31/18 08:07	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			07/31/18 08:07	1
Trichloroethene	<1.00		1.00		ug/L			07/31/18 08:07	1
Trichlorofluoromethane	<4.00		4.00		ug/L			07/31/18 08:07	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			07/31/18 08:07	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 08:07	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			07/31/18 08:07	1
Vinyl chloride	<1.00		1.00		ug/L			07/31/18 08:07	1
Xylenes, Total	<3.00		3.00		ug/L			07/31/18 08:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*		*07/31/18 08:07*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*07/31/18 08:07*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*07/31/18 08:07*	*1*

Lab Sample ID: LCS 310-210825/6
Matrix: Water
Analysis Batch: 210825

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	40.0	40.08		ug/L		100	50 - 150
Benzene	20.0	20.61		ug/L		103	77 - 120
Bromobenzene	20.0	20.32		ug/L		102	70 - 120
Bromochloromethane	20.0	21.56		ug/L		108	73 - 132
Bromodichloromethane	20.0	19.73		ug/L		99	73 - 120
Bromoform	20.0	21.00		ug/L		105	57 - 120
2-Butanone (MEK)	40.0	36.44		ug/L		91	50 - 150
n-Butylbenzene	20.0	20.39		ug/L		102	63 - 120
sec-Butylbenzene	20.0	20.64		ug/L		103	64 - 120
tert-Butylbenzene	20.0	20.77		ug/L		104	64 - 120
Carbon disulfide	20.0	20.32		ug/L		102	65 - 122
Carbon tetrachloride	20.0	20.97		ug/L		105	72 - 126
Chlorobenzene	20.0	20.37		ug/L		102	74 - 120
Chlorodibromomethane	20.0	19.24		ug/L		96	66 - 120
Chloroform	20.0	19.48		ug/L		97	78 - 121
2-Chlorotoluene	20.0	20.56		ug/L		103	71 - 120
4-Chlorotoluene	20.0	19.52		ug/L		98	71 - 120
1,2-Dibromo-3-Chloropropane	20.0	18.10		ug/L		91	50 - 150
1,2-Dibromoethane (EDB)	20.0	20.68		ug/L		103	71 - 125
Dibromomethane	20.0	20.26		ug/L		101	76 - 125
1,2-Dichlorobenzene	20.0	20.71		ug/L		104	66 - 120
1,3-Dichlorobenzene	20.0	19.72		ug/L		99	67 - 120

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-210825/6
Matrix: Water
Analysis Batch: 210825

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	20.0	20.55		ug/L		103	68 - 120
1,1-Dichloroethane	20.0	21.14		ug/L		106	75 - 125
1,2-Dichloroethane	20.0	19.59		ug/L		98	75 - 123
1,1-Dichloroethene	20.0	20.57		ug/L		103	75 - 124
cis-1,2-Dichloroethene	20.0	20.98		ug/L		105	77 - 120
trans-1,2-Dichloroethene	20.0	20.50		ug/L		102	75 - 122
1,2-Dichloropropane	20.0	20.08		ug/L		100	75 - 123
1,3-Dichloropropane	20.0	19.79		ug/L		99	75 - 123
2,2-Dichloropropane	20.0	21.36		ug/L		107	50 - 150
1,1-Dichloropropene	20.0	20.56		ug/L		103	77 - 124
cis-1,3-Dichloropropene	20.0	21.06		ug/L		105	70 - 120
trans-1,3-Dichloropropene	20.0	18.98		ug/L		95	69 - 120
Ethylbenzene	20.0	21.34		ug/L		107	73 - 120
Hexachlorobutadiene	20.0	24.46		ug/L		122	50 - 150
Hexane	20.0	21.28		ug/L		106	50 - 150
Isopropylbenzene	20.0	20.91		ug/L		105	69 - 120
p-Isopropyltoluene	20.0	20.78		ug/L		104	68 - 120
Methylene Chloride	20.0	20.47		ug/L		102	50 - 150
Methyl tert-butyl ether	20.0	20.00		ug/L		100	72 - 121
Naphthalene	20.0	18.70		ug/L		94	50 - 150
N-Propylbenzene	20.0	21.14		ug/L		106	70 - 120
Styrene	20.0	20.27		ug/L		101	70 - 120
1,1,1,2-Tetrachloroethane	20.0	20.12		ug/L		101	72 - 120
1,1,2,2-Tetrachloroethane	20.0	18.88		ug/L		94	63 - 122
Tetrachloroethene	20.0	21.39		ug/L		107	72 - 129
Toluene	20.0	21.08		ug/L		105	74 - 120
1,2,3-Trichlorobenzene	20.0	20.62		ug/L		103	50 - 150
1,2,4-Trichlorobenzene	20.0	21.46		ug/L		107	59 - 120
1,1,1-Trichloroethane	20.0	21.22		ug/L		106	76 - 127
1,1,2-Trichloroethane	20.0	20.25		ug/L		101	69 - 127
Trichloroethene	20.0	20.79		ug/L		104	77 - 123
1,2,3-Trichloropropane	20.0	18.94		ug/L		95	66 - 120
1,2,4-Trimethylbenzene	20.0	19.86		ug/L		99	67 - 120
1,3,5-Trimethylbenzene	20.0	21.04		ug/L		105	68 - 120
Xylenes, Total	40.0	42.10		ug/L		105	69 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: LCS 310-210825/7
Matrix: Water
Analysis Batch: 210825

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromomethane	20.0	17.90		ug/L		90	38 - 150
Chloroethane	20.0	20.38		ug/L		102	69 - 129

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-210825/7
Matrix: Water
Analysis Batch: 210825

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	20.0	19.16		ug/L		96	50 - 150
Dichlorodifluoromethane	20.0	20.56		ug/L		103	50 - 150
Trichlorofluoromethane	20.0	20.55		ug/L		103	68 - 146
Vinyl chloride	20.0	20.76		ug/L		104	67 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*114*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: 310-135464-1 MS
Matrix: Water
Analysis Batch: 210825

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	<10.0		40.0	38.03		ug/L		95	31 - 150
Benzene	<0.500		20.0	16.64		ug/L		83	59 - 120
Bromobenzene	<1.00		20.0	15.98		ug/L		80	51 - 120
Bromochloromethane	<5.00		20.0	18.05		ug/L		90	55 - 135
Bromodichloromethane	<1.00		20.0	15.99		ug/L		80	53 - 120
Bromoform	<5.00		20.0	16.28		ug/L		81	42 - 120
2-Butanone (MEK)	<10.0		40.0	29.15		ug/L		73	49 - 150
n-Butylbenzene	<1.00		20.0	13.53		ug/L		68	24 - 120
sec-Butylbenzene	<1.00		20.0	14.77		ug/L		74	29 - 120
tert-Butylbenzene	<1.00		20.0	15.59		ug/L		78	35 - 120
Carbon disulfide	<1.00		20.0	15.55		ug/L		78	43 - 122
Carbon tetrachloride	<2.00		20.0	16.42		ug/L		82	47 - 126
Chlorobenzene	<1.00		20.0	16.18		ug/L		81	52 - 120
Chlorodibromomethane	<5.00		20.0	15.08		ug/L		75	48 - 120
Chloroform	<3.00		20.0	16.51		ug/L		83	50 - 130
2-Chlorotoluene	<1.00		20.0	15.59		ug/L		78	47 - 120
4-Chlorotoluene	<1.00		20.0	14.75		ug/L		74	44 - 120
1,2-Dibromo-3-Chloropropane	<5.00		20.0	13.10		ug/L		65	32 - 150
1,2-Dibromoethane (EDB)	<1.00		20.0	16.78		ug/L		84	52 - 127
Dibromomethane	<1.00		20.0	16.33		ug/L		82	61 - 130
1,2-Dichlorobenzene	<1.00		20.0	15.86		ug/L		79	46 - 120
1,3-Dichlorobenzene	<1.00		20.0	15.47		ug/L		77	45 - 120
1,4-Dichlorobenzene	<1.00		20.0	15.37		ug/L		77	45 - 120
1,1-Dichloroethane	<1.00		20.0	17.14		ug/L		86	50 - 127
1,2-Dichloroethane	<1.00		20.0	16.85		ug/L		84	55 - 128
1,1-Dichloroethene	<2.00		20.0	16.46		ug/L		82	47 - 124
cis-1,2-Dichloroethene	<1.00	F1 F2	20.0	33.59	F1	ug/L		168	46 - 130
trans-1,2-Dichloroethene	<1.00		20.0	16.33		ug/L		82	51 - 122
1,2-Dichloropropane	<1.00		20.0	16.12		ug/L		81	57 - 125
1,3-Dichloropropane	<1.00		20.0	16.41		ug/L		82	58 - 130
2,2-Dichloropropane	<4.00	F1	20.0	8.939		ug/L		45	43 - 150
1,1-Dichloropropene	<1.00		20.0	16.54		ug/L		83	51 - 124
cis-1,3-Dichloropropene	<5.00		20.0	14.00		ug/L		70	51 - 120

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 310-135464-1 MS
Matrix: Water
Analysis Batch: 210825

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	<5.00		20.0	13.10		ug/L		65	51 - 122
Ethylbenzene	<1.00		20.0	16.33		ug/L		82	46 - 120
Hexachlorobutadiene	<5.00		20.0	14.01		ug/L		70	19 - 150
Hexane	<1.00		20.0	8.332		ug/L		42	13 - 150
Isopropylbenzene	<1.00		20.0	15.84		ug/L		79	39 - 120
p-Isopropyltoluene	<1.00		20.0	14.65		ug/L		73	36 - 120
Methylene Chloride	<5.00		20.0	16.98		ug/L		85	50 - 150
Methyl tert-butyl ether	<1.00		20.0	16.58		ug/L		83	62 - 121
Naphthalene	<5.00		20.0	11.35		ug/L		57	20 - 150
N-Propylbenzene	<1.00		20.0	15.12		ug/L		76	41 - 120
Styrene	<1.00		20.0	16.48		ug/L		82	42 - 120
1,1,1,2-Tetrachloroethane	<1.00		20.0	16.30		ug/L		82	50 - 120
1,1,2,2-Tetrachloroethane	<1.00		20.0	15.50		ug/L		77	49 - 129
Tetrachloroethene	<1.00		20.0	15.68		ug/L		78	40 - 129
Toluene	<1.00		20.0	16.38		ug/L		82	52 - 120
1,2,3-Trichlorobenzene	<5.00		20.0	13.05		ug/L		65	33 - 150
1,2,4-Trichlorobenzene	<5.00		20.0	12.77		ug/L		64	33 - 122
1,1,1-Trichloroethane	<1.00		20.0	16.59		ug/L		83	50 - 127
1,1,2-Trichloroethane	<1.00		20.0	16.53		ug/L		83	50 - 131
Trichloroethene	<1.00		20.0	17.93		ug/L		90	54 - 123
1,2,3-Trichloropropane	<1.00		20.0	15.84		ug/L		79	42 - 134
1,2,4-Trimethylbenzene	<1.00		20.0	15.06		ug/L		75	32 - 122
1,3,5-Trimethylbenzene	<1.00		20.0	15.94		ug/L		80	35 - 120
Xylenes, Total	<3.00		40.0	32.48		ug/L		81	37 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*98*		*80 - 120*

Lab Sample ID: 310-135464-1 MSD
Matrix: Water
Analysis Batch: 210825

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	<10.0		40.0	38.06		ug/L		95	31 - 150	0	24
Benzene	<0.500		20.0	16.22		ug/L		81	59 - 120	3	21
Bromobenzene	<1.00		20.0	16.06		ug/L		80	51 - 120	0	23
Bromochloromethane	<5.00		20.0	16.77		ug/L		84	55 - 135	7	24
Bromodichloromethane	<1.00		20.0	15.35		ug/L		77	53 - 120	4	21
Bromoform	<5.00		20.0	17.01		ug/L		85	42 - 120	4	24
2-Butanone (MEK)	<10.0		40.0	31.90		ug/L		80	49 - 150	9	20
n-Butylbenzene	<1.00		20.0	12.41		ug/L		62	24 - 120	9	23
sec-Butylbenzene	<1.00		20.0	14.24		ug/L		71	29 - 120	4	23
tert-Butylbenzene	<1.00		20.0	15.18		ug/L		76	35 - 120	3	23
Carbon disulfide	<1.00		20.0	14.71		ug/L		74	43 - 122	6	25
Carbon tetrachloride	<2.00		20.0	15.62		ug/L		78	47 - 126	5	21
Chlorobenzene	<1.00		20.0	15.94		ug/L		80	52 - 120	2	21

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 310-135464-1 MSD
Matrix: Water
Analysis Batch: 210825

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorodibromomethane	<5.00		20.0	15.41		ug/L		77	48 - 120	2	23
Chloroform	<3.00		20.0	15.66		ug/L		78	50 - 130	5	20
2-Chlorotoluene	<1.00		20.0	15.42		ug/L		77	47 - 120	1	23
4-Chlorotoluene	<1.00		20.0	14.70		ug/L		74	44 - 120	0	24
1,2-Dibromo-3-Chloropropane	<5.00		20.0	14.29		ug/L		71	32 - 150	9	24
1,2-Dibromoethane (EDB)	<1.00		20.0	16.21		ug/L		81	52 - 127	3	22
Dibromomethane	<1.00		20.0	17.21		ug/L		86	61 - 130	5	21
1,2-Dichlorobenzene	<1.00		20.0	15.62		ug/L		78	46 - 120	2	23
1,3-Dichlorobenzene	<1.00		20.0	15.65		ug/L		78	45 - 120	1	25
1,4-Dichlorobenzene	<1.00		20.0	15.36		ug/L		77	45 - 120	0	22
1,1-Dichloroethane	<1.00		20.0	16.03		ug/L		80	50 - 127	7	23
1,2-Dichloroethane	<1.00		20.0	15.82		ug/L		79	55 - 128	6	21
1,1-Dichloroethene	<2.00		20.0	15.95		ug/L		80	47 - 124	3	24
cis-1,2-Dichloroethene	<1.00	F1 F2	20.0	24.46	F2	ug/L		122	46 - 130	31	22
trans-1,2-Dichloroethene	<1.00		20.0	15.87		ug/L		79	51 - 122	3	23
1,2-Dichloropropane	<1.00		20.0	15.17		ug/L		76	57 - 125	6	21
1,3-Dichloropropane	<1.00		20.0	15.36		ug/L		77	58 - 130	7	25
2,2-Dichloropropane	<4.00	F1	20.0	8.383	F1	ug/L		42	43 - 150	6	22
1,1-Dichloropropene	<1.00		20.0	14.76		ug/L		74	51 - 124	11	22
cis-1,3-Dichloropropene	<5.00		20.0	13.99		ug/L		70	51 - 120	0	22
trans-1,3-Dichloropropene	<5.00		20.0	12.53		ug/L		63	51 - 122	4	25
Ethylbenzene	<1.00		20.0	15.85		ug/L		79	46 - 120	3	23
Hexachlorobutadiene	<5.00		20.0	14.50		ug/L		72	19 - 150	3	27
Hexane	<1.00		20.0	8.597		ug/L		43	13 - 150	3	21
Isopropylbenzene	<1.00		20.0	15.21		ug/L		76	39 - 120	4	22
p-Isopropyltoluene	<1.00		20.0	13.50		ug/L		67	36 - 120	8	27
Methylene Chloride	<5.00		20.0	16.51		ug/L		83	50 - 150	3	23
Methyl tert-butyl ether	<1.00		20.0	16.75		ug/L		84	62 - 121	1	21
Naphthalene	<5.00		20.0	13.26		ug/L		66	20 - 150	16	34
N-Propylbenzene	<1.00		20.0	14.80		ug/L		74	41 - 120	2	24
Styrene	<1.00		20.0	15.72		ug/L		79	42 - 120	5	25
1,1,1,2-Tetrachloroethane	<1.00		20.0	15.97		ug/L		80	50 - 120	2	21
1,1,2,2-Tetrachloroethane	<1.00		20.0	16.25		ug/L		81	49 - 129	5	20
Tetrachloroethene	<1.00		20.0	14.65		ug/L		73	40 - 129	7	21
Toluene	<1.00		20.0	15.59		ug/L		78	52 - 120	5	23
1,2,3-Trichlorobenzene	<5.00		20.0	14.89		ug/L		74	33 - 150	13	27
1,2,4-Trichlorobenzene	<5.00		20.0	12.92		ug/L		65	33 - 122	1	27
1,1,1-Trichloroethane	<1.00		20.0	15.22		ug/L		76	50 - 127	9	21
1,1,2-Trichloroethane	<1.00		20.0	16.25		ug/L		81	50 - 131	2	22
Trichloroethene	<1.00		20.0	16.59		ug/L		83	54 - 123	8	20
1,2,3-Trichloropropane	<1.00		20.0	15.52		ug/L		78	42 - 134	2	23
1,2,4-Trimethylbenzene	<1.00		20.0	14.80		ug/L		74	32 - 122	2	26
1,3,5-Trimethylbenzene	<1.00		20.0	15.19		ug/L		76	35 - 120	5	25
Xylenes, Total	<3.00		40.0	31.73		ug/L		79	37 - 120	2	34

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 310-135464-1 MSD
Matrix: Water
Analysis Batch: 210825

Client Sample ID: MW-67
Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	101		80 - 120

Lab Sample ID: MB 310-211067/7
Matrix: Water
Analysis Batch: 211067

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			08/01/18 15:34	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			08/01/18 15:34	1
2,2-Dichloropropane	<4.00		4.00		ug/L			08/01/18 15:34	1
Trichloroethene	<1.00		1.00		ug/L			08/01/18 15:34	1
Vinyl chloride	<1.00		1.00		ug/L			08/01/18 15:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		80 - 120		08/01/18 15:34	1
Dibromofluoromethane (Surr)	95		80 - 120		08/01/18 15:34	1
Toluene-d8 (Surr)	92		80 - 120		08/01/18 15:34	1

Lab Sample ID: LCS 310-211067/5
Matrix: Water
Analysis Batch: 211067

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	20.0	19.54		ug/L		98	77 - 120
trans-1,2-Dichloroethene	20.0	20.75		ug/L		104	75 - 122
2,2-Dichloropropane	20.0	18.02		ug/L		90	50 - 150
Trichloroethene	20.0	20.94		ug/L		105	77 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	103		80 - 120
Toluene-d8 (Surr)	94		80 - 120

Lab Sample ID: LCS 310-211067/6
Matrix: Water
Analysis Batch: 211067

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	20.0	22.14		ug/L		111	67 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	100		80 - 120
Toluene-d8 (Surr)	97		80 - 120

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 310-135464-4 MS — **Client Sample ID: MW-47D**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 211067

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	89200	E	2000	92360	E 4	ug/L		159	46 - 130
trans-1,2-Dichloroethene	545		2000	2542		ug/L		100	51 - 122
2,2-Dichloropropane	<400		2000	1785		ug/L		89	43 - 150
Trichloroethene	15000		2000	17790	4	ug/L		138	54 - 123

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*95*		*80 - 120*

Lab Sample ID: 310-135464-4 MSD — **Client Sample ID: MW-47D**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 211067

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	89200	E	2000	88880	E 4	ug/L		-15	46 - 130	4	22
trans-1,2-Dichloroethene	545		2000	2566		ug/L		101	51 - 122	1	23
2,2-Dichloropropane	<400		2000	1631		ug/L		82	43 - 150	9	22
Trichloroethene	15000		2000	15970	4	ug/L		47	54 - 123	11	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*80 - 120*
Toluene-d8 (Surr)	*95*		*80 - 120*

Lab Sample ID: MB 310-211073/7 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 211073

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			08/02/18 12:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*08/02/18 12:34*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*08/02/18 12:34*	*1*
Toluene-d8 (Surr)	*91*		*80 - 120*		*08/02/18 12:34*	*1*

Lab Sample ID: LCS 310-211073/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 211073

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	20.0	20.82		ug/L		104	77 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-211073/5
Matrix: Water
Analysis Batch: 211073

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	93		80 - 120

Lab Sample ID: LCS 310-211073/6
Matrix: Water
Analysis Batch: 211073

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	96		80 - 120
Toluene-d8 (Surr)	93		80 - 120

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-211026/3
Matrix: Water
Analysis Batch: 211026

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.00		1.00		mg/L			07/30/18 20:34	1
Sulfate	<1.00		1.00		mg/L			07/30/18 20:34	1

Lab Sample ID: LCS 310-211026/4
Matrix: Water
Analysis Batch: 211026

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	7.50	7.335		mg/L		98	90 - 110
Sulfate	7.50	7.256		mg/L		97	90 - 110

Lab Sample ID: 310-135464-1 MS
Matrix: Water
Analysis Batch: 211026

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	<5.00		25.0	25.71		mg/L		95	80 - 120
Sulfate	80.5		25.0	104.4		mg/L		96	80 - 120

Lab Sample ID: 310-135464-1 MSD
Matrix: Water
Analysis Batch: 211026

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	<5.00		25.0	25.85		mg/L		96	80 - 120	1	15
Sulfate	80.5		25.0	104.9		mg/L		98	80 - 120	0	15

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 310-210672/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 210991 — **Prep Batch: 210672**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.500		0.500		mg/L		07/27/18 08:22	07/30/18 20:04	1
Manganese	<0.0100		0.0100		mg/L		07/27/18 08:22	07/30/18 20:04	1

Lab Sample ID: LCS 310-210672/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 210991 — **Prep Batch: 210672**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	2.00	1.837		mg/L		92	80 - 120
Manganese	1.00	0.9443		mg/L		94	80 - 120

Lab Sample ID: 310-135464-1 MS — **Client Sample ID: MW-67**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 210991 — **Prep Batch: 210672**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.619		2.00	2.327		mg/L		85	75 - 125
Manganese	1.65	F1	1.00	2.475		mg/L		82	75 - 125

Lab Sample ID: 310-135464-1 MSD — **Client Sample ID: MW-67**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 210991 — **Prep Batch: 210672**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.619		2.00	2.256		mg/L		82	75 - 125	3	20
Manganese	1.65	F1	1.00	2.380	F1	mg/L		73	75 - 125	4	20

Method: 2320B - Alkalinity (Low Level)

Lab Sample ID: MB 310-211294/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 211294

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	<5.00		5.00		mg/L			08/02/18 12:55	1

Lab Sample ID: LCS 310-211294/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 211294

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	1060	1011		mg/L		95	90 - 110

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 500-443186/1
Matrix: Water
Analysis Batch: 443186

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<1.00		1.00		mg/L			07/31/18 07:04	1

Lab Sample ID: LCS 500-443186/2
Matrix: Water
Analysis Batch: 443186

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	3.78	3.715		mg/L		98	80 - 120

Lab Sample ID: 310-135464-1 MS
Matrix: Water
Analysis Batch: 443186

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	<1.00		3.78	3.160		mg/L		84	75 - 125

Lab Sample ID: 310-135464-1 MSD
Matrix: Water
Analysis Batch: 443186

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	<1.00		3.78	3.334		mg/L		88	75 - 125	5	20

Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 500-442979/35
Matrix: Water
Analysis Batch: 442979

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	<1.00		1.00		mg/L			07/29/18 07:30	1

Lab Sample ID: LCS 500-442979/36
Matrix: Water
Analysis Batch: 442979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	10.0	9.429		mg/L		94	80 - 120

Lab Sample ID: 310-135464-1 MS
Matrix: Water
Analysis Batch: 442979

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	1.74		10.0	10.93		mg/L		92	75 - 125

Method: 9060 - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 310-135464-1 MSD
Matrix: Water
Analysis Batch: 442979

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	1.74		10.0	11.03		mg/L		93	75 - 125	1	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 310-210993/1
Matrix: Water
Analysis Batch: 210993

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Bicarbonate Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Carbonate Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Hydroxide Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1
Phenolphthalein Alkalinity as CaCO3	<5.00		5.00		mg/L			07/31/18 11:06	1

Lab Sample ID: LCS 310-210993/2
Matrix: Water
Analysis Batch: 210993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	1060	962.3		mg/L		91	90 - 110

Lab Sample ID: 310-135464-1 MS
Matrix: Water
Analysis Batch: 210993

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	449		106	542.9	4	mg/L		88	66 - 124

Lab Sample ID: 310-135464-1 MSD
Matrix: Water
Analysis Batch: 210993

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	449		106	542.9	4	mg/L		88	66 - 124	0	17

QC Association Summary

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-135464-1
SDG: 103-87305.01

GC/MS VOA

Analysis Batch: 210825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-135464-1	MW-67	Total/NA	Water	8260C	
310-135464-2	MW-66	Total/NA	Water	8260C	
310-135464-3	MW-56D	Total/NA	Water	8260C	
310-135464-4	MW-47D	Total/NA	Water	8260C	
310-135464-5	MW-65	Total/NA	Water	8260C	
310-135464-6	MW-46	Total/NA	Water	8260C	
310-135464-7	MW-57	Total/NA	Water	8260C	
310-135464-8	MW-43D	Total/NA	Water	8260C	
310-135464-9	Field Duplicate 01	Total/NA	Water	8260C	
310-135464-10	Rinstate Blank 01	Total/NA	Water	8260C	
310-135464-11	Trip Blank	Total/NA	Water	8260C	
MB 310-210825/8	Method Blank	Total/NA	Water	8260C	
LCS 310-210825/6	Lab Control Sample	Total/NA	Water	8260C	
LCS 310-210825/7	Lab Control Sample	Total/NA	Water	8260C	
310-135464-1 MS	MW-67	Total/NA	Water	8260C	
310-135464-1 MSD	MW-67	Total/NA	Water	8260C	

Analysis Batch: 211067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-135464-4	MW-47D	Total/NA	Water	8260C	
310-135464-5	MW-65	Total/NA	Water	8260C	
310-135464-6	MW-46	Total/NA	Water	8260C	
310-135464-7	MW-57	Total/NA	Water	8260C	
310-135464-8	MW-43D	Total/NA	Water	8260C	
310-135464-9	Field Duplicate 01	Total/NA	Water	8260C	
310-135464-10	Rinstate Blank 01	Total/NA	Water	8260C	
MB 310-211067/7	Method Blank	Total/NA	Water	8260C	
LCS 310-211067/5	Lab Control Sample	Total/NA	Water	8260C	
LCS 310-211067/6	Lab Control Sample	Total/NA	Water	8260C	
310-135464-4 MS	MW-47D	Total/NA	Water	8260C	
310-135464-4 MSD	MW-47D	Total/NA	Water	8260C	

Analysis Batch: 211073

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-135464-4	MW-47D	Total/NA	Water	8260C	
310-135464-9	Field Duplicate 01	Total/NA	Water	8260C	
MB 310-211073/7	Method Blank	Total/NA	Water	8260C	
LCS 310-211073/5	Lab Control Sample	Total/NA	Water	8260C	
LCS 310-211073/6	Lab Control Sample	Total/NA	Water	8260C	

HPLC/IC

Analysis Batch: 211026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-135464-1	MW-67	Total/NA	Water	9056A	
310-135464-2	MW-66	Total/NA	Water	9056A	
310-135464-3	MW-56D	Total/NA	Water	9056A	
310-135464-4	MW-47D	Total/NA	Water	9056A	
310-135464-4	MW-47D	Total/NA	Water	9056A	
310-135464-5	MW-65	Total/NA	Water	9056A	

HPLC/IC (Continued)

Analysis Batch: 211026 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-135464-6	MW-46	Total/NA	Water	9056A	
310-135464-7	MW-57	Total/NA	Water	9056A	
310-135464-8	MW-43D	Total/NA	Water	9056A	
310-135464-9	Field Duplicate 01	Total/NA	Water	9056A	
310-135464-9	Field Duplicate 01	Total/NA	Water	9056A	
310-135464-10	Rinstate Blank 01	Total/NA	Water	9056A	
MB 310-211026/3	Method Blank	Total/NA	Water	9056A	
LCS 310-211026/4	Lab Control Sample	Total/NA	Water	9056A	
310-135464-1 MS	MW-67	Total/NA	Water	9056A	
310-135464-1 MSD	MW-67	Total/NA	Water	9056A	

Metals

Prep Batch: 210672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-135464-1	MW-67	Total/NA	Water	3010A	
310-135464-2	MW-66	Total/NA	Water	3010A	
310-135464-3	MW-56D	Total/NA	Water	3010A	
310-135464-4	MW-47D	Total/NA	Water	3010A	
310-135464-5	MW-65	Total/NA	Water	3010A	
310-135464-6	MW-46	Total/NA	Water	3010A	
310-135464-7	MW-57	Total/NA	Water	3010A	
310-135464-8	MW-43D	Total/NA	Water	3010A	
310-135464-9	Field Duplicate 01	Total/NA	Water	3010A	
310-135464-10	Rinstate Blank 01	Total/NA	Water	3010A	
MB 310-210672/1-A	Method Blank	Total/NA	Water	3010A	
LCS 310-210672/2-A	Lab Control Sample	Total/NA	Water	3010A	
310-135464-1 MS	MW-67	Total/NA	Water	3010A	
310-135464-1 MSD	MW-67	Total/NA	Water	3010A	

Analysis Batch: 210991

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-135464-1	MW-67	Total/NA	Water	6010C	210672
310-135464-2	MW-66	Total/NA	Water	6010C	210672
310-135464-3	MW-56D	Total/NA	Water	6010C	210672
310-135464-4	MW-47D	Total/NA	Water	6010C	210672
310-135464-5	MW-65	Total/NA	Water	6010C	210672
310-135464-6	MW-46	Total/NA	Water	6010C	210672
310-135464-7	MW-57	Total/NA	Water	6010C	210672
310-135464-8	MW-43D	Total/NA	Water	6010C	210672
310-135464-9	Field Duplicate 01	Total/NA	Water	6010C	210672
310-135464-10	Rinstate Blank 01	Total/NA	Water	6010C	210672
MB 310-210672/1-A	Method Blank	Total/NA	Water	6010C	210672
LCS 310-210672/2-A	Lab Control Sample	Total/NA	Water	6010C	210672
310-135464-1 MS	MW-67	Total/NA	Water	6010C	210672
310-135464-1 MSD	MW-67	Total/NA	Water	6010C	210672

QC Association Summary

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-135464-1
SDG: 103-87305.01

General Chemistry

Analysis Batch: 210993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-135464-1	MW-67	Total/NA	Water	SM 2320B	
310-135464-2	MW-66	Total/NA	Water	SM 2320B	
310-135464-3	MW-56D	Total/NA	Water	SM 2320B	
310-135464-4	MW-47D	Total/NA	Water	SM 2320B	
310-135464-5	MW-65	Total/NA	Water	SM 2320B	
310-135464-6	MW-46	Total/NA	Water	SM 2320B	
310-135464-7	MW-57	Total/NA	Water	SM 2320B	
310-135464-8	MW-43D	Total/NA	Water	SM 2320B	
310-135464-9	Field Duplicate 01	Total/NA	Water	SM 2320B	
MB 310-210993/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 310-210993/2	Lab Control Sample	Total/NA	Water	SM 2320B	
310-135464-1 MS	MW-67	Total/NA	Water	SM 2320B	
310-135464-1 MSD	MW-67	Total/NA	Water	SM 2320B	

Analysis Batch: 211294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-135464-10	Rinstate Blank 01	Total/NA	Water	2320B	
MB 310-211294/1	Method Blank	Total/NA	Water	2320B	
LCS 310-211294/2	Lab Control Sample	Total/NA	Water	2320B	

Analysis Batch: 442979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-135464-1	MW-67	Total/NA	Water	9060	
310-135464-2	MW-66	Total/NA	Water	9060	
310-135464-3	MW-56D	Total/NA	Water	9060	
310-135464-4	MW-47D	Total/NA	Water	9060	
310-135464-5	MW-65	Total/NA	Water	9060	
310-135464-6	MW-46	Total/NA	Water	9060	
310-135464-7	MW-57	Total/NA	Water	9060	
310-135464-8	MW-43D	Total/NA	Water	9060	
310-135464-9	Field Duplicate 01	Total/NA	Water	9060	
310-135464-10	Rinstate Blank 01	Total/NA	Water	9060	
MB 500-442979/35	Method Blank	Total/NA	Water	9060	
LCS 500-442979/36	Lab Control Sample	Total/NA	Water	9060	
310-135464-1 MS	MW-67	Total/NA	Water	9060	
310-135464-1 MSD	MW-67	Total/NA	Water	9060	

Analysis Batch: 443186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-135464-1	MW-67	Total/NA	Water	9034	
310-135464-2	MW-66	Total/NA	Water	9034	
310-135464-3	MW-56D	Total/NA	Water	9034	
310-135464-4	MW-47D	Total/NA	Water	9034	
310-135464-5	MW-65	Total/NA	Water	9034	
310-135464-6	MW-46	Total/NA	Water	9034	
310-135464-7	MW-57	Total/NA	Water	9034	
310-135464-8	MW-43D	Total/NA	Water	9034	
310-135464-9	Field Duplicate 01	Total/NA	Water	9034	
310-135464-10	Rinstate Blank 01	Total/NA	Water	9034	
MB 500-443186/1	Method Blank	Total/NA	Water	9034	
LCS 500-443186/2	Lab Control Sample	Total/NA	Water	9034	

General Chemistry (Continued)

Analysis Batch: 443186 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-135464-1 MS	MW-67	Total/NA	Water	9034	
310-135464-1 MSD	MW-67	Total/NA	Water	9034	

Lab Chronicle

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-135464-1
SDG: 103-87305.01

Client Sample ID: MW-67

Lab Sample ID: 310-135464-1
Date Collected: 07/24/18 10:50
Matrix: Water
Date Received: 07/25/18 17:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	210825	07/31/18 12:28	SJN	TAL CF
Total/NA	Analysis	9056A		5	211026	07/30/18 21:56	CJT	TAL CF
Total/NA	Prep	3010A			210672	07/27/18 08:22	JNR	TAL CF
Total/NA	Analysis	6010C		1	210991	07/30/18 20:12	SAD	TAL CF
Total/NA	Analysis	9034		1	443186		CLB	TAL CHI
					(Start)	07/31/18 07:29		
					(End)	07/31/18 07:32		
Total/NA	Analysis	9060		1	442979	07/29/18 08:29	HMW	TAL CHI
Total/NA	Analysis	SM 2320B		1	210993	07/31/18 11:06	MDK	TAL CF

Client Sample ID: MW-66

Lab Sample ID: 310-135464-2
Date Collected: 07/24/18 12:45
Matrix: Water
Date Received: 07/25/18 17:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	210825	07/31/18 12:51	SJN	TAL CF
Total/NA	Analysis	9056A		5	211026	07/30/18 23:16	CJT	TAL CF
Total/NA	Prep	3010A			210672	07/27/18 08:22	JNR	TAL CF
Total/NA	Analysis	6010C		1	210991	07/30/18 20:20	SAD	TAL CF
Total/NA	Analysis	9034		1	443186		CLB	TAL CHI
					(Start)	07/31/18 07:38		
					(End)	07/31/18 07:41		
Total/NA	Analysis	9060		1	442979	07/29/18 09:09	HMW	TAL CHI
Total/NA	Analysis	SM 2320B		1	210993	07/31/18 11:06	MDK	TAL CF

Client Sample ID: MW-56D

Lab Sample ID: 310-135464-3
Date Collected: 07/24/18 15:30
Matrix: Water
Date Received: 07/25/18 17:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	210825	07/31/18 13:15	SJN	TAL CF
Total/NA	Analysis	9056A		5	211026	07/30/18 23:32	CJT	TAL CF
Total/NA	Prep	3010A			210672	07/27/18 08:22	JNR	TAL CF
Total/NA	Analysis	6010C		1	210991	07/30/18 20:22	SAD	TAL CF
Total/NA	Analysis	9034		1	443186		CLB	TAL CHI
					(Start)	07/31/18 07:41		
					(End)	07/31/18 07:44		
Total/NA	Analysis	9060		1	442979	07/29/18 09:28	HMW	TAL CHI
Total/NA	Analysis	SM 2320B		1	210993	07/31/18 11:06	MDK	TAL CF

Client Sample ID: MW-47D

Lab Sample ID: 310-135464-4

Date Collected: 07/24/18 17:25
Date Received: 07/25/18 17:50

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	210825	07/31/18 13:39	SJN	TAL CF
Total/NA	Analysis	8260C		100	211067	08/01/18 20:38	SJN	TAL CF
Total/NA	Analysis	8260C		1000	211073	08/02/18 14:02	SJN	TAL CF
Total/NA	Analysis	9056A		5	211026	07/30/18 23:49	CJT	TAL CF
Total/NA	Analysis	9056A		20	211026	07/31/18 09:48	CJT	TAL CF
Total/NA	Prep	3010A			210672	07/27/18 08:22	JNR	TAL CF
Total/NA	Analysis	6010C		1	210991	07/30/18 20:24	SAD	TAL CF
Total/NA	Analysis	9034		1	443186		CLB	TAL CHI
					(Start)	07/31/18 07:44		
					(End)	07/31/18 07:47		
Total/NA	Analysis	9060		1	442979	07/29/18 09:48	HMW	TAL CHI
Total/NA	Analysis	SM 2320B		1	210993	07/31/18 11:06	MDK	TAL CF

Client Sample ID: MW-65

Lab Sample ID: 310-135464-5

Date Collected: 07/24/18 18:50
Date Received: 07/25/18 17:50

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	210825	07/31/18 14:03	SJN	TAL CF
Total/NA	Analysis	8260C		100	211067	08/01/18 20:16	SJN	TAL CF
Total/NA	Analysis	9056A		5	211026	07/31/18 00:05	CJT	TAL CF
Total/NA	Prep	3010A			210672	07/27/18 08:22	JNR	TAL CF
Total/NA	Analysis	6010C		1	210991	07/30/18 20:25	SAD	TAL CF
Total/NA	Analysis	9034		1	443186		CLB	TAL CHI
					(Start)	07/31/18 07:47		
					(End)	07/31/18 07:50		
Total/NA	Analysis	9060		1	442979	07/29/18 10:09	HMW	TAL CHI
Total/NA	Analysis	SM 2320B		1	210993	07/31/18 11:06	MDK	TAL CF

Client Sample ID: MW-46

Lab Sample ID: 310-135464-6

Date Collected: 07/24/18 20:25
Date Received: 07/25/18 17:50

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	210825	07/31/18 14:26	SJN	TAL CF
Total/NA	Analysis	8260C		100	211067	08/01/18 19:54	SJN	TAL CF
Total/NA	Analysis	9056A		5	211026	07/31/18 00:20	CJT	TAL CF
Total/NA	Prep	3010A			210672	07/27/18 08:22	JNR	TAL CF
Total/NA	Analysis	6010C		1	210991	07/30/18 20:31	SAD	TAL CF
Total/NA	Analysis	9034		1	443186		CLB	TAL CHI
					(Start)	07/31/18 07:50		
					(End)	07/31/18 07:54		

Lab Chronicle

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-135464-1
SDG: 103-87305.01

Client Sample ID: MW-46

Lab Sample ID: 310-135464-6
Matrix: Water

Date Collected: 07/24/18 20:25
Date Received: 07/25/18 17:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060		1	442979	07/29/18 10:28	HMW	TAL CHI
Total/NA	Analysis	SM 2320B		1	210993	07/31/18 11:06	MDK	TAL CF

Client Sample ID: MW-57

Lab Sample ID: 310-135464-7
Matrix: Water

Date Collected: 07/25/18 09:55
Date Received: 07/25/18 17:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	210825	07/31/18 14:50	SJN	TAL CF
Total/NA	Analysis	8260C		10	211067	08/01/18 18:05	SJN	TAL CF
Total/NA	Analysis	9056A		5	211026	07/31/18 00:36	CJT	TAL CF
Total/NA	Prep	3010A			210672	07/27/18 08:22	JNR	TAL CF
Total/NA	Analysis	6010C		1	210991	07/30/18 20:33	SAD	TAL CF
Total/NA	Analysis	9034		1	443186		CLB	TAL CHI
					(Start)	07/31/18 07:54		
					(End)	07/31/18 07:57		
Total/NA	Analysis	9060		1	442979	07/29/18 10:47	HMW	TAL CHI
Total/NA	Analysis	SM 2320B		1	210993	07/31/18 11:06	MDK	TAL CF

Client Sample ID: MW-43D

Lab Sample ID: 310-135464-8
Matrix: Water

Date Collected: 07/25/18 11:30
Date Received: 07/25/18 17:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	210825	07/31/18 15:14	SJN	TAL CF
Total/NA	Analysis	8260C		1	211067	08/01/18 16:39	SJN	TAL CF
Total/NA	Analysis	9056A		5	211026	07/31/18 00:51	CJT	TAL CF
Total/NA	Prep	3010A			210672	07/27/18 08:22	JNR	TAL CF
Total/NA	Analysis	6010C		1	210991	07/30/18 20:34	SAD	TAL CF
Total/NA	Analysis	9034		1	443186		CLB	TAL CHI
					(Start)	07/31/18 07:57		
					(End)	07/31/18 08:00		
Total/NA	Analysis	9060		1	442979	07/29/18 11:07	HMW	TAL CHI
Total/NA	Analysis	SM 2320B		1	210993	07/31/18 11:06	MDK	TAL CF

Client Sample ID: Field Duplicate 01

Lab Sample ID: 310-135464-9
Matrix: Water

Date Collected: 07/24/18 12:00
Date Received: 07/25/18 17:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	210825	07/31/18 15:37	SJN	TAL CF
Total/NA	Analysis	8260C		100	211067	08/01/18 19:32	SJN	TAL CF

Client Sample ID: Field Duplicate 01

Lab Sample ID: 310-135464-9
Matrix: Water

Date Collected: 07/24/18 12:00
Date Received: 07/25/18 17:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1000	211073	08/02/18 13:40	SJN	TAL CF
Total/NA	Analysis	9056A		5	211026	07/31/18 01:07	CJT	TAL CF
Total/NA	Analysis	9056A		20	211026	07/31/18 10:04	CJT	TAL CF
Total/NA	Prep	3010A			210672	07/27/18 08:22	JNR	TAL CF
Total/NA	Analysis	6010C		1	210991	07/30/18 20:36	SAD	TAL CF
Total/NA	Analysis	9034		1	443186		CLB	TAL CHI
					(Start)	07/31/18 08:00		
					(End)	07/31/18 08:03		
Total/NA	Analysis	9060		1	442979	07/29/18 11:45	HMW	TAL CHI
Total/NA	Analysis	SM 2320B		1	210993	07/31/18 11:06	MDK	TAL CF

Client Sample ID: Rinstate Blank 01

Lab Sample ID: 310-135464-10
Matrix: Water

Date Collected: 07/25/18 12:30
Date Received: 07/25/18 17:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	210825	07/31/18 16:01	SJN	TAL CF
Total/NA	Analysis	8260C		1	211067	08/01/18 17:01	SJN	TAL CF
Total/NA	Analysis	9056A		1	211026	08/01/18 12:50	CJT	TAL CF
Total/NA	Prep	3010A			210672	07/27/18 08:22	JNR	TAL CF
Total/NA	Analysis	6010C		1	210991	07/30/18 20:38	SAD	TAL CF
Total/NA	Analysis	2320B		1	211294	08/02/18 12:55	MDK	TAL CF
Total/NA	Analysis	9034		1	443186		CLB	TAL CHI
					(Start)	07/31/18 08:03		
					(End)	07/31/18 08:06		
Total/NA	Analysis	9060		1	442979	07/29/18 12:06	HMW	TAL CHI

Client Sample ID: Trip Blank

Lab Sample ID: 310-135464-11
Matrix: Water

Date Collected: 07/24/18 00:00
Date Received: 07/25/18 17:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	210825	07/31/18 08:30	SJN	TAL CF

Laboratory References:

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-135464-1
SDG: 103-87305.01

Laboratory: TestAmerica Cedar Falls

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
AIHA-LAP, LLC	IHLAP		101044	11-01-18
Georgia	State Program	4	IA100001 (OR)	09-29-18
Illinois	NELAP	5	200024	11-29-18
Iowa	State Program	7	007	12-01-19
Kansas	NELAP	7	E-10341	01-31-19
Minnesota	NELAP	5	019-999-319	12-31-18
Minnesota (Petrofund)	State Program	1	3349	08-22-18 *
North Dakota	State Program	8	R-186	09-29-18
Oregon	NELAP	10	IA100001	09-29-18

Laboratory: TestAmerica Chicago

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2903	04-30-19
Georgia	State Program	4	N/A	04-30-19
Georgia	State Program	4	939	04-30-19
Hawaii	State Program	9	N/A	04-30-19
Illinois	NELAP	5	100201	04-30-19
Indiana	State Program	5	C-IL-02	04-30-19
Iowa	State Program	7	82	05-01-20
Kansas	NELAP	7	E-10161	10-31-18
Kentucky (UST)	State Program	4	66	04-30-19
Kentucky (WW)	State Program	4	KY90023	12-31-18
Louisiana	NELAP	6	30720	06-30-19
Mississippi	State Program	4	N/A	04-30-19
New York	NELAP	2	12019	04-01-19
North Carolina (WW/SW)	State Program	4	291	12-31-18
North Dakota	State Program	8	R-194	04-30-19
Oklahoma	State Program	6	8908	08-31-18 *
South Carolina	State Program	4	77001	04-30-18 *
USDA	Federal		P330-18-00018	02-11-21
Wisconsin	State Program	5	999580010	08-31-18 *
Wyoming	State Program	8	8TMS-Q	04-30-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-135464-1
SDG: 103-87305.01

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL CF
9056A	Anions, Ion Chromatography	SW846	TAL CF
6010C	Metals (ICP)	SW846	TAL CF
2320B	Alkalinity (Low Level)	SM	TAL CF
9034	Sulfide, Acid soluble and Insoluble (Titrimetric)	SW846	TAL CHI
9060	Organic Carbon, Total (TOC)	SW846	TAL CHI
SM 2320B	Alkalinity	SM	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF
5030B	Purge and Trap	SW846	TAL CF

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

310-135464 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information	
Client: Golder + Associates	
City/State: Manchester IA	Project: Electrolux
Receipt Information	
Date/Time Received: 7/25/18 1750	Received By: MRH
Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☒ TA Courier ☐ TA Field Services ☐ Client Drop-off ☐ Other:_____	
Condition of Cooler/Containers	
Sample(s) received in Cooler? ☒ Yes ☐ No	*If yes:* Cooler ID: IW 5
Multiple Coolers? ☒ Yes ☐ No	*If yes:* Cooler # 1 of 3
Cooler Custody Seals Present? ☐ Yes ☒ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present? ☐ Yes ☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present? ☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? ↓
Temperature Record	
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE	
Thermometer ID: J	Correction Factor (°C): 0.1
• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature	
Uncorrected Temp (°C): 4.6	Corrected Temp (°C): 4.7
• **Sample Container Temperature**	
Container type(s) used:	
Uncorrected Temp (°C):	Corrected Temp (°C):
Exceptions Noted	
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No	
a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No	
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No	
NOTE: If yes, contact PM before proceeding. If no, proceed with login	
Additional Comments	

Document: CF-LG-WI-002
Revision: 23
Date: 12/31/2017

TestAmerica-Cedar Falls

General temperature criteria is 0 to 6°C
Bacteria temperature criteria is 0 to 10°C

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: Golder & Associates			
City/State: Manchester IA		Project: Electrolux	
Receipt Information			
Date/Time Received: 7/25/18 1750		Received By: MRH	
Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☒ TA Courier ☐ TA Field Services ☐ Client Drop-off ☐ Other:_____			
Condition of Cooler/Containers			
Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID: 301-A	
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # 2 of 3	
Cooler Custody Seals Present?	☐ Yes ☒ No	*If yes:* Cooler custody seals intact?	☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact?	☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE			
Thermometer ID: J		Correction Factor (°C): 0.1	
• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): 5.2		Corrected Temp (°C): ~~5.2~~ 5.3 MRH 7/25/18	
• **Sample Container Temperature**			
Container type(s) used:			
Uncorrected Temp (°C):		Corrected Temp (°C):	
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling?		☐ Yes	☐ No
a) *If yes:* Is there evidence that the chilling process began?		☐ Yes	☐ No
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?)		☐ Yes	☐ No
NOTE: If yes, contact PM before proceeding. If no, proceed with login			
Additional Comments			

Document: CF-LG-WI-002
Revision: 23
Date: 12/31/2017

TestAmerica-Cedar Falls

General temperature criteria is 0 to 6°C
Bacteria temperature criteria is 0 to 10°C

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Golder & Associates

City/State: Manchester IA | Project: Electrolux

Receipt Information

Date/Time Received: 7/25/18 1750 | Received By: MRH

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☒ TA Courier ☐ TA Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☒ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☒ Yes ☐ No *If yes:* Cooler # 3 of 3

Cooler Custody Seals Present? ☐ Yes ☒ No *If yes:* Cooler custody seals intact? ☐ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☒ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☒ Yes ☐ No *If yes:* Which VOA samples are in cooler? ↓

All Vials present

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: J | Correction Factor (°C): 0.1

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 4.8 | Corrected Temp (°C): 4.9

• **Sample Container Temperature**

Container type(s) used:

Uncorrected Temp (°C): | Corrected Temp (°C):

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Document: CF-LG-WI-002
Revision: 23
Date: 12/31/2017

TestAmerica-Cedar Falls

General temperature criteria is 0 to 6°C
Bacteria temperature criteria is 0 to 10°C

TestAmerica Cedar Falls
704 Enterprise Drive
Cedar Falls IA 50613
Phone (319) 277-2401 Fax (319) 277-2425

Chain of Custody Record

TestAmerica

Client Information	Sampler: Alan Phillips	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):	COC No:
Client Contact: James Peace	Phone: 612-599-9383	E-Mail: shawn.hayes@testamericainc.com		Page:
Company: Golder Associates Inc.				Job #:
Address: 670 North Commercial Street, Suite 103	Due Date Requested:			
City: Manchester	TAT Requested (days):			
State, Zip: NH, 03101				
Phone:	PO #:			
Email: jpeace@golder.com	WO #:			
Project Name: Electrolux - Jefferson, IA	TestAmerica Project #: 31002428			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C Volatile Standard Sublist	9060A Total Organic Carbon	2320B Alkalinities All and 9056A Chloride and Sulfate	6010C Iron and Manganese	9034 Sulfide	TCLP Volatiles	Flashpoint	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	S	N	D	CB	N	N		
MW-67	7/24/18	1050	G	W			X	X	X	X	X				
MW-67-MS		1050				Y	X	X	X	X	X				
MW-67-MSD		1050				Y	X	X	X	X	X				
MW-66		1245					X	X	X	X	X				
MW-56D		1530					X	X	X	X	X				
MW-47D		1725					X	X	X	X	X				
MW-65		1850					X	X	X	X	X				
MW-46		2025					X	X	X	X	X				
MW-57	7/25/18	0955					X	X	X	X	X				
MW-43D	7/25/18	1130					X	X	X	X	X				

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Alan Phillips	7/25/18 16:00	Golder	[signature]	7/25/18 1600	
			[signature]	7/25/18 1750	

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

TestAmerica Cedar Falls
704 Enterprise Drive
Cedar Falls IA 50613
Phone (319) 277-2401 Fax (319) 277-2425

Chain of Custody Record

TestAmerica

Client Information	Sampler: Alan Phillips	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):	COC No:
Client Contact: James Peace	Phone: 612-599-9383	E-Mail: shawn.hayes@testamericainc.com		Page:
Company: Golder Associates Inc.				Job #:
Address: 670 North Commercial Street Suite 103	Due Date Requested:			
City: Manchester	TAT Requested (days):			
State, Zip: NH 03101				
Phone:	PO #:			
Email: jpeace@golder.com	WO #:			
Project Name: Electrolux - Jefferson, IA	TestAmerica Project #: 31002428			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AshNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C Volatile Standard Sublist	9060A Total Organic Carbon	2320B Alkalinities All and 9056A Chloride and Sulfate	6010C Iron and Manganese	9034 Sulfide	TCLP Volatiles	Flashpoint	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	S	N	D	CB	N	N		
Field Duplicate 01	7/24/18	1200	G	W			X	X	X	X	X				
Rinsate Blank 01	7/25/18	1230	G	W			X	X	X	X	X				
Trip Blank							X								

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Alan Phillips	7/25/18 16:00	Golder	[signature]	7/25/18 1600	
			[signature]		
			[signature]	7/25/18 1750	

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
Δ Yes Δ No		

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Preservative Added (mls)	Lot #
MW-67	310-135464-A-1 MS	Plastic 250ml - with Nitric Acid	<2		
MW-67	310-135464-A-1 MSD	Plastic 250ml - with Nitric Acid	<2		
MW-67	310-135464-B-1 MS	Plastic 500ml - with Zn Acetate and	>12		
MW-67	310-135464-B-1 MSD	Plastic 500ml - with Zn Acetate and	>12		
MW-67	310-135464-I-1	Plastic 250ml - with Nitric Acid	<2		
MW-67	310-135464-J-1	Plastic 500ml - with Zn Acetate and	>12		
MW-66	310-135464-A-2	Plastic 250ml - with Nitric Acid	<2		
MW-66	310-135464-B-2	Plastic 500ml - with Zn Acetate and	>12		
MW-56D	310-135464-A-3	Plastic 250ml - with Nitric Acid	<2		
MW-56D	310-135464-B-3	Plastic 500ml - with Zn Acetate and	>12		
MW-47D	310-135464-A-4	Plastic 250ml - with Nitric Acid	<2		
MW-47D	310-135464-B-4	Plastic 500ml - with Zn Acetate and	>12		
MW-65	310-135464-A-5	Plastic 250ml - with Nitric Acid	<2		
MW-65	310-135464-B-5	Plastic 500ml - with Zn Acetate and	>12		
MW-46	310-135464-A-6	Plastic 250ml - with Nitric Acid	<2		
MW-46	310-135464-B-6	Plastic 500ml - with Zn Acetate and	>12		
MW-57	310-135464-A-7	Plastic 250ml - with Nitric Acid	<2		
MW-57	310-135464-B-7	Plastic 500ml - with Zn Acetate and	>12		
MW-43D	310-135464-A-8	Plastic 250ml - with Nitric Acid	<2		
MW-43D	310-135464-B-8	Plastic 500ml - with Zn Acetate and	>12		
Field Duplicate 01	310-135464-A-9	Plastic 250ml - with Nitric Acid	<2		
Field Duplicate 01	310-135464-B-9	Plastic 500ml - with Zn Acetate and	>12		
Rinstate Duplicate 01	310-135464-A-10	Plastic 250ml - with Nitric Acid	<2		
Rinstate Duplicate 01	310-135464-B-10	Plastic 500ml - with Zn Acetate and	>12		

TestAmerica Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Phone (319) 277-2401 Fax (319) 277-2425

Chain of Custody Record

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Hayes, Shawn M	Carrier Tracking No.(s):	COC No: 310-13417.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: shawn.hayes@testamericainc.com	State of Origin: Iowa	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 310-135464-1
Address: 2417 Bond Street,	Due Date Requested: 8/6/2018			
City: University Park	TAT Requested (days):			
State, Zip: IL, 60484				
Phone: 708-534-5200(Tel) 708-534-5211(Fax)	PO #:			
Email:	WO #:			
Project Name: Electrolux - Jefferson, IA	Project #: 31002428	310-135464 COC		
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9034_Calc/ Sulfide	9060/ Total Organic Carbon	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-67 (310-135464-1)	7/24/18	10:50 Central		Water			X	X	3	
MW-67 (310-135464-1MS)	7/24/18	10:50 Central	MS	Water			X	X	3	
MW-67 (310-135464-1MSD)	7/24/18	10:50 Central	MSD	Water			X	X	3	
MW-66 (310-135464-2)	7/24/18	12:45 Central		Water			X	X	3	
MW-56D (310-135464-3)	7/24/18	15:30 Central		Water			X	X	3	
MW-47D (310-135464-4)	7/24/18	17:25 Central		Water			X	X	3	
MW-65 (310-135464-5)	7/24/18	18:50 Central		Water			X	X	3	
MW-46 (310-135464-6)	7/24/18	20:25 Central		Water			X	X	3	
MW-57 (310-135464-7)	7/25/18	09:55 Central		Water			X	X	3	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	7/26/18 1459		[signature]	07/27/18 1025	[signature]
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.3

Ver: 09/20/2016 8/8/2018

TestAmerica Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Phone (319) 277-2401 Fax (319) 277-2425

Chain of Custody Record

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):	COC No: 310-13417.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: shawn.hayes@testamericainc.com	State of Origin: Iowa	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note)		Job #: 310-135464-1
Address: 2417 Bond Street,	Due Date Requested: 8/6/2018			
City: University Park	TAT Requested (days):			
State, Zip: IL, 60484				
Phone: 708-534-5200(Tel) 708-534-5211(Fax)	PO #:			
Email:	WO #:			
Project Name: Electrolux - Jefferson, IA	Project #: 31002428			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCl, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9034_Calc/ Sulfide	9060/ Total Organic Carbon	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-43D (310-135464-8)	7/25/18	11:30 Central		Water			X	X	3	
Field Duplicate 01 (310-135464-9)	7/24/18	12:00 Central		Water			X	X	3	
Rinstate Blank 01 (310-135464-10)	7/25/18	12:30 Central		Water			X	X	3	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	7/26/18 1459		[signature]	07/27/18 1025	TACH
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.3

Ver: 09/20/2016 8/8/2018

Login Sample Receipt Checklist

Client: Golder Associates Inc.

Job Number: 310-135464-1
SDG Number: 103-87305.01

Login Number: 135464
List Number: 1
Creator: Homolar, Dana J

List Source: TestAmerica Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Golder Associates Inc.

Job Number: 310-135464-1
SDG Number: 103-87305.01

Login Number: 135464
List Number: 2
Creator: Sanchez, Ariel M

List Source: TestAmerica Chicago
List Creation: 07/28/18 08:31 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Pace Analytical Energy Services LLC
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August 6, 2018

Jim Peace
Golder Associates
670 N Commercial St
Suite 103
Manchester, NH 03101

RE: **ELECTROLUX**

Pace Workorder: *27549*

Dear Jim Peace:

Enclosed are the analytical results for sample(s) received by the laboratory on Thursday, July 26, 2018. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ruth Welsh 08/06/2018
Ruth.Welsh@pacelabs.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.
Please email PAESfeedback@pacelabs.com.

Total Number of Pages 21

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LABORATORY ACCREDITATIONS & CERTIFICATIONS

Accreditor:	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
Accreditation ID:	02-00538
Scope:	NELAP Non-Potable Water
Accreditor:	West Virginia Department of Environmental Protection, Division of Water and Waste Management
Accreditation ID:	395
Scope:	Non-Potable Water
Accreditor:	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
Accreditation ID:	89009003
Scope:	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
Accreditor:	State of Virginia
Accreditation ID:	460201
Scope:	Non-Potable Water
Accreditor:	NELAP: New Jersey, Department of Environmental Protection
Accreditation ID:	PA026
Scope:	Non-Potable Water
Accreditor:	NELAP: New York, Department of Health Wadsworth Center
Accreditation ID:	11815
Scope:	Non-Potable Water
Accreditor:	State of Connecticut, Department of Public Health, Division of Environmental Health
Accreditation ID:	PH-0263
Scope:	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: Texas, Commission on Environmental Quality
Accreditation ID:	T104704453-09-TX
Scope:	Non-Potable Water
Accreditor:	State of New Hampshire
Accreditation ID:	299409
Scope:	Non-potable water
Accreditor:	State of Georgia
Accreditation ID:	Chapter 391-3-26
Scope:	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, PAES is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).

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SAMPLE SUMMARY

Workorder: 27549 ELECTROLUX

Lab ID	Sample ID	Matrix	Date Collected	Date Received
275490001	MW-67	Water	7/24/2018 10:50	7/26/2018 13:28
275490002	MW-67-MS	Water	7/24/2018 10:50	7/26/2018 13:28
275490003	MW-67-MSD	Water	7/24/2018 10:50	7/26/2018 13:28
275490004	MW-66	Water	7/24/2018 12:45	7/26/2018 13:28
275490005	MW-56D	Water	7/24/2018 15:30	7/26/2018 13:28
275490006	MW-57D	Water	7/24/2018 17:25	7/26/2018 13:28
275490007	MW-65	Water	7/24/2018 18:50	7/26/2018 13:28
275490008	MW-46	Water	7/24/2018 20:25	7/26/2018 13:28
275490009	MW-57	Water	7/25/2018 09:55	7/26/2018 13:28
275490010	MW-43D	Water	7/25/2018 11:30	7/26/2018 13:28
275490011	FIELD DUPLICATE 01	Water	7/24/2018 12:00	7/26/2018 13:28
275490012	RINSATE BLANK 01	Water	7/25/2018 12:30	7/26/2018 13:28

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ANALYTICAL RESULTS

Workorder: 27549 ELECTROLUX

Lab ID: **275490001** Date Received: 7/26/2018 13:28 Matrix: Water
Sample ID: **MW-67** Date Collected: 7/24/2018 10:50

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**3.0**	ug/l	0.50	0.020	1	8/1/2018 08:37	BW	n
Ethane	**0.032J**	ug/l	0.10	0.0070	1	8/1/2018 08:37	BW	n
Ethene	**0.17**	ug/l	0.10	0.0050	1	8/1/2018 08:37	BW	n

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ANALYTICAL RESULTS

Workorder: 27549 ELECTROLUX

Lab ID: **275490002** Date Received: 7/26/2018 13:28 Matrix: Water
Sample ID: **MW-67-MS** Date Collected: 7/24/2018 10:50

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**38**	ug/l	0.50	0.020	1	8/1/2018 08:50	BW	n
Ethane	**66**	ug/l	0.10	0.0070	1	8/1/2018 08:50	BW	n
Ethene	**60**	ug/l	0.10	0.0050	1	8/1/2018 08:50	BW	n

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ANALYTICAL RESULTS

Workorder: 27549 ELECTROLUX

Lab ID: **275490003** Date Received: 7/26/2018 13:28 Matrix: Water

Sample ID: **MW-67-MSD** Date Collected: 7/24/2018 10:50

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**38**	ug/l	0.50	0.020	1	8/1/2018 09:02	BW	n
Ethane	**64**	ug/l	0.10	0.0070	1	8/1/2018 09:02	BW	n
Ethene	**56**	ug/l	0.10	0.0050	1	8/1/2018 09:02	BW	n

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ANALYTICAL RESULTS

Workorder: 27549 ELECTROLUX

Lab ID: **275490004** Date Received: 7/26/2018 13:28 Matrix: Water
Sample ID: **MW-66** Date Collected: 7/24/2018 12:45

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**1.9**	ug/l	0.50	0.020	1	8/1/2018 09:13	BW	n
Ethane	**0.054J**	ug/l	0.10	0.0070	1	8/1/2018 09:13	BW	n
Ethene	**0.19**	ug/l	0.10	0.0050	1	8/1/2018 09:13	BW	n

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ANALYTICAL RESULTS

Workorder: 27549 ELECTROLUX

Lab ID: **275490005** Date Received: 7/26/2018 13:28 Matrix: Water
Sample ID: **MW-56D** Date Collected: 7/24/2018 15:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**0.50J**	ug/l	0.50	0.020	1	8/1/2018 09:22	BW	n
Ethane	**0.0087J**	ug/l	0.10	0.0070	1	8/1/2018 09:22	BW	n
Ethene	**0.13**	ug/l	0.10	0.0050	1	8/1/2018 09:22	BW	n

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ANALYTICAL RESULTS

Workorder: 27549 ELECTROLUX

Lab ID: **275490006** Date Received: 7/26/2018 13:28 Matrix: Water
Sample ID: **MW-57D** Date Collected: 7/24/2018 17:25

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**720**	ug/l	0.50	0.020	1	8/1/2018 09:33	BW	n
Ethane	**6.8**	ug/l	0.10	0.0070	1	8/1/2018 09:33	BW	n
Ethene	**2000**	ug/l	0.10	0.0050	1	8/1/2018 09:33	BW	n

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ANALYTICAL RESULTS

Workorder: 27549 ELECTROLUX

Lab ID: **275490007** Date Received: 7/26/2018 13:28 Matrix: Water

Sample ID: **MW-65** Date Collected: 7/24/2018 18:50

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**190**	ug/l	0.50	0.020	1	8/1/2018 09:44	BW	n
Ethane	**0.37**	ug/l	0.10	0.0070	1	8/1/2018 09:44	BW	n
Ethene	**6.8**	ug/l	0.10	0.0050	1	8/1/2018 09:44	BW	n

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ANALYTICAL RESULTS

Workorder: 27549 ELECTROLUX

Lab ID: **275490008** Date Received: 7/26/2018 13:28 Matrix: Water
Sample ID: **MW-46** Date Collected: 7/24/2018 20:25

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**1.2**	ug/l	0.50	0.020	1	8/1/2018 09:55	BW	n
Ethane	**0.92**	ug/l	0.10	0.0070	1	8/1/2018 09:55	BW	n
Ethene	**0.45**	ug/l	0.10	0.0050	1	8/1/2018 09:55	BW	n

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ANALYTICAL RESULTS

Workorder: 27549 ELECTROLUX

Lab ID: **275490009** Date Received: 7/26/2018 13:28 Matrix: Water
Sample ID: **MW-57** Date Collected: 7/25/2018 09:55

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**4.2**	ug/l	0.50	0.020	1	8/1/2018 10:06	BW	n
Ethane	**0.020J**	ug/l	0.10	0.0070	1	8/1/2018 10:06	BW	n
Ethene	**0.056J**	ug/l	0.10	0.0050	1	8/1/2018 10:06	BW	n

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ANALYTICAL RESULTS

Workorder: 27549 ELECTROLUX

Lab ID: **275490010** Date Received: 7/26/2018 13:28 Matrix: Water
Sample ID: **MW-43D** Date Collected: 7/25/2018 11:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**0.44J**	ug/l	0.50	0.020	1	8/1/2018 10:17	BW	n
Ethane	**0.028J**	ug/l	0.10	0.0070	1	8/1/2018 10:17	BW	n
Ethene	**0.017J**	ug/l	0.10	0.0050	1	8/1/2018 10:17	BW	n

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ANALYTICAL RESULTS

Workorder: 27549 ELECTROLUX

Lab ID: **275490011** Date Received: 7/26/2018 13:28 Matrix: Water

Sample ID: **FIELD DUPLICATE 01** Date Collected: 7/24/2018 12:00

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**590**	ug/l	0.50	0.020	1	8/1/2018 10:26	BW	n
Ethane	**5.6**	ug/l	0.10	0.0070	1	8/1/2018 10:26	BW	n
Ethene	**1800**	ug/l	0.10	0.0050	1	8/1/2018 10:26	BW	n

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Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 27549 ELECTROLUX

Lab ID: **275490012** Date Received: 7/26/2018 13:28 Matrix: Water
Sample ID: **RINSATE BLANK 01** Date Collected: 7/25/2018 12:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX			Analytical Method: AM20GAX					
Methane	**0.12J**	ug/l	0.50	0.020	1	8/1/2018 11:39	BW	n
Ethane	**0.011J**	ug/l	0.10	0.0070	1	8/1/2018 11:39	BW	n
Ethene	**0.16**	ug/l	0.10	0.0050	1	8/1/2018 11:39	BW	n

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ANALYTICAL RESULTS QUALIFIERS

Workorder: 27549 ELECTROLUX

DEFINITIONS/QUALIFIERS

MDL	Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
PQL	Practical Quanitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
ND	Not detected at or above reporting limit.
DF	Dilution Factor.
S	Surrogate.
RPD	Relative Percent Difference.
% Rec	Percent Recovery.
U	Indicates the compound was analyzed for, but not detected at or above the noted concentration.
J	Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).
n	The laboratory does not hold NELAP/TNI accreditation for this method or analyte.

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Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA

Workorder: 27549 ELECTROLUX

QC Batch: DISG/6984 Analysis Method: AM20GAX

QC Batch Method: AM20GAX

Associated Lab Samples: 275490001, 275490002, 275490003, 275490004, 275490005, 275490006, 275490007, 275490008, 275490009, 275490010, 275490011, 275490012

METHOD BLANK: 56694

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Methane	ug/l	0.50 U	0.50	n
Ethane	ug/l	0.10 U	0.10	n
Ethene	ug/l	0.10 U	0.10	n

LABORATORY CONTROL SAMPLE & LCSD: 56695 56696

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Methane	ug/l	750	680	680	91	91	80-120	0.39	20	n
Ethane	ug/l	38	37	37	97	98	80-120	1.2	20	n
Ethene	ug/l	35	34	34	96	96	80-120	0.38	20	n

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 56715 56716 Original: 275490001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK											
Methane	ug/l	3	40	38	38	88	86	70-130	1.8	20	n
Ethane	ug/l	0.032	76	66	64	88	84	70-130	4.5	20	n
Ethene	ug/l	0.17	71	60	56	85	80	70-130	6.6	20	n

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QUALITY CONTROL DATA QUALIFIERS

Workorder: 27549 ELECTROLUX

QUALITY CONTROL PARAMETER QUALIFIERS

n	The laboratory does not hold NELAP/TNI accreditation for this method or analyte.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 27549 ELECTROLUX

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
275490001	MW-67			AM20GAX	DISG/6984
275490002	MW-67-MS			AM20GAX	DISG/6984
275490003	MW-67-MSD			AM20GAX	DISG/6984
275490004	MW-66			AM20GAX	DISG/6984
275490005	MW-56D			AM20GAX	DISG/6984
275490006	MW-57D			AM20GAX	DISG/6984
275490007	MW-65			AM20GAX	DISG/6984
275490008	MW-46			AM20GAX	DISG/6984
275490009	MW-57			AM20GAX	DISG/6984
275490010	MW-43D			AM20GAX	DISG/6984
275490011	FIELD DUPLICATE 01			AM20GAX	DISG/6984
275490012	RINSATE BLANK 01			AM20GAX	DISG/6984

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220 William Pitt Way
Pittsburgh, PA 15238
412-826-5245

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

27549

Page: 1 of 1

D11581

Section A Required Client Information:

Company: Golder Associates
Address: 670 N Commercial St Ste 103
Manchester, NH 03101
Email To: jpence@golder.com
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Jim Pence
Copy To:
Purchase Order No.:
Project Name: Electrolux Jefferson, Iowa
Project Number:

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
UST RCRA OTHER _____

Site Location STATE: IA

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	TSP	BAK	Zinc Acetate & NaOH	Other	Analysis Test (Y/N): MEE	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-67	WT	G			7/24/18	1050		3								X	X		
2	MW-67-MS						1050		3								X	X		
3	MW-67-MSD						1050		3								X	X		
4	MW-66						1295		3								X	X		
5	MW-56D						1530		3								X	X		
6	MW-47D						1725		3								X	X		
7	MW-65						1850		3								X	X		
8	MW-46						2025		3								X	X		
9	MW-57					7/25/18	0955		3								X	X		
10	MW-43D					7/25/18	1130		3								X	X		
11	Field Duplicate 01					7/24/18	1200		3								X	X		
12	Rinsate Blank 01					7/25/18	1230		3								X	X		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Alan Phillips / Golder	7/25/18	1530	[illegible]	[illegible]	[illegible]	[illegible]

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Alan Phillips

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 7/25/18

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Cooler Receipt Form

Client Name: [illegible] **Project:** [illegible] **Lab Work Order:** 27549

A. Shipping/Container Information (circle appropriate response)

Courier: (FedEx) UPS USPS Client Other:_____ **Air bill Present:** (Yes) No

Tracking Number: [illegible]

Custody Seal on Cooler/Box Present: (Yes) No **Seals Intact:** (Yes) No

Cooler/Box Packing Material: (Bubble Wrap) Absorbent Foam Other:_____

Type of Ice: (Wet) Blue None **Ice Intact:** (Yes) Melted

Cooler Temperature: [illegible] **Radiation Screened:** Yes (No) **Chain of Custody Present:** (Yes) No

Comments:_____

B. Laboratory Assignment/Log-in (check appropriate response)

	YES	NO	N/A	Comment Reference non-Conformance
Chain of Custody properly filled out	✓			
Chain of Custody relinquished	✓			
Sampler Name & Signature on COC	✓			
Containers intact	✓			
Were samples in separate bags	✓			
Sample container labels match COC Sample name/date and time collected	✓			
Sufficient volume provided	✓			
PAES containers used	✓			
Are containers properly preserved for the requested testing? (as labeled)	✓			
If an unknown preservation state, were containers checked? Exception: VOA's coliform			✓	If yes, see pH form.
Was volume for dissolved testing field filtered, as noted on the COC? Was volume received in a preserved container?			✓	
Headspace present?		✓		

Comments:_____

Cooler contents examined/received by : [illegible] **Date:** [illegible]

Project Manager Review : [illegible] **Date:** 7/27/18.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319)277-2401

TestAmerica Job ID: 310-143496-1
TestAmerica Sample Delivery Group: 103-87305.01
Client Project/Site: Electrolux - Jefferson, IA

For:
Golder Associates Inc.
670 North Commercial Street
Suite 103
Manchester, New Hampshire 03101

Attn: James Peace

Authorized for release by:
11/15/2018 9:32:45 AM

Shawn Hayes, Senior Project Manager
(319)229-8211
shawn.hayes@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 310-143496-1

Laboratory: TestAmerica Cedar Falls

Narrative

Job Narrative
310-143496-1

Comments
No additional comments.

Receipt
The samples were received on 11/7/2018 5:35 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.5° C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-143496-1	MW-67	Water	11/05/18 11:35	11/07/18 17:35
310-143496-2	MW-66	Water	11/05/18 13:10	11/07/18 17:35
310-143496-3	MW-56D	Water	11/05/18 15:20	11/07/18 17:35
310-143496-4	MW-65	Water	11/06/18 09:25	11/07/18 17:35
310-143496-5	MW-47D	Water	11/06/18 10:35	11/07/18 17:35
310-143496-6	MW-46	Water	11/06/18 12:05	11/07/18 17:35
310-143496-7	MW-43D	Water	11/06/18 13:40	11/07/18 17:35
310-143496-8	MW-57	Water	11/06/18 15:05	11/07/18 17:35
310-143496-9	Field Duplicate 01	Water	11/06/18 12:00	11/07/18 17:35
310-143496-10	Rinstate Blank 01	Water	11/06/18 15:35	11/07/18 17:35
310-143496-11	Trip Blank	Water	11/06/18 00:00	11/07/18 17:35

Detection Summary

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: MW-67 — Lab Sample ID: 310-143496-1

No Detections.

Client Sample ID: MW-66 — Lab Sample ID: 310-143496-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	16.7		1.00		ug/L	1		8260C	Total/NA

Client Sample ID: MW-56D — Lab Sample ID: 310-143496-3

No Detections.

Client Sample ID: MW-65 — Lab Sample ID: 310-143496-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	283		10.0		ug/L	10		8260C	Total/NA
trans-1,2-Dichloroethene	17.4		10.0		ug/L	10		8260C	Total/NA
Trichloroethene	2860		10.0		ug/L	10		8260C	Total/NA
Vinyl chloride	48.8		10.0		ug/L	10		8260C	Total/NA

Client Sample ID: MW-47D — Lab Sample ID: 310-143496-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	141		20.0		ug/L	10		8260C	Total/NA
cis-1,2-Dichloroethene	79000		1000		ug/L	1000		8260C	Total/NA
trans-1,2-Dichloroethene	464		10.0		ug/L	10		8260C	Total/NA
Trichloroethene	20500		1000		ug/L	1000		8260C	Total/NA
Vinyl chloride	11600		1000		ug/L	1000		8260C	Total/NA

Client Sample ID: MW-46 — Lab Sample ID: 310-143496-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	359		100		ug/L	100		8260C	Total/NA
Trichloroethene	14300		100		ug/L	100		8260C	Total/NA

Client Sample ID: MW-43D — Lab Sample ID: 310-143496-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	12.1		1.00		ug/L	1		8260C	Total/NA
Trichloroethene	3.03		1.00		ug/L	1		8260C	Total/NA
Vinyl chloride	3.59		1.00		ug/L	1		8260C	Total/NA

Client Sample ID: MW-57 — Lab Sample ID: 310-143496-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	543		10.0		ug/L	10		8260C	Total/NA

Client Sample ID: Field Duplicate 01 — Lab Sample ID: 310-143496-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	279		10.0		ug/L	10		8260C	Total/NA
trans-1,2-Dichloroethene	16.4		10.0		ug/L	10		8260C	Total/NA
Trichloroethene	3010		10.0		ug/L	10		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: Field Duplicate 01 (Continued) — Lab Sample ID: 310-143496-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	46.5		10.0		ug/L	10		8260C	Total/NA

Client Sample ID: Rinstate Blank 01 — Lab Sample ID: 310-143496-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	4.47		1.00		ug/L	1		8260C	Total/NA

Client Sample ID: Trip Blank — Lab Sample ID: 310-143496-11

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: MW-67

Date Collected: 11/05/18 11:35
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/11/18 01:29	1
Benzene	<0.500		0.500		ug/L			11/11/18 01:29	1
Bromobenzene	<1.00		1.00		ug/L			11/11/18 01:29	1
Bromochloromethane	<5.00		5.00		ug/L			11/11/18 01:29	1
Bromodichloromethane	<1.00		1.00		ug/L			11/11/18 01:29	1
Bromoform	<5.00		5.00		ug/L			11/11/18 01:29	1
Bromomethane	<4.00		4.00		ug/L			11/11/18 01:29	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/11/18 01:29	1
n-Butylbenzene	<1.00		1.00		ug/L			11/11/18 01:29	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/11/18 01:29	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/11/18 01:29	1
Carbon disulfide	<1.00		1.00		ug/L			11/11/18 01:29	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/11/18 01:29	1
Chlorobenzene	<1.00		1.00		ug/L			11/11/18 01:29	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/11/18 01:29	1
Chloroethane	<4.00		4.00		ug/L			11/11/18 01:29	1
Chloroform	<3.00		3.00		ug/L			11/11/18 01:29	1
Chloromethane	<3.00		3.00		ug/L			11/11/18 01:29	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/11/18 01:29	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/11/18 01:29	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			11/11/18 01:29	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			11/11/18 01:29	1
Dibromomethane	<1.00		1.00		ug/L			11/11/18 01:29	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/11/18 01:29	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/11/18 01:29	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/11/18 01:29	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/11/18 01:29	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/11/18 01:29	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/11/18 01:29	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/11/18 01:29	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/11/18 01:29	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/11/18 01:29	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/11/18 01:29	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/11/18 01:29	1
2,2-Dichloropropane	<4.00	F1	4.00		ug/L			11/11/18 01:29	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/11/18 01:29	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/11/18 01:29	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/11/18 01:29	1
Ethylbenzene	<1.00		1.00		ug/L			11/11/18 01:29	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/11/18 01:29	1
Hexane	<1.00	F2	1.00		ug/L			11/11/18 01:29	1
Isopropylbenzene	<1.00		1.00		ug/L			11/11/18 01:29	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/11/18 01:29	1
Methylene Chloride	<5.00		5.00		ug/L			11/11/18 01:29	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/11/18 01:29	1
Naphthalene	<5.00		5.00		ug/L			11/11/18 01:29	1
N-Propylbenzene	<1.00		1.00		ug/L			11/11/18 01:29	1
Styrene	<1.00		1.00		ug/L			11/11/18 01:29	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/11/18 01:29	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: MW-67

Date Collected: 11/05/18 11:35
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/11/18 01:29	1
Tetrachloroethene	<1.00		1.00		ug/L			11/11/18 01:29	1
Toluene	<1.00		1.00		ug/L			11/11/18 01:29	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/11/18 01:29	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/11/18 01:29	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/11/18 01:29	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/11/18 01:29	1
Trichloroethene	<1.00		1.00		ug/L			11/11/18 01:29	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/11/18 01:29	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/11/18 01:29	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/11/18 01:29	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/11/18 01:29	1
Vinyl chloride	<1.00		1.00		ug/L			11/11/18 01:29	1
Xylenes, Total	<3.00		3.00		ug/L			11/11/18 01:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*80 - 120*		*11/11/18 01:29*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*11/11/18 01:29*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/11/18 01:29*	*1*

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: MW-66

Date Collected: 11/05/18 13:10
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-2

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/11/18 01:54	1
Benzene	<0.500		0.500		ug/L			11/11/18 01:54	1
Bromobenzene	<1.00		1.00		ug/L			11/11/18 01:54	1
Bromochloromethane	<5.00		5.00		ug/L			11/11/18 01:54	1
Bromodichloromethane	<1.00		1.00		ug/L			11/11/18 01:54	1
Bromoform	<5.00		5.00		ug/L			11/11/18 01:54	1
Bromomethane	<4.00		4.00		ug/L			11/11/18 01:54	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/11/18 01:54	1
n-Butylbenzene	<1.00		1.00		ug/L			11/11/18 01:54	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/11/18 01:54	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/11/18 01:54	1
Carbon disulfide	<1.00		1.00		ug/L			11/11/18 01:54	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/11/18 01:54	1
Chlorobenzene	<1.00		1.00		ug/L			11/11/18 01:54	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/11/18 01:54	1
Chloroethane	<4.00		4.00		ug/L			11/11/18 01:54	1
Chloroform	<3.00		3.00		ug/L			11/11/18 01:54	1
Chloromethane	<3.00		3.00		ug/L			11/11/18 01:54	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/11/18 01:54	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/11/18 01:54	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			11/11/18 01:54	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			11/11/18 01:54	1
Dibromomethane	<1.00		1.00		ug/L			11/11/18 01:54	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/11/18 01:54	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/11/18 01:54	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/11/18 01:54	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/11/18 01:54	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/11/18 01:54	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/11/18 01:54	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/11/18 01:54	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/11/18 01:54	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/11/18 01:54	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/11/18 01:54	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/11/18 01:54	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/11/18 01:54	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/11/18 01:54	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/11/18 01:54	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/11/18 01:54	1
Ethylbenzene	<1.00		1.00		ug/L			11/11/18 01:54	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/11/18 01:54	1
Hexane	<1.00		1.00		ug/L			11/11/18 01:54	1
Isopropylbenzene	<1.00		1.00		ug/L			11/11/18 01:54	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/11/18 01:54	1
Methylene Chloride	<5.00		5.00		ug/L			11/11/18 01:54	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/11/18 01:54	1
Naphthalene	<5.00		5.00		ug/L			11/11/18 01:54	1
N-Propylbenzene	<1.00		1.00		ug/L			11/11/18 01:54	1
Styrene	<1.00		1.00		ug/L			11/11/18 01:54	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/11/18 01:54	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: MW-66

Date Collected: 11/05/18 13:10
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-2

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/11/18 01:54	1
Tetrachloroethene	<1.00		1.00		ug/L			11/11/18 01:54	1
Toluene	<1.00		1.00		ug/L			11/11/18 01:54	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/11/18 01:54	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/11/18 01:54	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/11/18 01:54	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/11/18 01:54	1
Trichloroethene	**16.7**		1.00		ug/L			11/11/18 01:54	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/11/18 01:54	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/11/18 01:54	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/11/18 01:54	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/11/18 01:54	1
Vinyl chloride	<1.00		1.00		ug/L			11/11/18 01:54	1
Xylenes, Total	<3.00		3.00		ug/L			11/11/18 01:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*		*11/11/18 01:54*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*11/11/18 01:54*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/11/18 01:54*	*1*

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: MW-56D

Date Collected: 11/05/18 15:20
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-3

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/11/18 02:18	1
Benzene	<0.500		0.500		ug/L			11/11/18 02:18	1
Bromobenzene	<1.00		1.00		ug/L			11/11/18 02:18	1
Bromochloromethane	<5.00		5.00		ug/L			11/11/18 02:18	1
Bromodichloromethane	<1.00		1.00		ug/L			11/11/18 02:18	1
Bromoform	<5.00		5.00		ug/L			11/11/18 02:18	1
Bromomethane	<4.00		4.00		ug/L			11/11/18 02:18	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/11/18 02:18	1
n-Butylbenzene	<1.00		1.00		ug/L			11/11/18 02:18	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/11/18 02:18	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/11/18 02:18	1
Carbon disulfide	<1.00		1.00		ug/L			11/11/18 02:18	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/11/18 02:18	1
Chlorobenzene	<1.00		1.00		ug/L			11/11/18 02:18	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/11/18 02:18	1
Chloroethane	<4.00		4.00		ug/L			11/11/18 02:18	1
Chloroform	<3.00		3.00		ug/L			11/11/18 02:18	1
Chloromethane	<3.00		3.00		ug/L			11/11/18 02:18	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/11/18 02:18	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/11/18 02:18	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			11/11/18 02:18	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			11/11/18 02:18	1
Dibromomethane	<1.00		1.00		ug/L			11/11/18 02:18	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/11/18 02:18	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/11/18 02:18	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/11/18 02:18	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/11/18 02:18	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/11/18 02:18	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/11/18 02:18	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/11/18 02:18	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/11/18 02:18	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/11/18 02:18	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/11/18 02:18	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/11/18 02:18	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/11/18 02:18	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/11/18 02:18	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/11/18 02:18	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/11/18 02:18	1
Ethylbenzene	<1.00		1.00		ug/L			11/11/18 02:18	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/11/18 02:18	1
Hexane	<1.00		1.00		ug/L			11/11/18 02:18	1
Isopropylbenzene	<1.00		1.00		ug/L			11/11/18 02:18	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/11/18 02:18	1
Methylene Chloride	<5.00		5.00		ug/L			11/11/18 02:18	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/11/18 02:18	1
Naphthalene	<5.00		5.00		ug/L			11/11/18 02:18	1
N-Propylbenzene	<1.00		1.00		ug/L			11/11/18 02:18	1
Styrene	<1.00		1.00		ug/L			11/11/18 02:18	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/11/18 02:18	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: MW-56D

Date Collected: 11/05/18 15:20
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-3

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/11/18 02:18	1
Tetrachloroethene	<1.00		1.00		ug/L			11/11/18 02:18	1
Toluene	<1.00		1.00		ug/L			11/11/18 02:18	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/11/18 02:18	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/11/18 02:18	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/11/18 02:18	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/11/18 02:18	1
Trichloroethene	<1.00		1.00		ug/L			11/11/18 02:18	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/11/18 02:18	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/11/18 02:18	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/11/18 02:18	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/11/18 02:18	1
Vinyl chloride	<1.00		1.00		ug/L			11/11/18 02:18	1
Xylenes, Total	<3.00		3.00		ug/L			11/11/18 02:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*11/11/18 02:18*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*11/11/18 02:18*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/11/18 02:18*	*1*

Client Sample ID: MW-65

Date Collected: 11/06/18 09:25
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<100		100		ug/L			11/12/18 11:21	10
Benzene	<5.00		5.00		ug/L			11/12/18 11:21	10
Bromobenzene	<10.0		10.0		ug/L			11/12/18 11:21	10
Bromochloromethane	<50.0		50.0		ug/L			11/12/18 11:21	10
Bromodichloromethane	<10.0		10.0		ug/L			11/12/18 11:21	10
Bromoform	<50.0		50.0		ug/L			11/12/18 11:21	10
Bromomethane	<40.0		40.0		ug/L			11/12/18 11:21	10
2-Butanone (MEK)	<100		100		ug/L			11/12/18 11:21	10
n-Butylbenzene	<10.0		10.0		ug/L			11/12/18 11:21	10
sec-Butylbenzene	<10.0		10.0		ug/L			11/12/18 11:21	10
tert-Butylbenzene	<10.0		10.0		ug/L			11/12/18 11:21	10
Carbon disulfide	<10.0		10.0		ug/L			11/12/18 11:21	10
Carbon tetrachloride	<20.0		20.0		ug/L			11/12/18 11:21	10
Chlorobenzene	<10.0		10.0		ug/L			11/12/18 11:21	10
Chlorodibromomethane	<50.0		50.0		ug/L			11/12/18 11:21	10
Chloroethane	<40.0		40.0		ug/L			11/12/18 11:21	10
Chloroform	<30.0		30.0		ug/L			11/12/18 11:21	10
Chloromethane	<30.0		30.0		ug/L			11/12/18 11:21	10
2-Chlorotoluene	<10.0		10.0		ug/L			11/12/18 11:21	10
4-Chlorotoluene	<10.0		10.0		ug/L			11/12/18 11:21	10
1,2-Dibromo-3-Chloropropane	<50.0		50.0		ug/L			11/12/18 11:21	10
1,2-Dibromoethane (EDB)	<10.0		10.0		ug/L			11/12/18 11:21	10
Dibromomethane	<10.0		10.0		ug/L			11/12/18 11:21	10
1,2-Dichlorobenzene	<10.0		10.0		ug/L			11/12/18 11:21	10
1,3-Dichlorobenzene	<10.0		10.0		ug/L			11/12/18 11:21	10
1,4-Dichlorobenzene	<10.0		10.0		ug/L			11/12/18 11:21	10
Dichlorodifluoromethane	<30.0		30.0		ug/L			11/12/18 11:21	10
1,1-Dichloroethane	<10.0		10.0		ug/L			11/12/18 11:21	10
1,2-Dichloroethane	<10.0		10.0		ug/L			11/12/18 11:21	10
1,1-Dichloroethene	<20.0		20.0		ug/L			11/12/18 11:21	10
cis-1,2-Dichloroethene	**283**		10.0		ug/L			11/12/18 11:21	10
trans-1,2-Dichloroethene	**17.4**		10.0		ug/L			11/12/18 11:21	10
1,2-Dichloropropane	<10.0		10.0		ug/L			11/12/18 11:21	10
1,3-Dichloropropane	<10.0		10.0		ug/L			11/12/18 11:21	10
2,2-Dichloropropane	<40.0		40.0		ug/L			11/12/18 11:21	10
1,1-Dichloropropene	<10.0		10.0		ug/L			11/12/18 11:21	10
cis-1,3-Dichloropropene	<50.0		50.0		ug/L			11/12/18 11:21	10
trans-1,3-Dichloropropene	<50.0		50.0		ug/L			11/12/18 11:21	10
Ethylbenzene	<10.0		10.0		ug/L			11/12/18 11:21	10
Hexachlorobutadiene	<50.0		50.0		ug/L			11/12/18 11:21	10
Hexane	<10.0		10.0		ug/L			11/12/18 11:21	10
Isopropylbenzene	<10.0		10.0		ug/L			11/12/18 11:21	10
p-Isopropyltoluene	<10.0		10.0		ug/L			11/12/18 11:21	10
Methylene Chloride	<50.0		50.0		ug/L			11/12/18 11:21	10
Methyl tert-butyl ether	<10.0		10.0		ug/L			11/12/18 11:21	10
Naphthalene	<50.0		50.0		ug/L			11/12/18 11:21	10
N-Propylbenzene	<10.0		10.0		ug/L			11/12/18 11:21	10
Styrene	<10.0		10.0		ug/L			11/12/18 11:21	10
1,1,1,2-Tetrachloroethane	<10.0		10.0		ug/L			11/12/18 11:21	10

Client Sample ID: MW-65

Date Collected: 11/06/18 09:25
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<10.0		10.0		ug/L			11/12/18 11:21	10
Tetrachloroethene	<10.0		10.0		ug/L			11/12/18 11:21	10
Toluene	<10.0		10.0		ug/L			11/12/18 11:21	10
1,2,3-Trichlorobenzene	<50.0		50.0		ug/L			11/12/18 11:21	10
1,2,4-Trichlorobenzene	<50.0		50.0		ug/L			11/12/18 11:21	10
1,1,1-Trichloroethane	<10.0		10.0		ug/L			11/12/18 11:21	10
1,1,2-Trichloroethane	<10.0		10.0		ug/L			11/12/18 11:21	10
Trichloroethene	**2860**		10.0		ug/L			11/12/18 11:21	10
Trichlorofluoromethane	<40.0		40.0		ug/L			11/12/18 11:21	10
1,2,3-Trichloropropane	<10.0		10.0		ug/L			11/12/18 11:21	10
1,2,4-Trimethylbenzene	<10.0		10.0		ug/L			11/12/18 11:21	10
1,3,5-Trimethylbenzene	<10.0		10.0		ug/L			11/12/18 11:21	10
Vinyl chloride	**48.8**		10.0		ug/L			11/12/18 11:21	10
Xylenes, Total	<30.0		30.0		ug/L			11/12/18 11:21	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*11/12/18 11:21*	*10*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*11/12/18 11:21*	*10*
Toluene-d8 (Surr)	*97*		*80 - 120*		*11/12/18 11:21*	*10*

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: MW-47D
Date Collected: 11/06/18 10:35
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-5
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<100		100		ug/L			11/12/18 11:43	10
Benzene	<5.00		5.00		ug/L			11/12/18 11:43	10
Bromobenzene	<10.0		10.0		ug/L			11/12/18 11:43	10
Bromochloromethane	<50.0		50.0		ug/L			11/12/18 11:43	10
Bromodichloromethane	<10.0		10.0		ug/L			11/12/18 11:43	10
Bromoform	<50.0		50.0		ug/L			11/12/18 11:43	10
Bromomethane	<40.0		40.0		ug/L			11/12/18 11:43	10
2-Butanone (MEK)	<100		100		ug/L			11/12/18 11:43	10
n-Butylbenzene	<10.0		10.0		ug/L			11/12/18 11:43	10
sec-Butylbenzene	<10.0		10.0		ug/L			11/12/18 11:43	10
tert-Butylbenzene	<10.0		10.0		ug/L			11/12/18 11:43	10
Carbon disulfide	<10.0		10.0		ug/L			11/12/18 11:43	10
Carbon tetrachloride	<20.0		20.0		ug/L			11/12/18 11:43	10
Chlorobenzene	<10.0		10.0		ug/L			11/12/18 11:43	10
Chlorodibromomethane	<50.0		50.0		ug/L			11/12/18 11:43	10
Chloroethane	<40.0		40.0		ug/L			11/12/18 11:43	10
Chloroform	<30.0		30.0		ug/L			11/12/18 11:43	10
Chloromethane	<30.0		30.0		ug/L			11/12/18 11:43	10
2-Chlorotoluene	<10.0		10.0		ug/L			11/12/18 11:43	10
4-Chlorotoluene	<10.0		10.0		ug/L			11/12/18 11:43	10
1,2-Dibromo-3-Chloropropane	<50.0		50.0		ug/L			11/12/18 11:43	10
1,2-Dibromoethane (EDB)	<10.0		10.0		ug/L			11/12/18 11:43	10
Dibromomethane	<10.0		10.0		ug/L			11/12/18 11:43	10
1,2-Dichlorobenzene	<10.0		10.0		ug/L			11/12/18 11:43	10
1,3-Dichlorobenzene	<10.0		10.0		ug/L			11/12/18 11:43	10
1,4-Dichlorobenzene	<10.0		10.0		ug/L			11/12/18 11:43	10
Dichlorodifluoromethane	<30.0		30.0		ug/L			11/12/18 11:43	10
1,1-Dichloroethane	<10.0		10.0		ug/L			11/12/18 11:43	10
1,2-Dichloroethane	<10.0		10.0		ug/L			11/12/18 11:43	10
1,1-Dichloroethene	**141**		20.0		ug/L			11/12/18 11:43	10
cis-1,2-Dichloroethene	**79000**		1000		ug/L			11/11/18 04:46	1000
trans-1,2-Dichloroethene	**464**		10.0		ug/L			11/12/18 11:43	10
1,2-Dichloropropane	<10.0		10.0		ug/L			11/12/18 11:43	10
1,3-Dichloropropane	<10.0		10.0		ug/L			11/12/18 11:43	10
2,2-Dichloropropane	<40.0		40.0		ug/L			11/12/18 11:43	10
1,1-Dichloropropene	<10.0		10.0		ug/L			11/12/18 11:43	10
cis-1,3-Dichloropropene	<50.0		50.0		ug/L			11/12/18 11:43	10
trans-1,3-Dichloropropene	<50.0		50.0		ug/L			11/12/18 11:43	10
Ethylbenzene	<10.0		10.0		ug/L			11/12/18 11:43	10
Hexachlorobutadiene	<50.0		50.0		ug/L			11/12/18 11:43	10
Hexane	<10.0		10.0		ug/L			11/12/18 11:43	10
Isopropylbenzene	<10.0		10.0		ug/L			11/12/18 11:43	10
p-Isopropyltoluene	<10.0		10.0		ug/L			11/12/18 11:43	10
Methylene Chloride	<50.0		50.0		ug/L			11/12/18 11:43	10
Methyl tert-butyl ether	<10.0		10.0		ug/L			11/12/18 11:43	10
Naphthalene	<50.0		50.0		ug/L			11/12/18 11:43	10
N-Propylbenzene	<10.0		10.0		ug/L			11/12/18 11:43	10
Styrene	<10.0		10.0		ug/L			11/12/18 11:43	10
1,1,1,2-Tetrachloroethane	<10.0		10.0		ug/L			11/12/18 11:43	10

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: MW-47D

Date Collected: 11/06/18 10:35
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-5

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<10.0		10.0		ug/L			11/12/18 11:43	10
Tetrachloroethene	<10.0		10.0		ug/L			11/12/18 11:43	10
Toluene	<10.0		10.0		ug/L			11/12/18 11:43	10
1,2,3-Trichlorobenzene	<50.0		50.0		ug/L			11/12/18 11:43	10
1,2,4-Trichlorobenzene	<50.0		50.0		ug/L			11/12/18 11:43	10
1,1,1-Trichloroethane	<10.0		10.0		ug/L			11/12/18 11:43	10
1,1,2-Trichloroethane	<10.0		10.0		ug/L			11/12/18 11:43	10
Trichloroethene	**20500**		1000		ug/L			11/11/18 04:46	1000
Trichlorofluoromethane	<40.0		40.0		ug/L			11/12/18 11:43	10
1,2,3-Trichloropropane	<10.0		10.0		ug/L			11/12/18 11:43	10
1,2,4-Trimethylbenzene	<10.0		10.0		ug/L			11/12/18 11:43	10
1,3,5-Trimethylbenzene	<10.0		10.0		ug/L			11/12/18 11:43	10
Vinyl chloride	**11600**		1000		ug/L			11/11/18 04:46	1000
Xylenes, Total	<30.0		30.0		ug/L			11/12/18 11:43	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*		*11/11/18 04:46*	*1000*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*11/12/18 11:43*	*10*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*11/11/18 04:46*	*1000*
Dibromofluoromethane (Surr)	*90*		*80 - 120*		*11/12/18 11:43*	*10*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/11/18 04:46*	*1000*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/12/18 11:43*	*10*

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: MW-46

Date Collected: 11/06/18 12:05
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-6

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<1000		1000		ug/L			11/11/18 03:56	100
Benzene	<50.0		50.0		ug/L			11/11/18 03:56	100
Bromobenzene	<100		100		ug/L			11/11/18 03:56	100
Bromochloromethane	<500		500		ug/L			11/11/18 03:56	100
Bromodichloromethane	<100		100		ug/L			11/11/18 03:56	100
Bromoform	<500		500		ug/L			11/11/18 03:56	100
Bromomethane	<400		400		ug/L			11/11/18 03:56	100
2-Butanone (MEK)	<1000		1000		ug/L			11/11/18 03:56	100
n-Butylbenzene	<100		100		ug/L			11/11/18 03:56	100
sec-Butylbenzene	<100		100		ug/L			11/11/18 03:56	100
tert-Butylbenzene	<100		100		ug/L			11/11/18 03:56	100
Carbon disulfide	<100		100		ug/L			11/11/18 03:56	100
Carbon tetrachloride	<200		200		ug/L			11/11/18 03:56	100
Chlorobenzene	<100		100		ug/L			11/11/18 03:56	100
Chlorodibromomethane	<500		500		ug/L			11/11/18 03:56	100
Chloroethane	<400		400		ug/L			11/11/18 03:56	100
Chloroform	<300		300		ug/L			11/11/18 03:56	100
Chloromethane	<300		300		ug/L			11/11/18 03:56	100
2-Chlorotoluene	<100		100		ug/L			11/11/18 03:56	100
4-Chlorotoluene	<100		100		ug/L			11/11/18 03:56	100
1,2-Dibromo-3-Chloropropane	<500		500		ug/L			11/11/18 03:56	100
1,2-Dibromoethane (EDB)	<100		100		ug/L			11/11/18 03:56	100
Dibromomethane	<100		100		ug/L			11/11/18 03:56	100
1,2-Dichlorobenzene	<100		100		ug/L			11/11/18 03:56	100
1,3-Dichlorobenzene	<100		100		ug/L			11/11/18 03:56	100
1,4-Dichlorobenzene	<100		100		ug/L			11/11/18 03:56	100
Dichlorodifluoromethane	<300		300		ug/L			11/11/18 03:56	100
1,1-Dichloroethane	<100		100		ug/L			11/11/18 03:56	100
1,2-Dichloroethane	<100		100		ug/L			11/11/18 03:56	100
1,1-Dichloroethene	<200		200		ug/L			11/11/18 03:56	100
cis-1,2-Dichloroethene	**359**		100		ug/L			11/11/18 03:56	100
trans-1,2-Dichloroethene	<100		100		ug/L			11/11/18 03:56	100
1,2-Dichloropropane	<100		100		ug/L			11/11/18 03:56	100
1,3-Dichloropropane	<100		100		ug/L			11/11/18 03:56	100
2,2-Dichloropropane	<400		400		ug/L			11/11/18 03:56	100
1,1-Dichloropropene	<100		100		ug/L			11/11/18 03:56	100
cis-1,3-Dichloropropene	<500		500		ug/L			11/11/18 03:56	100
trans-1,3-Dichloropropene	<500		500		ug/L			11/11/18 03:56	100
Ethylbenzene	<100		100		ug/L			11/11/18 03:56	100
Hexachlorobutadiene	<500		500		ug/L			11/11/18 03:56	100
Hexane	<100		100		ug/L			11/11/18 03:56	100
Isopropylbenzene	<100		100		ug/L			11/11/18 03:56	100
p-Isopropyltoluene	<100		100		ug/L			11/11/18 03:56	100
Methylene Chloride	<500		500		ug/L			11/11/18 03:56	100
Methyl tert-butyl ether	<100		100		ug/L			11/11/18 03:56	100
Naphthalene	<500		500		ug/L			11/11/18 03:56	100
N-Propylbenzene	<100		100		ug/L			11/11/18 03:56	100
Styrene	<100		100		ug/L			11/11/18 03:56	100
1,1,1,2-Tetrachloroethane	<100		100		ug/L			11/11/18 03:56	100

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: MW-46

Date Collected: 11/06/18 12:05
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-6

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<100		100		ug/L			11/11/18 03:56	100
Tetrachloroethene	<100		100		ug/L			11/11/18 03:56	100
Toluene	<100		100		ug/L			11/11/18 03:56	100
1,2,3-Trichlorobenzene	<500		500		ug/L			11/11/18 03:56	100
1,2,4-Trichlorobenzene	<500		500		ug/L			11/11/18 03:56	100
1,1,1-Trichloroethane	<100		100		ug/L			11/11/18 03:56	100
1,1,2-Trichloroethane	<100		100		ug/L			11/11/18 03:56	100
Trichloroethene	**14300**		100		ug/L			11/11/18 03:56	100
Trichlorofluoromethane	<400		400		ug/L			11/11/18 03:56	100
1,2,3-Trichloropropane	<100		100		ug/L			11/11/18 03:56	100
1,2,4-Trimethylbenzene	<100		100		ug/L			11/11/18 03:56	100
1,3,5-Trimethylbenzene	<100		100		ug/L			11/11/18 03:56	100
Vinyl chloride	<100		100		ug/L			11/11/18 03:56	100
Xylenes, Total	<300		300		ug/L			11/11/18 03:56	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*11/11/18 03:56*	*100*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*11/11/18 03:56*	*100*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/11/18 03:56*	*100*

Client Sample ID: MW-43D

Date Collected: 11/06/18 13:40
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-7
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/12/18 10:59	1
Benzene	<0.500		0.500		ug/L			11/12/18 10:59	1
Bromobenzene	<1.00		1.00		ug/L			11/12/18 10:59	1
Bromochloromethane	<5.00		5.00		ug/L			11/12/18 10:59	1
Bromodichloromethane	<1.00		1.00		ug/L			11/12/18 10:59	1
Bromoform	<5.00		5.00		ug/L			11/12/18 10:59	1
Bromomethane	<4.00		4.00		ug/L			11/12/18 10:59	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/12/18 10:59	1
n-Butylbenzene	<1.00		1.00		ug/L			11/12/18 10:59	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/12/18 10:59	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/12/18 10:59	1
Carbon disulfide	<1.00		1.00		ug/L			11/12/18 10:59	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/12/18 10:59	1
Chlorobenzene	<1.00		1.00		ug/L			11/12/18 10:59	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/12/18 10:59	1
Chloroethane	<4.00		4.00		ug/L			11/12/18 10:59	1
Chloroform	<3.00		3.00		ug/L			11/12/18 10:59	1
Chloromethane	<3.00		3.00		ug/L			11/12/18 10:59	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/12/18 10:59	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/12/18 10:59	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			11/12/18 10:59	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			11/12/18 10:59	1
Dibromomethane	<1.00		1.00		ug/L			11/12/18 10:59	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/12/18 10:59	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/12/18 10:59	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/12/18 10:59	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/12/18 10:59	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/12/18 10:59	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/12/18 10:59	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/12/18 10:59	1
cis-1,2-Dichloroethene	**12.1**		1.00		ug/L			11/12/18 10:59	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/12/18 10:59	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/12/18 10:59	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/12/18 10:59	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/12/18 10:59	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/12/18 10:59	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/12/18 10:59	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/12/18 10:59	1
Ethylbenzene	<1.00		1.00		ug/L			11/12/18 10:59	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/12/18 10:59	1
Hexane	<1.00		1.00		ug/L			11/12/18 10:59	1
Isopropylbenzene	<1.00		1.00		ug/L			11/12/18 10:59	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/12/18 10:59	1
Methylene Chloride	<5.00		5.00		ug/L			11/12/18 10:59	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/12/18 10:59	1
Naphthalene	<5.00		5.00		ug/L			11/12/18 10:59	1
N-Propylbenzene	<1.00		1.00		ug/L			11/12/18 10:59	1
Styrene	<1.00		1.00		ug/L			11/12/18 10:59	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/12/18 10:59	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: MW-43D

Date Collected: 11/06/18 13:40
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-7

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/12/18 10:59	1
Tetrachloroethene	<1.00		1.00		ug/L			11/12/18 10:59	1
Toluene	<1.00		1.00		ug/L			11/12/18 10:59	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/12/18 10:59	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/12/18 10:59	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/12/18 10:59	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/12/18 10:59	1
Trichloroethene	**3.03**		1.00		ug/L			11/12/18 10:59	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/12/18 10:59	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/12/18 10:59	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/12/18 10:59	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/12/18 10:59	1
Vinyl chloride	**3.59**		1.00		ug/L			11/12/18 10:59	1
Xylenes, Total	<3.00		3.00		ug/L			11/12/18 10:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*11/12/18 10:59*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*11/12/18 10:59*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*11/12/18 10:59*	*1*

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: MW-57
Date Collected: 11/06/18 15:05
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-8
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<100		100		ug/L			11/11/18 02:43	10
Benzene	<5.00		5.00		ug/L			11/11/18 02:43	10
Bromobenzene	<10.0		10.0		ug/L			11/11/18 02:43	10
Bromochloromethane	<50.0		50.0		ug/L			11/11/18 02:43	10
Bromodichloromethane	<10.0		10.0		ug/L			11/11/18 02:43	10
Bromoform	<50.0		50.0		ug/L			11/11/18 02:43	10
Bromomethane	<40.0		40.0		ug/L			11/11/18 02:43	10
2-Butanone (MEK)	<100		100		ug/L			11/11/18 02:43	10
n-Butylbenzene	<10.0		10.0		ug/L			11/11/18 02:43	10
sec-Butylbenzene	<10.0		10.0		ug/L			11/11/18 02:43	10
tert-Butylbenzene	<10.0		10.0		ug/L			11/11/18 02:43	10
Carbon disulfide	<10.0		10.0		ug/L			11/11/18 02:43	10
Carbon tetrachloride	<20.0		20.0		ug/L			11/11/18 02:43	10
Chlorobenzene	<10.0		10.0		ug/L			11/11/18 02:43	10
Chlorodibromomethane	<50.0		50.0		ug/L			11/11/18 02:43	10
Chloroethane	<40.0		40.0		ug/L			11/11/18 02:43	10
Chloroform	<30.0		30.0		ug/L			11/11/18 02:43	10
Chloromethane	<30.0		30.0		ug/L			11/11/18 02:43	10
2-Chlorotoluene	<10.0		10.0		ug/L			11/11/18 02:43	10
4-Chlorotoluene	<10.0		10.0		ug/L			11/11/18 02:43	10
1,2-Dibromo-3-Chloropropane	<50.0		50.0		ug/L			11/11/18 02:43	10
1,2-Dibromoethane (EDB)	<10.0		10.0		ug/L			11/11/18 02:43	10
Dibromomethane	<10.0		10.0		ug/L			11/11/18 02:43	10
1,2-Dichlorobenzene	<10.0		10.0		ug/L			11/11/18 02:43	10
1,3-Dichlorobenzene	<10.0		10.0		ug/L			11/11/18 02:43	10
1,4-Dichlorobenzene	<10.0		10.0		ug/L			11/11/18 02:43	10
Dichlorodifluoromethane	<30.0		30.0		ug/L			11/11/18 02:43	10
1,1-Dichloroethane	<10.0		10.0		ug/L			11/11/18 02:43	10
1,2-Dichloroethane	<10.0		10.0		ug/L			11/11/18 02:43	10
1,1-Dichloroethene	<20.0		20.0		ug/L			11/11/18 02:43	10
cis-1,2-Dichloroethene	<10.0		10.0		ug/L			11/11/18 02:43	10
trans-1,2-Dichloroethene	<10.0		10.0		ug/L			11/11/18 02:43	10
1,2-Dichloropropane	<10.0		10.0		ug/L			11/11/18 02:43	10
1,3-Dichloropropane	<10.0		10.0		ug/L			11/11/18 02:43	10
2,2-Dichloropropane	<40.0		40.0		ug/L			11/11/18 02:43	10
1,1-Dichloropropene	<10.0		10.0		ug/L			11/11/18 02:43	10
cis-1,3-Dichloropropene	<50.0		50.0		ug/L			11/11/18 02:43	10
trans-1,3-Dichloropropene	<50.0		50.0		ug/L			11/11/18 02:43	10
Ethylbenzene	<10.0		10.0		ug/L			11/11/18 02:43	10
Hexachlorobutadiene	<50.0		50.0		ug/L			11/11/18 02:43	10
Hexane	<10.0		10.0		ug/L			11/11/18 02:43	10
Isopropylbenzene	<10.0		10.0		ug/L			11/11/18 02:43	10
p-Isopropyltoluene	<10.0		10.0		ug/L			11/11/18 02:43	10
Methylene Chloride	<50.0		50.0		ug/L			11/11/18 02:43	10
Methyl tert-butyl ether	<10.0		10.0		ug/L			11/11/18 02:43	10
Naphthalene	<50.0		50.0		ug/L			11/11/18 02:43	10
N-Propylbenzene	<10.0		10.0		ug/L			11/11/18 02:43	10
Styrene	<10.0		10.0		ug/L			11/11/18 02:43	10
1,1,1,2-Tetrachloroethane	<10.0		10.0		ug/L			11/11/18 02:43	10

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: MW-57

Date Collected: 11/06/18 15:05
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-8

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<10.0		10.0		ug/L			11/11/18 02:43	10
Tetrachloroethene	<10.0		10.0		ug/L			11/11/18 02:43	10
Toluene	<10.0		10.0		ug/L			11/11/18 02:43	10
1,2,3-Trichlorobenzene	<50.0		50.0		ug/L			11/11/18 02:43	10
1,2,4-Trichlorobenzene	<50.0		50.0		ug/L			11/11/18 02:43	10
1,1,1-Trichloroethane	<10.0		10.0		ug/L			11/11/18 02:43	10
1,1,2-Trichloroethane	<10.0		10.0		ug/L			11/11/18 02:43	10
Trichloroethene	**543**		10.0		ug/L			11/11/18 02:43	10
Trichlorofluoromethane	<40.0		40.0		ug/L			11/11/18 02:43	10
1,2,3-Trichloropropane	<10.0		10.0		ug/L			11/11/18 02:43	10
1,2,4-Trimethylbenzene	<10.0		10.0		ug/L			11/11/18 02:43	10
1,3,5-Trimethylbenzene	<10.0		10.0		ug/L			11/11/18 02:43	10
Vinyl chloride	<10.0		10.0		ug/L			11/11/18 02:43	10
Xylenes, Total	<30.0		30.0		ug/L			11/11/18 02:43	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*11/11/18 02:43*	*10*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*11/11/18 02:43*	*10*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/11/18 02:43*	*10*

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: Field Duplicate 01

Date Collected: 11/06/18 12:00
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-9

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<100		100		ug/L			11/12/18 12:05	10
Benzene	<5.00		5.00		ug/L			11/12/18 12:05	10
Bromobenzene	<10.0		10.0		ug/L			11/12/18 12:05	10
Bromochloromethane	<50.0		50.0		ug/L			11/12/18 12:05	10
Bromodichloromethane	<10.0		10.0		ug/L			11/12/18 12:05	10
Bromoform	<50.0		50.0		ug/L			11/12/18 12:05	10
Bromomethane	<40.0		40.0		ug/L			11/12/18 12:05	10
2-Butanone (MEK)	<100		100		ug/L			11/12/18 12:05	10
n-Butylbenzene	<10.0		10.0		ug/L			11/12/18 12:05	10
sec-Butylbenzene	<10.0		10.0		ug/L			11/12/18 12:05	10
tert-Butylbenzene	<10.0		10.0		ug/L			11/12/18 12:05	10
Carbon disulfide	<10.0		10.0		ug/L			11/12/18 12:05	10
Carbon tetrachloride	<20.0		20.0		ug/L			11/12/18 12:05	10
Chlorobenzene	<10.0		10.0		ug/L			11/12/18 12:05	10
Chlorodibromomethane	<50.0		50.0		ug/L			11/12/18 12:05	10
Chloroethane	<40.0		40.0		ug/L			11/12/18 12:05	10
Chloroform	<30.0		30.0		ug/L			11/12/18 12:05	10
Chloromethane	<30.0		30.0		ug/L			11/12/18 12:05	10
2-Chlorotoluene	<10.0		10.0		ug/L			11/12/18 12:05	10
4-Chlorotoluene	<10.0		10.0		ug/L			11/12/18 12:05	10
1,2-Dibromo-3-Chloropropane	<50.0		50.0		ug/L			11/12/18 12:05	10
1,2-Dibromoethane (EDB)	<10.0		10.0		ug/L			11/12/18 12:05	10
Dibromomethane	<10.0		10.0		ug/L			11/12/18 12:05	10
1,2-Dichlorobenzene	<10.0		10.0		ug/L			11/12/18 12:05	10
1,3-Dichlorobenzene	<10.0		10.0		ug/L			11/12/18 12:05	10
1,4-Dichlorobenzene	<10.0		10.0		ug/L			11/12/18 12:05	10
Dichlorodifluoromethane	<30.0		30.0		ug/L			11/12/18 12:05	10
1,1-Dichloroethane	<10.0		10.0		ug/L			11/12/18 12:05	10
1,2-Dichloroethane	<10.0		10.0		ug/L			11/12/18 12:05	10
1,1-Dichloroethene	<20.0		20.0		ug/L			11/12/18 12:05	10
cis-1,2-Dichloroethene	**279**		10.0		ug/L			11/13/18 16:54	10
trans-1,2-Dichloroethene	**16.4**		10.0		ug/L			11/12/18 12:05	10
1,2-Dichloropropane	<10.0		10.0		ug/L			11/12/18 12:05	10
1,3-Dichloropropane	<10.0		10.0		ug/L			11/12/18 12:05	10
2,2-Dichloropropane	<40.0		40.0		ug/L			11/12/18 12:05	10
1,1-Dichloropropene	<10.0		10.0		ug/L			11/12/18 12:05	10
cis-1,3-Dichloropropene	<50.0		50.0		ug/L			11/12/18 12:05	10
trans-1,3-Dichloropropene	<50.0		50.0		ug/L			11/12/18 12:05	10
Ethylbenzene	<10.0		10.0		ug/L			11/12/18 12:05	10
Hexachlorobutadiene	<50.0		50.0		ug/L			11/12/18 12:05	10
Hexane	<10.0		10.0		ug/L			11/12/18 12:05	10
Isopropylbenzene	<10.0		10.0		ug/L			11/12/18 12:05	10
p-Isopropyltoluene	<10.0		10.0		ug/L			11/12/18 12:05	10
Methylene Chloride	<50.0		50.0		ug/L			11/12/18 12:05	10
Methyl tert-butyl ether	<10.0		10.0		ug/L			11/12/18 12:05	10
Naphthalene	<50.0		50.0		ug/L			11/12/18 12:05	10
N-Propylbenzene	<10.0		10.0		ug/L			11/12/18 12:05	10
Styrene	<10.0		10.0		ug/L			11/12/18 12:05	10
1,1,1,2-Tetrachloroethane	<10.0		10.0		ug/L			11/12/18 12:05	10

Client Sample ID: Field Duplicate 01

Lab Sample ID: 310-143496-9

Date Collected: 11/06/18 12:00
Matrix: Water
Date Received: 11/07/18 17:35

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<10.0		10.0		ug/L			11/12/18 12:05	10
Tetrachloroethene	<10.0		10.0		ug/L			11/12/18 12:05	10
Toluene	<10.0		10.0		ug/L			11/12/18 12:05	10
1,2,3-Trichlorobenzene	<50.0		50.0		ug/L			11/12/18 12:05	10
1,2,4-Trichlorobenzene	<50.0		50.0		ug/L			11/12/18 12:05	10
1,1,1-Trichloroethane	<10.0		10.0		ug/L			11/12/18 12:05	10
1,1,2-Trichloroethane	<10.0		10.0		ug/L			11/12/18 12:05	10
Trichloroethene	**3010**		10.0		ug/L			11/13/18 16:54	10
Trichlorofluoromethane	<40.0		40.0		ug/L			11/12/18 12:05	10
1,2,3-Trichloropropane	<10.0		10.0		ug/L			11/12/18 12:05	10
1,2,4-Trimethylbenzene	<10.0		10.0		ug/L			11/12/18 12:05	10
1,3,5-Trimethylbenzene	<10.0		10.0		ug/L			11/12/18 12:05	10
Vinyl chloride	**46.5**		10.0		ug/L			11/13/18 16:54	10
Xylenes, Total	<30.0		30.0		ug/L			11/12/18 12:05	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*11/12/18 12:05*	*10*
4-Bromofluorobenzene (Surr)	*112*		*80 - 120*		*11/13/18 16:54*	*10*
Dibromofluoromethane (Surr)	*94*		*80 - 120*		*11/12/18 12:05*	*10*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*11/13/18 16:54*	*10*
Toluene-d8 (Surr)	*97*		*80 - 120*		*11/12/18 12:05*	*10*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/13/18 16:54*	*10*

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: Rinstate Blank 01

Date Collected: 11/06/18 15:35
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-10

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/10/18 21:25	1
Benzene	<0.500		0.500		ug/L			11/10/18 21:25	1
Bromobenzene	<1.00		1.00		ug/L			11/10/18 21:25	1
Bromochloromethane	<5.00		5.00		ug/L			11/10/18 21:25	1
Bromodichloromethane	<1.00		1.00		ug/L			11/10/18 21:25	1
Bromoform	<5.00		5.00		ug/L			11/10/18 21:25	1
Bromomethane	<4.00		4.00		ug/L			11/10/18 21:25	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/10/18 21:25	1
n-Butylbenzene	<1.00		1.00		ug/L			11/10/18 21:25	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/10/18 21:25	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/10/18 21:25	1
Carbon disulfide	<1.00		1.00		ug/L			11/10/18 21:25	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/10/18 21:25	1
Chlorobenzene	<1.00		1.00		ug/L			11/10/18 21:25	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/10/18 21:25	1
Chloroethane	<4.00		4.00		ug/L			11/10/18 21:25	1
Chloroform	<3.00		3.00		ug/L			11/10/18 21:25	1
Chloromethane	<3.00		3.00		ug/L			11/10/18 21:25	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/10/18 21:25	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/10/18 21:25	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			11/10/18 21:25	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			11/10/18 21:25	1
Dibromomethane	<1.00		1.00		ug/L			11/10/18 21:25	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/10/18 21:25	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/10/18 21:25	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/10/18 21:25	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/10/18 21:25	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/10/18 21:25	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/10/18 21:25	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/10/18 21:25	1
cis-1,2-Dichloroethene	**4.47**		1.00		ug/L			11/10/18 21:25	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/10/18 21:25	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/10/18 21:25	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/10/18 21:25	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/10/18 21:25	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/10/18 21:25	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/10/18 21:25	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/10/18 21:25	1
Ethylbenzene	<1.00		1.00		ug/L			11/10/18 21:25	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/10/18 21:25	1
Hexane	<1.00		1.00		ug/L			11/10/18 21:25	1
Isopropylbenzene	<1.00		1.00		ug/L			11/10/18 21:25	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/10/18 21:25	1
Methylene Chloride	<5.00		5.00		ug/L			11/10/18 21:25	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/10/18 21:25	1
Naphthalene	<5.00		5.00		ug/L			11/10/18 21:25	1
N-Propylbenzene	<1.00		1.00		ug/L			11/10/18 21:25	1
Styrene	<1.00		1.00		ug/L			11/10/18 21:25	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/10/18 21:25	1

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: Rinstate Blank 01

Lab Sample ID: 310-143496-10

Date Collected: 11/06/18 15:35
Matrix: Water
Date Received: 11/07/18 17:35

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/10/18 21:25	1
Tetrachloroethene	<1.00		1.00		ug/L			11/10/18 21:25	1
Toluene	<1.00		1.00		ug/L			11/10/18 21:25	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/10/18 21:25	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/10/18 21:25	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/10/18 21:25	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/10/18 21:25	1
Trichloroethene	<1.00		1.00		ug/L			11/10/18 21:25	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/10/18 21:25	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/10/18 21:25	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/10/18 21:25	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/10/18 21:25	1
Vinyl chloride	<1.00		1.00		ug/L			11/10/18 21:25	1
Xylenes, Total	<3.00		3.00		ug/L			11/10/18 21:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*		*11/10/18 21:25*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*11/10/18 21:25*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/10/18 21:25*	*1*

Client Sample Results

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: Trip Blank

Date Collected: 11/06/18 00:00
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-11

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/10/18 21:01	1
Benzene	<0.500		0.500		ug/L			11/10/18 21:01	1
Bromobenzene	<1.00		1.00		ug/L			11/10/18 21:01	1
Bromochloromethane	<5.00		5.00		ug/L			11/10/18 21:01	1
Bromodichloromethane	<1.00		1.00		ug/L			11/10/18 21:01	1
Bromoform	<5.00		5.00		ug/L			11/10/18 21:01	1
Bromomethane	<4.00		4.00		ug/L			11/10/18 21:01	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/10/18 21:01	1
n-Butylbenzene	<1.00		1.00		ug/L			11/10/18 21:01	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/10/18 21:01	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/10/18 21:01	1
Carbon disulfide	<1.00		1.00		ug/L			11/10/18 21:01	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/10/18 21:01	1
Chlorobenzene	<1.00		1.00		ug/L			11/10/18 21:01	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/10/18 21:01	1
Chloroethane	<4.00		4.00		ug/L			11/10/18 21:01	1
Chloroform	<3.00		3.00		ug/L			11/10/18 21:01	1
Chloromethane	<3.00		3.00		ug/L			11/10/18 21:01	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/10/18 21:01	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/10/18 21:01	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			11/10/18 21:01	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			11/10/18 21:01	1
Dibromomethane	<1.00		1.00		ug/L			11/10/18 21:01	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/10/18 21:01	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/10/18 21:01	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/10/18 21:01	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/10/18 21:01	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/10/18 21:01	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/10/18 21:01	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/10/18 21:01	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/10/18 21:01	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/10/18 21:01	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/10/18 21:01	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/10/18 21:01	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/10/18 21:01	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/10/18 21:01	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/10/18 21:01	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/10/18 21:01	1
Ethylbenzene	<1.00		1.00		ug/L			11/10/18 21:01	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/10/18 21:01	1
Hexane	<1.00		1.00		ug/L			11/10/18 21:01	1
Isopropylbenzene	<1.00		1.00		ug/L			11/10/18 21:01	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/10/18 21:01	1
Methylene Chloride	<5.00		5.00		ug/L			11/10/18 21:01	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/10/18 21:01	1
Naphthalene	<5.00		5.00		ug/L			11/10/18 21:01	1
N-Propylbenzene	<1.00		1.00		ug/L			11/10/18 21:01	1
Styrene	<1.00		1.00		ug/L			11/10/18 21:01	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/10/18 21:01	1

Client Sample ID: Trip Blank

Date Collected: 11/06/18 00:00
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-11

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/10/18 21:01	1
Tetrachloroethene	<1.00		1.00		ug/L			11/10/18 21:01	1
Toluene	<1.00		1.00		ug/L			11/10/18 21:01	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/10/18 21:01	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/10/18 21:01	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/10/18 21:01	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/10/18 21:01	1
Trichloroethene	<1.00		1.00		ug/L			11/10/18 21:01	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/10/18 21:01	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/10/18 21:01	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/10/18 21:01	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/10/18 21:01	1
Vinyl chloride	<1.00		1.00		ug/L			11/10/18 21:01	1
Xylenes, Total	<3.00		3.00		ug/L			11/10/18 21:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*11/10/18 21:01*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*11/10/18 21:01*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*11/10/18 21:01*	*1*

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)
310-143496-1	MW-67	113	104	98
310-143496-1 MS	MW-67	98	106	100
310-143496-1 MSD	MW-67	96	105	99
310-143496-2	MW-66	107	103	100
310-143496-3	MW-56D	105	104	100
310-143496-4	MW-65	101	95	97
310-143496-5	MW-47D	106	104	99
310-143496-5	MW-47D	104	90	100
310-143496-6	MW-46	105	103	99
310-143496-7	MW-43D	101	95	97
310-143496-8	MW-57	103	104	100
310-143496-9	Field Duplicate 01	104	94	97
310-143496-9	Field Duplicate 01	112	101	99
310-143496-10	Rinstate Blank 01	108	102	99
310-143496-11	Trip Blank	103	104	101
LCS 310-222033/5	Lab Control Sample	99	102	100
LCS 310-222033/6	Lab Control Sample	109	104	98
LCS 310-222086/5	Lab Control Sample	101	98	96
LCS 310-222086/6	Lab Control Sample	99	96	98
LCS 310-222120/6	Lab Control Sample	96	103	106
LCS 310-222120/7	Lab Control Sample	98	102	109
MB 310-222033/7	Method Blank	101	102	99
MB 310-222086/7	Method Blank	103	98	97
MB 310-222120/8	Method Blank	103	103	102

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 310-222033/7
Matrix: Water
Analysis Batch: 222033

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/10/18 20:36	1
Benzene	<0.500		0.500		ug/L			11/10/18 20:36	1
Bromobenzene	<1.00		1.00		ug/L			11/10/18 20:36	1
Bromochloromethane	<5.00		5.00		ug/L			11/10/18 20:36	1
Bromodichloromethane	<1.00		1.00		ug/L			11/10/18 20:36	1
Bromoform	<5.00		5.00		ug/L			11/10/18 20:36	1
Bromomethane	<4.00		4.00		ug/L			11/10/18 20:36	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/10/18 20:36	1
n-Butylbenzene	<1.00		1.00		ug/L			11/10/18 20:36	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/10/18 20:36	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/10/18 20:36	1
Carbon disulfide	<1.00		1.00		ug/L			11/10/18 20:36	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/10/18 20:36	1
Chlorobenzene	<1.00		1.00		ug/L			11/10/18 20:36	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/10/18 20:36	1
Chloroethane	<4.00		4.00		ug/L			11/10/18 20:36	1
Chloroform	<3.00		3.00		ug/L			11/10/18 20:36	1
Chloromethane	<3.00		3.00		ug/L			11/10/18 20:36	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/10/18 20:36	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/10/18 20:36	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			11/10/18 20:36	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			11/10/18 20:36	1
Dibromomethane	<1.00		1.00		ug/L			11/10/18 20:36	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/10/18 20:36	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/10/18 20:36	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/10/18 20:36	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/10/18 20:36	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/10/18 20:36	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/10/18 20:36	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/10/18 20:36	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/10/18 20:36	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/10/18 20:36	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/10/18 20:36	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/10/18 20:36	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/10/18 20:36	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/10/18 20:36	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/10/18 20:36	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/10/18 20:36	1
Ethylbenzene	<1.00		1.00		ug/L			11/10/18 20:36	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/10/18 20:36	1
Hexane	<1.00		1.00		ug/L			11/10/18 20:36	1
Isopropylbenzene	<1.00		1.00		ug/L			11/10/18 20:36	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/10/18 20:36	1
Methylene Chloride	<5.00		5.00		ug/L			11/10/18 20:36	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/10/18 20:36	1
Naphthalene	<5.00		5.00		ug/L			11/10/18 20:36	1
N-Propylbenzene	<1.00		1.00		ug/L			11/10/18 20:36	1
Styrene	<1.00		1.00		ug/L			11/10/18 20:36	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-222033/7
Matrix: Water
Analysis Batch: 222033

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/10/18 20:36	1
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/10/18 20:36	1
Tetrachloroethene	<1.00		1.00		ug/L			11/10/18 20:36	1
Toluene	<1.00		1.00		ug/L			11/10/18 20:36	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/10/18 20:36	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/10/18 20:36	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/10/18 20:36	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/10/18 20:36	1
Trichloroethene	<1.00		1.00		ug/L			11/10/18 20:36	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/10/18 20:36	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/10/18 20:36	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/10/18 20:36	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/10/18 20:36	1
Vinyl chloride	<1.00		1.00		ug/L			11/10/18 20:36	1
Xylenes, Total	<3.00		3.00		ug/L			11/10/18 20:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*11/10/18 20:36*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*11/10/18 20:36*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/10/18 20:36*	*1*

Lab Sample ID: LCS 310-222033/5
Matrix: Water
Analysis Batch: 222033

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	40.0	45.10		ug/L		113	50 - 150
Benzene	20.0	19.10		ug/L		96	77 - 120
Bromobenzene	20.0	18.30		ug/L		92	70 - 120
Bromochloromethane	20.0	21.20		ug/L		106	73 - 132
Bromodichloromethane	20.0	19.19		ug/L		96	73 - 120
Bromoform	20.0	15.87		ug/L		79	57 - 120
2-Butanone (MEK)	40.0	38.13		ug/L		95	50 - 150
n-Butylbenzene	20.0	17.00		ug/L		85	63 - 120
sec-Butylbenzene	20.0	16.70		ug/L		83	64 - 120
tert-Butylbenzene	20.0	16.38		ug/L		82	64 - 120
Carbon disulfide	20.0	18.93		ug/L		95	65 - 122
Carbon tetrachloride	20.0	20.54		ug/L		103	72 - 126
Chlorobenzene	20.0	17.91		ug/L		90	74 - 120
Chlorodibromomethane	20.0	17.67		ug/L		88	66 - 120
Chloroform	20.0	20.31		ug/L		102	78 - 121
2-Chlorotoluene	20.0	16.76		ug/L		84	71 - 120
4-Chlorotoluene	20.0	16.37		ug/L		82	71 - 120
1,2-Dibromo-3-Chloropropane	20.0	17.20		ug/L		86	50 - 150
1,2-Dibromoethane (EDB)	20.0	18.26		ug/L		91	71 - 125
Dibromomethane	20.0	18.68		ug/L		93	76 - 125
1,2-Dichlorobenzene	20.0	17.62		ug/L		88	66 - 120
1,3-Dichlorobenzene	20.0	17.23		ug/L		86	67 - 120

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-222033/5
Matrix: Water
Analysis Batch: 222033

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	20.0	17.98		ug/L		90	68 - 120
1,1-Dichloroethane	20.0	19.34		ug/L		97	75 - 125
1,2-Dichloroethane	20.0	20.13		ug/L		101	75 - 123
1,1-Dichloroethene	20.0	20.67		ug/L		103	75 - 124
cis-1,2-Dichloroethene	20.0	18.24		ug/L		91	77 - 120
trans-1,2-Dichloroethene	20.0	19.88		ug/L		99	75 - 122
1,2-Dichloropropane	20.0	19.32		ug/L		97	75 - 123
1,3-Dichloropropane	20.0	19.33		ug/L		97	75 - 123
2,2-Dichloropropane	20.0	15.60		ug/L		78	50 - 150
1,1-Dichloropropene	20.0	19.15		ug/L		96	77 - 124
cis-1,3-Dichloropropene	20.0	17.03		ug/L		85	70 - 120
trans-1,3-Dichloropropene	20.0	16.41		ug/L		82	69 - 120
Ethylbenzene	20.0	17.51		ug/L		88	73 - 120
Hexachlorobutadiene	20.0	16.06		ug/L		80	50 - 150
Hexane	20.0	17.18		ug/L		86	50 - 150
Isopropylbenzene	20.0	16.42		ug/L		82	69 - 120
p-Isopropyltoluene	20.0	17.31		ug/L		87	68 - 120
Methylene Chloride	20.0	21.53		ug/L		108	50 - 150
Methyl tert-butyl ether	20.0	18.10		ug/L		90	72 - 121
Naphthalene	20.0	14.59		ug/L		73	50 - 150
N-Propylbenzene	20.0	17.00		ug/L		85	70 - 120
Styrene	20.0	17.04		ug/L		85	70 - 120
1,1,1,2-Tetrachloroethane	20.0	18.39		ug/L		92	72 - 120
1,1,2,2-Tetrachloroethane	20.0	17.73		ug/L		89	63 - 122
Tetrachloroethene	20.0	18.67		ug/L		93	72 - 129
Toluene	20.0	18.67		ug/L		93	74 - 120
1,2,3-Trichlorobenzene	20.0	16.51		ug/L		83	50 - 150
1,2,4-Trichlorobenzene	20.0	15.64		ug/L		78	59 - 120
1,1,1-Trichloroethane	20.0	20.63		ug/L		103	76 - 127
1,1,2-Trichloroethane	20.0	19.23		ug/L		96	69 - 127
Trichloroethene	20.0	19.31		ug/L		97	77 - 123
1,2,3-Trichloropropane	20.0	18.53		ug/L		93	66 - 120
1,2,4-Trimethylbenzene	20.0	16.61		ug/L		83	67 - 120
1,3,5-Trimethylbenzene	20.0	17.11		ug/L		86	68 - 120
Xylenes, Total	40.0	34.52		ug/L		86	69 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: LCS 310-222033/6
Matrix: Water
Analysis Batch: 222033

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromomethane	20.0	16.96		ug/L		85	38 - 150
Chloroethane	20.0	18.39		ug/L		92	69 - 129

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-222033/6
Matrix: Water
Analysis Batch: 222033

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	20.0	17.82		ug/L		89	50 - 150
Dichlorodifluoromethane	20.0	17.07		ug/L		85	50 - 150
Trichlorofluoromethane	20.0	18.69		ug/L		93	68 - 146
Vinyl chloride	20.0	18.16		ug/L		91	67 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*80 - 120*
Toluene-d8 (Surr)	*98*		*80 - 120*

Lab Sample ID: 310-143496-1 MS
Matrix: Water
Analysis Batch: 222033

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	<10.0		40.0	37.73		ug/L		94	31 - 150
Benzene	<0.500		20.0	15.44		ug/L		77	59 - 120
Bromobenzene	<1.00		20.0	15.69		ug/L		78	51 - 120
Bromochloromethane	<5.00		20.0	17.74		ug/L		89	55 - 135
Bromodichloromethane	<1.00		20.0	17.06		ug/L		85	53 - 120
Bromoform	<5.00		20.0	15.09		ug/L		75	42 - 120
2-Butanone (MEK)	<10.0		40.0	33.37		ug/L		83	49 - 150
n-Butylbenzene	<1.00		20.0	12.38		ug/L		62	24 - 120
sec-Butylbenzene	<1.00		20.0	12.33		ug/L		62	29 - 120
tert-Butylbenzene	<1.00		20.0	12.36		ug/L		62	35 - 120
Carbon disulfide	<1.00		20.0	12.70		ug/L		63	43 - 122
Carbon tetrachloride	<2.00		20.0	13.65		ug/L		68	47 - 126
Chlorobenzene	<1.00		20.0	14.92		ug/L		75	52 - 120
Chlorodibromomethane	<5.00		20.0	15.59		ug/L		78	48 - 120
Chloroform	<3.00		20.0	17.01		ug/L		85	50 - 130
2-Chlorotoluene	<1.00		20.0	14.18		ug/L		71	47 - 120
4-Chlorotoluene	<1.00		20.0	13.42		ug/L		67	44 - 120
1,2-Dibromo-3-Chloropropane	<5.00		20.0	15.83		ug/L		79	32 - 150
1,2-Dibromoethane (EDB)	<1.00		20.0	15.90		ug/L		79	52 - 127
Dibromomethane	<1.00		20.0	15.75		ug/L		79	61 - 130
1,2-Dichlorobenzene	<1.00		20.0	15.59		ug/L		78	46 - 120
1,3-Dichlorobenzene	<1.00		20.0	14.99		ug/L		75	45 - 120
1,4-Dichlorobenzene	<1.00		20.0	15.27		ug/L		76	45 - 120
1,1-Dichloroethane	<1.00		20.0	15.85		ug/L		79	50 - 127
1,2-Dichloroethane	<1.00		20.0	16.45		ug/L		82	55 - 128
1,1-Dichloroethene	<2.00		20.0	13.74		ug/L		69	47 - 124
cis-1,2-Dichloroethene	<1.00		20.0	15.71		ug/L		79	46 - 130
trans-1,2-Dichloroethene	<1.00		20.0	14.06		ug/L		70	51 - 122
1,2-Dichloropropane	<1.00		20.0	16.45		ug/L		82	57 - 125
1,3-Dichloropropane	<1.00		20.0	16.80		ug/L		84	58 - 130
2,2-Dichloropropane	<4.00	F1	20.0	7.472	F1	ug/L		37	43 - 150
1,1-Dichloropropene	<1.00		20.0	13.22		ug/L		66	51 - 124
cis-1,3-Dichloropropene	<5.00		20.0	13.74		ug/L		69	51 - 120

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 310-143496-1 MS
Matrix: Water
Analysis Batch: 222033

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	<5.00		20.0	14.54		ug/L		73	51 - 122
Ethylbenzene	<1.00		20.0	13.84		ug/L		69	46 - 120
Hexachlorobutadiene	<5.00		20.0	12.45		ug/L		62	19 - 150
Hexane	<1.00	F2	20.0	9.061		ug/L		45	13 - 150
Isopropylbenzene	<1.00		20.0	13.32		ug/L		67	39 - 120
p-Isopropyltoluene	<1.00		20.0	13.08		ug/L		65	36 - 120
Methylene Chloride	<5.00		20.0	17.38		ug/L		87	50 - 150
Methyl tert-butyl ether	<1.00		20.0	16.43		ug/L		82	62 - 121
Naphthalene	<5.00		20.0	14.06		ug/L		70	20 - 150
N-Propylbenzene	<1.00		20.0	12.83		ug/L		64	41 - 120
Styrene	<1.00		20.0	14.50		ug/L		73	42 - 120
1,1,1,2-Tetrachloroethane	<1.00		20.0	15.33		ug/L		77	50 - 120
1,1,2,2-Tetrachloroethane	<1.00		20.0	16.00		ug/L		80	49 - 129
Tetrachloroethene	<1.00		20.0	13.21		ug/L		66	40 - 129
Toluene	<1.00		20.0	14.35		ug/L		72	52 - 120
1,2,3-Trichlorobenzene	<5.00		20.0	14.85		ug/L		74	33 - 150
1,2,4-Trichlorobenzene	<5.00		20.0	14.33		ug/L		72	33 - 122
1,1,1-Trichloroethane	<1.00		20.0	14.56		ug/L		73	50 - 127
1,1,2-Trichloroethane	<1.00		20.0	17.25		ug/L		86	50 - 131
Trichloroethene	<1.00		20.0	14.19		ug/L		71	54 - 123
1,2,3-Trichloropropane	<1.00		20.0	16.40		ug/L		82	42 - 134
1,2,4-Trimethylbenzene	<1.00		20.0	13.63		ug/L		68	32 - 122
1,3,5-Trimethylbenzene	<1.00		20.0	13.22		ug/L		66	35 - 120
Xylenes, Total	<3.00		40.0	28.45		ug/L		71	37 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: 310-143496-1 MSD
Matrix: Water
Analysis Batch: 222033

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	<10.0		40.0	36.96		ug/L		92	31 - 150	2	24
Benzene	<0.500		20.0	14.78		ug/L		74	59 - 120	4	21
Bromobenzene	<1.00		20.0	15.34		ug/L		77	51 - 120	2	23
Bromochloromethane	<5.00		20.0	17.05		ug/L		85	55 - 135	4	24
Bromodichloromethane	<1.00		20.0	16.60		ug/L		83	53 - 120	3	21
Bromoform	<5.00		20.0	15.26		ug/L		76	42 - 120	1	24
2-Butanone (MEK)	<10.0		40.0	35.31		ug/L		88	49 - 150	6	20
n-Butylbenzene	<1.00		20.0	11.55		ug/L		58	24 - 120	7	23
sec-Butylbenzene	<1.00		20.0	12.09		ug/L		60	29 - 120	2	23
tert-Butylbenzene	<1.00		20.0	12.78		ug/L		64	35 - 120	3	23
Carbon disulfide	<1.00		20.0	12.08		ug/L		60	43 - 122	5	25
Carbon tetrachloride	<2.00		20.0	12.29		ug/L		61	47 - 126	10	21
Chlorobenzene	<1.00		20.0	14.85		ug/L		74	52 - 120	0	21

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 310-143496-1 MSD
Matrix: Water
Analysis Batch: 222033

Client Sample ID: MW-67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorodibromomethane	<5.00		20.0	16.10		ug/L		80	48 - 120	3	23
Chloroform	<3.00		20.0	16.67		ug/L		83	50 - 130	2	20
2-Chlorotoluene	<1.00		20.0	14.01		ug/L		70	47 - 120	1	23
4-Chlorotoluene	<1.00		20.0	13.83		ug/L		69	44 - 120	3	24
1,2-Dibromo-3-Chloropropane	<5.00		20.0	15.30		ug/L		76	32 - 150	3	24
1,2-Dibromoethane (EDB)	<1.00		20.0	15.56		ug/L		78	52 - 127	2	22
Dibromomethane	<1.00		20.0	16.59		ug/L		83	61 - 130	5	21
1,2-Dichlorobenzene	<1.00		20.0	15.09		ug/L		75	46 - 120	3	23
1,3-Dichlorobenzene	<1.00		20.0	14.49		ug/L		72	45 - 120	3	25
1,4-Dichlorobenzene	<1.00		20.0	14.62		ug/L		73	45 - 120	4	22
1,1-Dichloroethane	<1.00		20.0	16.06		ug/L		80	50 - 127	1	23
1,2-Dichloroethane	<1.00		20.0	16.68		ug/L		83	55 - 128	1	21
1,1-Dichloroethene	<2.00		20.0	12.97		ug/L		65	47 - 124	6	24
cis-1,2-Dichloroethene	<1.00		20.0	14.93		ug/L		75	46 - 130	5	22
trans-1,2-Dichloroethene	<1.00		20.0	13.90		ug/L		70	51 - 122	1	23
1,2-Dichloropropane	<1.00		20.0	15.94		ug/L		80	57 - 125	3	21
1,3-Dichloropropane	<1.00		20.0	16.31		ug/L		82	58 - 130	3	25
2,2-Dichloropropane	<4.00	F1	20.0	7.430	F1	ug/L		37	43 - 150	1	22
1,1-Dichloropropene	<1.00		20.0	12.80		ug/L		64	51 - 124	3	22
cis-1,3-Dichloropropene	<5.00		20.0	14.13		ug/L		71	51 - 120	3	22
trans-1,3-Dichloropropene	<5.00		20.0	13.58		ug/L		68	51 - 122	7	25
Ethylbenzene	<1.00		20.0	13.56		ug/L		68	46 - 120	2	23
Hexachlorobutadiene	<5.00		20.0	11.62		ug/L		58	19 - 150	7	27
Hexane	<1.00	F2	20.0	5.421	F2	ug/L		27	13 - 150	50	21
Isopropylbenzene	<1.00		20.0	12.93		ug/L		65	39 - 120	3	22
p-Isopropyltoluene	<1.00		20.0	12.49		ug/L		62	36 - 120	5	27
Methylene Chloride	<5.00		20.0	16.55		ug/L		83	50 - 150	5	23
Methyl tert-butyl ether	<1.00		20.0	16.47		ug/L		82	62 - 121	0	21
Naphthalene	<5.00		20.0	15.36		ug/L		77	20 - 150	9	34
N-Propylbenzene	<1.00		20.0	12.75		ug/L		64	41 - 120	1	24
Styrene	<1.00		20.0	14.20		ug/L		71	42 - 120	2	25
1,1,1,2-Tetrachloroethane	<1.00		20.0	16.00		ug/L		80	50 - 120	4	21
1,1,2,2-Tetrachloroethane	<1.00		20.0	16.49		ug/L		82	49 - 129	3	20
Tetrachloroethene	<1.00		20.0	12.28		ug/L		61	40 - 129	7	21
Toluene	<1.00		20.0	14.56		ug/L		73	52 - 120	1	23
1,2,3-Trichlorobenzene	<5.00		20.0	14.76		ug/L		74	33 - 150	1	27
1,2,4-Trichlorobenzene	<5.00		20.0	13.78		ug/L		69	33 - 122	4	27
1,1,1-Trichloroethane	<1.00		20.0	14.26		ug/L		71	50 - 127	2	21
1,1,2-Trichloroethane	<1.00		20.0	16.70		ug/L		84	50 - 131	3	22
Trichloroethene	<1.00		20.0	14.63		ug/L		73	54 - 123	3	20
1,2,3-Trichloropropane	<1.00		20.0	16.58		ug/L		83	42 - 134	1	23
1,2,4-Trimethylbenzene	<1.00		20.0	13.94		ug/L		70	32 - 122	2	26
1,3,5-Trimethylbenzene	<1.00		20.0	13.50		ug/L		68	35 - 120	2	25
Xylenes, Total	<3.00		40.0	27.33		ug/L		68	37 - 120	4	34

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*105*		*80 - 120*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 310-143496-1 MSD
Matrix: Water
Analysis Batch: 222033

Client Sample ID: MW-67
Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	99		80 - 120

Lab Sample ID: MB 310-222086/7
Matrix: Water
Analysis Batch: 222086

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<10.0		10.0		ug/L			11/12/18 08:25	1
Benzene	<0.500		0.500		ug/L			11/12/18 08:25	1
Bromobenzene	<1.00		1.00		ug/L			11/12/18 08:25	1
Bromochloromethane	<5.00		5.00		ug/L			11/12/18 08:25	1
Bromodichloromethane	<1.00		1.00		ug/L			11/12/18 08:25	1
Bromoform	<5.00		5.00		ug/L			11/12/18 08:25	1
Bromomethane	<4.00		4.00		ug/L			11/12/18 08:25	1
2-Butanone (MEK)	<10.0		10.0		ug/L			11/12/18 08:25	1
n-Butylbenzene	<1.00		1.00		ug/L			11/12/18 08:25	1
sec-Butylbenzene	<1.00		1.00		ug/L			11/12/18 08:25	1
tert-Butylbenzene	<1.00		1.00		ug/L			11/12/18 08:25	1
Carbon disulfide	<1.00		1.00		ug/L			11/12/18 08:25	1
Carbon tetrachloride	<2.00		2.00		ug/L			11/12/18 08:25	1
Chlorobenzene	<1.00		1.00		ug/L			11/12/18 08:25	1
Chlorodibromomethane	<5.00		5.00		ug/L			11/12/18 08:25	1
Chloroethane	<4.00		4.00		ug/L			11/12/18 08:25	1
Chloroform	<3.00		3.00		ug/L			11/12/18 08:25	1
Chloromethane	<3.00		3.00		ug/L			11/12/18 08:25	1
2-Chlorotoluene	<1.00		1.00		ug/L			11/12/18 08:25	1
4-Chlorotoluene	<1.00		1.00		ug/L			11/12/18 08:25	1
1,2-Dibromo-3-Chloropropane	<5.00		5.00		ug/L			11/12/18 08:25	1
1,2-Dibromoethane (EDB)	<1.00		1.00		ug/L			11/12/18 08:25	1
Dibromomethane	<1.00		1.00		ug/L			11/12/18 08:25	1
1,2-Dichlorobenzene	<1.00		1.00		ug/L			11/12/18 08:25	1
1,3-Dichlorobenzene	<1.00		1.00		ug/L			11/12/18 08:25	1
1,4-Dichlorobenzene	<1.00		1.00		ug/L			11/12/18 08:25	1
Dichlorodifluoromethane	<3.00		3.00		ug/L			11/12/18 08:25	1
1,1-Dichloroethane	<1.00		1.00		ug/L			11/12/18 08:25	1
1,2-Dichloroethane	<1.00		1.00		ug/L			11/12/18 08:25	1
1,1-Dichloroethene	<2.00		2.00		ug/L			11/12/18 08:25	1
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/12/18 08:25	1
trans-1,2-Dichloroethene	<1.00		1.00		ug/L			11/12/18 08:25	1
1,2-Dichloropropane	<1.00		1.00		ug/L			11/12/18 08:25	1
1,3-Dichloropropane	<1.00		1.00		ug/L			11/12/18 08:25	1
2,2-Dichloropropane	<4.00		4.00		ug/L			11/12/18 08:25	1
1,1-Dichloropropene	<1.00		1.00		ug/L			11/12/18 08:25	1
cis-1,3-Dichloropropene	<5.00		5.00		ug/L			11/12/18 08:25	1
trans-1,3-Dichloropropene	<5.00		5.00		ug/L			11/12/18 08:25	1
Ethylbenzene	<1.00		1.00		ug/L			11/12/18 08:25	1
Hexachlorobutadiene	<5.00		5.00		ug/L			11/12/18 08:25	1
Hexane	<1.00		1.00		ug/L			11/12/18 08:25	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-222086/7
Matrix: Water
Analysis Batch: 222086

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	<1.00		1.00		ug/L			11/12/18 08:25	1
p-Isopropyltoluene	<1.00		1.00		ug/L			11/12/18 08:25	1
Methylene Chloride	<5.00		5.00		ug/L			11/12/18 08:25	1
Methyl tert-butyl ether	<1.00		1.00		ug/L			11/12/18 08:25	1
Naphthalene	<5.00		5.00		ug/L			11/12/18 08:25	1
N-Propylbenzene	<1.00		1.00		ug/L			11/12/18 08:25	1
Styrene	<1.00		1.00		ug/L			11/12/18 08:25	1
1,1,1,2-Tetrachloroethane	<1.00		1.00		ug/L			11/12/18 08:25	1
1,1,2,2-Tetrachloroethane	<1.00		1.00		ug/L			11/12/18 08:25	1
Tetrachloroethene	<1.00		1.00		ug/L			11/12/18 08:25	1
Toluene	<1.00		1.00		ug/L			11/12/18 08:25	1
1,2,3-Trichlorobenzene	<5.00		5.00		ug/L			11/12/18 08:25	1
1,2,4-Trichlorobenzene	<5.00		5.00		ug/L			11/12/18 08:25	1
1,1,1-Trichloroethane	<1.00		1.00		ug/L			11/12/18 08:25	1
1,1,2-Trichloroethane	<1.00		1.00		ug/L			11/12/18 08:25	1
Trichloroethene	<1.00		1.00		ug/L			11/12/18 08:25	1
Trichlorofluoromethane	<4.00		4.00		ug/L			11/12/18 08:25	1
1,2,3-Trichloropropane	<1.00		1.00		ug/L			11/12/18 08:25	1
1,2,4-Trimethylbenzene	<1.00		1.00		ug/L			11/12/18 08:25	1
1,3,5-Trimethylbenzene	<1.00		1.00		ug/L			11/12/18 08:25	1
Vinyl chloride	<1.00		1.00		ug/L			11/12/18 08:25	1
Xylenes, Total	<3.00		3.00		ug/L			11/12/18 08:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*11/12/18 08:25*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*11/12/18 08:25*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*11/12/18 08:25*	*1*

Lab Sample ID: LCS 310-222086/5
Matrix: Water
Analysis Batch: 222086

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	40.0	44.37		ug/L		111	50 - 150
Benzene	20.0	20.66		ug/L		103	77 - 120
Bromobenzene	20.0	19.21		ug/L		96	70 - 120
Bromochloromethane	20.0	22.01		ug/L		110	73 - 132
Bromodichloromethane	20.0	19.85		ug/L		99	73 - 120
Bromoform	20.0	14.78		ug/L		74	57 - 120
2-Butanone (MEK)	40.0	47.22		ug/L		118	50 - 150
n-Butylbenzene	20.0	19.18		ug/L		96	63 - 120
sec-Butylbenzene	20.0	19.52		ug/L		98	64 - 120
tert-Butylbenzene	20.0	19.74		ug/L		99	64 - 120
Carbon disulfide	20.0	20.60		ug/L		103	65 - 122
Carbon tetrachloride	20.0	20.70		ug/L		104	72 - 126
Chlorobenzene	20.0	20.05		ug/L		100	74 - 120
Chlorodibromomethane	20.0	17.90		ug/L		90	66 - 120
Chloroform	20.0	21.22		ug/L		106	78 - 121

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-222086/5
Matrix: Water
Analysis Batch: 222086

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorotoluene	20.0	19.37		ug/L		97	71 - 120
4-Chlorotoluene	20.0	18.93		ug/L		95	71 - 120
1,2-Dibromo-3-Chloropropane	20.0	17.30		ug/L		86	50 - 150
1,2-Dibromoethane (EDB)	20.0	21.68		ug/L		108	71 - 125
Dibromomethane	20.0	22.74		ug/L		114	76 - 125
1,2-Dichlorobenzene	20.0	18.95		ug/L		95	66 - 120
1,3-Dichlorobenzene	20.0	19.36		ug/L		97	67 - 120
1,4-Dichlorobenzene	20.0	18.86		ug/L		94	68 - 120
1,1-Dichloroethane	20.0	20.08		ug/L		100	75 - 125
1,2-Dichloroethane	20.0	20.77		ug/L		104	75 - 123
1,1-Dichloroethene	20.0	21.96		ug/L		110	75 - 124
cis-1,2-Dichloroethene	20.0	20.51		ug/L		103	77 - 120
trans-1,2-Dichloroethene	20.0	21.41		ug/L		107	75 - 122
1,2-Dichloropropane	20.0	19.93		ug/L		100	75 - 123
1,3-Dichloropropane	20.0	20.79		ug/L		104	75 - 123
2,2-Dichloropropane	20.0	19.80		ug/L		99	50 - 150
1,1-Dichloropropene	20.0	22.00		ug/L		110	77 - 124
cis-1,3-Dichloropropene	20.0	19.26		ug/L		96	70 - 120
trans-1,3-Dichloropropene	20.0	18.77		ug/L		94	69 - 120
Ethylbenzene	20.0	19.78		ug/L		99	73 - 120
Hexachlorobutadiene	20.0	19.02		ug/L		95	50 - 150
Hexane	20.0	21.00		ug/L		105	50 - 150
Isopropylbenzene	20.0	19.99		ug/L		100	69 - 120
p-Isopropyltoluene	20.0	19.29		ug/L		96	68 - 120
Methylene Chloride	20.0	22.57		ug/L		113	50 - 150
Methyl tert-butyl ether	20.0	21.60		ug/L		108	72 - 121
Naphthalene	20.0	20.19		ug/L		101	50 - 150
N-Propylbenzene	20.0	19.63		ug/L		98	70 - 120
Styrene	20.0	19.23		ug/L		96	70 - 120
1,1,1,2-Tetrachloroethane	20.0	18.11		ug/L		91	72 - 120
1,1,2,2-Tetrachloroethane	20.0	19.03		ug/L		95	63 - 122
Tetrachloroethene	20.0	22.42		ug/L		112	72 - 129
Toluene	20.0	20.92		ug/L		105	74 - 120
1,2,3-Trichlorobenzene	20.0	19.63		ug/L		98	50 - 150
1,2,4-Trichlorobenzene	20.0	18.62		ug/L		93	59 - 120
1,1,1-Trichloroethane	20.0	20.97		ug/L		105	76 - 127
1,1,2-Trichloroethane	20.0	21.20		ug/L		106	69 - 127
Trichloroethene	20.0	21.47		ug/L		107	77 - 123
1,2,3-Trichloropropane	20.0	21.86		ug/L		109	66 - 120
1,2,4-Trimethylbenzene	20.0	18.98		ug/L		95	67 - 120
1,3,5-Trimethylbenzene	20.0	19.25		ug/L		96	68 - 120
Xylenes, Total	40.0	38.26		ug/L		96	69 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*96*		*80 - 120*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-222086/6
Matrix: Water
Analysis Batch: 222086

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromomethane	20.0	24.65		ug/L		123	38 - 150
Chloroethane	20.0	19.69		ug/L		98	69 - 129
Chloromethane	20.0	19.66		ug/L		98	50 - 150
Dichlorodifluoromethane	20.0	21.71		ug/L		109	50 - 150
Trichlorofluoromethane	20.0	21.87		ug/L		109	68 - 146
Vinyl chloride	20.0	21.57		ug/L		108	67 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*80 - 120*
Toluene-d8 (Surr)	*98*		*80 - 120*

Lab Sample ID: MB 310-222120/8
Matrix: Water
Analysis Batch: 222120

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<1.00		1.00		ug/L			11/13/18 13:15	1
Trichloroethene	<1.00		1.00		ug/L			11/13/18 13:15	1
Vinyl chloride	<1.00		1.00		ug/L			11/13/18 13:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*11/13/18 13:15*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*11/13/18 13:15*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*11/13/18 13:15*	*1*

Lab Sample ID: LCS 310-222120/6
Matrix: Water
Analysis Batch: 222120

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	20.0	19.71		ug/L		99	77 - 120
Trichloroethene	20.0	20.88		ug/L		104	77 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*
Toluene-d8 (Surr)	*106*		*80 - 120*

Lab Sample ID: LCS 310-222120/7
Matrix: Water
Analysis Batch: 222120

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	20.0	22.52		ug/L		113	67 - 133

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-222120/7
Matrix: Water
Analysis Batch: 222120

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	102		80 - 120
Toluene-d8 (Surr)	109		80 - 120

QC Association Summary

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

GC/MS VOA

Analysis Batch: 222033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-143496-1	MW-67	Total/NA	Water	8260C	
310-143496-2	MW-66	Total/NA	Water	8260C	
310-143496-3	MW-56D	Total/NA	Water	8260C	
310-143496-5	MW-47D	Total/NA	Water	8260C	
310-143496-6	MW-46	Total/NA	Water	8260C	
310-143496-8	MW-57	Total/NA	Water	8260C	
310-143496-10	Rinstate Blank 01	Total/NA	Water	8260C	
310-143496-11	Trip Blank	Total/NA	Water	8260C	
MB 310-222033/7	Method Blank	Total/NA	Water	8260C	
LCS 310-222033/5	Lab Control Sample	Total/NA	Water	8260C	
LCS 310-222033/6	Lab Control Sample	Total/NA	Water	8260C	
310-143496-1 MS	MW-67	Total/NA	Water	8260C	
310-143496-1 MSD	MW-67	Total/NA	Water	8260C	

Analysis Batch: 222086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-143496-4	MW-65	Total/NA	Water	8260C	
310-143496-5	MW-47D	Total/NA	Water	8260C	
310-143496-7	MW-43D	Total/NA	Water	8260C	
310-143496-9	Field Duplicate 01	Total/NA	Water	8260C	
MB 310-222086/7	Method Blank	Total/NA	Water	8260C	
LCS 310-222086/5	Lab Control Sample	Total/NA	Water	8260C	
LCS 310-222086/6	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 222120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-143496-9	Field Duplicate 01	Total/NA	Water	8260C	
MB 310-222120/8	Method Blank	Total/NA	Water	8260C	
LCS 310-222120/6	Lab Control Sample	Total/NA	Water	8260C	
LCS 310-222120/7	Lab Control Sample	Total/NA	Water	8260C	

Lab Chronicle

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: MW-67
Date Collected: 11/05/18 11:35
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	222033	11/11/18 01:29	SJN	TAL CF

Client Sample ID: MW-66
Date Collected: 11/05/18 13:10
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	222033	11/11/18 01:54	SJN	TAL CF

Client Sample ID: MW-56D
Date Collected: 11/05/18 15:20
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	222033	11/11/18 02:18	SJN	TAL CF

Client Sample ID: MW-65
Date Collected: 11/06/18 09:25
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	222086	11/12/18 11:21	SJN	TAL CF

Client Sample ID: MW-47D
Date Collected: 11/06/18 10:35
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1000	222033	11/11/18 04:46	SJN	TAL CF
Total/NA	Analysis	8260C		10	222086	11/12/18 11:43	SJN	TAL CF

Client Sample ID: MW-46
Date Collected: 11/06/18 12:05
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		100	222033	11/11/18 03:56	SJN	TAL CF

Lab Chronicle

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Client Sample ID: MW-43D
Date Collected: 11/06/18 13:40
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	222086	11/12/18 10:59	SJN	TAL CF

Client Sample ID: MW-57
Date Collected: 11/06/18 15:05
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	222033	11/11/18 02:43	SJN	TAL CF

Client Sample ID: Field Duplicate 01
Date Collected: 11/06/18 12:00
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	222120	11/13/18 16:54	SJN	TAL CF
Total/NA	Analysis	8260C		10	222086	11/12/18 12:05	SJN	TAL CF

Client Sample ID: Rinstate Blank 01
Date Collected: 11/06/18 15:35
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	222033	11/10/18 21:25	SJN	TAL CF

Client Sample ID: Trip Blank
Date Collected: 11/06/18 00:00
Date Received: 11/07/18 17:35

Lab Sample ID: 310-143496-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	222033	11/10/18 21:01	SJN	TAL CF

Laboratory References:
TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Laboratory: TestAmerica Cedar Falls

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
AIHA-LAP, LLC	IHLAP		101044	11-01-20
Georgia	State Program	4	IA100001 (OR)	09-29-19
Illinois	NELAP	5	200024	11-29-19
Iowa	State Program	7	007	12-01-19
Kansas	NELAP	7	E-10341	01-31-19
Minnesota	NELAP	5	019-999-319	12-31-18
Minnesota (Petrofund)	State Program	1	3349	08-22-19
North Dakota	State Program	8	R-186	09-29-18 *
Oregon	NELAP	10	IA100001	09-29-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Golder Associates Inc.
Project/Site: Electrolux - Jefferson, IA

TestAmerica Job ID: 310-143496-1
SDG: 103-87305.01

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL CF
5030B	Purge and Trap	SW846	TAL CF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

310-143496 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Golder Associates

City/State: Manchester NH | Project: 103-8730805.01

Receipt Information

Date/Time Received: 110718 1735 | Received By: APB

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☒ TA Courier ☐ TA Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☒ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☐ Yes ☒ No *If yes:* Cooler # _____ of _____

Cooler Custody Seals Present? ☐ Yes ☒ No *If yes:* Cooler custody seals intact? ☐ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☒ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☒ Yes ☐ No 110718 *If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: N | Correction Factor (°C): 0.0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 0.5 | Corrected Temp (°C): 0.5

• **Sample Container Temperature**

Container type(s) used:

Uncorrected Temp (°C): | Corrected Temp (°C):

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Document: CF-LG-WI-002
Revision: 23
Date: 12/31/2017

TestAmerica-Cedar Falls

General temperature criteria is 0 to 6°C
Bacteria temperature criteria is 0 to 10°C

TestAmerica Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Phone (319) 277-2401 Fax (319) 277-2425

Chain of Custody Record

TestAmerica Des Moines SC
214

39078

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Alan Phillips	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):	COC No:
Client Contact: James Peace	Phone:	E-Mail: shawn.hayes@testamericainc.com		Page: 1 of 2
Company: Golder Associates Inc.				Job #:
Address: 670 North Commercial Street Suite 103	Due Date Requested:			
City: Manchester	TAT Requested (days):			
State, Zip: NH, 03101				
Phone:	PO #:			
Email: jpeace@golder.com	WO #:			
Project Name: Electrolux - Jefferson, IA	TestAmerica Project #: 31002428			
Project Number: 103-87305.01	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C Volatile Standard Sublist	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
MW-67	11/5/18	1135	G	W			X		
MW-67-MS		1135				Y	X		
MW-67-MSD		1135				Y	X		
MW-66		1310					X		
MW-56D		1520					X		
MW-65	11/6/18	0925					X		
MW-47D		1035					X		
MW-46		1205					X		
MW-43D		1340					X		
MW-57		1505					X		
Field Duplicate 01		1200					X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Alan Phillips	11/7/18 1222	Golder	[signature]	11/7/18 1222	TA

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

#35078 # [redacted]

TestAmerica Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Phone (319) 277-2401 Fax (319) 277-2425

Chain of Custody Record

TestAmerica Des Moines SC
214

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Alan Phillips	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):	COC No:
Client Contact: James Peace	Phone:	E-Mail: shawn.hayes@testamericainc.com		Page: 2 of 2
Company: Golder Associates Inc.				Job #:
Address: 670 North Commercial Street Suite 103	Due Date Requested:			
City: Manchester	TAT Requested (days):			
State, Zip: NH, 03101				
Phone:	PO #:			
Email: jpeace@golder.com	WO #:			
Project Name: Electrolux - Jefferson, IA	TestAmerica Project #: 31002428			
Project Number: 103-87305.01	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C Volatile Standard Sublist	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
Rinsate Blank 01	11/6/18	1535	G	W			X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Alan Phillips	11/7/18 1222	Golder	[signature]	11/7/18 1222	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Golder Associates Inc.

Job Number: 310-143496-1
SDG Number: 103-87305.01

Login Number: 143496
List Number: 1
Creator: Homolar, Dana J

List Source: TestAmerica Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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golder.com