FTS
Field & Technical Services
200 Third Avenue • Carnegie, PA 15106 • Phone: 412-429-2694 • Fax: 412-279-4512

June 19, 2019

Mr. Chris Saari
Wisconsin Department of Natural Resources
2501 Golf Course Road
Ashland, WI 54806

RE: First Semi-Annual 2019 RCRA Groundwater Monitoring Results
Former Koppers Inc. Superior, Wisconsin Facility
WID 006 179 493

Dear Mr. Saari:

On behalf of Beazer East, Inc. (Beazer), Field & Technical Services, LLC (FTS) is submitting to the Wisconsin Department of Natural Resources (WDNR) the First Semi-Annual 2019 Resource Conservation and Recovery Act (RCRA) Groundwater Monitoring Results for the referenced facility. Appendix A includes one copy of the groundwater monitoring data certification for the subject groundwater monitoring event.

BACKGROUND

Monitoring wells in the vicinity of the closed surface impoundments were sampled and analyzed in accordance with the following documents:

- The Conditional Closure and Long-Term Care Plan Approval (WDNR, October 1, 1987);
- Long-Term Care Plan Approval Modification (October 29, 2002);
- Groundwater Monitoring Sampling and Analysis Plan (April 2002); and
- Wisconsin Administrative Code Chapter NR 664 subchapter (F) (formerly NR 635).

The wells that comprise the currently approved RCRA monitoring well network for the closed surface impoundments are as follows:

W-04AR2	W-06A	W-06C	W-10AR2	W-12A
W-12CR	W-28C	W-30A	W-30C	

Groundwater samples were collected and analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and dioxins and furans from monitoring wells W-04AR2, W-06A, W-06C, W-10AR2, W-12A, W-12CR, W-28C, W-30A, and W-30C during the first semi-annual 2019 event.

In addition to these wells, a groundwater sample was collected and analyzed for SVOCs from monitoring well W-18D in conjunction with this monitoring event. Well W-18D is not a required component of the approved monitoring program, but was sampled at Beazer's discretion above and beyond the requirements of the program.

The locations of the wells included in the groundwater monitoring program are shown on Figure B-1, provided in Appendix B. The subject sampling event was conducted from April 29, 2019 through May 1, 2019. The sampling effort was led by Mr. Ben Trask, FTS Field Technician.

In accordance with the documents listed above, the following items are included in this report:

- One signed copy of the Groundwater Monitoring Data Certification Statement (Appendix A);
- Well location map (Appendix B);
- Summary of detected constituents and Preventive Action Limit (PAL), Enforcement Standard (ES), and Maximum Contaminant Level (MCL) exceedances (Table 1 of Appendix C);
- Summary of analytical data (Table 2 of Appendix C);
- Data Evaluation Summary (Appendix D);
- A hard copy and an electronic version of the laboratory analytical data, including trip blank, equipment blank, and field duplicate results (enclosed CD) (Appendix E); and
- An electronic version of the ASCII formatted data (enclosed CD) (Appendix F).

SUMMARY OF ANALYTICAL RESULTS

The detected constituents are summarized and compared to the PALs, ESs, and MCLs in Table 1 of Appendix C. Table 2 in Appendix C summarizes all laboratory analytical data. As indicated in Table 1 of Appendix C, exceedances of the PALs, ESs, and MCLs were noted for the following parameters and wells:

Parameter	Regulatory Standard (ug/L)	Wells
MCL Exceedance		
Benzene	5	W-10AR2
Benzo(a)pyrene	0.2	W-04AR2
ES Exceedance		
Benzene	5	W-10AR2
Benzo(a)pyrene	0.2	W-04AR2
Benzo(b)fluoranthene	0.2	W-04AR2
Chrysene	0.2	W-04AR2
PAL Exceedance		
Benzene	0.5	W-10AR2, W-30A
Naphthalene	10	W-30A
Benzo(a)pyrene	0.02	W-04AR2
Benzo(b)fluoranthene	0.02	W-04AR2
Chrysene	0.02	W-04AR2
2,3,7,8-TCDD TEQ*	3E-06	W-04AR2, W-30A

* At the request of WDNR, 2,3,7,8-TCDD TEQ values are compared to the congener-specific PAL and ES for 2,3,7,8-TCDD.

Based on these results, three wells (W-04AR2, W-10AR2, and W-30A) had concentrations of one or more constituents above a regulatory standard. The Groundwater Monitoring Data Certification form, provided as Appendix A, indicates that some of the data associated with the first semi-annual 2019 sampling event exceeded the Wisconsin PALs and ESs.

The data evaluation performed by FTS for the first semi-annual 2019 sampling event (Appendix D) indicated that certain data required qualification. However, the overall data quality was acceptable.

In general, the groundwater standard exceedances should continue to be viewed in light of the ongoing Site-wide RCRA corrective action program and the approved natural attenuation remedy for groundwater. Therefore, in reviewing the first semi-annual 2019 data in reference to NR 140.24 and NR 140.26, no additional action beyond continued monitoring is necessary.

If you should have any questions regarding this correspondence, please do not hesitate to contact Ms. Jane Patarcity of Beazer at 412-208-8813 or Ms. Angela Gatchie of FTS at 412-428-9411.

Sincerely,

Field & Technical Services LLC

Angela Gatchie
Project Scientist

Attachments (Original Report and electronic copy)

cc: J. Patarcity, Beazer (electronic copy only)
L. Paul, Koppers (electronic copy only)
D. Bessingpas, ARCADIS (.pdf transmittal)
D. Panofsky, WDNR
GEMS Database, WDNR
T. Peterson, TRP Properties, LLC

APPENDIX A

GROUNDWATER MONITORING DATA CERTIFICATION

State of Wisconsin
Department of Natural Resources

Environmental Monitoring Data Certification

Form 4400-231(R 1/04)

Notice: Personally identifiable information collected will be used for program administration and enforcement purposes. The Department may also provide this information to requesters as required under Wisconsin's Open Records law, ss. 19.31 to 19.39, Wis. Stats.
When submitting monitoring data, the owner or operator of the facility, practice or activity is required to notify the Department in writing that a groundwater standard or an explosive gas level has been attained or exceeded, as specified in ss. NR 140.24(1)(a); NR 140.26(1)(a); NR 507.30NR 635.14(9)(a); NR 635.18(20) and NR 507.30, Wis. Adm. Code. Failure to report may result in fines, forfeitures or other penalties resulting from enforcement under ss. 289.97, 291.97 or 299.95, Wis. Stats.

Instructions:

- **Prepare one form for each license or monitoring ID.**
- **Please type or print legibly.**
- Attach a notification of any values that attain or exceed groundwater standards (that is, preventive action limits, enforcement standards or alternative concentration limits). The notification must include a preliminary analysis of the cause and significance of each value.
- Attach a notification of any gas values that attain or exceed explosive gas levels.
- Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to: GEMS Data Submittal Contact - WA/5
  Bureau of Waste Management
  Wisconsin Department of Natural Resources
  101 South Webster Street
  Madison WI 53707-7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

Field & Technical Services, LLC

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Angela Gatchie Phone: (412) 428-9411

E-mail: agatchie.2006@f-ts.com

Facility name:	License # / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003)
Former Koppers, Inc. Facility	03046		April 30 - May 1, 2019

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)

April-May 2019

Type of Data Submitted (Check all that apply)

- [x] Groundwater monitoring data from monitoring wells
- [ ] Groundwater monitoring data from private water supply wells
- [ ] Leachate monitoring data
- [ ] Gas monitoring data
- [ ] Air monitoring data
- [ ] Other (specify)

Notification attached?

- [ ] No. No groundwater standards or explosive gas limits were exceeded.
- [x] Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
- [ ] Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards.

Jane Patarcity	Manager, Environmental Svcs.	(412) 208-8813
Facility Representative Name (Print)	Title	(Area Code) Telephone No.

Signature 6-18-19 Date

FOR DNR USE ONLY. Check action taken, and record date and your initials. Describe on back side if necessary.

- [ ] **Found uploading problems on** _____ **Initials**
- [ ] **Notified contact of problems on** _____ **Uploaded data successfully on** _____

EDD format(s): [ ] **Diskette** [ ] **CD (initial submittal and follow-up)** [ ] **E-mail (follow-up only)** [ ] **Other**

APPENDIX B

WELL LOCATION MAP

N

LEGEND

- ROAD
- STREAM OR DITCH
- RAILROAD TRACKS
- APPROXIMATE PROPERTY BOUNDARY
- W-19A — A ZONE GROUNDWATER MONITORING WELL
- W-26B — B ZONE GROUNDWATER MONITORING WELL
- W-32C — C ZONE GROUNDWATER MONITORING WELL
- W-33D — BEDROCK ZONE GROUNDWATER MONITORING WELL
- SAMPLED WELL LOCATION

W-05CR
W-02C
W-31C
W-12A
W-12CR
W-09C
W-29A
DESIGN MANAGEMENT ZONE
W-10AR2
W-30A
W-30C
W-08A
CLOSED RCRA SURFACE IMPOUNDMENTS
W-04AR2
W-06A
W-06C
W-21B
W-21A
W-26B
W-26A
W-32C
W-38A
W-39A
W-25A
W-37A
W-11A
W-36A
W-40A
W-28C
W-14A
W-14B
W-34D
W-26AR
W-33D
W-16AR
W-19C
W-19A
W-35A
W-18D
FORMER CONTAINER STORAGE FACILITY
CONCRETE BERM
OFFICE
SHOP
GATE
RAILROAD AVENUE
FLOW
COUNTY ROAD A
COUNTY ROAD Z

0 300 600 FEET

BEAZER EAST, INC.
PITTSBURGH, PENNSYLVANIA

DRWN: KC	DATE: 04/30/19	FIELD & TECHNICAL SERVICES, LLC 200 THIRD AVENUE CARNEGIE, PA 15106	
CHKD: AMQ	DATE: 04/30/19		
APPD: JSZ	DATE: 05/11/19		
SCALE: AS SHOWN			
ISSUE DATE:			

FORMER KOPPERS INC. FACILITY
SUPERIOR, WISCONSIN

WELL LOCATIONS

PROJECT NO: 0M055619
DRAWING NUMBER
FIGURE B-1

REV #	DATE	DESCRIPTION	APPD
3			
2			
1			

REFERENCE: WISCONSIN STATE PLANNER COORDINATE SYSTEM.
NOTE: MONITORING WELL W-04AR WAS NOT SAMPLED DURING THIS EVENT DUE TO INNER CASING DAMAGE.

APPENDIX C

TABLES

Table 1
Summary of Detected Constituents
First Semi-Annual 2019 Sampling Event
Superior Facility
Superior, Wisconsin

Location	Parameter	Results ug/L	PAL ug/L	ES ug/L	MCL ug/L
8270D LL					
W-10AR2	1-Methylnaphthalene	57	NA	NA	NA
W-12CR	2,4,6-Trichlorophenol	1.9 J	NA	NA	NA
W-12CR DUP	2,4,6-Trichlorophenol	1.6 J	NA	NA	NA
W-10AR2	Acenaphthene	110	NA	NA	NA
W-10AR2	Acenaphthylene	1.5	NA	NA	NA
W-04AR2	Anthracene	5.6 J	600	3000	NA
W-10AR2	Anthracene	1.2	600	3000	NA
W-04AR2	Benzo(a)anthracene	0.37 J	NA	NA	NA
W-04AR2	Benzo(a)pyrene	0.21 J	0.02	0.2	0.2
W-04AR2	Benzo(b)fluoranthene	0.54 J	0.02	0.2	NA
W-04AR2	Benzo(k)fluoranthene	0.34 J	NA	NA	NA
W-04AR2	Chrysene	0.51 J	0.02	0.2	NA
W-10AR2	Dibenzofuran	42	NA	NA	NA
W-04AR2	Fluoranthene	0.72 J	80	400	NA
W-10AR2	Fluoranthene	2.2	80	400	NA
W-10AR2	Fluorene	32	80	400	NA
W-04AR2	Indeno(1,2,3-cd)pyrene	0.22 J	NA	NA	NA
W-10AR2	Phenanthrene	6	NA	NA	NA
W-04AR2	Pyrene	0.57 J	50	250	NA
W-10AR2	Pyrene	1.3	50	250	NA
8260C					
W-10AR2	1,2,4-Trimethylbenzene	8.9	96*	480*	NA
W-10AR2	Benzene	17	0.5	5	5
W-30A	Benzene	0.76 J	0.5	5	5
W-10AR2	Ethylbenzene	34	140	700	700
W-30A	Ethylbenzene	1.6	140	700	700
W-10AR2	Naphthalene	2.2	10	100	NA
W-30A	Naphthalene	22	10	100	NA
W-10AR2	Toluene	2.3	160	800	1000
W-10AR2	Xylene, Meta & Para	5	400**	2000**	10000**
W-10AR2	Xylene, Ortho	16	400**	2000**	10000**

Table 1
Summary of Detected Constituents
First Semi-Annual 2019 Sampling Event
Superior Facility
Superior, Wisconsin

Location	Parameter	Results ug/L	PAL ug/L	ES ug/L	MCL ug/L
8290A					
W-04AR2	1,2,3,4,6,7,8-HPCDD	0.00079	NA	NA	NA
W-10AR2	1,2,3,4,6,7,8-HPCDD	0.000019 J	NA	NA	NA
W-12A	1,2,3,4,6,7,8-HPCDD	0.00005	NA	NA	NA
W-30A	1,2,3,4,6,7,8-HPCDD	0.00047	NA	NA	NA
W-04AR2	1,2,3,4,6,7,8-HPCDF	0.0002	NA	NA	NA
W-12A	1,2,3,4,6,7,8-HPCDF	0.000021 J	NA	NA	NA
W-30A	1,2,3,4,6,7,8-HPCDF	0.00017	NA	NA	NA
W-04AR2	1,2,3,4,7,8,9-HPCDF	0.000017 JI	NA	NA	NA
W-30A	1,2,3,4,7,8,9-HPCDF	0.000015 J	NA	NA	NA
W-04AR2	1,2,3,4,7,8-HXCDD	0.0000094 J	NA	NA	NA
W-12A	1,2,3,4,7,8-HXCDD	0.0000014 JI	NA	NA	NA
W-30A	1,2,3,4,7,8-HXCDD	0.0000017 JI	NA	NA	NA
W-04AR2	1,2,3,4,7,8-HXCDF	0.000022 JI	NA	NA	NA
W-12A	1,2,3,4,7,8-HXCDF	0.0000034 J	NA	NA	NA
W-30A	1,2,3,4,7,8-HXCDF	0.000023 J	NA	NA	NA
W-04AR2	1,2,3,6,7,8-HXCDD	0.000036 J	NA	NA	NA
W-30A	1,2,3,6,7,8-HXCDD	0.000018 JI	NA	NA	NA
W-04AR2	1,2,3,6,7,8-HXCDF	0.000029 JI	NA	NA	NA
W-10AR2	1,2,3,6,7,8-HXCDF	0.000002 JI	NA	NA	NA
W-12A	1,2,3,6,7,8-HXCDF	0.0000059 JI	NA	NA	NA
W-28C	1,2,3,6,7,8-HXCDF	0.0000011 JI	NA	NA	NA
W-30A	1,2,3,6,7,8-HXCDF	0.000031 JI	NA	NA	NA
W-04AR2	1,2,3,7,8,9-HXCDD	0.000016 J	NA	NA	NA
W-12A	2,3,4,6,7,8-HXCDF	0.00000098 JI	NA	NA	NA
W-12A	2,3,7,8-TCDF	0.0000014 JI	NA	NA	NA
W-28C	2,3,7,8-TCDF	0.0000007 JI	NA	NA	NA
W-30C	2,3,7,8-TCDF	0.00000041 JI	NA	NA	NA
W-04AR2	OCDD	0.0063	NA	NA	NA
W-10AR2	OCDD	0.00026	NA	NA	NA
W-12A	OCDD	0.00056	NA	NA	NA
W-12CR DUP	OCDD	0.00006 J	NA	NA	NA
W-28C	OCDD	0.00011	NA	NA	NA
W-30A	OCDD	0.0063	NA	NA	NA
W-04AR2	OCDF	0.00052	NA	NA	NA
W-12A	OCDF	0.000052 J	NA	NA	NA
W-30A	OCDF	0.0005	NA	NA	NA
W-04AR2	Total HPCDD	0.002	NA	NA	NA
W-10AR2	Total HPCDD	0.000041 J	NA	NA	NA
W-12A	Total HPCDD	0.000097	NA	NA	NA
W-28C	Total HPCDD	0.000055	NA	NA	NA
W-30A	Total HPCDD	0.001	NA	NA	NA
W-04AR2	Total HPCDF	0.00073 I	NA	NA	NA
W-10AR2	Total HPCDF	0.000021 JI	NA	NA	NA
W-12A	Total HPCDF	0.000087 I	NA	NA	NA
W-30A	Total HPCDF	0.00067	NA	NA	NA
W-04AR2	Total HXCDD	0.00022	NA	NA	NA
W-30A	Total HXCDD	0.000074 I	NA	NA	NA

Table 1
Summary of Detected Constituents
First Semi-Annual 2019 Sampling Event
Superior Facility
Superior, Wisconsin

Location	Parameter	Results ug/L	PAL ug/L	ES ug/L	MCL ug/L
W-04AR2	Total HXCDF	0.00065 I	NA	NA	NA
W-10AR2	Total HXCDF	0.000019 JI	NA	NA	NA
W-12A	Total HXCDF	0.000094 I	NA	NA	NA
W-30A	Total HXCDF	0.00055 I	NA	NA	NA
W-04AR2	Total PECDD	0.0000037 JI	NA	NA	NA
W-04AR2	Total PECDF	0.00024 I	NA	NA	NA
W-06A	Total PECDF	0.00000045 JI	NA	NA	NA
W-10AR2	Total PECDF	0.000011 JI	NA	NA	NA
W-12A	Total PECDF	0.000049 I	NA	NA	NA
W-28C	Total PECDF	0.0000016 JI	NA	NA	NA
W-30A	Total PECDF	0.00024 I	NA	NA	NA
W-30C	Total PECDF	0.0000021 JI	NA	NA	NA
W-06A	Total TCDD	0.00000046 JI	NA	NA	NA
W-10AR2	Total TCDD	0.00000068 JI	NA	NA	NA
W-12A	Total TCDD	0.00000084 JI	NA	NA	NA
W-12CR	Total TCDD	0.00000048 JI	NA	NA	NA
W-04AR2	Total TCDF	0.000053 I	NA	NA	NA
W-10AR2	Total TCDF	0.0000063 JI	NA	NA	NA
W-12A	Total TCDF	0.000018 I	NA	NA	NA
W-28C	Total TCDF	0.0000014 JI	NA	NA	NA
W-30A	Total TCDF	0.000046 I	NA	NA	NA
W-30C	Total TCDF	0.0000023 JI	NA	NA	NA
W-04AR2	2,3,7,8-TCDD TEQ	2.34E-05	3E-06	0.00003	0.00003
W-10AR2	2,3,7,8-TCDD TEQ	4.68E-07	3E-06	0.00003	0.00003
W-12A	2,3,7,8-TCDD TEQ	2.20E-06	3E-06	0.00003	0.00003
W-12CR DUP	2,3,7,8-TCDD TEQ	1.80E-08	3E-06	0.00003	0.00003
W-28C	2,3,7,8-TCDD TEQ	2.13E-07	3E-06	0.00003	0.00003
W-30A	2,3,7,8-TCDD TEQ	1.60E-05	3E-06	0.00003	0.00003
W-30C	2,3,7,8-TCDD TEQ	4.10E-08	3E-06	0.00003	0.00003

Notes:

- Indicates the detected value exceeds one or more specified standards.

PAL - Preventative Action Limit

MCL - Maximum Contaminant Levels for drinking water

ES - Enforcement Standard

NA - Not available

J - Estimated

* - Total trimethylbenzene standard

** - Total xylene standard

At the request of WDNR, 2,3,7,8-TCDD TEQ values are compared to the congener-specific PAL and ES for 2,3,7,8-TCDD.

Table 2
Analytical Summary - First Semi-Annual 2019 Groundwater Data
First Semi-Annual 2019 Sampling Event
Superior Facility
Superior, Wisconsin

ANALYTE NAME	UNITS	W-04AR2 5/1/2019	W-06A 4/30/2019	W-06C 4/30/2019	W-10AR2 4/30/2019	W-12A 4/30/2019	W-12CR 4/30/2019	W-12CR-DUP 4/30/2019	W-18D 5/1/2019	W-28C 4/30/2019	W-30A 4/30/2019	W-30C 4/30/2019	Equipment Blank 4/30/2019	Trip Blank 4/30/2019	Trip Blank 5/1/2019
8260C															
1,1,1-TRICHLOROETHANE	UG/L	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	NA	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U
1,2,4-TRIMETHYLBENZENE	UG/L	0.75 U	0.75 U	0.75 U	**8.9**	0.75 U	0.75 U	0.75 U	NA	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
1,3,5-TRIMETHYLBENZENE	UG/L	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	NA	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U
BENZENE	UG/L	0.41 U	0.41 U	0.41 U	**17**	0.41 U	0.41 U	0.41 U	NA	0.41 U	**0.76 J**	0.41 U	0.41 U	0.41 U	0.41 U
CHLOROMETHANE	UG/L	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	NA	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
ETHYLBENZENE	UG/L	0.74 U	0.74 U	0.74 U	**34**	0.74 U	0.74 U	0.74 U	NA	0.74 U	**1.6**	0.74 U	0.74 U	0.74 U	0.74 U
METHYL(TERT)BUTYL ETHER	UG/L	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	NA	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
NAPHTHALENE	UG/L	0.43 U	0.43 U	0.43 U	**2.2**	0.43 U	0.43 U	0.43 U	NA	0.43 U	**22**	0.43 U	0.43 U	0.43 U	0.43 U
N-BUTYLBENZENE	UG/L	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	NA	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U
N-PROPYLBENZENE	UG/L	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	NA	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
STYRENE	UG/L	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	NA	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
TOLUENE	UG/L	0.51 U	0.51 U	0.51 U	**2.3**	0.51 U	0.51 U	0.51 U	NA	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
XYLENE, META & PARA	UG/L	0.66 U	0.66 U	0.66 U	**5**	0.66 U	0.66 U	0.66 U	NA	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
O-XYLENE	UG/L	0.76 U	0.76 U	0.76 U	**16**	0.76 U	0.76 U	0.76 U	NA	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U
8270D LL															
1,2,4-TRICHLOROBENZENE	UG/L	0.29 UJ	0.29 U	0.29 U	0.3 U	0.3 U	0.3 U	0.3 U	0.29 UJ	0.29 U	0.29 U	0.29 U	0.29 U	NA	NA
1,2-DICHLOROBENZENE	UG/L	0.28 UJ	0.28 U	0.28 U	0.29 U	0.29 U	0.29 U	0.29 U	0.28 UJ	0.28 U	0.28 U	0.28 U	0.28 U	NA	NA
1,3-DICHLOROBENZENE	UG/L	0.24 UJ	0.24 U	0.24 U	0.25 U	0.25 U	0.25 U	0.25 U	0.24 UJ	0.24 U	0.24 U	0.24 U	0.24 U	NA	NA
1,4-DICHLOROBENZENE	UG/L	0.26 UJ	0.26 U	0.26 U	0.27 U	0.27 U	0.27 U	0.27 U	0.26 UJ	0.26 U	0.26 U	0.26 U	0.26 U	NA	NA
1-METHYLNAPHTHALENE	UG/L	0.48 UJ	0.49 U	0.48 U	**57**	0.5 U	0.5 U	0.49 U	0.49 UJ	0.48 U	0.48 U	0.48 U	0.48 U	NA	NA
2,3,4,6-TETRACHLOROPHENOL	UG/L	1.5 UJ	1.5 U	1.4 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 UJ	1.4 U	1.5 U	1.4 U	1.4 U	NA	NA
2,3,5,6-TETRACHLOROPHENOL	UG/L	2.4 UJ	2.4 U	2.4 U	2.5 U	2.5 U	2.5 U	2.5 U	2.4 UJ	2.4 U	2.4 U	2.4 U	2.4 U	NA	NA
2,4,5-TRICHLOROPHENOL	UG/L	2.2 UJ	2.2 U	2.2 U	2.3 U	2.3 U	2.3 U	2.3 U	2.2 UJ	2.2 U	2.2 U	2.2 U	2.2 U	NA	NA
2,4,6-TRICHLOROPHENOL	UG/L	1.1 UJ	1.1 U	1.1 U	1.1 U	1.1 U	**1.9 J**	**1.6 J**	1.1 UJ	1.1 U	1.1 U	1.1 U	1 U	NA	NA
2,4-DICHLOROPHENOL	UG/L	2.2 UJ	2.2 U	2.2 U	2.2 U	2.3 U	2.3 U	2.3 U	2.2 UJ	2.2 U	2.2 U	2.2 U	2.2 U	NA	NA
2,4-DIMETHYLPHENOL	UG/L	3.2 UJ	3.3 U	3.2 U	3.3 U	3.4 U	3.3 U	3.3 U	3.2 UJ	3.2 U	3.2 U	3.2 U	3.2 U	NA	NA
2,4-DINITROPHENOL	UG/L	7.2 UJ	7.2 U	7.1 U	7.3 U	7.5 U	7.4 U	7.4 U	7.2 UJ	7.1 U	7.1 U	7.1 U	7.1 U	NA	NA
2,4-DINITROTOLUENE	UG/L	0.29 UJ	0.29 U	0.29 U	0.3 U	0.3 U	0.3 U	0.3 U	0.29 UJ	0.29 U	0.29 U	0.29 U	0.29 U	NA	NA
2,6-DINITROTOLUENE	UG/L	0.12 UJ	0.12 U	0.11 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 UJ	0.11 U	0.12 U	0.11 U	0.11 U	NA	NA
2-CHLORONAPHTHALENE	UG/L	0.33 UJ	0.33 U	0.33 U	0.33 U	0.34 U	0.34 U	0.34 U	0.33 UJ	0.32 U	0.33 U	0.32 U	0.32 U	NA	NA
2-CHLOROPHENOL	UG/L	0.77 UJ	0.78 U	0.77 U	0.79 U	0.81 U	0.8 U	0.79 U	0.78 UJ	0.76 U	0.77 U	0.76 U	0.76 U	NA	NA
2-METHYLNAPHTHALENE	UG/L	0.13 UJ	0.13 U	0.12 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 UJ	0.12 U	0.13 U	0.12 U	0.12 U	NA	NA
2-METHYLPHENOL	UG/L	0.3 UJ	0.3 U	0.3 U	0.3 U	0.31 U	0.31 U	0.31 U	0.3 UJ	0.3 U	0.3 U	0.3 U	0.3 U	NA	NA
2-NITROANILINE	UG/L	1 UJ	1.1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 UJ	1 U	1 U	1 U	1 U	NA	NA
2-NITROPHENOL	UG/L	2.1 UJ	2.1 U	2 U	2.1 U	2.2 U	2.1 U	2.1 U	2.1 UJ	2 U	2.1 U	2 U	2 U	NA	NA
3,3'-DICHLOROBENZIDINE	UG/L	0.91 UJ	0.92 U	0.9 U	0.92 U	0.95 U	0.94 U	0.93 U	0.91 UJ	0.9 U	0.9 U	0.9 U	0.9 U	NA	NA
3-NITROANILINE	UG/L	2.2 UJ	2.2 U	2.2 U	2.3 U	2.3 U	2.3 U	2.3 U	2.2 UJ	2.2 U	2.2 U	2.2 U	2.2 U	NA	NA
4,6-DINITRO-2-METHYLPHENOL	UG/L	4.7 UJ	4.8 U	4.7 U	4.8 U	5 U	4.9 U	4.9 U	4.8 UJ	4.7 U	4.7 U	4.7 U	4.7 U	NA	NA
4-BROMOPHENYL PHENYLETHER	UG/L	0.88 UJ	0.89 U	0.87 U	0.9 U	0.92 U	0.91 U	0.9 U	0.88 UJ	0.87 U	0.88 U	0.87 U	0.87 U	NA	NA

Table 2
Analytical Summary - First Semi-Annual 2019 Groundwater Data
First Semi-Annual 2019 Sampling Event
Superior Facility
Superior, Wisconsin

ANALYTE NAME	UNITS	W-04AR2 5/1/2019	W-06A 4/30/2019	W-06C 4/30/2019	W-10AR2 4/30/2019	W-12A 4/30/2019	W-12CR 4/30/2019	W-12CR-DUP 4/30/2019	W-18D 5/1/2019	W-28C 4/30/2019	W-30A 4/30/2019	W-30C 4/30/2019	Equipment Blank 4/30/2019	Trip Blank 4/30/2019	Trip Blank 5/1/2019
4-CHLORO-3-METHYLPHENOL	UG/L	2.1 UJ	2.1 U	2.1 U	2.2 U	2.2 U	2.2 U	2.2 U	2.1 UJ	2.1 U	2.1 U	2.1 U	2.1 U	NA	NA
4-CHLOROANILINE	UG/L	2 UJ	2 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	2 UJ	2 U	2 U	2 U	2 U	NA	NA
4-CHLOROPHENYLPHENYL-ETHER	UG/L	0.78 UJ	0.79 U	0.78 U	0.8 U	0.82 U	0.81 U	0.8 U	0.79 UJ	0.77 U	0.78 U	0.77 U	0.77 U	NA	NA
4-METHYLPHENOL	UG/L	0.42 UJ	0.43 U	0.42 U	0.43 U	0.44 U	0.44 U	0.44 U	0.43 UJ	0.42 U	0.42 U	0.42 U	0.42 U	NA	NA
4-NITROANILINE	UG/L	3.8 UJ	3.8 U	3.8 U	3.9 U	4 U	3.9 U	3.9 U	3.8 UJ	3.8 U	3.8 U	3.8 U	3.7 U	NA	NA
4-NITROPHENOL	UG/L	2.3 UJ	2.3 U	2.2 U	2.3 U	2.4 U	2.3 U	2.3 U	2.3 UJ	2.2 U	2.3 U	2.2 U	2.2 U	NA	NA
ACENAPHTHENE	UG/L	0.35 UJ	0.35 U	0.34 U	**110**	0.36 U	0.36 U	0.36 U	0.35 UJ	0.34 U	0.35 U	0.34 U	0.34 U	NA	NA
ACENAPHTHYLENE	UG/L	0.31 UJ	0.31 U	0.31 U	**1.5**	0.32 U	0.32 U	0.32 U	0.31 UJ	0.31 U	0.31 U	0.31 U	0.31 U	NA	NA
ANTHRACENE	UG/L	**5.6 J**	0.31 U	0.31 U	**1.2**	0.32 U	0.32 U	0.32 U	0.31 UJ	0.31 U	0.31 U	0.31 U	0.31 U	NA	NA
BENZO (A) ANTHRACENE	UG/L	**0.37 J**	0.043 U	0.042 U	0.043 U	0.044 U	0.044 U	0.044 U	0.043 UJ	0.042 U	0.042 U	0.042 U	0.042 U	NA	NA
BENZO (A) PYRENE	UG/L	**0.21 J**	0.055 U	0.054 U	0.055 U	0.056 U	0.056 U	0.055 U	0.054 UJ	0.053 U	0.054 U	0.054 U	0.053 U	NA	NA
BENZO (B) FLUORANTHENE	UG/L	**0.54 J**	0.056 U	0.056 U	0.057 U	0.058 U	0.058 U	0.057 U	0.056 UJ	0.055 U	0.056 U	0.055 U	0.055 U	NA	NA
BENZO (G,H,I) PERYLENE	UG/L	0.41 UJ	0.41 U	0.4 U	0.41 U	0.42 U	0.42 U	0.42 U	0.41 UJ	0.4 U	0.4 U	0.4 U	0.4 U	NA	NA
BENZO (K) FLUORANTHENE	UG/L	**0.34 J**	0.072 U	0.071 U	0.073 U	0.075 U	0.074 U	0.073 U	0.072 UJ	0.071 U	0.071 U	0.071 U	0.071 U	NA	NA
BENZOIC ACID	UG/L	4.4 UJ	4.4 U	4.4 U	4.5 U	4.6 U	4.5 U	4.5 U	4.4 UJ	4.4 U	4.4 U	4.4 U	4.4 U	NA	NA
BENZYL ALCOHOL	UG/L	2.9 UJ	3 U	2.9 U	3 U	3.1 U	3 U	3 U	3 UJ	2.9 U	2.9 U	2.9 U	2.9 U	NA	NA
BIS (2-CHLOROETHOXY)- METHANE	UG/L	0.29 UJ	0.29 U	0.29 U	0.3 U	0.3 U	0.3 U	0.3 U	0.29 UJ	0.29 U	0.29 U	0.29 U	0.29 U	NA	NA
BIS (2-CHLOROETHYL) ETHER	UG/L	0.34 UJ	0.34 U	0.34 U	0.34 U	0.35 U	0.35 U	0.35 U	0.34 UJ	0.33 U	0.34 U	0.33 U	0.33 U	NA	NA
BIS (2-CHLOROISOPROPYL)-ETHER	UG/L	0.29 UJ	0.29 U	0.29 U	0.3 U	0.3 U	0.3 U	0.3 U	0.29 UJ	0.29 U	0.29 U	0.29 U	0.29 U	NA	NA
BIS (2-ETHYLHEXYL)- PHTHALATE	UG/L	2.3 UJ	2.4 U	2.3 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 UJ	2.3 U	2.3 U	2.3 U	2.3 U	NA	NA
BUTYL BENZYL PHTHALATE	UG/L	0.26 UJ	0.26 U	0.26 U	0.27 U	0.27 U	0.27 U	0.27 U	0.26 UJ	0.26 U	0.26 U	0.26 U	0.26 U	NA	NA
CHRYSENE	UG/L	**0.51 J**	0.14 U	0.13 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 UJ	0.13 U	0.13 U	0.13 U	0.13 U	NA	NA
DIBENZO (A,H) ANTHRACENE	UG/L	0.062 UJ	0.062 U	0.061 U	0.063 U	0.065 U	0.064 U	0.063 U	0.062 UJ	0.061 U	0.062 U	0.061 U	0.061 U	NA	NA
DIBENZOFURAN	UG/L	0.34 UJ	0.34 U	0.34 U	**42**	0.35 U	0.35 U	0.35 U	0.34 UJ	0.33 U	0.34 U	0.33 U	0.33 U	NA	NA
DIETHYLPHTHALATE	UG/L	0.42 UJ	0.43 U	0.42 U	0.43 U	0.44 U	0.44 U	0.44 U	0.43 UJ	0.42 U	0.42 U	0.42 U	0.42 U	NA	NA
DIMETHYLPHTHALATE	UG/L	0.37 UJ	0.37 U	0.36 U	0.37 U	0.38 U	0.38 U	0.38 U	0.37 UJ	0.36 U	0.37 U	0.36 U	0.36 U	NA	NA
DI-N-BUTYLPHTHALATE	UG/L	0.77 UJ	0.78 U	0.77 U	0.79 U	0.81 U	0.8 U	0.79 U	0.78 UJ	0.76 U	0.77 U	0.76 U	0.76 U	NA	NA
DI-N-OCTYLPHTHALATE	UG/L	2.4 UJ	2.4 U	2.4 U	2.4 U	2.5 U	2.5 U	2.4 U	2.4 UJ	2.4 U	2.4 U	2.4 U	2.4 U	NA	NA
FLUORANTHENE	UG/L	**0.72 J**	0.31 U	0.31 U	**2.2**	0.32 U	0.32 U	0.32 U	0.31 UJ	0.31 U	0.31 U	0.31 U	0.31 U	NA	NA
FLUORENE	UG/L	0.37 UJ	0.37 U	0.36 U	**32**	0.38 U	0.38 U	0.38 U	0.37 UJ	0.36 U	0.37 U	0.36 U	0.36 U	NA	NA
HEXACHLOROBENZENE	UG/L	0.14 UJ	0.14 U	0.13 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 UJ	0.13 U	0.13 U	0.13 U	0.13 U	NA	NA
HEXACHLOROBUTADIENE	UG/L	1.1 UJ	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 UJ	1.1 U	1.1 U	1.1 U	1.1 U	NA	NA
HEXACHLOROCYCLOPENTADIENE	UG/L	3.3 UJ	3.3 U	3.3 U	3.4 U	3.5 U	3.4 U	3.4 U	3.3 UJ	3.3 U	3.3 U	3.3 U	3.3 U	NA	NA
HEXACHLOROETHANE	UG/L	0.94 UJ	0.94 U	0.93 U	0.95 U	0.98 U	0.97 U	0.96 U	0.94 UJ	0.93 U	0.93 U	0.93 U	0.93 U	NA	NA
INDENO (1,2,3-CD) PYRENE	UG/L	**0.22 J**	0.082 U	0.08 U	0.083 U	0.085 U	0.084 U	0.083 U	0.082 UJ	0.08 U	0.081 U	0.08 U	0.08 U	NA	NA
ISOPHORONE	UG/L	0.28 UJ	0.28 U	0.28 U	0.29 U	0.29 U	0.29 U	0.29 U	0.28 UJ	0.28 U	0.28 U	0.28 U	0.28 U	NA	NA
NAPHTHALENE	UG/L	NA	NA	NA	NA	NA	NA	NA	0.29 UJ	NA	NA	NA	NA	NA	NA
NITROBENZENE	UG/L	0.43 UJ	0.44 U	0.43 U	0.44 U	0.45 U	0.45 U	0.45 U	0.44 UJ	0.43 U	0.43 U	0.43 U	0.43 U	NA	NA
N-NITROSODI-N-PROPYLAMINE	UG/L	0.14 UJ	0.14 U	0.13 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 UJ	0.13 U	0.13 U	0.13 U	0.13 U	NA	NA
N-NITROSO-DI-PHENYLAMINE	UG/L	0.33 UJ	0.33 U	0.33 U	0.33 U	0.34 U	0.34 U	0.34 U	0.33 UJ	0.32 U	0.33 U	0.32 U	0.32 U	NA	NA
PENTACHLOROPHENOL	UG/L	1.7 UJ	0.32 U	0.32 U	1.6 U	0.32 U	0.33 U	0.33 U	0.34 UJ	0.32 U	3.5 U	0.32 U	0.32 U	NA	NA
PHENANTHRENE	UG/L	0.34 UJ	0.34 U	0.34 U	**6**	0.35 U	0.35 U	0.35 U	0.34 UJ	0.33 U	0.34 U	0.33 U	0.33 U	NA	NA
PHENOL	UG/L	0.35 UJ	0.35 U	0.34 U	0.35 U	0.36 U	0.36 U	0.36 U	0.35 UJ	0.34 U	0.35 U	0.34 U	0.34 U	NA	NA
PYRENE	UG/L	**0.57 J**	0.47 U	0.46 U	**1.3**	0.48 U	0.48 U	0.48 U	0.47 UJ	0.46 U	0.46 U	0.46 U	0.46 U	NA	NA

Table 2
Analytical Summary - First Semi-Annual 2019 Groundwater Data
First Semi-Annual 2019 Sampling Event
Superior Facility
Superior, Wisconsin

ANALYTE NAME	UNITS	W-04AR2 5/1/2019	W-06A 4/30/2019	W-06C 4/30/2019	W-10AR2 4/30/2019	W-12A 4/30/2019	W-12CR 4/30/2019	W-12CR-DUP 4/30/2019	W-18D 5/1/2019	W-28C 4/30/2019	W-30A 4/30/2019	W-30C 4/30/2019	Equipment Blank 4/30/2019	Trip Blank 4/30/2019	Trip Blank 5/1/2019
8290A															
1,2,3,4,6,7,8-HPCDD (TEF = 0.01)	UG/L	**0.00079**	0.0000026 U	0.0000032 U	**0.000019 J**	**0.00005**	0.0000026 U	0.0000045 U	NA	0.0000088 U	**0.00047**	0.0000039 U	0.00000026 U	NA	NA
1,2,3,4,6,7,8-HPCDF (TEF = 0.01)	UG/L	**0.0002**	0.0000015 U	0.00000095 U	0.0000061 U	**0.000021 J**	0.00000086 U	0.0000018 U	NA	0.0000056 U	**0.00017**	0.0000013 U	0.00000019 U	NA	NA
1,2,3,4,7,8,9-HPCDF (TEF = 0.01)	UG/L	**0.000017 JI**	0.0000002 U	0.00000024 U	0.0000007 U	0.0000031 U	0.00000055 U	0.00000048 U	NA	0.00000056 U	**0.000015 J**	0.00000027 U	0.00000025 U	NA	NA
1,2,3,4,7,8-HXCDD (TEF = 0.1)	UG/L	**0.0000094 J**	0.00000017 U	0.0000002 U	0.00000045 U	**0.0000014 JI**	0.00000032 U	0.00000061 U	NA	0.00000028 U	**0.0000017 JI**	0.00000024 U	0.00000036 U	NA	NA
1,2,3,4,7,8-HXCDF (TEF = 0.1)	UG/L	**0.000022 JI**	0.00000023 U	0.00000019 U	0.00000056 U	**0.0000034 J**	0.00000023 U	0.00000038 U	NA	0.0000016 U	**0.000023 J**	0.00000025 U	**0.00000056 JI**	NA	NA
1,2,3,6,7,8-HXCDD (TEF = 0.1)	UG/L	**0.000036 J**	0.00000051 U	0.00000021 U	0.00000047 U	0.0000031 U	0.00000034 U	0.00000063 U	NA	0.00000029 U	**0.000018 JI**	0.00000025 U	0.00000037 U	NA	NA
1,2,3,6,7,8-HXCDF (TEF = 0.1)	UG/L	**0.000029 JI**	0.00000023 U	0.00000019 U	**0.000002 JI**	**0.0000059 JI**	0.00000023 U	0.00000039 U	NA	**0.0000011 JI**	**0.000031 JI**	0.00000025 U	0.00000014 U	NA	NA
1,2,3,7,8,9-HXCDD (TEF = 0.1)	UG/L	**0.000016 J**	0.00000058 U	0.00000019 U	0.00000043 U	0.00000055 U	0.00000031 U	0.00000058 U	NA	0.00000026 U	0.0000043 U	0.00000023 U	0.00000034 U	NA	NA
1,2,3,7,8,9-HXCDF (TEF = 0.1)	UG/L	0.0000051 U	0.00000029 U	0.00000024 U	0.00000075 U	0.00000095 U	0.00000075 U	0.0000005 U	NA	0.00000039 U	0.0000034 U	0.00000032 U	0.00000018 U	NA	NA
1,2,3,7,8-PECDD (TEF = 1)	UG/L	0.0000013 U	0.00000018 U	0.0000002 U	0.00000017 U	0.00000054 U	0.00000024 U	0.00000032 U	NA	0.00000022 U	0.00000055 U	0.00000029 U	0.00000019 U	NA	NA
1,2,3,7,8-PECDF (TEF = 0.03)	UG/L	0.0000028 U	0.00000026 U	0.00000029 U	0.0000013 U	0.00000084 U	0.00000041 U	0.00000056 U	NA	0.00000038 U	0.0000012 U	0.00000039 U	0.0000005 U	NA	NA
2,3,4,6,7,8-HXCDF (TEF = 0.1)	UG/L	0.0000041 U	0.00000024 U	0.0000002 U	0.00000061 U	**0.00000098 JI**	0.00000025 U	0.00000042 U	NA	0.00000033 U	0.0000027 U	0.00000027 U	0.00000015 U	NA	NA
2,3,4,7,8-PECDF (TEF = 0.3)	UG/L	0.0000028 U	0.00000026 U	0.00000029 U	0.0000012 U	0.00000085 U	0.00000038 U	0.00000052 U	NA	0.00000037 U	0.0000013 U	0.00000039 U	0.00000047 U	NA	NA
2,3,7,8-TCDD (TEF = 1)	UG/L	0.0000015 U	0.00000015 U	0.0000001 U	0.00000024 U	0.00000058 U	0.00000019 U	0.00000033 U	NA	0.00000022 U	0.0000005 U	0.00000016 U	0.0000003 U	NA	NA
2,3,7,8-TCDF (TEF = 0.1)	UG/L	0.0000019 U	0.00000019 U	0.00000018 U	0.00000047 U	**0.0000014 JI**	0.00000035 U	0.00000027 U	NA	**0.0000007 JI**	0.000001 U	**0.00000041 JI**	0.00000021 U	NA	NA
OCDD (TEF = 0.0003)	UG/L	**0.0063**	0.000025 U	0.000034 U	**0.00026**	**0.00056**	0.000018 U	**0.00006 J**	NA	**0.00011**	**0.0063**	0.000026 U	**0.0000025 JI**	NA	NA
OCDF (TEF = 0.0003)	UG/L	**0.00052**	0.0000043 U	0.000003 U	0.000021 U	**0.000052 J**	0.000002 U	0.0000051 U	NA	0.000014 U	**0.0005**	0.0000041 U	**0.00000081 JI**	NA	NA
TOTAL HPCDD	UG/L	**0.002**	0.0000077 U	0.0000089 U	**0.000041 J**	**0.000097**	0.0000063 U	0.000011 U	NA	**0.000055**	**0.001**	0.0000077 U	**0.00000082 JI**	NA	NA
TOTAL HPCDF	UG/L	**0.00073 I**	0.0000032 U	0.0000027 U	**0.000021 JI**	**0.000087 I**	0.0000024 U	0.0000046 U	NA	0.0000086 U	**0.00067**	0.0000032 U	0.00000025 U	NA	NA
TOTAL HXCDD	UG/L	**0.00022**	0.0000011 U	0.00000021 U	0.0000019 U	0.000011 U	0.00000044 U	0.00000063 U	NA	0.0000038 U	**0.000074 I**	0.0000012 U	0.00000037 U	NA	NA
TOTAL HXCDF	UG/L	**0.00065 I**	0.00000029 U	0.00000024 U	**0.000019 JI**	**0.000094 I**	0.0000017 U	0.00000097 U	NA	0.000005 U	**0.00055 I**	0.00000032 U	**0.00000056 JI**	NA	NA
TOTAL PECDD	UG/L	**0.0000037 JI**	0.00000018 U	0.0000002 U	0.00000017 U	0.00000054 U	0.00000024 U	0.00000032 U	NA	0.00000022 U	0.00000055 U	0.00000029 U	**0.00000032 J**	NA	NA
TOTAL PECDF	UG/L	**0.00024 I**	**0.00000045 JI**	0.00000029 U	**0.000011 JI**	**0.000049 I**	0.00000041 U	0.00000056 U	NA	**0.0000016 JI**	**0.00024 I**	**0.0000021 JI**	0.0000005 U	NA	NA
TOTAL TCDD	UG/L	0.0000031 U	**0.00000046 JI**	0.00000039 U	**0.00000068 JI**	**0.00000084 JI**	**0.00000048 JI**	0.00000033 U	NA	0.00000022 U	0.00000066 U	0.00000016 U	0.00000042 U	NA	NA
TOTAL TCDF	UG/L	**0.000053 I**	0.00000034 U	0.0000003 U	**0.0000063 JI**	**0.000018 I**	0.00000035 U	0.00000051 U	NA	**0.0000014 JI**	**0.000046 I**	**0.0000023 JI**	0.00000044 U	NA	NA
2,3,7,8-TCDD TEQ - ND = 0	UG/L	**2.34E-05**	0.00E+00	0.00E+00	**4.68E-07**	**2.20E-06**	0.00E+00	**1.80E-08**	NA	**2.13E-07**	**1.60E-05**	**4.10E-08**	**5.70E-08**	NA	NA

Notes:
TEF = Toxicity Equivalent Factor (World Health Organization, 2005)
TEQ = Toxicity Equivalent Quotient
Bold values represent detections.
DUP indicates duplicate sample.
U indicates compound was not detected.
J indicates an estimated value.
I indicates value is estimated maximum possible concentration.
NA indicates not analyzed.
Laboratory results that were U-qualified were assigned a value of 0 for 2,3,7,8-TCDD TEQ calculation.

APPENDIX D

DATA EVALUATION SUMMARY

FTS, LLC

DATE: May 24, 2019

FROM: Kendra Chintella

SUBJECT: Superior GW

SAMPLE DELIVERY GROUP (SDG): 140-15153-1

SAMPLES: SUPE-W-30C-043019, SUPE-W-06A-043019, SUPE-W-06C-043019, SUPE-EB-01-043019, SUPE-W-28C-043019, SUPE-W-12A-043019, SUPE-W-12CR-043019, SUPE-W-30A-043019, SUPE-W-10AR2-043019, SUPE-M-99A-043019(W-12CR)

ANALYSES: Method 8290A (Dioxins/Furans)

LABORATORY: Eurofins TestAmerica Laboratories, Knoxville

The data contained in this SDG were evaluated with regard to the following parameters:

□ Data Completeness
Noncompliance: None

□ Holding Times
Noncompliance: None

□ Laboratory Blank Contamination
Noncompliance: 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,7,8,9-HpCDF, 1,2,3,6,7,8-HxCDD, 1,2,3,7,8,9-HxCDD, 1,2,3,7,8,9-HxCDF, OCDD, OCDF, total HpCDD, total HpCDF, total HxCDD, and total HxCDF were detected in the method blank. See attached page for details.

□ Field Blank Contamination
Noncompliance: 1,2,3,4,7,8-HxCDF, OCDD, OCDF, total HpCDD, total HxCDF, and total PeCDD were detected in the equipment blank. See attached page for details.

□ Field Duplicate Precision
Noncompliance: See attached page for details.

□ Surrogate Recoveries
Noncompliance: None

□ Matrix Spike/Matrix Spike Duplicate
Noncompliance: None

□ Laboratory Control Sample
Noncompliance: None

Laboratory Blank Contamination:

The following analytes were detected in the aqueous method blank at the following concentrations:

Analyte	Maximum Concentration	Blank Action Level
1,2,3,4,6,7,8-HpCDD	3.05 JI pg/l	15.25 pg/l
1,2,3,4,6,7,8-HpCDF	1.92 JI pg/l	9.6 pg/l
1,2,3,4,7,8,9-HpCDF	1.75 JI pg/l	8.75 pg/l
1,2,3,6,7,8-HxCDD	1.73 JI pg/l	8.65 pg/l
1,2,3,7,8,9-HxCDD	2 J pg/l	10 pg/l
1,2,3,7,8,9-HxCDF	1.48 JI pg/l	7.4 pg/l
OCDD	11.4 JI pg/l	57 pg/l
OCDF	6.81 JI pg/l	34.05 pg/l
Total HpCDD	4.72 JI pg/l	23.6 pg/l
Total HpCDF	3.67 JI pg/l	18.35 pg/l
Total HxCDD	3.73 JI pg/l	18.65 pg/l
Total HxCDF	1.48 JI pg/l	7.4 pg/l

An action level of 5X the maximum concentration was used to evaluate the sample data for laboratory blank contamination. Associated samples with concentrations below the blank action level were qualified “U” for laboratory blank contamination.

Field Blank Contamination:

The following analytes were detected in the aqueous equipment blank, SUPE-EB-01-043019, at the following concentrations:

Analyte	Maximum Concentration	Blank Action Level
1,2,3,4,7,8-HxCDF	0.56 JI pg/l	2.8 pg/l
OCDD	2.5 JI pg/l	12.5 pg/l
OCDF	0.81 JI pg/l	4.05 pg/l
Total HpCDD	0.82 JI pg/l	4.1 pg/l
Total HxCDF	0.56 JI pg/l	2.8 pg/l
Total PeCDD	0.32 J pg/l	1.6 pg/l

An action level of 5X the maximum concentration was used to evaluate the sample data for field blank contamination. Associated samples with concentrations below the blank action level were qualified “U” for field blank contamination.

Field Duplicate Precision:

FIELD DUPLICATE PRECISION					
ANALYTE	W-12CR	QUAL	M-99A	QUAL	RPD
1,2,3,4,6,7,8-HpCDD	2.6	J	4.5	J	53.52*
1,2,3,4,6,7,8-HpCDF	0.86	J	1.8	J	70.68*
1,2,3,4,7,8,9-HpCDF	0.55	JI	0.48	U	NC
1,2,3,7,8,9-HxCDF	0.75	JI	0.5	U	NC
OCDD	18	J	60	J	107.69*
OCDF	2	J	5.1	J	87.32*
Total HpCDD	6.3	JI	11	J	54.34*
Total HpCDF	2.4	JI	4.6	J	62.86*
Total HxCDD	0.44	JI	0.63	U	NC
Total HxCDF	1.7	JI	0.97	JI	54.68*

NC – not calculated due to nondetect result
* - RPD is greater than 30%, associated samples are qualified as estimated, “J,” due to laboratory or field sampling imprecision

FTS, LLC

DATE: May 24, 2019

FROM: Kendra Chintella

SUBJECT: Superior GW

SAMPLE DELIVERY GROUP (SDG): 140-15154-1

SAMPLES: SUPE-W-04AR2-050119

ANALYSES: Method 8290A (Dioxins/Furans)

LABORATORY: Eurofins TestAmerica Laboratories, Knoxville

The data contained in this SDG were evaluated with regard to the following parameters:

□ Data Completeness
Noncompliance: None

□ Holding Times
Noncompliance: None

□ Laboratory Blank Contamination
Noncompliance: 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,7,8,9-HpCDF, 1,2,3,6,7,8-HxCDD, 1,2,3,7,8,9-HxCDD, 1,2,3,7,8,9-HxCDF, OCDD, OCDF, total HpCDD, total HpCDF, total HxCDD, and total HxCDF were detected in the method blank. See attached page for details.

□ Field Blank Contamination
Noncompliance: 1,2,3,4,7,8-HxCDF, OCDD, OCDF, total HpCDD, total HxCDF, and total PeCDD were detected in the equipment blank. See data evaluation for SDG 140-15153-1 for details.

□ Surrogate Recoveries
Noncompliance: The isotope dilution recoveries fell below the recovery limits in sample W-04AR2. No action was taken on this basis.

□ Laboratory Control Sample
Noncompliance: None

Laboratory Blank Contamination:

The following analytes were detected in the aqueous method blank at the following concentrations:

Analyte	Maximum Concentration	Blank Action Level
1,2,3,4,6,7,8-HpCDD	3.05 JI pg/l	15.25 pg/l
1,2,3,4,6,7,8-HpCDF	1.92 JI pg/l	9.6 pg/l
1,2,3,4,7,8,9-HpCDF	1.75 JI pg/l	8.75 pg/l
1,2,3,6,7,8-HxCDD	1.73 JI pg/l	8.65 pg/l
1,2,3,7,8,9-HxCDD	2 J pg/l	10 pg/l
1,2,3,7,8,9-HxCDF	1.48 JI pg/l	7.4 pg/l
OCDD	11.4 JI pg/l	57 pg/l
OCDF	6.81 JI pg/l	34.05 pg/l
Total HpCDD	4.72 JI pg/l	23.6 pg/l
Total HpCDF	3.67 JI pg/l	18.35 pg/l
Total HxCDD	3.73 JI pg/l	18.65 pg/l
Total HxCDF	1.48 JI pg/l	7.4 pg/l

An action level of 5X the maximum concentration was used to evaluate the sample data for laboratory blank contamination. Associated samples with concentrations below the blank action level were qualified “U” for laboratory blank contamination.

FTS, LLC

DATE: May 24, 2019

FROM: Kendra Chintella

SUBJECT: Superior GW

SAMPLE DELIVERY GROUP (SDG): 480-152847-1

SAMPLES: SUPE-W-30C-043019, SUPE-W-06A-043019, SUPE-W-06C-043019, SUPE-EB-01-043019, SUPE-W-28C-043019

ANALYSES: Method 8260C (VOCs), 8270D/8270D LL (SVOCs)

LABORATORY: Eurofins TestAmerica Laboratories, Buffalo, Chicago

The data contained in this SDG were evaluated with regard to the following parameters:

□ Data Completeness
Noncompliance: None

□ Holding Times
Noncompliance: None

□ Laboratory Blank Contamination
Noncompliance: None

□ Field Blank Contamination
Noncompliance: None

□ Surrogate Recoveries
Noncompliance: None

□ Laboratory Control Sample
Noncompliance: The LCS recovery of pentachlorophenol was above the recovery limits. No action was taken on this basis.

□ Matrix Spike/Matrix Spike Duplicate Sample
Noncompliance: The MSD recovery of phenol fell below the recovery limits. The MS recovery of pentachlorophenol was above the recovery limits. No action was taken on this basis.

FTS, LLC

DATE: May 24, 2019

FROM: Kendra Chintella

SUBJECT: Superior GW

SAMPLE DELIVERY GROUP (SDG): 480-152848-1

SAMPLES: SUPE-TB-01-043019, SUPE-W-12A-043019, SUPE-W-12CR-043019, SUPE-W-30A-043019, SUPE-W-10AR2-043019, SUPE-M-99A-043019(W-12CR)

ANALYSES: Method 8260C (VOCs), 8270D/8270D LL (SVOCs)

LABORATORY: Eurofins TestAmerica Laboratories, Buffalo, Chicago

The data contained in this SDG were evaluated with regard to the following parameters:

□ Data Completeness
Noncompliance: None

□ Holding Times
Noncompliance: None

□ Laboratory Blank Contamination
Noncompliance: None

□ Field Blank Contamination
Noncompliance: None

□ Field Duplicate Precision
Noncompliance: See attached page for details.

□ Surrogate Recoveries
Noncompliance: The surrogate recoveries of 2,4,6-tribromophenol, 2-fluorobiphenyl, 2-fluorophenol, nitrobenzene-d5, phenol-d5, and terphenyl-d14 fell below the recovery limits in sample W-30A. The laboratory did not add surrogate solution during the extraction process and no action was taken on this basis.

□ Laboratory Control Sample
Noncompliance: The LCS recoveries of 4,6-dinitro-2-methylphenol, benzo(k)fluoranthene, and pentachlorophenol were above the recovery limits. The LCSD RPD of benzoic acid was above the recovery limits. No action was taken on this basis.

Field Duplicate Precision:

FIELD DUPLICATE PRECISION					
ANALYTE	W-12CR	QUAL	M-99A	QUAL	RPD
2,4,6-Trichlorophenol	1.9	J	1.6	J	17.14

FTS, LLC

DATE: June 3, 2019

FROM: Kendra Chintella

SUBJECT: Superior GW

SAMPLE DELIVERY GROUP (SDG): 480-153151-1

SAMPLES: SUPE-W-18D-050119, SUPE-W-04AR2, RB-02 050119

ANALYSES: Method 8260C (VOCs), 8270D/8270D LL (SVOCs)

LABORATORY: Eurofins TestAmerica Laboratories, Buffalo, Chicago

The data contained in this SDG were evaluated with regard to the following parameters:

□ Data Completeness
Noncompliance: None

□ Holding Times
Noncompliance: SVOCs were extracted outside of hold time for W-18D and W-04AR2 and results in these samples were qualified as estimated, "J".

□ Laboratory Blank Contamination
Noncompliance: None

□ Field Blank Contamination
Noncompliance: None

□ Surrogate Recoveries
Noncompliance: The surrogate recovery of p-terphenyl-d14 fell below the recovery limits in sample W-04AR2. No action was taken on this basis.

□ Laboratory Control Sample
Noncompliance: The LCSD recovery of 4,6-dinitro-2-methylphenol was above the recovery limits. No action was taken on this basis.

APPENDIX E

LABORATORY ANALYTICAL DATA

(C.D. AND PRINTOUT)

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Tel: (865)291-3000

Laboratory Job ID: 140-15153-1
Client Project/Site: Superior 2019 1SA Sampling

For:
Field & Technical Services LLC
200 Third Avenue
Carnegie, Pennsylvania 15106

Attn: Ms. Angie Gatchie

Authorized for release by:
5/22/2019 4:12:56 PM

Veronica Bortot, Senior Project Manager
(412)963-2435
veronica.bortot@testamericainc.com

Table of Contents

Definitions/Glossary

Client: Field & Technical Services LLC
Project/Site: Superior 2019 1SA Sampling

Job ID: 140-15153-1

Qualifiers

Dioxin

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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)

Job ID: 140-15153-1

Laboratory: Eurofins TestAmerica, Knoxville

Narrative

Job Narrative
140-15153-1

Comments
No additional comments.

Receipt
The samples were received on 5/1/2019 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.8º C, 1.9º C and 3.0º C.

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

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

Detection Summary

Client: Field & Technical Services LLC
Project/Site: Superior 2019 1SA Sampling

Job ID: 140-15153-1

Client Sample ID: SUPE-W-30C-043019 — Lab Sample ID: 140-15153-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total HxCDD	1.2	J I B	48	0.24	pg/L	1		8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	3.9	J B	48	0.25	pg/L	1		8290A	Total/NA
Total HpCDD	7.7	J I B	48	0.25	pg/L	1		8290A	Total/NA
OCDD	26	J B	96	0.32	pg/L	1		8290A	Total/NA
2,3,7,8-TCDF	0.41	J I	9.6	0.26	pg/L	1		8290A	Total/NA
Total TCDF	2.3	J I	9.6	0.26	pg/L	1		8290A	Total/NA
Total PeCDF	2.1	J I	48	0.39	pg/L	1		8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	1.3	J B	48	0.20	pg/L	1		8290A	Total/NA
Total HpCDF	3.2	J B	48	0.24	pg/L	1		8290A	Total/NA
OCDF	4.1	J I B	96	0.19	pg/L	1		8290A	Total/NA

Client Sample ID: SUPE-W-06A-043019 — Lab Sample ID: 140-15153-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	0.46	J I	9.7	0.15	pg/L	1		8290A	Total/NA
1,2,3,6,7,8-HxCDD	0.51	J I B	49	0.18	pg/L	1		8290A	Total/NA
1,2,3,7,8,9-HxCDD	0.58	J B	49	0.16	pg/L	1		8290A	Total/NA
Total HxCDD	1.1	J I B	49	0.17	pg/L	1		8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	2.6	J B	49	0.21	pg/L	1		8290A	Total/NA
Total HpCDD	7.7	J B	49	0.21	pg/L	1		8290A	Total/NA
OCDD	25	J B	97	0.34	pg/L	1		8290A	Total/NA
Total PeCDF	0.45	J I	49	0.26	pg/L	1		8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	1.5	J I B	49	0.15	pg/L	1		8290A	Total/NA
Total HpCDF	3.2	J I B	49	0.17	pg/L	1		8290A	Total/NA
OCDF	4.3	J B	97	0.097	pg/L	1		8290A	Total/NA

Client Sample ID: SUPE-W-06C-043019 — Lab Sample ID: 140-15153-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,6,7,8-HpCDD	3.2	J I B	48	0.28	pg/L	1		8290A	Total/NA
Total HpCDD	8.9	J I B	48	0.28	pg/L	1		8290A	Total/NA
OCDD	34	J B	95	0.30	pg/L	1		8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	0.95	J B	48	0.19	pg/L	1		8290A	Total/NA
Total HpCDF	2.7	J B	48	0.21	pg/L	1		8290A	Total/NA
OCDF	3.0	J B	95	0.10	pg/L	1		8290A	Total/NA

Client Sample ID: SUPE-EB-01-043019 — Lab Sample ID: 140-15153-4

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total PeCDD	0.32	J	48	0.19	pg/L	1		8290A	Total/NA
Total HpCDD	0.82	J I B	48	0.26	pg/L	1		8290A	Total/NA
OCDD	2.5	J I B	96	0.49	pg/L	1		8290A	Total/NA
1,2,3,4,7,8-HxCDF	0.56	J I	48	0.14	pg/L	1		8290A	Total/NA
Total HxCDF	0.56	J I B	48	0.15	pg/L	1		8290A	Total/NA
OCDF	0.81	J I B	96	0.22	pg/L	1		8290A	Total/NA

Client Sample ID: SUPE-W-28C-043019 — Lab Sample ID: 140-15153-5

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total HxCDD	3.8	J I B	49	0.28	pg/L	1		8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	8.8	J B	49	0.57	pg/L	1		8290A	Total/NA
Total HpCDD	55	B	49	0.57	pg/L	1		8290A	Total/NA
OCDD	110	B	97	0.40	pg/L	1		8290A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Knoxville

Client Sample ID: SUPE-W-28C-043019 (Continued)

Lab Sample ID: 140-15153-5

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDF	0.70	J I	9.7	0.30	pg/L	1		8290A	Total/NA
Total TCDF	1.4	J I	9.7	0.30	pg/L	1		8290A	Total/NA
Total PeCDF	1.6	J I	49	0.37	pg/L	1		8290A	Total/NA
1,2,3,4,7,8-HxCDF	1.6	J I	49	0.30	pg/L	1		8290A	Total/NA
1,2,3,6,7,8-HxCDF	1.1	J I	49	0.32	pg/L	1		8290A	Total/NA
Total HxCDF	5.0	J I B	49	0.34	pg/L	1		8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	5.6	J B	49	0.28	pg/L	1		8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	0.56	J I B	49	0.36	pg/L	1		8290A	Total/NA
Total HpCDF	8.6	J I B	49	0.32	pg/L	1		8290A	Total/NA
OCDF	14	J B	97	0.12	pg/L	1		8290A	Total/NA

Client Sample ID: SUPE-W-12A-043019

Lab Sample ID: 140-15153-6

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	0.84	J I	9.5	0.58	pg/L	1		8290A	Total/NA
1,2,3,4,7,8-HxCDD	1.4	J I	48	0.58	pg/L	1		8290A	Total/NA
1,2,3,6,7,8-HxCDD	3.1	J I B	48	0.61	pg/L	1		8290A	Total/NA
Total HxCDD	11	J I B	48	0.58	pg/L	1		8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	50	B	48	0.94	pg/L	1		8290A	Total/NA
Total HpCDD	97	B	48	0.94	pg/L	1		8290A	Total/NA
OCDD	560	B	95	0.64	pg/L	1		8290A	Total/NA
2,3,7,8-TCDF	1.4	J I	9.5	0.36	pg/L	1		8290A	Total/NA
Total TCDF	18	I	9.5	0.36	pg/L	1		8290A	Total/NA
Total PeCDF	49	I	48	0.85	pg/L	1		8290A	Total/NA
1,2,3,4,7,8-HxCDF	3.4	J	48	0.29	pg/L	1		8290A	Total/NA
1,2,3,6,7,8-HxCDF	5.9	J I	48	0.28	pg/L	1		8290A	Total/NA
2,3,4,6,7,8-HxCDF	0.98	J I	48	0.32	pg/L	1		8290A	Total/NA
1,2,3,7,8,9-HxCDF	0.95	J I B	48	0.36	pg/L	1		8290A	Total/NA
Total HxCDF	94	I B	48	0.31	pg/L	1		8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	21	J B	48	0.63	pg/L	1		8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	3.1	J I B	48	0.79	pg/L	1		8290A	Total/NA
Total HpCDF	87	I B	48	0.71	pg/L	1		8290A	Total/NA
OCDF	52	J B	95	0.28	pg/L	1		8290A	Total/NA

Client Sample ID: SUPE-W-12CR-043019

Lab Sample ID: 140-15153-7

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	0.48	J I	9.6	0.19	pg/L	1		8290A	Total/NA
Total HxCDD	0.44	J I B	48	0.32	pg/L	1		8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	2.6	J B	48	0.34	pg/L	1		8290A	Total/NA
Total HpCDD	6.3	J I B	48	0.34	pg/L	1		8290A	Total/NA
OCDD	18	J B	96	0.36	pg/L	1		8290A	Total/NA
1,2,3,7,8,9-HxCDF	0.75	J I B	48	0.29	pg/L	1		8290A	Total/NA
Total HxCDF	1.7	J I B	48	0.25	pg/L	1		8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	0.86	J B	48	0.21	pg/L	1		8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	0.55	J I B	48	0.29	pg/L	1		8290A	Total/NA
Total HpCDF	2.4	J I B	48	0.25	pg/L	1		8290A	Total/NA
OCDF	2.0	J B	96	0.17	pg/L	1		8290A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Field & Technical Services LLC
Project/Site: Superior 2019 1SA Sampling

Job ID: 140-15153-1

Client Sample ID: SUPE-W-30A-043019 — Lab Sample ID: 140-15153-8

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	1.7	J I	53	0.57	pg/L	1		8290A	Total/NA
1,2,3,6,7,8-HxCDD	18	J I B	53	0.61	pg/L	1		8290A	Total/NA
1,2,3,7,8,9-HxCDD	4.3	J I B	53	0.55	pg/L	1		8290A	Total/NA
Total HxCDD	74	I B	53	0.58	pg/L	1		8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	470	B	53	8.2	pg/L	1		8290A	Total/NA
Total HpCDD	1000	B	53	8.2	pg/L	1		8290A	Total/NA
OCDD	6300	B	110	2.9	pg/L	1		8290A	Total/NA
Total TCDF	46	I	11	1.0	pg/L	1		8290A	Total/NA
Total PeCDF	240	I	53	1.2	pg/L	1		8290A	Total/NA
1,2,3,4,7,8-HxCDF	23	J	53	2.6	pg/L	1		8290A	Total/NA
1,2,3,6,7,8-HxCDF	31	J I	53	2.5	pg/L	1		8290A	Total/NA
Total HxCDF	550	I B	53	2.8	pg/L	1		8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	170	B	53	2.3	pg/L	1		8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	15	J B	53	3.2	pg/L	1		8290A	Total/NA
Total HpCDF	670	B	53	2.8	pg/L	1		8290A	Total/NA
OCDF	500	B	110	0.30	pg/L	1		8290A	Total/NA

Client Sample ID: SUPE-W-10AR2-043019 — Lab Sample ID: 140-15153-9

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	0.68	J I	9.5	0.24	pg/L	1		8290A	Total/NA
Total HxCDD	1.9	J I B	48	0.45	pg/L	1		8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	19	J B	48	1.2	pg/L	1		8290A	Total/NA
Total HpCDD	41	J B	48	1.2	pg/L	1		8290A	Total/NA
OCDD	260	B	95	0.77	pg/L	1		8290A	Total/NA
Total TCDF	6.3	J I	9.5	0.47	pg/L	1		8290A	Total/NA
Total PeCDF	11	J I	48	1.2	pg/L	1		8290A	Total/NA
1,2,3,6,7,8-HxCDF	2.0	J I	48	0.58	pg/L	1		8290A	Total/NA
Total HxCDF	19	J I B	48	0.62	pg/L	1		8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	6.1	J I B	48	0.54	pg/L	1		8290A	Total/NA
Total HpCDF	21	J I B	48	0.62	pg/L	1		8290A	Total/NA
OCDF	21	J B	95	0.18	pg/L	1		8290A	Total/NA

Client Sample ID: SUPE-M-99A-043019 — Lab Sample ID: 140-15153-10

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,6,7,8-HpCDD	4.5	J B	48	1.2	pg/L	1		8290A	Total/NA
Total HpCDD	11	J B	48	1.2	pg/L	1		8290A	Total/NA
OCDD	60	J B	97	0.73	pg/L	1		8290A	Total/NA
Total HxCDF	0.97	J I B	48	0.43	pg/L	1		8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	1.8	J B	48	0.37	pg/L	1		8290A	Total/NA
Total HpCDF	4.6	J B	48	0.43	pg/L	1		8290A	Total/NA
OCDF	5.1	J B	97	0.24	pg/L	1		8290A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SUPE-W-30C-043019

Lab Sample ID: 140-15153-1

Date Collected: 04/30/19 09:45

Matrix: Water

Date Received: 05/01/19 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.6	0.16	pg/L		05/08/19 11:40	05/15/19 02:21	1
Total TCDD	ND		9.6	0.16	pg/L		05/08/19 11:40	05/15/19 02:21	1
1,2,3,7,8-PeCDD	ND		48	0.29	pg/L		05/08/19 11:40	05/15/19 02:21	1
Total PeCDD	ND		48	0.29	pg/L		05/08/19 11:40	05/15/19 02:21	1
1,2,3,4,7,8-HxCDD	ND		48	0.24	pg/L		05/08/19 11:40	05/15/19 02:21	1
1,2,3,6,7,8-HxCDD	ND		48	0.25	pg/L		05/08/19 11:40	05/15/19 02:21	1
1,2,3,7,8,9-HxCDD	ND		48	0.23	pg/L		05/08/19 11:40	05/15/19 02:21	1
Total HxCDD	**1.2**	**J I B**	48	0.24	pg/L		05/08/19 11:40	05/15/19 02:21	1
1,2,3,4,6,7,8-HpCDD	**3.9**	**J B**	48	0.25	pg/L		05/08/19 11:40	05/15/19 02:21	1
Total HpCDD	**7.7**	**J I B**	48	0.25	pg/L		05/08/19 11:40	05/15/19 02:21	1
OCDD	**26**	**J B**	96	0.32	pg/L		05/08/19 11:40	05/15/19 02:21	1
2,3,7,8-TCDF	**0.41**	**J I**	9.6	0.26	pg/L		05/08/19 11:40	05/15/19 02:21	1
Total TCDF	**2.3**	**J I**	9.6	0.26	pg/L		05/08/19 11:40	05/15/19 02:21	1
1,2,3,7,8-PeCDF	ND		48	0.39	pg/L		05/08/19 11:40	05/15/19 02:21	1
2,3,4,7,8-PeCDF	ND		48	0.39	pg/L		05/08/19 11:40	05/15/19 02:21	1
Total PeCDF	**2.1**	**J I**	48	0.39	pg/L		05/08/19 11:40	05/15/19 02:21	1
1,2,3,4,7,8-HxCDF	ND		48	0.25	pg/L		05/08/19 11:40	05/15/19 02:21	1
1,2,3,6,7,8-HxCDF	ND		48	0.25	pg/L		05/08/19 11:40	05/15/19 02:21	1
2,3,4,6,7,8-HxCDF	ND		48	0.27	pg/L		05/08/19 11:40	05/15/19 02:21	1
1,2,3,7,8,9-HxCDF	ND		48	0.32	pg/L		05/08/19 11:40	05/15/19 02:21	1
Total HxCDF	ND		48	0.32	pg/L		05/08/19 11:40	05/15/19 02:21	1
1,2,3,4,6,7,8-HpCDF	**1.3**	**J B**	48	0.20	pg/L		05/08/19 11:40	05/15/19 02:21	1
1,2,3,4,7,8,9-HpCDF	ND		48	0.27	pg/L		05/08/19 11:40	05/15/19 02:21	1
Total HpCDF	**3.2**	**J B**	48	0.24	pg/L		05/08/19 11:40	05/15/19 02:21	1
OCDF	**4.1**	**J I B**	96	0.19	pg/L		05/08/19 11:40	05/15/19 02:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*71*		*40 - 135*	*05/08/19 11:40*	*05/15/19 02:21*	*1*
13C-1,2,3,7,8-PeCDD	*79*		*40 - 135*	*05/08/19 11:40*	*05/15/19 02:21*	*1*
13C-1,2,3,4,7,8-HxCDD	*78*		*40 - 135*	*05/08/19 11:40*	*05/15/19 02:21*	*1*
13C-1,2,3,6,7,8-HxCDD	*76*		*40 - 135*	*05/08/19 11:40*	*05/15/19 02:21*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*96*		*40 - 135*	*05/08/19 11:40*	*05/15/19 02:21*	*1*
13C-OCDD	*98*		*40 - 135*	*05/08/19 11:40*	*05/15/19 02:21*	*1*
13C-2,3,7,8-TCDF	*80*		*40 - 135*	*05/08/19 11:40*	*05/15/19 02:21*	*1*
13C-1,2,3,7,8-PeCDF	*80*		*40 - 135*	*05/08/19 11:40*	*05/15/19 02:21*	*1*
13C-2,3,4,7,8-PeCDF	*77*		*40 - 135*	*05/08/19 11:40*	*05/15/19 02:21*	*1*
13C-1,2,3,4,7,8-HxCDF	*81*		*40 - 135*	*05/08/19 11:40*	*05/15/19 02:21*	*1*
13C-1,2,3,6,7,8-HxCDF	*77*		*40 - 135*	*05/08/19 11:40*	*05/15/19 02:21*	*1*
13C-2,3,4,6,7,8-HxCDF	*82*		*40 - 135*	*05/08/19 11:40*	*05/15/19 02:21*	*1*
13C-1,2,3,7,8,9-HxCDF	*82*		*40 - 135*	*05/08/19 11:40*	*05/15/19 02:21*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*86*		*40 - 135*	*05/08/19 11:40*	*05/15/19 02:21*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*90*		*40 - 135*	*05/08/19 11:40*	*05/15/19 02:21*	*1*
13C-OCDF	*83*		*40 - 135*	*05/08/19 11:40*	*05/15/19 02:21*	*1*

Client Sample ID: SUPE-W-06A-043019

Lab Sample ID: 140-15153-2

Date Collected: 04/30/19 11:05

Matrix: Water

Date Received: 05/01/19 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.7	0.15	pg/L		05/08/19 11:40	05/15/19 03:20	1

Client Sample ID: SUPE-W-06A-043019

Lab Sample ID: 140-15153-2

Date Collected: 04/30/19 11:05

Matrix: Water

Date Received: 05/01/19 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TCDD	**0.46**	**J I**	9.7	0.15	pg/L		05/08/19 11:40	05/15/19 03:20	1
1,2,3,7,8-PeCDD	ND		49	0.18	pg/L		05/08/19 11:40	05/15/19 03:20	1
Total PeCDD	ND		49	0.18	pg/L		05/08/19 11:40	05/15/19 03:20	1
1,2,3,4,7,8-HxCDD	ND		49	0.17	pg/L		05/08/19 11:40	05/15/19 03:20	1
1,2,3,6,7,8-HxCDD	**0.51**	**J I B**	49	0.18	pg/L		05/08/19 11:40	05/15/19 03:20	1
1,2,3,7,8,9-HxCDD	**0.58**	**J B**	49	0.16	pg/L		05/08/19 11:40	05/15/19 03:20	1
Total HxCDD	**1.1**	**J I B**	49	0.17	pg/L		05/08/19 11:40	05/15/19 03:20	1
1,2,3,4,6,7,8-HpCDD	**2.6**	**J B**	49	0.21	pg/L		05/08/19 11:40	05/15/19 03:20	1
Total HpCDD	**7.7**	**J B**	49	0.21	pg/L		05/08/19 11:40	05/15/19 03:20	1
OCDD	**25**	**J B**	97	0.34	pg/L		05/08/19 11:40	05/15/19 03:20	1
2,3,7,8-TCDF	ND		9.7	0.19	pg/L		05/08/19 11:40	05/15/19 03:20	1
Total TCDF	ND		9.7	0.34	pg/L		05/08/19 11:40	05/15/19 03:20	1
1,2,3,7,8-PeCDF	ND		49	0.26	pg/L		05/08/19 11:40	05/15/19 03:20	1
2,3,4,7,8-PeCDF	ND		49	0.26	pg/L		05/08/19 11:40	05/15/19 03:20	1
Total PeCDF	**0.45**	**J I**	49	0.26	pg/L		05/08/19 11:40	05/15/19 03:20	1
1,2,3,4,7,8-HxCDF	ND		49	0.23	pg/L		05/08/19 11:40	05/15/19 03:20	1
1,2,3,6,7,8-HxCDF	ND		49	0.23	pg/L		05/08/19 11:40	05/15/19 03:20	1
2,3,4,6,7,8-HxCDF	ND		49	0.24	pg/L		05/08/19 11:40	05/15/19 03:20	1
1,2,3,7,8,9-HxCDF	ND		49	0.29	pg/L		05/08/19 11:40	05/15/19 03:20	1
Total HxCDF	ND		49	0.29	pg/L		05/08/19 11:40	05/15/19 03:20	1
1,2,3,4,6,7,8-HpCDF	**1.5**	**J I B**	49	0.15	pg/L		05/08/19 11:40	05/15/19 03:20	1
1,2,3,4,7,8,9-HpCDF	ND		49	0.20	pg/L		05/08/19 11:40	05/15/19 03:20	1
Total HpCDF	**3.2**	**J I B**	49	0.17	pg/L		05/08/19 11:40	05/15/19 03:20	1
OCDF	**4.3**	**J B**	97	0.097	pg/L		05/08/19 11:40	05/15/19 03:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*71*		*40 - 135*	*05/08/19 11:40*	*05/15/19 03:20*	*1*
13C-1,2,3,7,8-PeCDD	*83*		*40 - 135*	*05/08/19 11:40*	*05/15/19 03:20*	*1*
13C-1,2,3,4,7,8-HxCDD	*76*		*40 - 135*	*05/08/19 11:40*	*05/15/19 03:20*	*1*
13C-1,2,3,6,7,8-HxCDD	*75*		*40 - 135*	*05/08/19 11:40*	*05/15/19 03:20*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*98*		*40 - 135*	*05/08/19 11:40*	*05/15/19 03:20*	*1*
13C-OCDD	*102*		*40 - 135*	*05/08/19 11:40*	*05/15/19 03:20*	*1*
13C-2,3,7,8-TCDF	*81*		*40 - 135*	*05/08/19 11:40*	*05/15/19 03:20*	*1*
13C-1,2,3,7,8-PeCDF	*85*		*40 - 135*	*05/08/19 11:40*	*05/15/19 03:20*	*1*
13C-2,3,4,7,8-PeCDF	*80*		*40 - 135*	*05/08/19 11:40*	*05/15/19 03:20*	*1*
13C-1,2,3,4,7,8-HxCDF	*77*		*40 - 135*	*05/08/19 11:40*	*05/15/19 03:20*	*1*
13C-1,2,3,6,7,8-HxCDF	*73*		*40 - 135*	*05/08/19 11:40*	*05/15/19 03:20*	*1*
13C-2,3,4,6,7,8-HxCDF	*80*		*40 - 135*	*05/08/19 11:40*	*05/15/19 03:20*	*1*
13C-1,2,3,7,8,9-HxCDF	*82*		*40 - 135*	*05/08/19 11:40*	*05/15/19 03:20*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*84*		*40 - 135*	*05/08/19 11:40*	*05/15/19 03:20*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*94*		*40 - 135*	*05/08/19 11:40*	*05/15/19 03:20*	*1*
13C-OCDF	*95*		*40 - 135*	*05/08/19 11:40*	*05/15/19 03:20*	*1*

Client Sample ID: SUPE-W-06C-043019

Lab Sample ID: 140-15153-3

Date Collected: 04/30/19 12:55

Matrix: Water

Date Received: 05/01/19 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.5	0.10	pg/L		05/08/19 11:40	05/15/19 16:20	1
Total TCDD	ND		9.5	0.39	pg/L		05/08/19 11:40	05/15/19 16:20	1

Client Sample ID: SUPE-W-06C-043019

Lab Sample ID: 140-15153-3

Date Collected: 04/30/19 12:55

Matrix: Water

Date Received: 05/01/19 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,7,8-PeCDD	ND		48	0.20	pg/L		05/08/19 11:40	05/15/19 16:20	1
Total PeCDD	ND		48	0.20	pg/L		05/08/19 11:40	05/15/19 16:20	1
1,2,3,4,7,8-HxCDD	ND		48	0.20	pg/L		05/08/19 11:40	05/15/19 16:20	1
1,2,3,6,7,8-HxCDD	ND		48	0.21	pg/L		05/08/19 11:40	05/15/19 16:20	1
1,2,3,7,8,9-HxCDD	ND		48	0.19	pg/L		05/08/19 11:40	05/15/19 16:20	1
Total HxCDD	ND		48	0.21	pg/L		05/08/19 11:40	05/15/19 16:20	1
1,2,3,4,6,7,8-HpCDD	**3.2**	**J I B**	48	0.28	pg/L		05/08/19 11:40	05/15/19 16:20	1
Total HpCDD	**8.9**	**J I B**	48	0.28	pg/L		05/08/19 11:40	05/15/19 16:20	1
OCDD	**34**	**J B**	95	0.30	pg/L		05/08/19 11:40	05/15/19 16:20	1
2,3,7,8-TCDF	ND		9.5	0.18	pg/L		05/08/19 11:40	05/15/19 16:20	1
Total TCDF	ND		9.5	0.30	pg/L		05/08/19 11:40	05/15/19 16:20	1
1,2,3,7,8-PeCDF	ND		48	0.29	pg/L		05/08/19 11:40	05/15/19 16:20	1
2,3,4,7,8-PeCDF	ND		48	0.29	pg/L		05/08/19 11:40	05/15/19 16:20	1
Total PeCDF	ND		48	0.29	pg/L		05/08/19 11:40	05/15/19 16:20	1
1,2,3,4,7,8-HxCDF	ND		48	0.19	pg/L		05/08/19 11:40	05/15/19 16:20	1
1,2,3,6,7,8-HxCDF	ND		48	0.19	pg/L		05/08/19 11:40	05/15/19 16:20	1
2,3,4,6,7,8-HxCDF	ND		48	0.20	pg/L		05/08/19 11:40	05/15/19 16:20	1
1,2,3,7,8,9-HxCDF	ND		48	0.24	pg/L		05/08/19 11:40	05/15/19 16:20	1
Total HxCDF	ND		48	0.24	pg/L		05/08/19 11:40	05/15/19 16:20	1
1,2,3,4,6,7,8-HpCDF	**0.95**	**J B**	48	0.19	pg/L		05/08/19 11:40	05/15/19 16:20	1
1,2,3,4,7,8,9-HpCDF	ND		48	0.24	pg/L		05/08/19 11:40	05/15/19 16:20	1
Total HpCDF	**2.7**	**J B**	48	0.21	pg/L		05/08/19 11:40	05/15/19 16:20	1
OCDF	**3.0**	**J B**	95	0.10	pg/L		05/08/19 11:40	05/15/19 16:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*71*		*40 - 135*	*05/08/19 11:40*	*05/15/19 16:20*	*1*
13C-1,2,3,7,8-PeCDD	*84*		*40 - 135*	*05/08/19 11:40*	*05/15/19 16:20*	*1*
13C-1,2,3,4,7,8-HxCDD	*76*		*40 - 135*	*05/08/19 11:40*	*05/15/19 16:20*	*1*
13C-1,2,3,6,7,8-HxCDD	*76*		*40 - 135*	*05/08/19 11:40*	*05/15/19 16:20*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*97*		*40 - 135*	*05/08/19 11:40*	*05/15/19 16:20*	*1*
13C-OCDD	*102*		*40 - 135*	*05/08/19 11:40*	*05/15/19 16:20*	*1*
13C-2,3,7,8-TCDF	*81*		*40 - 135*	*05/08/19 11:40*	*05/15/19 16:20*	*1*
13C-1,2,3,7,8-PeCDF	*84*		*40 - 135*	*05/08/19 11:40*	*05/15/19 16:20*	*1*
13C-2,3,4,7,8-PeCDF	*78*		*40 - 135*	*05/08/19 11:40*	*05/15/19 16:20*	*1*
13C-1,2,3,4,7,8-HxCDF	*81*		*40 - 135*	*05/08/19 11:40*	*05/15/19 16:20*	*1*
13C-1,2,3,6,7,8-HxCDF	*75*		*40 - 135*	*05/08/19 11:40*	*05/15/19 16:20*	*1*
13C-2,3,4,6,7,8-HxCDF	*80*		*40 - 135*	*05/08/19 11:40*	*05/15/19 16:20*	*1*
13C-1,2,3,7,8,9-HxCDF	*84*		*40 - 135*	*05/08/19 11:40*	*05/15/19 16:20*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*86*		*40 - 135*	*05/08/19 11:40*	*05/15/19 16:20*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*97*		*40 - 135*	*05/08/19 11:40*	*05/15/19 16:20*	*1*
13C-OCDF	*100*		*40 - 135*	*05/08/19 11:40*	*05/15/19 16:20*	*1*

Client Sample ID: SUPE-EB-01-043019

Lab Sample ID: 140-15153-4

Date Collected: 04/30/19 13:45

Matrix: Water

Date Received: 05/01/19 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.6	0.30	pg/L		05/08/19 11:40	05/15/19 04:22	1
Total TCDD	ND		9.6	0.42	pg/L		05/08/19 11:40	05/15/19 04:22	1
1,2,3,7,8-PeCDD	ND		48	0.19	pg/L		05/08/19 11:40	05/15/19 04:22	1

Client Sample ID: SUPE-EB-01-043019

Lab Sample ID: 140-15153-4

Date Collected: 04/30/19 13:45
Matrix: Water
Date Received: 05/01/19 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total PeCDD	**0.32**	**J**	48	0.19	pg/L		05/08/19 11:40	05/15/19 04:22	1
1,2,3,4,7,8-HxCDD	ND		48	0.36	pg/L		05/08/19 11:40	05/15/19 04:22	1
1,2,3,6,7,8-HxCDD	ND		48	0.37	pg/L		05/08/19 11:40	05/15/19 04:22	1
1,2,3,7,8,9-HxCDD	ND		48	0.34	pg/L		05/08/19 11:40	05/15/19 04:22	1
Total HxCDD	ND		48	0.37	pg/L		05/08/19 11:40	05/15/19 04:22	1
1,2,3,4,6,7,8-HpCDD	ND		48	0.26	pg/L		05/08/19 11:40	05/15/19 04:22	1
Total HpCDD	**0.82**	**J I B**	48	0.26	pg/L		05/08/19 11:40	05/15/19 04:22	1
OCDD	**2.5**	**J I B**	96	0.49	pg/L		05/08/19 11:40	05/15/19 04:22	1
2,3,7,8-TCDF	ND		9.6	0.21	pg/L		05/08/19 11:40	05/15/19 04:22	1
Total TCDF	ND		9.6	0.44	pg/L		05/08/19 11:40	05/15/19 04:22	1
1,2,3,7,8-PeCDF	ND		48	0.50	pg/L		05/08/19 11:40	05/15/19 04:22	1
2,3,4,7,8-PeCDF	ND		48	0.47	pg/L		05/08/19 11:40	05/15/19 04:22	1
Total PeCDF	ND		48	0.50	pg/L		05/08/19 11:40	05/15/19 04:22	1
1,2,3,4,7,8-HxCDF	**0.56**	**J I**	48	0.14	pg/L		05/08/19 11:40	05/15/19 04:22	1
1,2,3,6,7,8-HxCDF	ND		48	0.14	pg/L		05/08/19 11:40	05/15/19 04:22	1
2,3,4,6,7,8-HxCDF	ND		48	0.15	pg/L		05/08/19 11:40	05/15/19 04:22	1
1,2,3,7,8,9-HxCDF	ND		48	0.18	pg/L		05/08/19 11:40	05/15/19 04:22	1
Total HxCDF	**0.56**	**J I B**	48	0.15	pg/L		05/08/19 11:40	05/15/19 04:22	1
1,2,3,4,6,7,8-HpCDF	ND		48	0.19	pg/L		05/08/19 11:40	05/15/19 04:22	1
1,2,3,4,7,8,9-HpCDF	ND		48	0.25	pg/L		05/08/19 11:40	05/15/19 04:22	1
Total HpCDF	ND		48	0.25	pg/L		05/08/19 11:40	05/15/19 04:22	1
OCDF	**0.81**	**J I B**	96	0.22	pg/L		05/08/19 11:40	05/15/19 04:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*73*		*40 - 135*	*05/08/19 11:40*	*05/15/19 04:22*	*1*
13C-1,2,3,7,8-PeCDD	*82*		*40 - 135*	*05/08/19 11:40*	*05/15/19 04:22*	*1*
13C-1,2,3,4,7,8-HxCDD	*76*		*40 - 135*	*05/08/19 11:40*	*05/15/19 04:22*	*1*
13C-1,2,3,6,7,8-HxCDD	*76*		*40 - 135*	*05/08/19 11:40*	*05/15/19 04:22*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*98*		*40 - 135*	*05/08/19 11:40*	*05/15/19 04:22*	*1*
13C-OCDD	*97*		*40 - 135*	*05/08/19 11:40*	*05/15/19 04:22*	*1*
13C-2,3,7,8-TCDF	*81*		*40 - 135*	*05/08/19 11:40*	*05/15/19 04:22*	*1*
13C-1,2,3,7,8-PeCDF	*80*		*40 - 135*	*05/08/19 11:40*	*05/15/19 04:22*	*1*
13C-2,3,4,7,8-PeCDF	*78*		*40 - 135*	*05/08/19 11:40*	*05/15/19 04:22*	*1*
13C-1,2,3,4,7,8-HxCDF	*81*		*40 - 135*	*05/08/19 11:40*	*05/15/19 04:22*	*1*
13C-1,2,3,6,7,8-HxCDF	*79*		*40 - 135*	*05/08/19 11:40*	*05/15/19 04:22*	*1*
13C-2,3,4,6,7,8-HxCDF	*82*		*40 - 135*	*05/08/19 11:40*	*05/15/19 04:22*	*1*
13C-1,2,3,7,8,9-HxCDF	*83*		*40 - 135*	*05/08/19 11:40*	*05/15/19 04:22*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*86*		*40 - 135*	*05/08/19 11:40*	*05/15/19 04:22*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*95*		*40 - 135*	*05/08/19 11:40*	*05/15/19 04:22*	*1*
13C-OCDF	*95*		*40 - 135*	*05/08/19 11:40*	*05/15/19 04:22*	*1*

Client Sample ID: SUPE-W-28C-043019

Lab Sample ID: 140-15153-5

Date Collected: 04/30/19 15:10
Matrix: Water
Date Received: 05/01/19 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.7	0.22	pg/L		05/08/19 11:40	05/15/19 05:24	1
Total TCDD	ND		9.7	0.22	pg/L		05/08/19 11:40	05/15/19 05:24	1
1,2,3,7,8-PeCDD	ND		49	0.22	pg/L		05/08/19 11:40	05/15/19 05:24	1
Total PeCDD	ND		49	0.22	pg/L		05/08/19 11:40	05/15/19 05:24	1

Client Sample ID: SUPE-W-28C-043019

Lab Sample ID: 140-15153-5

Date Collected: 04/30/19 15:10

Matrix: Water

Date Received: 05/01/19 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,7,8-HxCDD	ND		49	0.28	pg/L		05/08/19 11:40	05/15/19 05:24	1
1,2,3,6,7,8-HxCDD	ND		49	0.29	pg/L		05/08/19 11:40	05/15/19 05:24	1
1,2,3,7,8,9-HxCDD	ND		49	0.26	pg/L		05/08/19 11:40	05/15/19 05:24	1
Total HxCDD	**3.8**	**J I B**	49	0.28	pg/L		05/08/19 11:40	05/15/19 05:24	1
1,2,3,4,6,7,8-HpCDD	**8.8**	**J B**	49	0.57	pg/L		05/08/19 11:40	05/15/19 05:24	1
Total HpCDD	**55**	**B**	49	0.57	pg/L		05/08/19 11:40	05/15/19 05:24	1
OCDD	**110**	**B**	97	0.40	pg/L		05/08/19 11:40	05/15/19 05:24	1
2,3,7,8-TCDF	**0.70**	**J I**	9.7	0.30	pg/L		05/08/19 11:40	05/15/19 05:24	1
Total TCDF	**1.4**	**J I**	9.7	0.30	pg/L		05/08/19 11:40	05/15/19 05:24	1
1,2,3,7,8-PeCDF	ND		49	0.38	pg/L		05/08/19 11:40	05/15/19 05:24	1
2,3,4,7,8-PeCDF	ND		49	0.37	pg/L		05/08/19 11:40	05/15/19 05:24	1
Total PeCDF	**1.6**	**J I**	49	0.37	pg/L		05/08/19 11:40	05/15/19 05:24	1
1,2,3,4,7,8-HxCDF	**1.6**	**J I**	49	0.30	pg/L		05/08/19 11:40	05/15/19 05:24	1
1,2,3,6,7,8-HxCDF	**1.1**	**J I**	49	0.32	pg/L		05/08/19 11:40	05/15/19 05:24	1
2,3,4,6,7,8-HxCDF	ND		49	0.33	pg/L		05/08/19 11:40	05/15/19 05:24	1
1,2,3,7,8,9-HxCDF	ND		49	0.39	pg/L		05/08/19 11:40	05/15/19 05:24	1
Total HxCDF	**5.0**	**J I B**	49	0.34	pg/L		05/08/19 11:40	05/15/19 05:24	1
1,2,3,4,6,7,8-HpCDF	**5.6**	**J B**	49	0.28	pg/L		05/08/19 11:40	05/15/19 05:24	1
1,2,3,4,7,8,9-HpCDF	**0.56**	**J I B**	49	0.36	pg/L		05/08/19 11:40	05/15/19 05:24	1
Total HpCDF	**8.6**	**J I B**	49	0.32	pg/L		05/08/19 11:40	05/15/19 05:24	1
OCDF	**14**	**J B**	97	0.12	pg/L		05/08/19 11:40	05/15/19 05:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*72*		*40 - 135*	*05/08/19 11:40*	*05/15/19 05:24*	*1*
13C-1,2,3,7,8-PeCDD	*83*		*40 - 135*	*05/08/19 11:40*	*05/15/19 05:24*	*1*
13C-1,2,3,4,7,8-HxCDD	*77*		*40 - 135*	*05/08/19 11:40*	*05/15/19 05:24*	*1*
13C-1,2,3,6,7,8-HxCDD	*77*		*40 - 135*	*05/08/19 11:40*	*05/15/19 05:24*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*98*		*40 - 135*	*05/08/19 11:40*	*05/15/19 05:24*	*1*
13C-OCDD	*100*		*40 - 135*	*05/08/19 11:40*	*05/15/19 05:24*	*1*
13C-2,3,7,8-TCDF	*80*		*40 - 135*	*05/08/19 11:40*	*05/15/19 05:24*	*1*
13C-1,2,3,7,8-PeCDF	*81*		*40 - 135*	*05/08/19 11:40*	*05/15/19 05:24*	*1*
13C-2,3,4,7,8-PeCDF	*80*		*40 - 135*	*05/08/19 11:40*	*05/15/19 05:24*	*1*
13C-1,2,3,4,7,8-HxCDF	*81*		*40 - 135*	*05/08/19 11:40*	*05/15/19 05:24*	*1*
13C-1,2,3,6,7,8-HxCDF	*77*		*40 - 135*	*05/08/19 11:40*	*05/15/19 05:24*	*1*
13C-2,3,4,6,7,8-HxCDF	*82*		*40 - 135*	*05/08/19 11:40*	*05/15/19 05:24*	*1*
13C-1,2,3,7,8,9-HxCDF	*84*		*40 - 135*	*05/08/19 11:40*	*05/15/19 05:24*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*86*		*40 - 135*	*05/08/19 11:40*	*05/15/19 05:24*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*97*		*40 - 135*	*05/08/19 11:40*	*05/15/19 05:24*	*1*
13C-OCDF	*99*		*40 - 135*	*05/08/19 11:40*	*05/15/19 05:24*	*1*

Client Sample ID: SUPE-W-12A-043019

Lab Sample ID: 140-15153-6

Date Collected: 04/30/19 09:48

Matrix: Water

Date Received: 05/01/19 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.5	0.58	pg/L		05/08/19 11:40	05/15/19 06:25	1
Total TCDD	**0.84**	**J I**	9.5	0.58	pg/L		05/08/19 11:40	05/15/19 06:25	1
1,2,3,7,8-PeCDD	ND		48	0.54	pg/L		05/08/19 11:40	05/15/19 06:25	1
Total PeCDD	ND		48	0.54	pg/L		05/08/19 11:40	05/15/19 06:25	1
1,2,3,4,7,8-HxCDD	**1.4**	**J I**	48	0.58	pg/L		05/08/19 11:40	05/15/19 06:25	1

Client Sample ID: SUPE-W-12A-043019

Lab Sample ID: 140-15153-6
Matrix: Water
Date Collected: 04/30/19 09:48
Date Received: 05/01/19 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,6,7,8-HxCDD	**3.1**	**J I B**	48	0.61	pg/L		05/08/19 11:40	05/15/19 06:25	1
1,2,3,7,8,9-HxCDD	ND		48	0.55	pg/L		05/08/19 11:40	05/15/19 06:25	1
Total HxCDD	**11**	**J I B**	48	0.58	pg/L		05/08/19 11:40	05/15/19 06:25	1
1,2,3,4,6,7,8-HpCDD	**50**	**B**	48	0.94	pg/L		05/08/19 11:40	05/15/19 06:25	1
Total HpCDD	**97**	**B**	48	0.94	pg/L		05/08/19 11:40	05/15/19 06:25	1
OCDD	**560**	**B**	95	0.64	pg/L		05/08/19 11:40	05/15/19 06:25	1
2,3,7,8-TCDF	**1.4**	**J I**	9.5	0.36	pg/L		05/08/19 11:40	05/15/19 06:25	1
Total TCDF	**18**	**I**	9.5	0.36	pg/L		05/08/19 11:40	05/15/19 06:25	1
1,2,3,7,8-PeCDF	ND		48	0.84	pg/L		05/08/19 11:40	05/15/19 06:25	1
2,3,4,7,8-PeCDF	ND		48	0.85	pg/L		05/08/19 11:40	05/15/19 06:25	1
Total PeCDF	**49**	**I**	48	0.85	pg/L		05/08/19 11:40	05/15/19 06:25	1
1,2,3,4,7,8-HxCDF	**3.4**	**J**	48	0.29	pg/L		05/08/19 11:40	05/15/19 06:25	1
1,2,3,6,7,8-HxCDF	**5.9**	**J I**	48	0.28	pg/L		05/08/19 11:40	05/15/19 06:25	1
2,3,4,6,7,8-HxCDF	**0.98**	**J I**	48	0.32	pg/L		05/08/19 11:40	05/15/19 06:25	1
1,2,3,7,8,9-HxCDF	**0.95**	**J I B**	48	0.36	pg/L		05/08/19 11:40	05/15/19 06:25	1
Total HxCDF	**94**	**I B**	48	0.31	pg/L		05/08/19 11:40	05/15/19 06:25	1
1,2,3,4,6,7,8-HpCDF	**21**	**J B**	48	0.63	pg/L		05/08/19 11:40	05/15/19 06:25	1
1,2,3,4,7,8,9-HpCDF	**3.1**	**J I B**	48	0.79	pg/L		05/08/19 11:40	05/15/19 06:25	1
Total HpCDF	**87**	**I B**	48	0.71	pg/L		05/08/19 11:40	05/15/19 06:25	1
OCDF	**52**	**J B**	95	0.28	pg/L		05/08/19 11:40	05/15/19 06:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*65*		*40 - 135*	*05/08/19 11:40*	*05/15/19 06:25*	*1*
13C-1,2,3,7,8-PeCDD	*76*		*40 - 135*	*05/08/19 11:40*	*05/15/19 06:25*	*1*
13C-1,2,3,4,7,8-HxCDD	*71*		*40 - 135*	*05/08/19 11:40*	*05/15/19 06:25*	*1*
13C-1,2,3,6,7,8-HxCDD	*71*		*40 - 135*	*05/08/19 11:40*	*05/15/19 06:25*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*93*		*40 - 135*	*05/08/19 11:40*	*05/15/19 06:25*	*1*
13C-OCDD	*100*		*40 - 135*	*05/08/19 11:40*	*05/15/19 06:25*	*1*
13C-2,3,7,8-TCDF	*68*		*40 - 135*	*05/08/19 11:40*	*05/15/19 06:25*	*1*
13C-1,2,3,7,8-PeCDF	*73*		*40 - 135*	*05/08/19 11:40*	*05/15/19 06:25*	*1*
13C-2,3,4,7,8-PeCDF	*71*		*40 - 135*	*05/08/19 11:40*	*05/15/19 06:25*	*1*
13C-1,2,3,4,7,8-HxCDF	*76*		*40 - 135*	*05/08/19 11:40*	*05/15/19 06:25*	*1*
13C-1,2,3,6,7,8-HxCDF	*73*		*40 - 135*	*05/08/19 11:40*	*05/15/19 06:25*	*1*
13C-2,3,4,6,7,8-HxCDF	*76*		*40 - 135*	*05/08/19 11:40*	*05/15/19 06:25*	*1*
13C-1,2,3,7,8,9-HxCDF	*77*		*40 - 135*	*05/08/19 11:40*	*05/15/19 06:25*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*82*		*40 - 135*	*05/08/19 11:40*	*05/15/19 06:25*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*90*		*40 - 135*	*05/08/19 11:40*	*05/15/19 06:25*	*1*
13C-OCDF	*96*		*40 - 135*	*05/08/19 11:40*	*05/15/19 06:25*	*1*

Client Sample ID: SUPE-W-12CR-043019

Lab Sample ID: 140-15153-7
Matrix: Water
Date Collected: 04/30/19 11:09
Date Received: 05/01/19 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.6	0.19	pg/L		05/08/19 11:40	05/15/19 11:11	1
Total TCDD	**0.48**	**J I**	9.6	0.19	pg/L		05/08/19 11:40	05/15/19 11:11	1
1,2,3,7,8-PeCDD	ND		48	0.24	pg/L		05/08/19 11:40	05/15/19 11:11	1
Total PeCDD	ND		48	0.24	pg/L		05/08/19 11:40	05/15/19 11:11	1
1,2,3,4,7,8-HxCDD	ND		48	0.32	pg/L		05/08/19 11:40	05/15/19 11:11	1
1,2,3,6,7,8-HxCDD	ND		48	0.34	pg/L		05/08/19 11:40	05/15/19 11:11	1

Client Sample ID: SUPE-W-12CR-043019

Lab Sample ID: 140-15153-7

Date Collected: 04/30/19 11:09

Matrix: Water

Date Received: 05/01/19 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,7,8,9-HxCDD	ND		48	0.31	pg/L		05/08/19 11:40	05/15/19 11:11	1
Total HxCDD	**0.44**	**J I B**	48	0.32	pg/L		05/08/19 11:40	05/15/19 11:11	1
1,2,3,4,6,7,8-HpCDD	**2.6**	**J B**	48	0.34	pg/L		05/08/19 11:40	05/15/19 11:11	1
Total HpCDD	**6.3**	**J I B**	48	0.34	pg/L		05/08/19 11:40	05/15/19 11:11	1
OCDD	**18**	**J B**	96	0.36	pg/L		05/08/19 11:40	05/15/19 11:11	1
2,3,7,8-TCDF	ND		9.6	0.35	pg/L		05/08/19 11:40	05/15/19 11:11	1
Total TCDF	ND		9.6	0.35	pg/L		05/08/19 11:40	05/15/19 11:11	1
1,2,3,7,8-PeCDF	ND		48	0.41	pg/L		05/08/19 11:40	05/15/19 11:11	1
2,3,4,7,8-PeCDF	ND		48	0.38	pg/L		05/08/19 11:40	05/15/19 11:11	1
Total PeCDF	ND		48	0.41	pg/L		05/08/19 11:40	05/15/19 11:11	1
1,2,3,4,7,8-HxCDF	ND		48	0.23	pg/L		05/08/19 11:40	05/15/19 11:11	1
1,2,3,6,7,8-HxCDF	ND		48	0.23	pg/L		05/08/19 11:40	05/15/19 11:11	1
2,3,4,6,7,8-HxCDF	ND		48	0.25	pg/L		05/08/19 11:40	05/15/19 11:11	1
1,2,3,7,8,9-HxCDF	**0.75**	**J I B**	48	0.29	pg/L		05/08/19 11:40	05/15/19 11:11	1
Total HxCDF	**1.7**	**J I B**	48	0.25	pg/L		05/08/19 11:40	05/15/19 11:11	1
1,2,3,4,6,7,8-HpCDF	**0.86**	**J B**	48	0.21	pg/L		05/08/19 11:40	05/15/19 11:11	1
1,2,3,4,7,8,9-HpCDF	**0.55**	**J I B**	48	0.29	pg/L		05/08/19 11:40	05/15/19 11:11	1
Total HpCDF	**2.4**	**J I B**	48	0.25	pg/L		05/08/19 11:40	05/15/19 11:11	1
OCDF	**2.0**	**J B**	96	0.17	pg/L		05/08/19 11:40	05/15/19 11:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*75*		*40 - 135*	*05/08/19 11:40*	*05/15/19 11:11*	*1*
13C-1,2,3,7,8-PeCDD	*88*		*40 - 135*	*05/08/19 11:40*	*05/15/19 11:11*	*1*
13C-1,2,3,4,7,8-HxCDD	*80*		*40 - 135*	*05/08/19 11:40*	*05/15/19 11:11*	*1*
13C-1,2,3,6,7,8-HxCDD	*79*		*40 - 135*	*05/08/19 11:40*	*05/15/19 11:11*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*98*		*40 - 135*	*05/08/19 11:40*	*05/15/19 11:11*	*1*
13C-OCDD	*93*		*40 - 135*	*05/08/19 11:40*	*05/15/19 11:11*	*1*
13C-2,3,7,8-TCDF	*85*		*40 - 135*	*05/08/19 11:40*	*05/15/19 11:11*	*1*
13C-1,2,3,7,8-PeCDF	*85*		*40 - 135*	*05/08/19 11:40*	*05/15/19 11:11*	*1*
13C-2,3,4,7,8-PeCDF	*83*		*40 - 135*	*05/08/19 11:40*	*05/15/19 11:11*	*1*
13C-1,2,3,4,7,8-HxCDF	*83*		*40 - 135*	*05/08/19 11:40*	*05/15/19 11:11*	*1*
13C-1,2,3,6,7,8-HxCDF	*80*		*40 - 135*	*05/08/19 11:40*	*05/15/19 11:11*	*1*
13C-2,3,4,6,7,8-HxCDF	*83*		*40 - 135*	*05/08/19 11:40*	*05/15/19 11:11*	*1*
13C-1,2,3,7,8,9-HxCDF	*84*		*40 - 135*	*05/08/19 11:40*	*05/15/19 11:11*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*87*		*40 - 135*	*05/08/19 11:40*	*05/15/19 11:11*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*92*		*40 - 135*	*05/08/19 11:40*	*05/15/19 11:11*	*1*
13C-OCDF	*90*		*40 - 135*	*05/08/19 11:40*	*05/15/19 11:11*	*1*

Client Sample ID: SUPE-W-30A-043019

Lab Sample ID: 140-15153-8

Date Collected: 04/30/19 12:35

Matrix: Water

Date Received: 05/01/19 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		11	0.50	pg/L		05/08/19 11:40	05/15/19 12:13	1
Total TCDD	ND		11	0.66	pg/L		05/08/19 11:40	05/15/19 12:13	1
1,2,3,7,8-PeCDD	ND		53	0.55	pg/L		05/08/19 11:40	05/15/19 12:13	1
Total PeCDD	ND		53	0.55	pg/L		05/08/19 11:40	05/15/19 12:13	1
1,2,3,4,7,8-HxCDD	**1.7**	**J I**	53	0.57	pg/L		05/08/19 11:40	05/15/19 12:13	1
1,2,3,6,7,8-HxCDD	**18**	**J I B**	53	0.61	pg/L		05/08/19 11:40	05/15/19 12:13	1
1,2,3,7,8,9-HxCDD	**4.3**	**J I B**	53	0.55	pg/L		05/08/19 11:40	05/15/19 12:13	1

Client Sample ID: SUPE-W-30A-043019

Lab Sample ID: 140-15153-8

Date Collected: 04/30/19 12:35

Matrix: Water

Date Received: 05/01/19 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total HxCDD	**74**	**I B**	53	0.58	pg/L		05/08/19 11:40	05/15/19 12:13	1
1,2,3,4,6,7,8-HpCDD	**470**	**B**	53	8.2	pg/L		05/08/19 11:40	05/15/19 12:13	1
Total HpCDD	**1000**	**B**	53	8.2	pg/L		05/08/19 11:40	05/15/19 12:13	1
OCDD	**6300**	**B**	110	2.9	pg/L		05/08/19 11:40	05/15/19 12:13	1
2,3,7,8-TCDF	ND		11	1.0	pg/L		05/08/19 11:40	05/15/19 12:13	1
Total TCDF	**46**	**I**	11	1.0	pg/L		05/08/19 11:40	05/15/19 12:13	1
1,2,3,7,8-PeCDF	ND		53	1.2	pg/L		05/08/19 11:40	05/15/19 12:13	1
2,3,4,7,8-PeCDF	ND		53	1.3	pg/L		05/08/19 11:40	05/15/19 12:13	1
Total PeCDF	**240**	**I**	53	1.2	pg/L		05/08/19 11:40	05/15/19 12:13	1
1,2,3,4,7,8-HxCDF	**23**	**J**	53	2.6	pg/L		05/08/19 11:40	05/15/19 12:13	1
1,2,3,6,7,8-HxCDF	**31**	**J I**	53	2.5	pg/L		05/08/19 11:40	05/15/19 12:13	1
2,3,4,6,7,8-HxCDF	ND		53	2.7	pg/L		05/08/19 11:40	05/15/19 12:13	1
1,2,3,7,8,9-HxCDF	ND		53	3.4	pg/L		05/08/19 11:40	05/15/19 12:13	1
Total HxCDF	**550**	**I B**	53	2.8	pg/L		05/08/19 11:40	05/15/19 12:13	1
1,2,3,4,6,7,8-HpCDF	**170**	**B**	53	2.3	pg/L		05/08/19 11:40	05/15/19 12:13	1
1,2,3,4,7,8,9-HpCDF	**15**	**J B**	53	3.2	pg/L		05/08/19 11:40	05/15/19 12:13	1
Total HpCDF	**670**	**B**	53	2.8	pg/L		05/08/19 11:40	05/15/19 12:13	1
OCDF	**500**	**B**	110	0.30	pg/L		05/08/19 11:40	05/15/19 12:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*73*		*40 - 135*	*05/08/19 11:40*	*05/15/19 12:13*	*1*
13C-1,2,3,7,8-PeCDD	*81*		*40 - 135*	*05/08/19 11:40*	*05/15/19 12:13*	*1*
13C-1,2,3,4,7,8-HxCDD	*80*		*40 - 135*	*05/08/19 11:40*	*05/15/19 12:13*	*1*
13C-1,2,3,6,7,8-HxCDD	*79*		*40 - 135*	*05/08/19 11:40*	*05/15/19 12:13*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*99*		*40 - 135*	*05/08/19 11:40*	*05/15/19 12:13*	*1*
13C-OCDD	*109*		*40 - 135*	*05/08/19 11:40*	*05/15/19 12:13*	*1*
13C-2,3,7,8-TCDF	*79*		*40 - 135*	*05/08/19 11:40*	*05/15/19 12:13*	*1*
13C-1,2,3,7,8-PeCDF	*84*		*40 - 135*	*05/08/19 11:40*	*05/15/19 12:13*	*1*
13C-2,3,4,7,8-PeCDF	*80*		*40 - 135*	*05/08/19 11:40*	*05/15/19 12:13*	*1*
13C-1,2,3,4,7,8-HxCDF	*84*		*40 - 135*	*05/08/19 11:40*	*05/15/19 12:13*	*1*
13C-1,2,3,6,7,8-HxCDF	*78*		*40 - 135*	*05/08/19 11:40*	*05/15/19 12:13*	*1*
13C-2,3,4,6,7,8-HxCDF	*86*		*40 - 135*	*05/08/19 11:40*	*05/15/19 12:13*	*1*
13C-1,2,3,7,8,9-HxCDF	*85*		*40 - 135*	*05/08/19 11:40*	*05/15/19 12:13*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*91*		*40 - 135*	*05/08/19 11:40*	*05/15/19 12:13*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*97*		*40 - 135*	*05/08/19 11:40*	*05/15/19 12:13*	*1*
13C-OCDF	*107*		*40 - 135*	*05/08/19 11:40*	*05/15/19 12:13*	*1*

Client Sample ID: SUPE-W-10AR2-043019

Lab Sample ID: 140-15153-9

Date Collected: 04/30/19 15:14

Matrix: Water

Date Received: 05/01/19 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.5	0.24	pg/L		05/08/19 11:40	05/15/19 13:15	1
Total TCDD	**0.68**	**J I**	9.5	0.24	pg/L		05/08/19 11:40	05/15/19 13:15	1
1,2,3,7,8-PeCDD	ND		48	0.17	pg/L		05/08/19 11:40	05/15/19 13:15	1
Total PeCDD	ND		48	0.17	pg/L		05/08/19 11:40	05/15/19 13:15	1
1,2,3,4,7,8-HxCDD	ND		48	0.45	pg/L		05/08/19 11:40	05/15/19 13:15	1
1,2,3,6,7,8-HxCDD	ND		48	0.47	pg/L		05/08/19 11:40	05/15/19 13:15	1
1,2,3,7,8,9-HxCDD	ND		48	0.43	pg/L		05/08/19 11:40	05/15/19 13:15	1
Total HxCDD	**1.9**	**J I B**	48	0.45	pg/L		05/08/19 11:40	05/15/19 13:15	1

Client Sample ID: SUPE-W-10AR2-043019

Lab Sample ID: 140-15153-9

Date Collected: 04/30/19 15:14

Matrix: Water

Date Received: 05/01/19 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	**19**	**J B**	48	1.2	pg/L		05/08/19 11:40	05/15/19 13:15	1
Total HpCDD	**41**	**J B**	48	1.2	pg/L		05/08/19 11:40	05/15/19 13:15	1
OCDD	**260**	**B**	95	0.77	pg/L		05/08/19 11:40	05/15/19 13:15	1
2,3,7,8-TCDF	ND		9.5	0.47	pg/L		05/08/19 11:40	05/15/19 13:15	1
Total TCDF	**6.3**	**J I**	9.5	0.47	pg/L		05/08/19 11:40	05/15/19 13:15	1
1,2,3,7,8-PeCDF	ND		48	1.3	pg/L		05/08/19 11:40	05/15/19 13:15	1
2,3,4,7,8-PeCDF	ND		48	1.2	pg/L		05/08/19 11:40	05/15/19 13:15	1
Total PeCDF	**11**	**J I**	48	1.2	pg/L		05/08/19 11:40	05/15/19 13:15	1
1,2,3,4,7,8-HxCDF	ND		48	0.56	pg/L		05/08/19 11:40	05/15/19 13:15	1
1,2,3,6,7,8-HxCDF	**2.0**	**J I**	48	0.58	pg/L		05/08/19 11:40	05/15/19 13:15	1
2,3,4,6,7,8-HxCDF	ND		48	0.61	pg/L		05/08/19 11:40	05/15/19 13:15	1
1,2,3,7,8,9-HxCDF	ND		48	0.75	pg/L		05/08/19 11:40	05/15/19 13:15	1
Total HxCDF	**19**	**J I B**	48	0.62	pg/L		05/08/19 11:40	05/15/19 13:15	1
1,2,3,4,6,7,8-HpCDF	**6.1**	**J I B**	48	0.54	pg/L		05/08/19 11:40	05/15/19 13:15	1
1,2,3,4,7,8,9-HpCDF	ND		48	0.70	pg/L		05/08/19 11:40	05/15/19 13:15	1
Total HpCDF	**21**	**J I B**	48	0.62	pg/L		05/08/19 11:40	05/15/19 13:15	1
OCDF	**21**	**J B**	95	0.18	pg/L		05/08/19 11:40	05/15/19 13:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*66*		*40 - 135*	*05/08/19 11:40*	*05/15/19 13:15*	*1*
13C-1,2,3,7,8-PeCDD	*76*		*40 - 135*	*05/08/19 11:40*	*05/15/19 13:15*	*1*
13C-1,2,3,4,7,8-HxCDD	*78*		*40 - 135*	*05/08/19 11:40*	*05/15/19 13:15*	*1*
13C-1,2,3,6,7,8-HxCDD	*78*		*40 - 135*	*05/08/19 11:40*	*05/15/19 13:15*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*97*		*40 - 135*	*05/08/19 11:40*	*05/15/19 13:15*	*1*
13C-OCDD	*99*		*40 - 135*	*05/08/19 11:40*	*05/15/19 13:15*	*1*
13C-2,3,7,8-TCDF	*72*		*40 - 135*	*05/08/19 11:40*	*05/15/19 13:15*	*1*
13C-1,2,3,7,8-PeCDF	*70*		*40 - 135*	*05/08/19 11:40*	*05/15/19 13:15*	*1*
13C-2,3,4,7,8-PeCDF	*72*		*40 - 135*	*05/08/19 11:40*	*05/15/19 13:15*	*1*
13C-1,2,3,4,7,8-HxCDF	*83*		*40 - 135*	*05/08/19 11:40*	*05/15/19 13:15*	*1*
13C-1,2,3,6,7,8-HxCDF	*79*		*40 - 135*	*05/08/19 11:40*	*05/15/19 13:15*	*1*
13C-2,3,4,6,7,8-HxCDF	*83*		*40 - 135*	*05/08/19 11:40*	*05/15/19 13:15*	*1*
13C-1,2,3,7,8,9-HxCDF	*84*		*40 - 135*	*05/08/19 11:40*	*05/15/19 13:15*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*86*		*40 - 135*	*05/08/19 11:40*	*05/15/19 13:15*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*98*		*40 - 135*	*05/08/19 11:40*	*05/15/19 13:15*	*1*
13C-OCDF	*98*		*40 - 135*	*05/08/19 11:40*	*05/15/19 13:15*	*1*

Client Sample ID: SUPE-M-99A-043019

Lab Sample ID: 140-15153-10

Date Collected: 04/30/19 22:00

Matrix: Water

Date Received: 05/01/19 10:00

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.7	0.33	pg/L		05/08/19 11:40	05/15/19 14:16	1
Total TCDD	ND		9.7	0.33	pg/L		05/08/19 11:40	05/15/19 14:16	1
1,2,3,7,8-PeCDD	ND		48	0.32	pg/L		05/08/19 11:40	05/15/19 14:16	1
Total PeCDD	ND		48	0.32	pg/L		05/08/19 11:40	05/15/19 14:16	1
1,2,3,4,7,8-HxCDD	ND		48	0.61	pg/L		05/08/19 11:40	05/15/19 14:16	1
1,2,3,6,7,8-HxCDD	ND		48	0.63	pg/L		05/08/19 11:40	05/15/19 14:16	1
1,2,3,7,8,9-HxCDD	ND		48	0.58	pg/L		05/08/19 11:40	05/15/19 14:16	1
Total HxCDD	ND		48	0.63	pg/L		05/08/19 11:40	05/15/19 14:16	1
1,2,3,4,6,7,8-HpCDD	**4.5**	**J B**	48	1.2	pg/L		05/08/19 11:40	05/15/19 14:16	1

Client: Field & Technical Services LLC
Project/Site: Superior 2019 1SA Sampling

Job ID: 140-15153-1

Client Sample ID: SUPE-M-99A-043019
Date Collected: 04/30/19 22:00
Date Received: 05/01/19 10:00

Lab Sample ID: 140-15153-10
Matrix: Water

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total HpCDD	**11**	**J B**	48	1.2	pg/L		05/08/19 11:40	05/15/19 14:16	1
OCDD	**60**	**J B**	97	0.73	pg/L		05/08/19 11:40	05/15/19 14:16	1
2,3,7,8-TCDF	ND		9.7	0.27	pg/L		05/08/19 11:40	05/15/19 14:16	1
Total TCDF	ND		9.7	0.51	pg/L		05/08/19 11:40	05/15/19 14:16	1
1,2,3,7,8-PeCDF	ND		48	0.56	pg/L		05/08/19 11:40	05/15/19 14:16	1
2,3,4,7,8-PeCDF	ND		48	0.52	pg/L		05/08/19 11:40	05/15/19 14:16	1
Total PeCDF	ND		48	0.56	pg/L		05/08/19 11:40	05/15/19 14:16	1
1,2,3,4,7,8-HxCDF	ND		48	0.38	pg/L		05/08/19 11:40	05/15/19 14:16	1
1,2,3,6,7,8-HxCDF	ND		48	0.39	pg/L		05/08/19 11:40	05/15/19 14:16	1
2,3,4,6,7,8-HxCDF	ND		48	0.42	pg/L		05/08/19 11:40	05/15/19 14:16	1
1,2,3,7,8,9-HxCDF	ND		48	0.50	pg/L		05/08/19 11:40	05/15/19 14:16	1
Total HxCDF	**0.97**	**J I B**	48	0.43	pg/L		05/08/19 11:40	05/15/19 14:16	1
1,2,3,4,6,7,8-HpCDF	**1.8**	**J B**	48	0.37	pg/L		05/08/19 11:40	05/15/19 14:16	1
1,2,3,4,7,8,9-HpCDF	ND		48	0.48	pg/L		05/08/19 11:40	05/15/19 14:16	1
Total HpCDF	**4.6**	**J B**	48	0.43	pg/L		05/08/19 11:40	05/15/19 14:16	1
OCDF	**5.1**	**J B**	97	0.24	pg/L		05/08/19 11:40	05/15/19 14:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*71*		*40 - 135*	*05/08/19 11:40*	*05/15/19 14:16*	*1*
13C-1,2,3,7,8-PeCDD	*84*		*40 - 135*	*05/08/19 11:40*	*05/15/19 14:16*	*1*
13C-1,2,3,4,7,8-HxCDD	*75*		*40 - 135*	*05/08/19 11:40*	*05/15/19 14:16*	*1*
13C-1,2,3,6,7,8-HxCDD	*75*		*40 - 135*	*05/08/19 11:40*	*05/15/19 14:16*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*96*		*40 - 135*	*05/08/19 11:40*	*05/15/19 14:16*	*1*
13C-OCDD	*91*		*40 - 135*	*05/08/19 11:40*	*05/15/19 14:16*	*1*
13C-2,3,7,8-TCDF	*79*		*40 - 135*	*05/08/19 11:40*	*05/15/19 14:16*	*1*
13C-1,2,3,7,8-PeCDF	*79*		*40 - 135*	*05/08/19 11:40*	*05/15/19 14:16*	*1*
13C-2,3,4,7,8-PeCDF	*79*		*40 - 135*	*05/08/19 11:40*	*05/15/19 14:16*	*1*
13C-1,2,3,4,7,8-HxCDF	*79*		*40 - 135*	*05/08/19 11:40*	*05/15/19 14:16*	*1*
13C-1,2,3,6,7,8-HxCDF	*77*		*40 - 135*	*05/08/19 11:40*	*05/15/19 14:16*	*1*
13C-2,3,4,6,7,8-HxCDF	*80*		*40 - 135*	*05/08/19 11:40*	*05/15/19 14:16*	*1*
13C-1,2,3,7,8,9-HxCDF	*81*		*40 - 135*	*05/08/19 11:40*	*05/15/19 14:16*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*82*		*40 - 135*	*05/08/19 11:40*	*05/15/19 14:16*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*92*		*40 - 135*	*05/08/19 11:40*	*05/15/19 14:16*	*1*
13C-OCDF	*92*		*40 - 135*	*05/08/19 11:40*	*05/15/19 14:16*	*1*

Default Detection Limits

Client: Field & Technical Services LLC
Project/Site: Superior 2019 1SA Sampling

Job ID: 140-15153-1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Prep: 8290

Analyte	RL		Units
1,2,3,4,6,7,8-HpCDD	50		pg/L
1,2,3,4,6,7,8-HpCDF	50		pg/L
1,2,3,4,7,8,9-HpCDF	50		pg/L
1,2,3,4,7,8-HxCDD	50		pg/L
1,2,3,4,7,8-HxCDF	50		pg/L
1,2,3,6,7,8-HxCDD	50		pg/L
1,2,3,6,7,8-HxCDF	50		pg/L
1,2,3,7,8,9-HxCDD	50		pg/L
1,2,3,7,8,9-HxCDF	50		pg/L
1,2,3,7,8-PeCDD	50		pg/L
1,2,3,7,8-PeCDF	50		pg/L
2,3,4,6,7,8-HxCDF	50		pg/L
2,3,4,7,8-PeCDF	50		pg/L
2,3,7,8-TCDD	10		pg/L
2,3,7,8-TCDF	10		pg/L
OCDD	100		pg/L
OCDF	100		pg/L
Total HpCDD	50		pg/L
Total HpCDF	50		pg/L
Total HxCDD	50		pg/L
Total HxCDF	50		pg/L
Total PeCDD	50		pg/L
Total PeCDF	50		pg/L
Total TCDD	10		pg/L
Total TCDF	10		pg/L

Isotope Dilution Summary

Client: Field & Technical Services LLC
Project/Site: Superior 2019 1SA Sampling

Job ID: 140-15153-1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (40-135)	PeCDD (40-135)	HxCDD (40-135)	HxDD (40-135)	HpCDD (40-135)	OCDD (40-135)	TCDF (40-135)	PeCDF (40-135)
140-15153-1	SUPE-W-30C-043019	71	79	78	76	96	98	80	80
140-15153-2	SUPE-W-06A-043019	71	83	76	75	98	102	81	85
140-15153-3	SUPE-W-06C-043019	71	84	76	76	97	102	81	84
140-15153-3 MS	SUPE-W-06C-043019	60	73	68	72	89	93	66	74
140-15153-3 MSD	SUPE-W-06C-043019	69	89	79	77	103	106	77	87
140-15153-4	SUPE-EB-01-043019	73	82	76	76	98	97	81	80
140-15153-5	SUPE-W-28C-043019	72	83	77	77	98	100	80	81
140-15153-6	SUPE-W-12A-043019	65	76	71	71	93	100	68	73
140-15153-7	SUPE-W-12CR-043019	75	88	80	79	98	93	85	85
140-15153-8	SUPE-W-30A-043019	73	81	80	79	99	109	79	84
140-15153-9	SUPE-W-10AR2-043019	66	76	78	78	97	99	72	70
140-15153-10	SUPE-M-99A-043019	71	84	75	75	96	91	79	79
LCS 140-29890/16-A	Lab Control Sample	71	80	76	77	105	109	84	76
MB 140-29890/15-A	Method Blank	65	75	78	72	90	83	74	75

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PeCF (40-135)	HxCDF (40-135)	HxDF (40-135)	13CHxCF (40-135)	HxCF (40-135)	HpCDF (40-135)	HpCDF2 (40-135)	13C-OCDF (40-135)
140-15153-1	SUPE-W-30C-043019	77	81	77	82	82	86	90	83
140-15153-2	SUPE-W-06A-043019	80	77	73	80	82	84	94	95
140-15153-3	SUPE-W-06C-043019	78	81	75	80	84	86	97	100
140-15153-3 MS	SUPE-W-06C-043019	70	71	68	72	75	77	87	92
140-15153-3 MSD	SUPE-W-06C-043019	81	79	76	80	83	86	100	105
140-15153-4	SUPE-EB-01-043019	78	81	79	82	83	86	95	95
140-15153-5	SUPE-W-28C-043019	80	81	77	82	84	86	97	99
140-15153-6	SUPE-W-12A-043019	71	76	73	76	77	82	90	96
140-15153-7	SUPE-W-12CR-043019	83	83	80	83	84	87	92	90
140-15153-8	SUPE-W-30A-043019	80	84	78	86	85	91	97	107
140-15153-9	SUPE-W-10AR2-043019	72	83	79	83	84	86	98	98
140-15153-10	SUPE-M-99A-043019	79	79	77	80	81	82	92	92
LCS 140-29890/16-A	Lab Control Sample	78	78	76	78	82	92	103	108
MB 140-29890/15-A	Method Blank	73	80	75	79	77	81	84	77

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
PeCDD = 13C-1,2,3,7,8-PeCDD
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
OCDD = 13C-OCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
13C-OCDF = 13C-OCDF

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 140-29890/15-A
Matrix: Water
Analysis Batch: 30038

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 29890

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	0.38	pg/L		05/08/19 11:40	05/15/19 01:17	1
Total TCDD	ND		10	0.92	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,7,8-PeCDD	ND		50	0.42	pg/L		05/08/19 11:40	05/15/19 01:17	1
Total PeCDD	ND		50	0.42	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,4,7,8-HxCDD	ND		50	0.44	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,6,7,8-HxCDD	1.73	J I	50	0.49	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,7,8,9-HxCDD	2.00	J	50	0.43	pg/L		05/08/19 11:40	05/15/19 01:17	1
Total HxCDD	3.73	J I	50	0.45	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,4,6,7,8-HpCDD	3.05	J I	50	0.52	pg/L		05/08/19 11:40	05/15/19 01:17	1
Total HpCDD	4.72	J I	50	0.52	pg/L		05/08/19 11:40	05/15/19 01:17	1
OCDD	11.4	J I	100	1.1	pg/L		05/08/19 11:40	05/15/19 01:17	1
2,3,7,8-TCDF	ND		10	0.44	pg/L		05/08/19 11:40	05/15/19 01:17	1
Total TCDF	ND		10	0.46	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,7,8-PeCDF	ND		50	1.4	pg/L		05/08/19 11:40	05/15/19 01:17	1
2,3,4,7,8-PeCDF	ND		50	1.3	pg/L		05/08/19 11:40	05/15/19 01:17	1
Total PeCDF	ND		50	1.4	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,4,7,8-HxCDF	ND		50	0.50	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,6,7,8-HxCDF	ND		50	0.50	pg/L		05/08/19 11:40	05/15/19 01:17	1
2,3,4,6,7,8-HxCDF	ND		50	0.56	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,7,8,9-HxCDF	1.48	J I	50	0.66	pg/L		05/08/19 11:40	05/15/19 01:17	1
Total HxCDF	1.48	J I	50	0.56	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,4,6,7,8-HpCDF	1.92	J I	50	0.48	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,4,7,8,9-HpCDF	1.75	J I	50	0.65	pg/L		05/08/19 11:40	05/15/19 01:17	1
Total HpCDF	3.67	J I	50	0.57	pg/L		05/08/19 11:40	05/15/19 01:17	1
OCDF	6.81	J I	100	0.30	pg/L		05/08/19 11:40	05/15/19 01:17	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*65*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-1,2,3,7,8-PeCDD	*75*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-1,2,3,4,7,8-HxCDD	*78*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-1,2,3,6,7,8-HxCDD	*72*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*90*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-OCDD	*83*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-2,3,7,8-TCDF	*74*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-1,2,3,7,8-PeCDF	*75*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-2,3,4,7,8-PeCDF	*73*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-1,2,3,4,7,8-HxCDF	*80*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-1,2,3,6,7,8-HxCDF	*75*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-2,3,4,6,7,8-HxCDF	*79*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-1,2,3,7,8,9-HxCDF	*77*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*81*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*84*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-OCDF	*77*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 140-29890/16-A
Matrix: Water
Analysis Batch: 30038

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29890

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD			200	245		pg/L		123	77 - 127		
1,2,3,7,8-PeCDD			1000	1200		pg/L		120	78 - 128		
1,2,3,4,7,8-HxCDD			1000	1190		pg/L		119	73 - 123		
1,2,3,6,7,8-HxCDD			1000	1180		pg/L		118	72 - 127		
1,2,3,7,8,9-HxCDD			1000	1230		pg/L		123	76 - 126		
1,2,3,4,6,7,8-HpCDD			1000	1050		pg/L		105	73 - 123		
OCDD			2000	2010		pg/L		101	75 - 125		
2,3,7,8-TCDF			200	236		pg/L		118	74 - 124		
1,2,3,7,8-PeCDF			1000	1160		pg/L		116	74 - 124		
2,3,4,7,8-PeCDF			1000	1160		pg/L		116	74 - 124		
1,2,3,4,7,8-HxCDF			1000	1160		pg/L		116	75 - 125		
1,2,3,6,7,8-HxCDF			1000	1130		pg/L		113	75 - 125		
2,3,4,6,7,8-HxCDF			1000	1180		pg/L		118	76 - 126		
1,2,3,7,8,9-HxCDF			1000	1130		pg/L		113	76 - 126		
1,2,3,4,6,7,8-HpCDF			1000	1090		pg/L		109	71 - 121		
1,2,3,4,7,8,9-HpCDF			1000	1100		pg/L		110	73 - 123		
OCDF			2000	1860		pg/L		93	68 - 132		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*71*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*80*		*40 - 135*
13C-1,2,3,4,7,8-HxCDD	*76*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*77*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*105*		*40 - 135*
13C-OCDD	*109*		*40 - 135*
13C-2,3,7,8-TCDF	*84*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*76*		*40 - 135*
13C-2,3,4,7,8-PeCDF	*78*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*78*		*40 - 135*
13C-1,2,3,6,7,8-HxCDF	*76*		*40 - 135*
13C-2,3,4,6,7,8-HxCDF	*78*		*40 - 135*
13C-1,2,3,7,8,9-HxCDF	*82*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*92*		*40 - 135*
13C-1,2,3,4,7,8,9-HpCDF	*103*		*40 - 135*
13C-OCDF	*108*		*40 - 135*

Lab Sample ID: 140-15153-3 MS
Matrix: Water
Analysis Batch: 30043

Client Sample ID: SUPE-W-06C-043019
Prep Type: Total/NA
Prep Batch: 29890

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD	ND		195	238		pg/L		122	77 - 127		
1,2,3,7,8-PeCDD	ND		977	1070		pg/L		109	78 - 128		
1,2,3,4,7,8-HxCDD	ND		977	1070		pg/L		110	73 - 123		
1,2,3,6,7,8-HxCDD	ND		977	1030		pg/L		106	72 - 127		
1,2,3,7,8,9-HxCDD	ND		977	1110		pg/L		114	76 - 126		
1,2,3,4,6,7,8-HpCDD	3.2	J I B	977	982		pg/L		100	73 - 123		
OCDD	34	J B	1950	1950		pg/L		98	75 - 125		
2,3,7,8-TCDF	ND		195	228		pg/L		117	74 - 124		

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: 140-15153-3 MS
Matrix: Water
Analysis Batch: 30043

Client Sample ID: SUPE-W-06C-043019
Prep Type: Total/NA
Prep Batch: 29890

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3,7,8-PeCDF	ND		977	976		pg/L		100	74 - 124
2,3,4,7,8-PeCDF	ND		977	1030		pg/L		106	74 - 124
1,2,3,4,7,8-HxCDF	ND		977	1030		pg/L		105	75 - 125
1,2,3,6,7,8-HxCDF	ND		977	1020		pg/L		104	75 - 125
2,3,4,6,7,8-HxCDF	ND		977	1030		pg/L		105	76 - 126
1,2,3,7,8,9-HxCDF	ND		977	1020		pg/L		105	76 - 126
1,2,3,4,6,7,8-HpCDF	0.95	J B	977	1020		pg/L		105	71 - 121
1,2,3,4,7,8,9-HpCDF	ND		977	1030		pg/L		106	73 - 123
OCDF	3.0	J B	1950	1800		pg/L		92	49 - 134

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*60*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*73*		*40 - 135*
13C-1,2,3,4,7,8-HxCDD	*68*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*72*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*89*		*40 - 135*
13C-OCDD	*93*		*40 - 135*
13C-2,3,7,8-TCDF	*66*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*74*		*40 - 135*
13C-2,3,4,7,8-PeCDF	*70*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*71*		*40 - 135*
13C-1,2,3,6,7,8-HxCDF	*68*		*40 - 135*
13C-2,3,4,6,7,8-HxCDF	*72*		*40 - 135*
13C-1,2,3,7,8,9-HxCDF	*75*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*77*		*40 - 135*
13C-1,2,3,4,7,8,9-HpCDF	*87*		*40 - 135*
13C-OCDF	*92*		*40 - 135*

Lab Sample ID: 140-15153-3 MSD
Matrix: Water
Analysis Batch: 30043

Client Sample ID: SUPE-W-06C-043019
Prep Type: Total/NA
Prep Batch: 29890

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD	ND		196	231		pg/L		118	77 - 127	3	15
1,2,3,7,8-PeCDD	ND		982	1050		pg/L		107	78 - 128	2	15
1,2,3,4,7,8-HxCDD	ND		982	1050		pg/L		107	73 - 123	3	15
1,2,3,6,7,8-HxCDD	ND		982	1080		pg/L		110	72 - 127	4	15
1,2,3,7,8,9-HxCDD	ND		982	1110		pg/L		113	76 - 126	0	15
1,2,3,4,6,7,8-HpCDD	3.2	J I B	982	972		pg/L		99	73 - 123	1	15
OCDD	34	J B	1960	1970		pg/L		99	75 - 125	1	15
2,3,7,8-TCDF	ND		196	222		pg/L		113	74 - 124	3	15
1,2,3,7,8-PeCDF	ND		982	976		pg/L		99	74 - 124	0	15
2,3,4,7,8-PeCDF	ND		982	1060		pg/L		108	74 - 124	3	15
1,2,3,4,7,8-HxCDF	ND		982	1010		pg/L		103	75 - 125	1	15
1,2,3,6,7,8-HxCDF	ND		982	999		pg/L		102	75 - 125	2	15
2,3,4,6,7,8-HxCDF	ND		982	1040		pg/L		106	76 - 126	1	15
1,2,3,7,8,9-HxCDF	ND		982	1010		pg/L		103	76 - 126	1	15
1,2,3,4,6,7,8-HpCDF	0.95	J B	982	1040		pg/L		106	71 - 121	2	15
1,2,3,4,7,8,9-HpCDF	ND		982	1020		pg/L		104	73 - 123	1	15

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: 140-15153-3 MSD
Matrix: Water
Analysis Batch: 30043

Client Sample ID: SUPE-W-06C-043019
Prep Type: Total/NA
Prep Batch: 29890

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
OCDF	3.0	J B	1960	1810		pg/L		92	49 - 134	0	15

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*69*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*89*		*40 - 135*
13C-1,2,3,4,7,8-HxCDD	*79*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*77*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*103*		*40 - 135*
13C-OCDD	*106*		*40 - 135*
13C-2,3,7,8-TCDF	*77*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*87*		*40 - 135*
13C-2,3,4,7,8-PeCDF	*81*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*79*		*40 - 135*
13C-1,2,3,6,7,8-HxCDF	*76*		*40 - 135*
13C-2,3,4,6,7,8-HxCDF	*80*		*40 - 135*
13C-1,2,3,7,8,9-HxCDF	*83*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*86*		*40 - 135*
13C-1,2,3,4,7,8,9-HpCDF	*100*		*40 - 135*
13C-OCDF	*105*		*40 - 135*

Specialty Organics

Prep Batch: 29890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-15153-1	SUPE-W-30C-043019	Total/NA	Water	8290	
140-15153-2	SUPE-W-06A-043019	Total/NA	Water	8290	
140-15153-3	SUPE-W-06C-043019	Total/NA	Water	8290	
140-15153-4	SUPE-EB-01-043019	Total/NA	Water	8290	
140-15153-5	SUPE-W-28C-043019	Total/NA	Water	8290	
140-15153-6	SUPE-W-12A-043019	Total/NA	Water	8290	
140-15153-7	SUPE-W-12CR-043019	Total/NA	Water	8290	
140-15153-8	SUPE-W-30A-043019	Total/NA	Water	8290	
140-15153-9	SUPE-W-10AR2-043019	Total/NA	Water	8290	
140-15153-10	SUPE-M-99A-043019	Total/NA	Water	8290	
MB 140-29890/15-A	Method Blank	Total/NA	Water	8290	
LCS 140-29890/16-A	Lab Control Sample	Total/NA	Water	8290	
140-15153-3 MS	SUPE-W-06C-043019	Total/NA	Water	8290	
140-15153-3 MSD	SUPE-W-06C-043019	Total/NA	Water	8290	

Analysis Batch: 30038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-15153-1	SUPE-W-30C-043019	Total/NA	Water	8290A	29890
140-15153-2	SUPE-W-06A-043019	Total/NA	Water	8290A	29890
140-15153-4	SUPE-EB-01-043019	Total/NA	Water	8290A	29890
140-15153-5	SUPE-W-28C-043019	Total/NA	Water	8290A	29890
140-15153-6	SUPE-W-12A-043019	Total/NA	Water	8290A	29890
MB 140-29890/15-A	Method Blank	Total/NA	Water	8290A	29890
LCS 140-29890/16-A	Lab Control Sample	Total/NA	Water	8290A	29890

Analysis Batch: 30043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-15153-3	SUPE-W-06C-043019	Total/NA	Water	8290A	29890
140-15153-7	SUPE-W-12CR-043019	Total/NA	Water	8290A	29890
140-15153-8	SUPE-W-30A-043019	Total/NA	Water	8290A	29890
140-15153-9	SUPE-W-10AR2-043019	Total/NA	Water	8290A	29890
140-15153-10	SUPE-M-99A-043019	Total/NA	Water	8290A	29890
140-15153-3 MS	SUPE-W-06C-043019	Total/NA	Water	8290A	29890
140-15153-3 MSD	SUPE-W-06C-043019	Total/NA	Water	8290A	29890

Lab Chronicle

Client: Field & Technical Services LLC
Project/Site: Superior 2019 1SA Sampling

Job ID: 140-15153-1

Client Sample ID: SUPE-W-30C-043019
Lab Sample ID: 140-15153-1
Date Collected: 04/30/19 09:45
Matrix: Water
Date Received: 05/01/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			1039.2 mL	20 uL	29890	05/08/19 11:40	SMA	TAL KNX
Total/NA	Analysis	8290A		1			30038	05/15/19 02:21	LKM	TAL KNX
	Instrument ID: D11A									

Client Sample ID: SUPE-W-06A-043019
Lab Sample ID: 140-15153-2
Date Collected: 04/30/19 11:05
Matrix: Water
Date Received: 05/01/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			1027.5 mL	20 uL	29890	05/08/19 11:40	SMA	TAL KNX
Total/NA	Analysis	8290A		1			30038	05/15/19 03:20	LKM	TAL KNX
	Instrument ID: D11A									

Client Sample ID: SUPE-W-06C-043019
Lab Sample ID: 140-15153-3
Date Collected: 04/30/19 12:55
Matrix: Water
Date Received: 05/01/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			1047.7 mL	20 uL	29890	05/08/19 11:40	SMA	TAL KNX
Total/NA	Analysis	8290A		1			30043	05/15/19 16:20	MSD	TAL KNX
	Instrument ID: D11A									

Client Sample ID: SUPE-EB-01-043019
Lab Sample ID: 140-15153-4
Date Collected: 04/30/19 13:45
Matrix: Water
Date Received: 05/01/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			1046.7 mL	20 uL	29890	05/08/19 11:40	SMA	TAL KNX
Total/NA	Analysis	8290A		1			30038	05/15/19 04:22	LKM	TAL KNX
	Instrument ID: D11A									

Client Sample ID: SUPE-W-28C-043019
Lab Sample ID: 140-15153-5
Date Collected: 04/30/19 15:10
Matrix: Water
Date Received: 05/01/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			1027.7 mL	20 uL	29890	05/08/19 11:40	SMA	TAL KNX
Total/NA	Analysis	8290A		1			30038	05/15/19 05:24	LKM	TAL KNX
	Instrument ID: D11A									

Lab Chronicle

Client: Field & Technical Services LLC
Project/Site: Superior 2019 1SA Sampling

Job ID: 140-15153-1

Client Sample ID: SUPE-W-12A-043019
Date Collected: 04/30/19 09:48
Date Received: 05/01/19 10:00

Lab Sample ID: 140-15153-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			1051.6 mL	20 uL	29890	05/08/19 11:40	SMA	TAL KNX
Total/NA	Analysis	8290A		1			30038	05/15/19 06:25	LKM	TAL KNX
	Instrument ID: D11A									

Client Sample ID: SUPE-W-12CR-043019
Date Collected: 04/30/19 11:09
Date Received: 05/01/19 10:00

Lab Sample ID: 140-15153-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			1036.7 mL	20 uL	29890	05/08/19 11:40	SMA	TAL KNX
Total/NA	Analysis	8290A		1			30043	05/15/19 11:11	MSD	TAL KNX
	Instrument ID: D11A									

Client Sample ID: SUPE-W-30A-043019
Date Collected: 04/30/19 12:35
Date Received: 05/01/19 10:00

Lab Sample ID: 140-15153-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			950.8 mL	20 uL	29890	05/08/19 11:40	SMA	TAL KNX
Total/NA	Analysis	8290A		1			30043	05/15/19 12:13	MSD	TAL KNX
	Instrument ID: D11A									

Client Sample ID: SUPE-W-10AR2-043019
Date Collected: 04/30/19 15:14
Date Received: 05/01/19 10:00

Lab Sample ID: 140-15153-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			1048.8 mL	20 uL	29890	05/08/19 11:40	SMA	TAL KNX
Total/NA	Analysis	8290A		1			30043	05/15/19 13:15	MSD	TAL KNX
	Instrument ID: D11A									

Client Sample ID: SUPE-M-99A-043019
Date Collected: 04/30/19 22:00
Date Received: 05/01/19 10:00

Lab Sample ID: 140-15153-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			1033.9 mL	20 uL	29890	05/08/19 11:40	SMA	TAL KNX
Total/NA	Analysis	8290A		1			30043	05/15/19 14:16	MSD	TAL KNX
	Instrument ID: D11A									

Lab Chronicle

Client: Field & Technical Services LLC
Project/Site: Superior 2019 1SA Sampling

Job ID: 140-15153-1

Client Sample ID: Method Blank
Lab Sample ID: MB 140-29890/15-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			1000 mL	20 uL	29890	05/08/19 11:40	SMA	TAL KNX
Total/NA	Analysis	8290A		1			30038	05/15/19 01:17	LKM	TAL KNX
	Instrument ID: D11A									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-29890/16-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			1000 mL	20 uL	29890	05/08/19 11:40	SMA	TAL KNX
Total/NA	Analysis	8290A		1			30038	05/14/19 23:08	LKM	TAL KNX
	Instrument ID: D11A									

Client Sample ID: SUPE-W-06C-043019
Lab Sample ID: 140-15153-3 MS

Date Collected: 04/30/19 12:55
Matrix: Water
Date Received: 05/01/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			1023.5 mL	20 uL	29890	05/08/19 11:40	SMA	TAL KNX
Total/NA	Analysis	8290A		1			30043	05/15/19 17:22	MSD	TAL KNX
	Instrument ID: D11A									

Client Sample ID: SUPE-W-06C-043019
Lab Sample ID: 140-15153-3 MSD

Date Collected: 04/30/19 12:55
Matrix: Water
Date Received: 05/01/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			1018.7 mL	20 uL	29890	05/08/19 11:40	SMA	TAL KNX
Total/NA	Analysis	8290A		1			30043	05/15/19 18:23	MSD	TAL KNX
	Instrument ID: D11A									

Laboratory References:

TAL KNX = Eurofins TestAmerica, Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Accreditation/Certification Summary

Client: Field & Technical Services LLC
Job ID: 140-15153-1
Project/Site: Superior 2019 1SA Sampling

Laboratory: Eurofins TestAmerica, Knoxville

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	998044300	08-31-19

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8290A	8290	Water	1,2,3,4,6,7,8-HpCDD
8290A	8290	Water	1,2,3,4,6,7,8-HpCDF
8290A	8290	Water	1,2,3,4,7,8,9-HpCDF
8290A	8290	Water	1,2,3,4,7,8-HxCDD
8290A	8290	Water	1,2,3,4,7,8-HxCDF
8290A	8290	Water	1,2,3,6,7,8-HxCDD
8290A	8290	Water	1,2,3,6,7,8-HxCDF
8290A	8290	Water	1,2,3,7,8,9-HxCDD
8290A	8290	Water	1,2,3,7,8,9-HxCDF
8290A	8290	Water	1,2,3,7,8-PeCDD
8290A	8290	Water	1,2,3,7,8-PeCDF
8290A	8290	Water	2,3,4,6,7,8-HxCDF
8290A	8290	Water	2,3,4,7,8-PeCDF
8290A	8290	Water	2,3,7,8-TCDD
8290A	8290	Water	2,3,7,8-TCDF
8290A	8290	Water	OCDD
8290A	8290	Water	OCDF
8290A	8290	Water	Total HpCDD
8290A	8290	Water	Total HpCDF
8290A	8290	Water	Total HxCDD
8290A	8290	Water	Total HxCDF
8290A	8290	Water	Total PeCDD
8290A	8290	Water	Total PeCDF
8290A	8290	Water	Total TCDD
8290A	8290	Water	Total TCDF

Accreditation/Certification Summary

Client: Field & Technical Services LLC
Job ID: 140-15153-1
Project/Site: Superior 2019 1SA Sampling

Laboratory: Eurofins TestAmerica, Pittsburgh

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
Arkansas DEQ	State Program	6	88-0690	06-27-19
California	State Program	9	2891	04-30-20
Connecticut	State Program	1	PH-0688	09-30-20
Florida	NELAP	4	E871008	06-30-19
Illinois	NELAP	5	200005	06-30-19
Kansas	NELAP	7	E-10350	01-31-20
Louisiana	NELAP	6	04041	06-30-19
Nevada	State Program	9	PA00164	07-31-19
New Hampshire	NELAP	1	2030	04-04-20
New Jersey	NELAP	2	PA005	06-30-19
New York	NELAP	2	11182	03-31-20
North Carolina (WW/SW)	State Program	4	434	12-31-19
Oregon	NELAP	10	PA-2151	02-06-20
Pennsylvania	NELAP	3	02-00416	04-30-20
South Carolina	State Program	4	89014	04-30-19 *
Texas	NELAP	6	T104704528-15-2	03-31-20
US Fish & Wildlife	Federal		LE94312A-1	07-31-19
USDA	Federal		P330-16-00211	06-26-19
Utah	NELAP	8	PA001462015-4	05-31-19 *
Virginia	NELAP	3	460189	09-14-19
West Virginia DEP	State Program	3	142	01-31-20
Wisconsin	State Program	5	998027800	08-31-19

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

Method Summary

Client: Field & Technical Services LLC
Project/Site: Superior 2019 1SA Sampling

Job ID: 140-15153-1

Method	Method Description	Protocol	Laboratory
8290A	Dioxins and Furans (HRGC/HRMS)	SW846	TAL KNX
8290	Separatory Funnel (Liquid-Liquid) Extraction of Dioxins and Furans	SW846	TAL KNX

Protocol References:

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

Laboratory References:

TAL KNX = Eurofins TestAmerica, Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Sample Summary

Client: Field & Technical Services LLC
Project/Site: Superior 2019 1SA Sampling

Job ID: 140-15153-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Assest ID
140-15153-1	SUPE-W-30C-043019	Water	04/30/19 09:45	05/01/19 10:00	
140-15153-2	SUPE-W-06A-043019	Water	04/30/19 11:05	05/01/19 10:00	
140-15153-3	SUPE-W-06C-043019	Water	04/30/19 12:55	05/01/19 10:00	
140-15153-4	SUPE-EB-01-043019	Water	04/30/19 13:45	05/01/19 10:00	
140-15153-5	SUPE-W-28C-043019	Water	04/30/19 15:10	05/01/19 10:00	
140-15153-6	SUPE-W-12A-043019	Water	04/30/19 09:48	05/01/19 10:00	
140-15153-7	SUPE-W-12CR-043019	Water	04/30/19 11:09	05/01/19 10:00	
140-15153-8	SUPE-W-30A-043019	Water	04/30/19 12:35	05/01/19 10:00	
140-15153-9	SUPE-W-10AR2-043019	Water	04/30/19 15:14	05/01/19 10:00	
140-15153-10	SUPE-M-99A-043019	Water	04/30/19 22:00	05/01/19 10:00	

CHAIN OF CUSTODY RECORD/LABORATORY ANALYSIS REQUEST FORM

REF.# 547

547

Project Name:	Superior 2019 1SA Sampling	Company:	Field & Technical Services	Client:	Beazer East, Inc.
Project Number:	OM-0556-19	Address:	200 Third Avenue	Contact:	(21) 4 4-9876
Laboratory:	TAKNOX		Carnegie, PA 15106		kmcmullen.2006@f-ts.com
Shipment Method	FEDEX		(412) 279-3363		
Program:	Superior 2019 1SA Sampling_001				

140-15153 Chain of Custody

Sample Date	Sample Time	Matrix	Sample Identification	Analysis	8290_Dioxins/Furans															Notes:
				Preservative	None															
				Total Bottle Count																
04/30/2019	0945	GW	SUPE-W-30C-043019	2	2															
04/30/2019	1105	GW	SUPE-W-06A-043019	2	2															
04/30/2019	1255	GW	SUPE-W-06C-043019	2	2															
04/30/2019	1255	GW	SUPE-W-06C-MS/MSD-043019	4	4															
04/30/2019	1345	GW	SUPE-EB-01-043019	2	2															
04/30/2019	1510	GW	SUPE-W-28C-043019	2	2															

RT CT
REC. @ 3.0°c 3.0°c
1.8° 1.8°
1.9° 1.9°
CUSTODY SEALS INTACT
3 COOLERS RH 5/2/19
FED EX# 786969473395
786969450729

Relinquished by:	Received by:	Relinquished by:	Received by:	Turnaround Requirements
Signature: Kat McM	Signature: Ryan Henry	Signature:	Signature:	☐ Rush
Printed Name: Katie McMullen	Printed Name: RYAN HENRY	Printed Name:	Printed Name:	
Firm: FTS	Firm: TA KNX	Firm:	Firm:	☒ Standard
Date/Time: 04/30/2019 1646	Date/Time: 5/1/19 1000	Date/Time:	Date/Time:	

Page 1 of 1

FTS Field & Technical Services, LLC

CHAIN OF CUSTODY RECORD/LABORATORY ANALYSIS REQUEST FORM

REF.# 501068

501068

Project Name:	Superior 2019 1SA Sampling	Company:	Field & Technical Services	Client:	Beazer East, Inc.
Project Number:	OM-0556-19	Address:	200 Third Avenue	Contact:	(724) 858-5953
Laboratory:	TAKNOX		Carnegie, PA 15106		btrask.2006@f-ts.com
Shipment Method	FEDEX		(412) 279-3363		
Program:	Superior 2019 1SA Sampling_001				

Sample Date	Sample Time	Matrix	Sample Identification	Analysis	8290_Dioxins/Furans																Notes:
				Preservative	None																
				Total Bottle Count																	
04/30/2019	0948	GW	SUPE-W-12A-043019	2	2	0															
04/30/2019	1109	GW	SUPE-W-12CR-043019	2	2	0															
04/30/2019	1235	GW	SUPE-W-30A-043019	2	2	0															
04/30/2019	1514	GW	SUPE-W-10AR2-043019	2	2	0															
04/30/2019	2200	GW	SUPE-M-99A-043019	2	2	0															

Relinquished by:	Received by:	Relinquished by:	Received by:	Turnaround Requirements
Signature: [signature]	Signature: Ryan Henry	Signature:	Signature:	☐ Rush
Printed Name: Ben Trask	Printed Name: RYAN HENRY	Printed Name:	Printed Name:	
Firm FTS	Firm TA KNX	Firm	Firm	☒ Standard
Date/Time: 04/30/2019 1650	Date/Time: 5/1/19 1000	Date/Time:	Date/Time:	

5/22/2019

Loc: 140
15153

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Log In Number:

Review Items	Yes	No	NA	If No, what was the problem?
1. Are the shipping containers intact?	✓			☐ **Containers, Broken**
2. Were ambient air containers received intact?			✓	☐ Checked in lab
3. The coolers/containers custody seal if present, is it intact?	✓			☐ Yes ☐ NA
4. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SC68 Correction factor: 0	✓			☐ **Cooler Out of Temp, Client Contacted, Proceed/Cancel** ☐ **Cooler Out of Temp, Same Day Receipt**
5. Were all of the sample containers received intact?	✓			☐ **Containers, Broken**
6. Were samples received in appropriate containers?	✓			☐ **Containers, Improper; Client Contacted; Proceed/Cancel**
7. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **COC & Samples Do Not Match** ☐ **COC Incorrect/Incomplete** ☐ **COC Not Received**
8. Were all of the samples listed on the COC received?	✓			☐ **Sample Received, Not on COC** ☐ **Sample on COC, Not Received**
9. Is the date/time of sample collection noted?	✓			☐ **COC; No Date/Time; Client Contacted**
10. Was the sampler identified on the COC?			✓	☐ **Sampler Not Listed on COC**
11. Is the client and project name/# identified?	✓			☐ **COC Incorrect/Incomplete**
12. Are tests/parameters listed for each sample?	✓			☐ **COC No tests on COC**
13. Is the matrix of the samples noted?	✓			☐ **COC Incorrect/Incomplete**
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **COC Incorrect/Incomplete**
15. Were samples received within holding time?	✓			☐ **Holding Time - Receipt**
16. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **pH Adjusted, pH Included (See box 16A)** ☐ **Incorrect Preservative**
17. Were VOA samples received without headspace?			✓	☐ **Headspace (VOA only)**
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:			✓	☐ **Residual Chlorine**
19. For 1613B water samples is pH<9?			✓	☐ If no, notify lab to adjust
20. For rad samples was sample activity info. Provided?			✓	☐ Project missing info

Comments/Actions Taken

Labeling Verified by: **Date:**

pH test strip lot number:

	Box 16A: pH Preservation	Box 18A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Project #: _____ PM Instructions: _____

Sample Receiving Associate: Ryan Henry Date: 5/1/19

QA026R31.doc, 112618

5/22/2019

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Tel: (865)291-3000

Laboratory Job ID: 140-15154-1
Client Project/Site: Superior 2019 ISA Sampling

For:
Field & Technical Services LLC
200 Third Avenue
Carnegie, Pennsylvania 15106

Attn: Ms. Angie Gatchie

Authorized for release by:
5/22/2019 11:13:41 PM

Veronica Bortot, Senior Project Manager
(412)963-2435
veronica.bortot@testamericainc.com

Table of Contents

Definitions/Glossary

Client: Field & Technical Services LLC
Project/Site: Superior 2019 ISA Sampling

Job ID: 140-15154-1

Qualifiers

Dioxin

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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)

Job ID: 140-15154-1

Laboratory: Eurofins TestAmerica, Knoxville

Narrative

Job Narrative
140-15154-1

Comments
No additional comments.

Receipt
The sample was received on 5/2/2019 9:30 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.5º C.

Dioxin
Method(s) 8290A: One ore more ion abundance ratios are outside criteria for the Isotope Dilution Analyte (IDA) associated with the following sample: W-04AR2-050119.

Method(s) 8290A: All Isotope Dilution Analyte (IDA) recoveries associated with the following sample are below the method recommended limit: W-04AR2-050119. Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

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

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

Detection Summary

Client: Field & Technical Services LLC
Project/Site: Superior 2019 ISA Sampling

Job ID: 140-15154-1

Client Sample ID: W-04AR2-050119

Lab Sample ID: 140-15154-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total PeCDD	3.7	J I	49	1.3	pg/L	1		8290A	Total/NA
1,2,3,4,7,8-HxCDD	9.4	J	49	1.6	pg/L	1		8290A	Total/NA
1,2,3,6,7,8-HxCDD	36	J B	49	1.5	pg/L	1		8290A	Total/NA
1,2,3,7,8,9-HxCDD	16	J B	49	1.5	pg/L	1		8290A	Total/NA
Total HxCDD	220	B	49	1.5	pg/L	1		8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	790	B	49	8.8	pg/L	1		8290A	Total/NA
Total HpCDD	2000	B	49	8.8	pg/L	1		8290A	Total/NA
OCDD	6300	B	97	3.8	pg/L	1		8290A	Total/NA
Total TCDF	53	I	9.7	1.9	pg/L	1		8290A	Total/NA
Total PeCDF	240	I	49	2.8	pg/L	1		8290A	Total/NA
1,2,3,4,7,8-HxCDF	22	J I	49	3.7	pg/L	1		8290A	Total/NA
1,2,3,6,7,8-HxCDF	29	J I	49	3.4	pg/L	1		8290A	Total/NA
Total HxCDF	650	I B	49	4.1	pg/L	1		8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	200	B	49	3.4	pg/L	1		8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	17	J I B	49	4.5	pg/L	1		8290A	Total/NA
Total HpCDF	730	I B	49	3.9	pg/L	1		8290A	Total/NA
OCDF	520	B	97	1.2	pg/L	1		8290A	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Field & Technical Services LLC
Project/Site: Superior 2019 ISA Sampling

Job ID: 140-15154-1

Client Sample ID: W-04AR2-050119
Date Collected: 05/01/19 08:30
Date Received: 05/02/19 09:30

Lab Sample ID: 140-15154-1
Matrix: Water

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.7	1.5	pg/L		05/08/19 11:40	05/16/19 00:12	1
Total TCDD	ND		9.7	3.1	pg/L		05/08/19 11:40	05/16/19 00:12	1
1,2,3,7,8-PeCDD	ND		49	1.3	pg/L		05/08/19 11:40	05/16/19 00:12	1
Total PeCDD	**3.7**	**J I**	49	1.3	pg/L		05/08/19 11:40	05/16/19 00:12	1
1,2,3,4,7,8-HxCDD	**9.4**	**J**	49	1.6	pg/L		05/08/19 11:40	05/16/19 00:12	1
1,2,3,6,7,8-HxCDD	**36**	**J B**	49	1.5	pg/L		05/08/19 11:40	05/16/19 00:12	1
1,2,3,7,8,9-HxCDD	**16**	**J B**	49	1.5	pg/L		05/08/19 11:40	05/16/19 00:12	1
Total HxCDD	**220**	**B**	49	1.5	pg/L		05/08/19 11:40	05/16/19 00:12	1
1,2,3,4,6,7,8-HpCDD	**790**	**B**	49	8.8	pg/L		05/08/19 11:40	05/16/19 00:12	1
Total HpCDD	**2000**	**B**	49	8.8	pg/L		05/08/19 11:40	05/16/19 00:12	1
OCDD	**6300**	**B**	97	3.8	pg/L		05/08/19 11:40	05/16/19 00:12	1
2,3,7,8-TCDF	ND		9.7	1.9	pg/L		05/08/19 11:40	05/16/19 00:12	1
Total TCDF	**53**	**I**	9.7	1.9	pg/L		05/08/19 11:40	05/16/19 00:12	1
1,2,3,7,8-PeCDF	ND		49	2.8	pg/L		05/08/19 11:40	05/16/19 00:12	1
2,3,4,7,8-PeCDF	ND		49	2.8	pg/L		05/08/19 11:40	05/16/19 00:12	1
Total PeCDF	**240**	**I**	49	2.8	pg/L		05/08/19 11:40	05/16/19 00:12	1
1,2,3,4,7,8-HxCDF	**22**	**J I**	49	3.7	pg/L		05/08/19 11:40	05/16/19 00:12	1
1,2,3,6,7,8-HxCDF	**29**	**J I**	49	3.4	pg/L		05/08/19 11:40	05/16/19 00:12	1
2,3,4,6,7,8-HxCDF	ND		49	4.1	pg/L		05/08/19 11:40	05/16/19 00:12	1
1,2,3,7,8,9-HxCDF	ND		49	5.1	pg/L		05/08/19 11:40	05/16/19 00:12	1
Total HxCDF	**650**	**I B**	49	4.1	pg/L		05/08/19 11:40	05/16/19 00:12	1
1,2,3,4,6,7,8-HpCDF	**200**	**B**	49	3.4	pg/L		05/08/19 11:40	05/16/19 00:12	1
1,2,3,4,7,8,9-HpCDF	**17**	**J I B**	49	4.5	pg/L		05/08/19 11:40	05/16/19 00:12	1
Total HpCDF	**730**	**I B**	49	3.9	pg/L		05/08/19 11:40	05/16/19 00:12	1
OCDF	**520**	**B**	97	1.2	pg/L		05/08/19 11:40	05/16/19 00:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*13*	*	*40 - 135*	*05/08/19 11:40*	*05/16/19 00:12*	*1*
13C-1,2,3,7,8-PeCDD	*15*	*	*40 - 135*	*05/08/19 11:40*	*05/16/19 00:12*	*1*
13C-1,2,3,4,7,8-HxCDD	*14*	*I *	*40 - 135*	*05/08/19 11:40*	*05/16/19 00:12*	*1*
13C-1,2,3,6,7,8-HxCDD	*16*	*	*40 - 135*	*05/08/19 11:40*	*05/16/19 00:12*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*20*	*	*40 - 135*	*05/08/19 11:40*	*05/16/19 00:12*	*1*
13C-OCDD	*20*	*	*40 - 135*	*05/08/19 11:40*	*05/16/19 00:12*	*1*
13C-2,3,7,8-TCDF	*15*	*	*40 - 135*	*05/08/19 11:40*	*05/16/19 00:12*	*1*
13C-1,2,3,7,8-PeCDF	*16*	*	*40 - 135*	*05/08/19 11:40*	*05/16/19 00:12*	*1*
13C-2,3,4,7,8-PeCDF	*15*	*	*40 - 135*	*05/08/19 11:40*	*05/16/19 00:12*	*1*
13C-1,2,3,4,7,8-HxCDF	*16*	*	*40 - 135*	*05/08/19 11:40*	*05/16/19 00:12*	*1*
13C-1,2,3,6,7,8-HxCDF	*16*	*	*40 - 135*	*05/08/19 11:40*	*05/16/19 00:12*	*1*
13C-2,3,4,6,7,8-HxCDF	*16*	*	*40 - 135*	*05/08/19 11:40*	*05/16/19 00:12*	*1*
13C-1,2,3,7,8,9-HxCDF	*16*	*	*40 - 135*	*05/08/19 11:40*	*05/16/19 00:12*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*19*	*	*40 - 135*	*05/08/19 11:40*	*05/16/19 00:12*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*19*	*	*40 - 135*	*05/08/19 11:40*	*05/16/19 00:12*	*1*
13C-OCDF	*19*	*	*40 - 135*	*05/08/19 11:40*	*05/16/19 00:12*	*1*

Default Detection Limits

Client: Field & Technical Services LLC
Project/Site: Superior 2019 ISA Sampling

Job ID: 140-15154-1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Prep: 8290

Analyte	RL		Units
1,2,3,4,6,7,8-HpCDD	50		pg/L
1,2,3,4,6,7,8-HpCDF	50		pg/L
1,2,3,4,7,8,9-HpCDF	50		pg/L
1,2,3,4,7,8-HxCDD	50		pg/L
1,2,3,4,7,8-HxCDF	50		pg/L
1,2,3,6,7,8-HxCDD	50		pg/L
1,2,3,6,7,8-HxCDF	50		pg/L
1,2,3,7,8,9-HxCDD	50		pg/L
1,2,3,7,8,9-HxCDF	50		pg/L
1,2,3,7,8-PeCDD	50		pg/L
1,2,3,7,8-PeCDF	50		pg/L
2,3,4,6,7,8-HxCDF	50		pg/L
2,3,4,7,8-PeCDF	50		pg/L
2,3,7,8-TCDD	10		pg/L
2,3,7,8-TCDF	10		pg/L
OCDD	100		pg/L
OCDF	100		pg/L
Total HpCDD	50		pg/L
Total HpCDF	50		pg/L
Total HxCDD	50		pg/L
Total HxCDF	50		pg/L
Total PeCDD	50		pg/L
Total PeCDF	50		pg/L
Total TCDD	10		pg/L
Total TCDF	10		pg/L

Isotope Dilution Summary

Client: Field & Technical Services LLC
Project/Site: Superior 2019 ISA Sampling

Job ID: 140-15154-1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (40-135)	PeCDD (40-135)	HxCDD (40-135)	HxDD (40-135)	HpCDD (40-135)	OCDD (40-135)	TCDF (40-135)	PeCDF (40-135)
140-15154-1	W-04AR2-050119	13 *	15 *	14 I *	16 *	20 *	20 *	15 *	16 *
LCS 140-29890/16-A	Lab Control Sample	71	80	76	77	105	109	84	76
MB 140-29890/15-A	Method Blank	65	75	78	72	90	83	74	75

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PeCF (40-135)	HxCDF (40-135)	HxDF (40-135)	13CHxCF (40-135)	HxCF (40-135)	HpCDF (40-135)	HpCDF2 (40-135)	13C-OCDF (40-135)
140-15154-1	W-04AR2-050119	15 *	16 *	16 *	16 *	16 *	19 *	19 *	19 *
LCS 140-29890/16-A	Lab Control Sample	78	78	76	78	82	92	103	108
MB 140-29890/15-A	Method Blank	73	80	75	79	77	81	84	77

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
PeCDD = 13C-1,2,3,7,8-PeCDD
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
OCDD = 13C-OCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
13C-OCDF = 13C-OCDF

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 140-29890/15-A
Matrix: Water
Analysis Batch: 30038

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 29890

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	0.38	pg/L		05/08/19 11:40	05/15/19 01:17	1
Total TCDD	ND		10	0.92	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,7,8-PeCDD	ND		50	0.42	pg/L		05/08/19 11:40	05/15/19 01:17	1
Total PeCDD	ND		50	0.42	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,4,7,8-HxCDD	ND		50	0.44	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,6,7,8-HxCDD	1.73	J I	50	0.49	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,7,8,9-HxCDD	2.00	J	50	0.43	pg/L		05/08/19 11:40	05/15/19 01:17	1
Total HxCDD	3.73	J I	50	0.45	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,4,6,7,8-HpCDD	3.05	J I	50	0.52	pg/L		05/08/19 11:40	05/15/19 01:17	1
Total HpCDD	4.72	J I	50	0.52	pg/L		05/08/19 11:40	05/15/19 01:17	1
OCDD	11.4	J I	100	1.1	pg/L		05/08/19 11:40	05/15/19 01:17	1
2,3,7,8-TCDF	ND		10	0.44	pg/L		05/08/19 11:40	05/15/19 01:17	1
Total TCDF	ND		10	0.46	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,7,8-PeCDF	ND		50	1.4	pg/L		05/08/19 11:40	05/15/19 01:17	1
2,3,4,7,8-PeCDF	ND		50	1.3	pg/L		05/08/19 11:40	05/15/19 01:17	1
Total PeCDF	ND		50	1.4	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,4,7,8-HxCDF	ND		50	0.50	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,6,7,8-HxCDF	ND		50	0.50	pg/L		05/08/19 11:40	05/15/19 01:17	1
2,3,4,6,7,8-HxCDF	ND		50	0.56	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,7,8,9-HxCDF	1.48	J I	50	0.66	pg/L		05/08/19 11:40	05/15/19 01:17	1
Total HxCDF	1.48	J I	50	0.56	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,4,6,7,8-HpCDF	1.92	J I	50	0.48	pg/L		05/08/19 11:40	05/15/19 01:17	1
1,2,3,4,7,8,9-HpCDF	1.75	J I	50	0.65	pg/L		05/08/19 11:40	05/15/19 01:17	1
Total HpCDF	3.67	J I	50	0.57	pg/L		05/08/19 11:40	05/15/19 01:17	1
OCDF	6.81	J I	100	0.30	pg/L		05/08/19 11:40	05/15/19 01:17	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*65*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-1,2,3,7,8-PeCDD	*75*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-1,2,3,4,7,8-HxCDD	*78*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-1,2,3,6,7,8-HxCDD	*72*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*90*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-OCDD	*83*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-2,3,7,8-TCDF	*74*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-1,2,3,7,8-PeCDF	*75*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-2,3,4,7,8-PeCDF	*73*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-1,2,3,4,7,8-HxCDF	*80*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-1,2,3,6,7,8-HxCDF	*75*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-2,3,4,6,7,8-HxCDF	*79*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-1,2,3,7,8,9-HxCDF	*77*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*81*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*84*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*
13C-OCDF	*77*		*40 - 135*	*05/08/19 11:40*	*05/15/19 01:17*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 140-29890/16-A
Matrix: Water
Analysis Batch: 30038

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 29890

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	200	245		pg/L		123	77 - 127
1,2,3,7,8-PeCDD	1000	1200		pg/L		120	78 - 128
1,2,3,4,7,8-HxCDD	1000	1190		pg/L		119	73 - 123
1,2,3,6,7,8-HxCDD	1000	1180		pg/L		118	72 - 127
1,2,3,7,8,9-HxCDD	1000	1230		pg/L		123	76 - 126
1,2,3,4,6,7,8-HpCDD	1000	1050		pg/L		105	73 - 123
OCDD	2000	2010		pg/L		101	75 - 125
2,3,7,8-TCDF	200	236		pg/L		118	74 - 124
1,2,3,7,8-PeCDF	1000	1160		pg/L		116	74 - 124
2,3,4,7,8-PeCDF	1000	1160		pg/L		116	74 - 124
1,2,3,4,7,8-HxCDF	1000	1160		pg/L		116	75 - 125
1,2,3,6,7,8-HxCDF	1000	1130		pg/L		113	75 - 125
2,3,4,6,7,8-HxCDF	1000	1180		pg/L		118	76 - 126
1,2,3,7,8,9-HxCDF	1000	1130		pg/L		113	76 - 126
1,2,3,4,6,7,8-HpCDF	1000	1090		pg/L		109	71 - 121
1,2,3,4,7,8,9-HpCDF	1000	1100		pg/L		110	73 - 123
OCDF	2000	1860		pg/L		93	68 - 132

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*71*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*80*		*40 - 135*
13C-1,2,3,4,7,8-HxCDD	*76*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*77*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*105*		*40 - 135*
13C-OCDD	*109*		*40 - 135*
13C-2,3,7,8-TCDF	*84*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*76*		*40 - 135*
13C-2,3,4,7,8-PeCDF	*78*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*78*		*40 - 135*
13C-1,2,3,6,7,8-HxCDF	*76*		*40 - 135*
13C-2,3,4,6,7,8-HxCDF	*78*		*40 - 135*
13C-1,2,3,7,8,9-HxCDF	*82*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*92*		*40 - 135*
13C-1,2,3,4,7,8,9-HpCDF	*103*		*40 - 135*
13C-OCDF	*108*		*40 - 135*

QC Association Summary

Client: Field & Technical Services LLC
Project/Site: Superior 2019 ISA Sampling

Job ID: 140-15154-1

Specialty Organics

Prep Batch: 29890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-15154-1	W-04AR2-050119	Total/NA	Water	8290	
MB 140-29890/15-A	Method Blank	Total/NA	Water	8290	
LCS 140-29890/16-A	Lab Control Sample	Total/NA	Water	8290	

Analysis Batch: 30038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 140-29890/15-A	Method Blank	Total/NA	Water	8290A	29890
LCS 140-29890/16-A	Lab Control Sample	Total/NA	Water	8290A	29890

Analysis Batch: 30074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-15154-1	W-04AR2-050119	Total/NA	Water	8290A	29890

Lab Chronicle

Client: Field & Technical Services LLC
Project/Site: Superior 2019 ISA Sampling

Job ID: 140-15154-1

Client Sample ID: W-04AR2-050119

Lab Sample ID: 140-15154-1

Date Collected: 05/01/19 08:30

Matrix: Water

Date Received: 05/02/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			1026 mL	20 uL	29890	05/08/19 11:40	SMA	TAL KNX
Total/NA	Analysis	8290A		1			30074	05/16/19 00:12	LKM	TAL KNX
	Instrument ID: D11A									

Client Sample ID: Method Blank

Lab Sample ID: MB 140-29890/15-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			1000 mL	20 uL	29890	05/08/19 11:40	SMA	TAL KNX
Total/NA	Analysis	8290A		1			30038	05/15/19 01:17	LKM	TAL KNX
	Instrument ID: D11A									

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 140-29890/16-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			1000 mL	20 uL	29890	05/08/19 11:40	SMA	TAL KNX
Total/NA	Analysis	8290A		1			30038	05/14/19 23:08	LKM	TAL KNX
	Instrument ID: D11A									

Laboratory References:

TAL KNX = Eurofins TestAmerica, Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Accreditation/Certification Summary

Client: Field & Technical Services LLC
Job ID: 140-15154-1
Project/Site: Superior 2019 ISA Sampling

Laboratory: Eurofins TestAmerica, Knoxville

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	998044300	08-31-19

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8290A	8290	Water	1,2,3,4,6,7,8-HpCDD
8290A	8290	Water	1,2,3,4,6,7,8-HpCDF
8290A	8290	Water	1,2,3,4,7,8,9-HpCDF
8290A	8290	Water	1,2,3,4,7,8-HxCDD
8290A	8290	Water	1,2,3,4,7,8-HxCDF
8290A	8290	Water	1,2,3,6,7,8-HxCDD
8290A	8290	Water	1,2,3,6,7,8-HxCDF
8290A	8290	Water	1,2,3,7,8,9-HxCDD
8290A	8290	Water	1,2,3,7,8,9-HxCDF
8290A	8290	Water	1,2,3,7,8-PeCDD
8290A	8290	Water	1,2,3,7,8-PeCDF
8290A	8290	Water	2,3,4,6,7,8-HxCDF
8290A	8290	Water	2,3,4,7,8-PeCDF
8290A	8290	Water	2,3,7,8-TCDD
8290A	8290	Water	2,3,7,8-TCDF
8290A	8290	Water	OCDD
8290A	8290	Water	OCDF
8290A	8290	Water	Total HpCDD
8290A	8290	Water	Total HpCDF
8290A	8290	Water	Total HxCDD
8290A	8290	Water	Total HxCDF
8290A	8290	Water	Total PeCDD
8290A	8290	Water	Total PeCDF
8290A	8290	Water	Total TCDD
8290A	8290	Water	Total TCDF

Accreditation/Certification Summary

Client: Field & Technical Services LLC
Job ID: 140-15154-1
Project/Site: Superior 2019 ISA Sampling

Laboratory: Eurofins TestAmerica, Pittsburgh

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
Arkansas DEQ	State Program	6	88-0690	06-27-19
California	State Program	9	2891	04-30-20
Connecticut	State Program	1	PH-0688	09-30-20
Florida	NELAP	4	E871008	06-30-19
Illinois	NELAP	5	200005	06-30-19
Kansas	NELAP	7	E-10350	01-31-20
Louisiana	NELAP	6	04041	06-30-19
Nevada	State Program	9	PA00164	07-31-19
New Hampshire	NELAP	1	2030	04-04-20
New Jersey	NELAP	2	PA005	06-30-19
New York	NELAP	2	11182	03-31-20
North Carolina (WW/SW)	State Program	4	434	12-31-19
Oregon	NELAP	10	PA-2151	02-06-20
Pennsylvania	NELAP	3	02-00416	04-30-20
South Carolina	State Program	4	89014	04-30-19 *
Texas	NELAP	6	T104704528-15-2	03-31-20
US Fish & Wildlife	Federal		LE94312A-1	07-31-19
USDA	Federal		P330-16-00211	06-26-19
Utah	NELAP	8	PA001462015-4	05-31-19 *
Virginia	NELAP	3	460189	09-14-19
West Virginia DEP	State Program	3	142	01-31-20
Wisconsin	State Program	5	998027800	08-31-19

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

Method Summary

Client: Field & Technical Services LLC
Project/Site: Superior 2019 ISA Sampling

Job ID: 140-15154-1

Method	Method Description	Protocol	Laboratory
8290A	Dioxins and Furans (HRGC/HRMS)	SW846	TAL KNX
8290	Separatory Funnel (Liquid-Liquid) Extraction of Dioxins and Furans	SW846	TAL KNX

Protocol References:

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

Laboratory References:

TAL KNX = Eurofins TestAmerica, Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Sample Summary

Client: Field & Technical Services LLC
Project/Site: Superior 2019 ISA Sampling

Job ID: 140-15154-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Assest ID
140-15154-1	W-04AR2-050119	Water	05/01/19 08:30	05/02/19 09:30	

Chain of Custody Record

321630

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager:	Site Contact: N/A	Date: 5/1/19	COC No:
Company Name: FTS	Tel/Fax:	Lab Contact:	Carrier: Fed Ex	1 of 1 COCs
Address: 700 3rd Ave	Analysis Turnaround Time			Sampler:
City/State/Zip: Carnegie, PA 15106	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: (412) 279-3363	TAT if different from Below STD			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Superior 2019 ISA Sampling	☐ 1 week			
Site: Superior WI	☐ 2 days			Job / SDG No.:
PO # OM-0556-19 091	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	8290-Dioxins/Furans	Sample Specific Notes:
W-04AR2 050119	5/1/19	0830	G	W	2	N	N	2	

140-15154 Chain of Custody

RT CT
REC. @ 0.5°C 0.5°C
CUSTODY SEAL INTACT
1 COOLER RH 5/2/19
FEDEX # 786986685581

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Keith McMurdo	FTS	5/1/19 0945	Ryan Henry	TA KNX	5/2/19 0930
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

5/22/2019

Loc: 140
15154

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Log In Number:

Review Items	Yes	No	NA	If No, what was the problem?
1. Are the shipping containers intact?	✓			☐ **Containers, Broken**
2. Were ambient air containers received intact?			✓	☐ Checked in lab
3. The coolers/containers custody seal if present, is it intact?	✓			☐ Yes ☐ NA
4. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SC68 Correction factor: 0	✓			☐ **Cooler Out of Temp, Client Contacted, Proceed/Cancel** ☐ **Cooler Out of Temp, Same Day Receipt**
5. Were all of the sample containers received intact?	✓			☐ **Containers, Broken**
6. Were samples received in appropriate containers?	✓			☐ **Containers, Improper; Client Contacted; Proceed/Cancel**
7. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **COC & Samples Do Not Match** ☐ **COC Incorrect/Incomplete** ☐ **COC Not Received**
8. Were all of the samples listed on the COC received?	✓			☐ **Sample Received, Not on COC** ☐ **Sample on COC, Not Received**
9. Is the date/time of sample collection noted?	✓			☐ **COC; No Date/Time; Client Contacted**
10. Was the sampler identified on the COC?		✓		☐ **Sampler Not Listed on COC**
11. Is the client and project name/# identified?	✓			☐ **COC Incorrect/Incomplete**
12. Are tests/parameters listed for each sample?	✓			☐ **COC No tests on COC**
13. Is the matrix of the samples noted?	✓			☐ **COC Incorrect/Incomplete**
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **COC Incorrect/Incomplete**
15. Were samples received within holding time?	✓			☐ **Holding Time - Receipt**
16. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **pH Adjusted, pH Included (See box 16A)** ☐ **Incorrect Preservative**
17. Were VOA samples received without headspace?			✓	☐ **Headspace (VOA only)**
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:			✓	☐ **Residual Chlorine**
19. For 1613B water samples is pH<9?			✓	☐ If no, notify lab to adjust
20. For rad samples was sample activity info. Provided?			✓	☐ Project missing info

Comments/Actions Taken

Labeling Verified by: **Date:**

pH test strip lot number:

	Box 16A: pH Preservation	Box 18A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Project #: _____ PM Instructions: _____

Sample Receiving Associate: Ryan Henry Date: 5/2/19

QA026R31.doc, 112618

5/22/2019

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-152847-1
Client Project/Site: Superior, WI Semiannual Groundwater
Revision: 2

For:
Field & Technical Services LLC
200 Third Avenue
Carnegie, Pennsylvania 15106

Attn: Ms. Angie Gatchie

Veronica Bortot

Authorized for release by:
6/10/2019 2:29:24 PM

Veronica Bortot, Senior Project Manager
(412)963-2435
veronica.bortot@testamericainc.com

Table of Contents

Definitions/Glossary

Client: Field & Technical Services LLC
Job ID: 480-152847-1
Project/Site: Superior, WI Semiannual Groundwater

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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)

Job ID: 480-152847-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-152847-1

Revised: 2 to correct SVOC list of compounds

Revised: to correct sampling dates on sample IDs

Comments
No additional comments.

Receipt
The samples were received on 5/1/2019 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.4º C and 2.9º C.

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

GC/MS Semi VOA
Method(s) 8270D LL: The laboratory control sample (LCS) for preparation batch 480-471326 and analytical batch 480-471658 recovered outside control limits for the following analytes: Pentachlorophenol. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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

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

Detection Summary

Client: Field & Technical Services LLC
Job ID: 480-152847-1
Project/Site: Superior, WI Semiannual Groundwater

Client Sample ID: SUPE-W-30C-043019 — Lab Sample ID: 480-152847-1

No Detections.

Client Sample ID: SUPE-W-06A-043019 — Lab Sample ID: 480-152847-2

No Detections.

Client Sample ID: SUPE-W-06C-043019 — Lab Sample ID: 480-152847-3

No Detections.

Client Sample ID: SUPE-EB-01-043019 — Lab Sample ID: 480-152847-4

No Detections.

Client Sample ID: SUPE-W-28C-043019 — Lab Sample ID: 480-152847-5

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Field & Technical Services LLC
Job ID: 480-152847-1
Project/Site: Superior, WI Semiannual Groundwater

Client Sample ID: SUPE-W-30C-043019
Lab Sample ID: 480-152847-1

Date Collected: 04/30/19 09:45
Matrix: Water
Date Received: 05/01/19 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/09/19 02:38	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			05/09/19 02:38	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			05/09/19 02:38	1
Benzene	ND		1.0	0.41	ug/L			05/09/19 02:38	1
Chloromethane	ND		1.0	0.35	ug/L			05/09/19 02:38	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/09/19 02:38	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			05/09/19 02:38	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/09/19 02:38	1
Naphthalene	ND		1.0	0.43	ug/L			05/09/19 02:38	1
n-Butylbenzene	ND		1.0	0.64	ug/L			05/09/19 02:38	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/09/19 02:38	1
o-Xylene	ND		1.0	0.76	ug/L			05/09/19 02:38	1
Styrene	ND		1.0	0.73	ug/L			05/09/19 02:38	1
Toluene	ND		1.0	0.51	ug/L			05/09/19 02:38	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/09/19 02:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*77 - 120*		*05/09/19 02:38*	*1*
4-Bromofluorobenzene (Surr)	*88*		*73 - 120*		*05/09/19 02:38*	*1*
Dibromofluoromethane (Surr)	*97*		*75 - 123*		*05/09/19 02:38*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*05/09/19 02:38*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	*	0.95	0.32	ug/L		05/06/19 08:07	05/08/19 05:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*94*		*24 - 146*	*05/06/19 08:07*	*05/08/19 05:19*	*1*
2-Fluorobiphenyl	*82*		*37 - 120*	*05/06/19 08:07*	*05/08/19 05:19*	*1*
2-Fluorophenol (Surr)	*46*		*10 - 120*	*05/06/19 08:07*	*05/08/19 05:19*	*1*
Nitrobenzene-d5 (Surr)	*85*		*26 - 120*	*05/06/19 08:07*	*05/08/19 05:19*	*1*
Phenol-d5 (Surr)	*28*		*11 - 120*	*05/06/19 08:07*	*05/08/19 05:19*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.9	0.29	ug/L		05/07/19 14:39	05/09/19 19:08	1
1,2-Dichlorobenzene	ND		1.9	0.28	ug/L		05/07/19 14:39	05/09/19 19:08	1
1,3-Dichlorobenzene	ND		1.9	0.24	ug/L		05/07/19 14:39	05/09/19 19:08	1
1,4-Dichlorobenzene	ND		1.9	0.26	ug/L		05/07/19 14:39	05/09/19 19:08	1
1-Methylnaphthalene	ND		1.9	0.48	ug/L		05/07/19 14:39	05/09/19 19:08	1
bis(chloroisopropyl) ether	ND		1.9	0.29	ug/L		05/07/19 14:39	05/09/19 19:08	1
2,3,4,6-Tetrachlorophenol	ND		4.8	1.4	ug/L		05/07/19 14:39	05/09/19 19:08	1
2,4,5-Trichlorophenol	ND		9.6	2.2	ug/L		05/07/19 14:39	05/09/19 19:08	1
2,4,6-Trichlorophenol	ND		4.8	1.1	ug/L		05/07/19 14:39	05/09/19 19:08	1
2,4-Dichlorophenol	ND		9.6	2.2	ug/L		05/07/19 14:39	05/09/19 19:08	1
2,4-Dinitrophenol	ND		19	7.1	ug/L		05/07/19 14:39	05/09/19 19:08	1
2,4-Dinitrotoluene	ND		0.96	0.29	ug/L		05/07/19 14:39	05/09/19 19:08	1
2,6-Dinitrotoluene	ND		0.96	0.11	ug/L		05/07/19 14:39	05/09/19 19:08	1
3 & 4 Methylphenol	ND		1.9	0.42	ug/L		05/07/19 14:39	05/09/19 19:08	1
2-Chloronaphthalene	ND		1.9	0.32	ug/L		05/07/19 14:39	05/09/19 19:08	1

Client: Field & Technical Services LLC
Project/Site: Superior, WI Semiannual Groundwater

Job ID: 480-152847-1

Client Sample ID: SUPE-W-30C-043019
Date Collected: 04/30/19 09:45
Date Received: 05/01/19 09:30

Lab Sample ID: 480-152847-1
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	ND		4.8	0.76	ug/L		05/07/19 14:39	05/09/19 19:08	1
2-Methylnaphthalene	ND		1.9	0.12	ug/L		05/07/19 14:39	05/09/19 19:08	1
2-Methylphenol	ND		1.9	0.30	ug/L		05/07/19 14:39	05/09/19 19:08	1
2-Nitroaniline	ND		4.8	1.0	ug/L		05/07/19 14:39	05/09/19 19:08	1
2-Nitrophenol	ND		9.6	2.0	ug/L		05/07/19 14:39	05/09/19 19:08	1
3-Nitroaniline	ND		9.6	2.2	ug/L		05/07/19 14:39	05/09/19 19:08	1
4,6-Dinitro-2-methylphenol	ND		19	4.7	ug/L		05/07/19 14:39	05/09/19 19:08	1
4-Bromophenyl phenyl ether	ND		4.8	0.87	ug/L		05/07/19 14:39	05/09/19 19:08	1
4-Chloro-3-methylphenol	ND		9.6	2.1	ug/L		05/07/19 14:39	05/09/19 19:08	1
4-Chloroaniline	ND		9.6	2.0	ug/L		05/07/19 14:39	05/09/19 19:08	1
4-Chlorophenyl phenyl ether	ND		4.8	0.77	ug/L		05/07/19 14:39	05/09/19 19:08	1
4-Nitroaniline	ND		9.6	3.8	ug/L		05/07/19 14:39	05/09/19 19:08	1
4-Nitrophenol	ND		19	2.2	ug/L		05/07/19 14:39	05/09/19 19:08	1
Acenaphthene	ND		0.96	0.34	ug/L		05/07/19 14:39	05/09/19 19:08	1
Acenaphthylene	ND		0.96	0.31	ug/L		05/07/19 14:39	05/09/19 19:08	1
Anthracene	ND		0.96	0.31	ug/L		05/07/19 14:39	05/09/19 19:08	1
Benzo[a]pyrene	ND		0.19	0.054	ug/L		05/07/19 14:39	05/09/19 19:08	1
Benzo[b]fluoranthene	ND		0.19	0.055	ug/L		05/07/19 14:39	05/09/19 19:08	1
Benzo[g,h,i]perylene	ND		0.96	0.40	ug/L		05/07/19 14:39	05/09/19 19:08	1
Benzo[k]fluoranthene	ND		0.19	0.071	ug/L		05/07/19 14:39	05/09/19 19:08	1
Benzoic acid	ND		19	4.4	ug/L		05/07/19 14:39	05/09/19 19:08	1
Benzyl alcohol	ND		19	2.9	ug/L		05/07/19 14:39	05/09/19 19:08	1
Bis(2-chloroethoxy)methane	ND		1.9	0.29	ug/L		05/07/19 14:39	05/09/19 19:08	1
Bis(2-chloroethyl)ether	ND		1.9	0.33	ug/L		05/07/19 14:39	05/09/19 19:08	1
Bis(2-ethylhexyl) phthalate	ND		9.6	2.3	ug/L		05/07/19 14:39	05/09/19 19:08	1
Butyl benzyl phthalate	ND		1.9	0.26	ug/L		05/07/19 14:39	05/09/19 19:08	1
Chrysene	ND		0.48	0.13	ug/L		05/07/19 14:39	05/09/19 19:08	1
Dibenz(a,h)anthracene	ND		0.29	0.061	ug/L		05/07/19 14:39	05/09/19 19:08	1
Dibenzofuran	ND		1.9	0.33	ug/L		05/07/19 14:39	05/09/19 19:08	1
Diethyl phthalate	ND		1.9	0.42	ug/L		05/07/19 14:39	05/09/19 19:08	1
Dimethyl phthalate	ND		1.9	0.36	ug/L		05/07/19 14:39	05/09/19 19:08	1
Di-n-butyl phthalate	ND		4.8	0.76	ug/L		05/07/19 14:39	05/09/19 19:08	1
Di-n-octyl phthalate	ND		9.6	2.4	ug/L		05/07/19 14:39	05/09/19 19:08	1
2,3,5,6-Tetrachlorophenol	ND		4.8	2.4	ug/L		05/07/19 14:39	05/09/19 19:08	1
Fluoranthene	ND		0.96	0.31	ug/L		05/07/19 14:39	05/09/19 19:08	1
Fluorene	ND		0.96	0.36	ug/L		05/07/19 14:39	05/09/19 19:08	1
Hexachlorobenzene	ND		0.48	0.13	ug/L		05/07/19 14:39	05/09/19 19:08	1
Hexachlorobutadiene	ND		4.8	1.1	ug/L		05/07/19 14:39	05/09/19 19:08	1
Hexachlorocyclopentadiene	ND		19	3.3	ug/L		05/07/19 14:39	05/09/19 19:08	1
Hexachloroethane	ND		4.8	0.93	ug/L		05/07/19 14:39	05/09/19 19:08	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.080	ug/L		05/07/19 14:39	05/09/19 19:08	1
Isophorone	ND		1.9	0.28	ug/L		05/07/19 14:39	05/09/19 19:08	1
Nitrobenzene	ND		0.96	0.43	ug/L		05/07/19 14:39	05/09/19 19:08	1
N-Nitrosodi-n-propylamine	ND		0.48	0.13	ug/L		05/07/19 14:39	05/09/19 19:08	1
N-Nitrosodiphenylamine	ND		1.9	0.32	ug/L		05/07/19 14:39	05/09/19 19:08	1
Phenol	ND		4.8	0.34	ug/L		05/07/19 14:39	05/09/19 19:08	1
Pyrene	ND		0.96	0.46	ug/L		05/07/19 14:39	05/09/19 19:08	1
2,4-Dimethylphenol	ND		9.6	3.2	ug/L		05/07/19 14:39	05/09/19 19:08	1
Benzo[a]anthracene	ND		0.19	0.042	ug/L		05/07/19 14:39	05/09/19 19:08	1

Client Sample ID: SUPE-W-30C-043019
Lab Sample ID: 480-152847-1
Date Collected: 04/30/19 09:45
Matrix: Water
Date Received: 05/01/19 09:30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.96	0.33	ug/L		05/07/19 14:39	05/09/19 19:08	1
3,3'-Dichlorobenzidine	ND		4.8	0.90	ug/L		05/07/19 14:39	05/09/19 19:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*92*		*40 - 145*	*05/07/19 14:39*	*05/09/19 19:08*	*1*
2-Fluorobiphenyl	*88*		*34 - 110*	*05/07/19 14:39*	*05/09/19 19:08*	*1*
2-Fluorophenol (Surr)	*45*		*27 - 110*	*05/07/19 14:39*	*05/09/19 19:08*	*1*
Nitrobenzene-d5 (Surr)	*94*		*36 - 120*	*05/07/19 14:39*	*05/09/19 19:08*	*1*
Phenol-d5 (Surr)	*30*		*20 - 100*	*05/07/19 14:39*	*05/09/19 19:08*	*1*
Terphenyl-d14 (Surr)	*104*		*40 - 145*	*05/07/19 14:39*	*05/09/19 19:08*	*1*

Client Sample ID: SUPE-W-06A-043019
Lab Sample ID: 480-152847-2
Date Collected: 04/30/19 11:05
Matrix: Water
Date Received: 05/01/19 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/09/19 03:01	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			05/09/19 03:01	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			05/09/19 03:01	1
Benzene	ND		1.0	0.41	ug/L			05/09/19 03:01	1
Chloromethane	ND		1.0	0.35	ug/L			05/09/19 03:01	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/09/19 03:01	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			05/09/19 03:01	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/09/19 03:01	1
Naphthalene	ND		1.0	0.43	ug/L			05/09/19 03:01	1
n-Butylbenzene	ND		1.0	0.64	ug/L			05/09/19 03:01	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/09/19 03:01	1
o-Xylene	ND		1.0	0.76	ug/L			05/09/19 03:01	1
Styrene	ND		1.0	0.73	ug/L			05/09/19 03:01	1
Toluene	ND		1.0	0.51	ug/L			05/09/19 03:01	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/09/19 03:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*77 - 120*		*05/09/19 03:01*	*1*
4-Bromofluorobenzene (Surr)	*90*		*73 - 120*		*05/09/19 03:01*	*1*
Dibromofluoromethane (Surr)	*95*		*75 - 123*		*05/09/19 03:01*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*05/09/19 03:01*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	*	0.95	0.32	ug/L		05/06/19 08:07	05/08/19 05:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*96*		*24 - 146*	*05/06/19 08:07*	*05/08/19 05:48*	*1*
2-Fluorobiphenyl	*86*		*37 - 120*	*05/06/19 08:07*	*05/08/19 05:48*	*1*
2-Fluorophenol (Surr)	*45*		*10 - 120*	*05/06/19 08:07*	*05/08/19 05:48*	*1*
Nitrobenzene-d5 (Surr)	*81*		*26 - 120*	*05/06/19 08:07*	*05/08/19 05:48*	*1*
Phenol-d5 (Surr)	*28*		*11 - 120*	*05/06/19 08:07*	*05/08/19 05:48*	*1*

Client: Field & Technical Services LLC
Job ID: 480-152847-1
Project/Site: Superior, WI Semiannual Groundwater

Client Sample ID: SUPE-W-06A-043019
Lab Sample ID: 480-152847-2
Date Collected: 04/30/19 11:05
Matrix: Water
Date Received: 05/01/19 09:30

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.9	0.29	ug/L		05/07/19 14:39	05/09/19 19:32	1
1,2-Dichlorobenzene	ND		1.9	0.28	ug/L		05/07/19 14:39	05/09/19 19:32	1
1,3-Dichlorobenzene	ND		1.9	0.24	ug/L		05/07/19 14:39	05/09/19 19:32	1
1,4-Dichlorobenzene	ND		1.9	0.26	ug/L		05/07/19 14:39	05/09/19 19:32	1
1-Methylnaphthalene	ND		1.9	0.49	ug/L		05/07/19 14:39	05/09/19 19:32	1
bis(chloroisopropyl) ether	ND		1.9	0.29	ug/L		05/07/19 14:39	05/09/19 19:32	1
2,3,4,6-Tetrachlorophenol	ND		4.9	1.5	ug/L		05/07/19 14:39	05/09/19 19:32	1
2,4,5-Trichlorophenol	ND		9.7	2.2	ug/L		05/07/19 14:39	05/09/19 19:32	1
2,4,6-Trichlorophenol	ND		4.9	1.1	ug/L		05/07/19 14:39	05/09/19 19:32	1
2,4-Dichlorophenol	ND		9.7	2.2	ug/L		05/07/19 14:39	05/09/19 19:32	1
2,4-Dinitrophenol	ND		19	7.2	ug/L		05/07/19 14:39	05/09/19 19:32	1
2,4-Dinitrotoluene	ND		0.97	0.29	ug/L		05/07/19 14:39	05/09/19 19:32	1
2,6-Dinitrotoluene	ND		0.97	0.12	ug/L		05/07/19 14:39	05/09/19 19:32	1
3 & 4 Methylphenol	ND		1.9	0.43	ug/L		05/07/19 14:39	05/09/19 19:32	1
2-Chloronaphthalene	ND		1.9	0.33	ug/L		05/07/19 14:39	05/09/19 19:32	1
2-Chlorophenol	ND		4.9	0.78	ug/L		05/07/19 14:39	05/09/19 19:32	1
2-Methylnaphthalene	ND		1.9	0.13	ug/L		05/07/19 14:39	05/09/19 19:32	1
2-Methylphenol	ND		1.9	0.30	ug/L		05/07/19 14:39	05/09/19 19:32	1
2-Nitroaniline	ND		4.9	1.1	ug/L		05/07/19 14:39	05/09/19 19:32	1
2-Nitrophenol	ND		9.7	2.1	ug/L		05/07/19 14:39	05/09/19 19:32	1
3-Nitroaniline	ND		9.7	2.2	ug/L		05/07/19 14:39	05/09/19 19:32	1
4,6-Dinitro-2-methylphenol	ND		19	4.8	ug/L		05/07/19 14:39	05/09/19 19:32	1
4-Bromophenyl phenyl ether	ND		4.9	0.89	ug/L		05/07/19 14:39	05/09/19 19:32	1
4-Chloro-3-methylphenol	ND		9.7	2.1	ug/L		05/07/19 14:39	05/09/19 19:32	1
4-Chloroaniline	ND		9.7	2.0	ug/L		05/07/19 14:39	05/09/19 19:32	1
4-Chlorophenyl phenyl ether	ND		4.9	0.79	ug/L		05/07/19 14:39	05/09/19 19:32	1
4-Nitroaniline	ND		9.7	3.8	ug/L		05/07/19 14:39	05/09/19 19:32	1
4-Nitrophenol	ND		19	2.3	ug/L		05/07/19 14:39	05/09/19 19:32	1
Acenaphthene	ND		0.97	0.35	ug/L		05/07/19 14:39	05/09/19 19:32	1
Acenaphthylene	ND		0.97	0.31	ug/L		05/07/19 14:39	05/09/19 19:32	1
Anthracene	ND		0.97	0.31	ug/L		05/07/19 14:39	05/09/19 19:32	1
Benzo[a]pyrene	ND		0.19	0.055	ug/L		05/07/19 14:39	05/09/19 19:32	1
Benzo[b]fluoranthene	ND		0.19	0.056	ug/L		05/07/19 14:39	05/09/19 19:32	1
Benzo[g,h,i]perylene	ND		0.97	0.41	ug/L		05/07/19 14:39	05/09/19 19:32	1
Benzo[k]fluoranthene	ND		0.19	0.072	ug/L		05/07/19 14:39	05/09/19 19:32	1
Benzoic acid	ND		19	4.4	ug/L		05/07/19 14:39	05/09/19 19:32	1
Benzyl alcohol	ND		19	3.0	ug/L		05/07/19 14:39	05/09/19 19:32	1
Bis(2-chloroethoxy)methane	ND		1.9	0.29	ug/L		05/07/19 14:39	05/09/19 19:32	1
Bis(2-chloroethyl)ether	ND		1.9	0.34	ug/L		05/07/19 14:39	05/09/19 19:32	1
Bis(2-ethylhexyl) phthalate	ND		9.7	2.4	ug/L		05/07/19 14:39	05/09/19 19:32	1
Butyl benzyl phthalate	ND		1.9	0.26	ug/L		05/07/19 14:39	05/09/19 19:32	1
Chrysene	ND		0.49	0.14	ug/L		05/07/19 14:39	05/09/19 19:32	1
Dibenz(a,h)anthracene	ND		0.29	0.062	ug/L		05/07/19 14:39	05/09/19 19:32	1
Dibenzofuran	ND		1.9	0.34	ug/L		05/07/19 14:39	05/09/19 19:32	1
Diethyl phthalate	ND		1.9	0.43	ug/L		05/07/19 14:39	05/09/19 19:32	1
Dimethyl phthalate	ND		1.9	0.37	ug/L		05/07/19 14:39	05/09/19 19:32	1
Di-n-butyl phthalate	ND		4.9	0.78	ug/L		05/07/19 14:39	05/09/19 19:32	1
Di-n-octyl phthalate	ND		9.7	2.4	ug/L		05/07/19 14:39	05/09/19 19:32	1
2,3,5,6-Tetrachlorophenol	ND		4.9	2.4	ug/L		05/07/19 14:39	05/09/19 19:32	1

Client Sample ID: SUPE-W-06A-043019
Lab Sample ID: 480-152847-2

Date Collected: 04/30/19 11:05
Matrix: Water
Date Received: 05/01/19 09:30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.97	0.31	ug/L		05/07/19 14:39	05/09/19 19:32	1
Fluorene	ND		0.97	0.37	ug/L		05/07/19 14:39	05/09/19 19:32	1
Hexachlorobenzene	ND		0.49	0.14	ug/L		05/07/19 14:39	05/09/19 19:32	1
Hexachlorobutadiene	ND		4.9	1.1	ug/L		05/07/19 14:39	05/09/19 19:32	1
Hexachlorocyclopentadiene	ND		19	3.3	ug/L		05/07/19 14:39	05/09/19 19:32	1
Hexachloroethane	ND		4.9	0.94	ug/L		05/07/19 14:39	05/09/19 19:32	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.082	ug/L		05/07/19 14:39	05/09/19 19:32	1
Isophorone	ND		1.9	0.28	ug/L		05/07/19 14:39	05/09/19 19:32	1
Nitrobenzene	ND		0.97	0.44	ug/L		05/07/19 14:39	05/09/19 19:32	1
N-Nitrosodi-n-propylamine	ND		0.49	0.14	ug/L		05/07/19 14:39	05/09/19 19:32	1
N-Nitrosodiphenylamine	ND		1.9	0.33	ug/L		05/07/19 14:39	05/09/19 19:32	1
Phenol	ND		4.9	0.35	ug/L		05/07/19 14:39	05/09/19 19:32	1
Pyrene	ND		0.97	0.47	ug/L		05/07/19 14:39	05/09/19 19:32	1
2,4-Dimethylphenol	ND		9.7	3.3	ug/L		05/07/19 14:39	05/09/19 19:32	1
Benzo[a]anthracene	ND		0.19	0.043	ug/L		05/07/19 14:39	05/09/19 19:32	1
Phenanthrene	ND		0.97	0.34	ug/L		05/07/19 14:39	05/09/19 19:32	1
3,3'-Dichlorobenzidine	ND		4.9	0.92	ug/L		05/07/19 14:39	05/09/19 19:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*94*		*40 - 145*	*05/07/19 14:39*	*05/09/19 19:32*	*1*
2-Fluorobiphenyl	*93*		*34 - 110*	*05/07/19 14:39*	*05/09/19 19:32*	*1*
2-Fluorophenol (Surr)	*49*		*27 - 110*	*05/07/19 14:39*	*05/09/19 19:32*	*1*
Nitrobenzene-d5 (Surr)	*99*		*36 - 120*	*05/07/19 14:39*	*05/09/19 19:32*	*1*
Phenol-d5 (Surr)	*33*		*20 - 100*	*05/07/19 14:39*	*05/09/19 19:32*	*1*
Terphenyl-d14 (Surr)	*104*		*40 - 145*	*05/07/19 14:39*	*05/09/19 19:32*	*1*

Client Sample ID: SUPE-W-06C-043019
Lab Sample ID: 480-152847-3

Date Collected: 04/30/19 12:55
Matrix: Water
Date Received: 05/01/19 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/09/19 03:24	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			05/09/19 03:24	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			05/09/19 03:24	1
Benzene	ND		1.0	0.41	ug/L			05/09/19 03:24	1
Chloromethane	ND		1.0	0.35	ug/L			05/09/19 03:24	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/09/19 03:24	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			05/09/19 03:24	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/09/19 03:24	1
Naphthalene	ND		1.0	0.43	ug/L			05/09/19 03:24	1
n-Butylbenzene	ND		1.0	0.64	ug/L			05/09/19 03:24	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/09/19 03:24	1
o-Xylene	ND		1.0	0.76	ug/L			05/09/19 03:24	1
Styrene	ND		1.0	0.73	ug/L			05/09/19 03:24	1
Toluene	ND		1.0	0.51	ug/L			05/09/19 03:24	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/09/19 03:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*		*05/09/19 03:24*	*1*

Client Sample ID: SUPE-W-06C-043019
Lab Sample ID: 480-152847-3
Date Collected: 04/30/19 12:55
Matrix: Water
Date Received: 05/01/19 09:30

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*73 - 120*		*05/09/19 03:24*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 123*		*05/09/19 03:24*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*05/09/19 03:24*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	* F1	0.95	0.32	ug/L		05/06/19 08:07	05/08/19 04:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*105*		*24 - 146*	*05/06/19 08:07*	*05/08/19 04:51*	*1*
2-Fluorobiphenyl	*97*		*37 - 120*	*05/06/19 08:07*	*05/08/19 04:51*	*1*
2-Fluorophenol (Surr)	*47*		*10 - 120*	*05/06/19 08:07*	*05/08/19 04:51*	*1*
Nitrobenzene-d5 (Surr)	*98*		*26 - 120*	*05/06/19 08:07*	*05/08/19 04:51*	*1*
Phenol-d5 (Surr)	*33*		*11 - 120*	*05/06/19 08:07*	*05/08/19 04:51*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.9	0.29	ug/L		05/07/19 14:39	05/09/19 16:57	1
1,2-Dichlorobenzene	ND		1.9	0.28	ug/L		05/07/19 14:39	05/09/19 16:57	1
1,3-Dichlorobenzene	ND		1.9	0.24	ug/L		05/07/19 14:39	05/09/19 16:57	1
1,4-Dichlorobenzene	ND		1.9	0.26	ug/L		05/07/19 14:39	05/09/19 16:57	1
1-Methylnaphthalene	ND		1.9	0.48	ug/L		05/07/19 14:39	05/09/19 16:57	1
bis(chloroisopropyl) ether	ND		1.9	0.29	ug/L		05/07/19 14:39	05/09/19 16:57	1
2,3,4,6-Tetrachlorophenol	ND		4.8	1.4	ug/L		05/07/19 14:39	05/09/19 16:57	1
2,4,5-Trichlorophenol	ND		9.6	2.2	ug/L		05/07/19 14:39	05/09/19 16:57	1
2,4,6-Trichlorophenol	ND		4.8	1.1	ug/L		05/07/19 14:39	05/09/19 16:57	1
2,4-Dichlorophenol	ND		9.6	2.2	ug/L		05/07/19 14:39	05/09/19 16:57	1
2,4-Dinitrophenol	ND		19	7.1	ug/L		05/07/19 14:39	05/09/19 16:57	1
2,4-Dinitrotoluene	ND		0.96	0.29	ug/L		05/07/19 14:39	05/09/19 16:57	1
2,6-Dinitrotoluene	ND		0.96	0.11	ug/L		05/07/19 14:39	05/09/19 16:57	1
3 & 4 Methylphenol	ND		1.9	0.42	ug/L		05/07/19 14:39	05/09/19 16:57	1
2-Chloronaphthalene	ND		1.9	0.33	ug/L		05/07/19 14:39	05/09/19 16:57	1
2-Chlorophenol	ND		4.8	0.77	ug/L		05/07/19 14:39	05/09/19 16:57	1
2-Methylnaphthalene	ND		1.9	0.12	ug/L		05/07/19 14:39	05/09/19 16:57	1
2-Methylphenol	ND		1.9	0.30	ug/L		05/07/19 14:39	05/09/19 16:57	1
2-Nitroaniline	ND		4.8	1.0	ug/L		05/07/19 14:39	05/09/19 16:57	1
2-Nitrophenol	ND		9.6	2.0	ug/L		05/07/19 14:39	05/09/19 16:57	1
3-Nitroaniline	ND		9.6	2.2	ug/L		05/07/19 14:39	05/09/19 16:57	1
4,6-Dinitro-2-methylphenol	ND		19	4.7	ug/L		05/07/19 14:39	05/09/19 16:57	1
4-Bromophenyl phenyl ether	ND		4.8	0.87	ug/L		05/07/19 14:39	05/09/19 16:57	1
4-Chloro-3-methylphenol	ND		9.6	2.1	ug/L		05/07/19 14:39	05/09/19 16:57	1
4-Chloroaniline	ND		9.6	2.0	ug/L		05/07/19 14:39	05/09/19 16:57	1
4-Chlorophenyl phenyl ether	ND		4.8	0.78	ug/L		05/07/19 14:39	05/09/19 16:57	1
4-Nitroaniline	ND		9.6	3.8	ug/L		05/07/19 14:39	05/09/19 16:57	1
4-Nitrophenol	ND		19	2.2	ug/L		05/07/19 14:39	05/09/19 16:57	1
Acenaphthene	ND		0.96	0.34	ug/L		05/07/19 14:39	05/09/19 16:57	1
Acenaphthylene	ND		0.96	0.31	ug/L		05/07/19 14:39	05/09/19 16:57	1
Anthracene	ND		0.96	0.31	ug/L		05/07/19 14:39	05/09/19 16:57	1
Benzo[a]pyrene	ND		0.19	0.054	ug/L		05/07/19 14:39	05/09/19 16:57	1
Benzo[b]fluoranthene	ND		0.19	0.056	ug/L		05/07/19 14:39	05/09/19 16:57	1

Client Sample ID: SUPE-W-06C-043019
Lab Sample ID: 480-152847-3
Date Collected: 04/30/19 12:55
Matrix: Water
Date Received: 05/01/19 09:30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	ND		0.96	0.40	ug/L		05/07/19 14:39	05/09/19 16:57	1
Benzo[k]fluoranthene	ND		0.19	0.071	ug/L		05/07/19 14:39	05/09/19 16:57	1
Benzoic acid	ND		19	4.4	ug/L		05/07/19 14:39	05/09/19 16:57	1
Benzyl alcohol	ND		19	2.9	ug/L		05/07/19 14:39	05/09/19 16:57	1
Bis(2-chloroethoxy)methane	ND		1.9	0.29	ug/L		05/07/19 14:39	05/09/19 16:57	1
Bis(2-chloroethyl)ether	ND		1.9	0.34	ug/L		05/07/19 14:39	05/09/19 16:57	1
Bis(2-ethylhexyl) phthalate	ND		9.6	2.3	ug/L		05/07/19 14:39	05/09/19 16:57	1
Butyl benzyl phthalate	ND		1.9	0.26	ug/L		05/07/19 14:39	05/09/19 16:57	1
Chrysene	ND		0.48	0.13	ug/L		05/07/19 14:39	05/09/19 16:57	1
Dibenz(a,h)anthracene	ND		0.29	0.061	ug/L		05/07/19 14:39	05/09/19 16:57	1
Dibenzofuran	ND		1.9	0.34	ug/L		05/07/19 14:39	05/09/19 16:57	1
Diethyl phthalate	ND		1.9	0.42	ug/L		05/07/19 14:39	05/09/19 16:57	1
Dimethyl phthalate	ND		1.9	0.36	ug/L		05/07/19 14:39	05/09/19 16:57	1
Di-n-butyl phthalate	ND		4.8	0.77	ug/L		05/07/19 14:39	05/09/19 16:57	1
Di-n-octyl phthalate	ND		9.6	2.4	ug/L		05/07/19 14:39	05/09/19 16:57	1
2,3,5,6-Tetrachlorophenol	ND		4.8	2.4	ug/L		05/07/19 14:39	05/09/19 16:57	1
Fluoranthene	ND		0.96	0.31	ug/L		05/07/19 14:39	05/09/19 16:57	1
Fluorene	ND		0.96	0.36	ug/L		05/07/19 14:39	05/09/19 16:57	1
Hexachlorobenzene	ND		0.48	0.13	ug/L		05/07/19 14:39	05/09/19 16:57	1
Hexachlorobutadiene	ND		4.8	1.1	ug/L		05/07/19 14:39	05/09/19 16:57	1
Hexachlorocyclopentadiene	ND		19	3.3	ug/L		05/07/19 14:39	05/09/19 16:57	1
Hexachloroethane	ND		4.8	0.93	ug/L		05/07/19 14:39	05/09/19 16:57	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.080	ug/L		05/07/19 14:39	05/09/19 16:57	1
Isophorone	ND		1.9	0.28	ug/L		05/07/19 14:39	05/09/19 16:57	1
Nitrobenzene	ND		0.96	0.43	ug/L		05/07/19 14:39	05/09/19 16:57	1
N-Nitrosodi-n-propylamine	ND		0.48	0.13	ug/L		05/07/19 14:39	05/09/19 16:57	1
N-Nitrosodiphenylamine	ND		1.9	0.33	ug/L		05/07/19 14:39	05/09/19 16:57	1
Phenol	ND	F1	4.8	0.34	ug/L		05/07/19 14:39	05/09/19 16:57	1
Pyrene	ND		0.96	0.46	ug/L		05/07/19 14:39	05/09/19 16:57	1
2,4-Dimethylphenol	ND		9.6	3.2	ug/L		05/07/19 14:39	05/09/19 16:57	1
Benzo[a]anthracene	ND		0.19	0.042	ug/L		05/07/19 14:39	05/09/19 16:57	1
Phenanthrene	ND		0.96	0.34	ug/L		05/07/19 14:39	05/09/19 16:57	1
3,3'-Dichlorobenzidine	ND		4.8	0.90	ug/L		05/07/19 14:39	05/09/19 16:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*139*		*40 - 145*	*05/07/19 14:39*	*05/09/19 16:57*	*1*
2-Fluorobiphenyl	*88*		*34 - 110*	*05/07/19 14:39*	*05/09/19 16:57*	*1*
2-Fluorophenol (Surr)	*41*		*27 - 110*	*05/07/19 14:39*	*05/09/19 16:57*	*1*
Nitrobenzene-d5 (Surr)	*80*		*36 - 120*	*05/07/19 14:39*	*05/09/19 16:57*	*1*
Phenol-d5 (Surr)	*26*		*20 - 100*	*05/07/19 14:39*	*05/09/19 16:57*	*1*
Terphenyl-d14 (Surr)	*94*		*40 - 145*	*05/07/19 14:39*	*05/09/19 16:57*	*1*

Client Sample ID: SUPE-EB-01-043019
Lab Sample ID: 480-152847-4
Date Collected: 04/30/19 13:45
Matrix: Water
Date Received: 05/01/19 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/09/19 03:47	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			05/09/19 03:47	1

Client Sample ID: SUPE-EB-01-043019
Lab Sample ID: 480-152847-4
Date Collected: 04/30/19 13:45
Matrix: Water
Date Received: 05/01/19 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			05/09/19 03:47	1
Benzene	ND		1.0	0.41	ug/L			05/09/19 03:47	1
Chloromethane	ND		1.0	0.35	ug/L			05/09/19 03:47	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/09/19 03:47	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			05/09/19 03:47	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/09/19 03:47	1
Naphthalene	ND		1.0	0.43	ug/L			05/09/19 03:47	1
n-Butylbenzene	ND		1.0	0.64	ug/L			05/09/19 03:47	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/09/19 03:47	1
o-Xylene	ND		1.0	0.76	ug/L			05/09/19 03:47	1
Styrene	ND		1.0	0.73	ug/L			05/09/19 03:47	1
Toluene	ND		1.0	0.51	ug/L			05/09/19 03:47	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/09/19 03:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*77 - 120*		*05/09/19 03:47*	*1*
4-Bromofluorobenzene (Surr)	*82*		*73 - 120*		*05/09/19 03:47*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 123*		*05/09/19 03:47*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*05/09/19 03:47*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	*	0.95	0.32	ug/L		05/06/19 08:07	05/08/19 06:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*76*		*24 - 146*	*05/06/19 08:07*	*05/08/19 06:16*	*1*
2-Fluorobiphenyl	*88*		*37 - 120*	*05/06/19 08:07*	*05/08/19 06:16*	*1*
2-Fluorophenol (Surr)	*44*		*10 - 120*	*05/06/19 08:07*	*05/08/19 06:16*	*1*
Nitrobenzene-d5 (Surr)	*86*		*26 - 120*	*05/06/19 08:07*	*05/08/19 06:16*	*1*
Phenol-d5 (Surr)	*31*		*11 - 120*	*05/06/19 08:07*	*05/08/19 06:16*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.9	0.29	ug/L		05/07/19 14:39	05/09/19 17:20	1
1,2-Dichlorobenzene	ND		1.9	0.28	ug/L		05/07/19 14:39	05/09/19 17:20	1
1,3-Dichlorobenzene	ND		1.9	0.24	ug/L		05/07/19 14:39	05/09/19 17:20	1
1,4-Dichlorobenzene	ND		1.9	0.26	ug/L		05/07/19 14:39	05/09/19 17:20	1
1-Methylnaphthalene	ND		1.9	0.48	ug/L		05/07/19 14:39	05/09/19 17:20	1
bis(chloroisopropyl) ether	ND		1.9	0.29	ug/L		05/07/19 14:39	05/09/19 17:20	1
2,3,4,6-Tetrachlorophenol	ND		4.8	1.4	ug/L		05/07/19 14:39	05/09/19 17:20	1
2,4,5-Trichlorophenol	ND		9.5	2.2	ug/L		05/07/19 14:39	05/09/19 17:20	1
2,4,6-Trichlorophenol	ND		4.8	1.0	ug/L		05/07/19 14:39	05/09/19 17:20	1
2,4-Dichlorophenol	ND		9.5	2.2	ug/L		05/07/19 14:39	05/09/19 17:20	1
2,4-Dinitrophenol	ND		19	7.1	ug/L		05/07/19 14:39	05/09/19 17:20	1
2,4-Dinitrotoluene	ND		0.95	0.29	ug/L		05/07/19 14:39	05/09/19 17:20	1
2,6-Dinitrotoluene	ND		0.95	0.11	ug/L		05/07/19 14:39	05/09/19 17:20	1
3 & 4 Methylphenol	ND		1.9	0.42	ug/L		05/07/19 14:39	05/09/19 17:20	1
2-Chloronaphthalene	ND		1.9	0.32	ug/L		05/07/19 14:39	05/09/19 17:20	1
2-Chlorophenol	ND		4.8	0.76	ug/L		05/07/19 14:39	05/09/19 17:20	1
2-Methylnaphthalene	ND		1.9	0.12	ug/L		05/07/19 14:39	05/09/19 17:20	1

Client: Field & Technical Services LLC
Job ID: 480-152847-1
Project/Site: Superior, WI Semiannual Groundwater

Client Sample ID: SUPE-EB-01-043019
Lab Sample ID: 480-152847-4
Date Collected: 04/30/19 13:45
Matrix: Water
Date Received: 05/01/19 09:30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		1.9	0.30	ug/L		05/07/19 14:39	05/09/19 17:20	1
2-Nitroaniline	ND		4.8	1.0	ug/L		05/07/19 14:39	05/09/19 17:20	1
2-Nitrophenol	ND		9.5	2.0	ug/L		05/07/19 14:39	05/09/19 17:20	1
3-Nitroaniline	ND		9.5	2.2	ug/L		05/07/19 14:39	05/09/19 17:20	1
4,6-Dinitro-2-methylphenol	ND		19	4.7	ug/L		05/07/19 14:39	05/09/19 17:20	1
4-Bromophenyl phenyl ether	ND		4.8	0.87	ug/L		05/07/19 14:39	05/09/19 17:20	1
4-Chloro-3-methylphenol	ND		9.5	2.1	ug/L		05/07/19 14:39	05/09/19 17:20	1
4-Chloroaniline	ND		9.5	2.0	ug/L		05/07/19 14:39	05/09/19 17:20	1
4-Chlorophenyl phenyl ether	ND		4.8	0.77	ug/L		05/07/19 14:39	05/09/19 17:20	1
4-Nitroaniline	ND		9.5	3.7	ug/L		05/07/19 14:39	05/09/19 17:20	1
4-Nitrophenol	ND		19	2.2	ug/L		05/07/19 14:39	05/09/19 17:20	1
Acenaphthene	ND		0.95	0.34	ug/L		05/07/19 14:39	05/09/19 17:20	1
Acenaphthylene	ND		0.95	0.31	ug/L		05/07/19 14:39	05/09/19 17:20	1
Anthracene	ND		0.95	0.31	ug/L		05/07/19 14:39	05/09/19 17:20	1
Benzo[a]pyrene	ND		0.19	0.053	ug/L		05/07/19 14:39	05/09/19 17:20	1
Benzo[b]fluoranthene	ND		0.19	0.055	ug/L		05/07/19 14:39	05/09/19 17:20	1
Benzo[g,h,i]perylene	ND		0.95	0.40	ug/L		05/07/19 14:39	05/09/19 17:20	1
Benzo[k]fluoranthene	ND		0.19	0.071	ug/L		05/07/19 14:39	05/09/19 17:20	1
Benzoic acid	ND		19	4.4	ug/L		05/07/19 14:39	05/09/19 17:20	1
Benzyl alcohol	ND		19	2.9	ug/L		05/07/19 14:39	05/09/19 17:20	1
Bis(2-chloroethoxy)methane	ND		1.9	0.29	ug/L		05/07/19 14:39	05/09/19 17:20	1
Bis(2-chloroethyl)ether	ND		1.9	0.33	ug/L		05/07/19 14:39	05/09/19 17:20	1
Bis(2-ethylhexyl) phthalate	ND		9.5	2.3	ug/L		05/07/19 14:39	05/09/19 17:20	1
Butyl benzyl phthalate	ND		1.9	0.26	ug/L		05/07/19 14:39	05/09/19 17:20	1
Chrysene	ND		0.48	0.13	ug/L		05/07/19 14:39	05/09/19 17:20	1
Dibenz(a,h)anthracene	ND		0.29	0.061	ug/L		05/07/19 14:39	05/09/19 17:20	1
Dibenzofuran	ND		1.9	0.33	ug/L		05/07/19 14:39	05/09/19 17:20	1
Diethyl phthalate	ND		1.9	0.42	ug/L		05/07/19 14:39	05/09/19 17:20	1
Dimethyl phthalate	ND		1.9	0.36	ug/L		05/07/19 14:39	05/09/19 17:20	1
Di-n-butyl phthalate	ND		4.8	0.76	ug/L		05/07/19 14:39	05/09/19 17:20	1
Di-n-octyl phthalate	ND		9.5	2.4	ug/L		05/07/19 14:39	05/09/19 17:20	1
2,3,5,6-Tetrachlorophenol	ND		4.8	2.4	ug/L		05/07/19 14:39	05/09/19 17:20	1
Fluoranthene	ND		0.95	0.31	ug/L		05/07/19 14:39	05/09/19 17:20	1
Fluorene	ND		0.95	0.36	ug/L		05/07/19 14:39	05/09/19 17:20	1
Hexachlorobenzene	ND		0.48	0.13	ug/L		05/07/19 14:39	05/09/19 17:20	1
Hexachlorobutadiene	ND		4.8	1.1	ug/L		05/07/19 14:39	05/09/19 17:20	1
Hexachlorocyclopentadiene	ND		19	3.3	ug/L		05/07/19 14:39	05/09/19 17:20	1
Hexachloroethane	ND		4.8	0.93	ug/L		05/07/19 14:39	05/09/19 17:20	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.080	ug/L		05/07/19 14:39	05/09/19 17:20	1
Isophorone	ND		1.9	0.28	ug/L		05/07/19 14:39	05/09/19 17:20	1
Nitrobenzene	ND		0.95	0.43	ug/L		05/07/19 14:39	05/09/19 17:20	1
N-Nitrosodi-n-propylamine	ND		0.48	0.13	ug/L		05/07/19 14:39	05/09/19 17:20	1
N-Nitrosodiphenylamine	ND		1.9	0.32	ug/L		05/07/19 14:39	05/09/19 17:20	1
Phenol	ND		4.8	0.34	ug/L		05/07/19 14:39	05/09/19 17:20	1
Pyrene	ND		0.95	0.46	ug/L		05/07/19 14:39	05/09/19 17:20	1
2,4-Dimethylphenol	ND		9.5	3.2	ug/L		05/07/19 14:39	05/09/19 17:20	1
Benzo[a]anthracene	ND		0.19	0.042	ug/L		05/07/19 14:39	05/09/19 17:20	1
Phenanthrene	ND		0.95	0.33	ug/L		05/07/19 14:39	05/09/19 17:20	1
3,3'-Dichlorobenzidine	ND		4.8	0.90	ug/L		05/07/19 14:39	05/09/19 17:20	1

Client Sample ID: SUPE-EB-01-043019
Lab Sample ID: 480-152847-4

Date Collected: 04/30/19 13:45
Matrix: Water
Date Received: 05/01/19 09:30

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*131*		*40 - 145*	*05/07/19 14:39*	*05/09/19 17:20*	*1*
2-Fluorobiphenyl	*84*		*34 - 110*	*05/07/19 14:39*	*05/09/19 17:20*	*1*
2-Fluorophenol (Surr)	*37*		*27 - 110*	*05/07/19 14:39*	*05/09/19 17:20*	*1*
Nitrobenzene-d5 (Surr)	*76*		*36 - 120*	*05/07/19 14:39*	*05/09/19 17:20*	*1*
Phenol-d5 (Surr)	*22*		*20 - 100*	*05/07/19 14:39*	*05/09/19 17:20*	*1*
Terphenyl-d14 (Surr)	*102*		*40 - 145*	*05/07/19 14:39*	*05/09/19 17:20*	*1*

Client Sample ID: SUPE-W-28C-043019
Lab Sample ID: 480-152847-5

Date Collected: 04/30/19 15:10
Matrix: Water
Date Received: 05/01/19 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/09/19 04:10	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			05/09/19 04:10	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			05/09/19 04:10	1
Benzene	ND		1.0	0.41	ug/L			05/09/19 04:10	1
Chloromethane	ND		1.0	0.35	ug/L			05/09/19 04:10	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/09/19 04:10	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			05/09/19 04:10	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/09/19 04:10	1
Naphthalene	ND		1.0	0.43	ug/L			05/09/19 04:10	1
n-Butylbenzene	ND		1.0	0.64	ug/L			05/09/19 04:10	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/09/19 04:10	1
o-Xylene	ND		1.0	0.76	ug/L			05/09/19 04:10	1
Styrene	ND		1.0	0.73	ug/L			05/09/19 04:10	1
Toluene	ND		1.0	0.51	ug/L			05/09/19 04:10	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/09/19 04:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*77 - 120*		*05/09/19 04:10*	*1*
4-Bromofluorobenzene (Surr)	*89*		*73 - 120*		*05/09/19 04:10*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 123*		*05/09/19 04:10*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*05/09/19 04:10*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	*	0.95	0.32	ug/L		05/06/19 08:07	05/08/19 06:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*99*		*24 - 146*	*05/06/19 08:07*	*05/08/19 06:44*	*1*
2-Fluorobiphenyl	*87*		*37 - 120*	*05/06/19 08:07*	*05/08/19 06:44*	*1*
2-Fluorophenol (Surr)	*53*		*10 - 120*	*05/06/19 08:07*	*05/08/19 06:44*	*1*
Nitrobenzene-d5 (Surr)	*96*		*26 - 120*	*05/06/19 08:07*	*05/08/19 06:44*	*1*
Phenol-d5 (Surr)	*31*		*11 - 120*	*05/06/19 08:07*	*05/08/19 06:44*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.9	0.29	ug/L		05/07/19 14:39	05/09/19 17:42	1
1,2-Dichlorobenzene	ND		1.9	0.28	ug/L		05/07/19 14:39	05/09/19 17:42	1
1,3-Dichlorobenzene	ND		1.9	0.24	ug/L		05/07/19 14:39	05/09/19 17:42	1

Client: Field & Technical Services LLC
Job ID: 480-152847-1
Project/Site: Superior, WI Semiannual Groundwater

Client Sample ID: SUPE-W-28C-043019
Lab Sample ID: 480-152847-5
Date Collected: 04/30/19 15:10
Matrix: Water
Date Received: 05/01/19 09:30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.9	0.26	ug/L		05/07/19 14:39	05/09/19 17:42	1
1-Methylnaphthalene	ND		1.9	0.48	ug/L		05/07/19 14:39	05/09/19 17:42	1
bis(chloroisopropyl) ether	ND		1.9	0.29	ug/L		05/07/19 14:39	05/09/19 17:42	1
2,3,4,6-Tetrachlorophenol	ND		4.8	1.4	ug/L		05/07/19 14:39	05/09/19 17:42	1
2,4,5-Trichlorophenol	ND		9.6	2.2	ug/L		05/07/19 14:39	05/09/19 17:42	1
2,4,6-Trichlorophenol	ND		4.8	1.1	ug/L		05/07/19 14:39	05/09/19 17:42	1
2,4-Dichlorophenol	ND		9.6	2.2	ug/L		05/07/19 14:39	05/09/19 17:42	1
2,4-Dinitrophenol	ND		19	7.1	ug/L		05/07/19 14:39	05/09/19 17:42	1
2,4-Dinitrotoluene	ND		0.96	0.29	ug/L		05/07/19 14:39	05/09/19 17:42	1
2,6-Dinitrotoluene	ND		0.96	0.11	ug/L		05/07/19 14:39	05/09/19 17:42	1
3 & 4 Methylphenol	ND		1.9	0.42	ug/L		05/07/19 14:39	05/09/19 17:42	1
2-Chloronaphthalene	ND		1.9	0.32	ug/L		05/07/19 14:39	05/09/19 17:42	1
2-Chlorophenol	ND		4.8	0.76	ug/L		05/07/19 14:39	05/09/19 17:42	1
2-Methylnaphthalene	ND		1.9	0.12	ug/L		05/07/19 14:39	05/09/19 17:42	1
2-Methylphenol	ND		1.9	0.30	ug/L		05/07/19 14:39	05/09/19 17:42	1
2-Nitroaniline	ND		4.8	1.0	ug/L		05/07/19 14:39	05/09/19 17:42	1
2-Nitrophenol	ND		9.6	2.0	ug/L		05/07/19 14:39	05/09/19 17:42	1
3-Nitroaniline	ND		9.6	2.2	ug/L		05/07/19 14:39	05/09/19 17:42	1
4,6-Dinitro-2-methylphenol	ND		19	4.7	ug/L		05/07/19 14:39	05/09/19 17:42	1
4-Bromophenyl phenyl ether	ND		4.8	0.87	ug/L		05/07/19 14:39	05/09/19 17:42	1
4-Chloro-3-methylphenol	ND		9.6	2.1	ug/L		05/07/19 14:39	05/09/19 17:42	1
4-Chloroaniline	ND		9.6	2.0	ug/L		05/07/19 14:39	05/09/19 17:42	1
4-Chlorophenyl phenyl ether	ND		4.8	0.77	ug/L		05/07/19 14:39	05/09/19 17:42	1
4-Nitroaniline	ND		9.6	3.8	ug/L		05/07/19 14:39	05/09/19 17:42	1
4-Nitrophenol	ND		19	2.2	ug/L		05/07/19 14:39	05/09/19 17:42	1
Acenaphthene	ND		0.96	0.34	ug/L		05/07/19 14:39	05/09/19 17:42	1
Acenaphthylene	ND		0.96	0.31	ug/L		05/07/19 14:39	05/09/19 17:42	1
Anthracene	ND		0.96	0.31	ug/L		05/07/19 14:39	05/09/19 17:42	1
Benzo[a]pyrene	ND		0.19	0.053	ug/L		05/07/19 14:39	05/09/19 17:42	1
Benzo[b]fluoranthene	ND		0.19	0.055	ug/L		05/07/19 14:39	05/09/19 17:42	1
Benzo[g,h,i]perylene	ND		0.96	0.40	ug/L		05/07/19 14:39	05/09/19 17:42	1
Benzo[k]fluoranthene	ND		0.19	0.071	ug/L		05/07/19 14:39	05/09/19 17:42	1
Benzoic acid	ND		19	4.4	ug/L		05/07/19 14:39	05/09/19 17:42	1
Benzyl alcohol	ND		19	2.9	ug/L		05/07/19 14:39	05/09/19 17:42	1
Bis(2-chloroethoxy)methane	ND		1.9	0.29	ug/L		05/07/19 14:39	05/09/19 17:42	1
Bis(2-chloroethyl)ether	ND		1.9	0.33	ug/L		05/07/19 14:39	05/09/19 17:42	1
Bis(2-ethylhexyl) phthalate	ND		9.6	2.3	ug/L		05/07/19 14:39	05/09/19 17:42	1
Butyl benzyl phthalate	ND		1.9	0.26	ug/L		05/07/19 14:39	05/09/19 17:42	1
Chrysene	ND		0.48	0.13	ug/L		05/07/19 14:39	05/09/19 17:42	1
Dibenz(a,h)anthracene	ND		0.29	0.061	ug/L		05/07/19 14:39	05/09/19 17:42	1
Dibenzofuran	ND		1.9	0.33	ug/L		05/07/19 14:39	05/09/19 17:42	1
Diethyl phthalate	ND		1.9	0.42	ug/L		05/07/19 14:39	05/09/19 17:42	1
Dimethyl phthalate	ND		1.9	0.36	ug/L		05/07/19 14:39	05/09/19 17:42	1
Di-n-butyl phthalate	ND		4.8	0.76	ug/L		05/07/19 14:39	05/09/19 17:42	1
Di-n-octyl phthalate	ND		9.6	2.4	ug/L		05/07/19 14:39	05/09/19 17:42	1
2,3,5,6-Tetrachlorophenol	ND		4.8	2.4	ug/L		05/07/19 14:39	05/09/19 17:42	1
Fluoranthene	ND		0.96	0.31	ug/L		05/07/19 14:39	05/09/19 17:42	1
Fluorene	ND		0.96	0.36	ug/L		05/07/19 14:39	05/09/19 17:42	1
Hexachlorobenzene	ND		0.48	0.13	ug/L		05/07/19 14:39	05/09/19 17:42	1

Client: Field & Technical Services LLC
Job ID: 480-152847-1
Project/Site: Superior, WI Semiannual Groundwater

Client Sample ID: SUPE-W-28C-043019
Lab Sample ID: 480-152847-5
Date Collected: 04/30/19 15:10
Matrix: Water
Date Received: 05/01/19 09:30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		4.8	1.1	ug/L		05/07/19 14:39	05/09/19 17:42	1
Hexachlorocyclopentadiene	ND		19	3.3	ug/L		05/07/19 14:39	05/09/19 17:42	1
Hexachloroethane	ND		4.8	0.93	ug/L		05/07/19 14:39	05/09/19 17:42	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.080	ug/L		05/07/19 14:39	05/09/19 17:42	1
Isophorone	ND		1.9	0.28	ug/L		05/07/19 14:39	05/09/19 17:42	1
Nitrobenzene	ND		0.96	0.43	ug/L		05/07/19 14:39	05/09/19 17:42	1
N-Nitrosodi-n-propylamine	ND		0.48	0.13	ug/L		05/07/19 14:39	05/09/19 17:42	1
N-Nitrosodiphenylamine	ND		1.9	0.32	ug/L		05/07/19 14:39	05/09/19 17:42	1
Phenol	ND		4.8	0.34	ug/L		05/07/19 14:39	05/09/19 17:42	1
Pyrene	ND		0.96	0.46	ug/L		05/07/19 14:39	05/09/19 17:42	1
2,4-Dimethylphenol	ND		9.6	3.2	ug/L		05/07/19 14:39	05/09/19 17:42	1
Benzo[a]anthracene	ND		0.19	0.042	ug/L		05/07/19 14:39	05/09/19 17:42	1
Phenanthrene	ND		0.96	0.33	ug/L		05/07/19 14:39	05/09/19 17:42	1
3,3'-Dichlorobenzidine	ND		4.8	0.90	ug/L		05/07/19 14:39	05/09/19 17:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*124*		*40 - 145*	*05/07/19 14:39*	*05/09/19 17:42*	*1*
2-Fluorobiphenyl	*81*		*34 - 110*	*05/07/19 14:39*	*05/09/19 17:42*	*1*
2-Fluorophenol (Surr)	*38*		*27 - 110*	*05/07/19 14:39*	*05/09/19 17:42*	*1*
Nitrobenzene-d5 (Surr)	*71*		*36 - 120*	*05/07/19 14:39*	*05/09/19 17:42*	*1*
Phenol-d5 (Surr)	*21*		*20 - 100*	*05/07/19 14:39*	*05/09/19 17:42*	*1*
Terphenyl-d14 (Surr)	*102*		*40 - 145*	*05/07/19 14:39*	*05/09/19 17:42*	*1*

Surrogate Summary

Client: Field & Technical Services LLC
Project/Site: Superior, WI Semiannual Groundwater

Job ID: 480-152847-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(77-120)	(73-120)	(75-123)	(80-120)
480-152847-1	SUPE-W-30C-043019	102	88	97	95
480-152847-2	SUPE-W-06A-043019	104	90	95	96
480-152847-3	SUPE-W-06C-043019	98	86	98	94
480-152847-3 MS	SUPE-W-06C-043019	94	92	91	101
480-152847-3 MSD	SUPE-W-06C-043019	95	95	91	101
480-152847-4	SUPE-EB-01-043019	102	82	98	96
480-152847-5	SUPE-W-28C-043019	101	89	96	95
LCS 480-471924/5	Lab Control Sample	94	90	87	98
MB 480-471924/7	Method Blank	104	87	95	94

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

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

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPHL
Lab Sample ID	Client Sample ID	(40-145)	(34-110)	(27-110)	(36-120)	(20-100)	(40-145)
480-152847-1	SUPE-W-30C-043019	92	88	45	94	30	104
480-152847-2	SUPE-W-06A-043019	94	93	49	99	33	104
480-152847-3	SUPE-W-06C-043019	139	88	41	80	26	94
480-152847-3 MS	SUPE-W-06C-043019	134	83	45	72	30	87
480-152847-3 MSD	SUPE-W-06C-043019	124	80	42	72	29	85
480-152847-4	SUPE-EB-01-043019	131	84	37	76	22	102
480-152847-5	SUPE-W-28C-043019	124	81	38	71	21	102
LCS 500-484079/2-A	Lab Control Sample	90	81	53	82	34	88
MB 500-484079/1-A	Method Blank	90	89	52	95	41	106

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

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

		Percent Surrogate Recovery (Acceptance Limits)				
		TBP	FBP	2FP	NBZ	PHL
Lab Sample ID	Client Sample ID	(24-146)	(37-120)	(10-120)	(26-120)	(11-120)
480-152847-1	SUPE-W-30C-043019	94	82	46	85	28
480-152847-2	SUPE-W-06A-043019	96	86	45	81	28
480-152847-3	SUPE-W-06C-043019	105	97	47	98	33
480-152847-3 MS	SUPE-W-06C-043019	108	98	44	86	33
480-152847-3 MSD	SUPE-W-06C-043019	97	89	45	82	32

Surrogate Summary

Client: Field & Technical Services LLC
Job ID: 480-152847-1
Project/Site: Superior, WI Semiannual Groundwater

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

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

		Percent Surrogate Recovery (Acceptance Limits)				
		TBP	FBP	2FP	NBZ	PHL
Lab Sample ID	Client Sample ID	(24-146)	(37-120)	(10-120)	(26-120)	(11-120)
480-152847-4	SUPE-EB-01-043019	76	88	44	86	31
480-152847-5	SUPE-W-28C-043019	99	87	53	96	31
LCS 480-471326/2-A	Lab Control Sample	107	93	45	87	34
MB 480-471326/1-A	Method Blank	84	97	52	100	36

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)

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

Lab Sample ID: MB 480-471924/7
Matrix: Water
Analysis Batch: 471924

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-Trichloroethane	ND		1.0	0.82	ug/L			05/08/19 21:22	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			05/08/19 21:22	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			05/08/19 21:22	1
Benzene	ND		1.0	0.41	ug/L			05/08/19 21:22	1
Chloromethane	ND		1.0	0.35	ug/L			05/08/19 21:22	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/08/19 21:22	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			05/08/19 21:22	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/08/19 21:22	1
Naphthalene	ND		1.0	0.43	ug/L			05/08/19 21:22	1
n-Butylbenzene	ND		1.0	0.64	ug/L			05/08/19 21:22	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/08/19 21:22	1
o-Xylene	ND		1.0	0.76	ug/L			05/08/19 21:22	1
Styrene	ND		1.0	0.73	ug/L			05/08/19 21:22	1
Toluene	ND		1.0	0.51	ug/L			05/08/19 21:22	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/08/19 21:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*77 - 120*		*05/08/19 21:22*	*1*
4-Bromofluorobenzene (Surr)	*87*		*73 - 120*		*05/08/19 21:22*	*1*
Dibromofluoromethane (Surr)	*95*		*75 - 123*		*05/08/19 21:22*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*05/08/19 21:22*	*1*

Lab Sample ID: LCS 480-471924/5
Matrix: Water
Analysis Batch: 471924

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	23.0		ug/L		92	73 - 126
1,2,4-Trimethylbenzene	25.0	24.1		ug/L		96	76 - 121
1,3,5-Trimethylbenzene	25.0	24.1		ug/L		97	77 - 121
Benzene	25.0	24.8		ug/L		99	71 - 124
Chloromethane	25.0	29.3		ug/L		117	68 - 124
Ethylbenzene	25.0	23.8		ug/L		95	77 - 123
Methyl tert-butyl ether	25.0	20.4		ug/L		82	77 - 120
m-Xylene & p-Xylene	25.0	23.1		ug/L		92	76 - 122
Naphthalene	25.0	20.7		ug/L		83	66 - 125
n-Butylbenzene	25.0	24.4		ug/L		98	71 - 128
N-Propylbenzene	25.0	25.0		ug/L		100	75 - 127
o-Xylene	25.0	22.1		ug/L		88	76 - 122
Styrene	25.0	23.6		ug/L		94	80 - 120
Toluene	25.0	24.5		ug/L		98	80 - 122
Xylenes, Total	50.0	45.2		ug/L		90	76 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*77 - 120*
4-Bromofluorobenzene (Surr)	*90*		*73 - 120*
Dibromofluoromethane (Surr)	*87*		*75 - 123*
Toluene-d8 (Surr)	*98*		*80 - 120*

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

Lab Sample ID: 480-152847-3 MS
Matrix: Water
Analysis Batch: 471924

Client Sample ID: SUPE-W-06C-043019
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		25.0	23.3		ug/L		93	73 - 126
1,2,4-Trimethylbenzene	ND		25.0	23.5		ug/L		94	76 - 121
1,3,5-Trimethylbenzene	ND		25.0	23.4		ug/L		94	77 - 121
Benzene	ND		25.0	25.4		ug/L		101	71 - 124
Chloromethane	ND		25.0	30.5		ug/L		122	68 - 124
Ethylbenzene	ND		25.0	23.8		ug/L		95	77 - 123
Methyl tert-butyl ether	ND		25.0	19.6		ug/L		78	77 - 120
m-Xylene & p-Xylene	ND		25.0	23.4		ug/L		94	76 - 122
Naphthalene	ND		25.0	21.1		ug/L		85	66 - 125
n-Butylbenzene	ND		25.0	23.9		ug/L		96	71 - 128
N-Propylbenzene	ND		25.0	24.3		ug/L		97	75 - 127
o-Xylene	ND		25.0	22.2		ug/L		89	76 - 122
Styrene	ND		25.0	23.7		ug/L		95	80 - 120
Toluene	ND		25.0	25.0		ug/L		100	80 - 122
Xylenes, Total	ND		50.0	45.6		ug/L		91	76 - 122

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*77 - 120*
4-Bromofluorobenzene (Surr)	*92*		*73 - 120*
Dibromofluoromethane (Surr)	*91*		*75 - 123*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: 480-152847-3 MSD
Matrix: Water
Analysis Batch: 471924

Client Sample ID: SUPE-W-06C-043019
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		25.0	23.0		ug/L		92	73 - 126	1	15
1,2,4-Trimethylbenzene	ND		25.0	24.1		ug/L		96	76 - 121	2	20
1,3,5-Trimethylbenzene	ND		25.0	23.9		ug/L		96	77 - 121	2	20
Benzene	ND		25.0	25.2		ug/L		101	71 - 124	1	13
Chloromethane	ND		25.0	28.9		ug/L		115	68 - 124	6	15
Ethylbenzene	ND		25.0	24.7		ug/L		99	77 - 123	4	15
Methyl tert-butyl ether	ND		25.0	19.4		ug/L		78	77 - 120	1	37
m-Xylene & p-Xylene	ND		25.0	23.9		ug/L		96	76 - 122	2	16
Naphthalene	ND		25.0	20.7		ug/L		83	66 - 125	2	20
n-Butylbenzene	ND		25.0	24.6		ug/L		98	71 - 128	3	15
N-Propylbenzene	ND		25.0	25.3		ug/L		101	75 - 127	4	15
o-Xylene	ND		25.0	22.6		ug/L		91	76 - 122	2	16
Styrene	ND		25.0	24.1		ug/L		96	80 - 120	1	20
Toluene	ND		25.0	25.5		ug/L		102	80 - 122	2	15
Xylenes, Total	ND		50.0	46.5		ug/L		93	76 - 122	2	16

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*
4-Bromofluorobenzene (Surr)	*95*		*73 - 120*
Dibromofluoromethane (Surr)	*91*		*75 - 123*
Toluene-d8 (Surr)	*101*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-484079/1-A
Matrix: Water
Analysis Batch: 484422

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 484079

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		2.0	0.30	ug/L		05/07/19 14:39	05/09/19 14:23	1
1,2-Dichlorobenzene	ND		2.0	0.29	ug/L		05/07/19 14:39	05/09/19 14:23	1
1,3-Dichlorobenzene	ND		2.0	0.25	ug/L		05/07/19 14:39	05/09/19 14:23	1
1,4-Dichlorobenzene	ND		2.0	0.27	ug/L		05/07/19 14:39	05/09/19 14:23	1
1-Methylnaphthalene	ND		2.0	0.50	ug/L		05/07/19 14:39	05/09/19 14:23	1
bis(chloroisopropyl) ether	ND		2.0	0.30	ug/L		05/07/19 14:39	05/09/19 14:23	1
2,3,4,6-Tetrachlorophenol	ND		5.0	1.5	ug/L		05/07/19 14:39	05/09/19 14:23	1
2,4,5-Trichlorophenol	ND		10	2.3	ug/L		05/07/19 14:39	05/09/19 14:23	1
2,4,6-Trichlorophenol	ND		5.0	1.1	ug/L		05/07/19 14:39	05/09/19 14:23	1
2,4-Dichlorophenol	ND		10	2.3	ug/L		05/07/19 14:39	05/09/19 14:23	1
2,4-Dinitrophenol	ND		20	7.4	ug/L		05/07/19 14:39	05/09/19 14:23	1
2,4-Dinitrotoluene	ND		1.0	0.30	ug/L		05/07/19 14:39	05/09/19 14:23	1
2,6-Dinitrotoluene	ND		1.0	0.12	ug/L		05/07/19 14:39	05/09/19 14:23	1
3 & 4 Methylphenol	ND		2.0	0.44	ug/L		05/07/19 14:39	05/09/19 14:23	1
2-Chloronaphthalene	ND		2.0	0.34	ug/L		05/07/19 14:39	05/09/19 14:23	1
2-Chlorophenol	ND		5.0	0.80	ug/L		05/07/19 14:39	05/09/19 14:23	1
2-Methylnaphthalene	ND		2.0	0.13	ug/L		05/07/19 14:39	05/09/19 14:23	1
2-Methylphenol	ND		2.0	0.31	ug/L		05/07/19 14:39	05/09/19 14:23	1
2-Nitroaniline	ND		5.0	1.1	ug/L		05/07/19 14:39	05/09/19 14:23	1
2-Nitrophenol	ND		10	2.1	ug/L		05/07/19 14:39	05/09/19 14:23	1
3-Nitroaniline	ND		10	2.3	ug/L		05/07/19 14:39	05/09/19 14:23	1
4,6-Dinitro-2-methylphenol	ND		20	4.9	ug/L		05/07/19 14:39	05/09/19 14:23	1
4-Bromophenyl phenyl ether	ND		5.0	0.91	ug/L		05/07/19 14:39	05/09/19 14:23	1
4-Chloro-3-methylphenol	ND		10	2.2	ug/L		05/07/19 14:39	05/09/19 14:23	1
4-Chloroaniline	ND		10	2.1	ug/L		05/07/19 14:39	05/09/19 14:23	1
4-Chlorophenyl phenyl ether	ND		5.0	0.81	ug/L		05/07/19 14:39	05/09/19 14:23	1
4-Nitroaniline	ND		10	3.9	ug/L		05/07/19 14:39	05/09/19 14:23	1
4-Nitrophenol	ND		20	2.3	ug/L		05/07/19 14:39	05/09/19 14:23	1
Acenaphthene	ND		1.0	0.36	ug/L		05/07/19 14:39	05/09/19 14:23	1
Acenaphthylene	ND		1.0	0.32	ug/L		05/07/19 14:39	05/09/19 14:23	1
Anthracene	ND		1.0	0.32	ug/L		05/07/19 14:39	05/09/19 14:23	1
Benzo[a]pyrene	ND		0.20	0.056	ug/L		05/07/19 14:39	05/09/19 14:23	1
Benzo[b]fluoranthene	ND		0.20	0.058	ug/L		05/07/19 14:39	05/09/19 14:23	1
Benzo[g,h,i]perylene	ND		1.0	0.42	ug/L		05/07/19 14:39	05/09/19 14:23	1
Benzo[k]fluoranthene	ND		0.20	0.074	ug/L		05/07/19 14:39	05/09/19 14:23	1
Benzoic acid	ND		20	4.6	ug/L		05/07/19 14:39	05/09/19 14:23	1
Benzyl alcohol	ND		20	3.1	ug/L		05/07/19 14:39	05/09/19 14:23	1
Bis(2-chloroethoxy)methane	ND		2.0	0.30	ug/L		05/07/19 14:39	05/09/19 14:23	1
Bis(2-chloroethyl)ether	ND		2.0	0.35	ug/L		05/07/19 14:39	05/09/19 14:23	1
Bis(2-ethylhexyl) phthalate	ND		10	2.4	ug/L		05/07/19 14:39	05/09/19 14:23	1
Butyl benzyl phthalate	ND		2.0	0.27	ug/L		05/07/19 14:39	05/09/19 14:23	1
Chrysene	ND		0.50	0.14	ug/L		05/07/19 14:39	05/09/19 14:23	1
Dibenz(a,h)anthracene	ND		0.30	0.064	ug/L		05/07/19 14:39	05/09/19 14:23	1
Dibenzofuran	ND		2.0	0.35	ug/L		05/07/19 14:39	05/09/19 14:23	1
Diethyl phthalate	ND		2.0	0.44	ug/L		05/07/19 14:39	05/09/19 14:23	1
Dimethyl phthalate	ND		2.0	0.38	ug/L		05/07/19 14:39	05/09/19 14:23	1
Di-n-butyl phthalate	ND		5.0	0.80	ug/L		05/07/19 14:39	05/09/19 14:23	1
Di-n-octyl phthalate	ND		10	2.5	ug/L		05/07/19 14:39	05/09/19 14:23	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-484079/1-A
Matrix: Water
Analysis Batch: 484422

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 484079

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,5,6-Tetrachlorophenol	ND		5.0	2.5	ug/L		05/07/19 14:39	05/09/19 14:23	1
Fluoranthene	ND		1.0	0.32	ug/L		05/07/19 14:39	05/09/19 14:23	1
Fluorene	ND		1.0	0.38	ug/L		05/07/19 14:39	05/09/19 14:23	1
Hexachlorobenzene	ND		0.50	0.14	ug/L		05/07/19 14:39	05/09/19 14:23	1
Hexachlorobutadiene	ND		5.0	1.1	ug/L		05/07/19 14:39	05/09/19 14:23	1
Hexachlorocyclopentadiene	ND		20	3.4	ug/L		05/07/19 14:39	05/09/19 14:23	1
Hexachloroethane	ND		5.0	0.97	ug/L		05/07/19 14:39	05/09/19 14:23	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.084	ug/L		05/07/19 14:39	05/09/19 14:23	1
Isophorone	ND		2.0	0.29	ug/L		05/07/19 14:39	05/09/19 14:23	1
Nitrobenzene	ND		1.0	0.45	ug/L		05/07/19 14:39	05/09/19 14:23	1
N-Nitrosodi-n-propylamine	ND		0.50	0.14	ug/L		05/07/19 14:39	05/09/19 14:23	1
N-Nitrosodiphenylamine	ND		2.0	0.34	ug/L		05/07/19 14:39	05/09/19 14:23	1
Phenol	ND		5.0	0.36	ug/L		05/07/19 14:39	05/09/19 14:23	1
Pyrene	ND		1.0	0.48	ug/L		05/07/19 14:39	05/09/19 14:23	1
2,4-Dimethylphenol	ND		10	3.3	ug/L		05/07/19 14:39	05/09/19 14:23	1
Benzo[a]anthracene	ND		0.20	0.044	ug/L		05/07/19 14:39	05/09/19 14:23	1
Phenanthrene	ND		1.0	0.35	ug/L		05/07/19 14:39	05/09/19 14:23	1
3,3'-Dichlorobenzidine	ND		5.0	0.94	ug/L		05/07/19 14:39	05/09/19 14:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*90*		*40 - 145*	*05/07/19 14:39*	*05/09/19 14:23*	*1*
2-Fluorobiphenyl	*89*		*34 - 110*	*05/07/19 14:39*	*05/09/19 14:23*	*1*
2-Fluorophenol (Surr)	*52*		*27 - 110*	*05/07/19 14:39*	*05/09/19 14:23*	*1*
Nitrobenzene-d5 (Surr)	*95*		*36 - 120*	*05/07/19 14:39*	*05/09/19 14:23*	*1*
Phenol-d5 (Surr)	*41*		*20 - 100*	*05/07/19 14:39*	*05/09/19 14:23*	*1*
Terphenyl-d14 (Surr)	*106*		*40 - 145*	*05/07/19 14:39*	*05/09/19 14:23*	*1*

Lab Sample ID: LCS 500-484079/2-A
Matrix: Water
Analysis Batch: 484422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 484079

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	40.0	30.0		ug/L		75	26 - 110
1,2-Dichlorobenzene	40.0	30.0		ug/L		75	26 - 110
1,3-Dichlorobenzene	40.0	29.7		ug/L		74	22 - 110
1,4-Dichlorobenzene	40.0	30.0		ug/L		75	23 - 110
1-Methylnaphthalene	40.0	33.2		ug/L		83	38 - 110
bis(chloroisopropyl) ether	40.0	26.5		ug/L		66	38 - 110
2,3,4,6-Tetrachlorophenol	40.0	28.8		ug/L		72	44 - 118
2,4,5-Trichlorophenol	40.0	29.2		ug/L		73	63 - 120
2,4,6-Trichlorophenol	40.0	32.7		ug/L		82	62 - 110
2,4-Dichlorophenol	40.0	34.0		ug/L		85	62 - 110
2,4-Dinitrophenol	80.0	59.8		ug/L		75	37 - 130
2,4-Dinitrotoluene	40.0	31.8		ug/L		80	63 - 122
2,6-Dinitrotoluene	40.0	34.0		ug/L		85	63 - 119
3 & 4 Methylphenol	40.0	29.4		ug/L		73	53 - 110
2-Chloronaphthalene	40.0	30.8		ug/L		77	39 - 110
2-Chlorophenol	40.0	32.9		ug/L		82	59 - 110

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-484079/2-A
Matrix: Water
Analysis Batch: 484422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 484079

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Methylnaphthalene	40.0	33.9		ug/L		85	34 - 110
2-Methylphenol	40.0	28.8		ug/L		72	53 - 110
2-Nitroaniline	40.0	31.0		ug/L		78	59 - 122
2-Nitrophenol	40.0	32.2		ug/L		80	58 - 110
3-Nitroaniline	40.0	31.7		ug/L		79	47 - 123
4,6-Dinitro-2-methylphenol	80.0	83.6		ug/L		104	50 - 117
4-Bromophenyl phenyl ether	40.0	33.6		ug/L		84	58 - 120
4-Chloro-3-methylphenol	40.0	33.1		ug/L		83	64 - 120
4-Chloroaniline	40.0	38.7		ug/L		97	35 - 128
4-Chlorophenyl phenyl ether	40.0	31.4		ug/L		79	47 - 112
4-Nitroaniline	40.0	26.2		ug/L		66	52 - 147
4-Nitrophenol	80.0	18.9	J	ug/L		24	20 - 110
Acenaphthene	40.0	32.3		ug/L		81	46 - 110
Acenaphthylene	40.0	32.3		ug/L		81	47 - 110
Anthracene	40.0	36.4		ug/L		91	67 - 110
Benzo[a]pyrene	40.0	38.3		ug/L		96	70 - 120
Benzo[b]fluoranthene	40.0	34.6		ug/L		87	69 - 123
Benzo[g,h,i]perylene	40.0	36.9		ug/L		92	70 - 120
Benzo[k]fluoranthene	40.0	43.1		ug/L		108	70 - 120
Benzoic acid	80.0	20.6		ug/L		26	10 - 100
Benzyl alcohol	40.0	37.8		ug/L		95	33 - 127
Bis(2-chloroethoxy)methane	40.0	34.8		ug/L		87	60 - 110
Bis(2-chloroethyl)ether	40.0	32.3		ug/L		81	49 - 110
Bis(2-ethylhexyl) phthalate	40.0	33.3		ug/L		83	69 - 120
Butyl benzyl phthalate	40.0	31.8		ug/L		80	68 - 120
Chrysene	40.0	37.3		ug/L		93	68 - 120
Dibenz(a,h)anthracene	40.0	38.5		ug/L		96	70 - 127
Dibenzofuran	40.0	32.1		ug/L		80	51 - 110
Diethyl phthalate	40.0	31.6		ug/L		79	62 - 120
Dimethyl phthalate	40.0	32.2		ug/L		80	63 - 120
Di-n-butyl phthalate	40.0	34.2		ug/L		86	70 - 120
Di-n-octyl phthalate	40.0	33.4		ug/L		84	70 - 122
Fluoranthene	40.0	35.7		ug/L		89	68 - 120
Fluorene	40.0	33.7		ug/L		84	53 - 120
Hexachlorobenzene	40.0	36.8		ug/L		92	61 - 120
Hexachlorobutadiene	40.0	27.3		ug/L		68	20 - 100
Hexachlorocyclopentadiene	40.0	26.5		ug/L		66	10 - 100
Hexachloroethane	40.0	27.2		ug/L		68	20 - 100
Indeno[1,2,3-cd]pyrene	40.0	38.6		ug/L		97	65 - 133
Isophorone	40.0	32.8		ug/L		82	57 - 110
Naphthalene	40.0	31.9		ug/L		80	36 - 110
Nitrobenzene	40.0	32.7		ug/L		82	53 - 110
N-Nitrosodi-n-propylamine	40.0	32.1		ug/L		80	58 - 110
N-Nitrosodiphenylamine	40.0	37.0		ug/L		92	66 - 110
Pentachlorophenol	80.0	59.1		ug/L		74	23 - 129
Phenol	40.0	16.3		ug/L		41	33 - 100
Pyrene	40.0	34.4		ug/L		86	70 - 110
2,4-Dimethylphenol	40.0	32.1		ug/L		80	51 - 110
Benzo[a]anthracene	40.0	33.0		ug/L		83	70 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-484079/2-A
Matrix: Water
Analysis Batch: 484422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 484079

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenanthrene	40.0	35.5		ug/L		89	65 - 120
3,3'-Dichlorobenzidine	40.0	30.5		ug/L		76	60 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*90*		*40 - 145*
2-Fluorobiphenyl	*81*		*34 - 110*
2-Fluorophenol (Surr)	*53*		*27 - 110*
Nitrobenzene-d5 (Surr)	*82*		*36 - 120*
Phenol-d5 (Surr)	*34*		*20 - 100*
Terphenyl-d14 (Surr)	*88*		*40 - 145*

Lab Sample ID: 480-152847-3 MS
Matrix: Water
Analysis Batch: 484464

Client Sample ID: SUPE-W-06C-043019
Prep Type: Total/NA
Prep Batch: 484079

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	ND		38.3	31.2		ug/L		82	26 - 110
1,2-Dichlorobenzene	ND		38.3	29.9		ug/L		78	26 - 110
1,3-Dichlorobenzene	ND		38.3	28.2		ug/L		74	22 - 110
1,4-Dichlorobenzene	ND		38.3	28.8		ug/L		75	23 - 110
1-Methylnaphthalene	ND		38.3	35.3		ug/L		92	38 - 110
bis(chloroisopropyl) ether	ND		38.3	16.4		ug/L		43	38 - 110
2,3,4,6-Tetrachlorophenol	ND		38.3	36.4		ug/L		95	44 - 118
2,4,5-Trichlorophenol	ND		38.3	34.9		ug/L		91	63 - 120
2,4,6-Trichlorophenol	ND		38.3	36.4		ug/L		95	62 - 110
2,4-Dichlorophenol	ND		38.3	35.9		ug/L		94	62 - 110
2,4-Dinitrophenol	ND		76.5	43.5		ug/L		57	37 - 130
2,4-Dinitrotoluene	ND		38.3	35.6		ug/L		93	63 - 122
2,6-Dinitrotoluene	ND		38.3	37.9		ug/L		99	63 - 119
3 & 4 Methylphenol	ND		38.3	28.2		ug/L		74	53 - 110
2-Chloronaphthalene	ND		38.3	33.5		ug/L		88	39 - 110
2-Chlorophenol	ND		38.3	33.2		ug/L		87	59 - 110
2-Methylnaphthalene	ND		38.3	33.8		ug/L		88	34 - 110
2-Methylphenol	ND		38.3	30.0		ug/L		78	53 - 110
2-Nitroaniline	ND		38.3	26.1		ug/L		68	59 - 122
2-Nitrophenol	ND		38.3	34.3		ug/L		90	58 - 110
3-Nitroaniline	ND		38.3	25.5		ug/L		67	47 - 123
4,6-Dinitro-2-methylphenol	ND		76.5	58.0		ug/L		76	50 - 117
4-Bromophenyl phenyl ether	ND		38.3	37.6		ug/L		98	58 - 120
4-Chloro-3-methylphenol	ND		38.3	34.2		ug/L		89	64 - 120
4-Chloroaniline	ND		38.3	25.6		ug/L		67	35 - 128
4-Chlorophenyl phenyl ether	ND		38.3	35.8		ug/L		93	47 - 112
4-Nitroaniline	ND		38.3	25.0		ug/L		65	52 - 147
4-Nitrophenol	ND		76.5	17.2	J	ug/L		23	20 - 110
Acenaphthene	ND		38.3	33.3		ug/L		87	46 - 110
Acenaphthylene	ND		38.3	33.5		ug/L		88	47 - 110
Anthracene	ND		38.3	36.4		ug/L		95	67 - 110
Benzo[a]pyrene	ND		38.3	41.8		ug/L		109	70 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 480-152847-3 MS
Matrix: Water
Analysis Batch: 484464

Client Sample ID: SUPE-W-06C-043019
Prep Type: Total/NA
Prep Batch: 484079

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[b]fluoranthene	ND		38.3	35.3		ug/L		92	69 - 123
Benzo[g,h,i]perylene	ND		38.3	34.9		ug/L		91	70 - 120
Benzo[k]fluoranthene	ND		38.3	37.1		ug/L		97	70 - 120
Benzoic acid	ND		76.5	34.6		ug/L		45	10 - 100
Benzyl alcohol	ND		38.3	19.7		ug/L		52	33 - 127
Bis(2-chloroethoxy)methane	ND		38.3	30.1		ug/L		79	60 - 110
Bis(2-chloroethyl)ether	ND		38.3	30.1		ug/L		79	49 - 110
Bis(2-ethylhexyl) phthalate	ND		38.3	34.9		ug/L		91	69 - 120
Butyl benzyl phthalate	ND		38.3	33.8		ug/L		88	68 - 120
Chrysene	ND		38.3	41.8		ug/L		109	68 - 120
Dibenz(a,h)anthracene	ND		38.3	41.4		ug/L		108	70 - 127
Dibenzofuran	ND		38.3	33.4		ug/L		87	51 - 110
Diethyl phthalate	ND		38.3	34.6		ug/L		91	62 - 120
Dimethyl phthalate	ND		38.3	36.6		ug/L		96	63 - 120
Di-n-butyl phthalate	ND		38.3	34.1		ug/L		89	70 - 120
Di-n-octyl phthalate	ND		38.3	32.6		ug/L		85	70 - 122
Fluoranthene	ND		38.3	35.6		ug/L		93	68 - 120
Fluorene	ND		38.3	36.9		ug/L		96	53 - 120
Hexachlorobenzene	ND		38.3	42.3		ug/L		110	61 - 120
Hexachlorobutadiene	ND		38.3	30.3		ug/L		79	20 - 100
Hexachlorocyclopentadiene	ND		38.3	18.8	J	ug/L		49	10 - 100
Hexachloroethane	ND		38.3	25.5		ug/L		67	20 - 100
Indeno[1,2,3-cd]pyrene	ND		38.3	38.9		ug/L		102	65 - 133
Isophorone	ND		38.3	29.4		ug/L		77	57 - 110
Naphthalene	ND		38.3	33.2		ug/L		87	36 - 110
Nitrobenzene	ND		38.3	27.2		ug/L		71	53 - 110
N-Nitrosodi-n-propylamine	ND		38.3	28.4		ug/L		74	58 - 110
N-Nitrosodiphenylamine	ND		38.3	36.5		ug/L		95	66 - 110
Pentachlorophenol	ND		76.5	58.6		ug/L		77	23 - 129
Phenol	ND	F1	38.3	12.7		ug/L		33	33 - 100
Pyrene	ND		38.3	36.8		ug/L		96	70 - 110
2,4-Dimethylphenol	ND		38.3	32.8		ug/L		86	51 - 110
Benzo[a]anthracene	ND		38.3	36.9		ug/L		96	70 - 120
Phenanthrene	ND		38.3	36.4		ug/L		95	65 - 120
3,3'-Dichlorobenzidine	ND		38.3	33.1		ug/L		86	60 - 132

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*134*		*40 - 145*
2-Fluorobiphenyl	*83*		*34 - 110*
2-Fluorophenol (Surr)	*45*		*27 - 110*
Nitrobenzene-d5 (Surr)	*72*		*36 - 120*
Phenol-d5 (Surr)	*30*		*20 - 100*
Terphenyl-d14 (Surr)	*87*		*40 - 145*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 480-152847-3 MSD
Matrix: Water
Analysis Batch: 484464

Client Sample ID: SUPE-W-06C-043019
Prep Type: Total/NA
Prep Batch: 484079

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	ND		38.8	30.1		ug/L		78	26 - 110	4	20
1,2-Dichlorobenzene	ND		38.8	27.6		ug/L		71	26 - 110	8	20
1,3-Dichlorobenzene	ND		38.8	27.1		ug/L		70	22 - 110	4	20
1,4-Dichlorobenzene	ND		38.8	27.7		ug/L		71	23 - 110	4	20
1-Methylnaphthalene	ND		38.8	33.8		ug/L		87	38 - 110	4	20
bis(chloroisopropyl) ether	ND		38.8	15.7		ug/L		40	38 - 110	4	20
2,3,4,6-Tetrachlorophenol	ND		38.8	35.0		ug/L		90	44 - 118	4	20
2,4,5-Trichlorophenol	ND		38.8	33.2		ug/L		86	63 - 120	5	20
2,4,6-Trichlorophenol	ND		38.8	34.6		ug/L		89	62 - 110	5	20
2,4-Dichlorophenol	ND		38.8	34.8		ug/L		90	62 - 110	3	20
2,4-Dinitrophenol	ND		77.6	44.3		ug/L		57	37 - 130	2	20
2,4-Dinitrotoluene	ND		38.8	34.5		ug/L		89	63 - 122	3	20
2,6-Dinitrotoluene	ND		38.8	36.3		ug/L		93	63 - 119	4	20
3 & 4 Methylphenol	ND		38.8	26.5		ug/L		68	53 - 110	6	20
2-Chloronaphthalene	ND		38.8	31.9		ug/L		82	39 - 110	5	20
2-Chlorophenol	ND		38.8	31.1		ug/L		80	59 - 110	6	20
2-Methylnaphthalene	ND		38.8	32.2		ug/L		83	34 - 110	5	20
2-Methylphenol	ND		38.8	28.1		ug/L		73	53 - 110	6	20
2-Nitroaniline	ND		38.8	25.0		ug/L		64	59 - 122	4	20
2-Nitrophenol	ND		38.8	33.1		ug/L		85	58 - 110	3	20
3-Nitroaniline	ND		38.8	25.3		ug/L		65	47 - 123	1	20
4,6-Dinitro-2-methylphenol	ND		77.6	58.7		ug/L		76	50 - 117	1	20
4-Bromophenyl phenyl ether	ND		38.8	37.8		ug/L		97	58 - 120	0	20
4-Chloro-3-methylphenol	ND		38.8	33.0		ug/L		85	64 - 120	3	20
4-Chloroaniline	ND		38.8	25.5		ug/L		66	35 - 128	0	20
4-Chlorophenyl phenyl ether	ND		38.8	34.8		ug/L		90	47 - 112	3	20
4-Nitroaniline	ND		38.8	24.6		ug/L		63	52 - 147	2	20
4-Nitrophenol	ND		77.6	16.7	J	ug/L		21	20 - 110	3	20
Acenaphthene	ND		38.8	31.8		ug/L		82	46 - 110	4	20
Acenaphthylene	ND		38.8	32.1		ug/L		83	47 - 110	4	20
Anthracene	ND		38.8	36.2		ug/L		93	67 - 110	0	20
Benzo[a]pyrene	ND		38.8	40.6		ug/L		105	70 - 120	3	20
Benzo[b]fluoranthene	ND		38.8	36.0		ug/L		93	69 - 123	2	20
Benzo[g,h,i]perylene	ND		38.8	34.2		ug/L		88	70 - 120	2	20
Benzo[k]fluoranthene	ND		38.8	40.2		ug/L		104	70 - 120	8	20
Benzoic acid	ND		77.6	34.0		ug/L		44	10 - 100	2	20
Benzyl alcohol	ND		38.8	23.0		ug/L		59	33 - 127	15	20
Bis(2-chloroethoxy)methane	ND		38.8	29.1		ug/L		75	60 - 110	3	20
Bis(2-chloroethyl)ether	ND		38.8	28.2		ug/L		73	49 - 110	6	20
Bis(2-ethylhexyl) phthalate	ND		38.8	34.0		ug/L		87	69 - 120	3	20
Butyl benzyl phthalate	ND		38.8	32.5		ug/L		84	68 - 120	4	20
Chrysene	ND		38.8	40.9		ug/L		105	68 - 120	2	20
Dibenz(a,h)anthracene	ND		38.8	41.1		ug/L		106	70 - 127	1	20
Dibenzofuran	ND		38.8	32.0		ug/L		83	51 - 110	4	20
Diethyl phthalate	ND		38.8	33.0		ug/L		85	62 - 120	5	20
Dimethyl phthalate	ND		38.8	35.5		ug/L		91	63 - 120	3	20
Di-n-butyl phthalate	ND		38.8	33.6		ug/L		86	70 - 120	2	20
Di-n-octyl phthalate	ND		38.8	32.9		ug/L		85	70 - 122	1	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 480-152847-3 MSD
Matrix: Water
Analysis Batch: 484464

Client Sample ID: SUPE-W-06C-043019
Prep Type: Total/NA
Prep Batch: 484079

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoranthene	ND		38.8	35.1		ug/L		90	68 - 120	1	20
Fluorene	ND		38.8	35.3		ug/L		91	53 - 120	4	20
Hexachlorobenzene	ND		38.8	41.9		ug/L		108	61 - 120	1	20
Hexachlorobutadiene	ND		38.8	29.7		ug/L		76	20 - 100	2	20
Hexachlorocyclopentadiene	ND		38.8	18.9	J	ug/L		49	10 - 100	0	20
Hexachloroethane	ND		38.8	24.7		ug/L		64	20 - 100	3	20
Indeno[1,2,3-cd]pyrene	ND		38.8	38.6		ug/L		100	65 - 133	1	20
Isophorone	ND		38.8	29.0		ug/L		75	57 - 110	1	20
Naphthalene	ND		38.8	31.8		ug/L		82	36 - 110	4	20
Nitrobenzene	ND		38.8	26.4		ug/L		68	53 - 110	3	20
N-Nitrosodi-n-propylamine	ND		38.8	27.1		ug/L		70	58 - 110	5	20
N-Nitrosodiphenylamine	ND		38.8	36.0		ug/L		93	66 - 110	1	20
Pentachlorophenol	ND		77.6	55.7		ug/L		72	23 - 129	5	20
Phenol	ND	F1	38.8	11.7	F1	ug/L		30	33 - 100	8	20
Pyrene	ND		38.8	35.4		ug/L		91	70 - 110	4	20
2,4-Dimethylphenol	ND		38.8	31.6		ug/L		81	51 - 110	4	20
Benzo[a]anthracene	ND		38.8	35.9		ug/L		92	70 - 120	3	20
Phenanthrene	ND		38.8	35.5		ug/L		91	65 - 120	2	20
3,3'-Dichlorobenzidine	ND		38.8	32.4		ug/L		83	60 - 132	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*124*		*40 - 145*
2-Fluorobiphenyl	*80*		*34 - 110*
2-Fluorophenol (Surr)	*42*		*27 - 110*
Nitrobenzene-d5 (Surr)	*72*		*36 - 120*
Phenol-d5 (Surr)	*29*		*20 - 100*
Terphenyl-d14 (Surr)	*85*		*40 - 145*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 480-471326/1-A
Matrix: Water
Analysis Batch: 471658

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 471326

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		1.0	0.34	ug/L		05/06/19 08:07	05/08/19 02:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*84*		*24 - 146*	*05/06/19 08:07*	*05/08/19 02:57*	*1*
2-Fluorobiphenyl	*97*		*37 - 120*	*05/06/19 08:07*	*05/08/19 02:57*	*1*
2-Fluorophenol (Surr)	*52*		*10 - 120*	*05/06/19 08:07*	*05/08/19 02:57*	*1*
Nitrobenzene-d5 (Surr)	*100*		*26 - 120*	*05/06/19 08:07*	*05/08/19 02:57*	*1*
Phenol-d5 (Surr)	*36*		*11 - 120*	*05/06/19 08:07*	*05/08/19 02:57*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 480-471326/2-A
Matrix: Water
Analysis Batch: 471658

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 471326

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Pentachlorophenol			16.0	21.1	*	ug/L		132	10 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*107*		*24 - 146*
2-Fluorobiphenyl	*93*		*37 - 120*
2-Fluorophenol (Surr)	*45*		*10 - 120*
Nitrobenzene-d5 (Surr)	*87*		*26 - 120*
Phenol-d5 (Surr)	*34*		*11 - 120*

Lab Sample ID: 480-152847-3 MS
Matrix: Water
Analysis Batch: 471658

Client Sample ID: SUPE-W-06C-043019
Prep Type: Total/NA
Prep Batch: 471326

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Pentachlorophenol	ND	* F1	15.2	21.3	F1	ug/L		140	10 - 131		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*108*		*24 - 146*
2-Fluorobiphenyl	*98*		*37 - 120*
2-Fluorophenol (Surr)	*44*		*10 - 120*
Nitrobenzene-d5 (Surr)	*86*		*26 - 120*
Phenol-d5 (Surr)	*33*		*11 - 120*

Lab Sample ID: 480-152847-3 MSD
Matrix: Water
Analysis Batch: 471658

Client Sample ID: SUPE-W-06C-043019
Prep Type: Total/NA
Prep Batch: 471326

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Pentachlorophenol	ND	* F1	15.2	19.2		ug/L		126	10 - 131	11	37

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*97*		*24 - 146*
2-Fluorobiphenyl	*89*		*37 - 120*
2-Fluorophenol (Surr)	*45*		*10 - 120*
Nitrobenzene-d5 (Surr)	*82*		*26 - 120*
Phenol-d5 (Surr)	*32*		*11 - 120*

QC Association Summary

Client: Field & Technical Services LLC
Project/Site: Superior, WI Semiannual Groundwater

Job ID: 480-152847-1

GC/MS VOA

Analysis Batch: 471924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-152847-1	SUPE-W-30C-043019	Total/NA	Water	8260C	
480-152847-2	SUPE-W-06A-043019	Total/NA	Water	8260C	
480-152847-3	SUPE-W-06C-043019	Total/NA	Water	8260C	
480-152847-4	SUPE-EB-01-043019	Total/NA	Water	8260C	
480-152847-5	SUPE-W-28C-043019	Total/NA	Water	8260C	
MB 480-471924/7	Method Blank	Total/NA	Water	8260C	
LCS 480-471924/5	Lab Control Sample	Total/NA	Water	8260C	
480-152847-3 MS	SUPE-W-06C-043019	Total/NA	Water	8260C	
480-152847-3 MSD	SUPE-W-06C-043019	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 471326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-152847-1	SUPE-W-30C-043019	Total/NA	Water	3510C	
480-152847-2	SUPE-W-06A-043019	Total/NA	Water	3510C	
480-152847-3	SUPE-W-06C-043019	Total/NA	Water	3510C	
480-152847-4	SUPE-EB-01-043019	Total/NA	Water	3510C	
480-152847-5	SUPE-W-28C-043019	Total/NA	Water	3510C	
MB 480-471326/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-471326/2-A	Lab Control Sample	Total/NA	Water	3510C	
480-152847-3 MS	SUPE-W-06C-043019	Total/NA	Water	3510C	
480-152847-3 MSD	SUPE-W-06C-043019	Total/NA	Water	3510C	

Analysis Batch: 471658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-152847-1	SUPE-W-30C-043019	Total/NA	Water	8270D LL	471326
480-152847-2	SUPE-W-06A-043019	Total/NA	Water	8270D LL	471326
480-152847-3	SUPE-W-06C-043019	Total/NA	Water	8270D LL	471326
480-152847-4	SUPE-EB-01-043019	Total/NA	Water	8270D LL	471326
480-152847-5	SUPE-W-28C-043019	Total/NA	Water	8270D LL	471326
MB 480-471326/1-A	Method Blank	Total/NA	Water	8270D LL	471326
LCS 480-471326/2-A	Lab Control Sample	Total/NA	Water	8270D LL	471326
480-152847-3 MS	SUPE-W-06C-043019	Total/NA	Water	8270D LL	471326
480-152847-3 MSD	SUPE-W-06C-043019	Total/NA	Water	8270D LL	471326

Prep Batch: 484079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-152847-1	SUPE-W-30C-043019	Total/NA	Water	3510C	
480-152847-2	SUPE-W-06A-043019	Total/NA	Water	3510C	
480-152847-3	SUPE-W-06C-043019	Total/NA	Water	3510C	
480-152847-4	SUPE-EB-01-043019	Total/NA	Water	3510C	
480-152847-5	SUPE-W-28C-043019	Total/NA	Water	3510C	
MB 500-484079/1-A	Method Blank	Total/NA	Water	3510C	
LCS 500-484079/2-A	Lab Control Sample	Total/NA	Water	3510C	
480-152847-3 MS	SUPE-W-06C-043019	Total/NA	Water	3510C	
480-152847-3 MSD	SUPE-W-06C-043019	Total/NA	Water	3510C	

Analysis Batch: 484422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-152847-1	SUPE-W-30C-043019	Total/NA	Water	8270D	484079

GC/MS Semi VOA (Continued)

Analysis Batch: 484422 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-152847-2	SUPE-W-06A-043019	Total/NA	Water	8270D	484079
MB 500-484079/1-A	Method Blank	Total/NA	Water	8270D	484079
LCS 500-484079/2-A	Lab Control Sample	Total/NA	Water	8270D	484079

Analysis Batch: 484464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-152847-3	SUPE-W-06C-043019	Total/NA	Water	8270D	484079
480-152847-4	SUPE-EB-01-043019	Total/NA	Water	8270D	484079
480-152847-5	SUPE-W-28C-043019	Total/NA	Water	8270D	484079
480-152847-3 MS	SUPE-W-06C-043019	Total/NA	Water	8270D	484079
480-152847-3 MSD	SUPE-W-06C-043019	Total/NA	Water	8270D	484079

Lab Chronicle

Client: Field & Technical Services LLC
Job ID: 480-152847-1
Project/Site: Superior, WI Semiannual Groundwater

Client Sample ID: SUPE-W-30C-043019
Lab Sample ID: 480-152847-1
Date Collected: 04/30/19 09:45
Matrix: Water
Date Received: 05/01/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	471924	05/09/19 02:38	AMM	TAL BUF
Total/NA	Prep	3510C			484079	05/07/19 14:39	DAK	TAL CHI
Total/NA	Analysis	8270D		1	484422	05/09/19 19:08	AJD	TAL CHI
Total/NA	Prep	3510C			471326	05/06/19 08:07	JMP	TAL BUF
Total/NA	Analysis	8270D LL		1	471658	05/08/19 05:19	PJQ	TAL BUF

Client Sample ID: SUPE-W-06A-043019
Lab Sample ID: 480-152847-2
Date Collected: 04/30/19 11:05
Matrix: Water
Date Received: 05/01/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	471924	05/09/19 03:01	AMM	TAL BUF
Total/NA	Prep	3510C			484079	05/07/19 14:39	DAK	TAL CHI
Total/NA	Analysis	8270D		1	484422	05/09/19 19:32	AJD	TAL CHI
Total/NA	Prep	3510C			471326	05/06/19 08:07	JMP	TAL BUF
Total/NA	Analysis	8270D LL		1	471658	05/08/19 05:48	PJQ	TAL BUF

Client Sample ID: SUPE-W-06C-043019
Lab Sample ID: 480-152847-3
Date Collected: 04/30/19 12:55
Matrix: Water
Date Received: 05/01/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	471924	05/09/19 03:24	AMM	TAL BUF
Total/NA	Prep	3510C			484079	05/07/19 14:39	DAK	TAL CHI
Total/NA	Analysis	8270D		1	484464	05/09/19 16:57	AJD	TAL CHI
Total/NA	Prep	3510C			471326	05/06/19 08:07	JMP	TAL BUF
Total/NA	Analysis	8270D LL		1	471658	05/08/19 04:51	PJQ	TAL BUF

Client Sample ID: SUPE-EB-01-043019
Lab Sample ID: 480-152847-4
Date Collected: 04/30/19 13:45
Matrix: Water
Date Received: 05/01/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	471924	05/09/19 03:47	AMM	TAL BUF
Total/NA	Prep	3510C			484079	05/07/19 14:39	DAK	TAL CHI
Total/NA	Analysis	8270D		1	484464	05/09/19 17:20	AJD	TAL CHI
Total/NA	Prep	3510C			471326	05/06/19 08:07	JMP	TAL BUF
Total/NA	Analysis	8270D LL		1	471658	05/08/19 06:16	PJQ	TAL BUF

Client Sample ID: SUPE-W-28C-043019
Lab Sample ID: 480-152847-5
Date Collected: 04/30/19 15:10
Matrix: Water
Date Received: 05/01/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	471924	05/09/19 04:10	AMM	TAL BUF

Lab Chronicle

Client: Field & Technical Services LLC
Job ID: 480-152847-1
Project/Site: Superior, WI Semiannual Groundwater

Client Sample ID: SUPE-W-28C-043019
Lab Sample ID: 480-152847-5

Date Collected: 04/30/19 15:10
Matrix: Water
Date Received: 05/01/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			484079	05/07/19 14:39	DAK	TAL CHI
Total/NA	Analysis	8270D		1	484464	05/09/19 17:42	AJD	TAL CHI
Total/NA	Prep	3510C			471326	05/06/19 08:07	JMP	TAL BUF
Total/NA	Analysis	8270D LL		1	471658	05/08/19 06:44	PJQ	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

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

Accreditation/Certification Summary

Client: Field & Technical Services LLC
Job ID: 480-152847-1
Project/Site: Superior, WI Semiannual Groundwater

Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	998310390	08-31-19

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	999580010	08-31-19 *

Laboratory: Eurofins TestAmerica, Pittsburgh

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
Arkansas DEQ	State Program	6	88-0690	06-27-19
California	State Program	9	2891	04-30-20
Connecticut	State Program	1	PH-0688	09-30-20
Florida	NELAP	4	E871008	06-30-19
Illinois	NELAP	5	200005	06-30-19
Kansas	NELAP	7	E-10350	01-31-20
Kentucky (DW)	Kentucky UST	4	162013	04-30-20
Louisiana	NELAP	6	04041	06-30-19
Nevada	State Program	9	PA00164	07-31-19
New Hampshire	NELAP	1	2030	04-04-20
New Jersey	NELAP	2	PA005	06-30-19
New York	NELAP	2	11182	03-31-20
North Carolina (WW/SW)	State Program	4	434	12-31-19
Oregon	NELAP	10	PA-2151	02-06-20
Pennsylvania	NELAP	3	02-00416	04-30-20
South Carolina	State Program	4	89014	04-30-19 *
Texas	NELAP	6	T104704528-15-2	03-31-20
US Fish & Wildlife	Federal		LE94312A-1	07-31-19
USDA	Federal		P330-16-00211	06-26-19
Utah	NELAP	8	PA001462015-4	05-31-19 *
Virginia	NELAP	3	460189	09-14-19
West Virginia DEP	State Program	3	142	01-31-20
Wisconsin	State Program	5	998027800	08-31-19

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

Method Summary

Client: Field & Technical Services LLC
Job ID: 480-152847-1
Project/Site: Superior, WI Semiannual Groundwater

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CHI
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL BUF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL BUF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CHI
5030C	Purge and Trap	SW846	TAL BUF

Protocol References:

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

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

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

Sample Summary

Client: Field & Technical Services LLC
Job ID: 480-152847-1
Project/Site: Superior, WI Semiannual Groundwater

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-152847-1	SUPE-W-30C-043019	Water	04/30/19 09:45	05/01/19 09:30	
480-152847-2	SUPE-W-06A-043019	Water	04/30/19 11:05	05/01/19 09:30	
480-152847-3	SUPE-W-06C-043019	Water	04/30/19 12:55	05/01/19 09:30	
480-152847-4	SUPE-EB-01-043019	Water	04/30/19 13:45	05/01/19 09:30	
480-152847-5	SUPE-W-28C-043019	Water	04/30/19 15:10	05/01/19 09:30	

CHAIN OF CUSTODY RECORD/LABORATORY ANALYSIS REQUEST FORM

REF.# 546

546

Project Name:	Superior 2019 1SA Sampling	Company:	Field & Technical Services	Client:	Beazer East, Inc.
Project Number:	OM-0556-19	Address:	200 Third Avenue	Contact:	(21) 4 4-9876
Laboratory:	TABUF		Carnegie, PA 15106		kmcmullen.2006@f-ts.com
Shipment Method	FEDEX		(412) 279-3363		
Program:	Superior 2019 1SA Sampling_001				

480-152847 Chain of Custody

Sample Date	Sample Time	Matrix	Sample Identification	Analysis	8260B_VOA+naphtha	8270C_SVOC (less naphtha)														
				Preservative	HCL	None														
				Total Bottle Count																Notes:
04/30/2019	0945	GW	SUPE-W-30C-043019	6	3	3														
04/30/2019	1105	GW	SUPE-W-06A-043019	6	3	3														
04/30/2019	1255	GW	SUPE-W-06C-MS/MSD-043019	12	6	6														
04/30/2019	1255	GW	SUPE-W-06C-043019	6	3	3														
04/30/2019	1345	GW	SUPE-EB-01-043019	6	3	3														
04/30/2019	1510	GW	SUPE-W-28C-043019	6	3	3														

Temp 2.4 2.9 #1 ICE

Relinquished by:	Received by:	Relinquished by:	Received by:	Turnaround Requirements
Signature: KM McM	Signature:	Signature:	Signature:	☐ Rush
Printed Name: Katie McMullen	Printed Name:	Printed Name:	Printed Name:	
Firm: FTS	Firm: TA	Firm:	Firm:	☒ Standard
Date/Time: 04/30/2019 1646	Date/Time: 05/01/19 0930	Date/Time:	Date/Time:	

Page 1 of 1

CHAIN OF CUSTODY RECORD/LABORATORY ANALYSIS REQUEST FORM

REF.# 546

546

Project Name:	Superior 2019 1SA Sampling	Company:	Field & Technical Services	Client:	Beazer East, Inc.
Project Number:	OM-0556-19	Address:	200 Third Avenue	Contact:	(21) 4 4-9876
Laboratory:	TABUF		Carnegie, PA 15106		kmcmullen.2006@f-ts.com
Shipment Method	FEDEX		(412) 279-3363		
Program:	Superior 2019 1SA Sampling_001				

480-152847 Chain of Custody

Sample Date	Sample Time	Matrix	Sample Identification	Analysis	8260B_VOA+naphtha	8270C_SVOC (less naphtha)														Notes:
				Preservative	HCL	None														
				Total Bottle Count																
04/30/2019	0945	GW	SUPE-W-30C-043019	6	3	3														
04/30/2019	1105	GW	SUPE-W-06A-043019	6	3	3														
04/30/2019	1255	GW	SUPE-W-06C-MS/MSD-043019	12	6	6														
04/30/2019	1255	GW	SUPE-W-06C-043019	6	3	3														
04/30/2019	1345	GW	SUPE-EB-01-043019	6	3	3														
04/30/2019	1510	GW	SUPE-W-28C-043019	6	3	3														

temp 2.1 4 2.9 # 1 ICE

Relinquished by:	Received by:	Relinquished by:	Received by:	Turnaround Requirements
Signature: KA McM	Signature:	Signature:	Signature:	☐ Rush
Printed Name: Katie McMullen	Printed Name:	Printed Name:	Printed Name:	
Firm FTS	Firm TA	Firm	Firm	☒ Standard
Date/Time: 04/30/2019 1646	Date/Time: 05/01/19 0930	Date/Time:	Date/Time:	

Page 1 of 1

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 480-49466.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: veronica.bortot@testamericainc.com	State of Origin: Wisconsin	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Wisconsin		Job #: 480-152847-1
Address: 2417 Bond Street, ,	Due Date Requested: 5/17/2019			
City: University Park	TAT Requested (days):			
State, Zip: IL, 60484	PO #:			
Phone: 708-534-5200(Tel) 708-534-5211(Fax)	WO #:			
Email:	Project #: 18015916			
Project Name: Superior, WI Semiannual Groundwater	SSOW#:			
Site:				

480-152847 COC

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:

Analysis Requested

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)	8270D/3510C (MOD) Semivolatiles, project list with r	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SUPE-W-30C-040319 (480-152847-1)	4/30/19	09:45 Central		Water			X	1	Refer to PT-PM-WI-006 for Wisconsin Protocol
SUPE-W-06A-040319 (480-152847-2)	4/30/19	11:05 Central		Water			X	1	Refer to PT-PM-WI-006 for Wisconsin Protocol
SUPE-W-06C-040319 (480-152847-3)	4/30/19	12:55 Central		Water			X	1	Refer to PT-PM-WI-006 for Wisconsin Protocol
SUPE-W-06C-040319 (480-152847-3MS)	4/30/19	12:55 Central	MS	Water			X	1	Refer to PT-PM-WI-006 for Wisconsin Protocol
SUPE-W-06C-040319 (480-152847-3MSD)	4/30/19	12:55 Central	MSD	Water			X	1	Refer to PT-PM-WI-006 for Wisconsin Protocol
SUPE-EB-01-043019 (480-152847-4)	4/30/19	13:45 Central		Water			X	1	Refer to PT-PM-WI-006 for Wisconsin Protocol
SUPE-W-28C-043019 (480-152847-5)	4/30/19	15:10 Central		Water			X	1	Refer to PT-PM-WI-006 for Wisconsin Protocol

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	***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
1	[signature]	5/6/19 1800	TA-BUFFALO	[signature]	5/7/19 1005	TA-CHI
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	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: 1.0

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Field & Technical Services LLC

Job Number: 480-152847-1

Login Number: 152847
List Number: 1
Creator: Harper, Marcus D

List Source: Eurofins TestAmerica, Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is 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	
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 sample IDs on the containers 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	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	FTS
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: Field & Technical Services LLC

Job Number: 480-152847-1

Login Number: 152847
List Number: 2
Creator: Harper, Marcus D

List Source: Eurofins TestAmerica, Buffalo

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

Login Sample Receipt Checklist

Client: Field & Technical Services LLC

Job Number: 480-152847-1

Login Number: 152847
List Number: 3
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago
List Creation: 05/07/19 02:06 PM

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	1.0
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.	True	

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-152848-1
Client Project/Site: Superior, WI Semiannual Groundwater
Revision: 1

For:
Field & Technical Services LLC
200 Third Avenue
Carnegie, Pennsylvania 15106

Attn: Ms. Angie Gatchie

Veronica Bortot

Authorized for release by:
6/10/2019 2:21:24 PM

Veronica Bortot, Senior Project Manager
(412)963-2435
veronica.bortot@testamericainc.com

Table of Contents

Definitions/Glossary

Client: Field & Technical Services LLC
Job ID: 480-152848-1
Project/Site: Superior, WI Semiannual Groundwater

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside 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)

Case Narrative

Client: Field & Technical Services LLC
Job ID: 480-152848-1
Project/Site: Superior, WI Semiannual Groundwater

Job ID: 480-152848-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-152848-1

Revised: to correct SVOC list of compounds

Comments
No additional comments.

Receipt
The samples were received on 5/1/2019 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.7º C and 3.2º C.

GC/MS VOA
Method(s) 8260C: The following volatile sample was analyzed with significant headspace in the sample containers: SUPE-W-10AR2-043019. Significant headspace is defined as a bubble greater than 6 mm in diameter.

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

GC/MS Semi VOA
Method(s) 8270D LL: The following samples were diluted due to the abundance of target analytes detected : : SUPE-W-30A-043019 and SUPE-W-10AR2-043019. samples were analzyed undiluted and at 5X dilutions. Elevated reporting limits (RLs) are provided.

Method(s) 8270D LL: The laboratory control sample (LCS) for preparation batch 480-471326 and analytical batch 480-471658 recovered outside control limits for the following analytes: Pentachlorophenol. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: Surrogate recoveries for the following sample were outside of acceptance limits: SUPE-W-30A-043019. It appears that no surrogate solution was added during the extraction process. There was insufficient sample to perform a re-extraction; therefore, the data have been reported.

Method(s) 8270D: LCS 500-483721/2-A had 4,6-Dinitro-2--methylphenol and Benzo[k]fluoranthene biased high. These analytes were in control in the LCSD. LCS 500-483721/2-A

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 500-483721 and analytical batch 500-484422 recovered outside control limits for Benzoic acid. The % recoveries were within limits.

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

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

Detection Summary

Client: Field & Technical Services LLC
Project/Site: Superior, WI Semiannual Groundwater

Job ID: 480-152848-1

Client Sample ID: SUPE-TB-01-043019 — Lab Sample ID: 480-152848-1

No Detections.

Client Sample ID: SUPE-W-12A-043019 — Lab Sample ID: 480-152848-2

No Detections.

Client Sample ID: SUPE-W-12CR-043019 — Lab Sample ID: 480-152848-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2,4,6-Trichlorophenol	1.9	J	5.0	1.1	ug/L	1		8270D	Total/NA

Client Sample ID: SUPE-W-30A-043019 — Lab Sample ID: 480-152848-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.76	J	1.0	0.41	ug/L	1		8260C	Total/NA
Ethylbenzene	1.6		1.0	0.74	ug/L	1		8260C	Total/NA
Naphthalene	22		1.0	0.43	ug/L	1		8260C	Total/NA

Client Sample ID: SUPE-W-10AR2-043019 — Lab Sample ID: 480-152848-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	8.9		1.0	0.75	ug/L	1		8260C	Total/NA
Benzene	17		1.0	0.41	ug/L	1		8260C	Total/NA
Ethylbenzene	34		1.0	0.74	ug/L	1		8260C	Total/NA
m-Xylene & p-Xylene	5.0		2.0	0.66	ug/L	1		8260C	Total/NA
Naphthalene	2.2		1.0	0.43	ug/L	1		8260C	Total/NA
o-Xylene	16		1.0	0.76	ug/L	1		8260C	Total/NA
Toluene	2.3		1.0	0.51	ug/L	1		8260C	Total/NA
Xylenes, Total	21		2.0	0.66	ug/L	1		8260C	Total/NA
Acenaphthylene	1.5		0.98	0.31	ug/L	1		8270D	Total/NA
Anthracene	1.2		0.98	0.31	ug/L	1		8270D	Total/NA
Dibenzofuran	42		2.0	0.34	ug/L	1		8270D	Total/NA
Fluoranthene	2.2		0.98	0.31	ug/L	1		8270D	Total/NA
Fluorene	32		0.98	0.37	ug/L	1		8270D	Total/NA
Pyrene	1.3		0.98	0.47	ug/L	1		8270D	Total/NA
Phenanthrene	6.0		0.98	0.34	ug/L	1		8270D	Total/NA
1-Methylnaphthalene - DL	57		9.8	2.5	ug/L	5		8270D	Total/NA
Acenaphthene - DL	110		4.9	1.8	ug/L	5		8270D	Total/NA

Client Sample ID: SUPE-M-99A-043019 — Lab Sample ID: 480-152848-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2,4,6-Trichlorophenol	1.6	J	4.9	1.1	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SUPE-TB-01-043019
Lab Sample ID: 480-152848-1

Date Collected: 04/30/19 00:00
Matrix: Water
Date Received: 05/01/19 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/09/19 16:00	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			05/09/19 16:00	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			05/09/19 16:00	1
Benzene	ND		1.0	0.41	ug/L			05/09/19 16:00	1
Chloromethane	ND		1.0	0.35	ug/L			05/09/19 16:00	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/09/19 16:00	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			05/09/19 16:00	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/09/19 16:00	1
Naphthalene	ND		1.0	0.43	ug/L			05/09/19 16:00	1
n-Butylbenzene	ND		1.0	0.64	ug/L			05/09/19 16:00	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/09/19 16:00	1
o-Xylene	ND		1.0	0.76	ug/L			05/09/19 16:00	1
Styrene	ND		1.0	0.73	ug/L			05/09/19 16:00	1
Toluene	ND		1.0	0.51	ug/L			05/09/19 16:00	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/09/19 16:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*05/09/19 16:00*	*1*
4-Bromofluorobenzene (Surr)	*88*		*73 - 120*		*05/09/19 16:00*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 123*		*05/09/19 16:00*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*05/09/19 16:00*	*1*

Client Sample ID: SUPE-W-12A-043019
Lab Sample ID: 480-152848-2

Date Collected: 04/30/19 09:48
Matrix: Water
Date Received: 05/01/19 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/09/19 16:24	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			05/09/19 16:24	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			05/09/19 16:24	1
Benzene	ND		1.0	0.41	ug/L			05/09/19 16:24	1
Chloromethane	ND		1.0	0.35	ug/L			05/09/19 16:24	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/09/19 16:24	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			05/09/19 16:24	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/09/19 16:24	1
Naphthalene	ND		1.0	0.43	ug/L			05/09/19 16:24	1
n-Butylbenzene	ND		1.0	0.64	ug/L			05/09/19 16:24	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/09/19 16:24	1
o-Xylene	ND		1.0	0.76	ug/L			05/09/19 16:24	1
Styrene	ND		1.0	0.73	ug/L			05/09/19 16:24	1
Toluene	ND		1.0	0.51	ug/L			05/09/19 16:24	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/09/19 16:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*05/09/19 16:24*	*1*
4-Bromofluorobenzene (Surr)	*88*		*73 - 120*		*05/09/19 16:24*	*1*
Dibromofluoromethane (Surr)	*94*		*75 - 123*		*05/09/19 16:24*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*05/09/19 16:24*	*1*

Client: Field & Technical Services LLC
Job ID: 480-152848-1
Project/Site: Superior, WI Semiannual Groundwater

Client Sample ID: SUPE-W-12A-043019
Lab Sample ID: 480-152848-2
Date Collected: 04/30/19 09:48
Matrix: Water
Date Received: 05/01/19 09:30

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	*	0.95	0.32	ug/L		05/06/19 08:07	05/08/19 07:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*78*		*24 - 146*	*05/06/19 08:07*	*05/08/19 07:13*	*1*
2-Fluorobiphenyl	*67*		*37 - 120*	*05/06/19 08:07*	*05/08/19 07:13*	*1*
2-Fluorophenol (Surr)	*33*		*10 - 120*	*05/06/19 08:07*	*05/08/19 07:13*	*1*
Nitrobenzene-d5 (Surr)	*54*		*26 - 120*	*05/06/19 08:07*	*05/08/19 07:13*	*1*
Phenol-d5 (Surr)	*21*		*11 - 120*	*05/06/19 08:07*	*05/08/19 07:13*	*1*
p-Terphenyl-d14	*66*		*64 - 127*	*05/06/19 08:07*	*05/08/19 07:13*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		2.0	0.30	ug/L		05/06/19 07:24	05/09/19 17:10	1
1,2-Dichlorobenzene	ND		2.0	0.29	ug/L		05/06/19 07:24	05/09/19 17:10	1
1,3-Dichlorobenzene	ND		2.0	0.25	ug/L		05/06/19 07:24	05/09/19 17:10	1
1,4-Dichlorobenzene	ND		2.0	0.27	ug/L		05/06/19 07:24	05/09/19 17:10	1
1-Methylnaphthalene	ND		2.0	0.50	ug/L		05/06/19 07:24	05/09/19 17:10	1
bis(chloroisopropyl) ether	ND		2.0	0.30	ug/L		05/06/19 07:24	05/09/19 17:10	1
2,3,4,6-Tetrachlorophenol	ND		5.0	1.5	ug/L		05/06/19 07:24	05/09/19 17:10	1
2,4,5-Trichlorophenol	ND		10	2.3	ug/L		05/06/19 07:24	05/09/19 17:10	1
2,4,6-Trichlorophenol	ND		5.0	1.1	ug/L		05/06/19 07:24	05/09/19 17:10	1
2,4-Dichlorophenol	ND		10	2.3	ug/L		05/06/19 07:24	05/09/19 17:10	1
2,4-Dinitrophenol	ND		20	7.5	ug/L		05/06/19 07:24	05/09/19 17:10	1
2,4-Dinitrotoluene	ND		1.0	0.30	ug/L		05/06/19 07:24	05/09/19 17:10	1
2,6-Dinitrotoluene	ND		1.0	0.12	ug/L		05/06/19 07:24	05/09/19 17:10	1
3 & 4 Methylphenol	ND		2.0	0.44	ug/L		05/06/19 07:24	05/09/19 17:10	1
2-Chloronaphthalene	ND		2.0	0.34	ug/L		05/06/19 07:24	05/09/19 17:10	1
2-Chlorophenol	ND		5.0	0.81	ug/L		05/06/19 07:24	05/09/19 17:10	1
2-Methylnaphthalene	ND		2.0	0.13	ug/L		05/06/19 07:24	05/09/19 17:10	1
2-Methylphenol	ND		2.0	0.31	ug/L		05/06/19 07:24	05/09/19 17:10	1
2-Nitroaniline	ND		5.0	1.1	ug/L		05/06/19 07:24	05/09/19 17:10	1
2-Nitrophenol	ND		10	2.2	ug/L		05/06/19 07:24	05/09/19 17:10	1
3-Nitroaniline	ND		10	2.3	ug/L		05/06/19 07:24	05/09/19 17:10	1
4,6-Dinitro-2-methylphenol	ND	*	20	5.0	ug/L		05/06/19 07:24	05/09/19 17:10	1
4-Bromophenyl phenyl ether	ND		5.0	0.92	ug/L		05/06/19 07:24	05/09/19 17:10	1
4-Chloro-3-methylphenol	ND		10	2.2	ug/L		05/06/19 07:24	05/09/19 17:10	1
4-Chloroaniline	ND		10	2.1	ug/L		05/06/19 07:24	05/09/19 17:10	1
4-Chlorophenyl phenyl ether	ND		5.0	0.82	ug/L		05/06/19 07:24	05/09/19 17:10	1
4-Nitroaniline	ND		10	4.0	ug/L		05/06/19 07:24	05/09/19 17:10	1
4-Nitrophenol	ND		20	2.4	ug/L		05/06/19 07:24	05/09/19 17:10	1
Acenaphthene	ND		1.0	0.36	ug/L		05/06/19 07:24	05/09/19 17:10	1
Acenaphthylene	ND		1.0	0.32	ug/L		05/06/19 07:24	05/09/19 17:10	1
Anthracene	ND		1.0	0.32	ug/L		05/06/19 07:24	05/09/19 17:10	1
Benzo[a]pyrene	ND		0.20	0.056	ug/L		05/06/19 07:24	05/09/19 17:10	1
Benzo[b]fluoranthene	ND		0.20	0.058	ug/L		05/06/19 07:24	05/09/19 17:10	1
Benzo[g,h,i]perylene	ND		1.0	0.42	ug/L		05/06/19 07:24	05/09/19 17:10	1
Benzo[k]fluoranthene	ND	*	0.20	0.075	ug/L		05/06/19 07:24	05/09/19 17:10	1
Benzoic acid	ND	*	20	4.6	ug/L		05/06/19 07:24	05/09/19 17:10	1
Benzyl alcohol	ND		20	3.1	ug/L		05/06/19 07:24	05/09/19 17:10	1
Bis(2-chloroethoxy)methane	ND		2.0	0.30	ug/L		05/06/19 07:24	05/09/19 17:10	1

Client: Field & Technical Services LLC
Job ID: 480-152848-1
Project/Site: Superior, WI Semiannual Groundwater

Client Sample ID: SUPE-W-12A-043019
Lab Sample ID: 480-152848-2
Date Collected: 04/30/19 09:48
Matrix: Water
Date Received: 05/01/19 09:30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	ND		2.0	0.35	ug/L		05/06/19 07:24	05/09/19 17:10	1
Bis(2-ethylhexyl) phthalate	ND		10	2.4	ug/L		05/06/19 07:24	05/09/19 17:10	1
Butyl benzyl phthalate	ND		2.0	0.27	ug/L		05/06/19 07:24	05/09/19 17:10	1
Chrysene	ND		0.50	0.14	ug/L		05/06/19 07:24	05/09/19 17:10	1
Dibenz(a,h)anthracene	ND		0.30	0.065	ug/L		05/06/19 07:24	05/09/19 17:10	1
Dibenzofuran	ND		2.0	0.35	ug/L		05/06/19 07:24	05/09/19 17:10	1
Diethyl phthalate	ND		2.0	0.44	ug/L		05/06/19 07:24	05/09/19 17:10	1
Dimethyl phthalate	ND		2.0	0.38	ug/L		05/06/19 07:24	05/09/19 17:10	1
Di-n-butyl phthalate	ND		5.0	0.81	ug/L		05/06/19 07:24	05/09/19 17:10	1
Di-n-octyl phthalate	ND		10	2.5	ug/L		05/06/19 07:24	05/09/19 17:10	1
2,3,5,6-Tetrachlorophenol	ND		5.0	2.5	ug/L		05/06/19 07:24	05/09/19 17:10	1
Fluoranthene	ND		1.0	0.32	ug/L		05/06/19 07:24	05/09/19 17:10	1
Fluorene	ND		1.0	0.38	ug/L		05/06/19 07:24	05/09/19 17:10	1
Hexachlorobenzene	ND		0.50	0.14	ug/L		05/06/19 07:24	05/09/19 17:10	1
Hexachlorobutadiene	ND		5.0	1.1	ug/L		05/06/19 07:24	05/09/19 17:10	1
Hexachlorocyclopentadiene	ND		20	3.5	ug/L		05/06/19 07:24	05/09/19 17:10	1
Hexachloroethane	ND		5.0	0.98	ug/L		05/06/19 07:24	05/09/19 17:10	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.085	ug/L		05/06/19 07:24	05/09/19 17:10	1
Isophorone	ND		2.0	0.29	ug/L		05/06/19 07:24	05/09/19 17:10	1
Nitrobenzene	ND		1.0	0.45	ug/L		05/06/19 07:24	05/09/19 17:10	1
N-Nitrosodi-n-propylamine	ND		0.50	0.14	ug/L		05/06/19 07:24	05/09/19 17:10	1
N-Nitrosodiphenylamine	ND		2.0	0.34	ug/L		05/06/19 07:24	05/09/19 17:10	1
Phenol	ND		5.0	0.36	ug/L		05/06/19 07:24	05/09/19 17:10	1
Pyrene	ND		1.0	0.48	ug/L		05/06/19 07:24	05/09/19 17:10	1
2,4-Dimethylphenol	ND		10	3.4	ug/L		05/06/19 07:24	05/09/19 17:10	1
Benzo[a]anthracene	ND		0.20	0.044	ug/L		05/06/19 07:24	05/09/19 17:10	1
Phenanthrene	ND		1.0	0.35	ug/L		05/06/19 07:24	05/09/19 17:10	1
3,3'-Dichlorobenzidine	ND		5.0	0.95	ug/L		05/06/19 07:24	05/09/19 17:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*106*		*40 - 145*	*05/06/19 07:24*	*05/09/19 17:10*	*1*
2-Fluorobiphenyl	*78*		*34 - 110*	*05/06/19 07:24*	*05/09/19 17:10*	*1*
2-Fluorophenol (Surr)	*40*		*27 - 110*	*05/06/19 07:24*	*05/09/19 17:10*	*1*
Nitrobenzene-d5 (Surr)	*82*		*36 - 120*	*05/06/19 07:24*	*05/09/19 17:10*	*1*
Phenol-d5 (Surr)	*29*		*20 - 100*	*05/06/19 07:24*	*05/09/19 17:10*	*1*
Terphenyl-d14 (Surr)	*114*		*40 - 145*	*05/06/19 07:24*	*05/09/19 17:10*	*1*

Client Sample ID: SUPE-W-12CR-043019
Lab Sample ID: 480-152848-3
Date Collected: 04/30/19 11:09
Matrix: Water
Date Received: 05/01/19 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/09/19 16:47	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			05/09/19 16:47	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			05/09/19 16:47	1
Benzene	ND		1.0	0.41	ug/L			05/09/19 16:47	1
Chloromethane	ND		1.0	0.35	ug/L			05/09/19 16:47	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/09/19 16:47	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			05/09/19 16:47	1

Client Sample ID: SUPE-W-12CR-043019
Lab Sample ID: 480-152848-3

Date Collected: 04/30/19 11:09
Matrix: Water
Date Received: 05/01/19 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/09/19 16:47	1
Naphthalene	ND		1.0	0.43	ug/L			05/09/19 16:47	1
n-Butylbenzene	ND		1.0	0.64	ug/L			05/09/19 16:47	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/09/19 16:47	1
o-Xylene	ND		1.0	0.76	ug/L			05/09/19 16:47	1
Styrene	ND		1.0	0.73	ug/L			05/09/19 16:47	1
Toluene	ND		1.0	0.51	ug/L			05/09/19 16:47	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/09/19 16:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*		*05/09/19 16:47*	*1*
4-Bromofluorobenzene (Surr)	*84*		*73 - 120*		*05/09/19 16:47*	*1*
Dibromofluoromethane (Surr)	*97*		*75 - 123*		*05/09/19 16:47*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*05/09/19 16:47*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	*	0.96	0.33	ug/L		05/06/19 08:07	05/08/19 07:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*100*		*24 - 146*	*05/06/19 08:07*	*05/08/19 07:42*	*1*
2-Fluorobiphenyl	*82*		*37 - 120*	*05/06/19 08:07*	*05/08/19 07:42*	*1*
2-Fluorophenol (Surr)	*49*		*10 - 120*	*05/06/19 08:07*	*05/08/19 07:42*	*1*
Nitrobenzene-d5 (Surr)	*74*		*26 - 120*	*05/06/19 08:07*	*05/08/19 07:42*	*1*
Phenol-d5 (Surr)	*31*		*11 - 120*	*05/06/19 08:07*	*05/08/19 07:42*	*1*
p-Terphenyl-d14	*82*		*64 - 127*	*05/06/19 08:07*	*05/08/19 07:42*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		2.0	0.30	ug/L		05/06/19 07:24	05/09/19 17:33	1
1,2-Dichlorobenzene	ND		2.0	0.29	ug/L		05/06/19 07:24	05/09/19 17:33	1
1,3-Dichlorobenzene	ND		2.0	0.25	ug/L		05/06/19 07:24	05/09/19 17:33	1
1,4-Dichlorobenzene	ND		2.0	0.27	ug/L		05/06/19 07:24	05/09/19 17:33	1
1-Methylnaphthalene	ND		2.0	0.50	ug/L		05/06/19 07:24	05/09/19 17:33	1
bis(chloroisopropyl) ether	ND		2.0	0.30	ug/L		05/06/19 07:24	05/09/19 17:33	1
2,3,4,6-Tetrachlorophenol	ND		5.0	1.5	ug/L		05/06/19 07:24	05/09/19 17:33	1
2,4,5-Trichlorophenol	ND		10	2.3	ug/L		05/06/19 07:24	05/09/19 17:33	1
2,4,6-Trichlorophenol	**1.9**	**J**	5.0	1.1	ug/L		05/06/19 07:24	05/09/19 17:33	1
2,4-Dichlorophenol	ND		10	2.3	ug/L		05/06/19 07:24	05/09/19 17:33	1
2,4-Dinitrophenol	ND		20	7.4	ug/L		05/06/19 07:24	05/09/19 17:33	1
2,4-Dinitrotoluene	ND		1.0	0.30	ug/L		05/06/19 07:24	05/09/19 17:33	1
2,6-Dinitrotoluene	ND		1.0	0.12	ug/L		05/06/19 07:24	05/09/19 17:33	1
3 & 4 Methylphenol	ND		2.0	0.44	ug/L		05/06/19 07:24	05/09/19 17:33	1
2-Chloronaphthalene	ND		2.0	0.34	ug/L		05/06/19 07:24	05/09/19 17:33	1
2-Chlorophenol	ND		5.0	0.80	ug/L		05/06/19 07:24	05/09/19 17:33	1
2-Methylnaphthalene	ND		2.0	0.13	ug/L		05/06/19 07:24	05/09/19 17:33	1
2-Methylphenol	ND		2.0	0.31	ug/L		05/06/19 07:24	05/09/19 17:33	1
2-Nitroaniline	ND		5.0	1.1	ug/L		05/06/19 07:24	05/09/19 17:33	1
2-Nitrophenol	ND		10	2.1	ug/L		05/06/19 07:24	05/09/19 17:33	1
3-Nitroaniline	ND		10	2.3	ug/L		05/06/19 07:24	05/09/19 17:33	1

Client: Field & Technical Services LLC
Job ID: 480-152848-1
Project/Site: Superior, WI Semiannual Groundwater

Client Sample ID: SUPE-W-12CR-043019
Lab Sample ID: 480-152848-3
Date Collected: 04/30/19 11:09
Matrix: Water
Date Received: 05/01/19 09:30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND	*	20	4.9	ug/L		05/06/19 07:24	05/09/19 17:33	1
4-Bromophenyl phenyl ether	ND		5.0	0.91	ug/L		05/06/19 07:24	05/09/19 17:33	1
4-Chloro-3-methylphenol	ND		10	2.2	ug/L		05/06/19 07:24	05/09/19 17:33	1
4-Chloroaniline	ND		10	2.1	ug/L		05/06/19 07:24	05/09/19 17:33	1
4-Chlorophenyl phenyl ether	ND		5.0	0.81	ug/L		05/06/19 07:24	05/09/19 17:33	1
4-Nitroaniline	ND		10	3.9	ug/L		05/06/19 07:24	05/09/19 17:33	1
4-Nitrophenol	ND		20	2.3	ug/L		05/06/19 07:24	05/09/19 17:33	1
Acenaphthene	ND		1.0	0.36	ug/L		05/06/19 07:24	05/09/19 17:33	1
Acenaphthylene	ND		1.0	0.32	ug/L		05/06/19 07:24	05/09/19 17:33	1
Anthracene	ND		1.0	0.32	ug/L		05/06/19 07:24	05/09/19 17:33	1
Benzo[a]pyrene	ND		0.20	0.056	ug/L		05/06/19 07:24	05/09/19 17:33	1
Benzo[b]fluoranthene	ND		0.20	0.058	ug/L		05/06/19 07:24	05/09/19 17:33	1
Benzo[g,h,i]perylene	ND		1.0	0.42	ug/L		05/06/19 07:24	05/09/19 17:33	1
Benzo[k]fluoranthene	ND	*	0.20	0.074	ug/L		05/06/19 07:24	05/09/19 17:33	1
Benzoic acid	ND	*	20	4.5	ug/L		05/06/19 07:24	05/09/19 17:33	1
Benzyl alcohol	ND		20	3.0	ug/L		05/06/19 07:24	05/09/19 17:33	1
Bis(2-chloroethoxy)methane	ND		2.0	0.30	ug/L		05/06/19 07:24	05/09/19 17:33	1
Bis(2-chloroethyl)ether	ND		2.0	0.35	ug/L		05/06/19 07:24	05/09/19 17:33	1
Bis(2-ethylhexyl) phthalate	ND		10	2.4	ug/L		05/06/19 07:24	05/09/19 17:33	1
Butyl benzyl phthalate	ND		2.0	0.27	ug/L		05/06/19 07:24	05/09/19 17:33	1
Chrysene	ND		0.50	0.14	ug/L		05/06/19 07:24	05/09/19 17:33	1
Dibenz(a,h)anthracene	ND		0.30	0.064	ug/L		05/06/19 07:24	05/09/19 17:33	1
Dibenzofuran	ND		2.0	0.35	ug/L		05/06/19 07:24	05/09/19 17:33	1
Diethyl phthalate	ND		2.0	0.44	ug/L		05/06/19 07:24	05/09/19 17:33	1
Dimethyl phthalate	ND		2.0	0.38	ug/L		05/06/19 07:24	05/09/19 17:33	1
Di-n-butyl phthalate	ND		5.0	0.80	ug/L		05/06/19 07:24	05/09/19 17:33	1
Di-n-octyl phthalate	ND		10	2.5	ug/L		05/06/19 07:24	05/09/19 17:33	1
2,3,5,6-Tetrachlorophenol	ND		5.0	2.5	ug/L		05/06/19 07:24	05/09/19 17:33	1
Fluoranthene	ND		1.0	0.32	ug/L		05/06/19 07:24	05/09/19 17:33	1
Fluorene	ND		1.0	0.38	ug/L		05/06/19 07:24	05/09/19 17:33	1
Hexachlorobenzene	ND		0.50	0.14	ug/L		05/06/19 07:24	05/09/19 17:33	1
Hexachlorobutadiene	ND		5.0	1.1	ug/L		05/06/19 07:24	05/09/19 17:33	1
Hexachlorocyclopentadiene	ND		20	3.4	ug/L		05/06/19 07:24	05/09/19 17:33	1
Hexachloroethane	ND		5.0	0.97	ug/L		05/06/19 07:24	05/09/19 17:33	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.084	ug/L		05/06/19 07:24	05/09/19 17:33	1
Isophorone	ND		2.0	0.29	ug/L		05/06/19 07:24	05/09/19 17:33	1
Nitrobenzene	ND		1.0	0.45	ug/L		05/06/19 07:24	05/09/19 17:33	1
N-Nitrosodi-n-propylamine	ND		0.50	0.14	ug/L		05/06/19 07:24	05/09/19 17:33	1
N-Nitrosodiphenylamine	ND		2.0	0.34	ug/L		05/06/19 07:24	05/09/19 17:33	1
Phenol	ND		5.0	0.36	ug/L		05/06/19 07:24	05/09/19 17:33	1
Pyrene	ND		1.0	0.48	ug/L		05/06/19 07:24	05/09/19 17:33	1
2,4-Dimethylphenol	ND		10	3.3	ug/L		05/06/19 07:24	05/09/19 17:33	1
Benzo[a]anthracene	ND		0.20	0.044	ug/L		05/06/19 07:24	05/09/19 17:33	1
Phenanthrene	ND		1.0	0.35	ug/L		05/06/19 07:24	05/09/19 17:33	1
3,3'-Dichlorobenzidine	ND		5.0	0.94	ug/L		05/06/19 07:24	05/09/19 17:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*112*		*40 - 145*	*05/06/19 07:24*	*05/09/19 17:33*	*1*
2-Fluorobiphenyl	*93*		*34 - 110*	*05/06/19 07:24*	*05/09/19 17:33*	*1*
2-Fluorophenol (Surr)	*44*		*27 - 110*	*05/06/19 07:24*	*05/09/19 17:33*	*1*

Client Sample ID: SUPE-W-12CR-043019
Lab Sample ID: 480-152848-3
Date Collected: 04/30/19 11:09
Matrix: Water
Date Received: 05/01/19 09:30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5 (Surr)	*99*		*36 - 120*	*05/06/19 07:24*	*05/09/19 17:33*	*1*
Phenol-d5 (Surr)	*37*		*20 - 100*	*05/06/19 07:24*	*05/09/19 17:33*	*1*
Terphenyl-d14 (Surr)	*113*		*40 - 145*	*05/06/19 07:24*	*05/09/19 17:33*	*1*

Client Sample ID: SUPE-W-30A-043019
Lab Sample ID: 480-152848-4
Date Collected: 04/30/19 12:35
Matrix: Water
Date Received: 05/01/19 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/10/19 01:57	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			05/10/19 01:57	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			05/10/19 01:57	1
Benzene	**0.76**	**J**	1.0	0.41	ug/L			05/10/19 01:57	1
Chloromethane	ND		1.0	0.35	ug/L			05/10/19 01:57	1
Ethylbenzene	**1.6**		1.0	0.74	ug/L			05/10/19 01:57	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			05/10/19 01:57	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/10/19 01:57	1
Naphthalene	**22**		1.0	0.43	ug/L			05/10/19 01:57	1
n-Butylbenzene	ND		1.0	0.64	ug/L			05/10/19 01:57	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/10/19 01:57	1
o-Xylene	ND		1.0	0.76	ug/L			05/10/19 01:57	1
Styrene	ND		1.0	0.73	ug/L			05/10/19 01:57	1
Toluene	ND		1.0	0.51	ug/L			05/10/19 01:57	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/10/19 01:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*05/10/19 01:57*	*1*
4-Bromofluorobenzene (Surr)	*88*		*73 - 120*		*05/10/19 01:57*	*1*
Dibromofluoromethane (Surr)	*93*		*75 - 123*		*05/10/19 01:57*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*05/10/19 01:57*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	*	10	3.5	ug/L		05/06/19 08:07	05/08/19 08:10	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*86*		*24 - 146*	*05/06/19 08:07*	*05/08/19 08:10*	*10*
2-Fluorobiphenyl	*90*		*37 - 120*	*05/06/19 08:07*	*05/08/19 08:10*	*10*
2-Fluorophenol (Surr)	*39*		*10 - 120*	*05/06/19 08:07*	*05/08/19 08:10*	*10*
Nitrobenzene-d5 (Surr)	*63*		*26 - 120*	*05/06/19 08:07*	*05/08/19 08:10*	*10*
Phenol-d5 (Surr)	*24*		*11 - 120*	*05/06/19 08:07*	*05/08/19 08:10*	*10*
p-Terphenyl-d14	*88*		*64 - 127*	*05/06/19 08:07*	*05/08/19 08:10*	*10*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.9	0.29	ug/L		05/06/19 07:24	05/09/19 17:57	1
1,2-Dichlorobenzene	ND		1.9	0.28	ug/L		05/06/19 07:24	05/09/19 17:57	1
1,3-Dichlorobenzene	ND		1.9	0.24	ug/L		05/06/19 07:24	05/09/19 17:57	1
1,4-Dichlorobenzene	ND		1.9	0.26	ug/L		05/06/19 07:24	05/09/19 17:57	1

Client: Field & Technical Services LLC
Job ID: 480-152848-1
Project/Site: Superior, WI Semiannual Groundwater

Client Sample ID: SUPE-W-30A-043019
Lab Sample ID: 480-152848-4
Date Collected: 04/30/19 12:35
Matrix: Water
Date Received: 05/01/19 09:30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		1.9	0.48	ug/L		05/06/19 07:24	05/09/19 17:57	1
bis(chloroisopropyl) ether	ND		1.9	0.29	ug/L		05/06/19 07:24	05/09/19 17:57	1
2,3,4,6-Tetrachlorophenol	ND		4.8	1.5	ug/L		05/06/19 07:24	05/09/19 17:57	1
2,4,5-Trichlorophenol	ND		9.6	2.2	ug/L		05/06/19 07:24	05/09/19 17:57	1
2,4,6-Trichlorophenol	ND		4.8	1.1	ug/L		05/06/19 07:24	05/09/19 17:57	1
2,4-Dichlorophenol	ND		9.6	2.2	ug/L		05/06/19 07:24	05/09/19 17:57	1
2,4-Dinitrophenol	ND		19	7.1	ug/L		05/06/19 07:24	05/09/19 17:57	1
2,4-Dinitrotoluene	ND		0.96	0.29	ug/L		05/06/19 07:24	05/09/19 17:57	1
2,6-Dinitrotoluene	ND		0.96	0.12	ug/L		05/06/19 07:24	05/09/19 17:57	1
3 & 4 Methylphenol	ND		1.9	0.42	ug/L		05/06/19 07:24	05/09/19 17:57	1
2-Chloronaphthalene	ND		1.9	0.33	ug/L		05/06/19 07:24	05/09/19 17:57	1
2-Chlorophenol	ND		4.8	0.77	ug/L		05/06/19 07:24	05/09/19 17:57	1
2-Methylnaphthalene	ND		1.9	0.13	ug/L		05/06/19 07:24	05/09/19 17:57	1
2-Methylphenol	ND		1.9	0.30	ug/L		05/06/19 07:24	05/09/19 17:57	1
2-Nitroaniline	ND		4.8	1.0	ug/L		05/06/19 07:24	05/09/19 17:57	1
2-Nitrophenol	ND		9.6	2.1	ug/L		05/06/19 07:24	05/09/19 17:57	1
3-Nitroaniline	ND		9.6	2.2	ug/L		05/06/19 07:24	05/09/19 17:57	1
4,6-Dinitro-2-methylphenol	ND	*	19	4.7	ug/L		05/06/19 07:24	05/09/19 17:57	1
4-Bromophenyl phenyl ether	ND		4.8	0.88	ug/L		05/06/19 07:24	05/09/19 17:57	1
4-Chloro-3-methylphenol	ND		9.6	2.1	ug/L		05/06/19 07:24	05/09/19 17:57	1
4-Chloroaniline	ND		9.6	2.0	ug/L		05/06/19 07:24	05/09/19 17:57	1
4-Chlorophenyl phenyl ether	ND		4.8	0.78	ug/L		05/06/19 07:24	05/09/19 17:57	1
4-Nitroaniline	ND		9.6	3.8	ug/L		05/06/19 07:24	05/09/19 17:57	1
4-Nitrophenol	ND		19	2.3	ug/L		05/06/19 07:24	05/09/19 17:57	1
Acenaphthene	ND		0.96	0.35	ug/L		05/06/19 07:24	05/09/19 17:57	1
Acenaphthylene	ND		0.96	0.31	ug/L		05/06/19 07:24	05/09/19 17:57	1
Anthracene	ND		0.96	0.31	ug/L		05/06/19 07:24	05/09/19 17:57	1
Benzo[a]pyrene	ND		0.19	0.054	ug/L		05/06/19 07:24	05/09/19 17:57	1
Benzo[b]fluoranthene	ND		0.19	0.056	ug/L		05/06/19 07:24	05/09/19 17:57	1
Benzo[g,h,i]perylene	ND		0.96	0.40	ug/L		05/06/19 07:24	05/09/19 17:57	1
Benzo[k]fluoranthene	ND	*	0.19	0.071	ug/L		05/06/19 07:24	05/09/19 17:57	1
Benzoic acid	ND	*	19	4.4	ug/L		05/06/19 07:24	05/09/19 17:57	1
Benzyl alcohol	ND		19	2.9	ug/L		05/06/19 07:24	05/09/19 17:57	1
Bis(2-chloroethoxy)methane	ND		1.9	0.29	ug/L		05/06/19 07:24	05/09/19 17:57	1
Bis(2-chloroethyl)ether	ND		1.9	0.34	ug/L		05/06/19 07:24	05/09/19 17:57	1
Bis(2-ethylhexyl) phthalate	ND		9.6	2.3	ug/L		05/06/19 07:24	05/09/19 17:57	1
Butyl benzyl phthalate	ND		1.9	0.26	ug/L		05/06/19 07:24	05/09/19 17:57	1
Chrysene	ND		0.48	0.13	ug/L		05/06/19 07:24	05/09/19 17:57	1
Dibenz(a,h)anthracene	ND		0.29	0.062	ug/L		05/06/19 07:24	05/09/19 17:57	1
Dibenzofuran	ND		1.9	0.34	ug/L		05/06/19 07:24	05/09/19 17:57	1
Diethyl phthalate	ND		1.9	0.42	ug/L		05/06/19 07:24	05/09/19 17:57	1
Dimethyl phthalate	ND		1.9	0.37	ug/L		05/06/19 07:24	05/09/19 17:57	1
Di-n-butyl phthalate	ND		4.8	0.77	ug/L		05/06/19 07:24	05/09/19 17:57	1
Di-n-octyl phthalate	ND		9.6	2.4	ug/L		05/06/19 07:24	05/09/19 17:57	1
2,3,5,6-Tetrachlorophenol	ND		4.8	2.4	ug/L		05/06/19 07:24	05/09/19 17:57	1
Fluoranthene	ND		0.96	0.31	ug/L		05/06/19 07:24	05/09/19 17:57	1
Fluorene	ND		0.96	0.37	ug/L		05/06/19 07:24	05/09/19 17:57	1
Hexachlorobenzene	ND		0.48	0.13	ug/L		05/06/19 07:24	05/09/19 17:57	1
Hexachlorobutadiene	ND		4.8	1.1	ug/L		05/06/19 07:24	05/09/19 17:57	1

Client Sample ID: SUPE-W-30A-043019
Lab Sample ID: 480-152848-4

Date Collected: 04/30/19 12:35
Matrix: Water
Date Received: 05/01/19 09:30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		19	3.3	ug/L		05/06/19 07:24	05/09/19 17:57	1
Hexachloroethane	ND		4.8	0.93	ug/L		05/06/19 07:24	05/09/19 17:57	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.081	ug/L		05/06/19 07:24	05/09/19 17:57	1
Isophorone	ND		1.9	0.28	ug/L		05/06/19 07:24	05/09/19 17:57	1
Nitrobenzene	ND		0.96	0.43	ug/L		05/06/19 07:24	05/09/19 17:57	1
N-Nitrosodi-n-propylamine	ND		0.48	0.13	ug/L		05/06/19 07:24	05/09/19 17:57	1
N-Nitrosodiphenylamine	ND		1.9	0.33	ug/L		05/06/19 07:24	05/09/19 17:57	1
Phenol	ND		4.8	0.35	ug/L		05/06/19 07:24	05/09/19 17:57	1
Pyrene	ND		0.96	0.46	ug/L		05/06/19 07:24	05/09/19 17:57	1
2,4-Dimethylphenol	ND		9.6	3.2	ug/L		05/06/19 07:24	05/09/19 17:57	1
Benzo[a]anthracene	ND		0.19	0.042	ug/L		05/06/19 07:24	05/09/19 17:57	1
Phenanthrene	ND		0.96	0.34	ug/L		05/06/19 07:24	05/09/19 17:57	1
3,3'-Dichlorobenzidine	ND		4.8	0.90	ug/L		05/06/19 07:24	05/09/19 17:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*0*	*X*	*40 - 145*	*05/06/19 07:24*	*05/09/19 17:57*	*1*
2-Fluorobiphenyl	*0*	*X*	*34 - 110*	*05/06/19 07:24*	*05/09/19 17:57*	*1*
2-Fluorophenol (Surr)	*0*	*X*	*27 - 110*	*05/06/19 07:24*	*05/09/19 17:57*	*1*
Nitrobenzene-d5 (Surr)	*0*	*X*	*36 - 120*	*05/06/19 07:24*	*05/09/19 17:57*	*1*
Phenol-d5 (Surr)	*0*	*X*	*20 - 100*	*05/06/19 07:24*	*05/09/19 17:57*	*1*
Terphenyl-d14 (Surr)	*0*	*X*	*40 - 145*	*05/06/19 07:24*	*05/09/19 17:57*	*1*

Client Sample ID: SUPE-W-10AR2-043019
Lab Sample ID: 480-152848-5

Date Collected: 04/30/19 15:14
Matrix: Water
Date Received: 05/01/19 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/09/19 17:33	1
1,2,4-Trimethylbenzene	**8.9**		1.0	0.75	ug/L			05/09/19 17:33	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			05/09/19 17:33	1
Benzene	**17**		1.0	0.41	ug/L			05/09/19 17:33	1
Chloromethane	ND		1.0	0.35	ug/L			05/09/19 17:33	1
Ethylbenzene	**34**		1.0	0.74	ug/L			05/09/19 17:33	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			05/09/19 17:33	1
m-Xylene & p-Xylene	**5.0**		2.0	0.66	ug/L			05/09/19 17:33	1
Naphthalene	**2.2**		1.0	0.43	ug/L			05/09/19 17:33	1
n-Butylbenzene	ND		1.0	0.64	ug/L			05/09/19 17:33	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/09/19 17:33	1
o-Xylene	**16**		1.0	0.76	ug/L			05/09/19 17:33	1
Styrene	ND		1.0	0.73	ug/L			05/09/19 17:33	1
Toluene	**2.3**		1.0	0.51	ug/L			05/09/19 17:33	1
Xylenes, Total	**21**		2.0	0.66	ug/L			05/09/19 17:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*77 - 120*		*05/09/19 17:33*	*1*
4-Bromofluorobenzene (Surr)	*90*		*73 - 120*		*05/09/19 17:33*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 123*		*05/09/19 17:33*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/09/19 17:33*	*1*

Client: Field & Technical Services LLC
Job ID: 480-152848-1
Project/Site: Superior, WI Semiannual Groundwater

Client Sample ID: SUPE-W-10AR2-043019
Lab Sample ID: 480-152848-5
Date Collected: 04/30/19 15:14
Matrix: Water
Date Received: 05/01/19 09:30

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	*	4.8	1.6	ug/L		05/06/19 08:07	05/08/19 08:39	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*100*		*24 - 146*	*05/06/19 08:07*	*05/08/19 08:39*	*5*
2-Fluorobiphenyl	*90*		*37 - 120*	*05/06/19 08:07*	*05/08/19 08:39*	*5*
2-Fluorophenol (Surr)	*47*		*10 - 120*	*05/06/19 08:07*	*05/08/19 08:39*	*5*
Nitrobenzene-d5 (Surr)	*82*		*26 - 120*	*05/06/19 08:07*	*05/08/19 08:39*	*5*
Phenol-d5 (Surr)	*28*		*11 - 120*	*05/06/19 08:07*	*05/08/19 08:39*	*5*
p-Terphenyl-d14	*93*		*64 - 127*	*05/06/19 08:07*	*05/08/19 08:39*	*5*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		2.0	0.30	ug/L		05/06/19 07:24	05/09/19 18:21	1
1,2-Dichlorobenzene	ND		2.0	0.29	ug/L		05/06/19 07:24	05/09/19 18:21	1
1,3-Dichlorobenzene	ND		2.0	0.25	ug/L		05/06/19 07:24	05/09/19 18:21	1
1,4-Dichlorobenzene	ND		2.0	0.27	ug/L		05/06/19 07:24	05/09/19 18:21	1
bis(chloroisopropyl) ether	ND		2.0	0.30	ug/L		05/06/19 07:24	05/09/19 18:21	1
2,3,4,6-Tetrachlorophenol	ND		4.9	1.5	ug/L		05/06/19 07:24	05/09/19 18:21	1
2,4,5-Trichlorophenol	ND		9.8	2.3	ug/L		05/06/19 07:24	05/09/19 18:21	1
2,4,6-Trichlorophenol	ND		4.9	1.1	ug/L		05/06/19 07:24	05/09/19 18:21	1
2,4-Dichlorophenol	ND		9.8	2.2	ug/L		05/06/19 07:24	05/09/19 18:21	1
2,4-Dinitrophenol	ND		20	7.3	ug/L		05/06/19 07:24	05/09/19 18:21	1
2,4-Dinitrotoluene	ND		0.98	0.30	ug/L		05/06/19 07:24	05/09/19 18:21	1
2,6-Dinitrotoluene	ND		0.98	0.12	ug/L		05/06/19 07:24	05/09/19 18:21	1
3 & 4 Methylphenol	ND		2.0	0.43	ug/L		05/06/19 07:24	05/09/19 18:21	1
2-Chloronaphthalene	ND		2.0	0.33	ug/L		05/06/19 07:24	05/09/19 18:21	1
2-Chlorophenol	ND		4.9	0.79	ug/L		05/06/19 07:24	05/09/19 18:21	1
2-Methylnaphthalene	ND		2.0	0.13	ug/L		05/06/19 07:24	05/09/19 18:21	1
2-Methylphenol	ND		2.0	0.30	ug/L		05/06/19 07:24	05/09/19 18:21	1
2-Nitroaniline	ND		4.9	1.1	ug/L		05/06/19 07:24	05/09/19 18:21	1
2-Nitrophenol	ND		9.8	2.1	ug/L		05/06/19 07:24	05/09/19 18:21	1
3-Nitroaniline	ND		9.8	2.3	ug/L		05/06/19 07:24	05/09/19 18:21	1
4,6-Dinitro-2-methylphenol	ND	*	20	4.8	ug/L		05/06/19 07:24	05/09/19 18:21	1
4-Bromophenyl phenyl ether	ND		4.9	0.90	ug/L		05/06/19 07:24	05/09/19 18:21	1
4-Chloro-3-methylphenol	ND		9.8	2.2	ug/L		05/06/19 07:24	05/09/19 18:21	1
4-Chloroaniline	ND		9.8	2.1	ug/L		05/06/19 07:24	05/09/19 18:21	1
4-Chlorophenyl phenyl ether	ND		4.9	0.80	ug/L		05/06/19 07:24	05/09/19 18:21	1
4-Nitroaniline	ND		9.8	3.9	ug/L		05/06/19 07:24	05/09/19 18:21	1
4-Nitrophenol	ND		20	2.3	ug/L		05/06/19 07:24	05/09/19 18:21	1
Acenaphthylene	**1.5**		0.98	0.31	ug/L		05/06/19 07:24	05/09/19 18:21	1
Anthracene	**1.2**		0.98	0.31	ug/L		05/06/19 07:24	05/09/19 18:21	1
Benzo[a]pyrene	ND		0.20	0.055	ug/L		05/06/19 07:24	05/09/19 18:21	1
Benzo[b]fluoranthene	ND		0.20	0.057	ug/L		05/06/19 07:24	05/09/19 18:21	1
Benzo[g,h,i]perylene	ND		0.98	0.41	ug/L		05/06/19 07:24	05/09/19 18:21	1
Benzo[k]fluoranthene	ND	*	0.20	0.073	ug/L		05/06/19 07:24	05/09/19 18:21	1
Benzoic acid	ND	*	20	4.5	ug/L		05/06/19 07:24	05/09/19 18:21	1
Benzyl alcohol	ND		20	3.0	ug/L		05/06/19 07:24	05/09/19 18:21	1
Bis(2-chloroethoxy)methane	ND		2.0	0.30	ug/L		05/06/19 07:24	05/09/19 18:21	1
Bis(2-chloroethyl)ether	ND		2.0	0.34	ug/L		05/06/19 07:24	05/09/19 18:21	1
Bis(2-ethylhexyl) phthalate	ND		9.8	2.4	ug/L		05/06/19 07:24	05/09/19 18:21	1

Client Sample ID: SUPE-W-10AR2-043019
Lab Sample ID: 480-152848-5
Date Collected: 04/30/19 15:14
Matrix: Water
Date Received: 05/01/19 09:30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Butyl benzyl phthalate	ND		2.0	0.27	ug/L		05/06/19 07:24	05/09/19 18:21	1
Chrysene	ND		0.49	0.14	ug/L		05/06/19 07:24	05/09/19 18:21	1
Dibenz(a,h)anthracene	ND		0.30	0.063	ug/L		05/06/19 07:24	05/09/19 18:21	1
Dibenzofuran	**42**		2.0	0.34	ug/L		05/06/19 07:24	05/09/19 18:21	1
Diethyl phthalate	ND		2.0	0.43	ug/L		05/06/19 07:24	05/09/19 18:21	1
Dimethyl phthalate	ND		2.0	0.37	ug/L		05/06/19 07:24	05/09/19 18:21	1
Di-n-butyl phthalate	ND		4.9	0.79	ug/L		05/06/19 07:24	05/09/19 18:21	1
Di-n-octyl phthalate	ND		9.8	2.4	ug/L		05/06/19 07:24	05/09/19 18:21	1
2,3,5,6-Tetrachlorophenol	ND		4.9	2.5	ug/L		05/06/19 07:24	05/09/19 18:21	1
Fluoranthene	**2.2**		0.98	0.31	ug/L		05/06/19 07:24	05/09/19 18:21	1
Fluorene	**32**		0.98	0.37	ug/L		05/06/19 07:24	05/09/19 18:21	1
Hexachlorobenzene	ND		0.49	0.14	ug/L		05/06/19 07:24	05/09/19 18:21	1
Hexachlorobutadiene	ND		4.9	1.1	ug/L		05/06/19 07:24	05/09/19 18:21	1
Hexachlorocyclopentadiene	ND		20	3.4	ug/L		05/06/19 07:24	05/09/19 18:21	1
Hexachloroethane	ND		4.9	0.95	ug/L		05/06/19 07:24	05/09/19 18:21	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.083	ug/L		05/06/19 07:24	05/09/19 18:21	1
Isophorone	ND		2.0	0.29	ug/L		05/06/19 07:24	05/09/19 18:21	1
Nitrobenzene	ND		0.98	0.44	ug/L		05/06/19 07:24	05/09/19 18:21	1
N-Nitrosodi-n-propylamine	ND		0.49	0.14	ug/L		05/06/19 07:24	05/09/19 18:21	1
N-Nitrosodiphenylamine	ND		2.0	0.33	ug/L		05/06/19 07:24	05/09/19 18:21	1
Phenol	ND		4.9	0.35	ug/L		05/06/19 07:24	05/09/19 18:21	1
Pyrene	**1.3**		0.98	0.47	ug/L		05/06/19 07:24	05/09/19 18:21	1
2,4-Dimethylphenol	ND		9.8	3.3	ug/L		05/06/19 07:24	05/09/19 18:21	1
Benzo[a]anthracene	ND		0.20	0.043	ug/L		05/06/19 07:24	05/09/19 18:21	1
Phenanthrene	**6.0**		0.98	0.34	ug/L		05/06/19 07:24	05/09/19 18:21	1
3,3'-Dichlorobenzidine	ND		4.9	0.92	ug/L		05/06/19 07:24	05/09/19 18:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*115*		*40 - 145*	*05/06/19 07:24*	*05/09/19 18:21*	*1*
2-Fluorobiphenyl	*89*		*34 - 110*	*05/06/19 07:24*	*05/09/19 18:21*	*1*
2-Fluorophenol (Surr)	*54*		*27 - 110*	*05/06/19 07:24*	*05/09/19 18:21*	*1*
Nitrobenzene-d5 (Surr)	*99*		*36 - 120*	*05/06/19 07:24*	*05/09/19 18:21*	*1*
Phenol-d5 (Surr)	*32*		*20 - 100*	*05/06/19 07:24*	*05/09/19 18:21*	*1*
Terphenyl-d14 (Surr)	*110*		*40 - 145*	*05/06/19 07:24*	*05/09/19 18:21*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**57**		9.8	2.5	ug/L		05/06/19 07:24	05/22/19 11:27	5
Acenaphthene	**110**		4.9	1.8	ug/L		05/06/19 07:24	05/22/19 11:27	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*79*		*40 - 145*	*05/06/19 07:24*	*05/22/19 11:27*	*5*
2-Fluorobiphenyl	*74*		*34 - 110*	*05/06/19 07:24*	*05/22/19 11:27*	*5*
2-Fluorophenol (Surr)	*43*		*27 - 110*	*05/06/19 07:24*	*05/22/19 11:27*	*5*
Nitrobenzene-d5 (Surr)	*75*		*36 - 120*	*05/06/19 07:24*	*05/22/19 11:27*	*5*
Phenol-d5 (Surr)	*30*		*20 - 100*	*05/06/19 07:24*	*05/22/19 11:27*	*5*
Terphenyl-d14 (Surr)	*83*		*40 - 145*	*05/06/19 07:24*	*05/22/19 11:27*	*5*

Client Sample ID: SUPE-M-99A-043019
Lab Sample ID: 480-152848-6
Date Collected: 04/30/19 22:00
Matrix: Water
Date Received: 05/01/19 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/10/19 11:41	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			05/10/19 11:41	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			05/10/19 11:41	1
Benzene	ND		1.0	0.41	ug/L			05/10/19 11:41	1
Chloromethane	ND		1.0	0.35	ug/L			05/10/19 11:41	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/10/19 11:41	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			05/10/19 11:41	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/10/19 11:41	1
Naphthalene	ND		1.0	0.43	ug/L			05/10/19 11:41	1
n-Butylbenzene	ND		1.0	0.64	ug/L			05/10/19 11:41	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/10/19 11:41	1
o-Xylene	ND		1.0	0.76	ug/L			05/10/19 11:41	1
Styrene	ND		1.0	0.73	ug/L			05/10/19 11:41	1
Toluene	ND		1.0	0.51	ug/L			05/10/19 11:41	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/10/19 11:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*77 - 120*		*05/10/19 11:41*	*1*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*		*05/10/19 11:41*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 123*		*05/10/19 11:41*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/10/19 11:41*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	*	0.96	0.33	ug/L		05/06/19 08:07	05/08/19 09:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*107*		*24 - 146*	*05/06/19 08:07*	*05/08/19 09:08*	*1*
2-Fluorobiphenyl	*84*		*37 - 120*	*05/06/19 08:07*	*05/08/19 09:08*	*1*
2-Fluorophenol (Surr)	*43*		*10 - 120*	*05/06/19 08:07*	*05/08/19 09:08*	*1*
Nitrobenzene-d5 (Surr)	*83*		*26 - 120*	*05/06/19 08:07*	*05/08/19 09:08*	*1*
Phenol-d5 (Surr)	*30*		*11 - 120*	*05/06/19 08:07*	*05/08/19 09:08*	*1*
p-Terphenyl-d14	*97*		*64 - 127*	*05/06/19 08:07*	*05/08/19 09:08*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		2.0	0.30	ug/L		05/06/19 07:24	05/09/19 18:45	1
1,2-Dichlorobenzene	ND		2.0	0.29	ug/L		05/06/19 07:24	05/09/19 18:45	1
1,3-Dichlorobenzene	ND		2.0	0.25	ug/L		05/06/19 07:24	05/09/19 18:45	1
1,4-Dichlorobenzene	ND		2.0	0.27	ug/L		05/06/19 07:24	05/09/19 18:45	1
1-Methylnaphthalene	ND		2.0	0.49	ug/L		05/06/19 07:24	05/09/19 18:45	1
bis(chloroisopropyl) ether	ND		2.0	0.30	ug/L		05/06/19 07:24	05/09/19 18:45	1
2,3,4,6-Tetrachlorophenol	ND		4.9	1.5	ug/L		05/06/19 07:24	05/09/19 18:45	1
2,4,5-Trichlorophenol	ND		9.9	2.3	ug/L		05/06/19 07:24	05/09/19 18:45	1
2,4,6-Trichlorophenol	**1.6**	**J**	4.9	1.1	ug/L		05/06/19 07:24	05/09/19 18:45	1
2,4-Dichlorophenol	ND		9.9	2.3	ug/L		05/06/19 07:24	05/09/19 18:45	1
2,4-Dinitrophenol	ND		20	7.4	ug/L		05/06/19 07:24	05/09/19 18:45	1
2,4-Dinitrotoluene	ND		0.99	0.30	ug/L		05/06/19 07:24	05/09/19 18:45	1
2,6-Dinitrotoluene	ND		0.99	0.12	ug/L		05/06/19 07:24	05/09/19 18:45	1
3 & 4 Methylphenol	ND		2.0	0.44	ug/L		05/06/19 07:24	05/09/19 18:45	1

Client: Field & Technical Services LLC
Project/Site: Superior, WI Semiannual Groundwater

Job ID: 480-152848-1

Client Sample ID: SUPE-M-99A-043019
Date Collected: 04/30/19 22:00
Date Received: 05/01/19 09:30

Lab Sample ID: 480-152848-6
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloronaphthalene	ND		2.0	0.34	ug/L		05/06/19 07:24	05/09/19 18:45	1
2-Chlorophenol	ND		4.9	0.79	ug/L		05/06/19 07:24	05/09/19 18:45	1
2-Methylnaphthalene	ND		2.0	0.13	ug/L		05/06/19 07:24	05/09/19 18:45	1
2-Methylphenol	ND		2.0	0.31	ug/L		05/06/19 07:24	05/09/19 18:45	1
2-Nitroaniline	ND		4.9	1.1	ug/L		05/06/19 07:24	05/09/19 18:45	1
2-Nitrophenol	ND		9.9	2.1	ug/L		05/06/19 07:24	05/09/19 18:45	1
3-Nitroaniline	ND		9.9	2.3	ug/L		05/06/19 07:24	05/09/19 18:45	1
4,6-Dinitro-2-methylphenol	ND	*	20	4.9	ug/L		05/06/19 07:24	05/09/19 18:45	1
4-Bromophenyl phenyl ether	ND		4.9	0.90	ug/L		05/06/19 07:24	05/09/19 18:45	1
4-Chloro-3-methylphenol	ND		9.9	2.2	ug/L		05/06/19 07:24	05/09/19 18:45	1
4-Chloroaniline	ND		9.9	2.1	ug/L		05/06/19 07:24	05/09/19 18:45	1
4-Chlorophenyl phenyl ether	ND		4.9	0.80	ug/L		05/06/19 07:24	05/09/19 18:45	1
4-Nitroaniline	ND		9.9	3.9	ug/L		05/06/19 07:24	05/09/19 18:45	1
4-Nitrophenol	ND		20	2.3	ug/L		05/06/19 07:24	05/09/19 18:45	1
Acenaphthene	ND		0.99	0.36	ug/L		05/06/19 07:24	05/09/19 18:45	1
Acenaphthylene	ND		0.99	0.32	ug/L		05/06/19 07:24	05/09/19 18:45	1
Anthracene	ND		0.99	0.32	ug/L		05/06/19 07:24	05/09/19 18:45	1
Benzo[a]pyrene	ND		0.20	0.055	ug/L		05/06/19 07:24	05/09/19 18:45	1
Benzo[b]fluoranthene	ND		0.20	0.057	ug/L		05/06/19 07:24	05/09/19 18:45	1
Benzo[g,h,i]perylene	ND		0.99	0.42	ug/L		05/06/19 07:24	05/09/19 18:45	1
Benzo[k]fluoranthene	ND	*	0.20	0.073	ug/L		05/06/19 07:24	05/09/19 18:45	1
Benzoic acid	ND	*	20	4.5	ug/L		05/06/19 07:24	05/09/19 18:45	1
Benzyl alcohol	ND		20	3.0	ug/L		05/06/19 07:24	05/09/19 18:45	1
Bis(2-chloroethoxy)methane	ND		2.0	0.30	ug/L		05/06/19 07:24	05/09/19 18:45	1
Bis(2-chloroethyl)ether	ND		2.0	0.35	ug/L		05/06/19 07:24	05/09/19 18:45	1
Bis(2-ethylhexyl) phthalate	ND		9.9	2.4	ug/L		05/06/19 07:24	05/09/19 18:45	1
Butyl benzyl phthalate	ND		2.0	0.27	ug/L		05/06/19 07:24	05/09/19 18:45	1
Chrysene	ND		0.49	0.14	ug/L		05/06/19 07:24	05/09/19 18:45	1
Dibenz(a,h)anthracene	ND		0.30	0.063	ug/L		05/06/19 07:24	05/09/19 18:45	1
Dibenzofuran	ND		2.0	0.35	ug/L		05/06/19 07:24	05/09/19 18:45	1
Diethyl phthalate	ND		2.0	0.44	ug/L		05/06/19 07:24	05/09/19 18:45	1
Dimethyl phthalate	ND		2.0	0.38	ug/L		05/06/19 07:24	05/09/19 18:45	1
Di-n-butyl phthalate	ND		4.9	0.79	ug/L		05/06/19 07:24	05/09/19 18:45	1
Di-n-octyl phthalate	ND		9.9	2.4	ug/L		05/06/19 07:24	05/09/19 18:45	1
2,3,5,6-Tetrachlorophenol	ND		4.9	2.5	ug/L		05/06/19 07:24	05/09/19 18:45	1
Fluoranthene	ND		0.99	0.32	ug/L		05/06/19 07:24	05/09/19 18:45	1
Fluorene	ND		0.99	0.38	ug/L		05/06/19 07:24	05/09/19 18:45	1
Hexachlorobenzene	ND		0.49	0.14	ug/L		05/06/19 07:24	05/09/19 18:45	1
Hexachlorobutadiene	ND		4.9	1.1	ug/L		05/06/19 07:24	05/09/19 18:45	1
Hexachlorocyclopentadiene	ND		20	3.4	ug/L		05/06/19 07:24	05/09/19 18:45	1
Hexachloroethane	ND		4.9	0.96	ug/L		05/06/19 07:24	05/09/19 18:45	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.083	ug/L		05/06/19 07:24	05/09/19 18:45	1
Isophorone	ND		2.0	0.29	ug/L		05/06/19 07:24	05/09/19 18:45	1
Nitrobenzene	ND		0.99	0.45	ug/L		05/06/19 07:24	05/09/19 18:45	1
N-Nitrosodi-n-propylamine	ND		0.49	0.14	ug/L		05/06/19 07:24	05/09/19 18:45	1
N-Nitrosodiphenylamine	ND		2.0	0.34	ug/L		05/06/19 07:24	05/09/19 18:45	1
Phenol	ND		4.9	0.36	ug/L		05/06/19 07:24	05/09/19 18:45	1
Pyrene	ND		0.99	0.48	ug/L		05/06/19 07:24	05/09/19 18:45	1
2,4-Dimethylphenol	ND		9.9	3.3	ug/L		05/06/19 07:24	05/09/19 18:45	1

Client: Field & Technical Services LLC
Job ID: 480-152848-1
Project/Site: Superior, WI Semiannual Groundwater

Client Sample ID: SUPE-M-99A-043019
Lab Sample ID: 480-152848-6
Date Collected: 04/30/19 22:00
Matrix: Water
Date Received: 05/01/19 09:30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.20	0.044	ug/L		05/06/19 07:24	05/09/19 18:45	1
Phenanthrene	ND		0.99	0.35	ug/L		05/06/19 07:24	05/09/19 18:45	1
3,3'-Dichlorobenzidine	ND		4.9	0.93	ug/L		05/06/19 07:24	05/09/19 18:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*115*		*40 - 145*	*05/06/19 07:24*	*05/09/19 18:45*	*1*
2-Fluorobiphenyl	*92*		*34 - 110*	*05/06/19 07:24*	*05/09/19 18:45*	*1*
2-Fluorophenol (Surr)	*50*		*27 - 110*	*05/06/19 07:24*	*05/09/19 18:45*	*1*
Nitrobenzene-d5 (Surr)	*99*		*36 - 120*	*05/06/19 07:24*	*05/09/19 18:45*	*1*
Phenol-d5 (Surr)	*35*		*20 - 100*	*05/06/19 07:24*	*05/09/19 18:45*	*1*
Terphenyl-d14 (Surr)	*111*		*40 - 145*	*05/06/19 07:24*	*05/09/19 18:45*	*1*

Surrogate Summary

Client: Field & Technical Services LLC
Project/Site: Superior, WI Semiannual Groundwater

Job ID: 480-152848-1

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(77-120)	(73-120)	(75-123)	(80-120)
480-152848-1	SUPE-TB-01-043019	100	88	96	94
480-152848-2	SUPE-W-12A-043019	100	88	94	94
480-152848-3	SUPE-W-12CR-043019	98	84	97	98
480-152848-4	SUPE-W-30A-043019	100	88	93	94
480-152848-5	SUPE-W-10AR2-043019	101	90	96	97
480-152848-6	SUPE-M-99A-043019	96	104	104	99
LCS 480-471956/5	Lab Control Sample	95	92	87	99
LCS 480-472158/5	Lab Control Sample	94	95	89	102
LCS 480-472194/5	Lab Control Sample	97	107	105	103
MB 480-471956/7	Method Blank	98	92	93	98
MB 480-472158/7	Method Blank	99	89	93	97
MB 480-472194/7	Method Blank	99	100	107	93

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPHL
Lab Sample ID	Client Sample ID	(40-145)	(34-110)	(27-110)	(36-120)	(20-100)	(40-145)
480-152848-2	SUPE-W-12A-043019	106	78	40	82	29	114
480-152848-3	SUPE-W-12CR-043019	112	93	44	99	37	113
480-152848-4	SUPE-W-30A-043019	0 X	0 X	0 X	0 X	0 X	0 X
480-152848-5	SUPE-W-10AR2-043019	115	89	54	99	32	110
480-152848-5 - DL	SUPE-W-10AR2-043019	79	74	43	75	30	83
480-152848-6	SUPE-M-99A-043019	115	92	50	99	35	111
LCS 500-483721/2-A	Lab Control Sample	112	92	60	95	38	106
LCSD 500-483721/3-A	Lab Control Sample Dup	104	82	54	86	35	101
MB 500-483721/1-A	Method Blank	96	80	53	92	41	109

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPHd14
Lab Sample ID	Client Sample ID	(24-146)	(37-120)	(10-120)	(26-120)	(11-120)	(64-127)
480-152848-2	SUPE-W-12A-043019	78	67	33	54	21	66
480-152848-3	SUPE-W-12CR-043019	100	82	49	74	31	82

Surrogate Summary

Client: Field & Technical Services LLC
Job ID: 480-152848-1
Project/Site: Superior, WI Semiannual Groundwater

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

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

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TBP (24-146)	FBP (37-120)	2FP (10-120)	NBZ (26-120)	PHL (11-120)	TPHd14 (64-127)		
480-152848-4	SUPE-W-30A-043019	86	90	39	63	24	88		
480-152848-5	SUPE-W-10AR2-043019	100	90	47	82	28	93		
480-152848-6	SUPE-M-99A-043019	107	84	43	83	30	97		
LCS 480-471326/2-A	Lab Control Sample	107	93	45	87	34	99		
MB 480-471326/1-A	Method Blank	84	97	52	100	36	111		

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHd14 = p-Terphenyl-d14

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

Lab Sample ID: MB 480-471956/7
Matrix: Water
Analysis Batch: 471956

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-Trichloroethane	ND		1.0	0.82	ug/L			05/09/19 09:48	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			05/09/19 09:48	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			05/09/19 09:48	1
Benzene	ND		1.0	0.41	ug/L			05/09/19 09:48	1
Chloromethane	ND		1.0	0.35	ug/L			05/09/19 09:48	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/09/19 09:48	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			05/09/19 09:48	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/09/19 09:48	1
Naphthalene	ND		1.0	0.43	ug/L			05/09/19 09:48	1
n-Butylbenzene	ND		1.0	0.64	ug/L			05/09/19 09:48	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/09/19 09:48	1
o-Xylene	ND		1.0	0.76	ug/L			05/09/19 09:48	1
Styrene	ND		1.0	0.73	ug/L			05/09/19 09:48	1
Toluene	ND		1.0	0.51	ug/L			05/09/19 09:48	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/09/19 09:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*		*05/09/19 09:48*	*1*
4-Bromofluorobenzene (Surr)	*92*		*73 - 120*		*05/09/19 09:48*	*1*
Dibromofluoromethane (Surr)	*93*		*75 - 123*		*05/09/19 09:48*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*05/09/19 09:48*	*1*

Lab Sample ID: LCS 480-471956/5
Matrix: Water
Analysis Batch: 471956

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	22.2		ug/L		89	73 - 126
1,2,4-Trimethylbenzene	25.0	23.3		ug/L		93	76 - 121
1,3,5-Trimethylbenzene	25.0	23.0		ug/L		92	77 - 121
Benzene	25.0	24.9		ug/L		99	71 - 124
Chloromethane	25.0	25.7		ug/L		103	68 - 124
Ethylbenzene	25.0	23.5		ug/L		94	77 - 123
Methyl tert-butyl ether	25.0	20.7		ug/L		83	77 - 120
m-Xylene & p-Xylene	25.0	23.4		ug/L		94	76 - 122
Naphthalene	25.0	21.2		ug/L		85	66 - 125
n-Butylbenzene	25.0	23.8		ug/L		95	71 - 128
N-Propylbenzene	25.0	23.9		ug/L		96	75 - 127
o-Xylene	25.0	22.1		ug/L		88	76 - 122
Styrene	25.0	24.6		ug/L		98	80 - 120
Toluene	25.0	24.6		ug/L		98	80 - 122
Xylenes, Total	50.0	45.5		ug/L		91	76 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*
4-Bromofluorobenzene (Surr)	*92*		*73 - 120*
Dibromofluoromethane (Surr)	*87*		*75 - 123*
Toluene-d8 (Surr)	*99*		*80 - 120*

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

Lab Sample ID: MB 480-472158/7
Matrix: Water
Analysis Batch: 472158

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-Trichloroethane	ND		1.0	0.82	ug/L			05/09/19 21:25	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			05/09/19 21:25	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			05/09/19 21:25	1
Benzene	ND		1.0	0.41	ug/L			05/09/19 21:25	1
Chloromethane	ND		1.0	0.35	ug/L			05/09/19 21:25	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/09/19 21:25	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			05/09/19 21:25	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/09/19 21:25	1
Naphthalene	ND		1.0	0.43	ug/L			05/09/19 21:25	1
n-Butylbenzene	ND		1.0	0.64	ug/L			05/09/19 21:25	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/09/19 21:25	1
o-Xylene	ND		1.0	0.76	ug/L			05/09/19 21:25	1
Styrene	ND		1.0	0.73	ug/L			05/09/19 21:25	1
Toluene	ND		1.0	0.51	ug/L			05/09/19 21:25	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/09/19 21:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*77 - 120*		*05/09/19 21:25*	*1*
4-Bromofluorobenzene (Surr)	*89*		*73 - 120*		*05/09/19 21:25*	*1*
Dibromofluoromethane (Surr)	*93*		*75 - 123*		*05/09/19 21:25*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/09/19 21:25*	*1*

Lab Sample ID: LCS 480-472158/5
Matrix: Water
Analysis Batch: 472158

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	22.5		ug/L		90	73 - 126
1,2,4-Trimethylbenzene	25.0	22.6		ug/L		90	76 - 121
1,3,5-Trimethylbenzene	25.0	22.5		ug/L		90	77 - 121
Benzene	25.0	24.4		ug/L		97	71 - 124
Chloromethane	25.0	24.5		ug/L		98	68 - 124
Ethylbenzene	25.0	23.9		ug/L		96	77 - 123
Methyl tert-butyl ether	25.0	19.8		ug/L		79	77 - 120
m-Xylene & p-Xylene	25.0	23.5		ug/L		94	76 - 122
Naphthalene	25.0	20.1		ug/L		80	66 - 125
n-Butylbenzene	25.0	23.4		ug/L		94	71 - 128
N-Propylbenzene	25.0	23.3		ug/L		93	75 - 127
o-Xylene	25.0	22.2		ug/L		89	76 - 122
Styrene	25.0	23.8		ug/L		95	80 - 120
Toluene	25.0	25.2		ug/L		101	80 - 122
Xylenes, Total	50.0	45.7		ug/L		91	76 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*77 - 120*
4-Bromofluorobenzene (Surr)	*95*		*73 - 120*
Dibromofluoromethane (Surr)	*89*		*75 - 123*
Toluene-d8 (Surr)	*102*		*80 - 120*

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

Lab Sample ID: MB 480-472194/7
Matrix: Water
Analysis Batch: 472194

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-Trichloroethane	ND		1.0	0.82	ug/L			05/10/19 10:58	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			05/10/19 10:58	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			05/10/19 10:58	1
Benzene	ND		1.0	0.41	ug/L			05/10/19 10:58	1
Chloromethane	ND		1.0	0.35	ug/L			05/10/19 10:58	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/10/19 10:58	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			05/10/19 10:58	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/10/19 10:58	1
Naphthalene	ND		1.0	0.43	ug/L			05/10/19 10:58	1
n-Butylbenzene	ND		1.0	0.64	ug/L			05/10/19 10:58	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/10/19 10:58	1
o-Xylene	ND		1.0	0.76	ug/L			05/10/19 10:58	1
Styrene	ND		1.0	0.73	ug/L			05/10/19 10:58	1
Toluene	ND		1.0	0.51	ug/L			05/10/19 10:58	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/10/19 10:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*77 - 120*		*05/10/19 10:58*	*1*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*		*05/10/19 10:58*	*1*
Dibromofluoromethane (Surr)	*107*		*75 - 123*		*05/10/19 10:58*	*1*
Toluene-d8 (Surr)	*93*		*80 - 120*		*05/10/19 10:58*	*1*

Lab Sample ID: LCS 480-472194/5
Matrix: Water
Analysis Batch: 472194

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	24.8		ug/L		99	73 - 126
1,2,4-Trimethylbenzene	25.0	24.5		ug/L		98	76 - 121
1,3,5-Trimethylbenzene	25.0	24.2		ug/L		97	77 - 121
Benzene	25.0	23.6		ug/L		95	71 - 124
Chloromethane	25.0	29.5		ug/L		118	68 - 124
Ethylbenzene	25.0	24.2		ug/L		97	77 - 123
Methyl tert-butyl ether	25.0	24.6		ug/L		99	77 - 120
m-Xylene & p-Xylene	25.0	25.8		ug/L		103	76 - 122
Naphthalene	25.0	26.6		ug/L		106	66 - 125
n-Butylbenzene	25.0	23.8		ug/L		95	71 - 128
N-Propylbenzene	25.0	23.0		ug/L		92	75 - 127
o-Xylene	25.0	25.5		ug/L		102	76 - 122
Styrene	25.0	25.8		ug/L		103	80 - 120
Toluene	25.0	24.1		ug/L		96	80 - 122
Xylenes, Total	50.0	51.3		ug/L		103	76 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*77 - 120*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*
Dibromofluoromethane (Surr)	*105*		*75 - 123*
Toluene-d8 (Surr)	*103*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-483721/1-A
Matrix: Water
Analysis Batch: 484422

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 483721

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		2.0	0.30	ug/L		05/06/19 07:24	05/09/19 13:59	1
1,2-Dichlorobenzene	ND		2.0	0.29	ug/L		05/06/19 07:24	05/09/19 13:59	1
1,3-Dichlorobenzene	ND		2.0	0.25	ug/L		05/06/19 07:24	05/09/19 13:59	1
1,4-Dichlorobenzene	ND		2.0	0.27	ug/L		05/06/19 07:24	05/09/19 13:59	1
1-Methylnaphthalene	ND		2.0	0.50	ug/L		05/06/19 07:24	05/09/19 13:59	1
bis(chloroisopropyl) ether	ND		2.0	0.30	ug/L		05/06/19 07:24	05/09/19 13:59	1
2,3,4,6-Tetrachlorophenol	ND		5.0	1.5	ug/L		05/06/19 07:24	05/09/19 13:59	1
2,4,5-Trichlorophenol	ND		10	2.3	ug/L		05/06/19 07:24	05/09/19 13:59	1
2,4,6-Trichlorophenol	ND		5.0	1.1	ug/L		05/06/19 07:24	05/09/19 13:59	1
2,4-Dichlorophenol	ND		10	2.3	ug/L		05/06/19 07:24	05/09/19 13:59	1
2,4-Dinitrophenol	ND		20	7.4	ug/L		05/06/19 07:24	05/09/19 13:59	1
2,4-Dinitrotoluene	ND		1.0	0.30	ug/L		05/06/19 07:24	05/09/19 13:59	1
2,6-Dinitrotoluene	ND		1.0	0.12	ug/L		05/06/19 07:24	05/09/19 13:59	1
3 & 4 Methylphenol	ND		2.0	0.44	ug/L		05/06/19 07:24	05/09/19 13:59	1
2-Chloronaphthalene	ND		2.0	0.34	ug/L		05/06/19 07:24	05/09/19 13:59	1
2-Chlorophenol	ND		5.0	0.80	ug/L		05/06/19 07:24	05/09/19 13:59	1
2-Methylnaphthalene	ND		2.0	0.13	ug/L		05/06/19 07:24	05/09/19 13:59	1
2-Methylphenol	ND		2.0	0.31	ug/L		05/06/19 07:24	05/09/19 13:59	1
2-Nitroaniline	ND		5.0	1.1	ug/L		05/06/19 07:24	05/09/19 13:59	1
2-Nitrophenol	ND		10	2.1	ug/L		05/06/19 07:24	05/09/19 13:59	1
3-Nitroaniline	ND		10	2.3	ug/L		05/06/19 07:24	05/09/19 13:59	1
4,6-Dinitro-2-methylphenol	ND		20	4.9	ug/L		05/06/19 07:24	05/09/19 13:59	1
4-Bromophenyl phenyl ether	ND		5.0	0.91	ug/L		05/06/19 07:24	05/09/19 13:59	1
4-Chloro-3-methylphenol	ND		10	2.2	ug/L		05/06/19 07:24	05/09/19 13:59	1
4-Chloroaniline	ND		10	2.1	ug/L		05/06/19 07:24	05/09/19 13:59	1
4-Chlorophenyl phenyl ether	ND		5.0	0.81	ug/L		05/06/19 07:24	05/09/19 13:59	1
4-Nitroaniline	ND		10	3.9	ug/L		05/06/19 07:24	05/09/19 13:59	1
4-Nitrophenol	ND		20	2.3	ug/L		05/06/19 07:24	05/09/19 13:59	1
Acenaphthene	ND		1.0	0.36	ug/L		05/06/19 07:24	05/09/19 13:59	1
Acenaphthylene	ND		1.0	0.32	ug/L		05/06/19 07:24	05/09/19 13:59	1
Anthracene	ND		1.0	0.32	ug/L		05/06/19 07:24	05/09/19 13:59	1
Benzo[a]pyrene	ND		0.20	0.056	ug/L		05/06/19 07:24	05/09/19 13:59	1
Benzo[b]fluoranthene	ND		0.20	0.058	ug/L		05/06/19 07:24	05/09/19 13:59	1
Benzo[g,h,i]perylene	ND		1.0	0.42	ug/L		05/06/19 07:24	05/09/19 13:59	1
Benzo[k]fluoranthene	ND		0.20	0.074	ug/L		05/06/19 07:24	05/09/19 13:59	1
Benzoic acid	ND		20	4.6	ug/L		05/06/19 07:24	05/09/19 13:59	1
Benzyl alcohol	ND		20	3.1	ug/L		05/06/19 07:24	05/09/19 13:59	1
Bis(2-chloroethoxy)methane	ND		2.0	0.30	ug/L		05/06/19 07:24	05/09/19 13:59	1
Bis(2-chloroethyl)ether	ND		2.0	0.35	ug/L		05/06/19 07:24	05/09/19 13:59	1
Bis(2-ethylhexyl) phthalate	ND		10	2.4	ug/L		05/06/19 07:24	05/09/19 13:59	1
Butyl benzyl phthalate	ND		2.0	0.27	ug/L		05/06/19 07:24	05/09/19 13:59	1
Chrysene	ND		0.50	0.14	ug/L		05/06/19 07:24	05/09/19 13:59	1
Dibenz(a,h)anthracene	ND		0.30	0.064	ug/L		05/06/19 07:24	05/09/19 13:59	1
Dibenzofuran	ND		2.0	0.35	ug/L		05/06/19 07:24	05/09/19 13:59	1
Diethyl phthalate	ND		2.0	0.44	ug/L		05/06/19 07:24	05/09/19 13:59	1
Dimethyl phthalate	ND		2.0	0.38	ug/L		05/06/19 07:24	05/09/19 13:59	1
Di-n-butyl phthalate	ND		5.0	0.80	ug/L		05/06/19 07:24	05/09/19 13:59	1
Di-n-octyl phthalate	ND		10	2.5	ug/L		05/06/19 07:24	05/09/19 13:59	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-483721/1-A
Matrix: Water
Analysis Batch: 484422

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 483721

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,5,6-Tetrachlorophenol	ND		5.0	2.5	ug/L		05/06/19 07:24	05/09/19 13:59	1
Fluoranthene	ND		1.0	0.32	ug/L		05/06/19 07:24	05/09/19 13:59	1
Fluorene	ND		1.0	0.38	ug/L		05/06/19 07:24	05/09/19 13:59	1
Hexachlorobenzene	ND		0.50	0.14	ug/L		05/06/19 07:24	05/09/19 13:59	1
Hexachlorobutadiene	ND		5.0	1.1	ug/L		05/06/19 07:24	05/09/19 13:59	1
Hexachlorocyclopentadiene	ND		20	3.4	ug/L		05/06/19 07:24	05/09/19 13:59	1
Hexachloroethane	ND		5.0	0.97	ug/L		05/06/19 07:24	05/09/19 13:59	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.084	ug/L		05/06/19 07:24	05/09/19 13:59	1
Isophorone	ND		2.0	0.29	ug/L		05/06/19 07:24	05/09/19 13:59	1
Nitrobenzene	ND		1.0	0.45	ug/L		05/06/19 07:24	05/09/19 13:59	1
N-Nitrosodi-n-propylamine	ND		0.50	0.14	ug/L		05/06/19 07:24	05/09/19 13:59	1
N-Nitrosodiphenylamine	ND		2.0	0.34	ug/L		05/06/19 07:24	05/09/19 13:59	1
Phenol	ND		5.0	0.36	ug/L		05/06/19 07:24	05/09/19 13:59	1
Pyrene	ND		1.0	0.48	ug/L		05/06/19 07:24	05/09/19 13:59	1
2,4-Dimethylphenol	ND		10	3.3	ug/L		05/06/19 07:24	05/09/19 13:59	1
Benzo[a]anthracene	ND		0.20	0.044	ug/L		05/06/19 07:24	05/09/19 13:59	1
Phenanthrene	ND		1.0	0.35	ug/L		05/06/19 07:24	05/09/19 13:59	1
3,3'-Dichlorobenzidine	ND		5.0	0.94	ug/L		05/06/19 07:24	05/09/19 13:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*96*		*40 - 145*	*05/06/19 07:24*	*05/09/19 13:59*	*1*
2-Fluorobiphenyl	*80*		*34 - 110*	*05/06/19 07:24*	*05/09/19 13:59*	*1*
2-Fluorophenol (Surr)	*53*		*27 - 110*	*05/06/19 07:24*	*05/09/19 13:59*	*1*
Nitrobenzene-d5 (Surr)	*92*		*36 - 120*	*05/06/19 07:24*	*05/09/19 13:59*	*1*
Phenol-d5 (Surr)	*41*		*20 - 100*	*05/06/19 07:24*	*05/09/19 13:59*	*1*
Terphenyl-d14 (Surr)	*109*		*40 - 145*	*05/06/19 07:24*	*05/09/19 13:59*	*1*

Lab Sample ID: LCS 500-483721/2-A
Matrix: Water
Analysis Batch: 484422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 483721

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	40.0	30.6		ug/L		77	26 - 110
1,2-Dichlorobenzene	40.0	30.5		ug/L		76	26 - 110
1,3-Dichlorobenzene	40.0	29.4		ug/L		74	22 - 110
1,4-Dichlorobenzene	40.0	30.0		ug/L		75	23 - 110
1-Methylnaphthalene	40.0	36.7		ug/L		92	38 - 110
bis(chloroisopropyl) ether	40.0	29.0		ug/L		73	38 - 110
2,3,4,6-Tetrachlorophenol	40.0	35.8		ug/L		89	44 - 118
2,4,5-Trichlorophenol	40.0	37.6		ug/L		94	63 - 120
2,4,6-Trichlorophenol	40.0	38.1		ug/L		95	62 - 110
2,4-Dichlorophenol	40.0	39.1		ug/L		98	62 - 110
2,4-Dinitrophenol	80.0	64.6		ug/L		81	37 - 130
2,4-Dinitrotoluene	40.0	37.7		ug/L		94	63 - 122
2,6-Dinitrotoluene	40.0	40.1		ug/L		100	63 - 119
3 & 4 Methylphenol	40.0	32.4		ug/L		81	53 - 110
2-Chloronaphthalene	40.0	33.8		ug/L		84	39 - 110
2-Chlorophenol	40.0	36.8		ug/L		92	59 - 110

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-483721/2-A
Matrix: Water
Analysis Batch: 484422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 483721

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Methylnaphthalene	40.0	37.0		ug/L		93	34 - 110
2-Methylphenol	40.0	31.8		ug/L		80	53 - 110
2-Nitroaniline	40.0	35.3		ug/L		88	59 - 122
2-Nitrophenol	40.0	37.5		ug/L		94	58 - 110
3-Nitroaniline	40.0	31.7		ug/L		79	47 - 123
4,6-Dinitro-2-methylphenol	80.0	96.4	*	ug/L		121	50 - 117
4-Bromophenyl phenyl ether	40.0	38.8		ug/L		97	58 - 120
4-Chloro-3-methylphenol	40.0	38.6		ug/L		96	64 - 120
4-Chloroaniline	40.0	40.3		ug/L		101	35 - 128
4-Chlorophenyl phenyl ether	40.0	35.3		ug/L		88	47 - 112
4-Nitroaniline	40.0	27.4		ug/L		68	52 - 147
4-Nitrophenol	80.0	21.0		ug/L		26	20 - 110
Acenaphthene	40.0	36.1		ug/L		90	46 - 110
Acenaphthylene	40.0	36.5		ug/L		91	47 - 110
Anthracene	40.0	42.1		ug/L		105	67 - 110
Benzo[a]pyrene	40.0	46.7		ug/L		117	70 - 120
Benzo[b]fluoranthene	40.0	39.9		ug/L		100	69 - 123
Benzo[g,h,i]perylene	40.0	45.1		ug/L		113	70 - 120
Benzo[k]fluoranthene	40.0	53.5	*	ug/L		134	70 - 120
Benzoic acid	80.0	32.9		ug/L		41	10 - 100
Benzyl alcohol	40.0	40.6		ug/L		102	33 - 127
Bis(2-chloroethoxy)methane	40.0	39.8		ug/L		99	60 - 110
Bis(2-chloroethyl)ether	40.0	36.2		ug/L		91	49 - 110
Bis(2-ethylhexyl) phthalate	40.0	39.5		ug/L		99	69 - 120
Butyl benzyl phthalate	40.0	38.2		ug/L		96	68 - 120
Chrysene	40.0	45.4		ug/L		114	68 - 120
Dibenz(a,h)anthracene	40.0	46.3		ug/L		116	70 - 127
Dibenzofuran	40.0	36.6		ug/L		91	51 - 110
Diethyl phthalate	40.0	37.1		ug/L		93	62 - 120
Dimethyl phthalate	40.0	37.9		ug/L		95	63 - 120
Di-n-butyl phthalate	40.0	39.8		ug/L		99	70 - 120
Di-n-octyl phthalate	40.0	39.5		ug/L		99	70 - 122
Fluoranthene	40.0	41.7		ug/L		104	68 - 120
Fluorene	40.0	38.1		ug/L		95	53 - 120
Hexachlorobenzene	40.0	43.3		ug/L		108	61 - 120
Hexachlorobutadiene	40.0	26.3		ug/L		66	20 - 100
Hexachlorocyclopentadiene	40.0	25.4		ug/L		63	10 - 100
Hexachloroethane	40.0	26.0		ug/L		65	20 - 100
Indeno[1,2,3-cd]pyrene	40.0	46.2		ug/L		115	65 - 133
Isophorone	40.0	37.8		ug/L		95	57 - 110
Naphthalene	40.0	35.3		ug/L		88	36 - 110
Nitrobenzene	40.0	36.8		ug/L		92	53 - 110
N-Nitrosodi-n-propylamine	40.0	37.0		ug/L		93	58 - 110
N-Nitrosodiphenylamine	40.0	43.6		ug/L		109	66 - 110
Pentachlorophenol	80.0	72.4		ug/L		90	23 - 129
Phenol	40.0	17.8		ug/L		44	33 - 100
Pyrene	40.0	41.0		ug/L		102	70 - 110
2,4-Dimethylphenol	40.0	39.5		ug/L		99	51 - 110
Benzo[a]anthracene	40.0	38.6		ug/L		97	70 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-483721/2-A
Matrix: Water
Analysis Batch: 484422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 483721

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Phenanthrene			40.0	41.0		ug/L		103	65 - 120		
3,3'-Dichlorobenzidine			40.0	35.4		ug/L		88	60 - 132		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*112*		*40 - 145*
2-Fluorobiphenyl	*92*		*34 - 110*
2-Fluorophenol (Surr)	*60*		*27 - 110*
Nitrobenzene-d5 (Surr)	*95*		*36 - 120*
Phenol-d5 (Surr)	*38*		*20 - 100*
Terphenyl-d14 (Surr)	*106*		*40 - 145*

Lab Sample ID: LCSD 500-483721/3-A
Matrix: Water
Analysis Batch: 484422

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 483721

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene			40.0	26.8		ug/L		67	26 - 110	13	20
1,2-Dichlorobenzene			40.0	27.2		ug/L		68	26 - 110	11	20
1,3-Dichlorobenzene			40.0	27.0		ug/L		67	22 - 110	9	20
1,4-Dichlorobenzene			40.0	27.0		ug/L		68	23 - 110	10	20
1-Methylnaphthalene			40.0	32.6		ug/L		82	38 - 110	12	20
bis(chloroisopropyl) ether			40.0	27.7		ug/L		69	38 - 110	5	20
2,3,4,6-Tetrachlorophenol			40.0	33.5		ug/L		84	44 - 118	7	20
2,4,5-Trichlorophenol			40.0	32.5		ug/L		81	63 - 120	15	20
2,4,6-Trichlorophenol			40.0	35.7		ug/L		89	62 - 110	7	20
2,4-Dichlorophenol			40.0	35.6		ug/L		89	62 - 110	9	20
2,4-Dinitrophenol			80.0	64.7		ug/L		81	37 - 130	0	20
2,4-Dinitrotoluene			40.0	35.7		ug/L		89	63 - 122	5	20
2,6-Dinitrotoluene			40.0	37.0		ug/L		93	63 - 119	8	20
3 & 4 Methylphenol			40.0	31.7		ug/L		79	53 - 110	2	20
2-Chloronaphthalene			40.0	30.0		ug/L		75	39 - 110	12	20
2-Chlorophenol			40.0	35.0		ug/L		88	59 - 110	5	20
2-Methylnaphthalene			40.0	32.3		ug/L		81	34 - 110	14	20
2-Methylphenol			40.0	32.0		ug/L		80	53 - 110	1	20
2-Nitroaniline			40.0	32.8		ug/L		82	59 - 122	7	20
2-Nitrophenol			40.0	34.5		ug/L		86	58 - 110	9	20
3-Nitroaniline			40.0	33.4		ug/L		84	47 - 123	5	20
4,6-Dinitro-2-methylphenol			80.0	91.1		ug/L		114	50 - 117	6	20
4-Bromophenyl phenyl ether			40.0	35.2		ug/L		88	58 - 120	10	20
4-Chloro-3-methylphenol			40.0	35.9		ug/L		90	64 - 120	7	20
4-Chloroaniline			40.0	39.9		ug/L		100	35 - 128	1	20
4-Chlorophenyl phenyl ether			40.0	31.1		ug/L		78	47 - 112	13	20
4-Nitroaniline			40.0	26.5		ug/L		66	52 - 147	3	20
4-Nitrophenol			80.0	19.8	J	ug/L		25	20 - 110	6	20
Acenaphthene			40.0	32.0		ug/L		80	46 - 110	12	20
Acenaphthylene			40.0	33.1		ug/L		83	47 - 110	10	20
Anthracene			40.0	38.6		ug/L		96	67 - 110	9	20
Benzo[a]pyrene			40.0	43.9		ug/L		110	70 - 120	6	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 500-483721/3-A
Matrix: Water
Analysis Batch: 484422

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 483721

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[b]fluoranthene			40.0	38.4		ug/L		96	69 - 123	4	20
Benzo[g,h,i]perylene			40.0	42.8		ug/L		107	70 - 120	5	20
Benzo[k]fluoranthene			40.0	45.6		ug/L		114	70 - 120	16	20
Benzoic acid			80.0	26.7	*	ug/L		33	10 - 100	21	20
Benzyl alcohol			40.0	40.8		ug/L		102	33 - 127	1	20
Bis(2-chloroethoxy)methane			40.0	36.7		ug/L		92	60 - 110	8	20
Bis(2-chloroethyl)ether			40.0	35.0		ug/L		88	49 - 110	3	20
Bis(2-ethylhexyl) phthalate			40.0	36.9		ug/L		92	69 - 120	7	20
Butyl benzyl phthalate			40.0	36.1		ug/L		90	68 - 120	6	20
Chrysene			40.0	41.4		ug/L		104	68 - 120	9	20
Dibenz(a,h)anthracene			40.0	44.6		ug/L		111	70 - 127	4	20
Dibenzofuran			40.0	32.9		ug/L		82	51 - 110	10	20
Diethyl phthalate			40.0	34.3		ug/L		86	62 - 120	8	20
Dimethyl phthalate			40.0	35.0		ug/L		88	63 - 120	8	20
Di-n-butyl phthalate			40.0	37.0		ug/L		93	70 - 120	7	20
Di-n-octyl phthalate			40.0	37.2		ug/L		93	70 - 122	6	20
Fluoranthene			40.0	38.8		ug/L		97	68 - 120	7	20
Fluorene			40.0	34.4		ug/L		86	53 - 120	10	20
Hexachlorobenzene			40.0	39.1		ug/L		98	61 - 120	10	20
Hexachlorobutadiene			40.0	23.8		ug/L		60	20 - 100	10	20
Hexachlorocyclopentadiene			40.0	23.2		ug/L		58	10 - 100	9	20
Hexachloroethane			40.0	23.8		ug/L		60	20 - 100	9	20
Indeno[1,2,3-cd]pyrene			40.0	44.6		ug/L		112	65 - 133	3	20
Isophorone			40.0	35.4		ug/L		89	57 - 110	7	20
Naphthalene			40.0	31.4		ug/L		78	36 - 110	12	20
Nitrobenzene			40.0	33.9		ug/L		85	53 - 110	8	20
N-Nitrosodi-n-propylamine			40.0	35.9		ug/L		90	58 - 110	3	20
N-Nitrosodiphenylamine			40.0	40.0		ug/L		100	66 - 110	9	20
Pentachlorophenol			80.0	64.4		ug/L		80	23 - 129	12	20
Phenol			40.0	17.4		ug/L		44	33 - 100	2	20
Pyrene			40.0	38.4		ug/L		96	70 - 110	7	20
2,4-Dimethylphenol			40.0	37.0		ug/L		93	51 - 110	7	20
Benzo[a]anthracene			40.0	36.9		ug/L		92	70 - 120	5	20
Phenanthrene			40.0	37.7		ug/L		94	65 - 120	8	20
3,3'-Dichlorobenzidine			40.0	32.5		ug/L		81	60 - 132	9	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*104*		*40 - 145*
2-Fluorobiphenyl	*82*		*34 - 110*
2-Fluorophenol (Surr)	*54*		*27 - 110*
Nitrobenzene-d5 (Surr)	*86*		*36 - 120*
Phenol-d5 (Surr)	*35*		*20 - 100*
Terphenyl-d14 (Surr)	*101*		*40 - 145*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 480-471326/1-A
Matrix: Water
Analysis Batch: 471658

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 471326

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		1.0	0.34	ug/L		05/06/19 08:07	05/08/19 02:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*84*		*24 - 146*	*05/06/19 08:07*	*05/08/19 02:57*	*1*
2-Fluorobiphenyl	*97*		*37 - 120*	*05/06/19 08:07*	*05/08/19 02:57*	*1*
2-Fluorophenol (Surr)	*52*		*10 - 120*	*05/06/19 08:07*	*05/08/19 02:57*	*1*
Nitrobenzene-d5 (Surr)	*100*		*26 - 120*	*05/06/19 08:07*	*05/08/19 02:57*	*1*
Phenol-d5 (Surr)	*36*		*11 - 120*	*05/06/19 08:07*	*05/08/19 02:57*	*1*
p-Terphenyl-d14	*111*		*64 - 127*	*05/06/19 08:07*	*05/08/19 02:57*	*1*

Lab Sample ID: LCS 480-471326/2-A
Matrix: Water
Analysis Batch: 471658

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 471326

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Pentachlorophenol			16.0	21.1	*	ug/L		132	10 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*107*		*24 - 146*
2-Fluorobiphenyl	*93*		*37 - 120*
2-Fluorophenol (Surr)	*45*		*10 - 120*
Nitrobenzene-d5 (Surr)	*87*		*26 - 120*
Phenol-d5 (Surr)	*34*		*11 - 120*
p-Terphenyl-d14	*99*		*64 - 127*

GC/MS VOA

Analysis Batch: 471956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-152848-1	SUPE-TB-01-043019	Total/NA	Water	8260C	
480-152848-2	SUPE-W-12A-043019	Total/NA	Water	8260C	
480-152848-3	SUPE-W-12CR-043019	Total/NA	Water	8260C	
480-152848-5	SUPE-W-10AR2-043019	Total/NA	Water	8260C	
MB 480-471956/7	Method Blank	Total/NA	Water	8260C	
LCS 480-471956/5	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 472158

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-152848-4	SUPE-W-30A-043019	Total/NA	Water	8260C	
MB 480-472158/7	Method Blank	Total/NA	Water	8260C	
LCS 480-472158/5	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 472194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-152848-6	SUPE-M-99A-043019	Total/NA	Water	8260C	
MB 480-472194/7	Method Blank	Total/NA	Water	8260C	
LCS 480-472194/5	Lab Control Sample	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 471326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-152848-2	SUPE-W-12A-043019	Total/NA	Water	3510C	
480-152848-3	SUPE-W-12CR-043019	Total/NA	Water	3510C	
480-152848-4	SUPE-W-30A-043019	Total/NA	Water	3510C	
480-152848-5	SUPE-W-10AR2-043019	Total/NA	Water	3510C	
480-152848-6	SUPE-M-99A-043019	Total/NA	Water	3510C	
MB 480-471326/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-471326/2-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 471658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-152848-2	SUPE-W-12A-043019	Total/NA	Water	8270D LL	471326
480-152848-3	SUPE-W-12CR-043019	Total/NA	Water	8270D LL	471326
480-152848-4	SUPE-W-30A-043019	Total/NA	Water	8270D LL	471326
480-152848-5	SUPE-W-10AR2-043019	Total/NA	Water	8270D LL	471326
480-152848-6	SUPE-M-99A-043019	Total/NA	Water	8270D LL	471326
MB 480-471326/1-A	Method Blank	Total/NA	Water	8270D LL	471326
LCS 480-471326/2-A	Lab Control Sample	Total/NA	Water	8270D LL	471326

Prep Batch: 483721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-152848-2	SUPE-W-12A-043019	Total/NA	Water	3510C	
480-152848-3	SUPE-W-12CR-043019	Total/NA	Water	3510C	
480-152848-4	SUPE-W-30A-043019	Total/NA	Water	3510C	
480-152848-5 - DL	SUPE-W-10AR2-043019	Total/NA	Water	3510C	
480-152848-5	SUPE-W-10AR2-043019	Total/NA	Water	3510C	
480-152848-6	SUPE-M-99A-043019	Total/NA	Water	3510C	
MB 500-483721/1-A	Method Blank	Total/NA	Water	3510C	
LCS 500-483721/2-A	Lab Control Sample	Total/NA	Water	3510C	

GC/MS Semi VOA (Continued)

Prep Batch: 483721 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 500-483721/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 484422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-152848-2	SUPE-W-12A-043019	Total/NA	Water	8270D	483721
480-152848-3	SUPE-W-12CR-043019	Total/NA	Water	8270D	483721
480-152848-4	SUPE-W-30A-043019	Total/NA	Water	8270D	483721
480-152848-5	SUPE-W-10AR2-043019	Total/NA	Water	8270D	483721
480-152848-6	SUPE-M-99A-043019	Total/NA	Water	8270D	483721
MB 500-483721/1-A	Method Blank	Total/NA	Water	8270D	483721
LCS 500-483721/2-A	Lab Control Sample	Total/NA	Water	8270D	483721
LCSD 500-483721/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	483721

Analysis Batch: 486475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-152848-5 - DL	SUPE-W-10AR2-043019	Total/NA	Water	8270D	483721

Lab Chronicle

Client: Field & Technical Services LLC
Job ID: 480-152848-1
Project/Site: Superior, WI Semiannual Groundwater

Client Sample ID: SUPE-TB-01-043019
Lab Sample ID: 480-152848-1
Date Collected: 04/30/19 00:00
Matrix: Water
Date Received: 05/01/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	471956	05/09/19 16:00	AEM	TAL BUF

Client Sample ID: SUPE-W-12A-043019
Lab Sample ID: 480-152848-2
Date Collected: 04/30/19 09:48
Matrix: Water
Date Received: 05/01/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	471956	05/09/19 16:24	AEM	TAL BUF
Total/NA	Prep	3510C			483721	05/06/19 07:24	JVD	TAL CHI
Total/NA	Analysis	8270D		1	484422	05/09/19 17:10	AJD	TAL CHI
Total/NA	Prep	3510C			471326	05/06/19 08:07	JMP	TAL BUF
Total/NA	Analysis	8270D LL		1	471658	05/08/19 07:13	PJQ	TAL BUF

Client Sample ID: SUPE-W-12CR-043019
Lab Sample ID: 480-152848-3
Date Collected: 04/30/19 11:09
Matrix: Water
Date Received: 05/01/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	471956	05/09/19 16:47	AEM	TAL BUF
Total/NA	Prep	3510C			483721	05/06/19 07:24	JVD	TAL CHI
Total/NA	Analysis	8270D		1	484422	05/09/19 17:33	AJD	TAL CHI
Total/NA	Prep	3510C			471326	05/06/19 08:07	JMP	TAL BUF
Total/NA	Analysis	8270D LL		1	471658	05/08/19 07:42	PJQ	TAL BUF

Client Sample ID: SUPE-W-30A-043019
Lab Sample ID: 480-152848-4
Date Collected: 04/30/19 12:35
Matrix: Water
Date Received: 05/01/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	472158	05/10/19 01:57	S1V	TAL BUF
Total/NA	Prep	3510C			483721	05/06/19 07:24	JVD	TAL CHI
Total/NA	Analysis	8270D		1	484422	05/09/19 17:57	AJD	TAL CHI
Total/NA	Prep	3510C			471326	05/06/19 08:07	JMP	TAL BUF
Total/NA	Analysis	8270D LL		10	471658	05/08/19 08:10	PJQ	TAL BUF

Client Sample ID: SUPE-W-10AR2-043019
Lab Sample ID: 480-152848-5
Date Collected: 04/30/19 15:14
Matrix: Water
Date Received: 05/01/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	471956	05/09/19 17:33	AEM	TAL BUF
Total/NA	Prep	3510C	DL		483721	05/06/19 07:24	JVD	TAL CHI
Total/NA	Analysis	8270D	DL	5	486475	05/22/19 11:27	AJD	TAL CHI
Total/NA	Prep	3510C			483721	05/06/19 07:24	JVD	TAL CHI
Total/NA	Analysis	8270D		1	484422	05/09/19 18:21	AJD	TAL CHI

Lab Chronicle

Client: Field & Technical Services LLC
Job ID: 480-152848-1
Project/Site: Superior, WI Semiannual Groundwater

Client Sample ID: SUPE-W-10AR2-043019
Lab Sample ID: 480-152848-5
Date Collected: 04/30/19 15:14
Matrix: Water
Date Received: 05/01/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			471326	05/06/19 08:07	JMP	TAL BUF
Total/NA	Analysis	8270D LL		5	471658	05/08/19 08:39	PJQ	TAL BUF

Client Sample ID: SUPE-M-99A-043019
Lab Sample ID: 480-152848-6
Date Collected: 04/30/19 22:00
Matrix: Water
Date Received: 05/01/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	472194	05/10/19 11:41	OMI	TAL BUF
Total/NA	Prep	3510C			483721	05/06/19 07:24	JVD	TAL CHI
Total/NA	Analysis	8270D		1	484422	05/09/19 18:45	AJD	TAL CHI
Total/NA	Prep	3510C			471326	05/06/19 08:07	JMP	TAL BUF
Total/NA	Analysis	8270D LL		1	471658	05/08/19 09:08	PJQ	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

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

Accreditation/Certification Summary

Client: Field & Technical Services LLC
Job ID: 480-152848-1
Project/Site: Superior, WI Semiannual Groundwater

Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	998310390	08-31-19

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	999580010	08-31-19 *

Laboratory: Eurofins TestAmerica, Pittsburgh

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
Arkansas DEQ	State Program	6	88-0690	06-27-19
California	State Program	9	2891	04-30-20
Connecticut	State Program	1	PH-0688	09-30-20
Florida	NELAP	4	E871008	06-30-19
Illinois	NELAP	5	200005	06-30-19
Kansas	NELAP	7	E-10350	01-31-20
Kentucky (DW)	Kentucky UST	4	162013	04-30-20
Louisiana	NELAP	6	04041	06-30-19
Nevada	State Program	9	PA00164	07-31-19
New Hampshire	NELAP	1	2030	04-04-20
New Jersey	NELAP	2	PA005	06-30-19
New York	NELAP	2	11182	03-31-20
North Carolina (WW/SW)	State Program	4	434	12-31-19
Oregon	NELAP	10	PA-2151	02-06-20
Pennsylvania	NELAP	3	02-00416	04-30-20
South Carolina	State Program	4	89014	04-30-19 *
Texas	NELAP	6	T104704528-15-2	03-31-20
US Fish & Wildlife	Federal		LE94312A-1	07-31-19
USDA	Federal		P330-16-00211	06-26-19
Utah	NELAP	8	PA001462015-4	05-31-19 *
Virginia	NELAP	3	460189	09-14-19
West Virginia DEP	State Program	3	142	01-31-20
Wisconsin	State Program	5	998027800	08-31-19

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

Method Summary

Client: Field & Technical Services LLC
Job ID: 480-152848-1
Project/Site: Superior, WI Semiannual Groundwater

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CHI
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL BUF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL BUF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CHI
5030C	Purge and Trap	SW846	TAL BUF

Protocol References:

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

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

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

Sample Summary

Client: Field & Technical Services LLC
Job ID: 480-152848-1
Project/Site: Superior, WI Semiannual Groundwater

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-152848-1	SUPE-TB-01-043019	Water	04/30/19 00:00	05/01/19 09:30	
480-152848-2	SUPE-W-12A-043019	Water	04/30/19 09:48	05/01/19 09:30	
480-152848-3	SUPE-W-12CR-043019	Water	04/30/19 11:09	05/01/19 09:30	
480-152848-4	SUPE-W-30A-043019	Water	04/30/19 12:35	05/01/19 09:30	
480-152848-5	SUPE-W-10AR2-043019	Water	04/30/19 15:14	05/01/19 09:30	
480-152848-6	SUPE-M-99A-043019	Water	04/30/19 22:00	05/01/19 09:30	

CHAIN OF CUSTODY RECORD/LABORATORY ANALYSIS REQUEST FORM

REF.# 501069

501069

Project Name:	Superior 2019 1SA Sampling	Company:	Field & Technical Services	Client:	Beazer East, Inc.
Project Number:	OM-0556-19	Address:	200 Third Avenue	Contact:	(724) 858-5953
Laboratory:	TABUF		Carnegie, PA 15106		btrask.2006@f-ts.com
Shipment Method	FEDEX		(412) 279-3363		
Program:	Superior 2019 1SA Sampling_001				

480-152848 Chain of Custody

Sample Date	Sample Time	Matrix	Sample Identification	Analysis	8260B_VOA+naphtha	8270C_SVOC (less naphtha)															
				Preservative	HCL	None															
				Total Bottle Count																	Notes:
04/30/2019	0000	GW	SUPE-TB-01-043019	2	2	0															
04/30/2019	0948	GW	SUPE-W-12A-043019	6	3	3															
04/30/2019	1109	GW	SUPE-W-12CR-043019	6	3	3															
04/30/2019	1235	GW	SUPE-W-30A-043019	6	3	3															
04/30/2019	1514	GW	SUPE-W-10AR2-043019	6	3	3															
04/30/2019	2200	GW	SUPE-M-99A-043019	6	3	3															

Temp 2.7 3.2 #1 ICE

Relinquished by:	Received by:	Relinquished by:	Received by:	Turnaround Requirements
Signature:	Signature:	Signature:	Signature:	☐ Rush
Printed Name: Ben Trask	Printed Name:	Printed Name:	Printed Name:	
Firm FTS	Firm TA	Firm	Firm	☒ Standard
Date/Time: 04/30/2019 1650	Date/Time: 05/01/19 0730	Date/Time:	Date/Time:	

Page 1 of 1

CHAIN OF CUSTODY RECORD/LABORATORY ANALYSIS REQUEST FORM

REF.# 501069

501069

Project Name:	Superior 2019 1SA Sampling	Company:	Field & Technical Services	Client:	Beazer East, Inc.
Project Number:	OM-0556-19	Address:	200 Third Avenue	Contact:	(724) 858-5953
Laboratory:	TABUF		Carnegie, PA 15106		btrask.2006@f-ts.com
Shipment Method	FEDEX		(412) 279-3363		
Program:	Superior 2019 1SA Sampling_001				

480-152848 Chain of Custody

Sample Date	Sample Time	Matrix	Sample Identification	Analysis	8260B_VOA+naphtha	8270C_SVOC (less naphtha)															
				Preservative	HCL	None															
				Total Bottle Count																	Notes:
04/30/2019	0000	GW	SUPE-TB-01-043019	2	2	0															
04/30/2019	0948	GW	SUPE-W-12A-043019	6	3	3															
04/30/2019	1109	GW	SUPE-W-12CR-043019	6	3	3															
04/30/2019	1235	GW	SUPE-W-30A-043019	6	3	3															
04/30/2019	1514	GW	SUPE-W-10AR2-043019	6	3	3															
04/30/2019	2200	GW	SUPE-M-99A-043019	6	3	3															

Temp 2.7 3.2 #1 ICE

Relinquished by:	Received by:	Relinquished by:	Received by:	Turnaround Requirements
Signature:	Signature:	Signature:	Signature:	☐ Rush
Printed Name: Ben Trask	Printed Name:	Printed Name:	Printed Name:	
Firm FTS	Firm TA	Firm	Firm	☒ Standard
Date/Time: 04/30/2019 1650	Date/Time: 05/01/19 0730	Date/Time:	Date/Time:	

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Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 480-49400.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: veronica.bortot@testamericainc.com	State of Origin: Wisconsin	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Wisconsin		Job #: 480-152848-1
Address: 2417 Bond Street, ,	Due Date Requested: 5/17/2019			
City: University Park	TAT Requested (days):			
State, Zip: IL, 60484				
Phone: 708-534-5200(Tel) 708-534-5211(Fax)	PO #:			
Email:	WO #:			
Project Name: Superior, WI Semiannual Groundwater	Project #: 18015916			
Site:	SSOW#:			

Analysis Requested

480-152848 COC

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)	8270D/3510C (MOD) Semivolatiles, project list with n	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SUPE-W-12A-043019 (480-152848-2)	4/30/19	09:48 Central		Water			X	1	Refer to PT-PM-WI-006 for Wisconsin Protocol
SUPE-W-12CR-043019 (480-152848-3)	4/30/19	11:09 Central		Water			X	1	Refer to PT-PM-WI-006 for Wisconsin Protocol
SUPE-W-30A-043019 (480-152848-4)	4/30/19	12:35 Central		Water			X	1	Refer to PT-PM-WI-006 for Wisconsin Protocol
SUPE-W-10AR2-043019 (480-152848-5)	4/30/19	15:14 Central		Water			X	1	Refer to PT-PM-WI-006 for Wisconsin Protocol
SUPE-M-99A-043019 (480-152848-6)	4/30/19	22:00 Central		Water			X	1	Refer to PT-PM-WI-006 for Wisconsin Protocol

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	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
1	[signature]	5-3-19 1600	TAB	Paula Buckley	5/4/19 0930	TACHI
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by: [illegible]	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: -0.1 → -0.1

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Field & Technical Services LLC

Job Number: 480-152848-1

Login Number: 152848
List Number: 1
Creator: Harper, Marcus D

List Source: Eurofins TestAmerica, Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is 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	
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 sample IDs on the containers 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	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	FTS
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: Field & Technical Services LLC

Job Number: 480-152848-1

Login Number: 152848
List Number: 3
Creator: Buckley, Paula M

List Source: Eurofins TestAmerica, Chicago
List Creation: 05/04/19 01:55 PM

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	-0.1
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	

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-153151-1
Client Project/Site: Superior, WI Semiannual Groundwater
Revision: 2

For:
Field & Technical Services LLC
200 Third Avenue
Carnegie, Pennsylvania 15106

Attn: Ms. Angie Gatchie

Veronica Bortot

Authorized for release by:
6/10/2019 2:04:33 PM

Veronica Bortot, Senior Project Manager
(412)963-2435
veronica.bortot@testamericainc.com

Table of Contents

Definitions/Glossary

Client: Field & Technical Services LLC
Job ID: 480-153151-1
Project/Site: Superior, WI Semiannual Groundwater

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside 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)

Case Narrative

Client: Field & Technical Services LLC
Job ID: 480-153151-1
Project/Site: Superior, WI Semiannual Groundwater

Job ID: 480-153151-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-153151-1

Revised: to correct SVOC list of compounds & ID for sample 2

Comments
No additional comments.

Receipt
The samples were initally received at the Buffalo lab on 5/2/2019 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.5º C. Due to a sample receiivng misunderstanding these samples were shipped to the Pittsburgh lab and arrived on 5/8/2019. As a result of this error the SVOC samples were extracted outside of the recommended 7 day holding time.

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

GC/MS Semi VOA (Buffalo)
Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 480-472972 recovered outside acceptance criteria, low biased, for Pentachlorophenol. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D, 8270D LL: The following sample was diluted due to the nature of the sample matrix: SUPE-W-04AR2 Elevated reporting limits (RLs) are provided.

Method(s) 8270D LL: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: SUPE-W-04ARZ. These results have been reported and qualified.

GC/MS Semi VOA (Chicago)
Method(s) 8270D: Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 3 analytes to recover outside criteria for this method when utilizing this list of analytes. The LCSD associated with batch 500-484525 had 1 analyte outside control limits: 4,6-Dinitro-2-methylphenol. These results have been reported and qualified.

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

Organic Prep
Method(s) 3510C: The following samples were received outside of holding time: SUPE W-18D-050119 and SUPE-W-04AR2.

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 480-472124.

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

Detection Summary

Client: Field & Technical Services LLC
Job ID: 480-153151-1
Project/Site: Superior, WI Semiannual Groundwater

Client Sample ID: SUPE W-18D-050119 — Lab Sample ID: 480-153151-1

No Detections.

Client Sample ID: SUPE-W-04AR2 — Lab Sample ID: 480-153151-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	5.6	H	0.97	0.31	ug/L	1		8270D	Total/NA
Benzo[a]pyrene	0.21	H	0.19	0.054	ug/L	1		8270D	Total/NA
Benzo[b]fluoranthene	0.54	H	0.19	0.056	ug/L	1		8270D	Total/NA
Benzo[k]fluoranthene	0.34	H	0.19	0.071	ug/L	1		8270D	Total/NA
Chrysene	0.51	H	0.48	0.14	ug/L	1		8270D	Total/NA
Fluoranthene	0.72	J H	0.97	0.31	ug/L	1		8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.22	H	0.19	0.081	ug/L	1		8270D	Total/NA
Pyrene	0.57	J H	0.97	0.46	ug/L	1		8270D	Total/NA
Benzo[a]anthracene	0.37	H	0.19	0.042	ug/L	1		8270D	Total/NA

Client Sample ID: RB-02 050119 — Lab Sample ID: 480-153151-3

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Field & Technical Services LLC
Job ID: 480-153151-1
Project/Site: Superior, WI Semiannual Groundwater

Client Sample ID: SUPE W-18D-050119
Lab Sample ID: 480-153151-1
Date Collected: 05/01/19 09:22
Matrix: Water
Date Received: 05/08/19 09:00

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	H	1.0	0.34	ug/L		05/09/19 15:38	05/15/19 21:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*110*		*24 - 146*	*05/09/19 15:38*	*05/15/19 21:00*	*1*
2-Fluorobiphenyl	*83*		*37 - 120*	*05/09/19 15:38*	*05/15/19 21:00*	*1*
2-Fluorophenol (Surr)	*43*		*10 - 120*	*05/09/19 15:38*	*05/15/19 21:00*	*1*
Nitrobenzene-d5 (Surr)	*68*		*26 - 120*	*05/09/19 15:38*	*05/15/19 21:00*	*1*
Phenol-d5 (Surr)	*28*		*11 - 120*	*05/09/19 15:38*	*05/15/19 21:00*	*1*
p-Terphenyl-d14	*91*		*64 - 127*	*05/09/19 15:38*	*05/15/19 21:00*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	H	1.9	0.29	ug/L		05/09/19 13:11	05/10/19 17:00	1
1,2-Dichlorobenzene	ND	H	1.9	0.28	ug/L		05/09/19 13:11	05/10/19 17:00	1
1,3-Dichlorobenzene	ND	H	1.9	0.24	ug/L		05/09/19 13:11	05/10/19 17:00	1
1,4-Dichlorobenzene	ND	H	1.9	0.26	ug/L		05/09/19 13:11	05/10/19 17:00	1
1-Methylnaphthalene	ND	H	1.9	0.49	ug/L		05/09/19 13:11	05/10/19 17:00	1
bis(chloroisopropyl) ether	ND	H	1.9	0.29	ug/L		05/09/19 13:11	05/10/19 17:00	1
2,3,4,6-Tetrachlorophenol	ND	H	4.9	1.5	ug/L		05/09/19 13:11	05/10/19 17:00	1
2,4,5-Trichlorophenol	ND	H	9.7	2.2	ug/L		05/09/19 13:11	05/10/19 17:00	1
2,4,6-Trichlorophenol	ND	H	4.9	1.1	ug/L		05/09/19 13:11	05/10/19 17:00	1
2,4-Dichlorophenol	ND	H	9.7	2.2	ug/L		05/09/19 13:11	05/10/19 17:00	1
2,4-Dinitrophenol	ND	H	19	7.2	ug/L		05/09/19 13:11	05/10/19 17:00	1
2,4-Dinitrotoluene	ND	H	0.97	0.29	ug/L		05/09/19 13:11	05/10/19 17:00	1
2,6-Dinitrotoluene	ND	H	0.97	0.12	ug/L		05/09/19 13:11	05/10/19 17:00	1
3 & 4 Methylphenol	ND	H	1.9	0.43	ug/L		05/09/19 13:11	05/10/19 17:00	1
2-Chloronaphthalene	ND	H	1.9	0.33	ug/L		05/09/19 13:11	05/10/19 17:00	1
2-Chlorophenol	ND	H	4.9	0.78	ug/L		05/09/19 13:11	05/10/19 17:00	1
2-Methylnaphthalene	ND	H	1.9	0.13	ug/L		05/09/19 13:11	05/10/19 17:00	1
2-Methylphenol	ND	H	1.9	0.30	ug/L		05/09/19 13:11	05/10/19 17:00	1
2-Nitroaniline	ND	H	4.9	1.0	ug/L		05/09/19 13:11	05/10/19 17:00	1
2-Nitrophenol	ND	H	9.7	2.1	ug/L		05/09/19 13:11	05/10/19 17:00	1
3-Nitroaniline	ND	H	9.7	2.2	ug/L		05/09/19 13:11	05/10/19 17:00	1
4,6-Dinitro-2-methylphenol	ND	H *	19	4.8	ug/L		05/09/19 13:11	05/10/19 17:00	1
4-Bromophenyl phenyl ether	ND	H	4.9	0.88	ug/L		05/09/19 13:11	05/10/19 17:00	1
4-Chloro-3-methylphenol	ND	H	9.7	2.1	ug/L		05/09/19 13:11	05/10/19 17:00	1
4-Chloroaniline	ND	H	9.7	2.0	ug/L		05/09/19 13:11	05/10/19 17:00	1
4-Chlorophenyl phenyl ether	ND	H	4.9	0.79	ug/L		05/09/19 13:11	05/10/19 17:00	1
4-Nitroaniline	ND	H	9.7	3.8	ug/L		05/09/19 13:11	05/10/19 17:00	1
4-Nitrophenol	ND	H	19	2.3	ug/L		05/09/19 13:11	05/10/19 17:00	1
Acenaphthene	ND	H	0.97	0.35	ug/L		05/09/19 13:11	05/10/19 17:00	1
Acenaphthylene	ND	H	0.97	0.31	ug/L		05/09/19 13:11	05/10/19 17:00	1
Anthracene	ND	H	0.97	0.31	ug/L		05/09/19 13:11	05/10/19 17:00	1
Benzo[a]pyrene	ND	H	0.19	0.054	ug/L		05/09/19 13:11	05/10/19 17:00	1
Benzo[b]fluoranthene	ND	H	0.19	0.056	ug/L		05/09/19 13:11	05/10/19 17:00	1
Benzo[g,h,i]perylene	ND	H	0.97	0.41	ug/L		05/09/19 13:11	05/10/19 17:00	1
Benzo[k]fluoranthene	ND	H	0.19	0.072	ug/L		05/09/19 13:11	05/10/19 17:00	1
Benzoic acid	ND	H	19	4.4	ug/L		05/09/19 13:11	05/10/19 17:00	1
Benzyl alcohol	ND	H	19	3.0	ug/L		05/09/19 13:11	05/10/19 17:00	1
Bis(2-chloroethoxy)methane	ND	H	1.9	0.29	ug/L		05/09/19 13:11	05/10/19 17:00	1

Client: Field & Technical Services LLC
Project/Site: Superior, WI Semiannual Groundwater

Job ID: 480-153151-1

Client Sample ID: SUPE W-18D-050119

Lab Sample ID: 480-153151-1

Date Collected: 05/01/19 09:22

Matrix: Water

Date Received: 05/08/19 09:00

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	ND	H	1.9	0.34	ug/L		05/09/19 13:11	05/10/19 17:00	1
Bis(2-ethylhexyl) phthalate	ND	H	9.7	2.4	ug/L		05/09/19 13:11	05/10/19 17:00	1
Butyl benzyl phthalate	ND	H	1.9	0.26	ug/L		05/09/19 13:11	05/10/19 17:00	1
Chrysene	ND	H	0.49	0.14	ug/L		05/09/19 13:11	05/10/19 17:00	1
Dibenz(a,h)anthracene	ND	H	0.29	0.062	ug/L		05/09/19 13:11	05/10/19 17:00	1
Dibenzofuran	ND	H	1.9	0.34	ug/L		05/09/19 13:11	05/10/19 17:00	1
Diethyl phthalate	ND	H	1.9	0.43	ug/L		05/09/19 13:11	05/10/19 17:00	1
Dimethyl phthalate	ND	H	1.9	0.37	ug/L		05/09/19 13:11	05/10/19 17:00	1
Di-n-butyl phthalate	ND	H	4.9	0.78	ug/L		05/09/19 13:11	05/10/19 17:00	1
Di-n-octyl phthalate	ND	H	9.7	2.4	ug/L		05/09/19 13:11	05/10/19 17:00	1
2,3,5,6-Tetrachlorophenol	ND	H	4.9	2.4	ug/L		05/09/19 13:11	05/10/19 17:00	1
Fluoranthene	ND	H	0.97	0.31	ug/L		05/09/19 13:11	05/10/19 17:00	1
Fluorene	ND	H	0.97	0.37	ug/L		05/09/19 13:11	05/10/19 17:00	1
Hexachlorobenzene	ND	H	0.49	0.14	ug/L		05/09/19 13:11	05/10/19 17:00	1
Hexachlorobutadiene	ND	H	4.9	1.1	ug/L		05/09/19 13:11	05/10/19 17:00	1
Hexachlorocyclopentadiene	ND	H	19	3.3	ug/L		05/09/19 13:11	05/10/19 17:00	1
Hexachloroethane	ND	H	4.9	0.94	ug/L		05/09/19 13:11	05/10/19 17:00	1
Indeno[1,2,3-cd]pyrene	ND	H	0.19	0.082	ug/L		05/09/19 13:11	05/10/19 17:00	1
Isophorone	ND	H	1.9	0.28	ug/L		05/09/19 13:11	05/10/19 17:00	1
Nitrobenzene	ND	H	0.97	0.44	ug/L		05/09/19 13:11	05/10/19 17:00	1
N-Nitrosodi-n-propylamine	ND	H	0.49	0.14	ug/L		05/09/19 13:11	05/10/19 17:00	1
N-Nitrosodiphenylamine	ND	H	1.9	0.33	ug/L		05/09/19 13:11	05/10/19 17:00	1
Phenol	ND	H	4.9	0.35	ug/L		05/09/19 13:11	05/10/19 17:00	1
Pyrene	ND	H	0.97	0.47	ug/L		05/09/19 13:11	05/10/19 17:00	1
2,4-Dimethylphenol	ND	H	9.7	3.2	ug/L		05/09/19 13:11	05/10/19 17:00	1
Benzo[a]anthracene	ND	H	0.19	0.043	ug/L		05/09/19 13:11	05/10/19 17:00	1
Phenanthrene	ND	H	0.97	0.34	ug/L		05/09/19 13:11	05/10/19 17:00	1
3,3'-Dichlorobenzidine	ND	H	4.9	0.91	ug/L		05/09/19 13:11	05/10/19 17:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*103*		*40 - 145*	*05/09/19 13:11*	*05/10/19 17:00*	*1*
2-Fluorobiphenyl	*85*		*34 - 110*	*05/09/19 13:11*	*05/10/19 17:00*	*1*
2-Fluorophenol (Surr)	*47*		*27 - 110*	*05/09/19 13:11*	*05/10/19 17:00*	*1*
Nitrobenzene-d5 (Surr)	*83*		*36 - 120*	*05/09/19 13:11*	*05/10/19 17:00*	*1*
Phenol-d5 (Surr)	*29*		*20 - 100*	*05/09/19 13:11*	*05/10/19 17:00*	*1*
Terphenyl-d14 (Surr)	*101*		*40 - 145*	*05/09/19 13:11*	*05/10/19 17:00*	*1*

Client Sample ID: SUPE-W-04AR2

Lab Sample ID: 480-153151-2

Date Collected: 05/01/19 08:30

Matrix: Water

Date Received: 05/08/19 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/11/19 04:26	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			05/11/19 04:26	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			05/11/19 04:26	1
Benzene	ND		1.0	0.41	ug/L			05/11/19 04:26	1
Chloromethane	ND		1.0	0.35	ug/L			05/11/19 04:26	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/11/19 04:26	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			05/11/19 04:26	1

Client Sample ID: SUPE-W-04AR2
Lab Sample ID: 480-153151-2
Date Collected: 05/01/19 08:30
Matrix: Water
Date Received: 05/08/19 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/11/19 04:26	1
Naphthalene	ND		1.0	0.43	ug/L			05/11/19 04:26	1
n-Butylbenzene	ND		1.0	0.64	ug/L			05/11/19 04:26	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/11/19 04:26	1
o-Xylene	ND		1.0	0.76	ug/L			05/11/19 04:26	1
Styrene	ND		1.0	0.73	ug/L			05/11/19 04:26	1
Toluene	ND		1.0	0.51	ug/L			05/11/19 04:26	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/11/19 04:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*77 - 120*		*05/11/19 04:26*	*1*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*		*05/11/19 04:26*	*1*
Dibromofluoromethane (Surr)	*111*		*75 - 123*		*05/11/19 04:26*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*05/11/19 04:26*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	H	5.0	1.7	ug/L		05/09/19 15:38	05/16/19 19:57	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*81*		*24 - 146*	*05/09/19 15:38*	*05/16/19 19:57*	*5*
2-Fluorobiphenyl	*63*		*37 - 120*	*05/09/19 15:38*	*05/16/19 19:57*	*5*
2-Fluorophenol (Surr)	*36*		*10 - 120*	*05/09/19 15:38*	*05/16/19 19:57*	*5*
Nitrobenzene-d5 (Surr)	*57*		*26 - 120*	*05/09/19 15:38*	*05/16/19 19:57*	*5*
Phenol-d5 (Surr)	*23*		*11 - 120*	*05/09/19 15:38*	*05/16/19 19:57*	*5*
p-Terphenyl-d14	*59*	*X*	*64 - 127*	*05/09/19 15:38*	*05/16/19 19:57*	*5*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	H	1.9	0.29	ug/L		05/09/19 13:11	05/10/19 17:24	1
1,2-Dichlorobenzene	ND	H	1.9	0.28	ug/L		05/09/19 13:11	05/10/19 17:24	1
1,3-Dichlorobenzene	ND	H	1.9	0.24	ug/L		05/09/19 13:11	05/10/19 17:24	1
1,4-Dichlorobenzene	ND	H	1.9	0.26	ug/L		05/09/19 13:11	05/10/19 17:24	1
1-Methylnaphthalene	ND	H	1.9	0.48	ug/L		05/09/19 13:11	05/10/19 17:24	1
bis(chloroisopropyl) ether	ND	H	1.9	0.29	ug/L		05/09/19 13:11	05/10/19 17:24	1
2,3,4,6-Tetrachlorophenol	ND	H	4.8	1.5	ug/L		05/09/19 13:11	05/10/19 17:24	1
2,4,5-Trichlorophenol	ND	H	9.7	2.2	ug/L		05/09/19 13:11	05/10/19 17:24	1
2,4,6-Trichlorophenol	ND	H	4.8	1.1	ug/L		05/09/19 13:11	05/10/19 17:24	1
2,4-Dichlorophenol	ND	H	9.7	2.2	ug/L		05/09/19 13:11	05/10/19 17:24	1
2,4-Dinitrophenol	ND	H	19	7.2	ug/L		05/09/19 13:11	05/10/19 17:24	1
2,4-Dinitrotoluene	ND	H	0.97	0.29	ug/L		05/09/19 13:11	05/10/19 17:24	1
2,6-Dinitrotoluene	ND	H	0.97	0.12	ug/L		05/09/19 13:11	05/10/19 17:24	1
3 & 4 Methylphenol	ND	H	1.9	0.42	ug/L		05/09/19 13:11	05/10/19 17:24	1
2-Chloronaphthalene	ND	H	1.9	0.33	ug/L		05/09/19 13:11	05/10/19 17:24	1
2-Chlorophenol	ND	H	4.8	0.77	ug/L		05/09/19 13:11	05/10/19 17:24	1
2-Methylnaphthalene	ND	H	1.9	0.13	ug/L		05/09/19 13:11	05/10/19 17:24	1
2-Methylphenol	ND	H	1.9	0.30	ug/L		05/09/19 13:11	05/10/19 17:24	1
2-Nitroaniline	ND	H	4.8	1.0	ug/L		05/09/19 13:11	05/10/19 17:24	1
2-Nitrophenol	ND	H	9.7	2.1	ug/L		05/09/19 13:11	05/10/19 17:24	1
3-Nitroaniline	ND	H	9.7	2.2	ug/L		05/09/19 13:11	05/10/19 17:24	1

Client Sample ID: SUPE-W-04AR2

Date Collected: 05/01/19 08:30
Date Received: 05/08/19 09:00

Lab Sample ID: 480-153151-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND	H *	19	4.7	ug/L		05/09/19 13:11	05/10/19 17:24	1
4-Bromophenyl phenyl ether	ND	H	4.8	0.88	ug/L		05/09/19 13:11	05/10/19 17:24	1
4-Chloro-3-methylphenol	ND	H	9.7	2.1	ug/L		05/09/19 13:11	05/10/19 17:24	1
4-Chloroaniline	ND	H	9.7	2.0	ug/L		05/09/19 13:11	05/10/19 17:24	1
4-Chlorophenyl phenyl ether	ND	H	4.8	0.78	ug/L		05/09/19 13:11	05/10/19 17:24	1
4-Nitroaniline	ND	H	9.7	3.8	ug/L		05/09/19 13:11	05/10/19 17:24	1
4-Nitrophenol	ND	H	19	2.3	ug/L		05/09/19 13:11	05/10/19 17:24	1
Acenaphthene	ND	H	0.97	0.35	ug/L		05/09/19 13:11	05/10/19 17:24	1
Acenaphthylene	ND	H	0.97	0.31	ug/L		05/09/19 13:11	05/10/19 17:24	1
Anthracene	**5.6**	**H**	0.97	0.31	ug/L		05/09/19 13:11	05/10/19 17:24	1
Benzo[a]pyrene	**0.21**	**H**	0.19	0.054	ug/L		05/09/19 13:11	05/10/19 17:24	1
Benzo[b]fluoranthene	**0.54**	**H**	0.19	0.056	ug/L		05/09/19 13:11	05/10/19 17:24	1
Benzo[g,h,i]perylene	ND	H	0.97	0.41	ug/L		05/09/19 13:11	05/10/19 17:24	1
Benzo[k]fluoranthene	**0.34**	**H**	0.19	0.071	ug/L		05/09/19 13:11	05/10/19 17:24	1
Benzoic acid	ND	H	19	4.4	ug/L		05/09/19 13:11	05/10/19 17:24	1
Benzyl alcohol	ND	H	19	2.9	ug/L		05/09/19 13:11	05/10/19 17:24	1
Bis(2-chloroethoxy)methane	ND	H	1.9	0.29	ug/L		05/09/19 13:11	05/10/19 17:24	1
Bis(2-chloroethyl)ether	ND	H	1.9	0.34	ug/L		05/09/19 13:11	05/10/19 17:24	1
Bis(2-ethylhexyl) phthalate	ND	H	9.7	2.3	ug/L		05/09/19 13:11	05/10/19 17:24	1
Butyl benzyl phthalate	ND	H	1.9	0.26	ug/L		05/09/19 13:11	05/10/19 17:24	1
Chrysene	**0.51**	**H**	0.48	0.14	ug/L		05/09/19 13:11	05/10/19 17:24	1
Dibenz(a,h)anthracene	ND	H	0.29	0.062	ug/L		05/09/19 13:11	05/10/19 17:24	1
Dibenzofuran	ND	H	1.9	0.34	ug/L		05/09/19 13:11	05/10/19 17:24	1
Diethyl phthalate	ND	H	1.9	0.42	ug/L		05/09/19 13:11	05/10/19 17:24	1
Dimethyl phthalate	ND	H	1.9	0.37	ug/L		05/09/19 13:11	05/10/19 17:24	1
Di-n-butyl phthalate	ND	H	4.8	0.77	ug/L		05/09/19 13:11	05/10/19 17:24	1
Di-n-octyl phthalate	ND	H	9.7	2.4	ug/L		05/09/19 13:11	05/10/19 17:24	1
2,3,5,6-Tetrachlorophenol	ND	H	4.8	2.4	ug/L		05/09/19 13:11	05/10/19 17:24	1
Fluoranthene	**0.72**	**J H**	0.97	0.31	ug/L		05/09/19 13:11	05/10/19 17:24	1
Fluorene	ND	H	0.97	0.37	ug/L		05/09/19 13:11	05/10/19 17:24	1
Hexachlorobenzene	ND	H	0.48	0.14	ug/L		05/09/19 13:11	05/10/19 17:24	1
Hexachlorobutadiene	ND	H	4.8	1.1	ug/L		05/09/19 13:11	05/10/19 17:24	1
Hexachlorocyclopentadiene	ND	H	19	3.3	ug/L		05/09/19 13:11	05/10/19 17:24	1
Hexachloroethane	ND	H	4.8	0.94	ug/L		05/09/19 13:11	05/10/19 17:24	1
Indeno[1,2,3-cd]pyrene	**0.22**	**H**	0.19	0.081	ug/L		05/09/19 13:11	05/10/19 17:24	1
Isophorone	ND	H	1.9	0.28	ug/L		05/09/19 13:11	05/10/19 17:24	1
Nitrobenzene	ND	H	0.97	0.43	ug/L		05/09/19 13:11	05/10/19 17:24	1
N-Nitrosodi-n-propylamine	ND	H	0.48	0.14	ug/L		05/09/19 13:11	05/10/19 17:24	1
N-Nitrosodiphenylamine	ND	H	1.9	0.33	ug/L		05/09/19 13:11	05/10/19 17:24	1
Phenol	ND	H	4.8	0.35	ug/L		05/09/19 13:11	05/10/19 17:24	1
Pyrene	**0.57**	**J H**	0.97	0.46	ug/L		05/09/19 13:11	05/10/19 17:24	1
2,4-Dimethylphenol	ND	H	9.7	3.2	ug/L		05/09/19 13:11	05/10/19 17:24	1
Benzo[a]anthracene	**0.37**	**H**	0.19	0.042	ug/L		05/09/19 13:11	05/10/19 17:24	1
Phenanthrene	ND	H	0.97	0.34	ug/L		05/09/19 13:11	05/10/19 17:24	1
3,3'-Dichlorobenzidine	ND	H	4.8	0.91	ug/L		05/09/19 13:11	05/10/19 17:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*114*		*40 - 145*	*05/09/19 13:11*	*05/10/19 17:24*	*1*
2-Fluorobiphenyl	*89*		*34 - 110*	*05/09/19 13:11*	*05/10/19 17:24*	*1*
2-Fluorophenol (Surr)	*49*		*27 - 110*	*05/09/19 13:11*	*05/10/19 17:24*	*1*

Client Sample ID: SUPE-W-04AR2
Lab Sample ID: 480-153151-2

Date Collected: 05/01/19 08:30
Matrix: Water
Date Received: 05/08/19 09:00

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5 (Surr)	*84*		*36 - 120*	*05/09/19 13:11*	*05/10/19 17:24*	*1*
Phenol-d5 (Surr)	*30*		*20 - 100*	*05/09/19 13:11*	*05/10/19 17:24*	*1*
Terphenyl-d14 (Surr)	*88*		*40 - 145*	*05/09/19 13:11*	*05/10/19 17:24*	*1*

Client Sample ID: RB-02 050119
Lab Sample ID: 480-153151-3

Date Collected: 05/01/19 08:00
Matrix: Water
Date Received: 05/08/19 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/11/19 04:50	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			05/11/19 04:50	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			05/11/19 04:50	1
Benzene	ND		1.0	0.41	ug/L			05/11/19 04:50	1
Chloromethane	ND		1.0	0.35	ug/L			05/11/19 04:50	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/11/19 04:50	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			05/11/19 04:50	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/11/19 04:50	1
Naphthalene	ND		1.0	0.43	ug/L			05/11/19 04:50	1
n-Butylbenzene	ND		1.0	0.64	ug/L			05/11/19 04:50	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/11/19 04:50	1
o-Xylene	ND		1.0	0.76	ug/L			05/11/19 04:50	1
Styrene	ND		1.0	0.73	ug/L			05/11/19 04:50	1
Toluene	ND		1.0	0.51	ug/L			05/11/19 04:50	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/11/19 04:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*105*		*77 - 120*		*05/11/19 04:50*	*1*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*		*05/11/19 04:50*	*1*
Dibromofluoromethane (Surr)	*113*		*75 - 123*		*05/11/19 04:50*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*05/11/19 04:50*	*1*

Surrogate Summary

Client: Field & Technical Services LLC
Project/Site: Superior, WI Semiannual Groundwater

Job ID: 480-153151-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(77-120)	(73-120)	(75-123)	(80-120)
480-153151-2	SUPE-W-04AR2	109	100	111	96
480-153151-3	RB-02 050119	105	100	113	94
LCS 480-472323/5	Lab Control Sample	96	108	103	103
MB 480-472323/7	Method Blank	98	102	108	95

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

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

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPHL
Lab Sample ID	Client Sample ID	(40-145)	(34-110)	(27-110)	(36-120)	(20-100)	(40-145)
480-153151-1	SUPE W-18D-050119	103	85	47	83	29	101
480-153151-2	SUPE-W-04AR2	114	89	49	84	30	88
LCS 500-484525/2-A	Lab Control Sample	107	88	56	82	33	94
LCSD 500-484525/3-A	Lab Control Sample Dup	106	88	56	83	34	94
MB 500-484525/1-A	Method Blank	81	73	49	77	35	99

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

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

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPHd14
Lab Sample ID	Client Sample ID	(24-146)	(37-120)	(10-120)	(26-120)	(11-120)	(64-127)
480-153151-1	SUPE W-18D-050119	110	83	43	68	28	91
480-153151-2	SUPE-W-04AR2	81	63	36	57	23	59 X
LCS 480-472124/2-A	Lab Control Sample	112	100	60	99	41	104
LCSD 480-472124/3-A	Lab Control Sample Dup	110	100	59	96	38	102
MB 480-472124/1-A	Method Blank	105	106	59	92	39	111

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHd14 = p-Terphenyl-d14

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

Lab Sample ID: MB 480-472323/7
Matrix: Water
Analysis Batch: 472323

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-Trichloroethane	ND		1.0	0.82	ug/L			05/10/19 22:05	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			05/10/19 22:05	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			05/10/19 22:05	1
Benzene	ND		1.0	0.41	ug/L			05/10/19 22:05	1
Chloromethane	ND		1.0	0.35	ug/L			05/10/19 22:05	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/10/19 22:05	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			05/10/19 22:05	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			05/10/19 22:05	1
Naphthalene	ND		1.0	0.43	ug/L			05/10/19 22:05	1
n-Butylbenzene	ND		1.0	0.64	ug/L			05/10/19 22:05	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/10/19 22:05	1
o-Xylene	ND		1.0	0.76	ug/L			05/10/19 22:05	1
Styrene	ND		1.0	0.73	ug/L			05/10/19 22:05	1
Toluene	ND		1.0	0.51	ug/L			05/10/19 22:05	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/10/19 22:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*		*05/10/19 22:05*	*1*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*05/10/19 22:05*	*1*
Dibromofluoromethane (Surr)	*108*		*75 - 123*		*05/10/19 22:05*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*05/10/19 22:05*	*1*

Lab Sample ID: LCS 480-472323/5
Matrix: Water
Analysis Batch: 472323

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	25.7		ug/L		103	73 - 126
1,2,4-Trimethylbenzene	25.0	24.9		ug/L		100	76 - 121
1,3,5-Trimethylbenzene	25.0	25.0		ug/L		100	77 - 121
Benzene	25.0	24.4		ug/L		98	71 - 124
Chloromethane	25.0	30.2		ug/L		121	68 - 124
Ethylbenzene	25.0	25.2		ug/L		101	77 - 123
Methyl tert-butyl ether	25.0	23.5		ug/L		94	77 - 120
m-Xylene & p-Xylene	25.0	27.5		ug/L		110	76 - 122
Naphthalene	25.0	25.4		ug/L		102	66 - 125
n-Butylbenzene	25.0	24.7		ug/L		99	71 - 128
N-Propylbenzene	25.0	24.2		ug/L		97	75 - 127
o-Xylene	25.0	26.6		ug/L		107	76 - 122
Styrene	25.0	27.2		ug/L		109	80 - 120
Toluene	25.0	25.2		ug/L		101	80 - 122
Xylenes, Total	50.0	54.1		ug/L		108	76 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*77 - 120*
4-Bromofluorobenzene (Surr)	*108*		*73 - 120*
Dibromofluoromethane (Surr)	*103*		*75 - 123*
Toluene-d8 (Surr)	*103*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-484525/1-A
Matrix: Water
Analysis Batch: 484632

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 484525

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		2.0	0.30	ug/L		05/09/19 13:11	05/10/19 12:40	1
1,2-Dichlorobenzene	ND		2.0	0.29	ug/L		05/09/19 13:11	05/10/19 12:40	1
1,3-Dichlorobenzene	ND		2.0	0.25	ug/L		05/09/19 13:11	05/10/19 12:40	1
1,4-Dichlorobenzene	ND		2.0	0.27	ug/L		05/09/19 13:11	05/10/19 12:40	1
1-Methylnaphthalene	ND		2.0	0.50	ug/L		05/09/19 13:11	05/10/19 12:40	1
bis(chloroisopropyl) ether	ND		2.0	0.30	ug/L		05/09/19 13:11	05/10/19 12:40	1
2,3,4,6-Tetrachlorophenol	ND		5.0	1.5	ug/L		05/09/19 13:11	05/10/19 12:40	1
2,4,5-Trichlorophenol	ND		10	2.3	ug/L		05/09/19 13:11	05/10/19 12:40	1
2,4,6-Trichlorophenol	ND		5.0	1.1	ug/L		05/09/19 13:11	05/10/19 12:40	1
2,4-Dichlorophenol	ND		10	2.3	ug/L		05/09/19 13:11	05/10/19 12:40	1
2,4-Dinitrophenol	ND		20	7.4	ug/L		05/09/19 13:11	05/10/19 12:40	1
2,4-Dinitrotoluene	ND		1.0	0.30	ug/L		05/09/19 13:11	05/10/19 12:40	1
2,6-Dinitrotoluene	ND		1.0	0.12	ug/L		05/09/19 13:11	05/10/19 12:40	1
3 & 4 Methylphenol	ND		2.0	0.44	ug/L		05/09/19 13:11	05/10/19 12:40	1
2-Chloronaphthalene	ND		2.0	0.34	ug/L		05/09/19 13:11	05/10/19 12:40	1
2-Chlorophenol	ND		5.0	0.80	ug/L		05/09/19 13:11	05/10/19 12:40	1
2-Methylnaphthalene	ND		2.0	0.13	ug/L		05/09/19 13:11	05/10/19 12:40	1
2-Methylphenol	ND		2.0	0.31	ug/L		05/09/19 13:11	05/10/19 12:40	1
2-Nitroaniline	ND		5.0	1.1	ug/L		05/09/19 13:11	05/10/19 12:40	1
2-Nitrophenol	ND		10	2.1	ug/L		05/09/19 13:11	05/10/19 12:40	1
3-Nitroaniline	ND		10	2.3	ug/L		05/09/19 13:11	05/10/19 12:40	1
4,6-Dinitro-2-methylphenol	ND		20	4.9	ug/L		05/09/19 13:11	05/10/19 12:40	1
4-Bromophenyl phenyl ether	ND		5.0	0.91	ug/L		05/09/19 13:11	05/10/19 12:40	1
4-Chloro-3-methylphenol	ND		10	2.2	ug/L		05/09/19 13:11	05/10/19 12:40	1
4-Chloroaniline	ND		10	2.1	ug/L		05/09/19 13:11	05/10/19 12:40	1
4-Chlorophenyl phenyl ether	ND		5.0	0.81	ug/L		05/09/19 13:11	05/10/19 12:40	1
4-Nitroaniline	ND		10	3.9	ug/L		05/09/19 13:11	05/10/19 12:40	1
4-Nitrophenol	ND		20	2.3	ug/L		05/09/19 13:11	05/10/19 12:40	1
Acenaphthene	ND		1.0	0.36	ug/L		05/09/19 13:11	05/10/19 12:40	1
Acenaphthylene	ND		1.0	0.32	ug/L		05/09/19 13:11	05/10/19 12:40	1
Anthracene	ND		1.0	0.32	ug/L		05/09/19 13:11	05/10/19 12:40	1
Benzo[a]pyrene	ND		0.20	0.056	ug/L		05/09/19 13:11	05/10/19 12:40	1
Benzo[b]fluoranthene	ND		0.20	0.058	ug/L		05/09/19 13:11	05/10/19 12:40	1
Benzo[g,h,i]perylene	ND		1.0	0.42	ug/L		05/09/19 13:11	05/10/19 12:40	1
Benzo[k]fluoranthene	ND		0.20	0.074	ug/L		05/09/19 13:11	05/10/19 12:40	1
Benzoic acid	ND		20	4.6	ug/L		05/09/19 13:11	05/10/19 12:40	1
Benzyl alcohol	ND		20	3.1	ug/L		05/09/19 13:11	05/10/19 12:40	1
Bis(2-chloroethoxy)methane	ND		2.0	0.30	ug/L		05/09/19 13:11	05/10/19 12:40	1
Bis(2-chloroethyl)ether	ND		2.0	0.35	ug/L		05/09/19 13:11	05/10/19 12:40	1
Bis(2-ethylhexyl) phthalate	ND		10	2.4	ug/L		05/09/19 13:11	05/10/19 12:40	1
Butyl benzyl phthalate	ND		2.0	0.27	ug/L		05/09/19 13:11	05/10/19 12:40	1
Chrysene	ND		0.50	0.14	ug/L		05/09/19 13:11	05/10/19 12:40	1
Dibenz(a,h)anthracene	ND		0.30	0.064	ug/L		05/09/19 13:11	05/10/19 12:40	1
Dibenzofuran	ND		2.0	0.35	ug/L		05/09/19 13:11	05/10/19 12:40	1
Diethyl phthalate	ND		2.0	0.44	ug/L		05/09/19 13:11	05/10/19 12:40	1
Dimethyl phthalate	ND		2.0	0.38	ug/L		05/09/19 13:11	05/10/19 12:40	1
Di-n-butyl phthalate	ND		5.0	0.80	ug/L		05/09/19 13:11	05/10/19 12:40	1
Di-n-octyl phthalate	ND		10	2.5	ug/L		05/09/19 13:11	05/10/19 12:40	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-484525/1-A
Matrix: Water
Analysis Batch: 484632

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 484525

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,5,6-Tetrachlorophenol	ND		5.0	2.5	ug/L		05/09/19 13:11	05/10/19 12:40	1
Fluoranthene	ND		1.0	0.32	ug/L		05/09/19 13:11	05/10/19 12:40	1
Fluorene	ND		1.0	0.38	ug/L		05/09/19 13:11	05/10/19 12:40	1
Hexachlorobenzene	ND		0.50	0.14	ug/L		05/09/19 13:11	05/10/19 12:40	1
Hexachlorobutadiene	ND		5.0	1.1	ug/L		05/09/19 13:11	05/10/19 12:40	1
Hexachlorocyclopentadiene	ND		20	3.4	ug/L		05/09/19 13:11	05/10/19 12:40	1
Hexachloroethane	ND		5.0	0.97	ug/L		05/09/19 13:11	05/10/19 12:40	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.084	ug/L		05/09/19 13:11	05/10/19 12:40	1
Isophorone	ND		2.0	0.29	ug/L		05/09/19 13:11	05/10/19 12:40	1
Nitrobenzene	ND		1.0	0.45	ug/L		05/09/19 13:11	05/10/19 12:40	1
N-Nitrosodi-n-propylamine	ND		0.50	0.14	ug/L		05/09/19 13:11	05/10/19 12:40	1
N-Nitrosodiphenylamine	ND		2.0	0.34	ug/L		05/09/19 13:11	05/10/19 12:40	1
Phenol	ND		5.0	0.36	ug/L		05/09/19 13:11	05/10/19 12:40	1
Pyrene	ND		1.0	0.48	ug/L		05/09/19 13:11	05/10/19 12:40	1
2,4-Dimethylphenol	ND		10	3.3	ug/L		05/09/19 13:11	05/10/19 12:40	1
Benzo[a]anthracene	ND		0.20	0.044	ug/L		05/09/19 13:11	05/10/19 12:40	1
Phenanthrene	ND		1.0	0.35	ug/L		05/09/19 13:11	05/10/19 12:40	1
3,3'-Dichlorobenzidine	ND		5.0	0.94	ug/L		05/09/19 13:11	05/10/19 12:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*81*		*40 - 145*	*05/09/19 13:11*	*05/10/19 12:40*	*1*
2-Fluorobiphenyl	*73*		*34 - 110*	*05/09/19 13:11*	*05/10/19 12:40*	*1*
2-Fluorophenol (Surr)	*49*		*27 - 110*	*05/09/19 13:11*	*05/10/19 12:40*	*1*
Nitrobenzene-d5 (Surr)	*77*		*36 - 120*	*05/09/19 13:11*	*05/10/19 12:40*	*1*
Phenol-d5 (Surr)	*35*		*20 - 100*	*05/09/19 13:11*	*05/10/19 12:40*	*1*
Terphenyl-d14 (Surr)	*99*		*40 - 145*	*05/09/19 13:11*	*05/10/19 12:40*	*1*

Lab Sample ID: LCS 500-484525/2-A
Matrix: Water
Analysis Batch: 484632

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 484525

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	40.0	32.0		ug/L		80	26 - 110
1,2-Dichlorobenzene	40.0	32.4		ug/L		81	26 - 110
1,3-Dichlorobenzene	40.0	32.0		ug/L		80	22 - 110
1,4-Dichlorobenzene	40.0	32.3		ug/L		81	23 - 110
1-Methylnaphthalene	40.0	35.1		ug/L		88	38 - 110
bis(chloroisopropyl) ether	40.0	25.2		ug/L		63	38 - 110
2,3,4,6-Tetrachlorophenol	40.0	34.0		ug/L		85	44 - 118
2,4,5-Trichlorophenol	40.0	36.0		ug/L		90	63 - 120
2,4,6-Trichlorophenol	40.0	36.8		ug/L		92	62 - 110
2,4-Dichlorophenol	40.0	36.6		ug/L		92	62 - 110
2,4-Dinitrophenol	80.0	66.7		ug/L		83	37 - 130
2,4-Dinitrotoluene	40.0	34.5		ug/L		86	63 - 122
2,6-Dinitrotoluene	40.0	37.0		ug/L		92	63 - 119
3 & 4 Methylphenol	40.0	30.6		ug/L		77	53 - 110
2-Chloronaphthalene	40.0	32.7		ug/L		82	39 - 110
2-Chlorophenol	40.0	35.1		ug/L		88	59 - 110

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-484525/2-A
Matrix: Water
Analysis Batch: 484632

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 484525

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Methylnaphthalene	40.0	35.0		ug/L		88	34 - 110
2-Methylphenol	40.0	30.4		ug/L		76	53 - 110
2-Nitroaniline	40.0	31.0		ug/L		78	59 - 122
2-Nitrophenol	40.0	35.3		ug/L		88	58 - 110
3-Nitroaniline	40.0	28.9		ug/L		72	47 - 123
4,6-Dinitro-2-methylphenol	80.0	91.9		ug/L		115	50 - 117
4-Bromophenyl phenyl ether	40.0	38.3		ug/L		96	58 - 120
4-Chloro-3-methylphenol	40.0	34.0		ug/L		85	64 - 120
4-Chloroaniline	40.0	37.9		ug/L		95	35 - 128
4-Chlorophenyl phenyl ether	40.0	34.7		ug/L		87	47 - 112
4-Nitroaniline	40.0	28.6		ug/L		72	52 - 147
4-Nitrophenol	80.0	18.3	J	ug/L		23	20 - 110
Acenaphthene	40.0	35.2		ug/L		88	46 - 110
Acenaphthylene	40.0	34.7		ug/L		87	47 - 110
Anthracene	40.0	40.0		ug/L		100	67 - 110
Benzo[a]pyrene	40.0	44.2		ug/L		110	70 - 120
Benzo[b]fluoranthene	40.0	44.8		ug/L		112	69 - 123
Benzo[g,h,i]perylene	40.0	43.0		ug/L		108	70 - 120
Benzo[k]fluoranthene	40.0	44.9		ug/L		112	70 - 120
Benzoic acid	80.0	23.0		ug/L		29	10 - 100
Benzyl alcohol	40.0	38.7		ug/L		97	33 - 127
Bis(2-chloroethoxy)methane	40.0	35.9		ug/L		90	60 - 110
Bis(2-chloroethyl)ether	40.0	33.6		ug/L		84	49 - 110
Bis(2-ethylhexyl) phthalate	40.0	35.3		ug/L		88	69 - 120
Butyl benzyl phthalate	40.0	34.4		ug/L		86	68 - 120
Chrysene	40.0	43.1		ug/L		108	68 - 120
Dibenz(a,h)anthracene	40.0	44.7		ug/L		112	70 - 127
Dibenzofuran	40.0	35.0		ug/L		88	51 - 110
Diethyl phthalate	40.0	33.8		ug/L		85	62 - 120
Dimethyl phthalate	40.0	35.1		ug/L		88	63 - 120
Di-n-butyl phthalate	40.0	36.0		ug/L		90	70 - 120
Di-n-octyl phthalate	40.0	34.9		ug/L		87	70 - 122
Fluoranthene	40.0	38.2		ug/L		96	68 - 120
Fluorene	40.0	36.7		ug/L		92	53 - 120
Hexachlorobenzene	40.0	42.2		ug/L		106	61 - 120
Hexachlorobutadiene	40.0	29.6		ug/L		74	20 - 100
Hexachlorocyclopentadiene	40.0	32.0		ug/L		80	10 - 100
Hexachloroethane	40.0	28.8		ug/L		72	20 - 100
Indeno[1,2,3-cd]pyrene	40.0	44.5		ug/L		111	65 - 133
Isophorone	40.0	33.1		ug/L		83	57 - 110
Naphthalene	40.0	33.6		ug/L		84	36 - 110
Nitrobenzene	40.0	33.4		ug/L		84	53 - 110
N-Nitrosodi-n-propylamine	40.0	35.0		ug/L		88	58 - 110
N-Nitrosodiphenylamine	40.0	41.0		ug/L		103	66 - 110
Pentachlorophenol	80.0	72.0		ug/L		90	23 - 129
Phenol	40.0	14.9		ug/L		37	33 - 100
Pyrene	40.0	38.1		ug/L		95	70 - 110
2,4-Dimethylphenol	40.0	34.6		ug/L		87	51 - 110
Benzo[a]anthracene	40.0	33.5		ug/L		84	70 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-484525/2-A
Matrix: Water
Analysis Batch: 484632

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 484525

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Phenanthrene			40.0	39.0		ug/L		97	65 - 120		
3,3'-Dichlorobenzidine			40.0	29.5		ug/L		74	60 - 132		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*107*		*40 - 145*
2-Fluorobiphenyl	*88*		*34 - 110*
2-Fluorophenol (Surr)	*56*		*27 - 110*
Nitrobenzene-d5 (Surr)	*82*		*36 - 120*
Phenol-d5 (Surr)	*33*		*20 - 100*
Terphenyl-d14 (Surr)	*94*		*40 - 145*

Lab Sample ID: LCSD 500-484525/3-A
Matrix: Water
Analysis Batch: 484632

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 484525

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene			40.0	31.5		ug/L		79	26 - 110	2	20
1,2-Dichlorobenzene			40.0	31.5		ug/L		79	26 - 110	3	20
1,3-Dichlorobenzene			40.0	30.7		ug/L		77	22 - 110	4	20
1,4-Dichlorobenzene			40.0	31.0		ug/L		78	23 - 110	4	20
1-Methylnaphthalene			40.0	34.8		ug/L		87	38 - 110	1	20
bis(chloroisopropyl) ether			40.0	24.7		ug/L		62	38 - 110	2	20
2,3,4,6-Tetrachlorophenol			40.0	35.5		ug/L		89	44 - 118	4	20
2,4,5-Trichlorophenol			40.0	34.1		ug/L		85	63 - 120	6	20
2,4,6-Trichlorophenol			40.0	36.4		ug/L		91	62 - 110	1	20
2,4-Dichlorophenol			40.0	36.6		ug/L		92	62 - 110	0	20
2,4-Dinitrophenol			80.0	68.9		ug/L		86	37 - 130	3	20
2,4-Dinitrotoluene			40.0	34.7		ug/L		87	63 - 122	1	20
2,6-Dinitrotoluene			40.0	36.9		ug/L		92	63 - 119	0	20
3 & 4 Methylphenol			40.0	30.4		ug/L		76	53 - 110	1	20
2-Chloronaphthalene			40.0	32.7		ug/L		82	39 - 110	0	20
2-Chlorophenol			40.0	34.4		ug/L		86	59 - 110	2	20
2-Methylnaphthalene			40.0	36.9		ug/L		92	34 - 110	5	20
2-Methylphenol			40.0	29.6		ug/L		74	53 - 110	3	20
2-Nitroaniline			40.0	31.5		ug/L		79	59 - 122	1	20
2-Nitrophenol			40.0	34.6		ug/L		87	58 - 110	2	20
3-Nitroaniline			40.0	30.8		ug/L		77	47 - 123	7	20
4,6-Dinitro-2-methylphenol			80.0	94.2	*	ug/L		118	50 - 117	2	20
4-Bromophenyl phenyl ether			40.0	37.7		ug/L		94	58 - 120	2	20
4-Chloro-3-methylphenol			40.0	34.5		ug/L		86	64 - 120	1	20
4-Chloroaniline			40.0	38.1		ug/L		95	35 - 128	1	20
4-Chlorophenyl phenyl ether			40.0	34.3		ug/L		86	47 - 112	1	20
4-Nitroaniline			40.0	29.2		ug/L		73	52 - 147	2	20
4-Nitrophenol			80.0	17.8	J	ug/L		22	20 - 110	3	20
Acenaphthene			40.0	34.4		ug/L		86	46 - 110	2	20
Acenaphthylene			40.0	34.1		ug/L		85	47 - 110	2	20
Anthracene			40.0	40.3		ug/L		101	67 - 110	1	20
Benzo[a]pyrene			40.0	44.9		ug/L		112	70 - 120	2	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 500-484525/3-A
Matrix: Water
Analysis Batch: 484632

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 484525

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[b]fluoranthene			40.0	46.1		ug/L		115	69 - 123	3	20
Benzo[g,h,i]perylene			40.0	43.5		ug/L		109	70 - 120	1	20
Benzo[k]fluoranthene			40.0	48.0		ug/L		120	70 - 120	7	20
Benzoic acid			80.0	20.7		ug/L		26	10 - 100	11	20
Benzyl alcohol			40.0	38.4		ug/L		96	33 - 127	1	20
Bis(2-chloroethoxy)methane			40.0	35.5		ug/L		89	60 - 110	1	20
Bis(2-chloroethyl)ether			40.0	33.6		ug/L		84	49 - 110	0	20
Bis(2-ethylhexyl) phthalate			40.0	36.1		ug/L		90	69 - 120	2	20
Butyl benzyl phthalate			40.0	34.9		ug/L		87	68 - 120	2	20
Chrysene			40.0	43.5		ug/L		109	68 - 120	1	20
Dibenz(a,h)anthracene			40.0	45.2		ug/L		113	70 - 127	1	20
Dibenzofuran			40.0	34.9		ug/L		87	51 - 110	0	20
Diethyl phthalate			40.0	34.1		ug/L		85	62 - 120	1	20
Dimethyl phthalate			40.0	35.0		ug/L		87	63 - 120	0	20
Di-n-butyl phthalate			40.0	36.9		ug/L		92	70 - 120	3	20
Di-n-octyl phthalate			40.0	35.7		ug/L		89	70 - 122	2	20
Fluoranthene			40.0	38.7		ug/L		97	68 - 120	1	20
Fluorene			40.0	36.2		ug/L		90	53 - 120	1	20
Hexachlorobenzene			40.0	42.1		ug/L		105	61 - 120	0	20
Hexachlorobutadiene			40.0	28.5		ug/L		71	20 - 100	4	20
Hexachlorocyclopentadiene			40.0	30.7		ug/L		77	10 - 100	4	20
Hexachloroethane			40.0	27.3		ug/L		68	20 - 100	5	20
Indeno[1,2,3-cd]pyrene			40.0	45.1		ug/L		113	65 - 133	1	20
Isophorone			40.0	33.1		ug/L		83	57 - 110	0	20
Naphthalene			40.0	33.1		ug/L		83	36 - 110	1	20
Nitrobenzene			40.0	33.4		ug/L		83	53 - 110	0	20
N-Nitrosodi-n-propylamine			40.0	34.9		ug/L		87	58 - 110	0	20
N-Nitrosodiphenylamine			40.0	40.9		ug/L		102	66 - 110	0	20
Pentachlorophenol			80.0	73.1		ug/L		91	23 - 129	2	20
Phenol			40.0	15.0		ug/L		38	33 - 100	1	20
Pyrene			40.0	38.8		ug/L		97	70 - 110	2	20
2,4-Dimethylphenol			40.0	35.6		ug/L		89	51 - 110	3	20
Benzo[a]anthracene			40.0	34.8		ug/L		87	70 - 120	4	20
Phenanthrene			40.0	38.9		ug/L		97	65 - 120	0	20
3,3'-Dichlorobenzidine			40.0	34.6		ug/L		86	60 - 132	16	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*106*		*40 - 145*
2-Fluorobiphenyl	*88*		*34 - 110*
2-Fluorophenol (Surr)	*56*		*27 - 110*
Nitrobenzene-d5 (Surr)	*83*		*36 - 120*
Phenol-d5 (Surr)	*34*		*20 - 100*
Terphenyl-d14 (Surr)	*94*		*40 - 145*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 480-472124/1-A
Matrix: Water
Analysis Batch: 472972

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 472124

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		1.0	0.34	ug/L		05/09/19 15:38	05/15/19 15:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*105*		*24 - 146*	*05/09/19 15:38*	*05/15/19 15:40*	*1*
2-Fluorobiphenyl	*106*		*37 - 120*	*05/09/19 15:38*	*05/15/19 15:40*	*1*
2-Fluorophenol (Surr)	*59*		*10 - 120*	*05/09/19 15:38*	*05/15/19 15:40*	*1*
Nitrobenzene-d5 (Surr)	*92*		*26 - 120*	*05/09/19 15:38*	*05/15/19 15:40*	*1*
Phenol-d5 (Surr)	*39*		*11 - 120*	*05/09/19 15:38*	*05/15/19 15:40*	*1*
p-Terphenyl-d14	*111*		*64 - 127*	*05/09/19 15:38*	*05/15/19 15:40*	*1*

Lab Sample ID: LCS 480-472124/2-A
Matrix: Water
Analysis Batch: 472972

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 472124

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Pentachlorophenol			16.0	16.4		ug/L		102	10 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*112*		*24 - 146*
2-Fluorobiphenyl	*100*		*37 - 120*
2-Fluorophenol (Surr)	*60*		*10 - 120*
Nitrobenzene-d5 (Surr)	*99*		*26 - 120*
Phenol-d5 (Surr)	*41*		*11 - 120*
p-Terphenyl-d14	*104*		*64 - 127*

Lab Sample ID: LCSD 480-472124/3-A
Matrix: Water
Analysis Batch: 472972

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 472124

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Pentachlorophenol			16.0	15.7		ug/L		98	10 - 131	4	171

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*110*		*24 - 146*
2-Fluorobiphenyl	*100*		*37 - 120*
2-Fluorophenol (Surr)	*59*		*10 - 120*
Nitrobenzene-d5 (Surr)	*96*		*26 - 120*
Phenol-d5 (Surr)	*38*		*11 - 120*
p-Terphenyl-d14	*102*		*64 - 127*

QC Association Summary

Client: Field & Technical Services LLC
Project/Site: Superior, WI Semiannual Groundwater

Job ID: 480-153151-1

GC/MS VOA

Analysis Batch: 472323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-153151-2	SUPE-W-04AR2	Total/NA	Water	8260C	
480-153151-3	RB-02 050119	Total/NA	Water	8260C	
MB 480-472323/7	Method Blank	Total/NA	Water	8260C	
LCS 480-472323/5	Lab Control Sample	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 472124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-153151-1	SUPE W-18D-050119	Total/NA	Water	3510C	
480-153151-2	SUPE-W-04AR2	Total/NA	Water	3510C	
MB 480-472124/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-472124/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 480-472124/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 472972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-153151-1	SUPE W-18D-050119	Total/NA	Water	8270D LL	472124
MB 480-472124/1-A	Method Blank	Total/NA	Water	8270D LL	472124
LCS 480-472124/2-A	Lab Control Sample	Total/NA	Water	8270D LL	472124
LCSD 480-472124/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	472124

Analysis Batch: 473256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-153151-2	SUPE-W-04AR2	Total/NA	Water	8270D LL	472124

Prep Batch: 484525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-153151-1	SUPE W-18D-050119	Total/NA	Water	3510C	
480-153151-2	SUPE-W-04AR2	Total/NA	Water	3510C	
MB 500-484525/1-A	Method Blank	Total/NA	Water	3510C	
LCS 500-484525/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 500-484525/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 484632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-153151-1	SUPE W-18D-050119	Total/NA	Water	8270D	484525
480-153151-2	SUPE-W-04AR2	Total/NA	Water	8270D	484525
MB 500-484525/1-A	Method Blank	Total/NA	Water	8270D	484525
LCS 500-484525/2-A	Lab Control Sample	Total/NA	Water	8270D	484525
LCSD 500-484525/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	484525

Lab Chronicle

Client: Field & Technical Services LLC
Job ID: 480-153151-1
Project/Site: Superior, WI Semiannual Groundwater

Client Sample ID: SUPE W-18D-050119
Lab Sample ID: 480-153151-1
Date Collected: 05/01/19 09:22
Matrix: Water
Date Received: 05/08/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			484525	05/09/19 13:11	DAK	TAL CHI
Total/NA	Analysis	8270D		1	484632	05/10/19 17:00	AJD	TAL CHI
Total/NA	Prep	3510C			472124	05/09/19 15:38	ATG	TAL BUF
Total/NA	Analysis	8270D LL		1	472972	05/15/19 21:00	RJS	TAL BUF

Client Sample ID: SUPE-W-04AR2
Lab Sample ID: 480-153151-2
Date Collected: 05/01/19 08:30
Matrix: Water
Date Received: 05/08/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	472323	05/11/19 04:26	OMI	TAL BUF
Total/NA	Prep	3510C			484525	05/09/19 13:11	DAK	TAL CHI
Total/NA	Analysis	8270D		1	484632	05/10/19 17:24	AJD	TAL CHI
Total/NA	Prep	3510C			472124	05/09/19 15:38	ATG	TAL BUF
Total/NA	Analysis	8270D LL		5	473256	05/16/19 19:57	RJS	TAL BUF

Client Sample ID: RB-02 050119
Lab Sample ID: 480-153151-3
Date Collected: 05/01/19 08:00
Matrix: Water
Date Received: 05/08/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	472323	05/11/19 04:50	OMI	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

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

Accreditation/Certification Summary

Client: Field & Technical Services LLC
Job ID: 480-153151-1
Project/Site: Superior, WI Semiannual Groundwater

Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	998310390	08-31-19

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	999580010	08-31-19 *

Laboratory: Eurofins TestAmerica, Pittsburgh

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
Arkansas DEQ	State Program	6	88-0690	06-27-19
California	State Program	9	2891	04-30-20
Connecticut	State Program	1	PH-0688	09-30-20
Florida	NELAP	4	E871008	06-30-19
Illinois	NELAP	5	200005	06-30-19
Kansas	NELAP	7	E-10350	01-31-20
Kentucky (DW)	Kentucky UST	4	162013	04-30-20
Louisiana	NELAP	6	04041	06-30-19
Nevada	State Program	9	PA00164	07-31-19
New Hampshire	NELAP	1	2030	04-04-20
New Jersey	NELAP	2	PA005	06-30-19
New York	NELAP	2	11182	03-31-20
North Carolina (WW/SW)	State Program	4	434	12-31-19
Oregon	NELAP	10	PA-2151	02-06-20
Pennsylvania	NELAP	3	02-00416	04-30-20
South Carolina	State Program	4	89014	04-30-19 *
Texas	NELAP	6	T104704528-15-2	03-31-20
US Fish & Wildlife	Federal		LE94312A-1	07-31-19
USDA	Federal		P330-16-00211	06-26-19
Utah	NELAP	8	PA001462015-4	05-31-19 *
Virginia	NELAP	3	460189	09-14-19
West Virginia DEP	State Program	3	142	01-31-20
Wisconsin	State Program	5	998027800	08-31-19

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

Method Summary

Client: Field & Technical Services LLC
Job ID: 480-153151-1
Project/Site: Superior, WI Semiannual Groundwater

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CHI
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL BUF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL BUF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CHI
5030C	Purge and Trap	SW846	TAL BUF

Protocol References:

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

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

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

Sample Summary

Client: Field & Technical Services LLC
Job ID: 480-153151-1
Project/Site: Superior, WI Semiannual Groundwater

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-153151-1	SUPE W-18D-050119	Water	05/01/19 09:22	05/08/19 09:00	
480-153151-2	SUPE-W-04AR2	Water	05/01/19 08:30	05/08/19 09:00	
480-153151-3	RB-02 050119	Water	05/01/19 08:00	05/08/19 09:00	

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 180-362299.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: veronica.bortot@testamericainc.com	State of Origin: Wisconsin	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Wisconsin		Job #: 480-153151-1
Address: 10 Hazelwood Drive, ,	Due Date Requested: 5/24/2019			
City: Amherst	TAT Requested (days):			
State, Zip: NY, 14228-2298				
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:			
Email:	WO #:			
Project Name: Superior, WI Semiannual Groundwater	Project #: 18015916			
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)	8270D_LL/3510C_LL Pentachlorophenol	8260C/5030C (MOD) Volatiles, project list	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
SUPE W-18D-050119 (480-153151-1)	5/1/19	09:22 Central		Water			X		1	Refer to PT-PM-WI-006 for Wisconsin Protocol
SUPE-W-04ARZ (480-153151-2)	5/1/19	08:30 Central		Water			X	X	4	Refer to PT-PM-WI-006 for Wisconsin Protocol
RB-02 050119 (480-153151-3)	5/1/19	08:00 Central		Water				X	2	Refer to PT-PM-WI-006 for Wisconsin Protocol

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 compliance to TestAmerica Laboratories, Inc.

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
	5/8/19 1720			05/09/19 09:00	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.2 #1 ICE

Ver: 01/16/2019

CHAIN OF CUSTODY RECORD/LABORATORY ANALYSIS REQUEST FORM

REF.# 501070

501070

Project Name:	Superior 2019 1SA Sampling	Company:	Field & Technical Services	Client:	Beazer East, Inc.
Project Number:	OM-0556-19	Address:	200 Third Avenue	Contact:	(724) 858-5953
Laboratory:	TABUF		Carnegie, PA 15106		btrask.2006@f-ts.com
Shipment Method	FEDEX		(412) 279-3363		
Program:	Superior 2019 1SA Sampling_001				

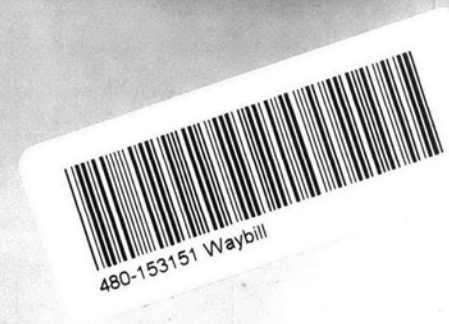
Sample Date	Sample Time	Matrix	Sample Identification	Analysis	8270C_SVOC+naphtha	8260B - VOA + naphtha														Notes:
				Preservative	None	HCl														
				Total Bottle Count																
05/01/2019	0922	GW	SUPE-W-18D-050119	3	3	0														
5/1/2019	0830	GW	SUPE-W-04AR2 050119	6 5 3/1	3	3														
5/1/2019	0800	GW	TB-02 050119	2	0	2														

480-153151 Chain of Custody

Temp 2.7#1 ICE

Relinquished by:	Received by:	Relinquished by:	Received by:	Turnaround Requirements
Signature:	Signature:	Signature:	Signature:	☐ Rush
Printed Name: Ben Trask	Printed Name: Likolb	Printed Name: Corey Toone	Printed Name: Thomas Smy	
Firm: FTS	Firm: TA	Firm: TA	Firm: TA Risk	☒ Standard
Date/Time: 05/01/2019 1026	Date/Time: 05/02/AM 0900	Date/Time: 5/7/19 1620	Date/Time: 5/8/19 900	

Page 1 of 1



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Part # 159469-434 REV EXP 01/20

ORIGIN ID:DKKA (716) 691-2600
CHAR BRONSON
TEST AMERICA
10 HAZELWOOD

AMHERST , NY 14228
UNITED STATES US

SHIP DATE: 07MAY19
ACTWGT: 38.05 LB
CAD: 846654/CAFE3211
DIMS: 19x19x11 IN

BILL RECIPIENT

TO SAMPLE MGT.
TA PITTSBURGH
301 ALPHA DRIVE
RIDC PARK
PITTSBURGH PA 15238
(412) 963 – 7068 REF: PITTSBURGH
DEPT: SAMPLE CONTROL

FedEx Express

WED – 08 MAY 10:30A
PRIORITY OVERNIGHT

TRK# 0201 4276 0719 6795

EV AGCA

15238
PA – US PIT

Uncorrected temp 2.5 °C
Thermometer ID 10

CF 0 Initials TJ

PT-WI-SR-001 effective 11/8/18

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 180-362298.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: veronica.bortot@testamericainc.com	State of Origin: Wisconsin	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Wisconsin		Job #: 480-153151-1
Address: 2417 Bond Street, ,	Due Date Requested: 5/24/2019			
City: University Park	TAT Requested (days):			
State, Zip: IL, 60484				
Phone: 708-534-5200(Tel) 708-534-5211(Fax)	PO #:			
Email:	WO #: 480-153151 COC			
Project Name: Superior, WI Semiannual Groundwater	Project #: 18015916			
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)	8270D/3510C (MOD) Semivolatiles, project list with n	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SUPE W-18D-050119 (480-153151-1)	5/1/19	09:22 Central		Water			X	2	Refer to PT-PM-WI-006 for Wisconsin Protocol
SUPE-W-04ARZ (480-153151-2)	5/1/19	08:30 Central		Water			X	2	Refer to PT-PM-WI-006 for Wisconsin Protocol

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 compliance to TestAmerica Laboratories, Inc.

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
	5/8/19 1200		David Fioravanti	05/09/19 0910	TALKF
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: 2.7

Login Sample Receipt Checklist

Client: Field & Technical Services LLC

Job Number: 480-153151-1

Login Number: 153151
List Number: 1
Creator: Bortot, Veronica

List Source: Eurofins TestAmerica, Buffalo

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

Login Sample Receipt Checklist

Client: Field & Technical Services LLC

Job Number: 480-153151-1

Login Number: 153151
List Number: 3
Creator: Fioravanti, Ariel M

List Source: Eurofins TestAmerica, Chicago
List Creation: 05/09/19 11:04 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	2.7
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	

APPENDIX F

ASCII DATA

(C.D.)