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February 23, 2018

Mr. Christopher Saari
Remediation & Redevelopment Program
Wisconsin Department of Natural Resources
2501 Golf Course Road
Ashland, WI 54806-3505
(715) 685-2209

RE: 2017 RCRA Annual Groundwater Monitoring Report
Former Koppers Inc. Facility
Superior, Wisconsin
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 2017 RCRA Annual Groundwater Monitoring Report for the above-referenced facility.

If you have any questions, please contact me at (412) 429-2694.

Sincerely,

Field & Technical Services LLC

Angela Gatchie

Angie Gatchie
Project Scientist

Attachments: Original Report (hardcopy) and CD (electronic copy)

cc: S. Ashenbrucker, WDNR
L. Paul, Koppers Inc. (electronic copy only)
J. Patarcity, Beazer East (electronic copy only)
D. Bessingpass (.pdf transmittal)
H. Pappert, FTS – site copy

2017 RCRA ANNUAL GROUNDWATER MONITORING REPORT

Former Koppers Inc. Facility
Superior, Wisconsin
EPA ID No.: WID 006 176 493

Prepared for:

Beazer East, Inc.

Prepared by:

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

February 23, 2018

CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation."

Document: **2017 RCRA Annual Groundwater Monitoring Report**
Former Koppers Inc. Facility
Superior, Wisconsin
EPA ID No. WID 006 176 493

Jane Patarcity
(Name)

(Signature)

Sr. Env. Manager
(Title)

Beazer East, Inc.
(Company Name)

2-22-18
(Date)

PROFESSIONAL GEOLOGIST CERTIFICATION

"I, James Zubrow, hereby certify that to the best of my knowledge, all information contained in this document is correct and I have personally examined this report, and I am familiar with the information and all attachments herein. Furthermore, based on my inquiry of those persons immediately responsible for obtaining the information contained in this report, I believe that the information is true, accurate, and complete."

Document: **2017 RCRA Annual Groundwater Monitoring Report**
Former Koppers Inc. Facility
Superior, Wisconsin
EPA ID No. WID 006 176 493

James Zubrow, P.G., Principal Hydrogeologist
Key Environmental, Inc.
Professional Geologist Registration Number 1069

February 9, 2018
Date

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ABBREVIATIONS/ACRONYMS

2002 SAP	Groundwater Monitoring Sampling Analysis Plan dated April 2002 approved by WDNR on October 29, 2002
AMEC	AMEC Earth and Environmental, Inc.
Beazer	Beazer East, Inc.
CAMU	Corrective Action Management Unit
CMI	Corrective Measures Implementation
CMS	Corrective Measures Study
DMZ	Design Management Zone
DNAPL	Dense Non-Aqueous Phase Liquid
ES	Wisconsin Enforcement Standards
ft/day	feet per day
ft-bgs	feet below ground surface
ft-btoc	feet below top of casing
FCMS	Focused Corrective Measures Study
FTS	Field & Technical Services, LLC
HHRA	Human Health Risk Assessment
HHERA	Human Health and Ecological Risk Assessment
HSWA	Hazardous and Solid Waste Amendments
ILR	Interim Letter Report
Koppers	Koppers Inc.
MCL	USEPA Maximum Contaminant Levels
ug/l	micrograms per liter
PAH	Polycyclic Aromatic Hydrocarbon
PAL	Wisconsin Preventative Action Limits
Plan Approval	Conditional Closure and Long-Term Care Plan Approval dated October 1, 1987
Plan Approval Modification	Conditional Closure and Long Term Care Plan Approval Modification dated October 29, 2002
PWP	Project Work Plan
RCRA	Resource Conservation and Recovery Act
RETEC	The RETEC Group, Inc.
SAP	Sampling and Analysis Plan
Site	Former Koppers Inc. Facility, Superior, Wisconsin
SVOC	Semi-Volatile Organic Constituent
TCDD	2,3,7,8-tetrachlorodibenzo-p-dioxin
TEF	Toxicity Equivalency Factor
TEQ	Toxicity Equivalent Quotient
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Constituent
WDNR	Wisconsin Department of Natural Resources
WHO	World Health Organization

1.0 INTRODUCTION

Field and Technical Services, LLC (FTS), on behalf of Beazer East, Inc. (Beazer), prepared this 2017 Resource Conservation and Recovery Act (RCRA) Annual Groundwater Monitoring Report to summarize the compliance groundwater monitoring data collected in 2017 at the former Koppers Inc. (Koppers) facility (Site) located in Superior, Wisconsin.

The purpose of the compliance groundwater monitoring program is to evaluate groundwater quality in the vicinity of two closed surface impoundments, which comprise a single RCRA-regulated unit at the Site. Beazer implements this program in accordance with the following documents and regulations:

- The Conditional Closure and Long-Term Care Plan Approval (Plan Approval) (Wisconsin Department of Natural Resources [WDNR], October 1, 1987);
- The Conditional Closure and Long Term Care Plan Approval Modification (Plan Approval Modification) (WDNR, October 29, 2002);
- Wisconsin Administrative Code NR 664, subchapter F (formerly NR 635); and
- The Site Sampling Analysis Plan (2002 SAP) (The RETEC Group, Inc. [RETEC], April 2002).

Consistent with the requirements established by these documents, this report summarizes the data for two semi-annual sampling events performed in 2017, includes discussions of data trends as well as analytical data trend maps, and presents the annual determination of groundwater flow rate and direction.

1.1 SITE DESCRIPTION

The 112-acre Site is located in northwestern Wisconsin (at the junction of County Roads A and Z), approximately five miles southeast of the town of Superior, in Douglas County. Figure 1 shows the general configuration of the Site. The area immediately surrounding the Site is sparsely populated and consists primarily of brush, woodland, and marshy areas.

1.2 PROJECT BACKGROUND

The facility historically produced pressure-treated railroad cross ties, bridge timbers, switch ties, and crossing panels using creosote (in a No. 6 fuel oil carrier) as the primary preservative. From 1955 through 1979, the facility treated telephone poles using a petroleum oil preservative containing pentachlorophenol. Koppers Inc. (the prior facility owner) discontinued all wood treating operations at the Site in 2006. The former process facilities have been dismantled and removed from the Site. The Site is currently used by TRP Properties, LLC (the current property owner) as a railroad tie grinding facility. In addition, Koppers Inc. leases portions of the property for storage and transfer of untreated railroad ties.

Prior to 1988, the facility was owned and operated by Koppers Company, Inc. In June 1988, BNS Acquisitions, Inc. (a wholly-owned subsidiary of Beazer PLC) acquired 90 percent of the stock of Koppers Company Inc. On December 28, 1988, the Superior facility was sold to Koppers Industries, Inc., and on January 26, 1989 the name Koppers Company Inc. was changed to Beazer Materials and Services, Inc. On April 16, 1990, the name Beazer Materials and Services, Inc. was changed to Beazer East, Inc. The name Koppers Industries, Inc. was changed to Koppers Inc. in February 2003. Koppers Inc. sold the property to TRP Properties, LLC in September 2012. Beazer East, Inc. retains certain environmental responsibilities at the Site, including monitoring and maintenance associated with the closed RCRA surface impoundments.

In 1977, four non-RCRA wastewater impoundments were constructed as part of the facility's wastewater treatment system. The impoundments were closed in 1982 by removing the water and excavating sludges and soils for off-Site disposal.

In 1982, following closure of the non-RCRA wastewater impoundments, two clay-lined impoundments (the RCRA regulated unit) were constructed to store process wastewater following oil-water separation. These units were considered RCRA units because they contained K001 waste (bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol). However, it should be noted that the use of pentachlorophenol as a wood preservative at the Superior facility was discontinued in 1979, three years prior to the construction of the RCRA impoundments. Thus the RCRA impoundments are not expected to have received wastewater containing pentachlorophenol.

The aerial dimensions of the RCRA impoundment system (including berms) are approximately 350 feet by 220 feet. As shown on Figure 1, a portion of the RCRA impoundment system overlies two of the southern non-RCRA impoundments. The non-RCRA impoundments extended north of the RCRA impoundment system by approximately 400 feet.

Closure activities for the RCRA impoundment system were initiated in the early part of 1988. Wastewater and sludges were removed and taken off-site for disposal prior to closure. The RCRA impoundments were closed in 1989. The closure activities were conducted in accordance with a Closure and Post-Closure Care Plan (Keystone, 1987) and associated Conditional Closure and Long-Term Care Plan Approval (WDNR, 1987). The completed closure activities were documented in a Construction Documentation Surface Impoundment Closure Report (Keystone, 1989).

Appendix A contains a project activity milestone summary that describes significant project activities and regulatory deliverables.

1.3 CURRENT GROUNDWATER SAMPLING ACTIVITIES

As stated previously, Beazer is currently implementing this post-closure compliance groundwater monitoring program in accordance with the 2002 SAP (formally approved by the WDNR on October 29, 2002). The 2017 groundwater sampling activities were completed on the following dates:

- First semi-annual event - April 26, 2017 and April 27, 2017; and
- Second semi-annual event - October 3, 2017 through October 5, 2017.

A total of 37 wells comprised the monitoring well network during 2017 (Figure 1; Table 1). Three of these 37 wells (W-18D, W-33D, and W-34D) are D-zone (bedrock) wells that are not officially part of the NR 664 RCRA monitoring network, although one or more of these three wells have generally been gauged and/or sampled in conjunction with the semi-annual monitoring events over the last several years. Monitoring well W-04AR could not be gauged or sampled during the April 2017 event due to significant damage of its inner casing. Damaged monitoring well W-04AR was properly abandoned and replaced with W-04AR2 on July 24, 2017 prior to the second semi-annual event. On September 15, 2017, WDNR well forms for the abandonment of W-04AR and the installation of W-04AR2 were submitted to WDNR in accordance with the Wisconsin Administrative Code Chapter NR 141.23(1), 141.23(3), and 141.25(4) (ARCADIS, 2017).

During the first and second semi-annual 2017 groundwater monitoring events, all existing monitoring wells were gauged to evaluate groundwater flow patterns, and groundwater samples were collected from 10 wells for laboratory analysis (Appendix B contains the field forms from both events); with the exception of monitoring well W-04AR during the April 2017 event as discussed previously. The 10 wells sampled included:

- Upgradient (background) monitoring wells W-04AR2 and W-28C;

- Side-gradient or downgradient monitoring wells W-06A, W-06C, W-10AR2, W-12A, W-12CR, W-30A, and W-30C; and

- Bedrock monitoring well W-18D.

Well W-18D is not a required component of the approved monitoring program, but is sampled periodically at Beazer's discretion. The other nine wells that were sampled represent the required sampling component of the approved RCRA groundwater monitoring program.

1.4 MONITORING WELL STATUS

During both the first and second semi-annual sampling events in 2017, monitoring well inspections were performed. During the April 2017 well inspection, well W-04AR was observed to have significant damage to its inner casing which prevented it from being gauged and sampled. As stated previously, this well was abandoned and replaced with well W-04AR2 prior to the October 2017 event. All of the other monitoring wells were reported to be in good condition with no major repairs required during the April 2017 well inspection. During the October 2017 well inspection, well W-31C had an obstruction at 4.59 feet below the top of casing which prevented it from being gauged; this well will be further evaluated in 2018. All of the other monitoring wells were reported to be in good condition with no major repairs required during the October 2017 well inspection.

1.5 DOCUMENT ORGANIZATION

The remainder of the 2017 RCRA Annual Groundwater Monitoring Report is organized in the following manner:

- Section 2 – Site Geologic and Hydrologic Conditions

- Section 3 – Groundwater Monitoring Results

- Section 4 – Current Site Status

- Section 5 – References

2.0 SITE GEOLOGIC AND HYDROLOGIC CONDITIONS

Information summarized in Sections 2.1 and 2.2 is based on information presented in previous reports for the Site.

2.1 SITE GEOLOGY

In some areas of the Site, primarily in the vicinity of the former treatment area, a thin layer of fill material is present at the ground surface. However, most of the Site is underlain by a sequence of Quaternary sediments deposited by continental glaciers. Three of the four stratigraphic zones of interest at the Site are contained in these deposits.

The uppermost stratigraphic unit is a red-brown clay deposit, which likely represents a till comprised of reworked lake bottom sediments. The upper approximately 15 feet of the red-brown clay contains hairline fractures filled with greenish gray silt and clay. The shallow (A-zone) and intermediate (B-zone) zones consist primarily of this clay with little to no sand or gravel.

The lower regions of the red-brown clay unit, which represent the deep zone (C-zone) at the Site, contain discontinuous deposits of fine- to coarse-grained sand and silt, at depths varying from approximately 35 to 50 feet below ground surface (ft-bgs) in certain areas of the Site.

The clay unit continues beneath the discontinuous sand and silt deposits to the top of the Precambrian Superior Sandstone, the uppermost bedrock (D-zone) at the Site. The Precambrian Superior Sandstone occurs regionally at a depth of approximately 170 ft-bgs.

2.2 GROUNDWATER

Perched groundwater may be temporarily retained in the thin fill layer (where present). However, across most of the Site, the uppermost groundwater occurs in an unconfined state within the thick red-brown clay (an aquitard). The A-zone monitoring wells monitor the water table in this shallow clay with the bottom of the screened interval typically located approximately 13.0 to 15.5 ft-bgs. Depth to groundwater in the A-zone wells ranged from 0.75 to 5.10 feet below the top of the inner well casing (ft-btoc) during the April 2017 event (Table 2A), and from 0.85 to 4.89 ft-btoc during the October 2017 event (Table 2B). Previous geologic studies in the Superior area and aquifer testing at the Site show these clay deposits to have very low intergranular hydraulic conductivities. There are also three B-zone monitoring wells at the Site, which monitor slightly deeper zones within the shallow clay (bottom of the screened interval located approximately 32 to 35 ft-bgs). Depth to groundwater in the B-zone wells ranged from 5.51 to 7.30 ft-btoc during the April 2017 event (Table 2A), and from 5.65 to 7.10 ft-btoc during the October 2017 event (Table 2B).

The C-zone wells monitor groundwater in the discontinuous silt and sand within the clay unit and are generally screened at depths from approximately 39 to 49 ft-bgs. Groundwater occurs in a confined state within the C-zone. Depth to groundwater in the C-zone wells ranged from 9.55 to 14.46 ft-btoc in April 2017 (Table 2A), and from 9.56 to 14.43 ft-btoc in October 2017 (Table 2B).

Three D-zone wells (W-18D, W-33D, and W-34D) were installed in February 2000 to evaluate groundwater flow and quality in the bedrock zone. These wells are screened at depths of approximately 176 to 196 ft-bgs, and they monitor the Precambrian Superior Sandstone, which is the uppermost bedrock at the Site. Depth to groundwater for the D-zone wells ranged from 36.26 to 45.34 ft-btoc during the April 2017 event (Table 2A) and from 37.16 to 46.14 ft-btoc during the October 2017 event (Table 2B).

Dense Non-Aqueous Phase Liquid (DNAPL)

All wells were gauged for the presence of dense non-aqueous phase liquid (DNAPL) on April 26, 2017 and October 3, 2017; with the exception of monitoring wells W-04AR and W-31C. During the April 2017 event, well W-04AR was observed to have significant damage to its inner casing which prevented it from being gauged. As stated previously, this well was abandoned and replace with well W-04AR2 prior to the October 2017 event. On April 26, 2017, measurements in monitoring well W-31C could not be conducted due to an obstruction at a depth of 4.62; however, on April 28, 2017, after the sampling event was completed, the field technicians were able to pass the obstruction and gauge this well. During the October 2017 event, the depth to water, total depth, and apparent DNAPL thickness measurements could not be measured in monitoring well W-31C due to an obstruction observed in this well at a depth of 4.59 feet. A trace amount of DNAPL (residual DNAPL of a non-measurable thickness) was observed in well W-08A during the April 2017 event. DNAPL was not observed in this well during the October 2017 event. DNAPL was not observed in any other monitoring wells at the Site during either monitoring event.

Groundwater Flow Directions

On April 26, 2017 and October 3, 2017, the FTS field crew measured and recorded water levels in the Site monitoring well network. Groundwater elevations calculated from these measurements for the first and second semi-annual events are presented in Tables 2A and 2B, respectively. Groundwater elevation contour maps for the A-zone and the C-zone are presented as Figures 2 through 5. Because there are only three D-zone wells at the Site, groundwater elevation contour maps are not prepared for the D-zone. However, based on the potentiometric surface elevations measured for the three wells, it appears that groundwater flow in the D-zone is to the north.

Historically, groundwater flow patterns in the shallow and intermediate clay indicate localized distortions to the overall northerly flow due to combined effects of variability in recharge; low hydraulic conductivity of the clay; and interactions with surface water (drainage ditches). However, groundwater elevation data consistently support a generally northern flow direction for groundwater at the Site, which is to be expected based upon the location of regional receiving surface water bodies.

A-zone groundwater elevation contours are presented on Figure 2 (April 26, 2017) and Figure 4 (October 3, 2017). It should be noted that the development of meaningful A-zone groundwater elevation contours is complicated by the low hydraulic conductivity of the soil and the presence of drainage ditches. Due to these factors, variable groundwater flow patterns have been observed historically for the A-zone clay unit. Despite the varying patterns associated with contouring shallow groundwater in this setting, the predominant groundwater flow direction in the A-zone is generally toward the north/northwest.

C-zone groundwater elevation contours are presented on Figure 3 (April 26, 2017) and Figure 5 (October 3, 2017). The groundwater flow direction in the C-zone is generally toward the north, although it should be noted that the sand lenses in the C-zone are discontinuous and are separated by the clay of the A-zone.

The groundwater flow directions in the A- and C-zones determined from the April and October 2017 groundwater elevation data are generally consistent with flow directions determined in previous years.

Vertical Hydraulic Gradients

Vertical gradients were calculated at each of the four A/C zone well nests (Table 3). Vertical gradients were calculated using the difference between the 2017 groundwater elevations at the monitored well nest, divided by the difference in elevation between the center points of the well screens. When the groundwater elevation was below the top of the screen elevation, the vertical gradient was calculated using the difference in elevation between the center point of the lower well screen and the center point of the saturated, screened zone in the upper well. By convention, the groundwater elevation of the shallower well is subtracted from the deeper well. If the result is positive, the potentiometric head in the deeper well is higher than the potentiometric head in the shallow well and, therefore, groundwater flows in an upward or positive direction. Conversely, if the result is negative, groundwater has a downward or negative vertical component.

Vertical hydraulic gradient calculations for the April and October 2017 monitoring events are presented in Table 3. Based on the 2017 water level data, the average vertical

gradient between the A- and C-zones was -0.287 ft/ft for the April 2017 monitoring event and -0.295 ft/ft for the October 2017 monitoring event.

The calculated vertical gradients were negative for each well pair evaluated and for each monitoring event, indicating a downward vertical gradient, which is consistent with gradients calculated during previous years. Based on the magnitude of the gradients and low permeability of the A-zone soils, there is minimal hydraulic connection between the A- and C-zones.

Horizontal Hydraulic Gradients

FTS also calculated horizontal hydraulic gradients as presented in Tables 4 (A-Zone) and 5 (C-Zone). These tables list the wells, groundwater elevations, and horizontal distances used to calculate the gradients. Average horizontal hydraulic gradients for the A-zone were 0.004 ft/ft for the April 2017 monitoring event, and 0.003 ft/ft for the October 2017 monitoring event. The average horizontal hydraulic gradient for the C-zone was calculated to be 0.0011 ft/ft and 0.0018 ft/ft for the April 2017 and October 2017 monitoring events, respectively. These gradients are generally consistent with gradients calculated during previous years.

Groundwater Flow Velocity

Both horizontal and vertical linear groundwater flow velocities were calculated using groundwater elevation data obtained for each semi-annual event. Groundwater velocity can be estimated using a variation of Darcy's Law:

$$V = \frac{ki}{n_e}$$

where:

V = velocity
k = hydraulic conductivity
n_e = effective porosity
i = hydraulic gradient

Based on correspondence with the WDNR, Beazer agreed to use two effective porosity values (0.01 and 0.3) when calculating groundwater flow velocities within the uppermost clay (i.e., A-zone). The average hydraulic conductivity for the A-zone is 3.28×10^{-3} feet per day (ft/day) which was determined from the slug test evaluation (Chester Environmental, 1995). The 0.3 value is used to evaluate flow through the pore space in the clay (primary porosity). The 0.01 value is used to evaluate the flow through the microfractures in the clay (secondary porosity). The average hydraulic conductivity in the C-zone is 22.6 ft/day which was determined from the slug test evaluation (Chester

Environmental, 1995). An effective porosity of 0.2 is used for the discontinuous silt and sand unit (i.e., C-zone) (deMarsily, 1986; Freeze and Cherry, 1979).

Horizontal Groundwater Flow Velocity

Tables 4 and 5 present the procedures and results of the groundwater flow velocity calculations for the A- and C-zones, respectively. The estimated horizontal groundwater velocities for each of the zones, associated with the respective semi-annual sampling events, are summarized below.

A-zone:

1.3×10^{-3} ft/day (April) and 1.1×10^{-3} ft/day (October) ($n_e = 0.01$)
4.3×10^{-5} ft/day (April) and 3.7×10^{-5} ft/day (October) ($n_e = 0.3$)

C-zone:

1.2×10^{-1} ft/day (April) and 2.0×10^{-1} ft/day (October) ($n_e = 0.2$)

These average horizontal groundwater flow velocities represent an overestimate of the potential rate of dissolved constituent migration in groundwater. Actual constituent flow velocity is lower than calculated groundwater flow velocities because of attenuating effects including adsorption, within the water-bearing zone.

The horizontal groundwater flow velocities calculated using 2017 data are consistent with flow velocities calculated during previous years.

Vertical Groundwater Flow Velocity

Table 6 presents the procedures and results of the vertical groundwater flow velocity calculations. The estimated vertical groundwater velocities for the Site are:

A- to C-zone:

-2.0×10^{-3} ft/day (April) and -2.1×10^{-3} ft/day (October) ($n_e = 0.01$)
-6.8×10^{-5} ft/day (April) and -7.0×10^{-5} ft/day (October) ($n_e = 0.3$)

A hydraulic conductivity value of 7.1×10^{-5} ft/day, based on laboratory permeability tests, was used to calculate the vertical groundwater velocities. The groundwater flow direction is downward (i.e., negative velocity value). These average linear groundwater flow velocities represent an overestimate of the potential rate of dissolved constituent migration in groundwater. Actual constituent flow velocity is lower than calculated groundwater flow velocities because of attenuating effects including adsorption, within the water-bearing zone. As indicated above, based on the magnitude of the gradients and

low permeability of the A-zone soils, there is minimal hydraulic connection between the A and C zones.

The vertical groundwater flow velocities calculated using 2017 data are consistent with flow velocities calculated during previous years.

3.0 GROUNDWATER MONITORING RESULTS

This section summarizes the groundwater sample analytical results for the 2017 semi-annual sampling events. Table 7 lists the general constituent groups and corresponding United States Environmental Protection Agency (USEPA) analytical methods utilized for the groundwater monitoring program as well as the individual compounds per constituent group. Table 8 summarizes data that exceeded the WDNR Preventative Action Limits (PALs), WDNR Enforcement Standards (ESs), or USEPA Maximum Contaminant Levels (MCLs) for the April 2017 and October 2017 groundwater sampling events. A map depicting the data for key historical constituents of interest from the first and second semi-annual 2017 sampling events is provided as Figure 6.

Upon receipt, FTS evaluated each laboratory data report. FTS's data evaluation team determined that the 2017 data were valid and useable for their intended purpose. Data evaluation summaries and copies of laboratory reports are provided in Appendix C.

Tables summarizing the parameters detected during each sampling event are included in Appendix D.

3.1 SEMI-VOLATILE ORGANIC COMPOUNDS

As shown on Table 7, samples collected during each 2017 semi-annual sampling event were analyzed for an extended list of semi-volatile organic compounds (SVOCs) by TestAmerica Laboratories, Inc., Pittsburgh, PA and Chicago, Illinois using USEPA Method 8270D LL.

As shown in Table 8, during the first semi-annual 2017 sampling event, the sample from monitoring well W-30A contained benzo(a)pyrene (0.18 micrograms per liter [ug/l]) above its WDNR PAL of 0.02 ug/l), benzo(b)fluoranthene (0.29 ug/l above its WDNR PAL of 0.02 ug/l and its WDNR ES of 0.2 ug/l), and chrysene (0.5 ug/l above its WDNR PAL of 0.02 ug/l and its WDNR ES of 0.2 ug/l). None of the monitoring wells sampled during the first semi-annual 2017 event had SVOC concentrations exceeding MCLs (Table 8).

During the second semi-annual 2017 event, the sample from monitoring well W-30A contained benzo(a)pyrene (0.29 ug/l above its WDNR PAL of 0.02 ug/l, its WDNR ES of 0.2 ug/l, and its MCL of 0.2 ug/l), benzo(b)fluoranthene (0.36 ug/l above its WDNR PAL of 0.02 ug/l and its WDNR ES of 0.2 ug/l), and chrysene (0.62 ug/l above its WDNR PAL of 0.02 ug/l and its WDNR ES of 0.2 ug/l). Additionally, the duplicate sample collected from background monitoring well W-04AR2 contained a chrysene concentration of 0.16 J ug/l above its WDNR PAL of 0.02 ug/l; however, chrysene was not detected in the primary sample collected from well W-04AR2. None of the

monitoring wells sampled during the second semi-annual 2017 event had SVOC concentrations exceeding MCLs, with the exception of W-30A (Table 8).

3.2 DIOXINS AND FURANS

Groundwater samples were analyzed for dioxins and furans by USEPA Method 8290A during the first semi-annual sampling event (April 2017). Dioxins and/or furans were detected in samples collected from three monitoring wells (W-10AR2, W-12A, and W-30A). The only applicable regulatory standard related to dioxins and furans is for the congener 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD). The 2,3,7,8-TCDD congener was not detected in any of the eight wells sampled during the first semi-annual 2017 sampling event.

As shown in Table 9, the estimated toxicity (relative to 2,3,7,8-TCDD) of the dioxins and furans that were detected was determined by calculating the Toxicity Equivalent Quotient (TEQ) of the detected dioxins and/or furans in each of the subject samples. To calculate the TEQ of a mixture of dioxins and furans in a given sample, an associated Toxicity Equivalency Factor (TEF) is used to adjust the detected concentration of specific dioxin and furan congeners. The TEF values used for this calculation are 2005 World Health Organization (WHO) derived values. Once calculated for each detected constituent, the individual TEQs are summed, resulting in a total TEQ for a given sample. Under Wisconsin Administrative Code NR 140, 2,3,7,8-TCDD has an ES of 0.00003 ug/l and a PAL of 0.000003 ug/l. As shown in Tables 8 and 9, the sample collected from well W-30A was the only sample with a 2,3,7,8-TCDD TEQ value greater than the WDNR PAL for 2,3,7,8-TCDD. None of the samples had 2,3,7,8-TCDD TEQ values greater than the WDNR ES for 2,3,7,8-TCDD.

3.3 VOLATILE ORGANIC COMPOUNDS

Volatile organic compounds (VOCs) were analyzed by TestAmerica Laboratories, Inc., Pittsburgh, PA using USEPA Method 8260C during each 2017 semi-annual sampling event. As shown on Table 8, benzene was detected in monitoring well W-10AR2 (8.6 ug/l and 16 ug/l) above the MCL of 5 ug/l, WDNR ES of 5 ug/l, and WDNR PAL of 0.5 ug/l during the first and second semi-annual 2017 events, respectively. Benzene was also detected in monitoring well W-30A (5.6 ug/l and 11 ug/l) above the MCL, WDNR ES, and WDNR PAL during the first and second semi-annual 2017 events, respectively.

As shown on Table 8, naphthalene was detected in monitoring well W-30A (14 ug/l and 26 ug/l) above the WDNR PAL of 10 ug/l during the first and second semi-annual 2017 event.

3.4 DATA TRENDS

This section of the report presents a discussion of data trends for representative constituents exceeding applicable regulatory standards during the last four sampling events: April and October 2016, and April and October 2017.

3.4.1 A-Zone Wells

Figure 7 presents graphs of recent and historical groundwater monitoring results at two A-zone monitoring wells: W-10AR2 and W-30A. These wells were selected for discussion because samples collected at these wells typically exhibit the highest concentrations and frequency of detection of Site-related constituents among the monitored wells. The constituents selected for trend analysis are benzene, chrysene, naphthalene, and pentachlorophenol. These constituents are considered representative of Site-related constituents that have been detected above WDNR PALs or ESs during the last four monitoring events, and are consistent with the constituents selected for trend evaluation in previous annual groundwater monitoring reports.

As shown on Figure 7, samples collected at monitoring well W-10AR2 exhibited concentrations of benzene exceeding its WDNR PAL and WDNR ES in all of the past four sampling rounds, naphthalene was detected below its WDNR PAL and WDNR ES in all of the past four sampling rounds, and pentachlorophenol and chrysene were not detected in any of the last four sampling rounds. At monitoring well W-30A, naphthalene exceeded its WDNR PAL in all of the past four sampling rounds, benzene exceeded its WDNR PAL in all of the past four sampling rounds (three of those the four samples also exceeded the WDNR ES for benzene), chrysene exceeded its WDNR PAL in three of the past four sampling rounds (two of those the three samples also exceeded the WDNR ES for chrysene), and pentachlorophenol was not detected in any of the last four sampling rounds.

Using these recent data, along with historical data collected from wells W-10AR2 and W-30A for benzene, chrysene, pentachlorophenol, and naphthalene, a linear regression analysis was completed using a 95% confidence level to evaluate whether a data trend exists at wells W-10AR2 and W-30A. The statistical analyses indicate that the benzene, chrysene, pentachlorophenol, and naphthalene concentrations in wells W-10AR2 and W-30A are stable or decreasing. Details related to the linear regression analysis are provided in Appendix E.

These findings are consistent with the natural attenuation evaluations reported to the WDNR on January 24, 2006, September 18, 2007, and June 12, 2014. Those evaluations documented several lines of evidence indicating the occurrence of natural attenuation of Site-related constituents in groundwater at the Site.

3.4.2 C-Zone Wells

No detections of Site-related constituents above regulatory standards were observed during the last four sampling events in the C-Zone monitoring wells.

3.4.3 D-Zone Wells

Monitoring well W-18D was sampled during the last four semi-annual sampling events. No detections of SVOCs above regulatory standards were observed during the last four sampling events in monitoring well W-18D.

4.0 CURRENT SITE STATUS

As indicated by the data presented in Section 3, the extent of impacted groundwater at this Site is not expanding and appears stable. Additional information regarding project milestones and the current Site status is provided in Appendix A. Semi-annual groundwater monitoring will continue in 2018.

5.0 REFERENCES

ARCADIS, 2014, *Groundwater Natural Attenuation Demonstration Summary Report*, letter to WDNR dated June 12, 2014.

ARCADIS, 2017, *WDNR Well Forms for W-04AR/W-04AR2*, letter to WDNR dated September 15, 2017.

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De Marsily, G., 1986, *Quantitative Hydrogeology - Groundwater Hydrology for Engineers, Academic Press, Inc*, Harcourt Brace, Javanovich, Publishers, Orlando, Florida.

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Keystone Environmental Resources, 1989, *Construction Documentation Surface Impoundment Closure Report*, dated November 1989.

The RETEC Group, Inc. (RETEC), April 2002, *Groundwater Monitoring Sampling Analysis Plan*, KII Superior Facility, Superior, Wisconsin

Wisconsin Department of Natural Resources (WDNR), 1987, *Conditional Closure and Long-Term Care Plan Approval*, dated October 1, 1987.

WDNR, 2002, *Conditional Closure and Long Term Care Plan Approval Modification*, dated October 29, 2002.

TABLES

Table 1
Current Monitoring Well Network
2017 RCRA Annual Groundwater Monitoring Report
Former Koppers Inc. Facility - Superior, Wisconsin

W-02C	**W-10AR2**	W-18D	W-26A	W-31C	W-39A
W-04AR2*	W-11A	W-19A	W-26B	W-32C	W-40A
W-05CR	**W-12A**	W-19C	W-34D	W-33D	
W-06A	**W-12CR**	W-20AR	**W-28C**	W-35A	
W-06C	W-14A	W-21A	W-29A	W-36A	
W-08A	W-14B	W-21B	**W-30A**	W-37A	
W-09C	W-16AR	W-25A	**W-30C**	W-38A	

Notes:

All Wells are gauged for groundwater elevations and NAPL presence/absence.

Wells in **bold** type are sampled for laboratory analysis as part of the NR664 groundwater monitoring program.

* Monitoring well W-04AR was abandoned and replaced with well W-04AR2 on July 24, 2017.

In addition to the wells listed in this table as part of the NR664 groundwater monitoring program, bedrock well W-18D was sampled during 2017 at Beazer's discretion.

Table 2A
First Semi-Annual 2017 Groundwater Elevations
2017 RCRA Annual Groundwater Monitoring Report
Former Koppers Inc. Facility - Superior, Wisconsin

Well	Top of Casing Elevation (feet msl)	Top of Screen Elevation (feet msl)	Bottom of Screen Elevation (feet msl)	April 26, 2017		
				Depth to Water (feet)	Groundwater Elevation (feet msl)	Apparent DNAPL Thickness (feet msl)
W-02C	672.37	632.65	627.65	9.55	662.82	NP
W-04AR	676.24	672.54	662.54	NM	NM	NM
W-05CR	674.69	643.53	633.53	11.58	663.11	NP
W-06A	673.65	670.04	660.04	2.66	670.99	NP
W-06C	674.33	633.93	628.93	11.39	662.94	NP
W-08A	676.35	670.62	660.62	3.00	673.35	Trace
W-09C	673.16	630.41	625.41	10.32	662.84	NP
W-10AR2	677.09	672.77	659.77	3.03	674.06	NP
W-11A	676.40	669.81	659.81	4.48	671.92	NP
W-12A	677.11	673.33	663.33	2.83	674.28	NP
W-12CR	677.39	635.34	630.34	14.46	662.93	NP
W-14A	678.61	673.05	663.05	4.02	674.59	NP
W-14B	677.60	644.97	639.97	5.51	672.09	NP
W-16AR	675.37	668.20	658.20	4.30	671.07	NP
W-18D	674.79	491.23	471.23	45.34	629.45	NP
W-19A	675.39	669.63	659.63	3.32	672.07	NP
W-19C	674.96	635.79	630.79	12.15	662.81	NP
W-20AR	674.72	669.33	659.33	4.93	669.79	NP
W-21A	674.20	667.88	657.88	3.31	670.89	NP
W-21B	674.61	641.71	636.71	7.30	667.31	NP
W-25A	678.77	672.68	662.68	5.10	673.67	NP
W-26A	673.67	668.05	658.05	2.32	671.35	NP
W-26B	674.02	644.42	639.42	6.92	667.10	NP
W-28C	676.33	635.74	630.74	14.02	662.31	NP
W-29A	673.21	668.38	658.38	0.75	672.46	NP
W-30A	676.74	672.79	662.79	2.94	673.80	NP
W-30C	676.91	633.50	628.50	13.96	662.95	NP
W-31C*	671.76	626.64	621.64	10.98	660.78	NP
W-32C	672.88	618.93	613.93	12.70	660.18	NP
W-33D	673.43	495.58	475.58	44.81	628.62	NP
W-34D	674.28	496.07	476.07	36.26	638.02	NP
W-35A	675.05	669.28	659.28	2.95	672.10	NP
W-36A	678.44	673.00	663.00	4.15	674.29	NP
W-37A	676.47	671.05	661.05	2.38	674.09	NP
W-38A	676.78	671.35	661.35	2.69	674.09	NP
W-39A	678.40	672.64	662.64	4.91	673.49	NP
W-40A	676.79	671.18	661.18	3.43	673.36	NP

Notes:
feet-msl - Feet above mean sea level
DNAPL - Dense Non-Aqueous Phase Liquid
NP - DNAPL Not Present
NM - not measured
* - W-31C was gauged on April 28, 2017 after the sampling event.
(1) Top of casing elevations obtained from July 6, 2011 survey data.

Table 2B
Second Semi-Annual 2017 Groundwater Elevations
2017 RCRA Annual Groundwater Monitoring Report
Former Koppers Inc. Facility - Superior, Wisconsin

Well	Top of Casing Elevation (feet msl)	Top of Screen Elevation (feet msl)	Bottom of Screen Elevation (feet msl)	October 3, 2017		
				Depth to Water (feet)	Groundwater Elevation (feet msl)	Apparent DNAPL Thickness (feet msl)
W-02C	672.37	632.65	627.65	9.56	662.81	NP
W-04AR2	676.15	672.53	662.53	3.61	672.54	NP
W-05CR	674.69	643.53	633.53	11.28	663.41	NP
W-06A	673.65	670.04	660.04	2.52	671.13	NP
W-06C	674.33	633.93	628.93	11.33	663.00	NP
W-08A	676.35	670.62	660.62	2.98	673.37	NP
W-09C	673.16	630.41	625.41	10.26	662.90	NP
W-10AR2	677.09	672.77	659.77	3.59	673.50	NP
W-11A	676.40	669.81	659.81	4.54	671.86	NP
W-12A	677.11	673.33	663.33	2.48	674.63	NP
W-12CR	677.39	635.34	630.34	14.43	662.96	NP
W-14A	678.61	673.05	663.05	3.22	675.39	NP
W-14B	677.60	644.97	639.97	5.65	671.95	NP
W-16AR	675.37	668.20	658.20	3.81	671.56	NP
W-18D	674.79	491.23	471.23	46.14	628.65	NP
W-19A	675.39	669.63	659.63	3.21	672.18	NP
W-19C	674.96	635.79	630.79	12.16	662.80	NP
W-20AR	674.72	669.33	659.33	3.40	671.32	NP
W-21A	674.20	667.88	657.88	3.18	671.02	NP
W-21B	674.61	641.71	636.71	7.10	667.51	NP
W-25A	678.77	672.68	662.68	4.89	673.88	NP
W-26A	673.67	668.05	658.05	2.25	671.42	NP
W-26B	674.02	644.42	639.42	6.85	667.17	NP
W-28C	676.33	635.74	630.74	13.07	663.26	NP
W-29A	673.21	668.38	658.38	0.85	672.36	NP
W-30A	676.74	672.79	662.79	2.33	674.41	NP
W-30C	676.91	633.50	628.50	13.95	662.96	NP
W-31C	671.76	626.64	621.64	NM(1)	NM(1)	NM(1)
W-32C	672.88	618.93	613.93	12.79	660.09	NP
W-33D	673.43	495.58	475.58	44.80	628.63	NP
W-34D	674.28	496.07	476.07	37.16	637.12	NP
W-35A	675.05	669.28	659.28	2.91	672.14	NP
W-36A	678.44	673.00	663.00	3.79	674.65	NP
W-37A	676.47	671.05	661.05	2.20	674.27	NP
W-38A	676.78	671.35	661.35	2.66	674.12	NP
W-39A	678.40	672.64	662.64	4.80	673.60	NP
W-40A	676.79	671.18	661.18	3.17	673.62	NP

Notes:
feet-msl - Feet above mean sea level
DNAPL - Dense Non-Aqueous Phase Liquid
NP - DNAPL Not Present
NM - not measured
NM(1) - not measured; obstruction located at 4.59' feet below top of casing.

Table 3
Summary of 2017 Vertical Gradients
2017 RCRA Annual Groundwater Monitoring Report
Former Koppers Inc. Facility - Superior, Wisconsin

April 2017

Well Nest		Screen Elevations				Screen Midpoint		Difference Between Screen Midpoints (feet)	Groundwater Elevation		Difference in Groundwater Elevations (feet)	Is h1<t1	Vertical Gradient	
		Well 1		Well 2		Well 1 ---- (feet msl)	Well 2 ---- (feet msl)		Well 1 ---- (feet msl)	Well 2 ---- (feet msl)			(If yes)	(If no)
Well 1	Well 2	Top (feet msl) t1	Bottom (feet msl) b1	Top (feet msl) t2	Bottom (feet msl) b2	(t1+b1)/2	(t1+b1)/2	(t1+b1)/2-(t2+b2)/2	h1	h2	h2-h1		h2-h1 / (h1+b1)/2-(t2+b2)/2	h2-h1 / (t1+b1)/2-(t2+b2)/2
W-06A	W-06C	670.04	660.04	633.98	628.98	665.04	631.48	33.56	670.99	662.94	-8.05	no		-0.240
W-12A	W-12CR	673.33	663.33	635.34	630.34	668.33	632.84	35.49	674.28	662.93	-11.35	no		-0.320
W-19A	W-19C	669.74	659.74	635.79	630.79	664.74	633.29	31.45	672.07	662.81	-9.26	no		-0.294
W-30A	W-30C	672.90	662.90	633.50	628.50	667.90	631.00	36.90	673.80	662.95	-10.85	no		-0.294
									AVERAGE VERTICAL GRADIENT(1) - Between Zones A and C				-0.287	

October 2017

Well Nest		Screen Elevations				Screen Midpoint		Difference Between Screen Midpoints (feet)	Groundwater Elevation		Difference in Groundwater Elevations (feet)	Is h1<t1	Vertical Gradient	
		Well 1		Well 2		Well 1 ---- (feet msl)	Well 2 ---- (feet msl)		Well 1 ---- (feet msl)	Well 2 ---- (feet msl)			(If yes)	(If no)
Well 1	Well 2	Top (feet msl) t1	Bottom (feet msl) b1	Top (feet msl) t2	Bottom (feet msl) b2	(t1+b1)/2	(t1+b1)/2	(t1+b1)/2-(t2+b2)/2	h1	h2	h2-h1		h2-h1 / (h1+b1)/2-(t2+b2)/2	h2-h1 / (t1+b1)/2-(t2+b2)/2
W-06A	W-06C	670.04	660.04	633.98	628.98	665.04	631.48	33.56	671.13	663.00	-8.13	no		-0.242
W-12A	W-12CR	673.33	663.33	635.34	630.34	668.33	632.84	35.49	674.63	662.96	-11.67	no		-0.329
W-19A	W-19C	669.74	659.74	635.79	630.79	664.74	633.29	31.45	672.18	662.80	-9.38	no		-0.298
W-30A	W-30C	672.90	662.90	633.50	628.50	667.90	631.00	36.90	674.41	662.96	-11.45	no		-0.310
									AVERAGE VERTICAL GRADIENT(1) - Between Zones A and C				-0.295	

Notes:

(1) The Average Vertical Gradient was calculated using nested well sets. The Vertical Gradient was calculated by dividing the Difference in Groundwater Elevations by Difference Between Screen Midpoint Elevations. All of the Vertical Gradients were then averaged to yield the Average Vertical Gradient between the two monitored zones. Negative values indicate a downward vertical gradient.

Table 4
2017 Horizontal Groundwater Flow Velocities for the A-Zone
2017 RCRA Annual Groundwater Monitoring Report
Former Koppers Inc. Facility - Superior, Wisconsin

Parameters	First Semi-Annual 4/26/2017	Second Semi-Annual 10/3/17
Hydraulic Gradient (i1) Vicinity of W-38A to W-29A		
Upgradient Elevation (ft, msl), (h1)	674.09	674.12
Downgradient Elevation (ft, msl), (h2)	672.46	672.36
Horizontal Distance Between Up and Downgradient Elevation (ft), (l)	1225.18	1225.18
Horizontal Hydraulic Gradient (i1=(h1-h2)/l)	0.0013	0.0014
Hydraulic Gradient (i2) Vicinity of W-11 to W-20AR		
Upgradient Elevation (ft, msl), (h1)	671.92	671.86
Downgradient Elevation (ft, msl), (h2)	669.79	671.32
Horizontal Distance Between Up and Downgradient Elevation (ft), (l)	1109.67	1109.67
Horizontal Hydraulic Gradient (i2 = (h1-h2)/l)	0.0019	0.0005
Hydraulic Gradient (i3) Vicinity of W-08A to W-21A		
Upgradient Well - Elevation (ft, msl), (h1)	673.35	673.37
Downgradient Well - Elevation (ft, msl), (h2)	670.89	671.02
Horizontal Distance Between Up and Downgradient Well (ft), (l)	288.00	288.00
Horizontal Hydraulic Gradient (i3 = (h1-h2)/l)	0.0085	0.0082
Average Hydraulic Gradient i = (i1 + i2 + i3)/3	0.004	0.003
Average Hydraulic Conductivity (K) (foot per day)	0.00328	0.00328
Effective Porosity (n)	0.01	0.01
Effective Porosity (n)	0.30	0.30
Average Groundwater Velocity		
(V = Ki/n) (feet per day), Where n = 0.01	**1.3E-03**	**1.1E-03**
(V = Ki/n) (feet per day), Where n = 0.30	**4.3E-05**	**3.7E-05**

Notes:
Average hydraulic conductivity determined from slug tests (Chester Environmental, 1995).
Effective porosity was derived from literature values (de Marsily, 1986; Freeze and Cherry, 1979).
ft = feet
msl = mean sea level

Table 5
2017 Horizontal Groundwater Flow Velocities for the C-Zone
2017 RCRA Annual Groundwater Monitoring Report
Former Koppers Inc. Facility - Superior, Wisconsin

Parameters	First Semi-Annual 4/26/2017	Second Semi-Annual 10/3/2017
Hydraulic Gradient (i1) Vicinity of W-28C to W-32C		
Upgradient Elevation (ft, msl), (h1)	662.31	663.26
Downgradient Elevation (ft, msl), (h2)	660.18	660.09
Horizontal Distance Between Up and Downgradient Elevations (ft), (l)	1377.00	1377.00
Horizontal Hydraulic Gradient (i1=(h1-h2)/l)	0.0015	0.0023
Hydraulic Gradient (i2) Vicinity of W-05CR to W-02C		
Upgradient Elevation (ft, msl), (h1)	663.11	663.41
Downgradient Elevation (ft, msl), (h2)	662.82	662.81
Horizontal Distance Between Up and Downgradient Elevations (ft), (l)	487.95	487.95
Horizontal Hydraulic Gradient (i2 = (h1-h2)/l)	0.0006	0.0012
Average Hydraulic Gradient i = (i1 + i2)/2	0.0011	0.0018
Average Hydraulic Conductivity (K) (foot per day)	22.6	22.6
Effective Porosity (n)	0.20	0.20
Average Groundwater Velocity		
(V = Ki/n) (feet per day), Where n = 0.20	**1.2E-01**	**2.0E-01**

Notes:
Average hydraulic conductivity determined from slug tests (Chester Environmental, 1995).
Effective porosity was derived from literature values (de Marsily, 1986; Freeze and Cherry, 1979).
ft = feet
msl = mean sea level

Table 6
Summary of 2017 Vertical Groundwater Flow Velocities
for the A to C Zones
2017 RCRA Annual Groundwater Monitoring Report
Former Koppers Inc. Facility - Superior, Wisconsin

Parameters	First Semi-Annual 4/26/2017	Second Semi-Annual 10/03/2017
Average Vertical Hydraulic Gradient (i from Table 3)	-0.287	-0.295
Vertical Hydraulic Conductivity (K) (feet/day)[(1)]	7.1E-05	7.1E-05
Effective Porosity (n)	0.01	0.01
Effective Porosity (n)	0.30	0.30
Average Groundwater Flow Velocity[(2)]		
V=Ki/n (ft/day) Where n=0.01	-2.0E-03	-2.1E-03
V=K/in (ft/day) Where n=0.3	-6.8E-05	-7.0E-05

Notes:

(1) The Average Vertical Hydraulic Conductivity value of 7.1 E-05 feet/day was derived from laboratory permeability tests.

(2) The Average Groundwater Velocity was calculated using Darcy's Law given above. The Average Vertical Gradient hydraulic conductivity and effective porosity were used in this calculation. By convention, a positive Vertical Gradient represents an upward flow while a negative Vertical Gradient represents a downward flow.

Table 7
Constituent Groups and EPA Analytical Methods
2017 RCRA Annual Groundwater Monitoring Report
Former Koppers Inc. Facility - Superior, Wisconsin

Field Indicators	
pH - EPA Method 9040	Apparent Color (Visual)
Temperature - EPA Method 170.1	
Specific Conductance - EPA Method 9050	
Semi-Annual Analyses	
VOCs - EPA Method 8021B/8260C	
Benzene (1)	1,3,5 Trimethylbenzene
Ethylbenzene	1,1,1- Trichloroethane
Methyl-tert-butylether	n-Butylbenzene
Toluene	Chloromethane
o-Xylene	n-Propylbnezene
p-Xylene	Naphthalene
m-Xylene	Styrene
1,2,4- Trimethylbenzene	
Semi-Volatile Organic Constituents - EPA Method 8270C Ion Trap/8270D LL	
1,2,4-Trichlorobenzene	4-Nitroaniline
1,2-Dichlorobenzene	4-Nitrophenol
1,3-Dichlorobenzene	Acenaphthene
1,4-Dichlorobenzene	Acenaphthylene
2,4,5-Trichlorophenol	Anthracene
2,4,6-Trichlorophenol	Benzo(a)anthracene
2,4-Dichlorophenol	Benzo(a)pyrene
2,4-Dimethylphenol	Benzo(b)fluoranthene
2,4-Dinitrotoluene (1)	Benzoic Acid
2,4-Dinitrophenol	Benzyl Alcohol
2,6-Dinitrotoluene (1)	Benzo(g,h,i)perylene
2-Chloronaphthalene	Bis(2-chloroethyl)ether
2-Chlorophenol	Bis(2-chloroethoxy)methane
2-Methylnaphthalene	Bis(2-chloroisopropyl)ether
2-Methylphenol	Bis(2-ethylhexyl)phthalate (1)
2-Nirtoaniline	Benzo(k)flouranthene
2-Nitrophenol	Butyl benzyl phthalate
3,3-Dichlorobenzidine	Chrysene
3-Nitroaniline	Dibenzo(a,h)anthracene
4,6-Dinitro-2-methylphenol	Dibenzofuran
4-Bromophenyl phenyl ether	Diethyl phthalate
4-Chloro-3-methylphenol	Dimethyl phthalate
4-Chloroaniline	Di-n-octyl phthalate
4-Chlorophenyl phenyl ether	Di-n-butyl phthalate
4-Methylphenol	Fluorene
Fluoranthene	Nitrobenzene
Hexachlorobutadiene	N-Nitrosodiphenylamine
Hexachlorocyclopentadiene	N-Nitrosodi-n-propylamine
Hexachlorobenzene	Pentachlorophenol
Hexachloroethane	Phenanthrene
Indeno(1,2,3-cd)pyrene	Phenol
Isophorone	1-Methylnapthalene
Pyrene	2,3,5,6 - Tetrachlorophenol
2,3,4,6 - Tetrachlorophenol	
Annual Analyses (First Semi-Annual Event Only)	
Dioxins and Dibenzofurans - EPA Method 8290	
Furans	**Dioxins**
TCDFs (total)	TCDDs (total)
2,3,7,8-TCDF	2,3,7,8-TCDD
PeCDFs (total)	PeCDDs (total)
1,2,3,7,8-PeCDF	1,2,3,7,8-PECDD
2,3,4,7,8-PeCDF	HxCDDs (total)
HxCDFs (total)	1,2,3,4,7,8-HxCDD
1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD
1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD
2,3,4,6,7,8,HxCDF	HpCDDs (total)
1,2,3,7,8,9-HxCDF	1,2,3,4,6,7,8-HpCDD
HpCDFs (total)	OCDDs (total)
1,2,3,4,6,7,8-HpCDF	
1,2,3,4,7,8,9-HpCDF	
OCDFs (total)	

Notes: (1) Report to lowest level of quantitation possible.

Table 8
Summary of Regulatory Exceedances
First and Second Semi-Annual 2017 Sampling Events
2017 RCRA Annual Groundwater Monitoring Report
Former Koppers Inc. Facility - Superior, Wisconsin

Well	Parameter	Sample Result (ug/L)	Regulatory Standard (ug/L)
First Semi-Annual Sampling Event			
MCL Exceedance			
W-10AR2	Benzene	8.6	5
W-30A	Benzene	5.6	5
ES Exceedance			
W-10AR2	Benzene	8.6	5
W-30A	Benzene	5.6	5
	Benzo(b)fluoranthene	0.29	0.2
	Chrysene	0.5	0.2
PAL Exceedance			
W-10AR2	Benzene	8.6	0.5
W-30A	Benzene	5.6	0.5
	Benzo(a)pyrene	0.18	0.02
	Benzo(b)fluoranthene	0.29	0.02
	Chrysene	0.5	0.02
	Naphthalene	14	10
	2,3,7,8-TCDD TEQ	1.95E-05	3.00E-06
Second Semi-Annual Sampling Event			
MCL Exceedance			
W-10AR2	Benzene	16	5
W-30A	Benzene	11	5
	Benzo(a)pyrene	0.29	0.2
ES Exceedance			
W-10AR2	Benzene	16	5
W-30A	Benzene	11	5
	Benzo(a)pyrene	0.29	0.2
	Benzo(b)fluoranthene	0.36	0.2
	Chrysene	0.62	0.2
PAL Exceedance			
W-04AR2 DUP	Chrysene	0.16 J	0.02
W-10AR2	Benzene	16	0.5
W-30A	Benzene	11	0.5
	Benzo(a)pyrene	0.29	0.02
	Benzo(b)fluoranthene	0.36	0.02
	Chrysene	0.62	0.02
	Naphthalene	26	10

Notes:
µg/L - micrograms per liter
J - estimated result
ES - WDNR Enforcement Standards
PAL - WDNR Preventative Action Limits
MCL - Federal Maximum Contaminant Levels
TEQ - Toxicity Equivalent Quotient
- 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 9
Toxicity Equivalent Quotient of Detected Dioxin and Furans
2017 RCRA Annual Groundwater Monitoring Report
Former Koppers Inc. Facility - Superior, Wisconsin

ANALYTE NAME	UNITS	TEFs	W-06A 4/27/2017	W-06C 4/27/2017	W-10AR2 4/27/2017	W-12A 4/27/2017	W-12CR 4/27/2017	W-28C 4/27/2017	W-28C-DUP 4/27/2017	W-30A 4/27/2017	W-30C 4/26/2017	Equipment Blank 4/26/2017	Equipment Blank 4/27/2017
8290													
1,2,3,4,6,7,8-HPCDD	UG/L	0.01	0.00001 U	0.000011 U	**0.000037 J**	**0.000075**	0.000003 U	0.0000072 U	0.0000054 U	**0.00059**	0.0000052 U	**0.0000036 J**	**0.0000071 J**
1,2,3,4,6,7,8-HPCDF	UG/L	0.01	0.0000037 U	0.000004 U	0.000014 U	0.000026 U	0.0000025 U	0.00001 U	0.0000048 U	**0.00022**	0.0000028 U	**0.0000025 J**	**0.0000036 J**
1,2,3,4,7,8,9-HPCDF	UG/L	0.01	0.0000016 U	0.00000094 U	0.0000028 U	0.000038 U	0.0000026 U	0.0000045 U	0.0000035 U	0.000022 U	0.0000035 U	**0.0000029 J**	**0.000002 J**
1,2,3,4,7,8-HXCDD	UG/L	0.1	0.00000068 U	0.00000082 U	0.0000012 U	0.00000066 U	0.0000013 U	0.0000035 U	0.000002 U	0.0000027 U	0.000002 U	**0.0000013 JQ**	**0.0000011 J**
1,2,3,4,7,8-HXCDF	UG/L	0.1	0.0000011 U	0.00000082 U	0.000003 U	0.0000044 U	0.0000013 U	0.0000034 U	0.0000021 U	**0.000029 J**	0.00000037 U	**0.0000015 JQ**	**0.0000012 J**
1,2,3,6,7,8-HXCDD	UG/L	0.1	0.0000011 U	0.00000067 U	0.0000026 U	0.0000035 U	0.0000013 U	0.0000023 U	0.0000018 U	**0.000023 J**	0.0000017 U	**0.0000015 JQ**	**0.0000011 JQ**
1,2,3,6,7,8-HXCDF	UG/L	0.1	0.0000022 U	0.00000075 U	0.0000033 U	0.0000079 U	0.0000011 U	0.0000026 U	0.0000019 U	**0.000037 JI**	0.0000014 U	**0.0000018 J**	**0.00000098 JQ**
1,2,3,7,8,9-HXCDD	UG/L	0.1	0.0000014 U	0.00000096 U	0.0000015 U	0.0000012 U	0.0000014 U	0.0000039 U	0.0000023 U	0.0000059 U	0.0000027 U	**0.0000021 J**	**0.00000098 JQ**
1,2,3,7,8,9-HXCDF	UG/L	0.1	0.00000043 U	0.00000032 U	0.0000017 U	0.0000015 U	0.0000015 U	0.0000036 U	0.0000023 U	0.0000044 U	0.0000018 U	**0.0000017 JQ**	0.00000046 U
1,2,3,7,8-PECDD	UG/L	1	0.00000027 U	0.00000029 U	0.0000003 U	0.00000024 U	0.00000059 U	0.00000086 U	0.00000049 U	0.0000011 U	0.00000077 U	**0.00000074 JQ**	**0.00000012 JQ**
1,2,3,7,8-PECDF	UG/L	0.03	0.00000038 U	0.00000038 U	**0.00000057 JQ**	**0.00000062 J**	0.00000048 U	0.00000062 U	0.00000086 U	**0.0000023 JQ**	0.00000089 U	0.0000012 U	0.00000038 U
2,3,4,6,7,8-HXCDF	UG/L	0.1	0.0000016 U	0.00000075 U	0.0000017 U	0.0000012 U	0.0000016 U	0.0000038 U	0.0000021 U	0.0000036 U	0.0000026 U	**0.0000022 JQ**	**0.00000098 JQ**
2,3,4,7,8-PECDF	UG/L	0.3	0.00000037 U	0.00000037 U	0.0000003 U	0.00000056 U	0.00000044 U	0.000002 U	0.0000018 U	0.000004 U	0.00000086 U	0.0000011 U	0.00000037 U
2,3,7,8-TCDD	UG/L	1	0.00000051 U	0.00000055 U	0.00000065 U	0.0000006 U	0.00000048 U	0.00000047 U	0.00000096 U	0.00000049 U	0.00000083 U	0.00000093 U	0.00000061 U
2,3,7,8-TCDF	UG/L	0.1	0.00000064 U	0.00000046 U	0.00000052 U	0.0000005 U	0.00000038 U	0.00000045 U	0.00000063 U	**0.00000055 JQ**	0.00000081 U	0.0000011 U	0.00000043 U
OCDD	UG/L	0.0003	0.0001 U	0.00011 U	**0.00043**	**0.00078**	0.000021 U	0.000035 U	0.000035 U	**0.0072**	0.000036 U	**0.000013 J**	**0.00008 J**
OCDF	UG/L	0.0003	0.000013 U	0.000011 U	0.000039 U	**0.000075 J**	0.0000081 U	0.000025 U	0.000015 U	**0.00061**	0.0000087 U	**0.0000069 J**	**0.00001 J**
TOTAL HPCDD	UG/L	NA	0.000025 U	0.000036 U	**0.000074**	**0.00014**	0.000007 U	0.000012 U	0.000012 U	**0.0012**	0.000012 U	**0.0000036 J**	**0.000014 J**
TOTAL HPCDF	UG/L	NA	0.000012 U	0.00001 U	0.000048 U	**0.0001**	0.0000057 U	0.000016 U	0.0000095 U	**0.00085**	0.0000083 U	**0.0000059 JQ**	**0.00001 J**
TOTAL HXCDD	UG/L	NA	0.0000046 U	0.0000044 U	0.0000095 U	0.000012 U	0.0000046 U	0.000011 U	0.0000077 U	0.000088 U	0.0000077 U	**0.0000049 JQ**	**0.0000037 JQ**
TOTAL HXCDF	UG/L	NA	0.000011 U	0.0000059 U	0.000042 U	**0.00011 IQ**	0.0000068 U	0.000016 U	0.000013 U	**0.00075 I**	0.0000086 U	**0.00001 JQ**	**0.0000046 JQ**
TOTAL PECDD	UG/L	NA	0.00000027 U	0.00000029 U	0.0000003 U	0.00000024 U	0.00000059 U	0.00000086 U	0.00000089 U	0.0000016 U	0.0000029 U	**0.0000027 JQ**	**0.00000054 JQ**
TOTAL PECDF	UG/L	NA	0.0000023 U	0.00000038 U	0.000012 U	**0.00005 Q**	0.00000048 U	0.0000028 U	0.0000032 U	**0.00031 IQ**	0.00000089 U	0.0000012 U	0.00000038 U
TOTAL TCDD	UG/L	NA	0.00000051 U	0.00000055 U	0.00000065 U	0.0000006 U	0.00000048 U	0.00000047 U	0.00000096 U	0.00000049 U	0.00000083 U	0.00000093 U	0.00000061 U
TOTAL TCDF	UG/L	NA	0.00000064 U	0.00000046 U	**0.000004 J**	**0.000017 Q**	0.00000038 U	0.00000045 U	0.00000063 U	**0.00011 IQ**	0.00000081 U	0.0000011 U	0.00000043 U
2,3,7,8-TCDD TEQ - ND = 0	UG/L	NA	0.00E+00	0.00E+00	**5.161E-07**	**1.0251E-06**	0.00E+00	0.00E+00	0.00E+00	**1.9467E-05**	0.00E+00	**2.04597E-06**	**9.08E-07**

Notes:
U Indicates compound was not detected
J Indicates an estimated value
Q Indicates estimated maximum possible concentration
TEQ = Toxicity Equivalent Quotient
TEQs were calculated using zero for nondetected values
TEF = Toxicity Equivalent Factor
TEFs values taken from the 2005 World Health Organization Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

FIGURES

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
- W-23A — ABANDONED WELL
- SAMPLED WELL LOCATION

OUTFALL 001 DRAINAGE DITCH
FLOW
CLOSED SURFACE IMPOUNDMENTS (AREA C)
OUTFALL 001 (AREA D)
HAMMOND AVENUE
FORMER LEAD TRACK LANDFILL (AREA H)
SPRAY IRRIGATION FIELD
W-05CR
W-02C
W-31C
W-09C
W-12A
W-12CR
NON RCRA REGULATED CLOSED SURFACE IMPOUNDMENTS
DESIGN MANAGEMENT ZONE
W-29A
W-10AR2
W-30A
W-30C
W-08C
W-01C
STRAW BALE (AREA G)
W-38A
W-39A
W-04C
CLOSED RCRA SURFACE IMPOUNDMENTS
W-04B
W-04AR2
W-08A
W-21B
W-21A
W-06A
W-06C
W-07C
W-26B
W-26A
W-32C
W-25A
W-37A
W-24A
W-11A
W-03C
W-25B
W-36A
W-40A
W-22A
W-28A
W-28C
DRIP TRACK AREA (AREA F)
W-23A
W-18A
W-17A
SHOP
W-33D
FORMER, UNLINED LANDFILL/LANDFARM (AREA A)
W-13A
W-14A
W-14B
TREATMENT AREA (AREA B)
W-34D
W-20AR
FORMER CONTAINER STORAGE FACILITY
W-16A
W-16AR
CONCRETE BERM
W-19C
W-19A
OFFICE
GATE
W-18C
W-18D
W-35A
COUNTY ROAD A
OUTFALL 004 (AREA E)
COUNTY ROAD Z

0 300 600 FEET

BEAZER EAST, INC.
PITTSBURGH, PENNSYLVANIA

DRWN: KC	DATE: 05/17/17	FTS	FIELD & TECHNICAL SERVICES, LLC 200 THIRD AVENUE CARNEGIE, PA 15106
CHKD: AMG	DATE: 05/17/17		
APPD: JGK	DATE: 05/26/17		
SCALE: AS SHOWN			
ISSUE DATE:			

FORMER KOPPERS INC. FACILITY
SUPERIOR, WISCONSIN

SITE MAP

PROJECT NO: 0M055617
DRAWING NUMBER
FIGURE 1

REV #	DATE	DESCRIPTION	APPD
3			
2			
1			

REFERENCE: WISCONSIN STATE PLANNER COORDINATE SYSTEM.

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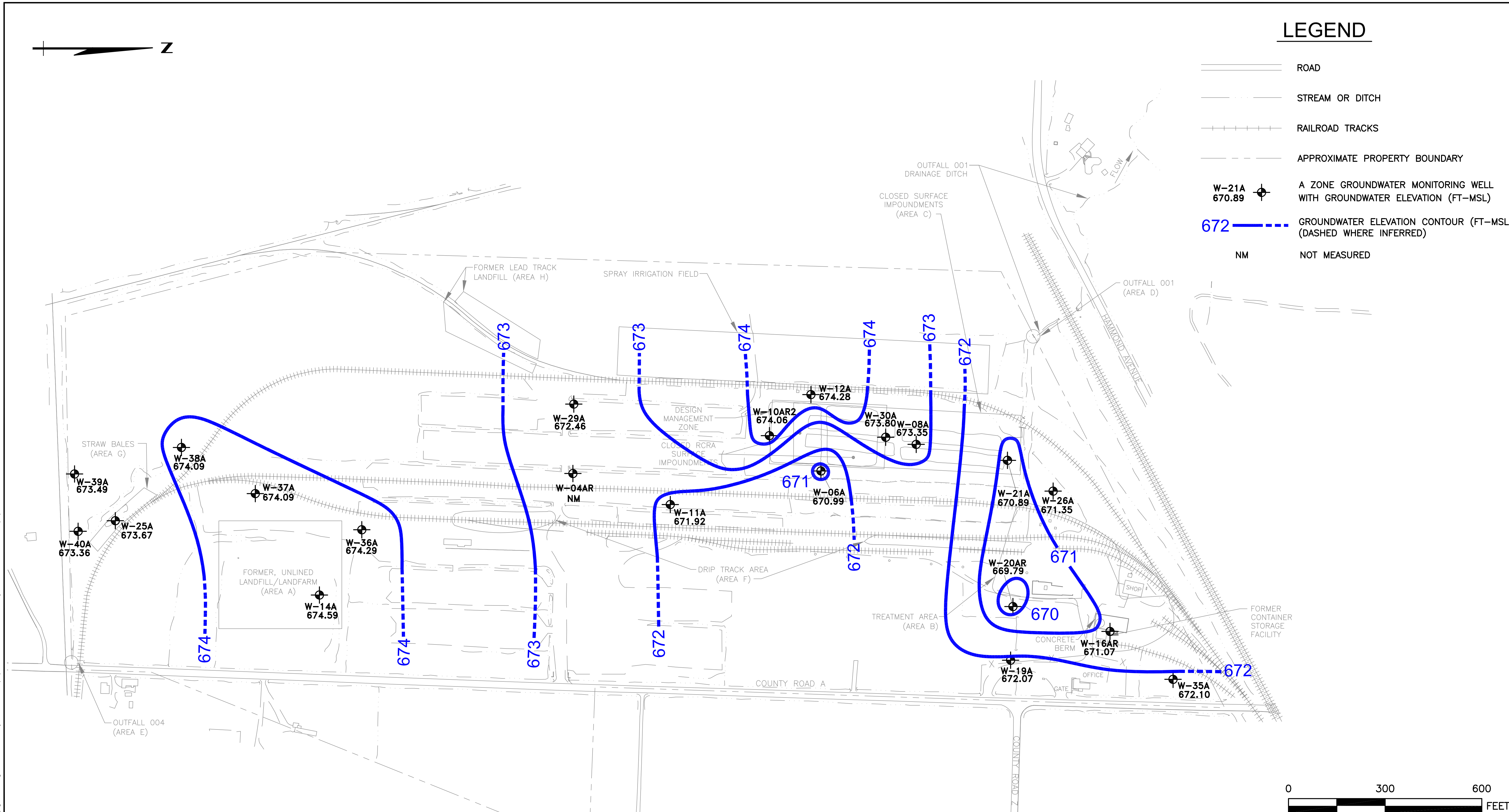

N
LEGEND
ROAD
STREAM OR DITCH
RAILROAD TRACKS
APPROXIMATE PROPERTY BOUNDARY
W-21A 670.89
A ZONE GROUNDWATER MONITORING WELL WITH GROUNDWATER ELEVATION (FT-MSL)
672
GROUNDWATER ELEVATION CONTOUR (FT-MSL) (DASHED WHERE INFERRED)
NM
NOT MEASURED
OUTFALL 001 DRAINAGE DITCH
CLOSED SURFACE IMPOUNDMENTS (AREA C)
FORMER LEAD TRACK LANDFILL (AREA H)
SPRAY IRRIGATION FIELD
OUTFALL 001 (AREA D)
DESIGN MANAGEMENT ZONE
CLOSED RCRA SURFACE IMPOUNDMENTS
STRAW BALES (AREA G)
FORMER, UNLINED LANDFILL/LANDFARM (AREA A)
DRIP TRACK AREA (AREA F)
TREATMENT AREA (AREA B)
CONCRETE BERM
FORMER CONTAINER STORAGE FACILITY
SHOP
OFFICE
GATE
COUNTY ROAD A
COUNTY ROAD Z
OUTFALL 004 (AREA E)
W-39A 673.49
W-40A 673.36
W-25A 673.67
W-38A 674.09
W-37A 674.09
W-36A 674.29
W-14A 674.59
W-29A 672.46
W-04AR NM
W-12A 674.28
W-10AR2 674.06
W-30A 673.80
W-08A 673.35
W-06A 670.99
W-11A 671.92
W-21A 670.89
W-26A 671.35
W-20AR 669.79
W-16AR 671.07
W-19A 672.07
W-35A 672.10
674
673
672
671
670
0
300
600
FEET

REFERENCE: WISCONSIN STATE PLANNER COORDINATE SYSTEM.
BASE MAP AND TOPOGRAPHY OBTAINED FROM PHOTOGRAMMETRY PERFORMED BY LOCKWOOD MAPPING COMPANY OF ROCHESTER, NY (12/28/01).
ALL LOCATIONS ARE APPROXIMATE.

REV #	DATE	DESCRIPTION	APPD

BEAZER EAST, INC.
PITTSBURGH, PENNSYLVANIA

DRWN: KC	DATE: 04/27/17
CHKD: RMW	DATE: 04/27/17
APPD: JGK	DATE: 05/26/17
SCALE: AS SHOWN	
ISSUE DATE:	

FTS
FIELD & TECHNICAL SERVICES, LLC
200 THIRD AVENUE
CARNEGIE, PA 15106

FORMER KOPPERS INC. FACILITY
SUPERIOR, WISCONSIN

GROUNDWATER ELEVATION CONTOURS A-ZONE WELLS (APRIL 26, 2017)

PROJECT NO: OM055617
DRAWING NUMBER
FIGURE 2

N

LEGEND

- ROAD
- STREAM OR DITCH
- RAILROAD TRACKS
- APPROXIMATE PROPERTY BOUNDARY
- W-09C 662.84 — C ZONE GROUNDWATER MONITORING WELL WITH GROUNDWATER ELEVATION (FT-MSL)
- 661 — GROUNDWATER ELEVATION CONTOUR (FT-MSL) (DASHED WHERE INFERRED)
- NM — NOT MEASURED

OUTFALL 001 DRAINAGE DITCH
CLOSED SURFACE IMPOUNDMENTS (AREA C)
FLOW
FORMER LEAD TRACK LANDFILL (AREA H)
SPRAY IRRIGATION FIELD
W-05CR 663.11
663
W-02C 662.82
662
661
OUTFALL 001 (AREA D)
HAMMOND AVENUE
W-31C* 660.78
W-09C 662.84
DESIGN MANAGEMENT ZONE
W-12CR 662.93
W-30C 662.95
CLOSED RCRA SURFACE IMPOUNDMENTS
W-06C 662.94
STRAW BALES (AREA G)
W-32C 660.18
FORMER, UNLINED LANDFILL/LANDFARM (AREA A)
W-28C 662.31
DRIP TRACK AREA (AREA F)
W-34D
SHOP
W-53C
TREATMENT AREA (AREA B)
FORMER CONTAINER STORAGE FACILITY
CONCRETE PAD
W-19C 662.81
W-18D
OFFICE
GATE
COUNTY ROAD A
OUTFALL 004 (AREA E)
COUNTY ROAD Z

0 300 600 FEET

REV #	DATE	DESCRIPTION	APPD
1			
2			
3			

REFERENCE: WISCONSIN STATE PLANNER COORDINATE SYSTEM.
BASE MAP AND TOPOGRAPHY OBTAINED FROM PHOTOGRAMMETRY PERFORMED BY LOCKWOOD MAPPING COMPANY OF ROCHESTER, NY (12/28/01).
ALL LOCATIONS ARE APPROXIMATE.
* W-31C WAS GAUGED ON APRIL 28 AFTER THE SAMPLING EVENT WAS COMPLETED.

BEAZER EAST, INC.
PITTSBURGH, PENNSYLVANIA

DRWN:	KC	DATE:	04/27/17
CHKD:	RMW	DATE:	04/27/17
APPD:	JGK	DATE:	05/26/17
SCALE:	AS SHOWN		
ISSUE DATE:			

FTS
FIELD & TECHNICAL SERVICES, LLC
200 THIRD AVENUE
CARNEGIE, PA 15106

FORMER KOPPERS INC. FACILITY
SUPERIOR, WISCONSIN

GROUNDWATER ELEVATION CONTOURS C-ZONE WELLS (APRIL 26, 2017)

PROJECT NO: 0M055617
DRAWING NUMBER
FIGURE 3

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N

LEGEND

- ROAD
- STREAM OR DITCH
- RAILROAD TRACKS
- APPROXIMATE PROPERTY BOUNDARY
- W-21A 671.02 — A ZONE GROUNDWATER MONITORING WELL WITH GROUNDWATER ELEVATION (FT-MSL)
- 672 — GROUNDWATER ELEVATION CONTOUR (FT-MSL) (DASHED WHERE INFERRED)

OUTFALL 001 DRAINAGE DITCH
CLOSED SURFACE IMPOUNDMENTS (AREA C)
FLOW
OUTFALL 001 (AREA D)
HAMMOND AVENUE
FORMER LEAD TRACK LANDFILL (AREA H)
SPRAY IRRIGATION FIELD
DESIGN MANAGEMENT ZONE
CLOSED ROW SURFACE IMPOUNDMENTS
STRAW BALES (AREA G)
FORMER UNLINED LANDFILL LANDFARM (AREA A)
DRIP TRACK AREA (AREA F)
TREATMENT AREA (AREA B)
SHOP
FORMER CONTAINER STORAGE FACILITY
CONCRETE BERM
OFFICE
GATE
COUNTY ROAD A
COUNTY ROAD Z
OUTFALL 004 (AREA E)

673 673 674 674 673 672
674 675 675 674 673 672 672

W-38A 674.12
W-39A 673.60
W-37A 674.27
W-25A 673.88
W-40A 673.62
W-36A 674.65
W-14A 675.39
W-29A 672.36
W-04AR2 672.54
W-10AR2 673.50
W-11A 671.86
W-12A 674.63
W-30A 674.41
W-08A 673.37
W-06A 671.13
W-21A 671.02
W-26A 671.42
W-20AR 671.32
W-16AR 671.56
W-19A 672.18
W-35A 672.14

0 300 600 FEET

BEAZER EAST, INC.
PITTSBURGH, PENNSYLVANIA

DRWN: KC	DATE: 10/04/17	FIELD & TECHNICAL SERVICES, LLC 200 THIRD AVENUE CARNEGIE, PA 15106	
CHKD: RMW	DATE: 10/04/17		
APPD: JGK	DATE: 10/18/17		
SCALE: AS SHOWN			
ISSUE DATE:			

FORMER KOPPERS INC. FACILITY
SUPERIOR, WISCONSIN

GROUNDWATER ELEVATION CONTOURS A-ZONE WELLS (OCTOBER 3, 2017)

PROJECT NO: 0M055617
DRAWING NUMBER
FIGURE 4

REV #	DATE	DESCRIPTION	APPD
3			
2			
1			

REFERENCE: WISCONSIN STATE PLANNER COORDINATE SYSTEM.
BASE MAP AND TOPOGRAPHY OBTAINED FROM PHOTOGRAMMETRY PERFORMED BY LOCKWOOD MAPPING COMPANY OF ROCHESTER, NY (12/28/01).
ALL LOCATIONS ARE APPROXIMATE.

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N

LEGEND

- ROAD
- STREAM OR DITCH
- RAILROAD TRACKS
- APPROXIMATE PROPERTY BOUNDARY
- W-09C 662.90 — C ZONE GROUNDWATER MONITORING WELL WITH GROUNDWATER ELEVATION (FT-MSL)
- 661 — GROUNDWATER ELEVATION CONTOUR (FT-MSL) (DASHED WHERE INFERRED)
- NM — NOT MEASURED

OUTFALL 001 DRAINAGE DITCH
CLOSED SURFACE IMPOUNDMENTS (AREA C)
FLOW
OUTFALL 001 (AREA D)
HAMMOND AVENUE
FORMER LEAD TRACK LANDFILL (AREA H)
SPRAY IRRIGATION FIELD
W-05CR 663.41
W-02C 662.81
663
662
661
W-31C NM
W-09C 662.90
W-12CR 662.96
DESIGN MANAGEMENT ZONE
W-30C 662.96
CLOSED RCRA SURFACE IMPOUNDMENTS
STRAW BALES (AREA G)
W-06C 663.00
W-32C 660.09
FORMER, UNLINED LANDFILL/LANDFARM (AREA A)
W-28C 663.26
DRIP TRACK AREA (AREA F)
W-34D
SHOP
W-33C
TREATMENT AREA (AREA B)
FORMER CONTAINER STORAGE FACILITY
CONCRETE BERM
W-19C 662.80
W-18D
OFFICE
GATE
COUNTY ROAD A
OUTFALL 004 (AREA E)
COUNTY ROAD Z

0 300 600 FEET

BEAZER EAST, INC.
PITTSBURGH, PENNSYLVANIA

DRWN: KC	DATE: 10/04/17	FIELD & TECHNICAL SERVICES, LLC 200 THIRD AVENUE CARNEGIE, PA 15106	
CHKD: RMW	DATE: 10/04/17		
APPD: JGK	DATE: 10/18/17		
SCALE: AS SHOWN			
ISSUE DATE:			

FORMER KOPPERS INC. FACILITY
SUPERIOR, WISCONSIN

GROUNDWATER ELEVATION CONTOURS C-ZONE WELLS (OCTOBER 3, 2017)

PROJECT NO: 0M055617
DRAWING NUMBER
FIGURE 5

REV #	DATE	DESCRIPTION	APPD
1			
2			
3			

REFERENCE: WISCONSIN STATE PLANNER COORDINATE SYSTEM.
BASE MAP AND TOPOGRAPHY OBTAINED FROM PHOTOGRAMMETRY PERFORMED BY LOCKWOOD MAPPING COMPANY OF ROCHESTER, NY (12/28/01).
ALL LOCATIONS ARE APPROXIMATE.

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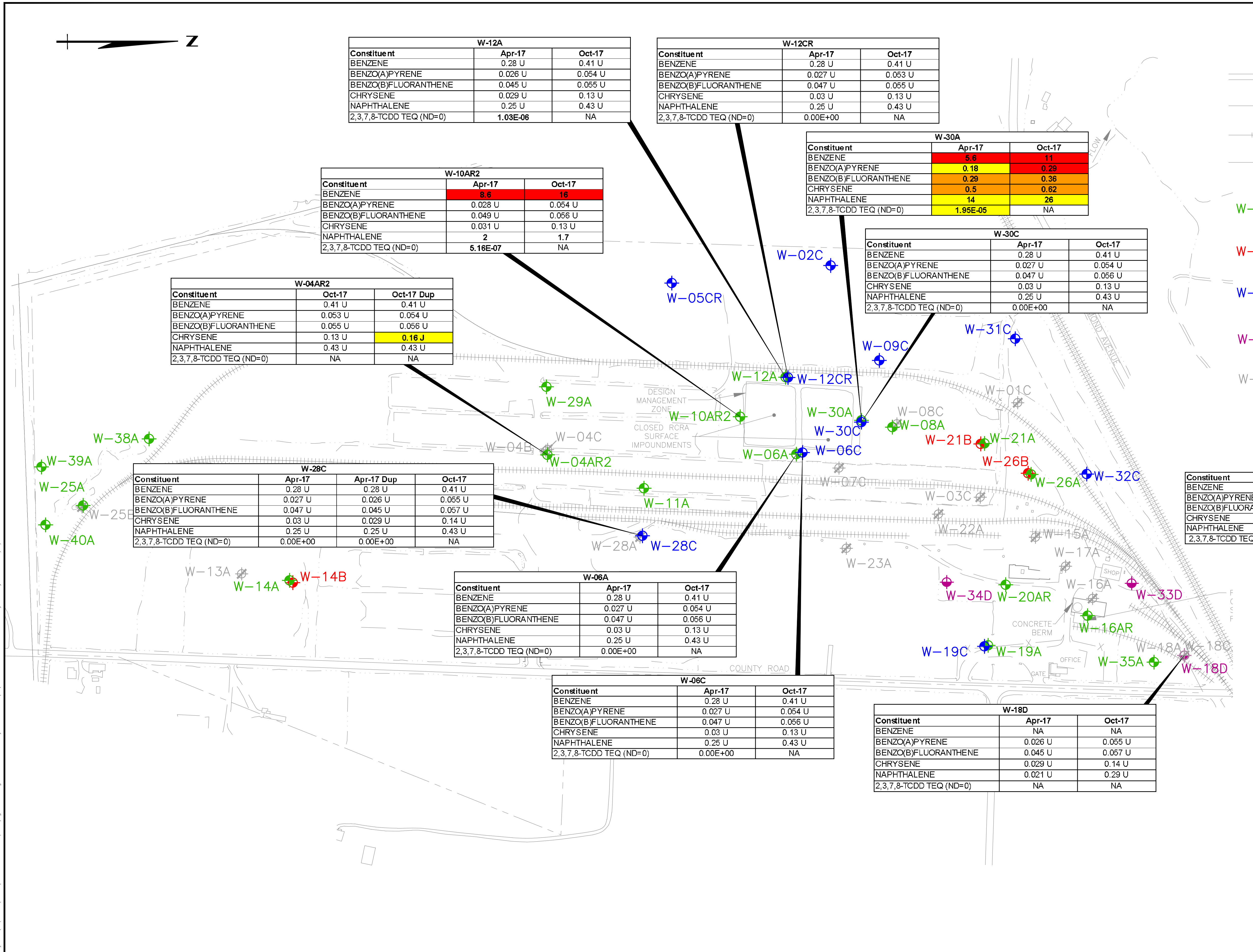

W-12A		
Constituent	Apr-17	Oct-17
BENZENE	0.28 U	0.41 U
BENZO(A)PYRENE	0.026 U	0.054 U
BENZO(B)FLUORANTHENE	0.045 U	0.055 U
CHRYSENE	0.029 U	0.13 U
NAPHTHALENE	0.25 U	0.43 U
2,3,7,8-TCDD TEQ (ND=0)	1.03E-06	NA

W-12CR		
Constituent	Apr-17	Oct-17
BENZENE	0.28 U	0.41 U
BENZO(A)PYRENE	0.027 U	0.053 U
BENZO(B)FLUORANTHENE	0.047 U	0.055 U
CHRYSENE	0.03 U	0.13 U
NAPHTHALENE	0.25 U	0.43 U
2,3,7,8-TCDD TEQ (ND=0)	0.00E+00	NA

W-30A		
Constituent	Apr-17	Oct-17
BENZENE	5.6	11
BENZO(A)PYRENE	0.18	0.29
BENZO(B)FLUORANTHENE	0.29	0.36
CHRYSENE	0.5	0.62
NAPHTHALENE	14	26
2,3,7,8-TCDD TEQ (ND=0)	1.95E-05	NA

W-10AR2		
Constituent	Apr-17	Oct-17
BENZENE	8.6	16
BENZO(A)PYRENE	0.028 U	0.054 U
BENZO(B)FLUORANTHENE	0.049 U	0.056 U
CHRYSENE	0.031 U	0.13 U
NAPHTHALENE	2	1.7
2,3,7,8-TCDD TEQ (ND=0)	5.16E-07	NA

W-30C		
Constituent	Apr-17	Oct-17
BENZENE	0.28 U	0.41 U
BENZO(A)PYRENE	0.027 U	0.054 U
BENZO(B)FLUORANTHENE	0.047 U	0.056 U
CHRYSENE	0.03 U	0.13 U
NAPHTHALENE	0.25 U	0.43 U
2,3,7,8-TCDD TEQ (ND=0)	0.00E+00	NA

W-04AR2		
Constituent	Oct-17	Oct-17 Dup
BENZENE	0.41 U	0.41 U
BENZO(A)PYRENE	0.053 U	0.054 U
BENZO(B)FLUORANTHENE	0.055 U	0.056 U
CHRYSENE	0.13 U	0.16 J
NAPHTHALENE	0.43 U	0.43 U
2,3,7,8-TCDD TEQ (ND=0)	NA	NA

W-28C			
Constituent	Apr-17	Apr-17 Dup	Oct-17
BENZENE	0.28 U	0.28 U	0.41 U
BENZO(A)PYRENE	0.027 U	0.026 U	0.055 U
BENZO(B)FLUORANTHENE	0.047 U	0.045 U	0.057 U
CHRYSENE	0.03 U	0.029 U	0.14 U
NAPHTHALENE	0.25 U	0.25 U	0.43 U
2,3,7,8-TCDD TEQ (ND=0)	0.00E+00	0.00E+00	NA

W-06A		
Constituent	Apr-17	Oct-17
BENZENE	0.28 U	0.41 U
BENZO(A)PYRENE	0.027 U	0.054 U
BENZO(B)FLUORANTHENE	0.047 U	0.056 U
CHRYSENE	0.03 U	0.13 U
NAPHTHALENE	0.25 U	0.43 U
2,3,7,8-TCDD TEQ (ND=0)	0.00E+00	NA

W-06C		
Constituent	Apr-17	Oct-17
BENZENE	0.28 U	0.41 U
BENZO(A)PYRENE	0.027 U	0.054 U
BENZO(B)FLUORANTHENE	0.047 U	0.056 U
CHRYSENE	0.03 U	0.13 U
NAPHTHALENE	0.25 U	0.43 U
2,3,7,8-TCDD TEQ (ND=0)	0.00E+00	NA

W-18D		
Constituent	Apr-17	Oct-17
BENZENE	NA	NA
BENZO(A)PYRENE	0.026 U	0.055 U
BENZO(B)FLUORANTHENE	0.045 U	0.057 U
CHRYSENE	0.029 U	0.14 U
NAPHTHALENE	0.021 U	0.29 U
2,3,7,8-TCDD TEQ (ND=0)	NA	NA

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
- W-23A — ABANDONED WELL

STANDARDS

Constituent	WDNR PAL	WDNR ES	MCL
BENZENE	0.5	5	5
BENZO(A)PYRENE	0.02	0.2	0.2
BENZO(B)FLUORANTHENE	0.02	0.2	-
CHRYSENE	0.02	0.2	-
NAPHTHALENE	10	100	-
2,3,7,8-TCDD TEQ (ND=0)	0.000003	0.00003	0.00003

- –EXCEEDS WDNR PAL
- –EXCEEDS WDNR ES
- –EXCEEDS FEDERAL MCL

ALL VALUES ARE IN ug/L

U– NOT DETECTED

J– ESTIMATED RESULT

NA– NOT ANALYZED

TEQ– 2,3,7,8–TCDD TOXICITY EQUIVALENT QUOTIENT 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

PAL– WDNR PREVENTIVE ACTION LIMIT

ES– WDNR ENFORCEMENT STANDARD

MCL– FEDERAL MAXIMUM CONTAMINANT LEVEL

0 300 600 FEET

BEAZER EAST, INC.
PITTSBURGH, PENNSYLVANIA

DRWN:	KC	DATE: 11/06/17
CHKD:	KC	DATE: 11/06/17
APPD:	AMG	DATE: 11/20/17
SCALE:	AS SHOWN	
ISSUE DATE:		

FTS — FIELD & TECHNICAL SERVICES, LLC, 200 THIRD AVENUE, CARNEGIE, PA 15106

FORMER KOPPERS INC. FACILITY
SUPERIOR, WISCONSIN

APRIL AND OCTOBER 2017
CONSTITUENTS OF INTEREST

PROJECT NO: 0M055617
DRAWING NUMBER
FIGURE 6

REFERENCE: WISCONSIN STATE PLANNER COORDINATE SYSTEM.

REV #	DATE	DESCRIPTION	APPD
1			
2			
3			

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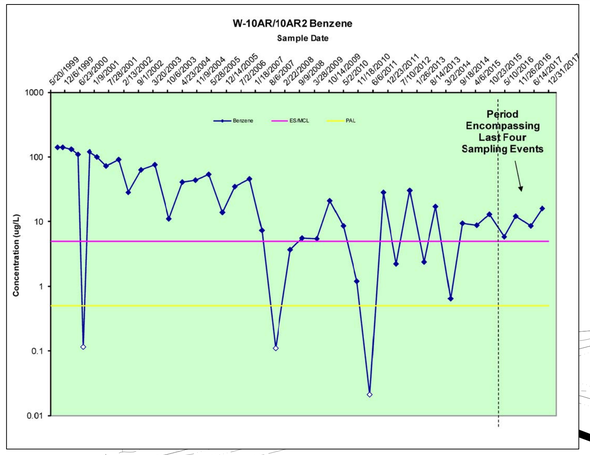

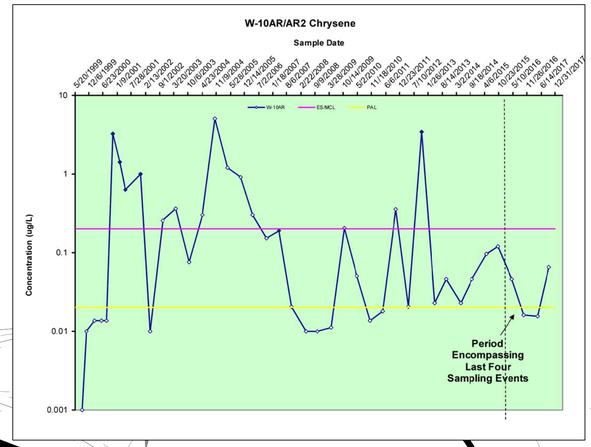

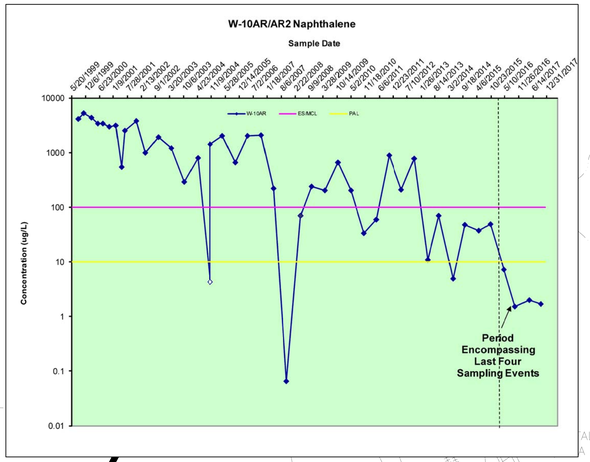

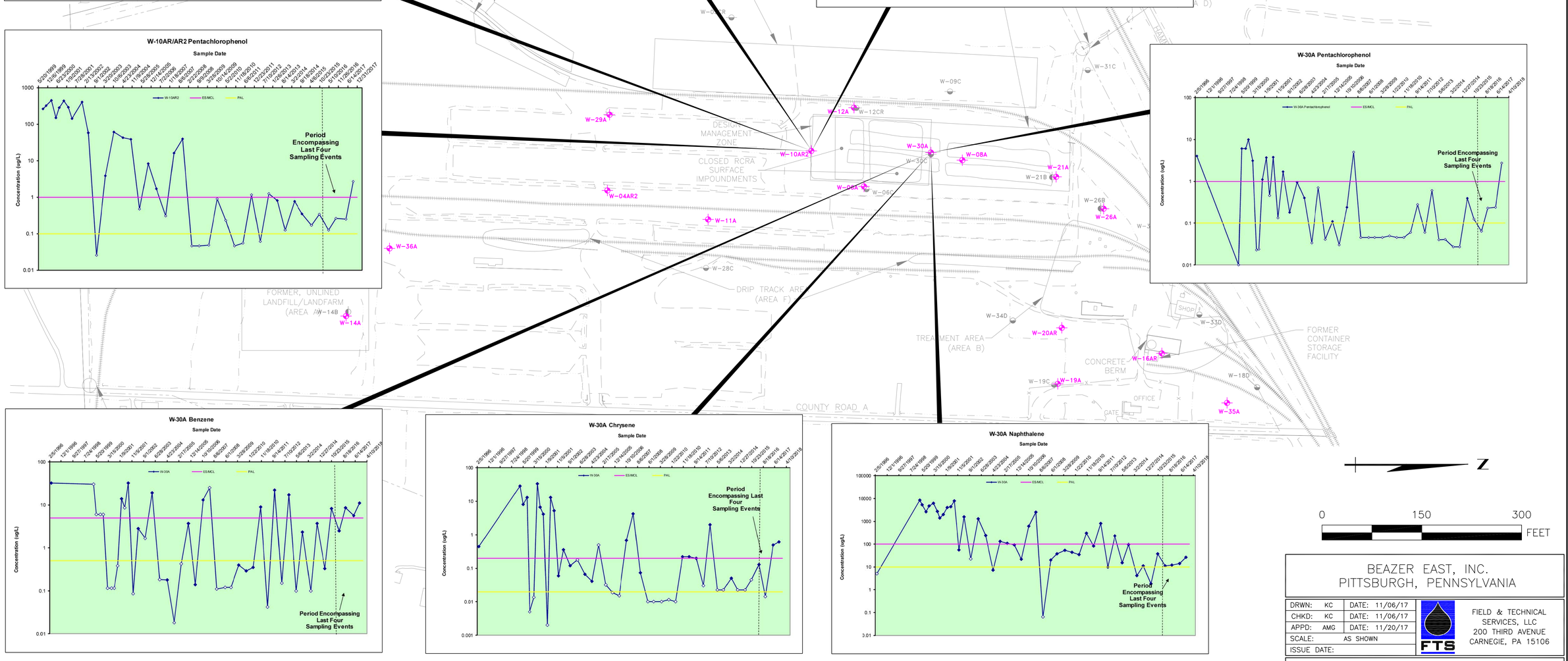

LEGEND

- ROAD
- STREAM OR DITCH
- RAILROAD TRACKS
- APPROXIMATE PROPERTY BOUNDARY
- W-08A — A ZONE GROUNDWATER MONITORING WELL
- ◇ INDICATES ANALYTICAL RESULT WAS NON DETECT. VALUE POSTED REPRESENTS ONE-HALF THE DETECTION LIMIT.

N

0 150 300 FEET

REV #	DATE	DESCRIPTION	APPD
1			
2			
3			

REFERENCE: WISCONSIN STATE PLANNER COORDINATE SYSTEM.
BASE MAP AND TOPOGRAPHY OBTAINED FROM PHOTOGRAMMETRY PERFORMED BY LOCKWOOD MAPPING COMPANY OF ROCHESTER, NY (12/28/01).
ALL LOCATIONS ARE APPROXIMATE.

BEAZER EAST, INC.
PITTSBURGH, PENNSYLVANIA

DRWN:	KC	DATE:	11/06/17
CHKD:	KC	DATE:	11/06/17
APPD:	AMG	DATE:	11/20/17
SCALE:	AS SHOWN		
ISSUE DATE:			

FIELD & TECHNICAL SERVICES, LLC
200 THIRD AVENUE
CARNEGIE, PA 15106

FORMER KOPPERS INC. FACILITY
SUPERIOR, WISCONSIN

A-ZONE PARAMETER CONCENTRATION TRENDS OF BENZENE, CHRYSENE, NAPHTHALENE, PENTACHLOROPHENOL

PROJECT NO: OM055617
DRAWING NUMBER
FIGURE 7

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APPENDIX A

Project Activity Milestone Summary

Former Koppers Superior Site - Project Activity Milestone Summary

Closure and Post Closure Plan

- Beazer submitted a Closure and Post-Closure Plan for the RCRA impoundments to the WDNR in a document dated August 28, 1987 (Keystone Environmental Resources, August 28, 1987).

- The WDNR provided a Plan Approval on October 1, 1987.

    - In accordance with Plan Approval, approximately 1,358 tons of K001 sludge and subgrade soils exhibiting visible presence of K001 sludge-related material were removed from the impoundments and transported off-site by August 3, 1988.

- Subgrade sampling activities took place in August 1988.

    - It was determined that traces of K001 constituents remained in the subgrade and outer berms; therefore, the impoundments were closed as a landfill.

- Closure activities were completed by August 29, 1989 and are detailed in the document *Construction Documentation Surface Impoundment Closure Report* (Keystone Environmental Resources, November 1989).

- Beazer submitted a Permit Modification Request to the Groundwater Monitoring Program to the WDNR on April 19, 2002 (Blasland Bouck, & Lee).

    - Following a public comment period, the WDNR provided a Conditional Closure and Long-Term Care Plan Approval Modification in an October 29, 2002 letter to Beazer.

Design Management Zone

- The design management zone (DMZ) is the point of standards application for Wisconsin water quality standards.

- The closed impoundment system is subject to regulation under NR 664.0090 to 664.0100 and therefore the horizontal distance for the DMZ is zero feet.

    - The DMZ encompasses the vertical surface located along the southern boundary of the south lagoon, the western boundary of the south and north lagoons, the northern boundary of the north lagoon, and the eastern boundary of the north and south lagoons.

Monitoring Well Installation/Decommissioning

- During August 1988, 11 wells installed to monitor groundwater at the two impoundments were decommissioned to allow for capping of the impoundments.
    - The 11 decommissioned monitoring wells were L-1 S, L-2S, L-3S, L-3M, L-4S, L-4M, L-4D, L-5S, L-5M, L-5DR and L-17.
    - In accordance with the interim post closure monitoring plan, four monitoring wells (MW-1S, MW-4S, MW-4D, and MW-2S) were installed in November 1988 and 1989 to replace the decommissioned monitoring wells.
    - These four monitoring wells were subsequently re-designated (W-10B, W-12B, W-12C and W-6B, respectively) to provide a consistent nomenclature with 15 existing monitoring wells.
- In July and August of 1990, 26 new monitoring wells were installed at the Site as part of the Phase II RFI under the Site-wide RCRA corrective action program required by Federal Permit issued by the U.S. EPA September 30, 1988 pursuant to the Hazardous and Solid Waste Amendments (HSWA).
- W-04C was abandoned in 2002 and W-10AR was replaced with W-10AR2 in 2003, as noted below.
- In October 2004, the monitoring well network at the Site was reevaluated. A field inspection of all Site monitoring wells indicated that some wells had been damaged due to frost heave or normal Site activities. Each well was assessed based on its location, relevance to the current sampling plan, extent of damage (if any), and potential for future damage. Based on these assessments, 14 monitoring wells were abandoned, two monitoring wells (W-5C and W-20A) were replaced, and seven monitoring wells were repaired during the fall and winter of 2004.
- In October 2006, six new A-zone monitoring wells (W-35A through W-40A) were installed for supplemental monitoring purposes.
- On July 13, 2010, monitoring wells W-16A and W-17A were abandoned in preparation for the on-property Corrective Measures Implementation (CMI) activities.
- Monitoring well W-16A was replaced with W-16AR in April 2013.

Groundwater Monitoring Program

- In March 1991 Beazer submitted a Draft Existing Conditions Report to the WDNR to propose a revised RCRA quarterly post-closure compliance monitoring program for the closed RCRA impoundments.
    - The WDNR provided comments on the Draft Existing Conditions Report, and the 1991 and 1992 Annual RCRA Groundwater Monitoring Summary reports in a letter dated July 19, 1993.
    - Beazer responded to the WDNR's comments on the Draft Existing Conditions Report on September 1, 1993, and to their comments on the 1991 and 1992 Annual RCRA Groundwater Monitoring Summary reports on September 10, 1993.
    - The Plan Approval groundwater monitoring program was subsequently approved by the WDNR.
- The analytical program of the Plan Approval groundwater monitoring program was initiated in the fourth quarter 1993, even though new monitoring well installations, needed to satisfy the modified program, had yet to be completed.
- In January 1994 Beazer submitted the documents, *Monitoring Well Installation and Abandonment Project Work Plan* (PWP) and *Groundwater Monitoring Sampling and Analysis Plan* (SAP) to the WDNR to provide a description of the methods and materials to be used to revise the monitoring well network and to perform the modified quarterly sampling, analyses, and statistics.
    - The PWP and SAP were approved by the WDNR and were implemented in June 1995.
    - The scope of work for the PWP included the installation of six monitoring wells (W-6A, W-10A, W-12A, W-12CR, W-30A, and W-30C) and the abandonment of four monitoring wells (W-6B, W-10B, W-12C, and W-12B) and the abandonment of a damaged well, W-27A.
    - As indicated in the SAP and required by the state's regulations, following four quarters of monitoring, statistical evaluation of the data are required; with the reporting of second quarter 1996 data four quarters of data were available for statistical determinations
    - In the August 5, 1996, correspondence to Fluor Daniel GTI, the WDNR deferred the statistical evaluation while an assessment of integrating the RCRA-Unit monitoring requirements into part of the Site-wide RCRA corrective action program was made.

- A Plan Approval Modification was issued by the WDNR on October 24, 1996 and represented a change in the lead status for the Site-wide RCRA Facility Investigation, from the U.S. EPA to the WDNR.

- Beazer submitted a new Groundwater Monitoring Sampling Analysis Plan to the WDNR on April 19, 2002 which included a semi-annual groundwater sampling plan, the use of bladder pumps for groundwater sampling, and the use of U.S. EPA Method 8270C (expanded list) to analyze groundwater samples for polycyclic aromatic hydrocarbons (PAHs), phenolics, and semi-volatile organic compounds (SVOCs)

    - With WNDR approval, the groundwater monitoring frequency was reduced from quarterly to semi-annual as of June 2002.

    - The WDNR conditionally approved new Groundwater Monitoring Sampling Analysis Plan in a letter (Plan Approval Modification) to Beazer dated October 29, 2002.

    - As directed by the WDNR, monitoring well W-04C was decommissioned on December 10, 2002.

        - Due to significant damage to the inner and outing casing, monitoring well W-10AR was sealed and replaced by well W-10AR2 on July 31, 2003.

        - As indicated above, 14 monitoring wells were abandoned, two monitoring wells (W-5C and W-20A) were replaced, and seven monitoring wells were repaired during the fall and winter of 2004.

        - Due to significant damage to the inner casing, monitoring well W-04AR was sealed and replaced by well W-04AR2 on July 24, 2017.

Site-Wide Corrective Action Monitoring Program

- As part of the October 24, 1996 Plan Approval Modification, the WDNR required the submittal of a proposal to begin a Site-wide corrective action monitoring program, to supplement the existing Plan Approval.

- A Site-wide corrective action monitoring program was proposed by Beazer via correspondence dated December 20, 1996 and included two minor modifications to the Plan Approval for the RCRA-Unit monitoring:

    - Eliminate arsenic from the list of parameters to be monitored, due to its lack of detection.

    - Eliminate Method 8270 analyses from the annual list of parameters due to its duplication of analytical results with the other organic compound analytical methods.

- No response was received from the WDNR regarding the December 20, 1996 request, although relevant requested modifications were incorporated into the April 19, 2002 request and associated October 29, 2002 Plan Approval Modification.

- A natural attenuation remedy for groundwater was proposed in the July 2007 Focused Corrective Measures Study (CMS). Supplemental groundwater data were collected between 2004 and 2007 (as summarized in the January 24, 2006 *Groundwater Natural Attenuation Evaluation Report* and September 18, 2007 *Summary of Supplemental Groundwater Investigations*) to demonstrate the occurrence of natural attenuation and support WDNR's approval of the proposed groundwater natural attenuation remedy.

- A work plan for additional groundwater sampling to further support the natural attenuation remedy was submitted to the WDNR on October 12, 2012, and was approved by the WDNR on December 7, 2012. Sampling events associated with this work plan were completed in April 2013, July 2013, October 2013, and January 2014. The additional groundwater sampling was summarized in a *Groundwater Natural Attenuation Demonstration Summary Report*, submitted to the WDNR on June 12, 2014.

- On October 17, 2014, ARCADIS, on behalf of Beazer, submitted a Technical Assistance and Environmental Liability Clarification Request to WDNR, requesting approval of the natural attenuation remedy for groundwater. WDNR approved the groundwater natural attenuation remedy in a letter to Beazer dated November 18, 2014.

Phase II and III RCRA Facility Investigation Reports (Phase II and III RFI Reports)

- A Phase II RFI Report was submitted to the WDNR and U.S. EPA in June 1991.

- A Phase III RFI Work Plan was submitted to the WDNR and U.S. EPA in August 1993 and conditionally approved by the U.S. EPA.

    - A meeting was held on August 2, 1994, between Beazer, U.S. EPA, and WDNR, to discuss the Phase III comments.

    - As result of this meeting, the cone penetrometer portion of the Phase III RFI Work Plan was segregated and re-evaluated.

- A revised Cone Penetrometer Work Plan was submitted to the WDNR and U.S. EPA on August 25, 1994 and was conditionally approved on September 9, 1994.

    - The required conditions were addressed and the field work was performed during October 1994 and January 1995.

- The results of the Cone Penetrometer work and the proposed Phase III RFI groundwater investigation activities were reported to the WDNR and U.S. EPA in an Interim Letter Report (ILR) in July 1995.

- Concurrent with submittal of the ILR was the submittal of an Addendum Summary Sampling Plan for Dioxins/Furans and the Surface Water and Streambed Sediment Sampling and Analysis Plan to the WDNR and U.S. EPA.

  - The ILR and Summary Sampling Plan for Dioxins/Furans were approved by the WDNR in an October 24, 1996, Plan Approval Modification.

  - Surface water and sediment sampling were performed in June 1996, and the Report of Findings was submitted to the WDNR in March 1997.

  - The Phase III RFI soil and groundwater investigations were implemented from October through December 1996 and the RFI Report was submitted to the Agencies in June 1997.

Surface Water and Streambed Sediment Activities

- The WDNR submitted comments on the Preliminary Characterization Report Surface Water and Streambed Sediment (March 1997) to Beazer via letter dated February 10, 1998, (received by Beazer February 17, 1998).

  - In accordance with the February 10, 1998, letter, Beazer submitted the document, *Supplemental Investigation Work Plan, Surface Water and Streambed Sediment* to the WDNR on May 4, 1998.

  - WDNR provided comments in a letter dated January 29, 1999.

  - Beazer responded to the comments in correspondence dated March 19, 1999.

  - A meeting was held on May 4, 1999 at the WDNR offices in Superior to discuss the Supplemental Investigation Work Plan, the Crawford Creek Surface Water and Sediment Work Plan, and the RFI Report.

- In the fall of 1999, an off-site Surface Water and Sediment Characterization Investigation was undertaken.

  - A Supplemental Investigation Work Plan for off-site surface water and sediment characterization was submitted to the WDNR on February 11, 2000.

  - The investigation summary report entitled *Supplemental Surface Water and Streambed Sediment Investigation Report* was submitted to WDNR on July 14, 2000.

- As further described below, additional investigations along Crawford Creek and the Outfall 001 drainage ditch were conducted in February 2003, May 2003, April-December 2005, and August 2013 through January 2014 and were reported to the WDNR on June 26, 2003, October 2, 2003, February 21, 2006, and April 15, 2014, respectively.

- Beazer submitted a Human Health and Ecological Risk Assessment (HHERA) for the off-property portion of the Site to the WDNR on January 15, 2009; WDNR provided comments on the HHERA on August 10, 2011 and March 14, 2012.

- On August 22, 2014, Beazer submitted to WDNR a Focused Corrective Measures Study (FCMS) for the off-property portion of the Site. Responses to WDNR comments on the HHERA were submitted to WDNR as Appendix A to the FCMS. WDNR provided draft comments on the FCMS to Beazer on November 13, 2014.

Soil Risk Evaluation Activities

- In a February 4, 1999 letter, the WDNR provided comments on the "Technical Memorandum on Soil Risk Procedures".

    - Beazer provided responses to the comments on the "Technical Memorandum on Soil Risk Procedures" to the WDNR on April 5, 1999.

    - Following additional coordination with the WDNR and the Wisconsin Department of Health and Family Services, AMEC Earth and Environmental, Inc. (AMEC) provided a letter to the WDNR on August 29, 2001 summarizing the agreed-upon changes to the soil risk procedures.

    - The WDNR confirmed AMEC's summary in a letter to Beazer dated October 17, 2001.

- A Post-Remediation Human Health Risk Assessment (HHRA) was submitted to the WDNR as an attachment to the March 2004 Focused CMS; the Post-Remediation HHRA was revised to reflect changes to Site conditions and additional sampling data, and was resubmitted with the revised Focused CMS in July 2007. Additional revisions were subsequently made to address WDNR comments, and an addendum to the July 2007 Post-Remediation HHRA was submitted to the WDNR on January 8, 2008. A revised HHRA Addendum was submitted in December 2009 to include additional soil sample data collected in 2008.

- In December 2009, Beazer submitted an On-Property CMI Design Report to the WDNR, which outlined the scope of work for implementing corrective measures to address impacted surface soils in the on-property portion of the Site and the on-property portion of the Outfall 001 drainage ditch. WDNR

approved the CMI Design Report in May 2010. The corrective measures construction activities were initiated in the fall of 2010, following receipt of the necessary permits, and were completed in July 2011. A Construction Documentation Report was submitted to the WDNR in September 2011. As a required component of the on-property corrective actions, Beazer submitted a *Notification of Continuing Obligations and Residual Contamination* to the property owner on June 16, 2014, and a GIS Registry Submittal to WDNR on August 5, 2015.

Bedrock Investigation Activities

- The WDNR provided comments on the RFI Report (June 1997) to Beazer in a letter dated February 15, 1999.
    - Beazer provided responses to the comments on the RFI Work Plan to the WDNR on March 26, 1999 and subsequently installed three additional wells to monitor the sandstone bedrock beneath the Site.
- An RFI Bedrock Monitoring Wells Report was submitted to WDNR on July 14, 2000.
    - Data related to sampling which was conducted at the three existing bedrock monitoring wells in the northern portion of the facility (W-18D, W-33D, and W-34D) were summarized in a letter to the WDNR dated September 21, 2001.
    - That letter proposed two additional rounds of sampling at the three existing bedrock monitoring wells and that additional off-site bedrock wells were not warranted.
    - On February 14, 2002, the WDNR issued a letter to Beazer providing comments on the *RFI Bedrock Monitoring Wells Report* and the September 21, 2001 letter.
- In a letter to the WDNR dated April 18, 2003, Beazer proposed the scope of continued short-term groundwater monitoring at the three existing bedrock wells.
- Additional bedrock groundwater sampling has been performed since 2003 in conjunction with the Site's semiannual groundwater monitoring program.

Additional Site Issues

- On May 23, 2000, Beazer submitted a Request for Modification of the Closure and Long Term Care Plan Approval and Corrective Action Management Unit (CAMU) Demonstration (CAMU Demonstration Document) to the WDNR.
    - The WDNR provided a letter on November 1, 2000 stating that enough substantive information has been provided to confirm that the CAMU application is “substantially in the approval process”.

- In a letter to Beazer dated January 23, 2002, the WDNR provided a Notice of Incompleteness related to the CAMU Demonstration Document.
- In a letter to the WDNR dated April 15, 2002, Beazer responded to the WNDR's January 23, 2002 comments on the CAMU Demonstration Document.
- In July, 2002, Beazer conducted wetland assessment/delineation activities at the Site to determine the presence and extent of regulated wetlands within the proposed CAMU location.
- In a letter to Beazer dated January 17, 2003, the WDNR suggested that Beazer review Wisconsin regulations to determine the requirements for potential offset distances.
- In a July 30, 2003 letter to the WDNR, Beazer summarized the basis for the WDNR-referenced offset distances.
- During the November 21, 2003 project meeting, the WDNR indicated that the offset requirements were not applicable to the proposed CAMU.

- In a letter dated July 25, 2001, Beazer provided a work plan to the WNDR related to for supplemental investigations at the facility and in off-property areas.
  - The proposed investigation included fire pond probing and sampling, and additional sampling at bedrock monitoring wells, test pit excavations in the Crawford Creek floodplain, and sediment/floodplain soil sampling in the Crawford Creek area.
  - The on-site portions of these investigations were completed in December 2001 and the associated results were provided to the WDNR in a letter from BBL dated April 12, 2002.
  - In a letter to Beazer dated April 11, 2002, the WDNR provided comments on the July 25, 2001 work plan letter.
  - Beazer provided responses to the WDNR's comments in a letter dated April 30, 2002.
  - On June 24, 2002, Beazer provided a letter to the WDNR to obtain the necessary wetland-related permits/approvals to conduct the Crawford Creek floodplain investigation.
  - On December 30, 2002, Beazer provided another letter to the WDNR proposing an alternate approach for performing the Crawford Creek floodplain investigations, whereby the work would be completed

during frozen ground conditions, which would not require WDNR wetland-related permits/approvals.

- Throughout 2002, ongoing negotiations were conducted with a nearby property owner to gain access to his property, which is necessary to conduct the Crawford Creek floodplain investigation.

- The Crawford Creek investigation activities (including floodplain test pits and sediment/floodplain soil sampling) were performed in February 2003; a letter report summarizing the scope and findings of the Crawford Creek investigation activities was submitted to the WDNR on June 26, 2003.

- Additional investigations of the Outfall 001 drainage ditch (including visual characterization of manually recovered soil cores collected within and adjacent to the ditch) were performed between May 19 and 22, 2003; a letter report summarizing the scope and findings of the investigation activities was submitted to the WDNR on October 2, 2003.

- Based on a letter from the WDNR dated January 22, 2004 and discussions during a conference call on February 26, 2004, additional investigations of the Outfall 001 drainage ditch and Crawford Creek were conducted between April and December 2005; the investigation results were reported to the WDNR on February 21, 2006.

- Based on discussions during a January 20, 2005 meeting/conference call and a letter from the WDNR dated January 25, 2005, additional on-property soil sampling was conducted in April and September 2005; the sampling results were reported to the WDNR on February 22, 2006.

- Additional on-property soil samples were collected in 2006 to support revisions to the HHRA.

- In a letter to Beazer dated April 11, 2002, the WDNR requested information regarding the potential presence of PAHs and dioxins/furans in Nemadji River fish.

  - In a letter dated July 10, 2002, Beazer provided the requested information to the WDNR.

  - In a memorandum to the WDNR dated January 17, 2003, the WDHFS requested additional information to support the conclusion that collecting and analyzing samples of fish in Crawford Creek and Nemadji River is not warranted.

  - The requested additional information was provided in a letter from AMEC to the WDNR dated June 1, 2003.

- Revised dioxin/furan fish tissue concentration calculated based on data collected in May 2003 were provided to the WDNR in a letter from AMEC dated October 14, 2003.

- Additional off-property investigations (soil borings, soil sampling, temporary well installations, and groundwater sampling in the Crawford Creek floodplain area) were completed from August 2013 through January 2014 in accordance with a work plan submitted to the WDNR on June 28, 2013 and conditionally approved by the WDNR on July 3, 2013. The investigation results were reported to WDNR on April 15, 2014.

APPENDIX B

Field Data and Notes

First Semi-Annual Event

LOW-FLOW GROUNDWATER SAMPLE COLLECTION RECORD

WELL No.: W-04AR

Client:	Beazer East, Inc.	**Well ID:**	W-04AR
Project Name:	Superior 2017 1SA Sampling	**Date:**	05/05/2017 1405
Project Number:	OM-0556-17-091	**Technician:**	Nathan Bachik
Location:	Superior	**Weather Conditions:**	

WATER LEVEL DATA

a.) Depth To Groundwater:	DRY (ft)	e.) Depth to LNAPL:	N/M (ft)
b.) Total Well Depth:	N/M (ft)	f.) Depth to DNAPL:	N/M (ft)
c.) Length of Water Column:	N/A (ft)	g.) LNAPL Thickness:	N/M (ft)
d.) Well Volume:	N/A (gal)	h.) DNAPL Thickness:	N/M (ft)

WATER PURGE DATA

Purge Method: _____ Purge Start: _____

Conductivity Unit: _____ Purge End: _____

Total Volume Removed (gals): 0.00

Field Equipment	Calibrated
	No

Sampling Equipment	Dedicated
	No

PRE-PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity ()	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
Initial	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	

PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant							

SAMPLE COLLECTION INFORMATION

Lab	Parameter	Method	Bottle QTY Required	Bottle QTY Collected	BottleType	Preservative	Program

SAMPLE IDENTIFICATION(S)

Sample Start time: n/a

Sample Finish time: n/a

Comments: No Samples collected due to damage that was reported during the well inspection.

FTS Field & Technical Services, LLC

WELL No.: W-06A

LOW-FLOW GROUNDWATER SAMPLE COLLECTION RECORD

Client:	Beazer East, Inc.	**Well ID:**	W-06A
Project Name:	Superior 2017 1SA Sampling	**Date:**	04/27/2017 0857
Project Number:	OM-0556-17-091	**Technician:**	Jena Lexie
Location:	Superior	**Weather Conditions:**	28F cloudy

WATER LEVEL DATA

a.) Depth To Groundwater:	2.35	(ft)	e.) Depth to LNAPL:	NP	(ft)
b.) Total Well Depth:	13.21	(ft)	f.) Depth to DNAPL:	NP	(ft)
c.) Length of Water Column:	10.86	(ft)	g.) LNAPL Thickness:	N/A	(ft)
d.) Well Volume:	1.77	(gal)	h.) DNAPL Thickness:	N/A	(ft)

WATER PURGE DATA

Purge Method: Non-Dedicated Bladder Pump

Conductivity Unit: ms/cm

Total Volume Removed (gals): 0.50

Purge Start: 04/27/2017 0935

Purge End: 04/27/2017 1000

Field Equipment	Calibrated
LaMotte 2020we Turbidity Meter 4714-3514	Yes
Heron 200' Water level meter 2615-T	No
YSI 556 MPS 10A101775	Yes

Sampling Equipment	Dedicated
Geotech Bladder pump 165	No

PRE-PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
Initial	0935	75	5.26	7.55	0.897	-24.8	4.11	6.66	2.58	

PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
1	0940	75	5.20	7.16	0.921	-9.9	2.26	5.24	2.75	
2	0945	75	5.16	7.11	0.923	-3.5	2.09	5.14	2.81	
3	0950	75	5.12	7.10	0.924	-3.1	1.88	5.11	2.84	
4	0955	75	5.09	7.09	0.922	-2.9	1.86	5.05	2.84	
5	1000	75	5.10	7.07	0.923	-2.8	1.85	5.08	2.84	

SAMPLE COLLECTION INFORMATION

Lab	Parameter	Method	Bottle QTY Required	Bottle QTY Collected	BottleType	Preservative	Program
TAPIT	8021B_VOA+naphtha	8260B_VOA+naphtha	2	3	40 ml glass vial	HCL	Superior 2017 1SA Sampling_001
TAPIT	8270C_SVOC (less naphtha)	8270C_SVOC (less naphtha)	2	2	1 liter amber bottle	None	Superior 2017 1SA Sampling_001
TAKNOX	8290_Dioxins/Furans	8290_Dioxins/Furans	2	2	1 liter amber glass	None	Superior 2017 1SA Sampling_001

SAMPLE IDENTIFICATION(S)
Normal Sample :SUPE-W-06A-042717

Sample Start time: 04/27/2017 1004

Sample Finish time: 04/27/2017 1115

Comments:

FTS Field & Technical Services, LLC

WELL No.: W-06C

LOW-FLOW GROUNDWATER SAMPLE COLLECTION RECORD

Client:	Beazer East, Inc.	**Well ID:**	W-06C
Project Name:	Superior 2017 1SA Sampling	**Date:**	04/27/2017 1155
Project Number:	OM-0556-17-091	**Technician:**	Jena Lexie
Location:	Superior	**Weather Conditions:**	28F cloudy

WATER LEVEL DATA

a.) Depth To Groundwater:	11.38	(ft)	e.) Depth to LNAPL:	NP	(ft)
b.) Total Well Depth:	43.92	(ft)	f.) Depth to DNAPL:	NP	(ft)
c.) Length of Water Column:	32.54	(ft)	g.) LNAPL Thickness:	N/A	(ft)
d.) Well Volume:	5.31	(gal)	h.) DNAPL Thickness:	N/A	(ft)

WATER PURGE DATA

Purge Method: Non-Dedicated Bladder Pump

Conductivity Unit: ms/cm

Total Volume Removed (gals): 1.65

Purge Start: 04/27/2017 1214

Purge End: 04/27/2017 1239

Field Equipment	Calibrated
Heron 200' Water level meter 2615-T	No
LaMotte 2020we Turbidity Meter 4714-3514	Yes
YSI 556 MPS 10A101775	Yes

Sampling Equipment	Dedicated
Geotech Bladder pump 165	No

PRE-PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
Initial	1214	250	5.00	8.34	0.662	-51.6	4.33	4.84	11.41	

PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
1	1219	250	5.09	8.02	0.660	-58.0	1.77	4.02	11.41	
2	1224	250	4.33	8.00	0.660	-60.1	1.26	3.99	11.41	
3	1229	250	4.31	7.98	0.661	-61.2	1.14	3.81	11.41	
4	1234	250	4.34	7.97	0.663	-61.8	1.11	3.84	11.41	
5	1239	250	4.30	7.97	0.663	-61.9	1.09	3.72	11.41	

SAMPLE COLLECTION INFORMATION

Lab	Parameter	Method	Bottle QTY Required	Bottle QTY Collected	BottleType	Preservative	Program
TAPIT	8021B_VOA+naphtha	8260B_VOA+naphtha	2	3	40 ml glass vial	HCL	Superior 2017 1SA Sampling_001
TAPIT	8270C_SVOC (less naphtha)	8270C_SVOC (less naphtha)	2	2	1 liter amber bottle	None	Superior 2017 1SA Sampling_001
TAKNOX	8290_Dioxins/Furans	8290_Dioxins/Furans	2	2	1 liter amber glass	None	Superior 2017 1SA Sampling_001

SAMPLE IDENTIFICATION(S)
Normal Sample :SUPE-W-06C-042717

Sample Start time: 04/27/2017 1243

Sample Finish time: 04/27/2017 1312

Comments:

WELL No.: W-10AR2

LOW-FLOW GROUNDWATER SAMPLE COLLECTION RECORD

Client:	Beazer East, Inc.	**Well ID:**	W-10AR2
Project Name:	Superior 2017 1SA Sampling	**Date:**	04/27/2017 1415
Project Number:	OM-0556-17-091	**Technician:**	Nathan Bachik
Location:	Superior	**Weather Conditions:**	30, Cloudy

WATER LEVEL DATA

a.) Depth To Groundwater:	3.04	(ft)	e.) Depth to LNAPL:	NP	(ft)
b.) Total Well Depth:	17.51	(ft)	f.) Depth to DNAPL:	NP	(ft)
c.) Length of Water Column:	14.47	(ft)	g.) LNAPL Thickness:	N/A	(ft)
d.) Well Volume:	2.36	(gal)	h.) DNAPL Thickness:	N/A	(ft)

WATER PURGE DATA

Purge Method: Non-Dedicated Bladder Pump

Conductivity Unit: ms/cm

Total Volume Removed (gals): 0.50

Purge Start: 04/27/2017 1423

Purge End: 04/27/2017 1448

Field Equipment	Calibrated
LaMotte 2020we 4705-3514	Yes
Heron Dipper T Water Level Meter 200' 1310-T	No
YSI 556 13A101191	Yes

Sampling Equipment	Dedicated
Geotech Bladder Pump 161	No

PRE-PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
Initial	1423	75	5.53	7.07	1.159	-58.6	5.68	15.60	3.27	odor present

PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
1	1428	75	4.88	7.02	1.179	-55.1	2.21	9.63	3.35	odor present
2	1433	75	4.44	6.97	1.192	-52.8	1.70	8.62	3.41	odor present
3	1438	75	4.21	6.96	1.197	-52.7	1.35	8.42	3.45	odor present
4	1443	75	4.16	6.96	1.201	-53.0	1.34	8.54	3.47	odor present
5	1448	75	4.12	6.98	1.203	-55.0	1.27	8.66	3.48	odor present

SAMPLE COLLECTION INFORMATION

Lab	Parameter	Method	Bottle QTY Required	Bottle QTY Collected	BottleType	Preservative	Program
TAPIT	8021B_VOA+naphtha	8260B_VOA+naphtha	2	3	40 ml glass vial	HCL	Superior 2017 1SA Sampling_001
TAPIT	8270C_SVOC (less naphtha)	8270C_SVOC (less naphtha)	2	2	1 liter amber bottle	None	Superior 2017 1SA Sampling_001
TAKNOX	8290_Dioxins/Furans	8290_Dioxins/Furans	2	2	1 liter amber glass	None	Superior 2017 1SA Sampling_001

SAMPLE IDENTIFICATION(S)
Normal Sample :SUPE-W-10AR2-042717
Equipment Blank :SUPE-EB-02-042717

Sample Start time: 04/27/2017 1451

Sample Finish time: 04/27/2017 1546

Comments: Purged at slowest sustainable rate.

FTS Field & Technical Services, LLC

WELL No.: W-12A

LOW-FLOW GROUNDWATER SAMPLE COLLECTION RECORD

Client:	Beazer East, Inc.	**Well ID:**	W-12A
Project Name:	Superior 2017 1SA Sampling	**Date:**	04/27/2017 1406
Project Number:	OM-0556-17-091	**Technician:**	Jena Lexie
Location:	Superior	**Weather Conditions:**	28F cloudy

WATER LEVEL DATA

a.) Depth To Groundwater:	2.61	(ft)	e.) Depth to LNAPL:	NP	(ft)
b.) Total Well Depth:	13.38	(ft)	f.) Depth to DNAPL:	NP	(ft)
c.) Length of Water Column:	10.77	(ft)	g.) LNAPL Thickness:	N/A	(ft)
d.) Well Volume:	1.76	(gal)	h.) DNAPL Thickness:	N/A	(ft)

WATER PURGE DATA

Purge Method: Non-Dedicated Bladder Pump

Conductivity Unit: ms/cm

Total Volume Removed (gals): 0.99

Purge Start: 04/27/2017 1429

Purge End: 04/27/2017 1459

Field Equipment	Calibrated
Heron 200' Water level meter 2615-T	No
YSI 556 MPS 10A101775	Yes
LaMotte 2020we Turbidity Meter 4714-3514	Yes

Sampling Equipment	Dedicated
Geotech Bladder pump 165	No

PRE-PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
Initial	1429	125	3.39	7.89	0.835	23.6	5.28	7.81	2.69	

PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
1	1434	125	4.04	7.26	0.857	29.9	3.47	6.26	2.72	
2	1439	125	4.06	7.23	0.861	30.5	2.98	5.74	2.74	
3	1444	125	4.05	7.23	0.866	31.1	2.11	5.69	2.74	
4	1449	125	4.06	7.22	0.873	31.4	1.25	5.43	2.74	
5	1454	125	4.03	7.21	0.878	32.0	1.27	5.41	2.74	
6	1459	125	4.02	7.21	0.880	32.6	1.26	5.35	2.74	

SAMPLE COLLECTION INFORMATION

Lab	Parameter	Method	Bottle QTY Required	Bottle QTY Collected	BottleType	Preservative	Program
TAPIT	8021B_VOA+naphtha	8260B_VOA+naphtha	2	3	40 ml glass vial	HCL	Superior 2017 1SA Sampling_001
TAPIT	8270C_SVOC (less naphtha)	8270C_SVOC (less naphtha)	2	2	1 liter amber bottle	None	Superior 2017 1SA Sampling_001
TAKNOX	8290_Dioxins/Furans	8290_Dioxins/Furans	2	2	1 liter amber glass	None	Superior 2017 1SA Sampling_001

SAMPLE IDENTIFICATION(S)
Normal Sample :SUPE-W-12A-042717

Sample Start time: 04/27/2017 1505

Sample Finish time: 04/27/2017 1544

Comments:

WELL No.: W-12CR

LOW-FLOW GROUNDWATER SAMPLE COLLECTION RECORD

Client:	Beazer East, Inc.	**Well ID:**	W-12CR
Project Name:	Superior 2017 1SA Sampling	**Date:**	04/27/2017 1034
Project Number:	OM-0556-17-091	**Technician:**	Nathan Bachik
Location:	Superior	**Weather Conditions:**	27, Cloudy

WATER LEVEL DATA

a.) Depth To Groundwater:	14.49	(ft)	e.) Depth to LNAPL:	NP	(ft)
b.) Total Well Depth:	47.66	(ft)	f.) Depth to DNAPL:	NP	(ft)
c.) Length of Water Column:	33.17	(ft)	g.) LNAPL Thickness:	N/A	(ft)
d.) Well Volume:	5.41	(gal)	h.) DNAPL Thickness:	N/A	(ft)

WATER PURGE DATA

Purge Method: Non-Dedicated Bladder Pump

Conductivity Unit: ms/cm

Total Volume Removed (gals): 1.59

Purge Start: 04/27/2017 1039

Purge End: 04/27/2017 1109

Field Equipment	Calibrated
YSI 556 13A101191	Yes
Heron Dipper T Water Level Meter 200' 1310-T	No
LaMotte 2020we 4705-3514	Yes

Sampling Equipment	Dedicated
Geotech Bladder Pump 161	No

PRE-PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
Initial	1039	200	6.44	7.85	1.154	-114.8	3.74	4.23	14.54	

PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
1	1044	200	6.40	7.79	1.163	-117.6	2.30	3.87	14.55	
2	1049	200	6.37	7.76	1.168	-118.5	1.24	3.77	14.55	
3	1054	200	6.34	7.72	1.171	-117.0	0.96	3.51	14.55	
4	1059	200	6.30	7.69	1.171	-116.2	0.86	3.43	14.55	
5	1104	200	6.26	7.67	1.173	-115.4	0.83	3.35	14.55	
6	1109	200	6.23	7.64	1.171	-114.6	0.80	3.31	14.55	

SAMPLE COLLECTION INFORMATION

Lab	Parameter	Method	Bottle QTY Required	Bottle QTY Collected	BottleType	Preservative	Program
TAPIT	8021B_VOA+naphtha	8260B_VOA+naphtha	2	3	40 ml glass vial	HCL	Superior 2017 1SA Sampling_001
TAPIT	8270C_SVOC (less naphtha)	8270C_SVOC (less naphtha)	2	2	1 liter amber bottle	None	Superior 2017 1SA Sampling_001
TAKNOX	8290_Dioxins/Furans	8290_Dioxins/Furans	2	2	1 liter amber glass	None	Superior 2017 1SA Sampling_001

Print Date: 5/5/2017
Print Time: 3:40:56PM

SAMPLE IDENTIFICATION(S)
Normal Sample :SUPE-W-12CR-042717

Sample Start time: 04/27/2017 1112

Sample Finish time: 04/27/2017 1135

Comments:

FTS Field & Technical Services, LLC

WELL No.: W-18D

LOW-FLOW GROUNDWATER SAMPLE COLLECTION RECORD

Client:	Beazer East, Inc.	**Well ID:**	W-18D
Project Name:	Superior 2017 1SA Sampling	**Date:**	04/26/2017 1554
Project Number:	OM-0556-17-091	**Technician:**	Nathan Bachik
Location:	Superior	**Weather Conditions:**	36, Cloudy

WATER LEVEL DATA

a.) Depth To Groundwater:	45.34	(ft)	e.) Depth to LNAPL:	NP	(ft)
b.) Total Well Depth:	201.85	(ft)	f.) Depth to DNAPL:	NP	(ft)
c.) Length of Water Column:	156.51	(ft)	g.) LNAPL Thickness:	N/A	(ft)
d.) Well Volume:	25.54	(gal)	h.) DNAPL Thickness:	N/A	(ft)

WATER PURGE DATA

Purge Method: Non-Dedicated Bladder Pump

Conductivity Unit: ms/cm

Total Volume Removed (gals): 0.99

Purge Start: 04/26/2017 1609

Purge End: 04/26/2017 1639

Field Equipment	Calibrated
Heron Dipper T Water Level Meter 200' 1310-T	No
YSI 556 13A101191	Yes
LaMotte 2020we 4705-3514	Yes

Sampling Equipment	Dedicated
Geotech Bladder Pump 161	No

PRE-PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
Initial	1609	125	6.61	10.86	0.515	43.6	6.73	6.45	45.44	

PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
1	1614	125	6.57	10.99	0.521	39.3	4.41	5.78	45.44	
2	1619	125	6.41	11.09	0.529	27.4	1.69	5.47	45.44	
3	1624	125	6.30	11.15	0.535	21.5	1.41	5.22	45.44	
4	1629	125	6.32	11.21	0.538	10.5	1.27	4.84	45.44	
5	1634	125	6.31	11.26	0.542	5.1	1.22	4.71	45.44	
6	1639	125	6.31	11.27	0.543	1.9	1.26	4.63	45.44	

SAMPLE COLLECTION INFORMATION

Lab	Parameter	Method	Bottle QTY Required	Bottle QTY Collected	BottleType	Preservative	Program
TAPIT	8270C_SVOC+Naphth	8270C_SVOC+naphtha	2	2	1 liter amber bottle	None	Superior 2017 1SA Sampling_001

SAMPLE IDENTIFICATION(S)

Normal Sample :SUPE-W-18D-042617

Sample Start time: 04/26/2017 1642

Sample Finish time: 04/26/2017 1700

Print Date: 5/5/2017
Print Time: 3:40:56PM

Comments:

FTS Field & Technical Services, LLC

WELL No.: W-28C

LOW-FLOW GROUNDWATER SAMPLE COLLECTION RECORD

Client:	Beazer East, Inc.	**Well ID:**	W-28C
Project Name:	Superior 2017 1SA Sampling	**Date:**	04/27/2017 0830
Project Number:	OM-0556-17-091	**Technician:**	Nathan Bachik
Location:	Superior	**Weather Conditions:**	26. Cloudy

WATER LEVEL DATA

a.) Depth To Groundwater:	13.14	(ft)	e.) Depth to LNAPL:	NP	(ft)
b.) Total Well Depth:	45.58	(ft)	f.) Depth to DNAPL:	NP	(ft)
c.) Length of Water Column:	32.44	(ft)	g.) LNAPL Thickness:	N/A	(ft)
d.) Well Volume:	5.29	(gal)	h.) DNAPL Thickness:	N/A	(ft)

WATER PURGE DATA

Purge Method: Non-Dedicated Bladder Pump

Purge Start: 04/27/2017 0842

Conductivity Unit: ms/cm

Purge End: 04/27/2017 0907

Total Volume Removed (gals): 1.32

Field Equipment	Calibrated
YSI 556 13A101191	Yes
Heron Dipper T Water Level Meter 200' 1310-T	No
LaMotte 2020we 4705-3514	Yes

Sampling Equipment	Dedicated
Geotech Bladder Pump 161	No

PRE-PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
Initial	0842	200	6.59	7.75	0.888	-115.2	5.97	4.74	13.22	

PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
1	0847	200	6.38	7.73	0.903	-131.7	1.25	4.12	13.23	
2	0852	200	6.34	7.75	0.936	-138.6	0.83	3.75	13.24	
3	0857	200	6.30	7.76	0.940	-140.2	0.63	3.61	13.24	
4	0902	200	6.27	7.76	0.940	-142.0	0.65	3.52	13.24	
5	0907	200	6.29	7.77	0.941	-142.8	0.61	3.47	13.24	

SAMPLE COLLECTION INFORMATION

Lab	Parameter	Method	Bottle QTY Required	Bottle QTY Collected	BottleType	Preservative	Program
TAPIT	8021B_VOA+naphtha	8260B_VOA+naphtha	2	3	40 ml glass vial	HCL	Superior 2017 1SA Sampling_001
TAPIT	8270C_SVOC (less naphtha)	8270C_SVOC (less naphtha)	2	2	1 liter amber bottle	None	Superior 2017 1SA Sampling_001
TAKNOX	8290_Dioxins/Furans	8290_Dioxins/Furans	2	2	1 liter amber glass	None	Superior 2017 1SA Sampling_001

SAMPLE IDENTIFICATION(S)
Normal Sample :SUPE-W-28C-042717
Trip Blank :SUPE-TB-02-042717
Blind Duplicate :SUPE-M-99A-042717

Sample Start time: 04/27/2017 0910

Sample Finish time: 04/27/2017 0957

Comments:

FTS Field & Technical Services, LLC

LOW-FLOW GROUNDWATER SAMPLE COLLECTION RECORD

WELL No.: W-30A

Client:	Beazer East, Inc.	**Well ID:**	W-30A
Project Name:	Superior 2017 1SA Sampling	**Date:**	04/27/2017 1154
Project Number:	OM-0556-17-091	**Technician:**	Nathan Bachik
Location:	Superior	**Weather Conditions:**	28, Cloudy

WATER LEVEL DATA

a.) Depth To Groundwater:	2.23	(ft)	e.) Depth to LNAPL:	NP	(ft)
b.) Total Well Depth:	13.28	(ft)	f.) Depth to DNAPL:	NP	(ft)
c.) Length of Water Column:	11.05	(ft)	g.) LNAPL Thickness:	N/A	(ft)
d.) Well Volume:	1.80	(gal)	h.) DNAPL Thickness:	N/A	(ft)

WATER PURGE DATA

Purge Method: Non-Dedicated Bladder Pump

Conductivity Unit: ms/cm

Total Volume Removed (gals): 0.50

Purge Start: 04/27/2017 1215

Purge End: 04/27/2017 1240

Field Equipment	Calibrated
LaMotte 2020we 4705-3514	Yes
YSI 556 13A101191	Yes
Heron Dipper T Water Level Meter 200' 1310-T	No

Sampling Equipment	Dedicated
Geotech Bladder Pump 161	No

PRE-PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
Initial	1215	75	3.58	6.94	1.420	-69.1	6.33	29.40	2.51	

PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
1	1220	75	3.24	6.83	1.441	-62.9	2.82	12.60	2.58	
2	1225	75	2.96	6.78	1.447	-58.4	1.39	9.24	2.64	
3	1230	75	2.72	6.75	1.446	-53.6	1.22	8.78	2.68	
4	1235	75	2.67	6.78	1.449	-53.0	1.18	8.81	2.71	
5	1240	75	2.62	6.79	1.454	-53.3	1.12	8.90	2.72	

SAMPLE COLLECTION INFORMATION

Lab	Parameter	Method	Bottle QTY Required	Bottle QTY Collected	BottleType	Preservative	Program
TAPIT	8021B_VOA+naphtha	8260B_VOA+naphtha	2	3	40 ml glass vial	HCL	Superior 2017 1SA Sampling_001
TAPIT	8270C_SVOC (less naphtha)	8270C_SVOC (less naphtha)	2	2	1 liter amber bottle	None	Superior 2017 1SA Sampling_001
TAKNOX	8290_Dioxins/Furans	8290_Dioxins/Furans	2	2	1 liter amber glass	None	Superior 2017 1SA Sampling_001

SAMPLE IDENTIFICATION(S)
Normal Sample :SUPE-W-30A-042717

Sample Start time: 04/27/2017 1243

Sample Finish time: 04/27/2017 1338

Comments: Purged at slowest sustainable rate.

WELL No.: W-30C

LOW-FLOW GROUNDWATER SAMPLE COLLECTION RECORD

Client:	Beazer East, Inc.	**Well ID:**	W-30C
Project Name:	Superior 2017 1SA Sampling	**Date:**	04/26/2017 1604
Project Number:	OM-0556-17-091	**Technician:**	Jena Lexie
Location:	Superior	**Weather Conditions:**	33 cloudy

WATER LEVEL DATA

a.) Depth To Groundwater:	13.96	(ft)	e.) Depth to LNAPL:	NP	(ft)
b.) Total Well Depth:	48.60	(ft)	f.) Depth to DNAPL:	NP	(ft)
c.) Length of Water Column:	34.64	(ft)	g.) LNAPL Thickness:	N/A	(ft)
d.) Well Volume:	5.65	(gal)	h.) DNAPL Thickness:	N/A	(ft)

WATER PURGE DATA

Purge Method: Non-Dedicated Bladder Pump

Purge Start: 04/26/2017 1609

Conductivity Unit: ms/cm

Purge End: 04/26/2017 1634

Total Volume Removed (gals): 0.99

Field Equipment	Calibrated
LaMotte2020we 4514-3714	Yes
YSI 556 MPS 10A101775	Yes
Heron 200' water level meter 2615-T	No

Sampling Equipment	Dedicated
Geotech Bladder pump 165	No

PRE-PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
Initial	1609	150	5.73	8.06	0.799	72.6	4.85	3.46	13.99	

PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
1	1614	150	5.85	7.94	0.766	11.4	2.28	2.33	13.99	
2	1619	150	5.90	7.95	0.764	10.6	1.10	1.21	13.99	
3	1624	150	5.89	7.95	0.763	9.9	0.89	1.09	13.99	
4	1629	150	5.91	7.95	0.763	9.5	0.84	1.02	13.99	
5	1634	150	5.90	7.95	0.763	9.1	0.82	0.99	13.99	

SAMPLE COLLECTION INFORMATION

Lab	Parameter	Method	Bottle QTY Required	Bottle QTY Collected	BottleType	Preservative	Program
TAPIT	8021B_VOA+naphtha	8260B_VOA+naphtha	2	3	40 ml glass vial	HCL	Superior 2017 1SA Sampling_001
TAPIT	8270C_SVOC (less naphtha)	8270C_SVOC (less naphtha)	2	2	1 liter amber bottle	None	Superior 2017 1SA Sampling_001
TAKNOX	8290_Dioxins/Furans	8290_Dioxins/Furans	2	2	1 liter amber glass	None	Superior 2017 1SA Sampling_001

SAMPLE IDENTIFICATION(S)
Normal Sample :SUPE-W-30C-042617
Trip Blank :SUPE-TB-01-042617
Equipment Blank :SUPE-EB-01-042617

Sample Start time: 04/26/2017 1638

Sample Finish time: 04/26/2017 1710

Comments:

Second Semi-Annual Event

FTS Field & Technical Services, LLC

LOW-FLOW GROUNDWATER SAMPLE COLLECTION RECORD

WELL No.: W-04AR2

Client:	Beazer East, Inc.	Well ID:	W-04AR2
Project Name:	Superior 2017 2SA Sampling	Date:	10/04/2017 1432
Project Number:	OM-0556-17-091	Technician:	Brendan Rick
Location:	Superior	Weather Conditions:	partly cloudy 55 breezy

WATER LEVEL DATA

a.) Depth To Groundwater:	3.64	(ft)	e.) Depth to LNAPL:	NP	(ft)
b.) Total Well Depth:	14.10	(ft)	f.) Depth to DNAPL:	NP	(ft)
c.) Length of Water Column:	10.46	(ft)	g.) LNAPL Thickness:	N/A	(ft)
d.) Well Volume:	1.71	(gal)	h.) DNAPL Thickness:	N/A	(ft)

WATER PURGE DATA

Purge Method: Non-Dedicated Bladder Pump

Purge Start: 10/04/2017 1438

Conductivity Unit: ms/cm

Purge End: 10/04/2017 1503

Total Volume Removed (gals): 0.66

Field Equipment	Calibrated
LaMotte 2020we Turbidity Meter 6110-4815	Yes
YSI 556 MPS 15M101116	Yes
Heron Water Level Meter 200' 2666-T	No

Sampling Equipment	Dedicated
QED Well Wizard 22972	No
geotech bladder pump 165	No

PRE-PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
Initial	1438	100	14.01	7.62	0.930	-136.9	7.69	8.71	3.68	

PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
1	1443	100	13.44	7.48	0.924	-143.9	4.88	7.66	3.76	
2	1448	100	14.09	7.43	0.937	-142.0	4.08	7.32	3.79	
3	1453	100	14.07	7.39	0.935	-141.7	3.64	7.24	3.80	
4	1458	100	14.05	7.35	0.939	-141.2	3.62	7.18	3.82	
5	1503	100	14.07	7.32	0.926	-141.1	3.59	7.08	3.84	

SAMPLE COLLECTION INFORMATION

Lab	Parameter	Method	Bottle QTY Required	Bottle QTY Collected	BottleType	Preservative	Program
TAPIT	8260B_VOA+naphtha	8260B_VOA+naphtha	2	3	40 ml glass vial	HCL	Superior 2017 2SA Sampling_001
TAPIT	8270C_SVOC (less naphtha)	8270C_SVOC (less naphtha)	2	2	1 liter amber bottle	None	Superior 2017 2SA Sampling_001

SAMPLE IDENTIFICATION(S)

Normal Sample :SUPE-W-04AR2-100417

Equipment Blank :SUPE-EB-01-100417

Blind Duplicate :SUPE-W-99A-100417

Sample Start time: 10/04/2017 1508

Sample Finish time: 10/04/2017 1556

Print Date: 10/16/2017

Comments: _____

FTS Field & Technical Services, LLC

LOW-FLOW GROUNDWATER SAMPLE COLLECTION RECORD

WELL No.: W-10AR2

Client:	Beazer East, Inc.	Well ID:	W-10AR2
Project Name:	Superior 2017 2SA Sampling	Date:	10/05/2017 0721
Project Number:	OM-0556-17-091	Technician:	Cody Coats
Location:	Superior	Weather Conditions:	44 degrees, overcast

WATER LEVEL DATA

a.) Depth To Groundwater:	4.23	(ft)	e.) Depth to LNAPL:	NP	(ft)
b.) Total Well Depth:	17.53	(ft)	f.) Depth to DNAPL:	NP	(ft)
c.) Length of Water Column:	13.30	(ft)	g.) LNAPL Thickness:	N/A	(ft)
d.) Well Volume:	2.17	(gal)	h.) DNAPL Thickness:	N/A	(ft)

WATER PURGE DATA

Purge Method:	Non-Dedicated Bladder Pump	Purge Start:	10/05/2017 0732
Conductivity Unit:	ms/cm	Purge End:	10/05/2017 0757
Total Volume Removed (gals):	0.66		

Field Equipment	Calibrated
LaMotte 2020we 4714-3514	Yes
Heron 200ft Water Level 3445-T	No
YS 556 10B100136	Yes

Sampling Equipment	Dedicated
Well Wizard 3020 21850	No
Geotech Bladder Pump 161	No
QED Bladder Pump System MP102304	No

PRE-PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
Initial	0732	100	10.14	6.89	1.087	-69.0	5.01	5.00	4.52	

PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
1	0737	100	10.28	6.93	1.094	-97.3	4.29	4.37	4.56	
2	0742	100	10.54	6.94	1.092	-108.2	3.91	4.08	4.58	
3	0747	100	10.60	6.93	1.094	-123.9	3.75	3.86	4.60	
4	0752	100	10.65	6.93	1.078	-129.6	3.58	3.75	4.62	
5	0757	100	10.73	6.91	1.067	-131.7	3.51	3.56	4.62	

SAMPLE COLLECTION INFORMATION

Lab	Parameter	Method	Bottle QTY Required	Bottle QTY Collected	BottleType	Preservative	Program
TAPIT	8260B_VOA+naphtha	8260B_VOA+naphtha	2	3	40 ml glass vial	HCL	Superior 2017 2SA Sampling_001
TAPIT	8270C_SVOC (less naphtha)	8270C_SVOC (less naphtha)	2	2	1 liter amber bottle	None	Superior 2017 2SA Sampling_001

SAMPLE IDENTIFICATION(S)

Normal Sample :SUPE-W-10AR2-100517
Trip Blank :SUPE-TB-01-100517
Equipment Blank :SUPE-EB-02-100517

Sample Start time: 10/05/2017 0759

Sample Finish time: 10/05/2017 0824

Print Date: 10/16/2017
Print Time: 9:45:24AM

Comments: _____

FTS Field & Technical Services, LLC

LOW-FLOW GROUNDWATER SAMPLE COLLECTION RECORD

WELL No.: W-06A

Client:	Beazer East, Inc.	**Well ID:**	W-06A
Project Name:	Superior 2017 2SA Sampling	**Date:**	10/04/2017 1124
Project Number:	OM-0556-17-091	**Technician:**	Cody Coats
Location:	Superior	**Weather Conditions:**	55 degrees sunny

WATER LEVEL DATA

a.) Depth To Groundwater:	2.64	(ft)	e.) Depth to LNAPL:	NP	(ft)
b.) Total Well Depth:	13.18	(ft)	f.) Depth to DNAPL:	NP	(ft)
c.) Length of Water Column:	10.54	(ft)	g.) LNAPL Thickness:	N/A	(ft)
d.) Well Volume:	1.72	(gal)	h.) DNAPL Thickness:	N/A	(ft)

WATER PURGE DATA

Purge Method: Non-Dedicated Bladder Pump

Conductivity Unit: ms/cm

Total Volume Removed (gals): 0.66

Purge Start: 10/04/2017 1133

Purge End: 10/04/2017 1158

Field Equipment	Calibrated
Heron 200 ft Water Level 3445-T	No
YSI 556 10B100136	Yes
LaMotte 2020we 4714-351	Yes

Sampling Equipment	Dedicated
Geotech Portable Bladder Pump 161	No
QED Bladder Pump System MP102304	No
Well Wizard 3020 21850	No

PRE-PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
Initial	1133	100	12.75	7.26	0.930	-84.3	1.61	5.75	2.90	

PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
1	1138	100	12.63	7.22	0.935	-105.7	1.39	4.98	3.12	
2	1143	100	12.90	7.21	0.934	-110.7	1.01	4.57	3.21	
3	1148	100	13.15	7.18	0.919	-97.8	0.98	4.42	3.25	
4	1153	100	12.92	7.15	0.912	-92.3	0.96	4.29	3.30	
5	1158	100	12.98	7.13	0.899	-89.8	0.91	4.13	3.32	

SAMPLE COLLECTION INFORMATION

Lab	Parameter	Method	Bottle QTY Required	Bottle QTY Collected	BottleType	Preservative	Program
TAPIT	8260B_VOA+naphtha	8260B_VOA+naphtha	2	3	40 ml glass vial	HCL	Superior 2017 2SA Sampling_001
TAPIT	8270C_SVOC (less naphtha)	8270C_SVOC (less naphtha)	2	2	1 liter amber bottle	None	Superior 2017 2SA Sampling_001

SAMPLE IDENTIFICATION(S)

Normal Sample :SUPE-W-06A-100417

Sample Start time: 10/04/2017 1159

Sample Finish time: 10/04/2017 1216

Print Date: 10/16/2017

Print Time: 9:45:24AM

Comments: _____

FTS Field & Technical Services, LLC

WELL No.: W-06C

LOW-FLOW GROUNDWATER SAMPLE COLLECTION RECORD

Client:	Beazer East, Inc.	**Well ID:**	W-06C
Project Name:	Superior 2017 2SA Sampling	**Date:**	10/04/2017 1221
Project Number:	OM-0556-17-091	**Technician:**	Cody Coats
Location:	Superior	**Weather Conditions:**	55 degrees partly cloudy

WATER LEVEL DATA

a.) Depth To Groundwater:	11.45	(ft)	e.) Depth to LNAPL:	NP	(ft)
b.) Total Well Depth:	44.00	(ft)	f.) Depth to DNAPL:	NP	(ft)
c.) Length of Water Column:	32.55	(ft)	g.) LNAPL Thickness:	N/A	(ft)
d.) Well Volume:	5.31	(gal)	h.) DNAPL Thickness:	N/A	(ft)

WATER PURGE DATA

Purge Method: Non-Dedicated Bladder Pump

Conductivity Unit: ms/cm

Total Volume Removed (gals): 1.32

Purge Start: 10/04/2017 1229

Purge End: 10/04/2017 1254

Field Equipment	Calibrated
Heron 200 ft Water Level 3445-T	No
LaMotte 2020we 4714-351	Yes
YSI 556 10B100136	Yes

Sampling Equipment	Dedicated
Well Wizard 3020 21850	No
QED Bladder Pump System MP102304	No
Geotech Portable Bladder Pump 161	No

PRE-PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
Initial	1229	200	9.94	7.77	0.660	-230.4	2.68	5.68	11.51	

PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
1	1234	200	9.24	7.76	0.652	-257.2	0.83	2.68	11.51	
2	1239	200	9.03	7.77	0.647	-272.8	0.43	2.10	11.51	
3	1244	200	8.97	7.77	0.646	-277.3	0.31	2.15	11.51	
4	1249	200	8.93	7.78	0.645	-278.5	0.29	2.13	11.51	
5	1254	200	8.95	7.79	0.644	-281.7	0.28	2.11	11.51	

SAMPLE COLLECTION INFORMATION

Lab	Parameter	Method	Bottle QTY Required	Bottle QTY Collected	BottleType	Preservative	Program
TAPIT	8260B_VOA+naphtha	8260B_VOA+naphtha	2	3	40 ml glass vial	HCL	Superior 2017 2SA Sampling_001
TAPIT	8270C_SVOC (less naphtha)	8270C_SVOC (less naphtha)	2	2	1 liter amber bottle	None	Superior 2017 2SA Sampling_001

SAMPLE IDENTIFICATION(S)

Normal Sample :SUPE-W-06C-100417

Sample Start time: 10/04/2017 1255

Sample Finish time: 10/04/2017 1307

Print Date: 10/16/2017

Comments: _____

FTS Field & Technical Services, LLC

LOW-FLOW GROUNDWATER SAMPLE COLLECTION RECORD

WELL No.: W-12A

Client:	Beazer East, Inc.	**Well ID:**	W-12A
Project Name:	Superior 2017 2SA Sampling	**Date:**	10/04/2017 1325
Project Number:	OM-0556-17-091	**Technician:**	Cody Coats
Location:	Superior	**Weather Conditions:**	55 degrees partly cloudy

WATER LEVEL DATA

a.) Depth To Groundwater:	2.54	(ft)	e.) Depth to LNAPL:	NP	(ft)
b.) Total Well Depth:	13.39	(ft)	f.) Depth to DNAPL:	NP	(ft)
c.) Length of Water Column:	10.85	(ft)	g.) LNAPL Thickness:	N/A	(ft)
d.) Well Volume:	1.77	(gal)	h.) DNAPL Thickness:	N/A	(ft)

WATER PURGE DATA

Purge Method: Non-Dedicated Bladder Pump

Conductivity Unit: ms/cm

Total Volume Removed (gals): 0.66

Purge Start: 10/04/2017 1331

Purge End: 10/04/2017 1356

Field Equipment	Calibrated
YSI 556 10B100136	Yes
Heron 200 ft Water Level 3445-T	No
LaMotte 2020we 4714-351	Yes

Sampling Equipment	Dedicated
Geotech Portable Bladder Pump 161	No
QED Bladder Pump System MP102304	No
Well Wizard 3020 21850	No

PRE-PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
Initial	1331	100	12.72	7.32	0.740	-122.2	1.66	10.10	3.12	

PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
1	1335	100	12.36	7.28	0.654	-102.5	1.40	9.89	3.48	
2	1340	100	13.25	7.27	0.593	-81.3	1.89	7.21	3.50	
3	1345	100	13.26	7.27	0.510	-64.1	2.37	6.95	3.51	
4	1350	100	13.12	7.28	0.505	-62.3	2.41	6.72	3.51	
5	1356	100	13.09	7.29	0.501	-62.8	2.43	6.56	3.51	

SAMPLE COLLECTION INFORMATION

Lab	Parameter	Method	Bottle QTY Required	Bottle QTY Collected	BottleType	Preservative	Program
TAPIT	8260B_VOA+naphtha	8260B_VOA+naphtha	2	3	40 ml glass vial	HCL	Superior 2017 2SA Sampling_001
TAPIT	8270C_SVOC (less naphtha)	8270C_SVOC (less naphtha)	2	2	1 liter amber bottle	None	Superior 2017 2SA Sampling_001

SAMPLE IDENTIFICATION(S)

Normal Sample :SUPE-W-12A-100417

Sample Start time: 10/04/2017 1357

Sample Finish time: 10/04/2017 1418

Print Date: 10/16/2017
Print Time: 9:45:24AM

Comments: _____

FTS Field & Technical Services, LLC

LOW-FLOW GROUNDWATER SAMPLE COLLECTION RECORD

WELL No.: W-12CR

Client:	Beazer East, Inc.	**Well ID:**	W-12CR
Project Name:	Superior 2017 2SA Sampling	**Date:**	10/04/2017 1328
Project Number:	OM-0556-17-091	**Technician:**	Brendan Rick
Location:	Superior	**Weather Conditions:**	partly cloudy 52 breezy

WATER LEVEL DATA

a.) Depth To Groundwater:	14.53	(ft)	e.) Depth to LNAPL:	NP	(ft)
b.) Total Well Depth:	47.69	(ft)	f.) Depth to DNAPL:	NP	(ft)
c.) Length of Water Column:	33.16	(ft)	g.) LNAPL Thickness:	N/A	(ft)
d.) Well Volume:	5.41	(gal)	h.) DNAPL Thickness:	N/A	(ft)

WATER PURGE DATA

Purge Method: Non-Dedicated Bladder Pump

Conductivity Unit: ms/cm

Total Volume Removed (gals): 0.99

Purge Start: 10/04/2017 1332

Purge End: 10/04/2017 1357

Field Equipment	Calibrated
LaMotte 2020we Turbidity Meter 6110-4815	Yes
YSI 556 MPS 15M101116	Yes
Heron Water Level Meter 200' 2666-T	No

Sampling Equipment	Dedicated
QED Well Wizard 22972	No
geotech bladder pump 165	No

PRE-PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
Initial	1332	150	9.79	7.93	0.809	-153.8	6.43	7.68	14.60	

PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
1	1337	150	8.83	7.76	0.792	-145.3	1.25	6.72	14.65	
2	1342	150	8.49	7.69	0.787	-144.2	0.66	6.49	14.65	
3	1347	150	8.24	7.67	0.782	-144.3	0.60	6.34	14.65	
4	1352	150	8.11	7.64	0.783	-144.4	0.61	6.29	14.65	
5	1357	150	8.12	7.62	0.785	-144.3	0.59	6.22	14.65	

SAMPLE COLLECTION INFORMATION

Lab	Parameter	Method	Bottle QTY Required	Bottle QTY Collected	BottleType	Preservative	Program
TAPIT	8260B_VOA+naphtha	8260B_VOA+naphtha	2	3	40 ml glass vial	HCL	Superior 2017 2SA Sampling_001
TAPIT	8270C_SVOC (less naphtha)	8270C_SVOC (less naphtha)	2	2	1 liter amber bottle	None	Superior 2017 2SA Sampling_001

SAMPLE IDENTIFICATION(S)

Normal Sample :SUPE-W-12CR-100417

Sample Start time: 10/04/2017 1402

Sample Finish time: 10/04/2017 1418

Print Date: 10/16/2017

Comments: _____

FTS Field & Technical Services, LLC

LOW-FLOW GROUNDWATER SAMPLE COLLECTION RECORD

WELL No.: W-18D

Client:	Beazer East, Inc.	Well ID:	W-18D
Project Name:	Superior 2017 2SA Sampling	Date:	10/04/2017 1034
Project Number:	OM-0556-17-091	Technician:	Brendan Rick
Location:	Superior	Weather Conditions:	Partly cloudy 50

WATER LEVEL DATA

a.) Depth To Groundwater:	45.82	(ft)	e.) Depth to LNAPL:	NP	(ft)
b.) Total Well Depth:	201.85	(ft)	f.) Depth to DNAPL:	NP	(ft)
c.) Length of Water Column:	156.03	(ft)	g.) LNAPL Thickness:	N/A	(ft)
d.) Well Volume:	25.46	(gal)	h.) DNAPL Thickness:	N/A	(ft)

WATER PURGE DATA

Purge Method: Non-Dedicated Bladder Pump

Conductivity Unit: ms/cm

Total Volume Removed (gals): 1.39

Purge Start: 10/04/2017 1043

Purge End: 10/04/2017 1118

Field Equipment	Calibrated
Heron Water Level Meter 200' 2666-T	No
LaMotte 2020we Turbidity Meter 6110-4815	Yes
YSI 556 MPS 15M101116	Yes

Sampling Equipment	Dedicated
QED Well Wizard 22972	No
geotech bladder pump 165	No

PRE-PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
Initial	1043	150	10.93	10.61	0.358	-90.3	7.40	8.31	46.01	

PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
1	1048	150	10.14	10.71	0.361	-121.3	3.56	7.74	46.02	
2	1053	150	10.04	10.81	0.364	-120.6	2.77	7.58	46.02	
3	1058	150	9.95	10.88	0.364	-122.9	1.97	7.43	46.02	
4	1103	150	9.93	10.90	0.364	-124.2	1.77	7.37	46.02	
5	1108	150	9.72	10.98	0.363	-125.4	1.75	7.23	46.02	
6	1113	150	9.69	11.01	0.367	-126.1	1.73	7.17	46.02	
7	1118	150	9.68	11.03	0.369	-126.9	1.72	7.06	46.02	

SAMPLE COLLECTION INFORMATION

Lab	Parameter	Method	Bottle QTY Required	Bottle QTY Collected	BottleType	Preservative	Program
TAPIT	8270C_SVOC+Naphth	8270C_SVOC+naphtha	2	2	1 liter amber bottle	None	Superior 2017 2SA Sampling_001

SAMPLE IDENTIFICATION(S)

Normal Sample :SUPE-W-18D-100417

Sample Start time: 10/04/2017 1120

Sample Finish time: 10/04/2017 1137

Print Date: 10/16/2017
Print Time: 9:45:24AM

Comments: _____

FTS Field & Technical Services, LLC

LOW-FLOW GROUNDWATER SAMPLE COLLECTION RECORD

WELL No.: W-28C

Client:	Beazer East, Inc.	**Well ID:**	W-28C
Project Name:	Superior 2017 2SA Sampling	**Date:**	10/04/2017 1214
Project Number:	OM-0556-17-091	**Technician:**	Brendan Rick
Location:	Superior	**Weather Conditions:**	partly cloudy 52

WATER LEVEL DATA

a.) Depth To Groundwater:	13.12	(ft)	e.) Depth to LNAPL:	NP	(ft)
b.) Total Well Depth:	45.43	(ft)	f.) Depth to DNAPL:	NP	(ft)
c.) Length of Water Column:	32.31	(ft)	g.) LNAPL Thickness:	N/A	(ft)
d.) Well Volume:	5.27	(gal)	h.) DNAPL Thickness:	N/A	(ft)

WATER PURGE DATA

Purge Method:	Non-Dedicated Bladder Pump	Purge Start:	10/04/2017 1217
Conductivity Unit:	ms/cm	Purge End:	10/04/2017 1252
Total Volume Removed (gals):	1.39		

Field Equipment	Calibrated
LaMotte 2020we Turbidity Meter 6110-4815	Yes
YSI 556 MPS 15M101116	Yes
Heron Water Level Meter 200' 2666-T	No

Sampling Equipment	Dedicated
QED Well Wizard 22972	No
geotech bladder pump 165	No

PRE-PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
Initial	1217	150	10.36	8.51	0.624	-149.1	6.70	6.27	13.18	

PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
1	1222	150	9.29	8.11	0.633	-140.2	3.76	4.87	13.20	
2	1227	150	8.99	7.99	0.631	-137.5	2.16	4.62	13.20	
3	1233	150	8.89	7.93	0.631	-138.3	2.05	4.48	13.20	
4	1237	150	8.89	7.88	0.631	-138.6	1.90	4.30	13.20	
5	1242	150	8.92	7.82	0.642	-138.4	1.64	4.19	13.20	
6	1247	150	8.86	7.79	0.659	-138.4	1.65	4.09	13.20	
7	1252	150	8.85	7.74	0.661	-138.5	1.63	3.98	13.20	

SAMPLE COLLECTION INFORMATION

Lab	Parameter	Method	Bottle QTY Required	Bottle QTY Collected	BottleType	Preservative	Program
TAPIT	8260B_VOA+naphtha	8260B_VOA+naphtha	2	3	40 ml glass vial	HCL	Superior 2017 2SA Sampling_001
TAPIT	8270C_SVOC (less naphtha)	8270C_SVOC (less naphtha)	2	2	1 liter amber bottle	None	Superior 2017 2SA Sampling_001

SAMPLE IDENTIFICATION(S)
Normal Sample :SUPE-W-28C-100417

Sample Start time: 10/04/2017 1257

Sample Finish time: 10/04/2017 1317

Comments:

FTS Field & Technical Services, LLC

LOW-FLOW GROUNDWATER SAMPLE COLLECTION RECORD

WELL No.: W-30A

Client:	Beazer East, Inc.	Well ID:	W-30A
Project Name:	Superior 2017 2SA Sampling	Date:	10/04/2017 1430
Project Number:	OM-0556-17-091	Technician:	Cody Coats
Location:	Superior	Weather Conditions:	60 degrees partly cloudy

WATER LEVEL DATA

a.) Depth To Groundwater:	2.65	(ft)	e.) Depth to LNAPL:	NP	(ft)
b.) Total Well Depth:	13.29	(ft)	f.) Depth to DNAPL:	NP	(ft)
c.) Length of Water Column:	10.64	(ft)	g.) LNAPL Thickness:	N/A	(ft)
d.) Well Volume:	1.74	(gal)	h.) DNAPL Thickness:	N/A	(ft)

WATER PURGE DATA

Purge Method:	Non-Dedicated Bladder Pump	Purge Start:	10/04/2017 1440
Conductivity Unit:	ms/cm	Purge End:	10/04/2017 1505
Total Volume Removed (gals):	0.59		

Field Equipment	Calibrated
LaMotte 2020we 4714-351	Yes
Heron 200 ft Water Level 3445-T	No
YSI 556 10B100136	Yes

Sampling Equipment	Dedicated
Well Wizard 3020 21850	No
Geotech Portable Bladder Pump 161	No
QED Bladder Pump System MP102304	No

PRE-PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
Initial	1440	90	13.16	6.71	1.398	-135.2	2.09	16.21	3.12	

PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
1	1445	90	13.51	6.69	1.409	-149.5	0.75	12.17	3.20	
2	1450	90	13.60	6.69	1.401	-151.2	0.68	10.21	3.25	
3	1455	90	13.82	6.69	1.406	-148.0	0.59	7.78	3.27	
4	1500	90	13.87	6.69	1.397	-151.4	0.55	7.20	3.28	
5	1505	90	13.90	6.69	1.398	-152.6	0.58	7.11	3.30	

SAMPLE COLLECTION INFORMATION

Lab	Parameter	Method	Bottle QTY Required	Bottle QTY Collected	BottleType	Preservative	Program
TAPIT	8260B_VOA+naphtha	8260B_VOA+naphtha	2	3	40 ml glass vial	HCL	Superior 2017 2SA Sampling_001
TAPIT	8270C_SVOC (less naphtha)	8270C_SVOC (less naphtha)	2	2	1 liter amber bottle	None	Superior 2017 2SA Sampling_001

SAMPLE IDENTIFICATION(S)

Normal Sample :SUPE-W-30A-100417

Sample Start time: 10/04/2017 1506

Sample Finish time: 10/04/2017 1526

Print Date: 10/16/2017
Print Time: 9:45:24 AM

Comments: _____

FTS Field & Technical Services, LLC

LOW-FLOW GROUNDWATER SAMPLE COLLECTION RECORD

WELL No.: W-30C

Client:	Beazer East, Inc.	Well ID:	W-30C
Project Name:	Superior 2017 2SA Sampling	Date:	10/04/2017 1016
Project Number:	OM-0556-17-091	Technician:	Cody Coats
Location:	Superior	Weather Conditions:	50 degrees sunny

WATER LEVEL DATA

a.) Depth To Groundwater:	14.02	(ft)	e.) Depth to LNAPL:	NP	(ft)
b.) Total Well Depth:	48.64	(ft)	f.) Depth to DNAPL:	NP	(ft)
c.) Length of Water Column:	34.62	(ft)	g.) LNAPL Thickness:	N/A	(ft)
d.) Well Volume:	5.65	(gal)	h.) DNAPL Thickness:	N/A	(ft)

WATER PURGE DATA

Purge Method: Non-Dedicated Bladder Pump

Conductivity Unit: ms/cm

Total Volume Removed (gals): 0.66

Purge Start: 10/04/2017 1025

Purge End: 10/04/2017 1050

Field Equipment	Calibrated
LaMotte 2020we 4714-351	Yes
YSI 556 10B100136	Yes
Heron 200 ft Water Level 3445-T	No

Sampling Equipment	Dedicated
Well Wizard 3020 21850	No
Geotech Portable Bladder Pump 161	No
QED Bladder Pump System MP102304	No

PRE-PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
Initial	1025	100	10.55	7.84	0.735	36.6	4.53	3.45	14.08	

PURGE VALUES

Reading #	Time	Purge Rate ml/minute	Temp (degrees C)	pH (s.u.)	Specific Conductivity (ms/cm)	Eh/ORP (mV)	Dissolved O2 (mg/l)	Turbidity (NTU)	Water Level (ft)	Notes
			Constant	+- 0.10	+- 3.000 %	+- 10	+- 10 %	+- 10 %		
1	1030	100	10.16	7.78	0.737	40.6	2.40	1.71	14.08	
2	1035	100	10.08	7.83	0.739	24.1	1.10	1.68	14.08	
3	1040	100	9.98	7.89	0.749	-66.8	0.81	1.53	14.08	
4	1045	100	9.93	7.91	0.758	-71.2	0.75	1.45	14.08	
5	1050	100	9.89	7.91	0.760	-73.5	0.77	1.41	14.08	

SAMPLE COLLECTION INFORMATION

Lab	Parameter	Method	Bottle QTY Required	Bottle QTY Collected	BottleType	Preservative	Program
TAPIT	8260B_VOA+naphtha	8260B_VOA+naphtha	2	3	40 ml glass vial	HCL	Superior 2017 2SA Sampling_001
TAPIT	8270C_SVOC (less naphtha)	8270C_SVOC (less naphtha)	2	2	1 liter amber bottle	None	Superior 2017 2SA Sampling_001

SAMPLE IDENTIFICATION(S)

Normal Sample :SUPE-W-30C-100417

Sample Start time: 10/04/2017 1052

Sample Finish time: 10/04/2017 1112

Print Date: 10/16/2017

Comments: _____

APPENDIX C

Analytical Data

First Semi-Annual Event and Second Semi-Annual Event
(.pdf files on CD)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

TestAmerica Job ID: 180-65736-1
Client Project/Site: Superior, WI Semiannual Groundwater

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

Attn: Ms. Angie Gatchie

Veronica Bortot

Authorized for release by:
5/10/2017 3:24:56 PM

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

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

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

Table of Contents

Job ID: 180-65736-1

Laboratory: TestAmerica Pittsburgh

Narrative

Job Narrative
180-65736-1

Receipt
The samples were received on 4/28/2017 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.5º C and 3.1º 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 RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 180-210177 recovered outside control limits for the following analytes: Benzo[b]fluoranthene and 4-Nitrophenol.

Method(s) 8270D LL: The continuing calibration verification (CCV) analyzed in 180-210324 was outside the method criteria for the following analyte(s): Nitrobenzene-d5 (Surr). As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 180-210324 recovered above the upper control limit for 4-Nitrophenol and 2,2'-oxybis(1-chloropropane). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: CCVIS 180-210324/3.

Method(s) 8270D LL: One Acid Surrogate recovery for the following sample was outside control limits; There were no Acid compounds detected in the sample thus report as measured: SUPE-EB-01-042617. Evidence of matrix interferences is not obvious.

Method(s) 8270D LL: The continuing calibration verification (CCV) analyzed in 180-210526 was outside the method criteria for the following analyte(s): 2,4,6-Tribromophenol (Surr). As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

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

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

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

Dioxin

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.
I	Value is EMPC (estimated maximum possible concentration).
CI	The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is reason to suspect there may be a high bias.

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)

Accreditation/Certification Summary

Client: Field & Technical Services LLC
TestAmerica Job ID: 180-65736-1
Project/Site: Superior, WI Semiannual Groundwater

Laboratory: 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	06-27-17
California	State Program	9	2891	03-31-18
Connecticut	State Program	1	PH-0688	09-30-18
Florida	NELAP	4	E871008	06-30-17
Illinois	NELAP	5	200005	06-30-17
Kansas	NELAP	7	E-10350	01-31-18
Louisiana	NELAP	6	04041	06-30-17
New Hampshire	NELAP	1	2030	04-04-18
New Jersey	NELAP	2	PA005	06-30-17
New York	NELAP	2	11182	03-31-18
North Carolina (WW/SW)	State Program	4	434	12-31-17
Pennsylvania	NELAP	3	02-00416	04-30-18
South Carolina	State Program	4	89014	04-30-17 *
Texas	NELAP	6	T104704528-15-2	03-31-18
US Fish & Wildlife	Federal		LE94312A-1	10-31-17
USDA	Federal		P330-16-00211	06-26-19
Utah	NELAP	8	PA001462015-4	05-31-17
Virginia	NELAP	3	460189	09-14-17
West Virginia DEP	State Program	3	142	01-31-18
Wisconsin	State Program	5	998027800	08-31-17

Laboratory: TestAmerica Canton

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

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	04-30-17 *
Connecticut	State Program	1	PH-0590	12-31-17
Florida	NELAP	4	E87225	06-30-17 *
Illinois	NELAP	5	200004	07-31-17 *
Kansas	NELAP	7	E-10336	01-31-18
Kentucky (UST)	State Program	4	58	02-23-18
Kentucky (WW)	State Program	4	98016	12-31-17
Minnesota	NELAP	5	039-999-348	12-31-17
Minnesota (Petrofund)	State Program	1	3506	07-31-17 *
Nevada	State Program	9	OH-000482008A	07-31-17 *
New Jersey	NELAP	2	OH001	06-30-17 *
New York	NELAP	2	10975	03-31-18
Ohio VAP	State Program	5	CL0024	09-14-17
Oregon	NELAP	10	4062	02-23-18
Pennsylvania	NELAP	3	68-00340	08-31-17 *
Texas	NELAP	6	T104704517-15-5	08-31-17 *
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-17
Washington	State Program	10	C971	01-12-18
West Virginia DEP	State Program	3	210	12-31-16 *
Wisconsin	State Program	5	999518190	08-31-17 *

Laboratory: TestAmerica Knoxville

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

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

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

TestAmerica Job ID: 180-65736-1

Laboratory: TestAmerica Knoxville (Continued)

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
	AFCEE		N/A	
Arkansas DEQ	State Program	6	88-0688	06-16-17
California	State Program	9	2423	06-30-18
Colorado	State Program	8	TN00009	02-28-18
Connecticut	State Program	1	PH-0223	09-30-17
Florida	NELAP	4	E87177	06-30-17
Georgia	State Program	4	906	04-13-17 *
Hawaii	State Program	9	N/A	04-13-18
Kansas	NELAP	7	E-10349	10-31-17
Kentucky (DW)	State Program	4	90101	12-31-17
L-A-B	DoD ELAP		L2311	02-13-19
Louisiana	NELAP	6	83979	06-30-17
Louisiana (DW)	NELAP	6	LA160005	12-31-17
Maryland	State Program	3	277	03-31-18
Michigan	State Program	5	9933	04-13-17 *
Nevada	State Program	9	TN00009	07-31-17
New Jersey	NELAP	2	TN001	06-30-17
New York	NELAP	2	10781	03-31-18
North Carolina (DW)	State Program	4	21705	07-31-17
North Carolina (WW/SW)	State Program	4	64	12-31-17
Ohio VAP	State Program	5	CL0059	11-22-18
Oklahoma	State Program	6	9415	08-31-17
Pennsylvania	NELAP	3	68-00576	12-31-17
Tennessee	State Program	4	2014	04-13-20
Texas	NELAP	6	T104704380-16-9	08-31-17
USDA	Federal		P330-13-00262	08-20-19
Utah	NELAP	8	TN00009	07-31-17
Virginia	NELAP	3	460176	09-14-17
Washington	State Program	10	C593	01-19-18
West Virginia (DW)	State Program	3	9955C	12-31-17
West Virginia DEP	State Program	3	345	04-30-18
Wisconsin	State Program	5	998044300	08-31-17

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

Sample Summary

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

TestAmerica Job ID: 180-65736-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-65736-1	SUPE-TB-02-042717	Water	04/27/17 09:10	04/28/17 09:00
180-65736-2	SUPE-W-28C-042717	Water	04/27/17 09:10	04/28/17 09:00
180-65736-3	SUPE-W-12CR-042717	Water	04/27/17 11:12	04/28/17 09:00
180-65736-4	SUPE-W-30A-042717	Water	04/27/17 12:43	04/28/17 09:00
180-65736-5	SUPE-W-10AR2-042717	Water	04/27/17 14:51	04/28/17 09:00
180-65736-6	SUPE-EB-02-042717	Water	04/27/17 15:56	04/28/17 09:00
180-65736-7	SUPE-M-99A-042717	Water	04/27/17 21:00	04/28/17 09:00
180-65736-8	SUPE-TB-01-042617	Water	04/26/17 00:00	04/28/17 09:00
180-65736-9	SUPE-W-30C-042617	Water	04/26/17 16:38	04/28/17 09:00
180-65736-10	SUPE-EB-01-042617	Water	04/26/17 17:15	04/28/17 09:00
180-65736-11	SUPE-W-06A-042717	Water	04/27/17 10:04	04/28/17 09:00
180-65736-12	SUPE-W-06C-042717	Water	04/27/17 12:43	04/28/17 09:00
180-65736-13	SUPE-W-12A-042717	Water	04/27/17 15:05	04/28/17 09:00
180-65736-14	SUPE-W-18D-042617	Water	04/26/17 16:42	04/28/17 09:00

Method Summary

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

TestAmerica Job ID: 180-65736-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL CAN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PIT
8290	Dioxins and Furans (HRGC/HRMS)	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 CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

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

TestAmerica Job ID: 180-65736-1

Client Sample ID: SUPE-TB-02-042717
Date Collected: 04/27/17 09:10
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	277838	05/06/17 14:43	HMB	TAL CAN
	Instrument ID: A3UX16									

Client Sample ID: SUPE-W-28C-042717
Date Collected: 04/27/17 09:10
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	277838	05/06/17 15:06	HMB	TAL CAN
	Instrument ID: A3UX16									
Total/NA	Prep	3520C			260 mL	0.25 mL	210177	05/04/17 09:19	BJT	TAL PIT
Total/NA	Analysis	8270D LL		1	1 mL	1 mL	210324	05/06/17 20:22	VVP	TAL PIT
	Instrument ID: CH733									
Total/NA	Prep	8290			962 mL	20 uL	10937	05/01/17 15:01	SSS	TAL KNX
Total/NA	Analysis	8290		1			10968	05/03/17 02:56	LKM	TAL KNX
	Instrument ID: D2A									

Client Sample ID: SUPE-W-12CR-042717
Date Collected: 04/27/17 11:12
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	277838	05/06/17 15:29	HMB	TAL CAN
	Instrument ID: A3UX16									
Total/NA	Prep	3520C			260 mL	0.25 mL	210177	05/04/17 09:19	BJT	TAL PIT
Total/NA	Analysis	8270D LL		1	1 mL	1 mL	210324	05/06/17 20:50	VVP	TAL PIT
	Instrument ID: CH733									
Total/NA	Prep	8290			1047.5 mL	20 uL	10937	05/01/17 15:01	SSS	TAL KNX
Total/NA	Analysis	8290		1			10968	05/03/17 03:57	LKM	TAL KNX
	Instrument ID: D2A									

Client Sample ID: SUPE-W-30A-042717
Date Collected: 04/27/17 12:43
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	277838	05/06/17 15:52	HMB	TAL CAN
	Instrument ID: A3UX16									
Total/NA	Prep	3520C			260 mL	0.25 mL	210177	05/04/17 09:19	BJT	TAL PIT
Total/NA	Analysis	8270D LL		1	1 mL	1 mL	210324	05/06/17 21:18	VVP	TAL PIT
	Instrument ID: CH733									
Total/NA	Prep	8290			994.3 mL	20 uL	10937	05/01/17 15:01	SSS	TAL KNX

Lab Chronicle

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

TestAmerica Job ID: 180-65736-1

Client Sample ID: SUPE-W-30A-042717
Lab Sample ID: 180-65736-4
Date Collected: 04/27/17 12:43
Matrix: Water
Date Received: 04/28/17 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8290		1			10968	05/03/17 04:58	LKM	TAL KNX
	Instrument ID: D2A									

Client Sample ID: SUPE-W-10AR2-042717
Lab Sample ID: 180-65736-5
Date Collected: 04/27/17 14:51
Matrix: Water
Date Received: 04/28/17 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	277838	05/06/17 16:16	HMB	TAL CAN
	Instrument ID: A3UX16									
Total/NA	Prep	3520C			250 mL	0.25 mL	210177	05/04/17 09:19	BJT	TAL PIT
Total/NA	Analysis	8270D LL		1	1 mL	1 mL	210324	05/06/17 21:46	VVP	TAL PIT
	Instrument ID: CH733									
Total/NA	Prep	8290			1040 mL	20 uL	10937	05/01/17 15:01	SSS	TAL KNX
Total/NA	Analysis	8290		1			10968	05/03/17 05:59	LKM	TAL KNX
	Instrument ID: D2A									

Client Sample ID: SUPE-EB-02-042717
Lab Sample ID: 180-65736-6
Date Collected: 04/27/17 15:56
Matrix: Water
Date Received: 04/28/17 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	277838	05/06/17 16:39	HMB	TAL CAN
	Instrument ID: A3UX16									
Total/NA	Prep	3520C			250 mL	0.25 mL	210177	05/04/17 09:19	BJT	TAL PIT
Total/NA	Analysis	8270D LL		1	1 mL	1 mL	210324	05/06/17 22:13	VVP	TAL PIT
	Instrument ID: CH733									
Total/NA	Prep	8290			981.9 mL	20 uL	10937	05/01/17 15:01	SSS	TAL KNX
Total/NA	Analysis	8290		1			10968	05/03/17 07:00	LKM	TAL KNX
	Instrument ID: D2A									

Client Sample ID: SUPE-M-99A-042717
Lab Sample ID: 180-65736-7
Date Collected: 04/27/17 21:00
Matrix: Water
Date Received: 04/28/17 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	277838	05/06/17 17:02	HMB	TAL CAN
	Instrument ID: A3UX16									
Total/NA	Prep	3520C			270 mL	0.25 mL	210177	05/04/17 09:19	BJT	TAL PIT
Total/NA	Analysis	8270D LL		1	1 mL	1 mL	210324	05/06/17 22:41	VVP	TAL PIT
	Instrument ID: CH733									
Total/NA	Prep	8290			974.5 mL	20 uL	10937	05/01/17 15:01	SSS	TAL KNX

Lab Chronicle

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

TestAmerica Job ID: 180-65736-1

Client Sample ID: SUPE-M-99A-042717

Lab Sample ID: 180-65736-7
Matrix: Water
Date Collected: 04/27/17 21:00
Date Received: 04/28/17 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8290		1			10980	05/03/17 11:58	MSD	TAL KNX
	Instrument ID: D2A									

Client Sample ID: SUPE-TB-01-042617

Lab Sample ID: 180-65736-8
Matrix: Water
Date Collected: 04/26/17 00:00
Date Received: 04/28/17 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	277838	05/06/17 17:24	HMB	TAL CAN
	Instrument ID: A3UX16									

Client Sample ID: SUPE-W-30C-042617

Lab Sample ID: 180-65736-9
Matrix: Water
Date Collected: 04/26/17 16:38
Date Received: 04/28/17 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	277838	05/06/17 17:48	HMB	TAL CAN
	Instrument ID: A3UX16									
Total/NA	Prep	3520C			260 mL	0.25 mL	210043	05/03/17 08:33	BJT	TAL PIT
Total/NA	Analysis	8270D LL		1	1 mL	1 mL	210526	05/08/17 18:45	VVP	TAL PIT
	Instrument ID: CH732									
Total/NA	Prep	8290			1040.9 mL	20 uL	10937	05/01/17 15:01	SSS	TAL KNX
Total/NA	Analysis	8290		1			10980	05/03/17 13:05	MSD	TAL KNX
	Instrument ID: D2A									

Client Sample ID: SUPE-EB-01-042617

Lab Sample ID: 180-65736-10
Matrix: Water
Date Collected: 04/26/17 17:15
Date Received: 04/28/17 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	277838	05/06/17 18:11	HMB	TAL CAN
	Instrument ID: A3UX16									
Total/NA	Prep	3520C			250 mL	0.25 mL	210043	05/03/17 08:33	BJT	TAL PIT
Total/NA	Analysis	8270D LL		1	1 mL	1 mL	210526	05/08/17 19:12	VVP	TAL PIT
	Instrument ID: CH732									
Total/NA	Prep	8290			1036.6 mL	20 uL	10937	05/01/17 15:01	SSS	TAL KNX
Total/NA	Analysis	8290		1			10980	05/03/17 14:06	MSD	TAL KNX
	Instrument ID: D2A									

Client Sample ID: SUPE-W-06A-042717

Lab Sample ID: 180-65736-11
Matrix: Water
Date Collected: 04/27/17 10:04
Date Received: 04/28/17 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	277838	05/06/17 18:33	HMB	TAL CAN
	Instrument ID: A3UX16									
Total/NA	Prep	3520C			260 mL	0.25 mL	210177	05/04/17 09:19	BJT	TAL PIT
Total/NA	Analysis	8270D LL		1	1 mL	1 mL	210324	05/06/17 23:09	VVP	TAL PIT
	Instrument ID: CH733									
Total/NA	Prep	8290			1048.4 mL	20 uL	10937	05/01/17 15:01	SSS	TAL KNX
Total/NA	Analysis	8290		1			10980	05/03/17 15:07	MSD	TAL KNX
	Instrument ID: D2A									

Client Sample ID: SUPE-W-06C-042717

Lab Sample ID: 180-65736-12
Matrix: Water
Date Collected: 04/27/17 12:43
Date Received: 04/28/17 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	277838	05/06/17 18:57	HMB	TAL CAN
	Instrument ID: A3UX16									
Total/NA	Prep	3520C			260 mL	0.25 mL	210177	05/04/17 09:19	BJT	TAL PIT
Total/NA	Analysis	8270D LL		1	1 mL	1 mL	210324	05/06/17 23:37	VVP	TAL PIT
	Instrument ID: CH733									
Total/NA	Prep	8290			1043.1 mL	20 uL	10937	05/01/17 15:01	SSS	TAL KNX
Total/NA	Analysis	8290		1			10980	05/03/17 16:08	MSD	TAL KNX
	Instrument ID: D2A									

Client Sample ID: SUPE-W-12A-042717

Lab Sample ID: 180-65736-13
Matrix: Water
Date Collected: 04/27/17 15:05
Date Received: 04/28/17 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	277838	05/06/17 19:20	HMB	TAL CAN
	Instrument ID: A3UX16									
Total/NA	Prep	3520C			270 mL	0.25 mL	210177	05/04/17 09:19	BJT	TAL PIT
Total/NA	Analysis	8270D LL		1	1 mL	1 mL	210324	05/07/17 00:05	VVP	TAL PIT
	Instrument ID: CH733									
Total/NA	Prep	8290			1041.6 mL	20 uL	10937	05/01/17 15:01	SSS	TAL KNX
Total/NA	Analysis	8290		1			10980	05/03/17 17:09	MSD	TAL KNX
	Instrument ID: D2A									

Client Sample ID: SUPE-W-18D-042617

Lab Sample ID: 180-65736-14
Matrix: Water
Date Collected: 04/26/17 16:42
Date Received: 04/28/17 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			270 mL	0.25 mL	210043	05/03/17 08:33	BJT	TAL PIT

Client Sample ID: SUPE-W-18D-042617
Date Collected: 04/26/17 16:42
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-14
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8270D LL		1	1 mL	1 mL	210526	05/08/17 19:39	VVP	TAL PIT
	Instrument ID: CH732									

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396
TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000
TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Analyst References:

Lab: TAL CAN
Batch Type: Analysis
HMB = Heather Bosworth

Lab: TAL KNX
Batch Type: Prep
SSS = Samuel Stockton

Batch Type: Analysis
LKM = Linda McWhirter

MSD = Melissa Davidson

Lab: TAL PIT
Batch Type: Prep
BJT = Bill Trout

Batch Type: Analysis
VVP = Vincent Piccolino

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

TestAmerica Job ID: 180-65736-1

Client Sample ID: SUPE-TB-02-042717

Lab Sample ID: 180-65736-1

Date Collected: 04/27/17 09:10
Date Received: 04/28/17 09:00

Matrix: Water

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	0.23	ug/L			05/06/17 14:43	1
1,2,4-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 14:43	1
1,3,5-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 14:43	1
Benzene	ND		1.0	0.28	ug/L			05/06/17 14:43	1
Chloromethane	ND		1.0	0.43	ug/L			05/06/17 14:43	1
Ethylbenzene	ND		1.0	0.26	ug/L			05/06/17 14:43	1
Methyl tert-butyl ether	ND		1.0	0.27	ug/L			05/06/17 14:43	1
m-Xylene & p-Xylene	ND		2.0	0.24	ug/L			05/06/17 14:43	1
Naphthalene	ND		1.0	0.25	ug/L			05/06/17 14:43	1
n-Butylbenzene	ND		1.0	0.21	ug/L			05/06/17 14:43	1
N-Propylbenzene	ND		1.0	0.45	ug/L			05/06/17 14:43	1
o-Xylene	ND		1.0	0.28	ug/L			05/06/17 14:43	1
Styrene	ND		1.0	0.23	ug/L			05/06/17 14:43	1
Toluene	**0.39**	**J**	1.0	0.23	ug/L			05/06/17 14:43	1
Xylenes, Total	ND		2.0	0.24	ug/L			05/06/17 14:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*61 - 138*		*05/06/17 14:43*	*1*
4-Bromofluorobenzene (Surr)	*93*		*69 - 120*		*05/06/17 14:43*	*1*
Dibromofluoromethane (Surr)	*87*		*69 - 124*		*05/06/17 14:43*	*1*
Toluene-d8 (Surr)	*104*		*73 - 120*		*05/06/17 14:43*	*1*

Client Sample ID: SUPE-W-28C-042717

Lab Sample ID: 180-65736-2

Date Collected: 04/27/17 09:10
Date Received: 04/28/17 09:00

Matrix: Water

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	0.23	ug/L			05/06/17 15:06	1
1,2,4-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 15:06	1
1,3,5-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 15:06	1
Benzene	ND		1.0	0.28	ug/L			05/06/17 15:06	1
Chloromethane	ND		1.0	0.43	ug/L			05/06/17 15:06	1
Ethylbenzene	ND		1.0	0.26	ug/L			05/06/17 15:06	1
Methyl tert-butyl ether	ND		1.0	0.27	ug/L			05/06/17 15:06	1
m-Xylene & p-Xylene	ND		2.0	0.24	ug/L			05/06/17 15:06	1
Naphthalene	ND		1.0	0.25	ug/L			05/06/17 15:06	1
n-Butylbenzene	ND		1.0	0.21	ug/L			05/06/17 15:06	1
N-Propylbenzene	ND		1.0	0.45	ug/L			05/06/17 15:06	1
o-Xylene	ND		1.0	0.28	ug/L			05/06/17 15:06	1
Styrene	ND		1.0	0.23	ug/L			05/06/17 15:06	1
Toluene	ND		1.0	0.23	ug/L			05/06/17 15:06	1
Xylenes, Total	ND		2.0	0.24	ug/L			05/06/17 15:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*61 - 138*		*05/06/17 15:06*	*1*
4-Bromofluorobenzene (Surr)	*92*		*69 - 120*		*05/06/17 15:06*	*1*
Dibromofluoromethane (Surr)	*83*		*69 - 124*		*05/06/17 15:06*	*1*
Toluene-d8 (Surr)	*101*		*73 - 120*		*05/06/17 15:06*	*1*

Client Sample ID: SUPE-W-28C-042717
Date Collected: 04/27/17 09:10
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.18	0.028	ug/L		05/04/17 09:19	05/06/17 20:22	1
Acenaphthylene	ND		0.18	0.021	ug/L		05/04/17 09:19	05/06/17 20:22	1
Anthracene	ND		0.18	0.018	ug/L		05/04/17 09:19	05/06/17 20:22	1
Benzo[a]anthracene	ND		0.18	0.035	ug/L		05/04/17 09:19	05/06/17 20:22	1
Benzo[a]pyrene	ND		0.18	0.027	ug/L		05/04/17 09:19	05/06/17 20:22	1
Benzo[b]fluoranthene	ND	*	0.18	0.047	ug/L		05/04/17 09:19	05/06/17 20:22	1
Benzo[g,h,i]perylene	ND		0.18	0.028	ug/L		05/04/17 09:19	05/06/17 20:22	1
Benzo[k]fluoranthene	ND		0.18	0.029	ug/L		05/04/17 09:19	05/06/17 20:22	1
Bis(2-chloroethoxy)methane	ND		0.96	0.13	ug/L		05/04/17 09:19	05/06/17 20:22	1
Bis(2-chloroethyl)ether	ND		0.18	0.030	ug/L		05/04/17 09:19	05/06/17 20:22	1
bis(chloroisopropyl) ether	ND		0.18	0.023	ug/L		05/04/17 09:19	05/06/17 20:22	1
Bis(2-ethylhexyl) phthalate	**2.0**		1.9	0.42	ug/L		05/04/17 09:19	05/06/17 20:22	1
4-Bromophenyl phenyl ether	ND		0.96	0.11	ug/L		05/04/17 09:19	05/06/17 20:22	1
Butyl benzyl phthalate	ND		0.96	0.21	ug/L		05/04/17 09:19	05/06/17 20:22	1
4-Chloroaniline	ND		0.96	0.28	ug/L		05/04/17 09:19	05/06/17 20:22	1
4-Chloro-3-methylphenol	ND		0.96	0.16	ug/L		05/04/17 09:19	05/06/17 20:22	1
2-Chloronaphthalene	ND		0.18	0.030	ug/L		05/04/17 09:19	05/06/17 20:22	1
2-Chlorophenol	ND		0.96	0.22	ug/L		05/04/17 09:19	05/06/17 20:22	1
4-Chlorophenyl phenyl ether	ND		0.96	0.077	ug/L		05/04/17 09:19	05/06/17 20:22	1
Chrysene	ND		0.18	0.030	ug/L		05/04/17 09:19	05/06/17 20:22	1
Dibenz(a,h)anthracene	ND		0.18	0.026	ug/L		05/04/17 09:19	05/06/17 20:22	1
Dibenzofuran	ND		0.96	0.093	ug/L		05/04/17 09:19	05/06/17 20:22	1
1,2-Dichlorobenzene	ND		0.96	0.10	ug/L		05/04/17 09:19	05/06/17 20:22	1
1,3-Dichlorobenzene	ND		0.96	0.072	ug/L		05/04/17 09:19	05/06/17 20:22	1
1,4-Dichlorobenzene	ND		0.96	0.16	ug/L		05/04/17 09:19	05/06/17 20:22	1
3,3'-Dichlorobenzidine	ND		0.96	0.14	ug/L		05/04/17 09:19	05/06/17 20:22	1
2,4-Dichlorophenol	ND		0.18	0.065	ug/L		05/04/17 09:19	05/06/17 20:22	1
Diethyl phthalate	ND		0.96	0.29	ug/L		05/04/17 09:19	05/06/17 20:22	1
2,4-Dimethylphenol	ND		0.96	0.16	ug/L		05/04/17 09:19	05/06/17 20:22	1
Dimethyl phthalate	ND		0.96	0.18	ug/L		05/04/17 09:19	05/06/17 20:22	1
Di-n-butyl phthalate	ND		0.96	0.23	ug/L		05/04/17 09:19	05/06/17 20:22	1
4,6-Dinitro-2-methylphenol	ND		4.8	1.5	ug/L		05/04/17 09:19	05/06/17 20:22	1
2,4-Dinitrophenol	ND		4.8	2.4	ug/L		05/04/17 09:19	05/06/17 20:22	1
2,4-Dinitrotoluene	ND		0.96	0.21	ug/L		05/04/17 09:19	05/06/17 20:22	1
2,6-Dinitrotoluene	ND		0.96	0.13	ug/L		05/04/17 09:19	05/06/17 20:22	1
Di-n-octyl phthalate	ND		0.96	0.20	ug/L		05/04/17 09:19	05/06/17 20:22	1
Fluoranthene	ND		0.18	0.020	ug/L		05/04/17 09:19	05/06/17 20:22	1
Fluorene	ND		0.18	0.023	ug/L		05/04/17 09:19	05/06/17 20:22	1
Hexachlorobenzene	ND		0.18	0.059	ug/L		05/04/17 09:19	05/06/17 20:22	1
Hexachlorobutadiene	ND		0.18	0.090	ug/L		05/04/17 09:19	05/06/17 20:22	1
Hexachlorocyclopentadiene	ND		0.96	0.13	ug/L		05/04/17 09:19	05/06/17 20:22	1
Hexachloroethane	ND		0.96	0.13	ug/L		05/04/17 09:19	05/06/17 20:22	1
Indeno[1,2,3-cd]pyrene	ND		0.18	0.042	ug/L		05/04/17 09:19	05/06/17 20:22	1
Isophorone	ND		0.96	0.071	ug/L		05/04/17 09:19	05/06/17 20:22	1
1-Methylnaphthalene	ND		0.18	0.030	ug/L		05/04/17 09:19	05/06/17 20:22	1
2-Methylnaphthalene	ND		0.18	0.018	ug/L		05/04/17 09:19	05/06/17 20:22	1
2-Methylphenol	ND		0.96	0.18	ug/L		05/04/17 09:19	05/06/17 20:22	1
Methylphenol, 3 & 4	ND		0.96	0.20	ug/L		05/04/17 09:19	05/06/17 20:22	1
2-Nitroaniline	ND		4.8	0.65	ug/L		05/04/17 09:19	05/06/17 20:22	1

Client Sample ID: SUPE-W-28C-042717
Date Collected: 04/27/17 09:10
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		4.8	0.77	ug/L		05/04/17 09:19	05/06/17 20:22	1
4-Nitroaniline	ND		4.8	0.74	ug/L		05/04/17 09:19	05/06/17 20:22	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/04/17 09:19	05/06/17 20:22	1
2-Nitrophenol	ND		0.96	0.11	ug/L		05/04/17 09:19	05/06/17 20:22	1
4-Nitrophenol	ND	*	4.8	0.77	ug/L		05/04/17 09:19	05/06/17 20:22	1
N-Nitrosodi-n-propylamine	ND		0.18	0.048	ug/L		05/04/17 09:19	05/06/17 20:22	1
N-Nitrosodiphenylamine	ND		0.96	0.12	ug/L		05/04/17 09:19	05/06/17 20:22	1
Pentachlorophenol	ND		0.96	0.48	ug/L		05/04/17 09:19	05/06/17 20:22	1
Phenanthrene	ND		0.18	0.040	ug/L		05/04/17 09:19	05/06/17 20:22	1
Phenol	ND		0.96	0.053	ug/L		05/04/17 09:19	05/06/17 20:22	1
Pyrene	ND		0.18	0.022	ug/L		05/04/17 09:19	05/06/17 20:22	1
2,3,4,6-Tetrachlorophenol	ND		0.96	0.10	ug/L		05/04/17 09:19	05/06/17 20:22	1
2,3,5,6-Tetrachlorophenol	ND		0.96	0.11	ug/L		05/04/17 09:19	05/06/17 20:22	1
1,2,4-Trichlorobenzene	ND		0.96	0.082	ug/L		05/04/17 09:19	05/06/17 20:22	1
2,4,5-Trichlorophenol	ND		0.96	0.12	ug/L		05/04/17 09:19	05/06/17 20:22	1
2,4,6-Trichlorophenol	ND		0.96	0.29	ug/L		05/04/17 09:19	05/06/17 20:22	1
Benzoic acid	**1.8**	**J**	4.8	1.6	ug/L		05/04/17 09:19	05/06/17 20:22	1
Benzyl alcohol	ND		0.96	0.19	ug/L		05/04/17 09:19	05/06/17 20:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*58*		*24 - 100*	*05/04/17 09:19*	*05/06/17 20:22*	*1*
2-Fluorophenol (Surr)	*51*		*20 - 100*	*05/04/17 09:19*	*05/06/17 20:22*	*1*
Nitrobenzene-d5 (Surr)	*68*		*25 - 105*	*05/04/17 09:19*	*05/06/17 20:22*	*1*
Phenol-d5 (Surr)	*56*		*21 - 100*	*05/04/17 09:19*	*05/06/17 20:22*	*1*
Terphenyl-d14 (Surr)	*62*		*20 - 124*	*05/04/17 09:19*	*05/06/17 20:22*	*1*
2,4,6-Tribromophenol (Surr)	*62*		*22 - 118*	*05/04/17 09:19*	*05/06/17 20:22*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	0.47	pg/L		05/01/17 15:01	05/03/17 02:56	1
Total TCDD	ND		10	0.47	pg/L		05/01/17 15:01	05/03/17 02:56	1
1,2,3,7,8-PeCDD	ND		52	0.86	pg/L		05/01/17 15:01	05/03/17 02:56	1
Total PeCDD	ND		52	0.86	pg/L		05/01/17 15:01	05/03/17 02:56	1
1,2,3,4,7,8-HxCDD	**3.5**	**J B**	52	0.29	pg/L		05/01/17 15:01	05/03/17 02:56	1
1,2,3,6,7,8-HxCDD	**2.3**	**J B**	52	0.30	pg/L		05/01/17 15:01	05/03/17 02:56	1
1,2,3,7,8,9-HxCDD	**3.9**	**J B**	52	0.28	pg/L		05/01/17 15:01	05/03/17 02:56	1
Total HxCDD	**11**	**J B q**	52	0.29	pg/L		05/01/17 15:01	05/03/17 02:56	1
1,2,3,4,6,7,8-HpCDD	**7.2**	**J B**	52	0.44	pg/L		05/01/17 15:01	05/03/17 02:56	1
Total HpCDD	**12**	**J B**	52	0.44	pg/L		05/01/17 15:01	05/03/17 02:56	1
OCDD	**35**	**J B**	100	0.26	pg/L		05/01/17 15:01	05/03/17 02:56	1
2,3,7,8-TCDF	ND		10	0.45	pg/L		05/01/17 15:01	05/03/17 02:56	1
Total TCDF	ND		10	0.45	pg/L		05/01/17 15:01	05/03/17 02:56	1
1,2,3,7,8-PeCDF	ND		52	0.62	pg/L		05/01/17 15:01	05/03/17 02:56	1
2,3,4,7,8-PeCDF	**2.0**	**J B q**	52	0.57	pg/L		05/01/17 15:01	05/03/17 02:56	1
Total PeCDF	**2.8**	**J B q**	52	0.59	pg/L		05/01/17 15:01	05/03/17 02:56	1
1,2,3,4,7,8-HxCDF	**3.4**	**J B**	52	0.38	pg/L		05/01/17 15:01	05/03/17 02:56	1
1,2,3,6,7,8-HxCDF	**2.6**	**J B q**	52	0.35	pg/L		05/01/17 15:01	05/03/17 02:56	1
2,3,4,6,7,8-HxCDF	**3.8**	**J B**	52	0.40	pg/L		05/01/17 15:01	05/03/17 02:56	1
1,2,3,7,8,9-HxCDF	**3.6**	**J B**	52	0.47	pg/L		05/01/17 15:01	05/03/17 02:56	1
Total HxCDF	**16**	**J B q**	52	0.40	pg/L		05/01/17 15:01	05/03/17 02:56	1

Client Sample ID: SUPE-W-28C-042717

Lab Sample ID: 180-65736-2
Matrix: Water
Date Collected: 04/27/17 09:10
Date Received: 04/28/17 09:00

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDF	10	J B	52	0.34	pg/L		05/01/17 15:01	05/03/17 02:56	1
1,2,3,4,7,8,9-HpCDF	4.5	J B	52	0.47	pg/L		05/01/17 15:01	05/03/17 02:56	1
Total HpCDF	16	J B	52	0.41	pg/L		05/01/17 15:01	05/03/17 02:56	1
OCDF	25	J B	100	0.12	pg/L		05/01/17 15:01	05/03/17 02:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*84*		*40 - 135*	*05/01/17 15:01*	*05/03/17 02:56*	*1*
13C-1,2,3,7,8-PeCDD	*90*		*40 - 135*	*05/01/17 15:01*	*05/03/17 02:56*	*1*
13C-1,2,3,4,7,8-HxCDD	*84*		*40 - 135*	*05/01/17 15:01*	*05/03/17 02:56*	*1*
13C-1,2,3,6,7,8-HxCDD	*81*		*40 - 135*	*05/01/17 15:01*	*05/03/17 02:56*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*87*		*40 - 135*	*05/01/17 15:01*	*05/03/17 02:56*	*1*
13C-OCDD	*80*		*40 - 135*	*05/01/17 15:01*	*05/03/17 02:56*	*1*
13C-2,3,7,8-TCDF	*84*		*40 - 135*	*05/01/17 15:01*	*05/03/17 02:56*	*1*
13C-1,2,3,7,8-PeCDF	*88*		*40 - 135*	*05/01/17 15:01*	*05/03/17 02:56*	*1*
13C-2,3,4,7,8-PeCDF	*89*		*40 - 135*	*05/01/17 15:01*	*05/03/17 02:56*	*1*
13C-1,2,3,4,7,8-HxCDF	*82*		*40 - 135*	*05/01/17 15:01*	*05/03/17 02:56*	*1*
13C-1,2,3,6,7,8-HxCDF	*81*		*40 - 135*	*05/01/17 15:01*	*05/03/17 02:56*	*1*
13C-2,3,4,6,7,8-HxCDF	*81*		*40 - 135*	*05/01/17 15:01*	*05/03/17 02:56*	*1*
13C-1,2,3,7,8,9-HxCDF	*84*		*40 - 135*	*05/01/17 15:01*	*05/03/17 02:56*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*76*		*40 - 135*	*05/01/17 15:01*	*05/03/17 02:56*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*80*		*40 - 135*	*05/01/17 15:01*	*05/03/17 02:56*	*1*
13C-OCDF	*76*		*40 - 135*	*05/01/17 15:01*	*05/03/17 02:56*	*1*

Client Sample ID: SUPE-W-12CR-042717

Lab Sample ID: 180-65736-3
Matrix: Water
Date Collected: 04/27/17 11:12
Date Received: 04/28/17 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	0.23	ug/L			05/06/17 15:29	1
1,2,4-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 15:29	1
1,3,5-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 15:29	1
Benzene	ND		1.0	0.28	ug/L			05/06/17 15:29	1
Chloromethane	ND		1.0	0.43	ug/L			05/06/17 15:29	1
Ethylbenzene	ND		1.0	0.26	ug/L			05/06/17 15:29	1
Methyl tert-butyl ether	ND		1.0	0.27	ug/L			05/06/17 15:29	1
m-Xylene & p-Xylene	ND		2.0	0.24	ug/L			05/06/17 15:29	1
Naphthalene	ND		1.0	0.25	ug/L			05/06/17 15:29	1
n-Butylbenzene	ND		1.0	0.21	ug/L			05/06/17 15:29	1
N-Propylbenzene	ND		1.0	0.45	ug/L			05/06/17 15:29	1
o-Xylene	ND		1.0	0.28	ug/L			05/06/17 15:29	1
Styrene	ND		1.0	0.23	ug/L			05/06/17 15:29	1
Toluene	ND		1.0	0.23	ug/L			05/06/17 15:29	1
Xylenes, Total	ND		2.0	0.24	ug/L			05/06/17 15:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*61 - 138*		*05/06/17 15:29*	*1*
4-Bromofluorobenzene (Surr)	*91*		*69 - 120*		*05/06/17 15:29*	*1*
Dibromofluoromethane (Surr)	*84*		*69 - 124*		*05/06/17 15:29*	*1*
Toluene-d8 (Surr)	*101*		*73 - 120*		*05/06/17 15:29*	*1*

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

TestAmerica Job ID: 180-65736-1

Client Sample ID: SUPE-W-12CR-042717
Date Collected: 04/27/17 11:12
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.18	0.028	ug/L		05/04/17 09:19	05/06/17 20:50	1
Acenaphthylene	ND		0.18	0.021	ug/L		05/04/17 09:19	05/06/17 20:50	1
Anthracene	ND		0.18	0.018	ug/L		05/04/17 09:19	05/06/17 20:50	1
Benzo[a]anthracene	ND		0.18	0.035	ug/L		05/04/17 09:19	05/06/17 20:50	1
Benzo[a]pyrene	ND		0.18	0.027	ug/L		05/04/17 09:19	05/06/17 20:50	1
Benzo[b]fluoranthene	ND	*	0.18	0.047	ug/L		05/04/17 09:19	05/06/17 20:50	1
Benzo[g,h,i]perylene	ND		0.18	0.028	ug/L		05/04/17 09:19	05/06/17 20:50	1
Benzo[k]fluoranthene	ND		0.18	0.029	ug/L		05/04/17 09:19	05/06/17 20:50	1
Bis(2-chloroethoxy)methane	ND		0.96	0.13	ug/L		05/04/17 09:19	05/06/17 20:50	1
Bis(2-chloroethyl)ether	ND		0.18	0.030	ug/L		05/04/17 09:19	05/06/17 20:50	1
bis(chloroisopropyl) ether	ND		0.18	0.023	ug/L		05/04/17 09:19	05/06/17 20:50	1
Bis(2-ethylhexyl) phthalate	ND		1.9	0.42	ug/L		05/04/17 09:19	05/06/17 20:50	1
4-Bromophenyl phenyl ether	ND		0.96	0.11	ug/L		05/04/17 09:19	05/06/17 20:50	1
Butyl benzyl phthalate	ND		0.96	0.21	ug/L		05/04/17 09:19	05/06/17 20:50	1
4-Chloroaniline	ND		0.96	0.28	ug/L		05/04/17 09:19	05/06/17 20:50	1
4-Chloro-3-methylphenol	ND		0.96	0.16	ug/L		05/04/17 09:19	05/06/17 20:50	1
2-Chloronaphthalene	ND		0.18	0.030	ug/L		05/04/17 09:19	05/06/17 20:50	1
2-Chlorophenol	ND		0.96	0.22	ug/L		05/04/17 09:19	05/06/17 20:50	1
4-Chlorophenyl phenyl ether	ND		0.96	0.077	ug/L		05/04/17 09:19	05/06/17 20:50	1
Chrysene	ND		0.18	0.030	ug/L		05/04/17 09:19	05/06/17 20:50	1
Dibenz(a,h)anthracene	ND		0.18	0.026	ug/L		05/04/17 09:19	05/06/17 20:50	1
Dibenzofuran	ND		0.96	0.093	ug/L		05/04/17 09:19	05/06/17 20:50	1
1,2-Dichlorobenzene	ND		0.96	0.10	ug/L		05/04/17 09:19	05/06/17 20:50	1
1,3-Dichlorobenzene	ND		0.96	0.072	ug/L		05/04/17 09:19	05/06/17 20:50	1
1,4-Dichlorobenzene	ND		0.96	0.16	ug/L		05/04/17 09:19	05/06/17 20:50	1
3,3'-Dichlorobenzidine	ND		0.96	0.14	ug/L		05/04/17 09:19	05/06/17 20:50	1
2,4-Dichlorophenol	ND		0.18	0.065	ug/L		05/04/17 09:19	05/06/17 20:50	1
Diethyl phthalate	ND		0.96	0.29	ug/L		05/04/17 09:19	05/06/17 20:50	1
2,4-Dimethylphenol	ND		0.96	0.16	ug/L		05/04/17 09:19	05/06/17 20:50	1
Dimethyl phthalate	ND		0.96	0.18	ug/L		05/04/17 09:19	05/06/17 20:50	1
Di-n-butyl phthalate	ND		0.96	0.23	ug/L		05/04/17 09:19	05/06/17 20:50	1
4,6-Dinitro-2-methylphenol	ND		4.8	1.5	ug/L		05/04/17 09:19	05/06/17 20:50	1
2,4-Dinitrophenol	ND		4.8	2.4	ug/L		05/04/17 09:19	05/06/17 20:50	1
2,4-Dinitrotoluene	ND		0.96	0.21	ug/L		05/04/17 09:19	05/06/17 20:50	1
2,6-Dinitrotoluene	ND		0.96	0.13	ug/L		05/04/17 09:19	05/06/17 20:50	1
Di-n-octyl phthalate	ND		0.96	0.20	ug/L		05/04/17 09:19	05/06/17 20:50	1
Fluoranthene	ND		0.18	0.020	ug/L		05/04/17 09:19	05/06/17 20:50	1
Fluorene	ND		0.18	0.023	ug/L		05/04/17 09:19	05/06/17 20:50	1
Hexachlorobenzene	ND		0.18	0.059	ug/L		05/04/17 09:19	05/06/17 20:50	1
Hexachlorobutadiene	ND		0.18	0.090	ug/L		05/04/17 09:19	05/06/17 20:50	1
Hexachlorocyclopentadiene	ND		0.96	0.13	ug/L		05/04/17 09:19	05/06/17 20:50	1
Hexachloroethane	ND		0.96	0.13	ug/L		05/04/17 09:19	05/06/17 20:50	1
Indeno[1,2,3-cd]pyrene	ND		0.18	0.042	ug/L		05/04/17 09:19	05/06/17 20:50	1
Isophorone	ND		0.96	0.071	ug/L		05/04/17 09:19	05/06/17 20:50	1
1-Methylnaphthalene	ND		0.18	0.030	ug/L		05/04/17 09:19	05/06/17 20:50	1
2-Methylnaphthalene	ND		0.18	0.018	ug/L		05/04/17 09:19	05/06/17 20:50	1
2-Methylphenol	ND		0.96	0.18	ug/L		05/04/17 09:19	05/06/17 20:50	1
Methylphenol, 3 & 4	ND		0.96	0.20	ug/L		05/04/17 09:19	05/06/17 20:50	1
2-Nitroaniline	ND		4.8	0.65	ug/L		05/04/17 09:19	05/06/17 20:50	1

Client Sample ID: SUPE-W-12CR-042717
Date Collected: 04/27/17 11:12
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		4.8	0.77	ug/L		05/04/17 09:19	05/06/17 20:50	1
4-Nitroaniline	ND		4.8	0.74	ug/L		05/04/17 09:19	05/06/17 20:50	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/04/17 09:19	05/06/17 20:50	1
2-Nitrophenol	ND		0.96	0.11	ug/L		05/04/17 09:19	05/06/17 20:50	1
4-Nitrophenol	ND	*	4.8	0.77	ug/L		05/04/17 09:19	05/06/17 20:50	1
N-Nitrosodi-n-propylamine	ND		0.18	0.048	ug/L		05/04/17 09:19	05/06/17 20:50	1
N-Nitrosodiphenylamine	ND		0.96	0.12	ug/L		05/04/17 09:19	05/06/17 20:50	1
Pentachlorophenol	ND		0.96	0.48	ug/L		05/04/17 09:19	05/06/17 20:50	1
Phenanthrene	ND		0.18	0.040	ug/L		05/04/17 09:19	05/06/17 20:50	1
Phenol	ND		0.96	0.053	ug/L		05/04/17 09:19	05/06/17 20:50	1
Pyrene	ND		0.18	0.022	ug/L		05/04/17 09:19	05/06/17 20:50	1
2,3,4,6-Tetrachlorophenol	**0.19**	**J**	0.96	0.10	ug/L		05/04/17 09:19	05/06/17 20:50	1
2,3,5,6-Tetrachlorophenol	ND		0.96	0.11	ug/L		05/04/17 09:19	05/06/17 20:50	1
1,2,4-Trichlorobenzene	ND		0.96	0.082	ug/L		05/04/17 09:19	05/06/17 20:50	1
2,4,5-Trichlorophenol	ND		0.96	0.12	ug/L		05/04/17 09:19	05/06/17 20:50	1
2,4,6-Trichlorophenol	ND		0.96	0.29	ug/L		05/04/17 09:19	05/06/17 20:50	1
Benzoic acid	ND		4.8	1.6	ug/L		05/04/17 09:19	05/06/17 20:50	1
Benzyl alcohol	ND		0.96	0.19	ug/L		05/04/17 09:19	05/06/17 20:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*62*		*24 - 100*	*05/04/17 09:19*	*05/06/17 20:50*	*1*
2-Fluorophenol (Surr)	*59*		*20 - 100*	*05/04/17 09:19*	*05/06/17 20:50*	*1*
Nitrobenzene-d5 (Surr)	*75*		*25 - 105*	*05/04/17 09:19*	*05/06/17 20:50*	*1*
Phenol-d5 (Surr)	*63*		*21 - 100*	*05/04/17 09:19*	*05/06/17 20:50*	*1*
Terphenyl-d14 (Surr)	*56*		*20 - 124*	*05/04/17 09:19*	*05/06/17 20:50*	*1*
2,4,6-Tribromophenol (Surr)	*68*		*22 - 118*	*05/04/17 09:19*	*05/06/17 20:50*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.5	0.48	pg/L		05/01/17 15:01	05/03/17 03:57	1
Total TCDD	ND		9.5	0.48	pg/L		05/01/17 15:01	05/03/17 03:57	1
1,2,3,7,8-PeCDD	**0.59**	**J B**	48	0.13	pg/L		05/01/17 15:01	05/03/17 03:57	1
Total PeCDD	**0.59**	**J B**	48	0.13	pg/L		05/01/17 15:01	05/03/17 03:57	1
1,2,3,4,7,8-HxCDD	**1.3**	**J B**	48	0.13	pg/L		05/01/17 15:01	05/03/17 03:57	1
1,2,3,6,7,8-HxCDD	**1.3**	**J B**	48	0.14	pg/L		05/01/17 15:01	05/03/17 03:57	1
1,2,3,7,8,9-HxCDD	**1.4**	**J B**	48	0.12	pg/L		05/01/17 15:01	05/03/17 03:57	1
Total HxCDD	**4.6**	**J B q**	48	0.13	pg/L		05/01/17 15:01	05/03/17 03:57	1
1,2,3,4,6,7,8-HpCDD	**3.0**	**J B q**	48	0.58	pg/L		05/01/17 15:01	05/03/17 03:57	1
Total HpCDD	**7.0**	**J B q**	48	0.58	pg/L		05/01/17 15:01	05/03/17 03:57	1
OCDD	**21**	**J B**	95	0.11	pg/L		05/01/17 15:01	05/03/17 03:57	1
2,3,7,8-TCDF	ND		9.5	0.38	pg/L		05/01/17 15:01	05/03/17 03:57	1
Total TCDF	ND		9.5	0.38	pg/L		05/01/17 15:01	05/03/17 03:57	1
1,2,3,7,8-PeCDF	ND		48	0.48	pg/L		05/01/17 15:01	05/03/17 03:57	1
2,3,4,7,8-PeCDF	ND		48	0.44	pg/L		05/01/17 15:01	05/03/17 03:57	1
Total PeCDF	ND		48	0.48	pg/L		05/01/17 15:01	05/03/17 03:57	1
1,2,3,4,7,8-HxCDF	**1.3**	**J B**	48	0.18	pg/L		05/01/17 15:01	05/03/17 03:57	1
1,2,3,6,7,8-HxCDF	**1.1**	**J B q**	48	0.18	pg/L		05/01/17 15:01	05/03/17 03:57	1
2,3,4,6,7,8-HxCDF	**1.6**	**J B**	48	0.18	pg/L		05/01/17 15:01	05/03/17 03:57	1
1,2,3,7,8,9-HxCDF	**1.5**	**J B**	48	0.23	pg/L		05/01/17 15:01	05/03/17 03:57	1
Total HxCDF	**6.8**	**J B q**	48	0.19	pg/L		05/01/17 15:01	05/03/17 03:57	1

Client Sample ID: SUPE-W-12CR-042717

Lab Sample ID: 180-65736-3
Matrix: Water
Date Collected: 04/27/17 11:12
Date Received: 04/28/17 09:00

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDF	**2.5**	**J B q**	48	0.16	pg/L		05/01/17 15:01	05/03/17 03:57	1
1,2,3,4,7,8,9-HpCDF	**2.6**	**J B q**	48	0.23	pg/L		05/01/17 15:01	05/03/17 03:57	1
Total HpCDF	**5.7**	**J B q**	48	0.19	pg/L		05/01/17 15:01	05/03/17 03:57	1
OCDF	**8.1**	**J B**	95	0.092	pg/L		05/01/17 15:01	05/03/17 03:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*89*		*40 - 135*	*05/01/17 15:01*	*05/03/17 03:57*	*1*
13C-1,2,3,7,8-PeCDD	*95*		*40 - 135*	*05/01/17 15:01*	*05/03/17 03:57*	*1*
13C-1,2,3,4,7,8-HxCDD	*86*		*40 - 135*	*05/01/17 15:01*	*05/03/17 03:57*	*1*
13C-1,2,3,6,7,8-HxCDD	*86*		*40 - 135*	*05/01/17 15:01*	*05/03/17 03:57*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*92*		*40 - 135*	*05/01/17 15:01*	*05/03/17 03:57*	*1*
13C-OCDD	*88*		*40 - 135*	*05/01/17 15:01*	*05/03/17 03:57*	*1*
13C-2,3,7,8-TCDF	*89*		*40 - 135*	*05/01/17 15:01*	*05/03/17 03:57*	*1*
13C-1,2,3,7,8-PeCDF	*90*		*40 - 135*	*05/01/17 15:01*	*05/03/17 03:57*	*1*
13C-2,3,4,7,8-PeCDF	*92*		*40 - 135*	*05/01/17 15:01*	*05/03/17 03:57*	*1*
13C-1,2,3,4,7,8-HxCDF	*85*		*40 - 135*	*05/01/17 15:01*	*05/03/17 03:57*	*1*
13C-1,2,3,6,7,8-HxCDF	*84*		*40 - 135*	*05/01/17 15:01*	*05/03/17 03:57*	*1*
13C-2,3,4,6,7,8-HxCDF	*89*		*40 - 135*	*05/01/17 15:01*	*05/03/17 03:57*	*1*
13C-1,2,3,7,8,9-HxCDF	*87*		*40 - 135*	*05/01/17 15:01*	*05/03/17 03:57*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*83*		*40 - 135*	*05/01/17 15:01*	*05/03/17 03:57*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*86*		*40 - 135*	*05/01/17 15:01*	*05/03/17 03:57*	*1*
13C-OCDF	*82*		*40 - 135*	*05/01/17 15:01*	*05/03/17 03:57*	*1*

Client Sample ID: SUPE-W-30A-042717

Lab Sample ID: 180-65736-4
Matrix: Water
Date Collected: 04/27/17 12:43
Date Received: 04/28/17 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	0.23	ug/L			05/06/17 15:52	1
1,2,4-Trimethylbenzene	**3.9**		1.0	0.24	ug/L			05/06/17 15:52	1
1,3,5-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 15:52	1
Benzene	**5.6**		1.0	0.28	ug/L			05/06/17 15:52	1
Chloromethane	ND		1.0	0.43	ug/L			05/06/17 15:52	1
Ethylbenzene	**18**		1.0	0.26	ug/L			05/06/17 15:52	1
Methyl tert-butyl ether	ND		1.0	0.27	ug/L			05/06/17 15:52	1
m-Xylene & p-Xylene	**1.6**	**J**	2.0	0.24	ug/L			05/06/17 15:52	1
Naphthalene	**14**		1.0	0.25	ug/L			05/06/17 15:52	1
n-Butylbenzene	ND		1.0	0.21	ug/L			05/06/17 15:52	1
N-Propylbenzene	ND		1.0	0.45	ug/L			05/06/17 15:52	1
o-Xylene	**3.4**		1.0	0.28	ug/L			05/06/17 15:52	1
Styrene	ND		1.0	0.23	ug/L			05/06/17 15:52	1
Toluene	**0.43**	**J**	1.0	0.23	ug/L			05/06/17 15:52	1
Xylenes, Total	**5.0**		2.0	0.24	ug/L			05/06/17 15:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*61 - 138*		*05/06/17 15:52*	*1*
4-Bromofluorobenzene (Surr)	*97*		*69 - 120*		*05/06/17 15:52*	*1*
Dibromofluoromethane (Surr)	*87*		*69 - 124*		*05/06/17 15:52*	*1*
Toluene-d8 (Surr)	*106*		*73 - 120*		*05/06/17 15:52*	*1*

Client Sample ID: SUPE-W-30A-042717
Date Collected: 04/27/17 12:43
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**12**		0.18	0.028	ug/L		05/04/17 09:19	05/06/17 21:18	1
Acenaphthylene	**0.32**		0.18	0.021	ug/L		05/04/17 09:19	05/06/17 21:18	1
Anthracene	**0.47**		0.18	0.018	ug/L		05/04/17 09:19	05/06/17 21:18	1
Benzo[a]anthracene	**0.50**		0.18	0.035	ug/L		05/04/17 09:19	05/06/17 21:18	1
Benzo[a]pyrene	**0.18**		0.18	0.027	ug/L		05/04/17 09:19	05/06/17 21:18	1
Benzo[b]fluoranthene	**0.29**	*	0.18	0.047	ug/L		05/04/17 09:19	05/06/17 21:18	1
Benzo[g,h,i]perylene	ND		0.18	0.028	ug/L		05/04/17 09:19	05/06/17 21:18	1
Benzo[k]fluoranthene	**0.16**	**J**	0.18	0.029	ug/L		05/04/17 09:19	05/06/17 21:18	1
Bis(2-chloroethoxy)methane	ND		0.96	0.13	ug/L		05/04/17 09:19	05/06/17 21:18	1
Bis(2-chloroethyl)ether	ND		0.18	0.030	ug/L		05/04/17 09:19	05/06/17 21:18	1
bis(chloroisopropyl) ether	ND		0.18	0.023	ug/L		05/04/17 09:19	05/06/17 21:18	1
Bis(2-ethylhexyl) phthalate	**2.9**		1.9	0.42	ug/L		05/04/17 09:19	05/06/17 21:18	1
4-Bromophenyl phenyl ether	ND		0.96	0.11	ug/L		05/04/17 09:19	05/06/17 21:18	1
Butyl benzyl phthalate	ND		0.96	0.21	ug/L		05/04/17 09:19	05/06/17 21:18	1
4-Chloroaniline	ND		0.96	0.28	ug/L		05/04/17 09:19	05/06/17 21:18	1
4-Chloro-3-methylphenol	ND		0.96	0.16	ug/L		05/04/17 09:19	05/06/17 21:18	1
2-Chloronaphthalene	ND		0.18	0.030	ug/L		05/04/17 09:19	05/06/17 21:18	1
2-Chlorophenol	ND		0.96	0.22	ug/L		05/04/17 09:19	05/06/17 21:18	1
4-Chlorophenyl phenyl ether	ND		0.96	0.077	ug/L		05/04/17 09:19	05/06/17 21:18	1
Chrysene	**0.50**		0.18	0.030	ug/L		05/04/17 09:19	05/06/17 21:18	1
Dibenz(a,h)anthracene	ND		0.18	0.026	ug/L		05/04/17 09:19	05/06/17 21:18	1
Dibenzofuran	**3.5**		0.96	0.093	ug/L		05/04/17 09:19	05/06/17 21:18	1
1,2-Dichlorobenzene	ND		0.96	0.10	ug/L		05/04/17 09:19	05/06/17 21:18	1
1,3-Dichlorobenzene	ND		0.96	0.072	ug/L		05/04/17 09:19	05/06/17 21:18	1
1,4-Dichlorobenzene	ND		0.96	0.16	ug/L		05/04/17 09:19	05/06/17 21:18	1
3,3'-Dichlorobenzidine	ND		0.96	0.14	ug/L		05/04/17 09:19	05/06/17 21:18	1
2,4-Dichlorophenol	ND		0.18	0.065	ug/L		05/04/17 09:19	05/06/17 21:18	1
Diethyl phthalate	ND		0.96	0.29	ug/L		05/04/17 09:19	05/06/17 21:18	1
2,4-Dimethylphenol	ND		0.96	0.16	ug/L		05/04/17 09:19	05/06/17 21:18	1
Dimethyl phthalate	ND		0.96	0.18	ug/L		05/04/17 09:19	05/06/17 21:18	1
Di-n-butyl phthalate	ND		0.96	0.23	ug/L		05/04/17 09:19	05/06/17 21:18	1
4,6-Dinitro-2-methylphenol	ND		4.8	1.5	ug/L		05/04/17 09:19	05/06/17 21:18	1
2,4-Dinitrophenol	ND		4.8	2.4	ug/L		05/04/17 09:19	05/06/17 21:18	1
2,4-Dinitrotoluene	ND		0.96	0.21	ug/L		05/04/17 09:19	05/06/17 21:18	1
2,6-Dinitrotoluene	ND		0.96	0.13	ug/L		05/04/17 09:19	05/06/17 21:18	1
Di-n-octyl phthalate	ND		0.96	0.20	ug/L		05/04/17 09:19	05/06/17 21:18	1
Fluoranthene	**3.1**		0.18	0.020	ug/L		05/04/17 09:19	05/06/17 21:18	1
Fluorene	**2.7**		0.18	0.023	ug/L		05/04/17 09:19	05/06/17 21:18	1
Hexachlorobenzene	ND		0.18	0.059	ug/L		05/04/17 09:19	05/06/17 21:18	1
Hexachlorobutadiene	ND		0.18	0.090	ug/L		05/04/17 09:19	05/06/17 21:18	1
Hexachlorocyclopentadiene	ND		0.96	0.13	ug/L		05/04/17 09:19	05/06/17 21:18	1
Hexachloroethane	ND		0.96	0.13	ug/L		05/04/17 09:19	05/06/17 21:18	1
Indeno[1,2,3-cd]pyrene	ND		0.18	0.042	ug/L		05/04/17 09:19	05/06/17 21:18	1
Isophorone	ND		0.96	0.071	ug/L		05/04/17 09:19	05/06/17 21:18	1
1-Methylnaphthalene	**1.9**		0.18	0.030	ug/L		05/04/17 09:19	05/06/17 21:18	1
2-Methylnaphthalene	ND		0.18	0.018	ug/L		05/04/17 09:19	05/06/17 21:18	1
2-Methylphenol	ND		0.96	0.18	ug/L		05/04/17 09:19	05/06/17 21:18	1
Methylphenol, 3 & 4	ND		0.96	0.20	ug/L		05/04/17 09:19	05/06/17 21:18	1
2-Nitroaniline	ND		4.8	0.65	ug/L		05/04/17 09:19	05/06/17 21:18	1

Client Sample ID: SUPE-W-30A-042717
Date Collected: 04/27/17 12:43
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		4.8	0.77	ug/L		05/04/17 09:19	05/06/17 21:18	1
4-Nitroaniline	ND		4.8	0.74	ug/L		05/04/17 09:19	05/06/17 21:18	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/04/17 09:19	05/06/17 21:18	1
2-Nitrophenol	ND		0.96	0.11	ug/L		05/04/17 09:19	05/06/17 21:18	1
4-Nitrophenol	ND	*	4.8	0.77	ug/L		05/04/17 09:19	05/06/17 21:18	1
N-Nitrosodi-n-propylamine	ND		0.18	0.048	ug/L		05/04/17 09:19	05/06/17 21:18	1
N-Nitrosodiphenylamine	ND		0.96	0.12	ug/L		05/04/17 09:19	05/06/17 21:18	1
Pentachlorophenol	ND		0.96	0.48	ug/L		05/04/17 09:19	05/06/17 21:18	1
Phenanthrene	**1.3**		0.18	0.040	ug/L		05/04/17 09:19	05/06/17 21:18	1
Phenol	**0.39**	**J**	0.96	0.053	ug/L		05/04/17 09:19	05/06/17 21:18	1
Pyrene	**2.2**		0.18	0.022	ug/L		05/04/17 09:19	05/06/17 21:18	1
2,3,4,6-Tetrachlorophenol	ND		0.96	0.10	ug/L		05/04/17 09:19	05/06/17 21:18	1
2,3,5,6-Tetrachlorophenol	ND		0.96	0.11	ug/L		05/04/17 09:19	05/06/17 21:18	1
1,2,4-Trichlorobenzene	ND		0.96	0.082	ug/L		05/04/17 09:19	05/06/17 21:18	1
2,4,5-Trichlorophenol	ND		0.96	0.12	ug/L		05/04/17 09:19	05/06/17 21:18	1
2,4,6-Trichlorophenol	ND		0.96	0.29	ug/L		05/04/17 09:19	05/06/17 21:18	1
Benzoic acid	ND		4.8	1.6	ug/L		05/04/17 09:19	05/06/17 21:18	1
Benzyl alcohol	ND		0.96	0.19	ug/L		05/04/17 09:19	05/06/17 21:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*24 - 100*	*05/04/17 09:19*	*05/06/17 21:18*	*1*
2-Fluorophenol (Surr)	*67*		*20 - 100*	*05/04/17 09:19*	*05/06/17 21:18*	*1*
Nitrobenzene-d5 (Surr)	*86*		*25 - 105*	*05/04/17 09:19*	*05/06/17 21:18*	*1*
Phenol-d5 (Surr)	*71*		*21 - 100*	*05/04/17 09:19*	*05/06/17 21:18*	*1*
Terphenyl-d14 (Surr)	*53*		*20 - 124*	*05/04/17 09:19*	*05/06/17 21:18*	*1*
2,4,6-Tribromophenol (Surr)	*77*		*22 - 118*	*05/04/17 09:19*	*05/06/17 21:18*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	0.49	pg/L		05/01/17 15:01	05/03/17 04:58	1
Total TCDD	ND		10	0.49	pg/L		05/01/17 15:01	05/03/17 04:58	1
1,2,3,7,8-PeCDD	**1.1**	**J B q**	50	0.29	pg/L		05/01/17 15:01	05/03/17 04:58	1
Total PeCDD	**1.6**	**J B q**	50	0.29	pg/L		05/01/17 15:01	05/03/17 04:58	1
1,2,3,4,7,8-HxCDD	**2.7**	**J B**	50	0.53	pg/L		05/01/17 15:01	05/03/17 04:58	1
1,2,3,6,7,8-HxCDD	**23**	**J B**	50	0.53	pg/L		05/01/17 15:01	05/03/17 04:58	1
1,2,3,7,8,9-HxCDD	**5.9**	**J CI B**	50	0.49	pg/L		05/01/17 15:01	05/03/17 04:58	1
Total HxCDD	**88**	**B**	50	0.52	pg/L		05/01/17 15:01	05/03/17 04:58	1
1,2,3,4,6,7,8-HpCDD	**590**	**B**	50	0.39	pg/L		05/01/17 15:01	05/03/17 04:58	1
Total HpCDD	**1200**	**B**	50	0.39	pg/L		05/01/17 15:01	05/03/17 04:58	1
OCDD	**7200**	**B**	100	0.16	pg/L		05/01/17 15:01	05/03/17 04:58	1
2,3,7,8-TCDF	**0.55**	**J q**	10	0.36	pg/L		05/01/17 15:01	05/03/17 04:58	1
Total TCDF	**110**	**I q**	10	0.36	pg/L		05/01/17 15:01	05/03/17 04:58	1
1,2,3,7,8-PeCDF	**2.3**	**J q**	50	0.43	pg/L		05/01/17 15:01	05/03/17 04:58	1
2,3,4,7,8-PeCDF	**4.0**	**J B**	50	0.43	pg/L		05/01/17 15:01	05/03/17 04:58	1
Total PeCDF	**310**	**I B q**	50	0.43	pg/L		05/01/17 15:01	05/03/17 04:58	1
1,2,3,4,7,8-HxCDF	**29**	**J B**	50	3.4	pg/L		05/01/17 15:01	05/03/17 04:58	1
1,2,3,6,7,8-HxCDF	**37**	**J I B**	50	3.5	pg/L		05/01/17 15:01	05/03/17 04:58	1
2,3,4,6,7,8-HxCDF	ND		50	3.6	pg/L		05/01/17 15:01	05/03/17 04:58	1
1,2,3,7,8,9-HxCDF	ND		50	4.4	pg/L		05/01/17 15:01	05/03/17 04:58	1
Total HxCDF	**750**	**I B**	50	3.7	pg/L		05/01/17 15:01	05/03/17 04:58	1

Client Sample ID: SUPE-W-30A-042717

Lab Sample ID: 180-65736-4
Matrix: Water
Date Collected: 04/27/17 12:43
Date Received: 04/28/17 09:00

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDF	220	B	50	0.70	pg/L		05/01/17 15:01	05/03/17 04:58	1
1,2,3,4,7,8,9-HpCDF	22	J B	50	0.98	pg/L		05/01/17 15:01	05/03/17 04:58	1
Total HpCDF	850	B	50	0.84	pg/L		05/01/17 15:01	05/03/17 04:58	1
OCDF	610	B	100	0.83	pg/L		05/01/17 15:01	05/03/17 04:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*88*		*40 - 135*	*05/01/17 15:01*	*05/03/17 04:58*	*1*
13C-1,2,3,7,8-PeCDD	*95*		*40 - 135*	*05/01/17 15:01*	*05/03/17 04:58*	*1*
13C-1,2,3,4,7,8-HxCDD	*87*		*40 - 135*	*05/01/17 15:01*	*05/03/17 04:58*	*1*
13C-1,2,3,6,7,8-HxCDD	*83*		*40 - 135*	*05/01/17 15:01*	*05/03/17 04:58*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*90*		*40 - 135*	*05/01/17 15:01*	*05/03/17 04:58*	*1*
13C-OCDD	*89*		*40 - 135*	*05/01/17 15:01*	*05/03/17 04:58*	*1*
13C-2,3,7,8-TCDF	*92*		*40 - 135*	*05/01/17 15:01*	*05/03/17 04:58*	*1*
13C-1,2,3,7,8-PeCDF	*93*		*40 - 135*	*05/01/17 15:01*	*05/03/17 04:58*	*1*
13C-2,3,4,7,8-PeCDF	*91*		*40 - 135*	*05/01/17 15:01*	*05/03/17 04:58*	*1*
13C-1,2,3,4,7,8-HxCDF	*84*		*40 - 135*	*05/01/17 15:01*	*05/03/17 04:58*	*1*
13C-1,2,3,6,7,8-HxCDF	*82*		*40 - 135*	*05/01/17 15:01*	*05/03/17 04:58*	*1*
13C-2,3,4,6,7,8-HxCDF	*85*		*40 - 135*	*05/01/17 15:01*	*05/03/17 04:58*	*1*
13C-1,2,3,7,8,9-HxCDF	*85*		*40 - 135*	*05/01/17 15:01*	*05/03/17 04:58*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*78*		*40 - 135*	*05/01/17 15:01*	*05/03/17 04:58*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*80*		*40 - 135*	*05/01/17 15:01*	*05/03/17 04:58*	*1*
13C-OCDF	*67*		*40 - 135*	*05/01/17 15:01*	*05/03/17 04:58*	*1*

Client Sample ID: SUPE-W-10AR2-042717

Lab Sample ID: 180-65736-5
Matrix: Water
Date Collected: 04/27/17 14:51
Date Received: 04/28/17 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	0.23	ug/L			05/06/17 16:16	1
1,2,4-Trimethylbenzene	4.1		1.0	0.24	ug/L			05/06/17 16:16	1
1,3,5-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 16:16	1
Benzene	8.6		1.0	0.28	ug/L			05/06/17 16:16	1
Chloromethane	ND		1.0	0.43	ug/L			05/06/17 16:16	1
Ethylbenzene	19		1.0	0.26	ug/L			05/06/17 16:16	1
Methyl tert-butyl ether	ND		1.0	0.27	ug/L			05/06/17 16:16	1
m-Xylene & p-Xylene	1.6	J	2.0	0.24	ug/L			05/06/17 16:16	1
Naphthalene	2.0		1.0	0.25	ug/L			05/06/17 16:16	1
n-Butylbenzene	ND		1.0	0.21	ug/L			05/06/17 16:16	1
N-Propylbenzene	ND		1.0	0.45	ug/L			05/06/17 16:16	1
o-Xylene	11		1.0	0.28	ug/L			05/06/17 16:16	1
Styrene	ND		1.0	0.23	ug/L			05/06/17 16:16	1
Toluene	0.94	J	1.0	0.23	ug/L			05/06/17 16:16	1
Xylenes, Total	13		2.0	0.24	ug/L			05/06/17 16:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*61 - 138*		*05/06/17 16:16*	*1*
4-Bromofluorobenzene (Surr)	*96*		*69 - 120*		*05/06/17 16:16*	*1*
Dibromofluoromethane (Surr)	*86*		*69 - 124*		*05/06/17 16:16*	*1*
Toluene-d8 (Surr)	*105*		*73 - 120*		*05/06/17 16:16*	*1*

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

TestAmerica Job ID: 180-65736-1

Client Sample ID: SUPE-W-10AR2-042717
Date Collected: 04/27/17 14:51
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**23**		0.19	0.029	ug/L		05/04/17 09:19	05/06/17 21:46	1
Acenaphthylene	**0.46**		0.19	0.022	ug/L		05/04/17 09:19	05/06/17 21:46	1
Anthracene	**0.17**	**J**	0.19	0.019	ug/L		05/04/17 09:19	05/06/17 21:46	1
Benzo[a]anthracene	ND		0.19	0.037	ug/L		05/04/17 09:19	05/06/17 21:46	1
Benzo[a]pyrene	ND		0.19	0.028	ug/L		05/04/17 09:19	05/06/17 21:46	1
Benzo[b]fluoranthene	ND	*	0.19	0.049	ug/L		05/04/17 09:19	05/06/17 21:46	1
Benzo[g,h,i]perylene	ND		0.19	0.029	ug/L		05/04/17 09:19	05/06/17 21:46	1
Benzo[k]fluoranthene	ND		0.19	0.030	ug/L		05/04/17 09:19	05/06/17 21:46	1
Bis(2-chloroethoxy)methane	ND		1.0	0.13	ug/L		05/04/17 09:19	05/06/17 21:46	1
Bis(2-chloroethyl)ether	ND		0.19	0.032	ug/L		05/04/17 09:19	05/06/17 21:46	1
bis(chloroisopropyl) ether	ND		0.19	0.024	ug/L		05/04/17 09:19	05/06/17 21:46	1
Bis(2-ethylhexyl) phthalate	**0.50**	**J**	2.0	0.44	ug/L		05/04/17 09:19	05/06/17 21:46	1
4-Bromophenyl phenyl ether	ND		1.0	0.12	ug/L		05/04/17 09:19	05/06/17 21:46	1
Butyl benzyl phthalate	ND		1.0	0.21	ug/L		05/04/17 09:19	05/06/17 21:46	1
4-Chloroaniline	ND		1.0	0.29	ug/L		05/04/17 09:19	05/06/17 21:46	1
4-Chloro-3-methylphenol	ND		1.0	0.17	ug/L		05/04/17 09:19	05/06/17 21:46	1
2-Chloronaphthalene	ND		0.19	0.031	ug/L		05/04/17 09:19	05/06/17 21:46	1
2-Chlorophenol	ND		1.0	0.23	ug/L		05/04/17 09:19	05/06/17 21:46	1
4-Chlorophenyl phenyl ether	ND		1.0	0.080	ug/L		05/04/17 09:19	05/06/17 21:46	1
Chrysene	ND		0.19	0.031	ug/L		05/04/17 09:19	05/06/17 21:46	1
Dibenz(a,h)anthracene	ND		0.19	0.027	ug/L		05/04/17 09:19	05/06/17 21:46	1
Dibenzofuran	**5.9**		1.0	0.097	ug/L		05/04/17 09:19	05/06/17 21:46	1
1,2-Dichlorobenzene	ND		1.0	0.11	ug/L		05/04/17 09:19	05/06/17 21:46	1
1,3-Dichlorobenzene	ND		1.0	0.075	ug/L		05/04/17 09:19	05/06/17 21:46	1
1,4-Dichlorobenzene	ND		1.0	0.16	ug/L		05/04/17 09:19	05/06/17 21:46	1
3,3'-Dichlorobenzidine	ND		1.0	0.15	ug/L		05/04/17 09:19	05/06/17 21:46	1
2,4-Dichlorophenol	ND		0.19	0.067	ug/L		05/04/17 09:19	05/06/17 21:46	1
Diethyl phthalate	ND		1.0	0.30	ug/L		05/04/17 09:19	05/06/17 21:46	1
2,4-Dimethylphenol	ND		1.0	0.17	ug/L		05/04/17 09:19	05/06/17 21:46	1
Dimethyl phthalate	ND		1.0	0.18	ug/L		05/04/17 09:19	05/06/17 21:46	1
Di-n-butyl phthalate	**0.24**	**J**	1.0	0.24	ug/L		05/04/17 09:19	05/06/17 21:46	1
4,6-Dinitro-2-methylphenol	ND		5.0	1.6	ug/L		05/04/17 09:19	05/06/17 21:46	1
2,4-Dinitrophenol	ND		5.0	2.5	ug/L		05/04/17 09:19	05/06/17 21:46	1
2,4-Dinitrotoluene	ND		1.0	0.21	ug/L		05/04/17 09:19	05/06/17 21:46	1
2,6-Dinitrotoluene	ND		1.0	0.14	ug/L		05/04/17 09:19	05/06/17 21:46	1
Di-n-octyl phthalate	ND		1.0	0.20	ug/L		05/04/17 09:19	05/06/17 21:46	1
Fluoranthene	**0.79**		0.19	0.021	ug/L		05/04/17 09:19	05/06/17 21:46	1
Fluorene	**5.9**		0.19	0.024	ug/L		05/04/17 09:19	05/06/17 21:46	1
Hexachlorobenzene	ND		0.19	0.061	ug/L		05/04/17 09:19	05/06/17 21:46	1
Hexachlorobutadiene	ND		0.19	0.094	ug/L		05/04/17 09:19	05/06/17 21:46	1
Hexachlorocyclopentadiene	ND		1.0	0.14	ug/L		05/04/17 09:19	05/06/17 21:46	1
Hexachloroethane	ND		1.0	0.14	ug/L		05/04/17 09:19	05/06/17 21:46	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.043	ug/L		05/04/17 09:19	05/06/17 21:46	1
Isophorone	ND		1.0	0.074	ug/L		05/04/17 09:19	05/06/17 21:46	1
1-Methylnaphthalene	**7.1**		0.19	0.031	ug/L		05/04/17 09:19	05/06/17 21:46	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		05/04/17 09:19	05/06/17 21:46	1
2-Methylphenol	ND		1.0	0.19	ug/L		05/04/17 09:19	05/06/17 21:46	1
Methylphenol, 3 & 4	ND		1.0	0.21	ug/L		05/04/17 09:19	05/06/17 21:46	1
2-Nitroaniline	ND		5.0	0.67	ug/L		05/04/17 09:19	05/06/17 21:46	1

Client Sample ID: SUPE-W-10AR2-042717
Date Collected: 04/27/17 14:51
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		5.0	0.81	ug/L		05/04/17 09:19	05/06/17 21:46	1
4-Nitroaniline	ND		5.0	0.77	ug/L		05/04/17 09:19	05/06/17 21:46	1
Nitrobenzene	ND		2.0	0.15	ug/L		05/04/17 09:19	05/06/17 21:46	1
2-Nitrophenol	ND		1.0	0.11	ug/L		05/04/17 09:19	05/06/17 21:46	1
4-Nitrophenol	ND	*	5.0	0.80	ug/L		05/04/17 09:19	05/06/17 21:46	1
N-Nitrosodi-n-propylamine	ND		0.19	0.050	ug/L		05/04/17 09:19	05/06/17 21:46	1
N-Nitrosodiphenylamine	ND		1.0	0.12	ug/L		05/04/17 09:19	05/06/17 21:46	1
Pentachlorophenol	ND		1.0	0.50	ug/L		05/04/17 09:19	05/06/17 21:46	1
Phenanthrene	**0.51**		0.19	0.042	ug/L		05/04/17 09:19	05/06/17 21:46	1
Phenol	**0.51**	**J**	1.0	0.055	ug/L		05/04/17 09:19	05/06/17 21:46	1
Pyrene	**0.41**		0.19	0.023	ug/L		05/04/17 09:19	05/06/17 21:46	1
2,3,4,6-Tetrachlorophenol	ND		1.0	0.11	ug/L		05/04/17 09:19	05/06/17 21:46	1
2,3,5,6-Tetrachlorophenol	ND		1.0	0.12	ug/L		05/04/17 09:19	05/06/17 21:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.085	ug/L		05/04/17 09:19	05/06/17 21:46	1
2,4,5-Trichlorophenol	ND		1.0	0.12	ug/L		05/04/17 09:19	05/06/17 21:46	1
2,4,6-Trichlorophenol	ND		1.0	0.30	ug/L		05/04/17 09:19	05/06/17 21:46	1
Benzoic acid	ND		5.0	1.6	ug/L		05/04/17 09:19	05/06/17 21:46	1
Benzyl alcohol	ND		1.0	0.20	ug/L		05/04/17 09:19	05/06/17 21:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*81*		*24 - 100*	*05/04/17 09:19*	*05/06/17 21:46*	*1*
2-Fluorophenol (Surr)	*77*		*20 - 100*	*05/04/17 09:19*	*05/06/17 21:46*	*1*
Nitrobenzene-d5 (Surr)	*104*		*25 - 105*	*05/04/17 09:19*	*05/06/17 21:46*	*1*
Phenol-d5 (Surr)	*81*		*21 - 100*	*05/04/17 09:19*	*05/06/17 21:46*	*1*
Terphenyl-d14 (Surr)	*60*		*20 - 124*	*05/04/17 09:19*	*05/06/17 21:46*	*1*
2,4,6-Tribromophenol (Surr)	*92*		*22 - 118*	*05/04/17 09:19*	*05/06/17 21:46*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.6	0.65	pg/L		05/01/17 15:01	05/03/17 05:59	1
Total TCDD	ND		9.6	0.65	pg/L		05/01/17 15:01	05/03/17 05:59	1
1,2,3,7,8-PeCDD	ND		48	0.30	pg/L		05/01/17 15:01	05/03/17 05:59	1
Total PeCDD	ND		48	0.30	pg/L		05/01/17 15:01	05/03/17 05:59	1
1,2,3,4,7,8-HxCDD	**1.2**	**J B q**	48	0.21	pg/L		05/01/17 15:01	05/03/17 05:59	1
1,2,3,6,7,8-HxCDD	**2.6**	**J B**	48	0.22	pg/L		05/01/17 15:01	05/03/17 05:59	1
1,2,3,7,8,9-HxCDD	**1.5**	**J B q**	48	0.20	pg/L		05/01/17 15:01	05/03/17 05:59	1
Total HxCDD	**9.5**	**J B q**	48	0.21	pg/L		05/01/17 15:01	05/03/17 05:59	1
1,2,3,4,6,7,8-HpCDD	**37**	**J B**	48	0.63	pg/L		05/01/17 15:01	05/03/17 05:59	1
Total HpCDD	**74**	**B**	48	0.63	pg/L		05/01/17 15:01	05/03/17 05:59	1
OCDD	**430**	**B**	96	0.14	pg/L		05/01/17 15:01	05/03/17 05:59	1
2,3,7,8-TCDF	ND		9.6	0.52	pg/L		05/01/17 15:01	05/03/17 05:59	1
Total TCDF	**4.0**	**J**	9.6	0.52	pg/L		05/01/17 15:01	05/03/17 05:59	1
1,2,3,7,8-PeCDF	**0.57**	**J q**	48	0.31	pg/L		05/01/17 15:01	05/03/17 05:59	1
2,3,4,7,8-PeCDF	ND		48	0.30	pg/L		05/01/17 15:01	05/03/17 05:59	1
Total PeCDF	**12**	**J I B q**	48	0.30	pg/L		05/01/17 15:01	05/03/17 05:59	1
1,2,3,4,7,8-HxCDF	**3.0**	**J B**	48	0.31	pg/L		05/01/17 15:01	05/03/17 05:59	1
1,2,3,6,7,8-HxCDF	**3.3**	**J I B**	48	0.31	pg/L		05/01/17 15:01	05/03/17 05:59	1
2,3,4,6,7,8-HxCDF	**1.7**	**J B q**	48	0.32	pg/L		05/01/17 15:01	05/03/17 05:59	1
1,2,3,7,8,9-HxCDF	**1.7**	**J B**	48	0.39	pg/L		05/01/17 15:01	05/03/17 05:59	1
Total HxCDF	**42**	**J I B q**	48	0.33	pg/L		05/01/17 15:01	05/03/17 05:59	1

Client Sample ID: SUPE-W-10AR2-042717

Lab Sample ID: 180-65736-5
Matrix: Water
Date Collected: 04/27/17 14:51
Date Received: 04/28/17 09:00

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDF	14	J B	48	0.38	pg/L		05/01/17 15:01	05/03/17 05:59	1
1,2,3,4,7,8,9-HpCDF	2.8	J B q	48	0.51	pg/L		05/01/17 15:01	05/03/17 05:59	1
Total HpCDF	48	B q	48	0.45	pg/L		05/01/17 15:01	05/03/17 05:59	1
OCDF	39	J B	96	0.16	pg/L		05/01/17 15:01	05/03/17 05:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*86*		*40 - 135*	*05/01/17 15:01*	*05/03/17 05:59*	*1*
13C-1,2,3,7,8-PeCDD	*93*		*40 - 135*	*05/01/17 15:01*	*05/03/17 05:59*	*1*
13C-1,2,3,4,7,8-HxCDD	*84*		*40 - 135*	*05/01/17 15:01*	*05/03/17 05:59*	*1*
13C-1,2,3,6,7,8-HxCDD	*77*		*40 - 135*	*05/01/17 15:01*	*05/03/17 05:59*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*85*		*40 - 135*	*05/01/17 15:01*	*05/03/17 05:59*	*1*
13C-OCDD	*79*		*40 - 135*	*05/01/17 15:01*	*05/03/17 05:59*	*1*
13C-2,3,7,8-TCDF	*89*		*40 - 135*	*05/01/17 15:01*	*05/03/17 05:59*	*1*
13C-1,2,3,7,8-PeCDF	*91*		*40 - 135*	*05/01/17 15:01*	*05/03/17 05:59*	*1*
13C-2,3,4,7,8-PeCDF	*90*		*40 - 135*	*05/01/17 15:01*	*05/03/17 05:59*	*1*
13C-1,2,3,4,7,8-HxCDF	*80*		*40 - 135*	*05/01/17 15:01*	*05/03/17 05:59*	*1*
13C-1,2,3,6,7,8-HxCDF	*80*		*40 - 135*	*05/01/17 15:01*	*05/03/17 05:59*	*1*
13C-2,3,4,6,7,8-HxCDF	*81*		*40 - 135*	*05/01/17 15:01*	*05/03/17 05:59*	*1*
13C-1,2,3,7,8,9-HxCDF	*84*		*40 - 135*	*05/01/17 15:01*	*05/03/17 05:59*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*74*		*40 - 135*	*05/01/17 15:01*	*05/03/17 05:59*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*80*		*40 - 135*	*05/01/17 15:01*	*05/03/17 05:59*	*1*
13C-OCDF	*75*		*40 - 135*	*05/01/17 15:01*	*05/03/17 05:59*	*1*

Client Sample ID: SUPE-EB-02-042717

Lab Sample ID: 180-65736-6
Matrix: Water
Date Collected: 04/27/17 15:56
Date Received: 04/28/17 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	0.23	ug/L			05/06/17 16:39	1
1,2,4-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 16:39	1
1,3,5-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 16:39	1
Benzene	ND		1.0	0.28	ug/L			05/06/17 16:39	1
Chloromethane	ND		1.0	0.43	ug/L			05/06/17 16:39	1
Ethylbenzene	ND		1.0	0.26	ug/L			05/06/17 16:39	1
Methyl tert-butyl ether	ND		1.0	0.27	ug/L			05/06/17 16:39	1
m-Xylene & p-Xylene	ND		2.0	0.24	ug/L			05/06/17 16:39	1
Naphthalene	ND		1.0	0.25	ug/L			05/06/17 16:39	1
n-Butylbenzene	ND		1.0	0.21	ug/L			05/06/17 16:39	1
N-Propylbenzene	ND		1.0	0.45	ug/L			05/06/17 16:39	1
o-Xylene	ND		1.0	0.28	ug/L			05/06/17 16:39	1
Styrene	ND		1.0	0.23	ug/L			05/06/17 16:39	1
Toluene	0.40	J	1.0	0.23	ug/L			05/06/17 16:39	1
Xylenes, Total	ND		2.0	0.24	ug/L			05/06/17 16:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*61 - 138*		*05/06/17 16:39*	*1*
4-Bromofluorobenzene (Surr)	*94*		*69 - 120*		*05/06/17 16:39*	*1*
Dibromofluoromethane (Surr)	*83*		*69 - 124*		*05/06/17 16:39*	*1*
Toluene-d8 (Surr)	*104*		*73 - 120*		*05/06/17 16:39*	*1*

Client Sample ID: SUPE-EB-02-042717
Date Collected: 04/27/17 15:56
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.029	ug/L		05/04/17 09:19	05/06/17 22:13	1
Acenaphthylene	ND		0.19	0.022	ug/L		05/04/17 09:19	05/06/17 22:13	1
Anthracene	ND		0.19	0.019	ug/L		05/04/17 09:19	05/06/17 22:13	1
Benzo[a]anthracene	ND		0.19	0.037	ug/L		05/04/17 09:19	05/06/17 22:13	1
Benzo[a]pyrene	ND		0.19	0.028	ug/L		05/04/17 09:19	05/06/17 22:13	1
Benzo[b]fluoranthene	ND	*	0.19	0.049	ug/L		05/04/17 09:19	05/06/17 22:13	1
Benzo[g,h,i]perylene	ND		0.19	0.029	ug/L		05/04/17 09:19	05/06/17 22:13	1
Benzo[k]fluoranthene	ND		0.19	0.030	ug/L		05/04/17 09:19	05/06/17 22:13	1
Bis(2-chloroethoxy)methane	ND		1.0	0.13	ug/L		05/04/17 09:19	05/06/17 22:13	1
Bis(2-chloroethyl)ether	ND		0.19	0.032	ug/L		05/04/17 09:19	05/06/17 22:13	1
bis(chloroisopropyl) ether	ND		0.19	0.024	ug/L		05/04/17 09:19	05/06/17 22:13	1
Bis(2-ethylhexyl) phthalate	**1.9**	**J**	2.0	0.44	ug/L		05/04/17 09:19	05/06/17 22:13	1
4-Bromophenyl phenyl ether	ND		1.0	0.12	ug/L		05/04/17 09:19	05/06/17 22:13	1
Butyl benzyl phthalate	ND		1.0	0.21	ug/L		05/04/17 09:19	05/06/17 22:13	1
4-Chloroaniline	ND		1.0	0.29	ug/L		05/04/17 09:19	05/06/17 22:13	1
4-Chloro-3-methylphenol	ND		1.0	0.17	ug/L		05/04/17 09:19	05/06/17 22:13	1
2-Chloronaphthalene	ND		0.19	0.031	ug/L		05/04/17 09:19	05/06/17 22:13	1
2-Chlorophenol	ND		1.0	0.23	ug/L		05/04/17 09:19	05/06/17 22:13	1
4-Chlorophenyl phenyl ether	ND		1.0	0.080	ug/L		05/04/17 09:19	05/06/17 22:13	1
Chrysene	ND		0.19	0.031	ug/L		05/04/17 09:19	05/06/17 22:13	1
Dibenz(a,h)anthracene	ND		0.19	0.027	ug/L		05/04/17 09:19	05/06/17 22:13	1
Dibenzofuran	ND		1.0	0.097	ug/L		05/04/17 09:19	05/06/17 22:13	1
1,2-Dichlorobenzene	ND		1.0	0.11	ug/L		05/04/17 09:19	05/06/17 22:13	1
1,3-Dichlorobenzene	ND		1.0	0.075	ug/L		05/04/17 09:19	05/06/17 22:13	1
1,4-Dichlorobenzene	ND		1.0	0.16	ug/L		05/04/17 09:19	05/06/17 22:13	1
3,3'-Dichlorobenzidine	ND		1.0	0.15	ug/L		05/04/17 09:19	05/06/17 22:13	1
2,4-Dichlorophenol	ND		0.19	0.067	ug/L		05/04/17 09:19	05/06/17 22:13	1
Diethyl phthalate	ND		1.0	0.30	ug/L		05/04/17 09:19	05/06/17 22:13	1
2,4-Dimethylphenol	ND		1.0	0.17	ug/L		05/04/17 09:19	05/06/17 22:13	1
Dimethyl phthalate	ND		1.0	0.18	ug/L		05/04/17 09:19	05/06/17 22:13	1
Di-n-butyl phthalate	**0.36**	**J**	1.0	0.24	ug/L		05/04/17 09:19	05/06/17 22:13	1
4,6-Dinitro-2-methylphenol	ND		5.0	1.6	ug/L		05/04/17 09:19	05/06/17 22:13	1
2,4-Dinitrophenol	ND		5.0	2.5	ug/L		05/04/17 09:19	05/06/17 22:13	1
2,4-Dinitrotoluene	ND		1.0	0.21	ug/L		05/04/17 09:19	05/06/17 22:13	1
2,6-Dinitrotoluene	ND		1.0	0.14	ug/L		05/04/17 09:19	05/06/17 22:13	1
Di-n-octyl phthalate	ND		1.0	0.20	ug/L		05/04/17 09:19	05/06/17 22:13	1
Fluoranthene	ND		0.19	0.021	ug/L		05/04/17 09:19	05/06/17 22:13	1
Fluorene	ND		0.19	0.024	ug/L		05/04/17 09:19	05/06/17 22:13	1
Hexachlorobenzene	ND		0.19	0.061	ug/L		05/04/17 09:19	05/06/17 22:13	1
Hexachlorobutadiene	ND		0.19	0.094	ug/L		05/04/17 09:19	05/06/17 22:13	1
Hexachlorocyclopentadiene	ND		1.0	0.14	ug/L		05/04/17 09:19	05/06/17 22:13	1
Hexachloroethane	ND		1.0	0.14	ug/L		05/04/17 09:19	05/06/17 22:13	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.043	ug/L		05/04/17 09:19	05/06/17 22:13	1
Isophorone	ND		1.0	0.074	ug/L		05/04/17 09:19	05/06/17 22:13	1
1-Methylnaphthalene	ND		0.19	0.031	ug/L		05/04/17 09:19	05/06/17 22:13	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		05/04/17 09:19	05/06/17 22:13	1
2-Methylphenol	ND		1.0	0.19	ug/L		05/04/17 09:19	05/06/17 22:13	1
Methylphenol, 3 & 4	ND		1.0	0.21	ug/L		05/04/17 09:19	05/06/17 22:13	1
2-Nitroaniline	ND		5.0	0.67	ug/L		05/04/17 09:19	05/06/17 22:13	1

Client Sample ID: SUPE-EB-02-042717
Date Collected: 04/27/17 15:56
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		5.0	0.81	ug/L		05/04/17 09:19	05/06/17 22:13	1
4-Nitroaniline	ND		5.0	0.77	ug/L		05/04/17 09:19	05/06/17 22:13	1
Nitrobenzene	ND		2.0	0.15	ug/L		05/04/17 09:19	05/06/17 22:13	1
2-Nitrophenol	ND		1.0	0.11	ug/L		05/04/17 09:19	05/06/17 22:13	1
4-Nitrophenol	ND	*	5.0	0.80	ug/L		05/04/17 09:19	05/06/17 22:13	1
N-Nitrosodi-n-propylamine	ND		0.19	0.050	ug/L		05/04/17 09:19	05/06/17 22:13	1
N-Nitrosodiphenylamine	ND		1.0	0.12	ug/L		05/04/17 09:19	05/06/17 22:13	1
Pentachlorophenol	ND		1.0	0.50	ug/L		05/04/17 09:19	05/06/17 22:13	1
Phenanthrene	ND		0.19	0.042	ug/L		05/04/17 09:19	05/06/17 22:13	1
Phenol	ND		1.0	0.055	ug/L		05/04/17 09:19	05/06/17 22:13	1
Pyrene	ND		0.19	0.023	ug/L		05/04/17 09:19	05/06/17 22:13	1
2,3,4,6-Tetrachlorophenol	ND		1.0	0.11	ug/L		05/04/17 09:19	05/06/17 22:13	1
2,3,5,6-Tetrachlorophenol	ND		1.0	0.12	ug/L		05/04/17 09:19	05/06/17 22:13	1
1,2,4-Trichlorobenzene	ND		1.0	0.085	ug/L		05/04/17 09:19	05/06/17 22:13	1
2,4,5-Trichlorophenol	ND		1.0	0.12	ug/L		05/04/17 09:19	05/06/17 22:13	1
2,4,6-Trichlorophenol	ND		1.0	0.30	ug/L		05/04/17 09:19	05/06/17 22:13	1
Benzoic acid	**1.9**	**J**	5.0	1.6	ug/L		05/04/17 09:19	05/06/17 22:13	1
Benzyl alcohol	ND		1.0	0.20	ug/L		05/04/17 09:19	05/06/17 22:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*24 - 100*	*05/04/17 09:19*	*05/06/17 22:13*	*1*
2-Fluorophenol (Surr)	*69*		*20 - 100*	*05/04/17 09:19*	*05/06/17 22:13*	*1*
Nitrobenzene-d5 (Surr)	*92*		*25 - 105*	*05/04/17 09:19*	*05/06/17 22:13*	*1*
Phenol-d5 (Surr)	*75*		*21 - 100*	*05/04/17 09:19*	*05/06/17 22:13*	*1*
Terphenyl-d14 (Surr)	*78*		*20 - 124*	*05/04/17 09:19*	*05/06/17 22:13*	*1*
2,4,6-Tribromophenol (Surr)	*98*		*22 - 118*	*05/04/17 09:19*	*05/06/17 22:13*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	0.61	pg/L		05/01/17 15:01	05/03/17 07:00	1
Total TCDD	ND		10	0.61	pg/L		05/01/17 15:01	05/03/17 07:00	1
1,2,3,7,8-PeCDD	**0.12**	**J B q**	51	0.072	pg/L		05/01/17 15:01	05/03/17 07:00	1
Total PeCDD	**0.54**	**J B q**	51	0.072	pg/L		05/01/17 15:01	05/03/17 07:00	1
1,2,3,4,7,8-HxCDD	**1.1**	**J B**	51	0.20	pg/L		05/01/17 15:01	05/03/17 07:00	1
1,2,3,6,7,8-HxCDD	**1.1**	**J B q**	51	0.22	pg/L		05/01/17 15:01	05/03/17 07:00	1
1,2,3,7,8,9-HxCDD	**0.98**	**J B q**	51	0.20	pg/L		05/01/17 15:01	05/03/17 07:00	1
Total HxCDD	**3.7**	**J B q**	51	0.21	pg/L		05/01/17 15:01	05/03/17 07:00	1
1,2,3,4,6,7,8-HpCDD	**7.1**	**J B**	51	0.74	pg/L		05/01/17 15:01	05/03/17 07:00	1
Total HpCDD	**14**	**J B**	51	0.74	pg/L		05/01/17 15:01	05/03/17 07:00	1
OCDD	**80**	**J B**	100	0.13	pg/L		05/01/17 15:01	05/03/17 07:00	1
2,3,7,8-TCDF	ND		10	0.43	pg/L		05/01/17 15:01	05/03/17 07:00	1
Total TCDF	ND		10	0.43	pg/L		05/01/17 15:01	05/03/17 07:00	1
1,2,3,7,8-PeCDF	ND		51	0.38	pg/L		05/01/17 15:01	05/03/17 07:00	1
2,3,4,7,8-PeCDF	ND		51	0.37	pg/L		05/01/17 15:01	05/03/17 07:00	1
Total PeCDF	ND		51	0.38	pg/L		05/01/17 15:01	05/03/17 07:00	1
1,2,3,4,7,8-HxCDF	**1.2**	**J B**	51	0.35	pg/L		05/01/17 15:01	05/03/17 07:00	1
1,2,3,6,7,8-HxCDF	**0.98**	**J B q**	51	0.32	pg/L		05/01/17 15:01	05/03/17 07:00	1
2,3,4,6,7,8-HxCDF	**0.98**	**J B q**	51	0.38	pg/L		05/01/17 15:01	05/03/17 07:00	1
1,2,3,7,8,9-HxCDF	ND		51	0.46	pg/L		05/01/17 15:01	05/03/17 07:00	1
Total HxCDF	**4.6**	**J B q**	51	0.38	pg/L		05/01/17 15:01	05/03/17 07:00	1

Client Sample ID: SUPE-EB-02-042717

Lab Sample ID: 180-65736-6
Matrix: Water
Date Collected: 04/27/17 15:56
Date Received: 04/28/17 09:00

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDF	3.6	J B	51	0.28	pg/L		05/01/17 15:01	05/03/17 07:00	1
1,2,3,4,7,8,9-HpCDF	2.0	J B	51	0.41	pg/L		05/01/17 15:01	05/03/17 07:00	1
Total HpCDF	10	J B	51	0.35	pg/L		05/01/17 15:01	05/03/17 07:00	1
OCDF	10	J B	100	0.15	pg/L		05/01/17 15:01	05/03/17 07:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*73*		*40 - 135*	*05/01/17 15:01*	*05/03/17 07:00*	*1*
13C-1,2,3,7,8-PeCDD	*81*		*40 - 135*	*05/01/17 15:01*	*05/03/17 07:00*	*1*
13C-1,2,3,4,7,8-HxCDD	*77*		*40 - 135*	*05/01/17 15:01*	*05/03/17 07:00*	*1*
13C-1,2,3,6,7,8-HxCDD	*74*		*40 - 135*	*05/01/17 15:01*	*05/03/17 07:00*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*81*		*40 - 135*	*05/01/17 15:01*	*05/03/17 07:00*	*1*
13C-OCDD	*80*		*40 - 135*	*05/01/17 15:01*	*05/03/17 07:00*	*1*
13C-2,3,7,8-TCDF	*76*		*40 - 135*	*05/01/17 15:01*	*05/03/17 07:00*	*1*
13C-1,2,3,7,8-PeCDF	*79*		*40 - 135*	*05/01/17 15:01*	*05/03/17 07:00*	*1*
13C-2,3,4,7,8-PeCDF	*78*		*40 - 135*	*05/01/17 15:01*	*05/03/17 07:00*	*1*
13C-1,2,3,4,7,8-HxCDF	*76*		*40 - 135*	*05/01/17 15:01*	*05/03/17 07:00*	*1*
13C-1,2,3,6,7,8-HxCDF	*74*		*40 - 135*	*05/01/17 15:01*	*05/03/17 07:00*	*1*
13C-2,3,4,6,7,8-HxCDF	*74*		*40 - 135*	*05/01/17 15:01*	*05/03/17 07:00*	*1*
13C-1,2,3,7,8,9-HxCDF	*75*		*40 - 135*	*05/01/17 15:01*	*05/03/17 07:00*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*72*		*40 - 135*	*05/01/17 15:01*	*05/03/17 07:00*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*75*		*40 - 135*	*05/01/17 15:01*	*05/03/17 07:00*	*1*
13C-OCDF	*73*		*40 - 135*	*05/01/17 15:01*	*05/03/17 07:00*	*1*

Client Sample ID: SUPE-M-99A-042717

Lab Sample ID: 180-65736-7
Matrix: Water
Date Collected: 04/27/17 21:00
Date Received: 04/28/17 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	0.23	ug/L			05/06/17 17:02	1
1,2,4-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 17:02	1
1,3,5-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 17:02	1
Benzene	ND		1.0	0.28	ug/L			05/06/17 17:02	1
Chloromethane	ND		1.0	0.43	ug/L			05/06/17 17:02	1
Ethylbenzene	ND		1.0	0.26	ug/L			05/06/17 17:02	1
Methyl tert-butyl ether	ND		1.0	0.27	ug/L			05/06/17 17:02	1
m-Xylene & p-Xylene	ND		2.0	0.24	ug/L			05/06/17 17:02	1
Naphthalene	ND		1.0	0.25	ug/L			05/06/17 17:02	1
n-Butylbenzene	ND		1.0	0.21	ug/L			05/06/17 17:02	1
N-Propylbenzene	ND		1.0	0.45	ug/L			05/06/17 17:02	1
o-Xylene	ND		1.0	0.28	ug/L			05/06/17 17:02	1
Styrene	ND		1.0	0.23	ug/L			05/06/17 17:02	1
Toluene	ND		1.0	0.23	ug/L			05/06/17 17:02	1
Xylenes, Total	ND		2.0	0.24	ug/L			05/06/17 17:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*61 - 138*		*05/06/17 17:02*	*1*
4-Bromofluorobenzene (Surr)	*93*		*69 - 120*		*05/06/17 17:02*	*1*
Dibromofluoromethane (Surr)	*84*		*69 - 124*		*05/06/17 17:02*	*1*
Toluene-d8 (Surr)	*103*		*73 - 120*		*05/06/17 17:02*	*1*

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

TestAmerica Job ID: 180-65736-1

Client Sample ID: SUPE-M-99A-042717
Date Collected: 04/27/17 21:00
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.18	0.027	ug/L		05/04/17 09:19	05/06/17 22:41	1
Acenaphthylene	ND		0.18	0.020	ug/L		05/04/17 09:19	05/06/17 22:41	1
Anthracene	ND		0.18	0.018	ug/L		05/04/17 09:19	05/06/17 22:41	1
Benzo[a]anthracene	ND		0.18	0.034	ug/L		05/04/17 09:19	05/06/17 22:41	1
Benzo[a]pyrene	ND		0.18	0.026	ug/L		05/04/17 09:19	05/06/17 22:41	1
Benzo[b]fluoranthene	ND	*	0.18	0.045	ug/L		05/04/17 09:19	05/06/17 22:41	1
Benzo[g,h,i]perylene	ND		0.18	0.027	ug/L		05/04/17 09:19	05/06/17 22:41	1
Benzo[k]fluoranthene	ND		0.18	0.028	ug/L		05/04/17 09:19	05/06/17 22:41	1
Bis(2-chloroethoxy)methane	ND		0.93	0.12	ug/L		05/04/17 09:19	05/06/17 22:41	1
Bis(2-chloroethyl)ether	ND		0.18	0.029	ug/L		05/04/17 09:19	05/06/17 22:41	1
bis(chloroisopropyl) ether	ND		0.18	0.022	ug/L		05/04/17 09:19	05/06/17 22:41	1
Bis(2-ethylhexyl) phthalate	ND		1.9	0.41	ug/L		05/04/17 09:19	05/06/17 22:41	1
4-Bromophenyl phenyl ether	ND		0.93	0.11	ug/L		05/04/17 09:19	05/06/17 22:41	1
Butyl benzyl phthalate	ND		0.93	0.20	ug/L		05/04/17 09:19	05/06/17 22:41	1
4-Chloroaniline	ND		0.93	0.27	ug/L		05/04/17 09:19	05/06/17 22:41	1
4-Chloro-3-methylphenol	ND		0.93	0.16	ug/L		05/04/17 09:19	05/06/17 22:41	1
2-Chloronaphthalene	ND		0.18	0.028	ug/L		05/04/17 09:19	05/06/17 22:41	1
2-Chlorophenol	ND		0.93	0.21	ug/L		05/04/17 09:19	05/06/17 22:41	1
4-Chlorophenyl phenyl ether	ND		0.93	0.074	ug/L		05/04/17 09:19	05/06/17 22:41	1
Chrysene	ND		0.18	0.029	ug/L		05/04/17 09:19	05/06/17 22:41	1
Dibenz(a,h)anthracene	ND		0.18	0.025	ug/L		05/04/17 09:19	05/06/17 22:41	1
Dibenzofuran	ND		0.93	0.089	ug/L		05/04/17 09:19	05/06/17 22:41	1
1,2-Dichlorobenzene	ND		0.93	0.10	ug/L		05/04/17 09:19	05/06/17 22:41	1
1,3-Dichlorobenzene	ND		0.93	0.070	ug/L		05/04/17 09:19	05/06/17 22:41	1
1,4-Dichlorobenzene	ND		0.93	0.15	ug/L		05/04/17 09:19	05/06/17 22:41	1
3,3'-Dichlorobenzidine	ND		0.93	0.14	ug/L		05/04/17 09:19	05/06/17 22:41	1
2,4-Dichlorophenol	ND		0.18	0.062	ug/L		05/04/17 09:19	05/06/17 22:41	1
Diethyl phthalate	ND		0.93	0.27	ug/L		05/04/17 09:19	05/06/17 22:41	1
2,4-Dimethylphenol	ND		0.93	0.16	ug/L		05/04/17 09:19	05/06/17 22:41	1
Dimethyl phthalate	ND		0.93	0.17	ug/L		05/04/17 09:19	05/06/17 22:41	1
Di-n-butyl phthalate	ND		0.93	0.22	ug/L		05/04/17 09:19	05/06/17 22:41	1
4,6-Dinitro-2-methylphenol	ND		4.6	1.4	ug/L		05/04/17 09:19	05/06/17 22:41	1
2,4-Dinitrophenol	ND		4.6	2.3	ug/L		05/04/17 09:19	05/06/17 22:41	1
2,4-Dinitrotoluene	ND		0.93	0.20	ug/L		05/04/17 09:19	05/06/17 22:41	1
2,6-Dinitrotoluene	ND		0.93	0.13	ug/L		05/04/17 09:19	05/06/17 22:41	1
Di-n-octyl phthalate	ND		0.93	0.19	ug/L		05/04/17 09:19	05/06/17 22:41	1
Fluoranthene	ND		0.18	0.020	ug/L		05/04/17 09:19	05/06/17 22:41	1
Fluorene	ND		0.18	0.022	ug/L		05/04/17 09:19	05/06/17 22:41	1
Hexachlorobenzene	ND		0.18	0.056	ug/L		05/04/17 09:19	05/06/17 22:41	1
Hexachlorobutadiene	ND		0.18	0.087	ug/L		05/04/17 09:19	05/06/17 22:41	1
Hexachlorocyclopentadiene	ND		0.93	0.13	ug/L		05/04/17 09:19	05/06/17 22:41	1
Hexachloroethane	ND		0.93	0.13	ug/L		05/04/17 09:19	05/06/17 22:41	1
Indeno[1,2,3-cd]pyrene	ND		0.18	0.040	ug/L		05/04/17 09:19	05/06/17 22:41	1
Isophorone	ND		0.93	0.068	ug/L		05/04/17 09:19	05/06/17 22:41	1
1-Methylnaphthalene	ND		0.18	0.029	ug/L		05/04/17 09:19	05/06/17 22:41	1
2-Methylnaphthalene	ND		0.18	0.018	ug/L		05/04/17 09:19	05/06/17 22:41	1
2-Methylphenol	ND		0.93	0.17	ug/L		05/04/17 09:19	05/06/17 22:41	1
Methylphenol, 3 & 4	ND		0.93	0.19	ug/L		05/04/17 09:19	05/06/17 22:41	1
2-Nitroaniline	ND		4.6	0.62	ug/L		05/04/17 09:19	05/06/17 22:41	1

Client Sample ID: SUPE-M-99A-042717
Date Collected: 04/27/17 21:00
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		4.6	0.75	ug/L		05/04/17 09:19	05/06/17 22:41	1
4-Nitroaniline	ND		4.6	0.72	ug/L		05/04/17 09:19	05/06/17 22:41	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/04/17 09:19	05/06/17 22:41	1
2-Nitrophenol	ND		0.93	0.10	ug/L		05/04/17 09:19	05/06/17 22:41	1
4-Nitrophenol	ND	*	4.6	0.74	ug/L		05/04/17 09:19	05/06/17 22:41	1
N-Nitrosodi-n-propylamine	ND		0.18	0.046	ug/L		05/04/17 09:19	05/06/17 22:41	1
N-Nitrosodiphenylamine	ND		0.93	0.11	ug/L		05/04/17 09:19	05/06/17 22:41	1
Pentachlorophenol	ND		0.93	0.46	ug/L		05/04/17 09:19	05/06/17 22:41	1
Phenanthrene	ND		0.18	0.038	ug/L		05/04/17 09:19	05/06/17 22:41	1
Phenol	ND		0.93	0.051	ug/L		05/04/17 09:19	05/06/17 22:41	1
Pyrene	ND		0.18	0.021	ug/L		05/04/17 09:19	05/06/17 22:41	1
2,3,4,6-Tetrachlorophenol	ND		0.93	0.098	ug/L		05/04/17 09:19	05/06/17 22:41	1
2,3,5,6-Tetrachlorophenol	ND		0.93	0.11	ug/L		05/04/17 09:19	05/06/17 22:41	1
1,2,4-Trichlorobenzene	ND		0.93	0.079	ug/L		05/04/17 09:19	05/06/17 22:41	1
2,4,5-Trichlorophenol	ND		0.93	0.11	ug/L		05/04/17 09:19	05/06/17 22:41	1
2,4,6-Trichlorophenol	ND		0.93	0.28	ug/L		05/04/17 09:19	05/06/17 22:41	1
Benzoic acid	ND		4.6	1.5	ug/L		05/04/17 09:19	05/06/17 22:41	1
Benzyl alcohol	ND		0.93	0.18	ug/L		05/04/17 09:19	05/06/17 22:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*56*		*24 - 100*	*05/04/17 09:19*	*05/06/17 22:41*	*1*
2-Fluorophenol (Surr)	*51*		*20 - 100*	*05/04/17 09:19*	*05/06/17 22:41*	*1*
Nitrobenzene-d5 (Surr)	*68*		*25 - 105*	*05/04/17 09:19*	*05/06/17 22:41*	*1*
Phenol-d5 (Surr)	*53*		*21 - 100*	*05/04/17 09:19*	*05/06/17 22:41*	*1*
Terphenyl-d14 (Surr)	*44*		*20 - 124*	*05/04/17 09:19*	*05/06/17 22:41*	*1*
2,4,6-Tribromophenol (Surr)	*62*		*22 - 118*	*05/04/17 09:19*	*05/06/17 22:41*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	0.96	pg/L		05/01/17 15:01	05/03/17 11:58	1
Total TCDD	ND		10	0.96	pg/L		05/01/17 15:01	05/03/17 11:58	1
1,2,3,7,8-PeCDD	ND		51	0.49	pg/L		05/01/17 15:01	05/03/17 11:58	1
Total PeCDD	**0.89**	**J q B**	51	0.49	pg/L		05/01/17 15:01	05/03/17 11:58	1
1,2,3,4,7,8-HxCDD	**2.0**	**J B**	51	0.27	pg/L		05/01/17 15:01	05/03/17 11:58	1
1,2,3,6,7,8-HxCDD	**1.8**	**J q B**	51	0.27	pg/L		05/01/17 15:01	05/03/17 11:58	1
1,2,3,7,8,9-HxCDD	**2.3**	**J q B**	51	0.26	pg/L		05/01/17 15:01	05/03/17 11:58	1
Total HxCDD	**7.7**	**J q B**	51	0.27	pg/L		05/01/17 15:01	05/03/17 11:58	1
1,2,3,4,6,7,8-HpCDD	**5.4**	**J B**	51	0.77	pg/L		05/01/17 15:01	05/03/17 11:58	1
Total HpCDD	**12**	**J q B**	51	0.77	pg/L		05/01/17 15:01	05/03/17 11:58	1
OCDD	**35**	**J B**	100	0.22	pg/L		05/01/17 15:01	05/03/17 11:58	1
2,3,7,8-TCDF	ND		10	0.63	pg/L		05/01/17 15:01	05/03/17 11:58	1
Total TCDF	ND		10	0.63	pg/L		05/01/17 15:01	05/03/17 11:58	1
1,2,3,7,8-PeCDF	ND		51	0.86	pg/L		05/01/17 15:01	05/03/17 11:58	1
2,3,4,7,8-PeCDF	**1.8**	**J q B**	51	0.80	pg/L		05/01/17 15:01	05/03/17 11:58	1
Total PeCDF	**3.2**	**J q B**	51	0.83	pg/L		05/01/17 15:01	05/03/17 11:58	1
1,2,3,4,7,8-HxCDF	**2.1**	**J q B**	51	0.24	pg/L		05/01/17 15:01	05/03/17 11:58	1
1,2,3,6,7,8-HxCDF	**1.9**	**J q B**	51	0.22	pg/L		05/01/17 15:01	05/03/17 11:58	1
2,3,4,6,7,8-HxCDF	**2.1**	**J q B**	51	0.24	pg/L		05/01/17 15:01	05/03/17 11:58	1
1,2,3,7,8,9-HxCDF	**2.3**	**J B**	51	0.31	pg/L		05/01/17 15:01	05/03/17 11:58	1
Total HxCDF	**13**	**J q B**	51	0.25	pg/L		05/01/17 15:01	05/03/17 11:58	1

Client Sample ID: SUPE-M-99A-042717

Lab Sample ID: 180-65736-7
Matrix: Water
Date Collected: 04/27/17 21:00
Date Received: 04/28/17 09:00

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDF	4.8	J B	51	0.21	pg/L		05/01/17 15:01	05/03/17 11:58	1
1,2,3,4,7,8,9-HpCDF	3.5	J B	51	0.30	pg/L		05/01/17 15:01	05/03/17 11:58	1
Total HpCDF	9.5	J B	51	0.26	pg/L		05/01/17 15:01	05/03/17 11:58	1
OCDF	15	J B	100	0.21	pg/L		05/01/17 15:01	05/03/17 11:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*86*		*40 - 135*	*05/01/17 15:01*	*05/03/17 11:58*	*1*
13C-1,2,3,7,8-PeCDD	*87*		*40 - 135*	*05/01/17 15:01*	*05/03/17 11:58*	*1*
13C-1,2,3,4,7,8-HxCDD	*79*		*40 - 135*	*05/01/17 15:01*	*05/03/17 11:58*	*1*
13C-1,2,3,6,7,8-HxCDD	*81*		*40 - 135*	*05/01/17 15:01*	*05/03/17 11:58*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*85*		*40 - 135*	*05/01/17 15:01*	*05/03/17 11:58*	*1*
13C-OCDD	*81*		*40 - 135*	*05/01/17 15:01*	*05/03/17 11:58*	*1*
13C-2,3,7,8-TCDF	*90*		*40 - 135*	*05/01/17 15:01*	*05/03/17 11:58*	*1*
13C-1,2,3,7,8-PeCDF	*89*		*40 - 135*	*05/01/17 15:01*	*05/03/17 11:58*	*1*
13C-2,3,4,7,8-PeCDF	*89*		*40 - 135*	*05/01/17 15:01*	*05/03/17 11:58*	*1*
13C-1,2,3,4,7,8-HxCDF	*82*		*40 - 135*	*05/01/17 15:01*	*05/03/17 11:58*	*1*
13C-1,2,3,6,7,8-HxCDF	*84*		*40 - 135*	*05/01/17 15:01*	*05/03/17 11:58*	*1*
13C-2,3,4,6,7,8-HxCDF	*83*		*40 - 135*	*05/01/17 15:01*	*05/03/17 11:58*	*1*
13C-1,2,3,7,8,9-HxCDF	*85*		*40 - 135*	*05/01/17 15:01*	*05/03/17 11:58*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*81*		*40 - 135*	*05/01/17 15:01*	*05/03/17 11:58*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*83*		*40 - 135*	*05/01/17 15:01*	*05/03/17 11:58*	*1*
13C-OCDF	*76*		*40 - 135*	*05/01/17 15:01*	*05/03/17 11:58*	*1*

Client Sample ID: SUPE-TB-01-042617

Lab Sample ID: 180-65736-8
Matrix: Water
Date Collected: 04/26/17 00:00
Date Received: 04/28/17 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	0.23	ug/L			05/06/17 17:24	1
1,2,4-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 17:24	1
1,3,5-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 17:24	1
Benzene	ND		1.0	0.28	ug/L			05/06/17 17:24	1
Chloromethane	ND		1.0	0.43	ug/L			05/06/17 17:24	1
Ethylbenzene	ND		1.0	0.26	ug/L			05/06/17 17:24	1
Methyl tert-butyl ether	ND		1.0	0.27	ug/L			05/06/17 17:24	1
m-Xylene & p-Xylene	ND		2.0	0.24	ug/L			05/06/17 17:24	1
Naphthalene	ND		1.0	0.25	ug/L			05/06/17 17:24	1
n-Butylbenzene	ND		1.0	0.21	ug/L			05/06/17 17:24	1
N-Propylbenzene	ND		1.0	0.45	ug/L			05/06/17 17:24	1
o-Xylene	ND		1.0	0.28	ug/L			05/06/17 17:24	1
Styrene	ND		1.0	0.23	ug/L			05/06/17 17:24	1
Toluene	0.43	J	1.0	0.23	ug/L			05/06/17 17:24	1
Xylenes, Total	ND		2.0	0.24	ug/L			05/06/17 17:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*61 - 138*		*05/06/17 17:24*	*1*
4-Bromofluorobenzene (Surr)	*93*		*69 - 120*		*05/06/17 17:24*	*1*
Dibromofluoromethane (Surr)	*86*		*69 - 124*		*05/06/17 17:24*	*1*
Toluene-d8 (Surr)	*106*		*73 - 120*		*05/06/17 17:24*	*1*

Client Sample ID: SUPE-W-30C-042617

Date Collected: 04/26/17 16:38
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-9

Matrix: Water

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	0.23	ug/L			05/06/17 17:48	1
1,2,4-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 17:48	1
1,3,5-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 17:48	1
Benzene	ND		1.0	0.28	ug/L			05/06/17 17:48	1
Chloromethane	ND		1.0	0.43	ug/L			05/06/17 17:48	1
Ethylbenzene	ND		1.0	0.26	ug/L			05/06/17 17:48	1
Methyl tert-butyl ether	ND		1.0	0.27	ug/L			05/06/17 17:48	1
m-Xylene & p-Xylene	ND		2.0	0.24	ug/L			05/06/17 17:48	1
Naphthalene	ND		1.0	0.25	ug/L			05/06/17 17:48	1
n-Butylbenzene	ND		1.0	0.21	ug/L			05/06/17 17:48	1
N-Propylbenzene	ND		1.0	0.45	ug/L			05/06/17 17:48	1
o-Xylene	ND		1.0	0.28	ug/L			05/06/17 17:48	1
Styrene	ND		1.0	0.23	ug/L			05/06/17 17:48	1
Toluene	ND		1.0	0.23	ug/L			05/06/17 17:48	1
Xylenes, Total	ND		2.0	0.24	ug/L			05/06/17 17:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*61 - 138*		*05/06/17 17:48*	*1*
4-Bromofluorobenzene (Surr)	*93*		*69 - 120*		*05/06/17 17:48*	*1*
Dibromofluoromethane (Surr)	*88*		*69 - 124*		*05/06/17 17:48*	*1*
Toluene-d8 (Surr)	*104*		*73 - 120*		*05/06/17 17:48*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.18	0.028	ug/L		05/03/17 08:33	05/08/17 18:45	1
Acenaphthylene	ND		0.18	0.021	ug/L		05/03/17 08:33	05/08/17 18:45	1
Anthracene	ND		0.18	0.018	ug/L		05/03/17 08:33	05/08/17 18:45	1
Benzo[a]anthracene	ND		0.18	0.035	ug/L		05/03/17 08:33	05/08/17 18:45	1
Benzo[a]pyrene	ND		0.18	0.027	ug/L		05/03/17 08:33	05/08/17 18:45	1
Benzo[b]fluoranthene	ND		0.18	0.047	ug/L		05/03/17 08:33	05/08/17 18:45	1
Benzo[g,h,i]perylene	ND		0.18	0.028	ug/L		05/03/17 08:33	05/08/17 18:45	1
Benzo[k]fluoranthene	ND		0.18	0.029	ug/L		05/03/17 08:33	05/08/17 18:45	1
Bis(2-chloroethoxy)methane	ND		0.96	0.13	ug/L		05/03/17 08:33	05/08/17 18:45	1
Bis(2-chloroethyl)ether	ND		0.18	0.030	ug/L		05/03/17 08:33	05/08/17 18:45	1
bis(chloroisopropyl) ether	ND		0.18	0.023	ug/L		05/03/17 08:33	05/08/17 18:45	1
Bis(2-ethylhexyl) phthalate	**0.92**	**J**	1.9	0.42	ug/L		05/03/17 08:33	05/08/17 18:45	1
4-Bromophenyl phenyl ether	ND		0.96	0.11	ug/L		05/03/17 08:33	05/08/17 18:45	1
Butyl benzyl phthalate	ND		0.96	0.21	ug/L		05/03/17 08:33	05/08/17 18:45	1
4-Chloroaniline	ND		0.96	0.28	ug/L		05/03/17 08:33	05/08/17 18:45	1
4-Chloro-3-methylphenol	ND		0.96	0.16	ug/L		05/03/17 08:33	05/08/17 18:45	1
2-Chloronaphthalene	ND		0.18	0.030	ug/L		05/03/17 08:33	05/08/17 18:45	1
2-Chlorophenol	ND		0.96	0.22	ug/L		05/03/17 08:33	05/08/17 18:45	1
4-Chlorophenyl phenyl ether	ND		0.96	0.077	ug/L		05/03/17 08:33	05/08/17 18:45	1
Chrysene	ND		0.18	0.030	ug/L		05/03/17 08:33	05/08/17 18:45	1
Dibenz(a,h)anthracene	ND		0.18	0.026	ug/L		05/03/17 08:33	05/08/17 18:45	1
Dibenzofuran	ND		0.96	0.093	ug/L		05/03/17 08:33	05/08/17 18:45	1
1,2-Dichlorobenzene	ND		0.96	0.10	ug/L		05/03/17 08:33	05/08/17 18:45	1
1,3-Dichlorobenzene	ND		0.96	0.072	ug/L		05/03/17 08:33	05/08/17 18:45	1
1,4-Dichlorobenzene	ND		0.96	0.16	ug/L		05/03/17 08:33	05/08/17 18:45	1
3,3'-Dichlorobenzidine	ND		0.96	0.14	ug/L		05/03/17 08:33	05/08/17 18:45	1

Client Sample ID: SUPE-W-30C-042617
Date Collected: 04/26/17 16:38
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-9
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenol	ND		0.18	0.065	ug/L		05/03/17 08:33	05/08/17 18:45	1
Diethyl phthalate	ND		0.96	0.29	ug/L		05/03/17 08:33	05/08/17 18:45	1
2,4-Dimethylphenol	ND		0.96	0.16	ug/L		05/03/17 08:33	05/08/17 18:45	1
Dimethyl phthalate	ND		0.96	0.18	ug/L		05/03/17 08:33	05/08/17 18:45	1
Di-n-butyl phthalate	**0.25**	**J**	0.96	0.23	ug/L		05/03/17 08:33	05/08/17 18:45	1
4,6-Dinitro-2-methylphenol	ND		4.8	1.5	ug/L		05/03/17 08:33	05/08/17 18:45	1
2,4-Dinitrophenol	ND		4.8	2.4	ug/L		05/03/17 08:33	05/08/17 18:45	1
2,4-Dinitrotoluene	ND		0.96	0.21	ug/L		05/03/17 08:33	05/08/17 18:45	1
2,6-Dinitrotoluene	ND		0.96	0.13	ug/L		05/03/17 08:33	05/08/17 18:45	1
Di-n-octyl phthalate	ND		0.96	0.20	ug/L		05/03/17 08:33	05/08/17 18:45	1
Fluoranthene	ND		0.18	0.020	ug/L		05/03/17 08:33	05/08/17 18:45	1
Fluorene	ND		0.18	0.023	ug/L		05/03/17 08:33	05/08/17 18:45	1
Hexachlorobenzene	ND		0.18	0.059	ug/L		05/03/17 08:33	05/08/17 18:45	1
Hexachlorobutadiene	ND		0.18	0.090	ug/L		05/03/17 08:33	05/08/17 18:45	1
Hexachlorocyclopentadiene	ND		0.96	0.13	ug/L		05/03/17 08:33	05/08/17 18:45	1
Hexachloroethane	ND		0.96	0.13	ug/L		05/03/17 08:33	05/08/17 18:45	1
Indeno[1,2,3-cd]pyrene	ND		0.18	0.042	ug/L		05/03/17 08:33	05/08/17 18:45	1
Isophorone	ND		0.96	0.071	ug/L		05/03/17 08:33	05/08/17 18:45	1
1-Methylnaphthalene	ND		0.18	0.030	ug/L		05/03/17 08:33	05/08/17 18:45	1
2-Methylnaphthalene	ND		0.18	0.018	ug/L		05/03/17 08:33	05/08/17 18:45	1
2-Methylphenol	ND		0.96	0.18	ug/L		05/03/17 08:33	05/08/17 18:45	1
Methylphenol, 3 & 4	ND		0.96	0.20	ug/L		05/03/17 08:33	05/08/17 18:45	1
2-Nitroaniline	ND		4.8	0.65	ug/L		05/03/17 08:33	05/08/17 18:45	1
3-Nitroaniline	ND		4.8	0.77	ug/L		05/03/17 08:33	05/08/17 18:45	1
4-Nitroaniline	ND		4.8	0.74	ug/L		05/03/17 08:33	05/08/17 18:45	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/03/17 08:33	05/08/17 18:45	1
2-Nitrophenol	ND		0.96	0.11	ug/L		05/03/17 08:33	05/08/17 18:45	1
4-Nitrophenol	ND		4.8	0.77	ug/L		05/03/17 08:33	05/08/17 18:45	1
N-Nitrosodi-n-propylamine	ND		0.18	0.048	ug/L		05/03/17 08:33	05/08/17 18:45	1
N-Nitrosodiphenylamine	ND		0.96	0.12	ug/L		05/03/17 08:33	05/08/17 18:45	1
Pentachlorophenol	ND		0.96	0.48	ug/L		05/03/17 08:33	05/08/17 18:45	1
Phenanthrene	ND		0.18	0.040	ug/L		05/03/17 08:33	05/08/17 18:45	1
Phenol	ND		0.96	0.053	ug/L		05/03/17 08:33	05/08/17 18:45	1
Pyrene	ND		0.18	0.022	ug/L		05/03/17 08:33	05/08/17 18:45	1
2,3,4,6-Tetrachlorophenol	ND		0.96	0.10	ug/L		05/03/17 08:33	05/08/17 18:45	1
2,3,5,6-Tetrachlorophenol	ND		0.96	0.11	ug/L		05/03/17 08:33	05/08/17 18:45	1
1,2,4-Trichlorobenzene	ND		0.96	0.082	ug/L		05/03/17 08:33	05/08/17 18:45	1
2,4,5-Trichlorophenol	ND		0.96	0.12	ug/L		05/03/17 08:33	05/08/17 18:45	1
2,4,6-Trichlorophenol	ND		0.96	0.29	ug/L		05/03/17 08:33	05/08/17 18:45	1
Benzoic acid	ND		4.8	1.6	ug/L		05/03/17 08:33	05/08/17 18:45	1
Benzyl alcohol	ND		0.96	0.19	ug/L		05/03/17 08:33	05/08/17 18:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*24 - 100*	*05/03/17 08:33*	*05/08/17 18:45*	*1*
2-Fluorophenol (Surr)	*63*		*20 - 100*	*05/03/17 08:33*	*05/08/17 18:45*	*1*
Nitrobenzene-d5 (Surr)	*75*		*25 - 105*	*05/03/17 08:33*	*05/08/17 18:45*	*1*
Phenol-d5 (Surr)	*68*		*21 - 100*	*05/03/17 08:33*	*05/08/17 18:45*	*1*
Terphenyl-d14 (Surr)	*71*		*20 - 124*	*05/03/17 08:33*	*05/08/17 18:45*	*1*
2,4,6-Tribromophenol (Surr)	*115*		*22 - 118*	*05/03/17 08:33*	*05/08/17 18:45*	*1*

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

TestAmerica Job ID: 180-65736-1

Client Sample ID: SUPE-W-30C-042617
Date Collected: 04/26/17 16:38
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-9
Matrix: Water

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.6	0.83	pg/L		05/01/17 15:01	05/03/17 13:05	1
Total TCDD	ND		9.6	0.83	pg/L		05/01/17 15:01	05/03/17 13:05	1
1,2,3,7,8-PeCDD	**0.77**	**J B q**	48	0.23	pg/L		05/01/17 15:01	05/03/17 13:05	1
Total PeCDD	**2.9**	**J B q**	48	0.23	pg/L		05/01/17 15:01	05/03/17 13:05	1
1,2,3,4,7,8-HxCDD	**2.0**	**J B q**	48	0.32	pg/L		05/01/17 15:01	05/03/17 13:05	1
1,2,3,6,7,8-HxCDD	**1.7**	**J B**	48	0.35	pg/L		05/01/17 15:01	05/03/17 13:05	1
1,2,3,7,8,9-HxCDD	**2.7**	**J B**	48	0.32	pg/L		05/01/17 15:01	05/03/17 13:05	1
Total HxCDD	**7.7**	**J B q**	48	0.33	pg/L		05/01/17 15:01	05/03/17 13:05	1
1,2,3,4,6,7,8-HpCDD	**5.2**	**J B**	48	1.0	pg/L		05/01/17 15:01	05/03/17 13:05	1
Total HpCDD	**12**	**J B q**	48	1.0	pg/L		05/01/17 15:01	05/03/17 13:05	1
OCDD	**36**	**J B**	96	0.48	pg/L		05/01/17 15:01	05/03/17 13:05	1
2,3,7,8-TCDF	ND		9.6	0.81	pg/L		05/01/17 15:01	05/03/17 13:05	1
Total TCDF	ND		9.6	0.81	pg/L		05/01/17 15:01	05/03/17 13:05	1
1,2,3,7,8-PeCDF	ND		48	0.89	pg/L		05/01/17 15:01	05/03/17 13:05	1
2,3,4,7,8-PeCDF	ND		48	0.86	pg/L		05/01/17 15:01	05/03/17 13:05	1
Total PeCDF	ND		48	0.89	pg/L		05/01/17 15:01	05/03/17 13:05	1
1,2,3,4,7,8-HxCDF	ND		48	0.37	pg/L		05/01/17 15:01	05/03/17 13:05	1
1,2,3,6,7,8-HxCDF	**1.4**	**J B q**	48	0.36	pg/L		05/01/17 15:01	05/03/17 13:05	1
2,3,4,6,7,8-HxCDF	**2.6**	**J B q**	48	0.42	pg/L		05/01/17 15:01	05/03/17 13:05	1
1,2,3,7,8,9-HxCDF	**1.8**	**J B q**	48	0.51	pg/L		05/01/17 15:01	05/03/17 13:05	1
Total HxCDF	**8.6**	**J B q**	48	0.41	pg/L		05/01/17 15:01	05/03/17 13:05	1
1,2,3,4,6,7,8-HpCDF	**2.8**	**J B q**	48	0.27	pg/L		05/01/17 15:01	05/03/17 13:05	1
1,2,3,4,7,8,9-HpCDF	**3.5**	**J B**	48	0.35	pg/L		05/01/17 15:01	05/03/17 13:05	1
Total HpCDF	**8.3**	**J B q**	48	0.31	pg/L		05/01/17 15:01	05/03/17 13:05	1
OCDF	**8.7**	**J B**	96	0.14	pg/L		05/01/17 15:01	05/03/17 13:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*86*		*40 - 135*	*05/01/17 15:01*	*05/03/17 13:05*	*1*
13C-1,2,3,7,8-PeCDD	*81*		*40 - 135*	*05/01/17 15:01*	*05/03/17 13:05*	*1*
13C-1,2,3,4,7,8-HxCDD	*82*		*40 - 135*	*05/01/17 15:01*	*05/03/17 13:05*	*1*
13C-1,2,3,6,7,8-HxCDD	*81*		*40 - 135*	*05/01/17 15:01*	*05/03/17 13:05*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*89*		*40 - 135*	*05/01/17 15:01*	*05/03/17 13:05*	*1*
13C-OCDD	*84*		*40 - 135*	*05/01/17 15:01*	*05/03/17 13:05*	*1*
13C-2,3,7,8-TCDF	*87*		*40 - 135*	*05/01/17 15:01*	*05/03/17 13:05*	*1*
13C-1,2,3,7,8-PeCDF	*86*		*40 - 135*	*05/01/17 15:01*	*05/03/17 13:05*	*1*
13C-2,3,4,7,8-PeCDF	*86*		*40 - 135*	*05/01/17 15:01*	*05/03/17 13:05*	*1*
13C-1,2,3,4,7,8-HxCDF	*92*		*40 - 135*	*05/01/17 15:01*	*05/03/17 13:05*	*1*
13C-1,2,3,6,7,8-HxCDF	*89*		*40 - 135*	*05/01/17 15:01*	*05/03/17 13:05*	*1*
13C-2,3,4,6,7,8-HxCDF	*90*		*40 - 135*	*05/01/17 15:01*	*05/03/17 13:05*	*1*
13C-1,2,3,7,8,9-HxCDF	*91*		*40 - 135*	*05/01/17 15:01*	*05/03/17 13:05*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*86*		*40 - 135*	*05/01/17 15:01*	*05/03/17 13:05*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*94*		*40 - 135*	*05/01/17 15:01*	*05/03/17 13:05*	*1*
13C-OCDF	*84*		*40 - 135*	*05/01/17 15:01*	*05/03/17 13:05*	*1*

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

TestAmerica Job ID: 180-65736-1

Client Sample ID: SUPE-EB-01-042617
Date Collected: 04/26/17 17:15
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-10
Matrix: Water

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	0.23	ug/L			05/06/17 18:11	1
1,2,4-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 18:11	1
1,3,5-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 18:11	1
Benzene	ND		1.0	0.28	ug/L			05/06/17 18:11	1
Chloromethane	ND		1.0	0.43	ug/L			05/06/17 18:11	1
Ethylbenzene	ND		1.0	0.26	ug/L			05/06/17 18:11	1
Methyl tert-butyl ether	ND		1.0	0.27	ug/L			05/06/17 18:11	1
m-Xylene & p-Xylene	ND		2.0	0.24	ug/L			05/06/17 18:11	1
Naphthalene	ND		1.0	0.25	ug/L			05/06/17 18:11	1
n-Butylbenzene	ND		1.0	0.21	ug/L			05/06/17 18:11	1
N-Propylbenzene	ND		1.0	0.45	ug/L			05/06/17 18:11	1
o-Xylene	ND		1.0	0.28	ug/L			05/06/17 18:11	1
Styrene	ND		1.0	0.23	ug/L			05/06/17 18:11	1
Toluene	**0.41**	**J**	1.0	0.23	ug/L			05/06/17 18:11	1
Xylenes, Total	ND		2.0	0.24	ug/L			05/06/17 18:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*61 - 138*		*05/06/17 18:11*	*1*
4-Bromofluorobenzene (Surr)	*92*		*69 - 120*		*05/06/17 18:11*	*1*
Dibromofluoromethane (Surr)	*86*		*69 - 124*		*05/06/17 18:11*	*1*
Toluene-d8 (Surr)	*104*		*73 - 120*		*05/06/17 18:11*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.029	ug/L		05/03/17 08:33	05/08/17 19:12	1
Acenaphthylene	ND		0.19	0.022	ug/L		05/03/17 08:33	05/08/17 19:12	1
Anthracene	ND		0.19	0.019	ug/L		05/03/17 08:33	05/08/17 19:12	1
Benzo[a]anthracene	ND		0.19	0.037	ug/L		05/03/17 08:33	05/08/17 19:12	1
Benzo[a]pyrene	ND		0.19	0.028	ug/L		05/03/17 08:33	05/08/17 19:12	1
Benzo[b]fluoranthene	ND		0.19	0.049	ug/L		05/03/17 08:33	05/08/17 19:12	1
Benzo[g,h,i]perylene	ND		0.19	0.029	ug/L		05/03/17 08:33	05/08/17 19:12	1
Benzo[k]fluoranthene	ND		0.19	0.030	ug/L		05/03/17 08:33	05/08/17 19:12	1
Bis(2-chloroethoxy)methane	ND		1.0	0.13	ug/L		05/03/17 08:33	05/08/17 19:12	1
Bis(2-chloroethyl)ether	ND		0.19	0.032	ug/L		05/03/17 08:33	05/08/17 19:12	1
bis(chloroisopropyl) ether	ND		0.19	0.024	ug/L		05/03/17 08:33	05/08/17 19:12	1
Bis(2-ethylhexyl) phthalate	**0.83**	**J**	2.0	0.44	ug/L		05/03/17 08:33	05/08/17 19:12	1
4-Bromophenyl phenyl ether	ND		1.0	0.12	ug/L		05/03/17 08:33	05/08/17 19:12	1
Butyl benzyl phthalate	ND		1.0	0.21	ug/L		05/03/17 08:33	05/08/17 19:12	1
4-Chloroaniline	ND		1.0	0.29	ug/L		05/03/17 08:33	05/08/17 19:12	1
4-Chloro-3-methylphenol	ND		1.0	0.17	ug/L		05/03/17 08:33	05/08/17 19:12	1
2-Chloronaphthalene	ND		0.19	0.031	ug/L		05/03/17 08:33	05/08/17 19:12	1
2-Chlorophenol	ND		1.0	0.23	ug/L		05/03/17 08:33	05/08/17 19:12	1
4-Chlorophenyl phenyl ether	ND		1.0	0.080	ug/L		05/03/17 08:33	05/08/17 19:12	1
Chrysene	ND		0.19	0.031	ug/L		05/03/17 08:33	05/08/17 19:12	1
Dibenz(a,h)anthracene	ND		0.19	0.027	ug/L		05/03/17 08:33	05/08/17 19:12	1
Dibenzofuran	ND		1.0	0.097	ug/L		05/03/17 08:33	05/08/17 19:12	1
1,2-Dichlorobenzene	ND		1.0	0.11	ug/L		05/03/17 08:33	05/08/17 19:12	1
1,3-Dichlorobenzene	ND		1.0	0.075	ug/L		05/03/17 08:33	05/08/17 19:12	1
1,4-Dichlorobenzene	ND		1.0	0.16	ug/L		05/03/17 08:33	05/08/17 19:12	1
3,3'-Dichlorobenzidine	ND		1.0	0.15	ug/L		05/03/17 08:33	05/08/17 19:12	1

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

TestAmerica Job ID: 180-65736-1

Client Sample ID: SUPE-EB-01-042617
Date Collected: 04/26/17 17:15
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-10
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenol	ND		0.19	0.067	ug/L		05/03/17 08:33	05/08/17 19:12	1
Diethyl phthalate	ND		1.0	0.30	ug/L		05/03/17 08:33	05/08/17 19:12	1
2,4-Dimethylphenol	ND		1.0	0.17	ug/L		05/03/17 08:33	05/08/17 19:12	1
Dimethyl phthalate	ND		1.0	0.18	ug/L		05/03/17 08:33	05/08/17 19:12	1
Di-n-butyl phthalate	**0.31**	**J**	1.0	0.24	ug/L		05/03/17 08:33	05/08/17 19:12	1
4,6-Dinitro-2-methylphenol	ND		5.0	1.6	ug/L		05/03/17 08:33	05/08/17 19:12	1
2,4-Dinitrophenol	ND		5.0	2.5	ug/L		05/03/17 08:33	05/08/17 19:12	1
2,4-Dinitrotoluene	ND		1.0	0.21	ug/L		05/03/17 08:33	05/08/17 19:12	1
2,6-Dinitrotoluene	ND		1.0	0.14	ug/L		05/03/17 08:33	05/08/17 19:12	1
Di-n-octyl phthalate	ND		1.0	0.20	ug/L		05/03/17 08:33	05/08/17 19:12	1
Fluoranthene	ND		0.19	0.021	ug/L		05/03/17 08:33	05/08/17 19:12	1
Fluorene	ND		0.19	0.024	ug/L		05/03/17 08:33	05/08/17 19:12	1
Hexachlorobenzene	ND		0.19	0.061	ug/L		05/03/17 08:33	05/08/17 19:12	1
Hexachlorobutadiene	ND		0.19	0.094	ug/L		05/03/17 08:33	05/08/17 19:12	1
Hexachlorocyclopentadiene	ND		1.0	0.14	ug/L		05/03/17 08:33	05/08/17 19:12	1
Hexachloroethane	ND		1.0	0.14	ug/L		05/03/17 08:33	05/08/17 19:12	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.043	ug/L		05/03/17 08:33	05/08/17 19:12	1
Isophorone	ND		1.0	0.074	ug/L		05/03/17 08:33	05/08/17 19:12	1
1-Methylnaphthalene	ND		0.19	0.031	ug/L		05/03/17 08:33	05/08/17 19:12	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		05/03/17 08:33	05/08/17 19:12	1
2-Methylphenol	ND		1.0	0.19	ug/L		05/03/17 08:33	05/08/17 19:12	1
Methylphenol, 3 & 4	ND		1.0	0.21	ug/L		05/03/17 08:33	05/08/17 19:12	1
2-Nitroaniline	ND		5.0	0.67	ug/L		05/03/17 08:33	05/08/17 19:12	1
3-Nitroaniline	ND		5.0	0.81	ug/L		05/03/17 08:33	05/08/17 19:12	1
4-Nitroaniline	ND		5.0	0.77	ug/L		05/03/17 08:33	05/08/17 19:12	1
Nitrobenzene	ND		2.0	0.15	ug/L		05/03/17 08:33	05/08/17 19:12	1
2-Nitrophenol	ND		1.0	0.11	ug/L		05/03/17 08:33	05/08/17 19:12	1
4-Nitrophenol	ND		5.0	0.80	ug/L		05/03/17 08:33	05/08/17 19:12	1
N-Nitrosodi-n-propylamine	ND		0.19	0.050	ug/L		05/03/17 08:33	05/08/17 19:12	1
N-Nitrosodiphenylamine	ND		1.0	0.12	ug/L		05/03/17 08:33	05/08/17 19:12	1
Pentachlorophenol	ND		1.0	0.50	ug/L		05/03/17 08:33	05/08/17 19:12	1
Phenanthrene	ND		0.19	0.042	ug/L		05/03/17 08:33	05/08/17 19:12	1
Phenol	ND		1.0	0.055	ug/L		05/03/17 08:33	05/08/17 19:12	1
Pyrene	ND		0.19	0.023	ug/L		05/03/17 08:33	05/08/17 19:12	1
2,3,4,6-Tetrachlorophenol	ND		1.0	0.11	ug/L		05/03/17 08:33	05/08/17 19:12	1
2,3,5,6-Tetrachlorophenol	ND		1.0	0.12	ug/L		05/03/17 08:33	05/08/17 19:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.085	ug/L		05/03/17 08:33	05/08/17 19:12	1
2,4,5-Trichlorophenol	ND		1.0	0.12	ug/L		05/03/17 08:33	05/08/17 19:12	1
2,4,6-Trichlorophenol	ND		1.0	0.30	ug/L		05/03/17 08:33	05/08/17 19:12	1
Benzoic acid	ND		5.0	1.6	ug/L		05/03/17 08:33	05/08/17 19:12	1
Benzyl alcohol	ND		1.0	0.20	ug/L		05/03/17 08:33	05/08/17 19:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*98*		*24 - 100*	*05/03/17 08:33*	*05/08/17 19:12*	*1*
2-Fluorophenol (Surr)	*76*		*20 - 100*	*05/03/17 08:33*	*05/08/17 19:12*	*1*
Nitrobenzene-d5 (Surr)	*95*		*25 - 105*	*05/03/17 08:33*	*05/08/17 19:12*	*1*
Phenol-d5 (Surr)	*77*		*21 - 100*	*05/03/17 08:33*	*05/08/17 19:12*	*1*
Terphenyl-d14 (Surr)	*95*		*20 - 124*	*05/03/17 08:33*	*05/08/17 19:12*	*1*
2,4,6-Tribromophenol (Surr)	*130*	*X*	*22 - 118*	*05/03/17 08:33*	*05/08/17 19:12*	*1*

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

TestAmerica Job ID: 180-65736-1

Client Sample ID: SUPE-EB-01-042617
Date Collected: 04/26/17 17:15
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-10
Matrix: Water

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.6	0.93	pg/L		05/01/17 15:01	05/03/17 14:06	1
Total TCDD	ND		9.6	0.93	pg/L		05/01/17 15:01	05/03/17 14:06	1
1,2,3,7,8-PeCDD	**0.74**	**J B q**	48	0.21	pg/L		05/01/17 15:01	05/03/17 14:06	1
Total PeCDD	**2.7**	**J B q**	48	0.21	pg/L		05/01/17 15:01	05/03/17 14:06	1
1,2,3,4,7,8-HxCDD	**1.3**	**J B q**	48	0.49	pg/L		05/01/17 15:01	05/03/17 14:06	1
1,2,3,6,7,8-HxCDD	**1.5**	**J B q**	48	0.51	pg/L		05/01/17 15:01	05/03/17 14:06	1
1,2,3,7,8,9-HxCDD	**2.1**	**J B**	48	0.47	pg/L		05/01/17 15:01	05/03/17 14:06	1
Total HxCDD	**4.9**	**J B q**	48	0.49	pg/L		05/01/17 15:01	05/03/17 14:06	1
1,2,3,4,6,7,8-HpCDD	**3.6**	**J B**	48	1.5	pg/L		05/01/17 15:01	05/03/17 14:06	1
Total HpCDD	**3.6**	**J B**	48	1.5	pg/L		05/01/17 15:01	05/03/17 14:06	1
OCDD	**13**	**J B**	96	0.22	pg/L		05/01/17 15:01	05/03/17 14:06	1
2,3,7,8-TCDF	ND		9.6	1.1	pg/L		05/01/17 15:01	05/03/17 14:06	1
Total TCDF	ND		9.6	1.1	pg/L		05/01/17 15:01	05/03/17 14:06	1
1,2,3,7,8-PeCDF	ND		48	1.2	pg/L		05/01/17 15:01	05/03/17 14:06	1
2,3,4,7,8-PeCDF	ND		48	1.1	pg/L		05/01/17 15:01	05/03/17 14:06	1
Total PeCDF	ND		48	1.2	pg/L		05/01/17 15:01	05/03/17 14:06	1
1,2,3,4,7,8-HxCDF	**1.5**	**J B q**	48	0.59	pg/L		05/01/17 15:01	05/03/17 14:06	1
1,2,3,6,7,8-HxCDF	**1.8**	**J B**	48	0.54	pg/L		05/01/17 15:01	05/03/17 14:06	1
2,3,4,6,7,8-HxCDF	**2.2**	**J B q**	48	0.59	pg/L		05/01/17 15:01	05/03/17 14:06	1
1,2,3,7,8,9-HxCDF	**1.7**	**J B q**	48	0.74	pg/L		05/01/17 15:01	05/03/17 14:06	1
Total HxCDF	**10**	**J B q**	48	0.61	pg/L		05/01/17 15:01	05/03/17 14:06	1
1,2,3,4,6,7,8-HpCDF	**2.5**	**J B**	48	0.28	pg/L		05/01/17 15:01	05/03/17 14:06	1
1,2,3,4,7,8,9-HpCDF	**2.9**	**J B**	48	0.39	pg/L		05/01/17 15:01	05/03/17 14:06	1
Total HpCDF	**5.9**	**J B q**	48	0.34	pg/L		05/01/17 15:01	05/03/17 14:06	1
OCDF	**6.9**	**J B**	96	0.24	pg/L		05/01/17 15:01	05/03/17 14:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*78*		*40 - 135*	*05/01/17 15:01*	*05/03/17 14:06*	*1*
13C-1,2,3,7,8-PeCDD	*75*		*40 - 135*	*05/01/17 15:01*	*05/03/17 14:06*	*1*
13C-1,2,3,4,7,8-HxCDD	*73*		*40 - 135*	*05/01/17 15:01*	*05/03/17 14:06*	*1*
13C-1,2,3,6,7,8-HxCDD	*77*		*40 - 135*	*05/01/17 15:01*	*05/03/17 14:06*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*79*		*40 - 135*	*05/01/17 15:01*	*05/03/17 14:06*	*1*
13C-OCDD	*79*		*40 - 135*	*05/01/17 15:01*	*05/03/17 14:06*	*1*
13C-2,3,7,8-TCDF	*86*		*40 - 135*	*05/01/17 15:01*	*05/03/17 14:06*	*1*
13C-1,2,3,7,8-PeCDF	*79*		*40 - 135*	*05/01/17 15:01*	*05/03/17 14:06*	*1*
13C-2,3,4,7,8-PeCDF	*78*		*40 - 135*	*05/01/17 15:01*	*05/03/17 14:06*	*1*
13C-1,2,3,4,7,8-HxCDF	*82*		*40 - 135*	*05/01/17 15:01*	*05/03/17 14:06*	*1*
13C-1,2,3,6,7,8-HxCDF	*82*		*40 - 135*	*05/01/17 15:01*	*05/03/17 14:06*	*1*
13C-2,3,4,6,7,8-HxCDF	*84*		*40 - 135*	*05/01/17 15:01*	*05/03/17 14:06*	*1*
13C-1,2,3,7,8,9-HxCDF	*84*		*40 - 135*	*05/01/17 15:01*	*05/03/17 14:06*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*79*		*40 - 135*	*05/01/17 15:01*	*05/03/17 14:06*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*86*		*40 - 135*	*05/01/17 15:01*	*05/03/17 14:06*	*1*
13C-OCDF	*79*		*40 - 135*	*05/01/17 15:01*	*05/03/17 14:06*	*1*

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

TestAmerica Job ID: 180-65736-1

Client Sample ID: SUPE-W-06A-042717
Date Collected: 04/27/17 10:04
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-11
Matrix: Water

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	0.23	ug/L			05/06/17 18:33	1
1,2,4-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 18:33	1
1,3,5-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 18:33	1
Benzene	ND		1.0	0.28	ug/L			05/06/17 18:33	1
Chloromethane	ND		1.0	0.43	ug/L			05/06/17 18:33	1
Ethylbenzene	ND		1.0	0.26	ug/L			05/06/17 18:33	1
Methyl tert-butyl ether	ND		1.0	0.27	ug/L			05/06/17 18:33	1
m-Xylene & p-Xylene	ND		2.0	0.24	ug/L			05/06/17 18:33	1
Naphthalene	ND		1.0	0.25	ug/L			05/06/17 18:33	1
n-Butylbenzene	ND		1.0	0.21	ug/L			05/06/17 18:33	1
N-Propylbenzene	ND		1.0	0.45	ug/L			05/06/17 18:33	1
o-Xylene	ND		1.0	0.28	ug/L			05/06/17 18:33	1
Styrene	ND		1.0	0.23	ug/L			05/06/17 18:33	1
Toluene	ND		1.0	0.23	ug/L			05/06/17 18:33	1
Xylenes, Total	ND		2.0	0.24	ug/L			05/06/17 18:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*61 - 138*		*05/06/17 18:33*	*1*
4-Bromofluorobenzene (Surr)	*91*		*69 - 120*		*05/06/17 18:33*	*1*
Dibromofluoromethane (Surr)	*86*		*69 - 124*		*05/06/17 18:33*	*1*
Toluene-d8 (Surr)	*101*		*73 - 120*		*05/06/17 18:33*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.18	0.028	ug/L		05/04/17 09:19	05/06/17 23:09	1
Acenaphthylene	ND		0.18	0.021	ug/L		05/04/17 09:19	05/06/17 23:09	1
Anthracene	ND		0.18	0.018	ug/L		05/04/17 09:19	05/06/17 23:09	1
Benzo[a]anthracene	ND		0.18	0.035	ug/L		05/04/17 09:19	05/06/17 23:09	1
Benzo[a]pyrene	ND		0.18	0.027	ug/L		05/04/17 09:19	05/06/17 23:09	1
Benzo[b]fluoranthene	ND	*	0.18	0.047	ug/L		05/04/17 09:19	05/06/17 23:09	1
Benzo[g,h,i]perylene	ND		0.18	0.028	ug/L		05/04/17 09:19	05/06/17 23:09	1
Benzo[k]fluoranthene	ND		0.18	0.029	ug/L		05/04/17 09:19	05/06/17 23:09	1
Bis(2-chloroethoxy)methane	ND		0.96	0.13	ug/L		05/04/17 09:19	05/06/17 23:09	1
Bis(2-chloroethyl)ether	ND		0.18	0.030	ug/L		05/04/17 09:19	05/06/17 23:09	1
bis(chloroisopropyl) ether	ND		0.18	0.023	ug/L		05/04/17 09:19	05/06/17 23:09	1
Bis(2-ethylhexyl) phthalate	**1.6**	**J**	1.9	0.42	ug/L		05/04/17 09:19	05/06/17 23:09	1
4-Bromophenyl phenyl ether	ND		0.96	0.11	ug/L		05/04/17 09:19	05/06/17 23:09	1
Butyl benzyl phthalate	ND		0.96	0.21	ug/L		05/04/17 09:19	05/06/17 23:09	1
4-Chloroaniline	ND		0.96	0.28	ug/L		05/04/17 09:19	05/06/17 23:09	1
4-Chloro-3-methylphenol	ND		0.96	0.16	ug/L		05/04/17 09:19	05/06/17 23:09	1
2-Chloronaphthalene	ND		0.18	0.030	ug/L		05/04/17 09:19	05/06/17 23:09	1
2-Chlorophenol	ND		0.96	0.22	ug/L		05/04/17 09:19	05/06/17 23:09	1
4-Chlorophenyl phenyl ether	ND		0.96	0.077	ug/L		05/04/17 09:19	05/06/17 23:09	1
Chrysene	ND		0.18	0.030	ug/L		05/04/17 09:19	05/06/17 23:09	1
Dibenz(a,h)anthracene	ND		0.18	0.026	ug/L		05/04/17 09:19	05/06/17 23:09	1
Dibenzofuran	ND		0.96	0.093	ug/L		05/04/17 09:19	05/06/17 23:09	1
1,2-Dichlorobenzene	ND		0.96	0.10	ug/L		05/04/17 09:19	05/06/17 23:09	1
1,3-Dichlorobenzene	ND		0.96	0.072	ug/L		05/04/17 09:19	05/06/17 23:09	1
1,4-Dichlorobenzene	ND		0.96	0.16	ug/L		05/04/17 09:19	05/06/17 23:09	1
3,3'-Dichlorobenzidine	ND		0.96	0.14	ug/L		05/04/17 09:19	05/06/17 23:09	1

Client Sample ID: SUPE-W-06A-042717
Date Collected: 04/27/17 10:04
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-11
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenol	ND		0.18	0.065	ug/L		05/04/17 09:19	05/06/17 23:09	1
Diethyl phthalate	ND		0.96	0.29	ug/L		05/04/17 09:19	05/06/17 23:09	1
2,4-Dimethylphenol	ND		0.96	0.16	ug/L		05/04/17 09:19	05/06/17 23:09	1
Dimethyl phthalate	ND		0.96	0.18	ug/L		05/04/17 09:19	05/06/17 23:09	1
Di-n-butyl phthalate	**0.35**	**J**	0.96	0.23	ug/L		05/04/17 09:19	05/06/17 23:09	1
4,6-Dinitro-2-methylphenol	ND		4.8	1.5	ug/L		05/04/17 09:19	05/06/17 23:09	1
2,4-Dinitrophenol	ND		4.8	2.4	ug/L		05/04/17 09:19	05/06/17 23:09	1
2,4-Dinitrotoluene	ND		0.96	0.21	ug/L		05/04/17 09:19	05/06/17 23:09	1
2,6-Dinitrotoluene	ND		0.96	0.13	ug/L		05/04/17 09:19	05/06/17 23:09	1
Di-n-octyl phthalate	ND		0.96	0.20	ug/L		05/04/17 09:19	05/06/17 23:09	1
Fluoranthene	ND		0.18	0.020	ug/L		05/04/17 09:19	05/06/17 23:09	1
Fluorene	ND		0.18	0.023	ug/L		05/04/17 09:19	05/06/17 23:09	1
Hexachlorobenzene	ND		0.18	0.059	ug/L		05/04/17 09:19	05/06/17 23:09	1
Hexachlorobutadiene	ND		0.18	0.090	ug/L		05/04/17 09:19	05/06/17 23:09	1
Hexachlorocyclopentadiene	ND		0.96	0.13	ug/L		05/04/17 09:19	05/06/17 23:09	1
Hexachloroethane	ND		0.96	0.13	ug/L		05/04/17 09:19	05/06/17 23:09	1
Indeno[1,2,3-cd]pyrene	ND		0.18	0.042	ug/L		05/04/17 09:19	05/06/17 23:09	1
Isophorone	ND		0.96	0.071	ug/L		05/04/17 09:19	05/06/17 23:09	1
1-Methylnaphthalene	ND		0.18	0.030	ug/L		05/04/17 09:19	05/06/17 23:09	1
2-Methylnaphthalene	ND		0.18	0.018	ug/L		05/04/17 09:19	05/06/17 23:09	1
2-Methylphenol	ND		0.96	0.18	ug/L		05/04/17 09:19	05/06/17 23:09	1
Methylphenol, 3 & 4	ND		0.96	0.20	ug/L		05/04/17 09:19	05/06/17 23:09	1
2-Nitroaniline	ND		4.8	0.65	ug/L		05/04/17 09:19	05/06/17 23:09	1
3-Nitroaniline	ND		4.8	0.77	ug/L		05/04/17 09:19	05/06/17 23:09	1
4-Nitroaniline	ND		4.8	0.74	ug/L		05/04/17 09:19	05/06/17 23:09	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/04/17 09:19	05/06/17 23:09	1
2-Nitrophenol	ND		0.96	0.11	ug/L		05/04/17 09:19	05/06/17 23:09	1
4-Nitrophenol	ND	*	4.8	0.77	ug/L		05/04/17 09:19	05/06/17 23:09	1
N-Nitrosodi-n-propylamine	ND		0.18	0.048	ug/L		05/04/17 09:19	05/06/17 23:09	1
N-Nitrosodiphenylamine	ND		0.96	0.12	ug/L		05/04/17 09:19	05/06/17 23:09	1
Pentachlorophenol	ND		0.96	0.48	ug/L		05/04/17 09:19	05/06/17 23:09	1
Phenanthrene	ND		0.18	0.040	ug/L		05/04/17 09:19	05/06/17 23:09	1
Phenol	ND		0.96	0.053	ug/L		05/04/17 09:19	05/06/17 23:09	1
Pyrene	ND		0.18	0.022	ug/L		05/04/17 09:19	05/06/17 23:09	1
2,3,4,6-Tetrachlorophenol	ND		0.96	0.10	ug/L		05/04/17 09:19	05/06/17 23:09	1
2,3,5,6-Tetrachlorophenol	ND		0.96	0.11	ug/L		05/04/17 09:19	05/06/17 23:09	1
1,2,4-Trichlorobenzene	ND		0.96	0.082	ug/L		05/04/17 09:19	05/06/17 23:09	1
2,4,5-Trichlorophenol	ND		0.96	0.12	ug/L		05/04/17 09:19	05/06/17 23:09	1
2,4,6-Trichlorophenol	ND		0.96	0.29	ug/L		05/04/17 09:19	05/06/17 23:09	1
Benzoic acid	ND		4.8	1.6	ug/L		05/04/17 09:19	05/06/17 23:09	1
Benzyl alcohol	ND		0.96	0.19	ug/L		05/04/17 09:19	05/06/17 23:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*47*		*24 - 100*	*05/04/17 09:19*	*05/06/17 23:09*	*1*
2-Fluorophenol (Surr)	*28*		*20 - 100*	*05/04/17 09:19*	*05/06/17 23:09*	*1*
Nitrobenzene-d5 (Surr)	*46*		*25 - 105*	*05/04/17 09:19*	*05/06/17 23:09*	*1*
Phenol-d5 (Surr)	*29*		*21 - 100*	*05/04/17 09:19*	*05/06/17 23:09*	*1*
Terphenyl-d14 (Surr)	*36*		*20 - 124*	*05/04/17 09:19*	*05/06/17 23:09*	*1*
2,4,6-Tribromophenol (Surr)	*39*		*22 - 118*	*05/04/17 09:19*	*05/06/17 23:09*	*1*

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

TestAmerica Job ID: 180-65736-1

Client Sample ID: SUPE-W-06A-042717
Date Collected: 04/27/17 10:04
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-11
Matrix: Water

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.5	0.51	pg/L		05/01/17 15:01	05/03/17 15:07	1
Total TCDD	ND		9.5	0.51	pg/L		05/01/17 15:01	05/03/17 15:07	1
1,2,3,7,8-PeCDD	ND		48	0.27	pg/L		05/01/17 15:01	05/03/17 15:07	1
Total PeCDD	ND		48	0.27	pg/L		05/01/17 15:01	05/03/17 15:07	1
1,2,3,4,7,8-HxCDD	**0.68**	**J B**	48	0.23	pg/L		05/01/17 15:01	05/03/17 15:07	1
1,2,3,6,7,8-HxCDD	**1.1**	**J B q**	48	0.24	pg/L		05/01/17 15:01	05/03/17 15:07	1
1,2,3,7,8,9-HxCDD	**1.4**	**J B q**	48	0.22	pg/L		05/01/17 15:01	05/03/17 15:07	1
Total HxCDD	**4.6**	**J B q**	48	0.23	pg/L		05/01/17 15:01	05/03/17 15:07	1
1,2,3,4,6,7,8-HpCDD	**10**	**J B**	48	0.72	pg/L		05/01/17 15:01	05/03/17 15:07	1
Total HpCDD	**25**	**J B**	48	0.72	pg/L		05/01/17 15:01	05/03/17 15:07	1
OCDD	**100**	**B**	95	0.10	pg/L		05/01/17 15:01	05/03/17 15:07	1
2,3,7,8-TCDF	ND		9.5	0.64	pg/L		05/01/17 15:01	05/03/17 15:07	1
Total TCDF	ND		9.5	0.64	pg/L		05/01/17 15:01	05/03/17 15:07	1
1,2,3,7,8-PeCDF	ND		48	0.38	pg/L		05/01/17 15:01	05/03/17 15:07	1
2,3,4,7,8-PeCDF	ND		48	0.37	pg/L		05/01/17 15:01	05/03/17 15:07	1
Total PeCDF	**2.3**	**J B q**	48	0.37	pg/L		05/01/17 15:01	05/03/17 15:07	1
1,2,3,4,7,8-HxCDF	**1.1**	**J B q**	48	0.35	pg/L		05/01/17 15:01	05/03/17 15:07	1
1,2,3,6,7,8-HxCDF	**2.2**	**J B q**	48	0.33	pg/L		05/01/17 15:01	05/03/17 15:07	1
2,3,4,6,7,8-HxCDF	**1.6**	**J B q**	48	0.36	pg/L		05/01/17 15:01	05/03/17 15:07	1
1,2,3,7,8,9-HxCDF	ND		48	0.43	pg/L		05/01/17 15:01	05/03/17 15:07	1
Total HxCDF	**11**	**J B q**	48	0.37	pg/L		05/01/17 15:01	05/03/17 15:07	1
1,2,3,4,6,7,8-HpCDF	**3.7**	**J B q**	48	0.39	pg/L		05/01/17 15:01	05/03/17 15:07	1
1,2,3,4,7,8,9-HpCDF	**1.6**	**J B**	48	0.50	pg/L		05/01/17 15:01	05/03/17 15:07	1
Total HpCDF	**12**	**J B q**	48	0.44	pg/L		05/01/17 15:01	05/03/17 15:07	1
OCDF	**13**	**J B**	95	0.20	pg/L		05/01/17 15:01	05/03/17 15:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*82*		*40 - 135*	*05/01/17 15:01*	*05/03/17 15:07*	*1*
13C-1,2,3,7,8-PeCDD	*79*		*40 - 135*	*05/01/17 15:01*	*05/03/17 15:07*	*1*
13C-1,2,3,4,7,8-HxCDD	*69*		*40 - 135*	*05/01/17 15:01*	*05/03/17 15:07*	*1*
13C-1,2,3,6,7,8-HxCDD	*70*		*40 - 135*	*05/01/17 15:01*	*05/03/17 15:07*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*80*		*40 - 135*	*05/01/17 15:01*	*05/03/17 15:07*	*1*
13C-OCDD	*82*		*40 - 135*	*05/01/17 15:01*	*05/03/17 15:07*	*1*
13C-2,3,7,8-TCDF	*87*		*40 - 135*	*05/01/17 15:01*	*05/03/17 15:07*	*1*
13C-1,2,3,7,8-PeCDF	*82*		*40 - 135*	*05/01/17 15:01*	*05/03/17 15:07*	*1*
13C-2,3,4,7,8-PeCDF	*78*		*40 - 135*	*05/01/17 15:01*	*05/03/17 15:07*	*1*
13C-1,2,3,4,7,8-HxCDF	*76*		*40 - 135*	*05/01/17 15:01*	*05/03/17 15:07*	*1*
13C-1,2,3,6,7,8-HxCDF	*77*		*40 - 135*	*05/01/17 15:01*	*05/03/17 15:07*	*1*
13C-2,3,4,6,7,8-HxCDF	*77*		*40 - 135*	*05/01/17 15:01*	*05/03/17 15:07*	*1*
13C-1,2,3,7,8,9-HxCDF	*83*		*40 - 135*	*05/01/17 15:01*	*05/03/17 15:07*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*76*		*40 - 135*	*05/01/17 15:01*	*05/03/17 15:07*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*82*		*40 - 135*	*05/01/17 15:01*	*05/03/17 15:07*	*1*
13C-OCDF	*77*		*40 - 135*	*05/01/17 15:01*	*05/03/17 15:07*	*1*

Client Sample ID: SUPE-W-06C-042717

Date Collected: 04/27/17 12:43
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-12

Matrix: Water

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	0.23	ug/L			05/06/17 18:57	1
1,2,4-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 18:57	1
1,3,5-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 18:57	1
Benzene	ND		1.0	0.28	ug/L			05/06/17 18:57	1
Chloromethane	ND		1.0	0.43	ug/L			05/06/17 18:57	1
Ethylbenzene	ND		1.0	0.26	ug/L			05/06/17 18:57	1
Methyl tert-butyl ether	ND		1.0	0.27	ug/L			05/06/17 18:57	1
m-Xylene & p-Xylene	ND		2.0	0.24	ug/L			05/06/17 18:57	1
Naphthalene	ND		1.0	0.25	ug/L			05/06/17 18:57	1
n-Butylbenzene	ND		1.0	0.21	ug/L			05/06/17 18:57	1
N-Propylbenzene	ND		1.0	0.45	ug/L			05/06/17 18:57	1
o-Xylene	ND		1.0	0.28	ug/L			05/06/17 18:57	1
Styrene	ND		1.0	0.23	ug/L			05/06/17 18:57	1
Toluene	ND		1.0	0.23	ug/L			05/06/17 18:57	1
Xylenes, Total	ND		2.0	0.24	ug/L			05/06/17 18:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*61 - 138*		*05/06/17 18:57*	*1*
4-Bromofluorobenzene (Surr)	*92*		*69 - 120*		*05/06/17 18:57*	*1*
Dibromofluoromethane (Surr)	*86*		*69 - 124*		*05/06/17 18:57*	*1*
Toluene-d8 (Surr)	*102*		*73 - 120*		*05/06/17 18:57*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.18	0.028	ug/L		05/04/17 09:19	05/06/17 23:37	1
Acenaphthylene	ND		0.18	0.021	ug/L		05/04/17 09:19	05/06/17 23:37	1
Anthracene	ND		0.18	0.018	ug/L		05/04/17 09:19	05/06/17 23:37	1
Benzo[a]anthracene	ND		0.18	0.035	ug/L		05/04/17 09:19	05/06/17 23:37	1
Benzo[a]pyrene	ND		0.18	0.027	ug/L		05/04/17 09:19	05/06/17 23:37	1
Benzo[b]fluoranthene	ND	*	0.18	0.047	ug/L		05/04/17 09:19	05/06/17 23:37	1
Benzo[g,h,i]perylene	ND		0.18	0.028	ug/L		05/04/17 09:19	05/06/17 23:37	1
Benzo[k]fluoranthene	ND		0.18	0.029	ug/L		05/04/17 09:19	05/06/17 23:37	1
Bis(2-chloroethoxy)methane	ND		0.96	0.13	ug/L		05/04/17 09:19	05/06/17 23:37	1
Bis(2-chloroethyl)ether	ND		0.18	0.030	ug/L		05/04/17 09:19	05/06/17 23:37	1
bis(chloroisopropyl) ether	ND		0.18	0.023	ug/L		05/04/17 09:19	05/06/17 23:37	1
Bis(2-ethylhexyl) phthalate	**0.97**	**J**	1.9	0.42	ug/L		05/04/17 09:19	05/06/17 23:37	1
4-Bromophenyl phenyl ether	ND		0.96	0.11	ug/L		05/04/17 09:19	05/06/17 23:37	1
Butyl benzyl phthalate	ND		0.96	0.21	ug/L		05/04/17 09:19	05/06/17 23:37	1
4-Chloroaniline	ND		0.96	0.28	ug/L		05/04/17 09:19	05/06/17 23:37	1
4-Chloro-3-methylphenol	ND		0.96	0.16	ug/L		05/04/17 09:19	05/06/17 23:37	1
2-Chloronaphthalene	ND		0.18	0.030	ug/L		05/04/17 09:19	05/06/17 23:37	1
2-Chlorophenol	ND		0.96	0.22	ug/L		05/04/17 09:19	05/06/17 23:37	1
4-Chlorophenyl phenyl ether	ND		0.96	0.077	ug/L		05/04/17 09:19	05/06/17 23:37	1
Chrysene	ND		0.18	0.030	ug/L		05/04/17 09:19	05/06/17 23:37	1
Dibenz(a,h)anthracene	ND		0.18	0.026	ug/L		05/04/17 09:19	05/06/17 23:37	1
Dibenzofuran	ND		0.96	0.093	ug/L		05/04/17 09:19	05/06/17 23:37	1
1,2-Dichlorobenzene	ND		0.96	0.10	ug/L		05/04/17 09:19	05/06/17 23:37	1
1,3-Dichlorobenzene	ND		0.96	0.072	ug/L		05/04/17 09:19	05/06/17 23:37	1
1,4-Dichlorobenzene	ND		0.96	0.16	ug/L		05/04/17 09:19	05/06/17 23:37	1
3,3'-Dichlorobenzidine	ND		0.96	0.14	ug/L		05/04/17 09:19	05/06/17 23:37	1

Client Sample ID: SUPE-W-06C-042717
Date Collected: 04/27/17 12:43
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-12
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenol	ND		0.18	0.065	ug/L		05/04/17 09:19	05/06/17 23:37	1
Diethyl phthalate	ND		0.96	0.29	ug/L		05/04/17 09:19	05/06/17 23:37	1
2,4-Dimethylphenol	ND		0.96	0.16	ug/L		05/04/17 09:19	05/06/17 23:37	1
Dimethyl phthalate	ND		0.96	0.18	ug/L		05/04/17 09:19	05/06/17 23:37	1
Di-n-butyl phthalate	**0.81**	**J**	0.96	0.23	ug/L		05/04/17 09:19	05/06/17 23:37	1
4,6-Dinitro-2-methylphenol	ND		4.8	1.5	ug/L		05/04/17 09:19	05/06/17 23:37	1
2,4-Dinitrophenol	ND		4.8	2.4	ug/L		05/04/17 09:19	05/06/17 23:37	1
2,4-Dinitrotoluene	ND		0.96	0.21	ug/L		05/04/17 09:19	05/06/17 23:37	1
2,6-Dinitrotoluene	ND		0.96	0.13	ug/L		05/04/17 09:19	05/06/17 23:37	1
Di-n-octyl phthalate	ND		0.96	0.20	ug/L		05/04/17 09:19	05/06/17 23:37	1
Fluoranthene	ND		0.18	0.020	ug/L		05/04/17 09:19	05/06/17 23:37	1
Fluorene	ND		0.18	0.023	ug/L		05/04/17 09:19	05/06/17 23:37	1
Hexachlorobenzene	ND		0.18	0.059	ug/L		05/04/17 09:19	05/06/17 23:37	1
Hexachlorobutadiene	ND		0.18	0.090	ug/L		05/04/17 09:19	05/06/17 23:37	1
Hexachlorocyclopentadiene	ND		0.96	0.13	ug/L		05/04/17 09:19	05/06/17 23:37	1
Hexachloroethane	ND		0.96	0.13	ug/L		05/04/17 09:19	05/06/17 23:37	1
Indeno[1,2,3-cd]pyrene	ND		0.18	0.042	ug/L		05/04/17 09:19	05/06/17 23:37	1
Isophorone	ND		0.96	0.071	ug/L		05/04/17 09:19	05/06/17 23:37	1
1-Methylnaphthalene	ND		0.18	0.030	ug/L		05/04/17 09:19	05/06/17 23:37	1
2-Methylnaphthalene	ND		0.18	0.018	ug/L		05/04/17 09:19	05/06/17 23:37	1
2-Methylphenol	ND		0.96	0.18	ug/L		05/04/17 09:19	05/06/17 23:37	1
Methylphenol, 3 & 4	ND		0.96	0.20	ug/L		05/04/17 09:19	05/06/17 23:37	1
2-Nitroaniline	ND		4.8	0.65	ug/L		05/04/17 09:19	05/06/17 23:37	1
3-Nitroaniline	ND		4.8	0.77	ug/L		05/04/17 09:19	05/06/17 23:37	1
4-Nitroaniline	ND		4.8	0.74	ug/L		05/04/17 09:19	05/06/17 23:37	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/04/17 09:19	05/06/17 23:37	1
2-Nitrophenol	ND		0.96	0.11	ug/L		05/04/17 09:19	05/06/17 23:37	1
4-Nitrophenol	ND	*	4.8	0.77	ug/L		05/04/17 09:19	05/06/17 23:37	1
N-Nitrosodi-n-propylamine	ND		0.18	0.048	ug/L		05/04/17 09:19	05/06/17 23:37	1
N-Nitrosodiphenylamine	ND		0.96	0.12	ug/L		05/04/17 09:19	05/06/17 23:37	1
Pentachlorophenol	ND		0.96	0.48	ug/L		05/04/17 09:19	05/06/17 23:37	1
Phenanthrene	ND		0.18	0.040	ug/L		05/04/17 09:19	05/06/17 23:37	1
Phenol	ND		0.96	0.053	ug/L		05/04/17 09:19	05/06/17 23:37	1
Pyrene	ND		0.18	0.022	ug/L		05/04/17 09:19	05/06/17 23:37	1
2,3,4,6-Tetrachlorophenol	ND		0.96	0.10	ug/L		05/04/17 09:19	05/06/17 23:37	1
2,3,5,6-Tetrachlorophenol	ND		0.96	0.11	ug/L		05/04/17 09:19	05/06/17 23:37	1
1,2,4-Trichlorobenzene	ND		0.96	0.082	ug/L		05/04/17 09:19	05/06/17 23:37	1
2,4,5-Trichlorophenol	ND		0.96	0.12	ug/L		05/04/17 09:19	05/06/17 23:37	1
2,4,6-Trichlorophenol	ND		0.96	0.29	ug/L		05/04/17 09:19	05/06/17 23:37	1
Benzoic acid	ND		4.8	1.6	ug/L		05/04/17 09:19	05/06/17 23:37	1
Benzyl alcohol	ND		0.96	0.19	ug/L		05/04/17 09:19	05/06/17 23:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*24 - 100*	*05/04/17 09:19*	*05/06/17 23:37*	*1*
2-Fluorophenol (Surr)	*60*		*20 - 100*	*05/04/17 09:19*	*05/06/17 23:37*	*1*
Nitrobenzene-d5 (Surr)	*81*		*25 - 105*	*05/04/17 09:19*	*05/06/17 23:37*	*1*
Phenol-d5 (Surr)	*66*		*21 - 100*	*05/04/17 09:19*	*05/06/17 23:37*	*1*
Terphenyl-d14 (Surr)	*50*		*20 - 124*	*05/04/17 09:19*	*05/06/17 23:37*	*1*
2,4,6-Tribromophenol (Surr)	*72*		*22 - 118*	*05/04/17 09:19*	*05/06/17 23:37*	*1*

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

TestAmerica Job ID: 180-65736-1

Client Sample ID: SUPE-W-06C-042717
Date Collected: 04/27/17 12:43
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-12
Matrix: Water

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.6	0.55	pg/L		05/01/17 15:01	05/03/17 16:08	1
Total TCDD	ND		9.6	0.55	pg/L		05/01/17 15:01	05/03/17 16:08	1
1,2,3,7,8-PeCDD	ND		48	0.29	pg/L		05/01/17 15:01	05/03/17 16:08	1
Total PeCDD	ND		48	0.29	pg/L		05/01/17 15:01	05/03/17 16:08	1
1,2,3,4,7,8-HxCDD	**0.82**	**J B q**	48	0.22	pg/L		05/01/17 15:01	05/03/17 16:08	1
1,2,3,6,7,8-HxCDD	**0.67**	**J B q**	48	0.23	pg/L		05/01/17 15:01	05/03/17 16:08	1
1,2,3,7,8,9-HxCDD	**0.96**	**J B q**	48	0.21	pg/L		05/01/17 15:01	05/03/17 16:08	1
Total HxCDD	**4.4**	**J B q**	48	0.22	pg/L		05/01/17 15:01	05/03/17 16:08	1
1,2,3,4,6,7,8-HpCDD	**11**	**J B**	48	0.60	pg/L		05/01/17 15:01	05/03/17 16:08	1
Total HpCDD	**36**	**J B**	48	0.60	pg/L		05/01/17 15:01	05/03/17 16:08	1
OCDD	**110**	**B**	96	0.12	pg/L		05/01/17 15:01	05/03/17 16:08	1
2,3,7,8-TCDF	ND		9.6	0.46	pg/L		05/01/17 15:01	05/03/17 16:08	1
Total TCDF	ND		9.6	0.46	pg/L		05/01/17 15:01	05/03/17 16:08	1
1,2,3,7,8-PeCDF	ND		48	0.38	pg/L		05/01/17 15:01	05/03/17 16:08	1
2,3,4,7,8-PeCDF	ND		48	0.37	pg/L		05/01/17 15:01	05/03/17 16:08	1
Total PeCDF	ND		48	0.38	pg/L		05/01/17 15:01	05/03/17 16:08	1
1,2,3,4,7,8-HxCDF	**0.82**	**J B q**	48	0.23	pg/L		05/01/17 15:01	05/03/17 16:08	1
1,2,3,6,7,8-HxCDF	**0.75**	**J B q**	48	0.23	pg/L		05/01/17 15:01	05/03/17 16:08	1
2,3,4,6,7,8-HxCDF	**0.75**	**J B q**	48	0.25	pg/L		05/01/17 15:01	05/03/17 16:08	1
1,2,3,7,8,9-HxCDF	ND		48	0.32	pg/L		05/01/17 15:01	05/03/17 16:08	1
Total HxCDF	**5.9**	**J B q**	48	0.26	pg/L		05/01/17 15:01	05/03/17 16:08	1
1,2,3,4,6,7,8-HpCDF	**4.0**	**J B**	48	0.17	pg/L		05/01/17 15:01	05/03/17 16:08	1
1,2,3,4,7,8,9-HpCDF	**0.94**	**J B q**	48	0.24	pg/L		05/01/17 15:01	05/03/17 16:08	1
Total HpCDF	**10**	**J B q**	48	0.21	pg/L		05/01/17 15:01	05/03/17 16:08	1
OCDF	**11**	**J B**	96	0.11	pg/L		05/01/17 15:01	05/03/17 16:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*86*		*40 - 135*	*05/01/17 15:01*	*05/03/17 16:08*	*1*
13C-1,2,3,7,8-PeCDD	*88*		*40 - 135*	*05/01/17 15:01*	*05/03/17 16:08*	*1*
13C-1,2,3,4,7,8-HxCDD	*75*		*40 - 135*	*05/01/17 15:01*	*05/03/17 16:08*	*1*
13C-1,2,3,6,7,8-HxCDD	*76*		*40 - 135*	*05/01/17 15:01*	*05/03/17 16:08*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*88*		*40 - 135*	*05/01/17 15:01*	*05/03/17 16:08*	*1*
13C-OCDD	*85*		*40 - 135*	*05/01/17 15:01*	*05/03/17 16:08*	*1*
13C-2,3,7,8-TCDF	*90*		*40 - 135*	*05/01/17 15:01*	*05/03/17 16:08*	*1*
13C-1,2,3,7,8-PeCDF	*88*		*40 - 135*	*05/01/17 15:01*	*05/03/17 16:08*	*1*
13C-2,3,4,7,8-PeCDF	*86*		*40 - 135*	*05/01/17 15:01*	*05/03/17 16:08*	*1*
13C-1,2,3,4,7,8-HxCDF	*81*		*40 - 135*	*05/01/17 15:01*	*05/03/17 16:08*	*1*
13C-1,2,3,6,7,8-HxCDF	*78*		*40 - 135*	*05/01/17 15:01*	*05/03/17 16:08*	*1*
13C-2,3,4,6,7,8-HxCDF	*81*		*40 - 135*	*05/01/17 15:01*	*05/03/17 16:08*	*1*
13C-1,2,3,7,8,9-HxCDF	*83*		*40 - 135*	*05/01/17 15:01*	*05/03/17 16:08*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*74*		*40 - 135*	*05/01/17 15:01*	*05/03/17 16:08*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*83*		*40 - 135*	*05/01/17 15:01*	*05/03/17 16:08*	*1*
13C-OCDF	*83*		*40 - 135*	*05/01/17 15:01*	*05/03/17 16:08*	*1*

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

TestAmerica Job ID: 180-65736-1

Client Sample ID: SUPE-W-12A-042717
Date Collected: 04/27/17 15:05
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-13
Matrix: Water

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	0.23	ug/L			05/06/17 19:20	1
1,2,4-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 19:20	1
1,3,5-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 19:20	1
Benzene	ND		1.0	0.28	ug/L			05/06/17 19:20	1
Chloromethane	ND		1.0	0.43	ug/L			05/06/17 19:20	1
Ethylbenzene	ND		1.0	0.26	ug/L			05/06/17 19:20	1
Methyl tert-butyl ether	ND		1.0	0.27	ug/L			05/06/17 19:20	1
m-Xylene & p-Xylene	ND		2.0	0.24	ug/L			05/06/17 19:20	1
Naphthalene	ND		1.0	0.25	ug/L			05/06/17 19:20	1
n-Butylbenzene	ND		1.0	0.21	ug/L			05/06/17 19:20	1
N-Propylbenzene	ND		1.0	0.45	ug/L			05/06/17 19:20	1
o-Xylene	ND		1.0	0.28	ug/L			05/06/17 19:20	1
Styrene	ND		1.0	0.23	ug/L			05/06/17 19:20	1
Toluene	ND		1.0	0.23	ug/L			05/06/17 19:20	1
Xylenes, Total	ND		2.0	0.24	ug/L			05/06/17 19:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*61 - 138*		*05/06/17 19:20*	*1*
4-Bromofluorobenzene (Surr)	*90*		*69 - 120*		*05/06/17 19:20*	*1*
Dibromofluoromethane (Surr)	*84*		*69 - 124*		*05/06/17 19:20*	*1*
Toluene-d8 (Surr)	*102*		*73 - 120*		*05/06/17 19:20*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.18	0.027	ug/L		05/04/17 09:19	05/07/17 00:05	1
Acenaphthylene	ND		0.18	0.020	ug/L		05/04/17 09:19	05/07/17 00:05	1
Anthracene	**0.026**	**J**	0.18	0.018	ug/L		05/04/17 09:19	05/07/17 00:05	1
Benzo[a]anthracene	ND		0.18	0.034	ug/L		05/04/17 09:19	05/07/17 00:05	1
Benzo[a]pyrene	ND		0.18	0.026	ug/L		05/04/17 09:19	05/07/17 00:05	1
Benzo[b]fluoranthene	ND	*	0.18	0.045	ug/L		05/04/17 09:19	05/07/17 00:05	1
Benzo[g,h,i]perylene	ND		0.18	0.027	ug/L		05/04/17 09:19	05/07/17 00:05	1
Benzo[k]fluoranthene	ND		0.18	0.028	ug/L		05/04/17 09:19	05/07/17 00:05	1
Bis(2-chloroethoxy)methane	ND		0.93	0.12	ug/L		05/04/17 09:19	05/07/17 00:05	1
Bis(2-chloroethyl)ether	ND		0.18	0.029	ug/L		05/04/17 09:19	05/07/17 00:05	1
bis(chloroisopropyl) ether	ND		0.18	0.022	ug/L		05/04/17 09:19	05/07/17 00:05	1
Bis(2-ethylhexyl) phthalate	**0.62**	**J**	1.9	0.41	ug/L		05/04/17 09:19	05/07/17 00:05	1
4-Bromophenyl phenyl ether	ND		0.93	0.11	ug/L		05/04/17 09:19	05/07/17 00:05	1
Butyl benzyl phthalate	ND		0.93	0.20	ug/L		05/04/17 09:19	05/07/17 00:05	1
4-Chloroaniline	ND		0.93	0.27	ug/L		05/04/17 09:19	05/07/17 00:05	1
4-Chloro-3-methylphenol	ND		0.93	0.16	ug/L		05/04/17 09:19	05/07/17 00:05	1
2-Chloronaphthalene	ND		0.18	0.028	ug/L		05/04/17 09:19	05/07/17 00:05	1
2-Chlorophenol	ND		0.93	0.21	ug/L		05/04/17 09:19	05/07/17 00:05	1
4-Chlorophenyl phenyl ether	ND		0.93	0.074	ug/L		05/04/17 09:19	05/07/17 00:05	1
Chrysene	ND		0.18	0.029	ug/L		05/04/17 09:19	05/07/17 00:05	1
Dibenz(a,h)anthracene	ND		0.18	0.025	ug/L		05/04/17 09:19	05/07/17 00:05	1
Dibenzofuran	ND		0.93	0.089	ug/L		05/04/17 09:19	05/07/17 00:05	1
1,2-Dichlorobenzene	ND		0.93	0.10	ug/L		05/04/17 09:19	05/07/17 00:05	1
1,3-Dichlorobenzene	ND		0.93	0.070	ug/L		05/04/17 09:19	05/07/17 00:05	1
1,4-Dichlorobenzene	ND		0.93	0.15	ug/L		05/04/17 09:19	05/07/17 00:05	1
3,3'-Dichlorobenzidine	ND		0.93	0.14	ug/L		05/04/17 09:19	05/07/17 00:05	1

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

TestAmerica Job ID: 180-65736-1

Client Sample ID: SUPE-W-12A-042717
Date Collected: 04/27/17 15:05
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-13
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenol	ND		0.18	0.062	ug/L		05/04/17 09:19	05/07/17 00:05	1
Diethyl phthalate	ND		0.93	0.27	ug/L		05/04/17 09:19	05/07/17 00:05	1
2,4-Dimethylphenol	ND		0.93	0.16	ug/L		05/04/17 09:19	05/07/17 00:05	1
Dimethyl phthalate	ND		0.93	0.17	ug/L		05/04/17 09:19	05/07/17 00:05	1
Di-n-butyl phthalate	**0.96**		0.93	0.22	ug/L		05/04/17 09:19	05/07/17 00:05	1
4,6-Dinitro-2-methylphenol	ND		4.6	1.4	ug/L		05/04/17 09:19	05/07/17 00:05	1
2,4-Dinitrophenol	ND		4.6	2.3	ug/L		05/04/17 09:19	05/07/17 00:05	1
2,4-Dinitrotoluene	ND		0.93	0.20	ug/L		05/04/17 09:19	05/07/17 00:05	1
2,6-Dinitrotoluene	ND		0.93	0.13	ug/L		05/04/17 09:19	05/07/17 00:05	1
Di-n-octyl phthalate	ND		0.93	0.19	ug/L		05/04/17 09:19	05/07/17 00:05	1
Fluoranthene	ND		0.18	0.020	ug/L		05/04/17 09:19	05/07/17 00:05	1
Fluorene	ND		0.18	0.022	ug/L		05/04/17 09:19	05/07/17 00:05	1
Hexachlorobenzene	ND		0.18	0.056	ug/L		05/04/17 09:19	05/07/17 00:05	1
Hexachlorobutadiene	ND		0.18	0.087	ug/L		05/04/17 09:19	05/07/17 00:05	1
Hexachlorocyclopentadiene	ND		0.93	0.13	ug/L		05/04/17 09:19	05/07/17 00:05	1
Hexachloroethane	ND		0.93	0.13	ug/L		05/04/17 09:19	05/07/17 00:05	1
Indeno[1,2,3-cd]pyrene	ND		0.18	0.040	ug/L		05/04/17 09:19	05/07/17 00:05	1
Isophorone	ND		0.93	0.068	ug/L		05/04/17 09:19	05/07/17 00:05	1
1-Methylnaphthalene	ND		0.18	0.029	ug/L		05/04/17 09:19	05/07/17 00:05	1
2-Methylnaphthalene	ND		0.18	0.018	ug/L		05/04/17 09:19	05/07/17 00:05	1
2-Methylphenol	ND		0.93	0.17	ug/L		05/04/17 09:19	05/07/17 00:05	1
Methylphenol, 3 & 4	ND		0.93	0.19	ug/L		05/04/17 09:19	05/07/17 00:05	1
2-Nitroaniline	ND		4.6	0.62	ug/L		05/04/17 09:19	05/07/17 00:05	1
3-Nitroaniline	ND		4.6	0.75	ug/L		05/04/17 09:19	05/07/17 00:05	1
4-Nitroaniline	ND		4.6	0.72	ug/L		05/04/17 09:19	05/07/17 00:05	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/04/17 09:19	05/07/17 00:05	1
2-Nitrophenol	ND		0.93	0.10	ug/L		05/04/17 09:19	05/07/17 00:05	1
4-Nitrophenol	ND	*	4.6	0.74	ug/L		05/04/17 09:19	05/07/17 00:05	1
N-Nitrosodi-n-propylamine	ND		0.18	0.046	ug/L		05/04/17 09:19	05/07/17 00:05	1
N-Nitrosodiphenylamine	ND		0.93	0.11	ug/L		05/04/17 09:19	05/07/17 00:05	1
Pentachlorophenol	ND		0.93	0.46	ug/L		05/04/17 09:19	05/07/17 00:05	1
Phenanthrene	ND		0.18	0.038	ug/L		05/04/17 09:19	05/07/17 00:05	1
Phenol	ND		0.93	0.051	ug/L		05/04/17 09:19	05/07/17 00:05	1
Pyrene	ND		0.18	0.021	ug/L		05/04/17 09:19	05/07/17 00:05	1
2,3,4,6-Tetrachlorophenol	ND		0.93	0.098	ug/L		05/04/17 09:19	05/07/17 00:05	1
2,3,5,6-Tetrachlorophenol	ND		0.93	0.11	ug/L		05/04/17 09:19	05/07/17 00:05	1
1,2,4-Trichlorobenzene	ND		0.93	0.079	ug/L		05/04/17 09:19	05/07/17 00:05	1
2,4,5-Trichlorophenol	ND		0.93	0.11	ug/L		05/04/17 09:19	05/07/17 00:05	1
2,4,6-Trichlorophenol	ND		0.93	0.28	ug/L		05/04/17 09:19	05/07/17 00:05	1
Benzoic acid	ND		4.6	1.5	ug/L		05/04/17 09:19	05/07/17 00:05	1
Benzyl alcohol	ND		0.93	0.18	ug/L		05/04/17 09:19	05/07/17 00:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*64*		*24 - 100*	*05/04/17 09:19*	*05/07/17 00:05*	*1*
2-Fluorophenol (Surr)	*58*		*20 - 100*	*05/04/17 09:19*	*05/07/17 00:05*	*1*
Nitrobenzene-d5 (Surr)	*78*		*25 - 105*	*05/04/17 09:19*	*05/07/17 00:05*	*1*
Phenol-d5 (Surr)	*64*		*21 - 100*	*05/04/17 09:19*	*05/07/17 00:05*	*1*
Terphenyl-d14 (Surr)	*35*		*20 - 124*	*05/04/17 09:19*	*05/07/17 00:05*	*1*
2,4,6-Tribromophenol (Surr)	*76*		*22 - 118*	*05/04/17 09:19*	*05/07/17 00:05*	*1*

Client Sample ID: SUPE-W-12A-042717

Date Collected: 04/27/17 15:05
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-13

Matrix: Water

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.6	0.60	pg/L		05/01/17 15:01	05/03/17 17:09	1
Total TCDD	ND		9.6	0.60	pg/L		05/01/17 15:01	05/03/17 17:09	1
1,2,3,7,8-PeCDD	ND		48	0.24	pg/L		05/01/17 15:01	05/03/17 17:09	1
Total PeCDD	ND		48	0.24	pg/L		05/01/17 15:01	05/03/17 17:09	1
1,2,3,4,7,8-HxCDD	**0.66**	**J q B**	48	0.34	pg/L		05/01/17 15:01	05/03/17 17:09	1
1,2,3,6,7,8-HxCDD	**3.5**	**J B**	48	0.33	pg/L		05/01/17 15:01	05/03/17 17:09	1
1,2,3,7,8,9-HxCDD	**1.2**	**J q B**	48	0.32	pg/L		05/01/17 15:01	05/03/17 17:09	1
Total HxCDD	**12**	**J q B**	48	0.33	pg/L		05/01/17 15:01	05/03/17 17:09	1
1,2,3,4,6,7,8-HpCDD	**75**	**B**	48	0.54	pg/L		05/01/17 15:01	05/03/17 17:09	1
Total HpCDD	**140**	**B**	48	0.54	pg/L		05/01/17 15:01	05/03/17 17:09	1
OCDD	**780**	**B**	96	0.13	pg/L		05/01/17 15:01	05/03/17 17:09	1
2,3,7,8-TCDF	ND		9.6	0.50	pg/L		05/01/17 15:01	05/03/17 17:09	1
Total TCDF	**17**	**q**	9.6	0.50	pg/L		05/01/17 15:01	05/03/17 17:09	1
1,2,3,7,8-PeCDF	**0.62**	**J**	48	0.36	pg/L		05/01/17 15:01	05/03/17 17:09	1
2,3,4,7,8-PeCDF	**0.56**	**J B**	48	0.35	pg/L		05/01/17 15:01	05/03/17 17:09	1
Total PeCDF	**50**	**q B**	48	0.36	pg/L		05/01/17 15:01	05/03/17 17:09	1
1,2,3,4,7,8-HxCDF	**4.4**	**J B**	48	1.1	pg/L		05/01/17 15:01	05/03/17 17:09	1
1,2,3,6,7,8-HxCDF	**7.9**	**J I B**	48	1.1	pg/L		05/01/17 15:01	05/03/17 17:09	1
2,3,4,6,7,8-HxCDF	ND	q	48	1.2	pg/L		05/01/17 15:01	05/03/17 17:09	1
1,2,3,7,8,9-HxCDF	ND		48	1.5	pg/L		05/01/17 15:01	05/03/17 17:09	1
Total HxCDF	**110**	**I q B**	48	1.2	pg/L		05/01/17 15:01	05/03/17 17:09	1
1,2,3,4,6,7,8-HpCDF	**26**	**J B**	48	0.70	pg/L		05/01/17 15:01	05/03/17 17:09	1
1,2,3,4,7,8,9-HpCDF	**3.8**	**J B**	48	0.95	pg/L		05/01/17 15:01	05/03/17 17:09	1
Total HpCDF	**100**	**B**	48	0.82	pg/L		05/01/17 15:01	05/03/17 17:09	1
OCDF	**75**	**J B**	96	0.17	pg/L		05/01/17 15:01	05/03/17 17:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*84*		*40 - 135*	*05/01/17 15:01*	*05/03/17 17:09*	*1*
13C-1,2,3,7,8-PeCDD	*83*		*40 - 135*	*05/01/17 15:01*	*05/03/17 17:09*	*1*
13C-1,2,3,4,7,8-HxCDD	*71*		*40 - 135*	*05/01/17 15:01*	*05/03/17 17:09*	*1*
13C-1,2,3,6,7,8-HxCDD	*70*		*40 - 135*	*05/01/17 15:01*	*05/03/17 17:09*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*83*		*40 - 135*	*05/01/17 15:01*	*05/03/17 17:09*	*1*
13C-OCDD	*82*		*40 - 135*	*05/01/17 15:01*	*05/03/17 17:09*	*1*
13C-2,3,7,8-TCDF	*87*		*40 - 135*	*05/01/17 15:01*	*05/03/17 17:09*	*1*
13C-1,2,3,7,8-PeCDF	*86*		*40 - 135*	*05/01/17 15:01*	*05/03/17 17:09*	*1*
13C-2,3,4,7,8-PeCDF	*84*		*40 - 135*	*05/01/17 15:01*	*05/03/17 17:09*	*1*
13C-1,2,3,4,7,8-HxCDF	*75*		*40 - 135*	*05/01/17 15:01*	*05/03/17 17:09*	*1*
13C-1,2,3,6,7,8-HxCDF	*72*		*40 - 135*	*05/01/17 15:01*	*05/03/17 17:09*	*1*
13C-2,3,4,6,7,8-HxCDF	*75*		*40 - 135*	*05/01/17 15:01*	*05/03/17 17:09*	*1*
13C-1,2,3,7,8,9-HxCDF	*77*		*40 - 135*	*05/01/17 15:01*	*05/03/17 17:09*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*74*		*40 - 135*	*05/01/17 15:01*	*05/03/17 17:09*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*80*		*40 - 135*	*05/01/17 15:01*	*05/03/17 17:09*	*1*
13C-OCDF	*80*		*40 - 135*	*05/01/17 15:01*	*05/03/17 17:09*	*1*

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

TestAmerica Job ID: 180-65736-1

Client Sample ID: SUPE-W-18D-042617
Date Collected: 04/26/17 16:42
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-14
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.18	0.027	ug/L		05/03/17 08:33	05/08/17 19:39	1
Acenaphthylene	ND		0.18	0.020	ug/L		05/03/17 08:33	05/08/17 19:39	1
Anthracene	ND		0.18	0.018	ug/L		05/03/17 08:33	05/08/17 19:39	1
Benzo[a]anthracene	ND		0.18	0.034	ug/L		05/03/17 08:33	05/08/17 19:39	1
Benzo[a]pyrene	ND		0.18	0.026	ug/L		05/03/17 08:33	05/08/17 19:39	1
Benzo[b]fluoranthene	ND		0.18	0.045	ug/L		05/03/17 08:33	05/08/17 19:39	1
Benzo[g,h,i]perylene	ND		0.18	0.027	ug/L		05/03/17 08:33	05/08/17 19:39	1
Benzo[k]fluoranthene	ND		0.18	0.028	ug/L		05/03/17 08:33	05/08/17 19:39	1
Bis(2-chloroethoxy)methane	ND		0.93	0.12	ug/L		05/03/17 08:33	05/08/17 19:39	1
Bis(2-chloroethyl)ether	ND		0.18	0.029	ug/L		05/03/17 08:33	05/08/17 19:39	1
bis(chloroisopropyl) ether	ND		0.18	0.022	ug/L		05/03/17 08:33	05/08/17 19:39	1
Bis(2-ethylhexyl) phthalate	ND		1.9	0.41	ug/L		05/03/17 08:33	05/08/17 19:39	1
4-Bromophenyl phenyl ether	ND		0.93	0.11	ug/L		05/03/17 08:33	05/08/17 19:39	1
Butyl benzyl phthalate	ND		0.93	0.20	ug/L		05/03/17 08:33	05/08/17 19:39	1
4-Chloroaniline	ND		0.93	0.27	ug/L		05/03/17 08:33	05/08/17 19:39	1
4-Chloro-3-methylphenol	ND		0.93	0.16	ug/L		05/03/17 08:33	05/08/17 19:39	1
2-Chloronaphthalene	ND		0.18	0.028	ug/L		05/03/17 08:33	05/08/17 19:39	1
2-Chlorophenol	ND		0.93	0.21	ug/L		05/03/17 08:33	05/08/17 19:39	1
4-Chlorophenyl phenyl ether	ND		0.93	0.074	ug/L		05/03/17 08:33	05/08/17 19:39	1
Chrysene	ND		0.18	0.029	ug/L		05/03/17 08:33	05/08/17 19:39	1
Dibenz(a,h)anthracene	ND		0.18	0.025	ug/L		05/03/17 08:33	05/08/17 19:39	1
Dibenzofuran	ND		0.93	0.089	ug/L		05/03/17 08:33	05/08/17 19:39	1
1,2-Dichlorobenzene	ND		0.93	0.10	ug/L		05/03/17 08:33	05/08/17 19:39	1
1,3-Dichlorobenzene	ND		0.93	0.070	ug/L		05/03/17 08:33	05/08/17 19:39	1
1,4-Dichlorobenzene	ND		0.93	0.15	ug/L		05/03/17 08:33	05/08/17 19:39	1
3,3'-Dichlorobenzidine	ND		0.93	0.14	ug/L		05/03/17 08:33	05/08/17 19:39	1
2,4-Dichlorophenol	ND		0.18	0.062	ug/L		05/03/17 08:33	05/08/17 19:39	1
Diethyl phthalate	ND		0.93	0.27	ug/L		05/03/17 08:33	05/08/17 19:39	1
2,4-Dimethylphenol	ND		0.93	0.16	ug/L		05/03/17 08:33	05/08/17 19:39	1
Dimethyl phthalate	ND		0.93	0.17	ug/L		05/03/17 08:33	05/08/17 19:39	1
Di-n-butyl phthalate	ND		0.93	0.22	ug/L		05/03/17 08:33	05/08/17 19:39	1
4,6-Dinitro-2-methylphenol	ND		4.6	1.4	ug/L		05/03/17 08:33	05/08/17 19:39	1
2,4-Dinitrophenol	ND		4.6	2.3	ug/L		05/03/17 08:33	05/08/17 19:39	1
2,4-Dinitrotoluene	ND		0.93	0.20	ug/L		05/03/17 08:33	05/08/17 19:39	1
2,6-Dinitrotoluene	ND		0.93	0.13	ug/L		05/03/17 08:33	05/08/17 19:39	1
Di-n-octyl phthalate	ND		0.93	0.19	ug/L		05/03/17 08:33	05/08/17 19:39	1
Fluoranthene	ND		0.18	0.020	ug/L		05/03/17 08:33	05/08/17 19:39	1
Fluorene	ND		0.18	0.022	ug/L		05/03/17 08:33	05/08/17 19:39	1
Hexachlorobenzene	ND		0.18	0.056	ug/L		05/03/17 08:33	05/08/17 19:39	1
Hexachlorobutadiene	ND		0.18	0.087	ug/L		05/03/17 08:33	05/08/17 19:39	1
Hexachlorocyclopentadiene	ND		0.93	0.13	ug/L		05/03/17 08:33	05/08/17 19:39	1
Hexachloroethane	ND		0.93	0.13	ug/L		05/03/17 08:33	05/08/17 19:39	1
Indeno[1,2,3-cd]pyrene	ND		0.18	0.040	ug/L		05/03/17 08:33	05/08/17 19:39	1
Isophorone	ND		0.93	0.068	ug/L		05/03/17 08:33	05/08/17 19:39	1
1-Methylnaphthalene	ND		0.18	0.029	ug/L		05/03/17 08:33	05/08/17 19:39	1
2-Methylnaphthalene	ND		0.18	0.018	ug/L		05/03/17 08:33	05/08/17 19:39	1
2-Methylphenol	ND		0.93	0.17	ug/L		05/03/17 08:33	05/08/17 19:39	1
Methylphenol, 3 & 4	ND		0.93	0.19	ug/L		05/03/17 08:33	05/08/17 19:39	1
Naphthalene	ND		0.18	0.021	ug/L		05/03/17 08:33	05/08/17 19:39	1

Client Sample ID: SUPE-W-18D-042617
Date Collected: 04/26/17 16:42
Date Received: 04/28/17 09:00

Lab Sample ID: 180-65736-14
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		4.6	0.62	ug/L		05/03/17 08:33	05/08/17 19:39	1
3-Nitroaniline	ND		4.6	0.75	ug/L		05/03/17 08:33	05/08/17 19:39	1
4-Nitroaniline	ND		4.6	0.72	ug/L		05/03/17 08:33	05/08/17 19:39	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/03/17 08:33	05/08/17 19:39	1
2-Nitrophenol	ND		0.93	0.10	ug/L		05/03/17 08:33	05/08/17 19:39	1
4-Nitrophenol	ND		4.6	0.74	ug/L		05/03/17 08:33	05/08/17 19:39	1
N-Nitrosodi-n-propylamine	ND		0.18	0.046	ug/L		05/03/17 08:33	05/08/17 19:39	1
N-Nitrosodiphenylamine	ND		0.93	0.11	ug/L		05/03/17 08:33	05/08/17 19:39	1
Pentachlorophenol	ND		0.93	0.46	ug/L		05/03/17 08:33	05/08/17 19:39	1
Phenanthrene	ND		0.18	0.038	ug/L		05/03/17 08:33	05/08/17 19:39	1
Phenol	ND		0.93	0.051	ug/L		05/03/17 08:33	05/08/17 19:39	1
Pyrene	ND		0.18	0.021	ug/L		05/03/17 08:33	05/08/17 19:39	1
2,3,4,6-Tetrachlorophenol	ND		0.93	0.098	ug/L		05/03/17 08:33	05/08/17 19:39	1
2,3,5,6-Tetrachlorophenol	ND		0.93	0.11	ug/L		05/03/17 08:33	05/08/17 19:39	1
1,2,4-Trichlorobenzene	ND		0.93	0.079	ug/L		05/03/17 08:33	05/08/17 19:39	1
2,4,5-Trichlorophenol	ND		0.93	0.11	ug/L		05/03/17 08:33	05/08/17 19:39	1
2,4,6-Trichlorophenol	ND		0.93	0.28	ug/L		05/03/17 08:33	05/08/17 19:39	1
Benzoic acid	ND		4.6	1.5	ug/L		05/03/17 08:33	05/08/17 19:39	1
Benzyl alcohol	ND		0.93	0.18	ug/L		05/03/17 08:33	05/08/17 19:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*54*		*24 - 100*	*05/03/17 08:33*	*05/08/17 19:39*	*1*
2-Fluorophenol (Surr)	*44*		*20 - 100*	*05/03/17 08:33*	*05/08/17 19:39*	*1*
Nitrobenzene-d5 (Surr)	*54*		*25 - 105*	*05/03/17 08:33*	*05/08/17 19:39*	*1*
Phenol-d5 (Surr)	*44*		*21 - 100*	*05/03/17 08:33*	*05/08/17 19:39*	*1*
Terphenyl-d14 (Surr)	*35*		*20 - 124*	*05/03/17 08:33*	*05/08/17 19:39*	*1*
2,4,6-Tribromophenol (Surr)	*72*		*22 - 118*	*05/03/17 08:33*	*05/08/17 19:39*	*1*

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

Lab Sample ID: MB 240-277838/7
Matrix: Water
Analysis Batch: 277838

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	0.23	ug/L			05/06/17 13:29	1
1,2,4-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 13:29	1
1,3,5-Trimethylbenzene	ND		1.0	0.24	ug/L			05/06/17 13:29	1
Benzene	ND		1.0	0.28	ug/L			05/06/17 13:29	1
Chloromethane	ND		1.0	0.43	ug/L			05/06/17 13:29	1
Ethylbenzene	ND		1.0	0.26	ug/L			05/06/17 13:29	1
Methyl tert-butyl ether	ND		1.0	0.27	ug/L			05/06/17 13:29	1
m-Xylene & p-Xylene	ND		2.0	0.24	ug/L			05/06/17 13:29	1
Naphthalene	ND		1.0	0.25	ug/L			05/06/17 13:29	1
n-Butylbenzene	ND		1.0	0.21	ug/L			05/06/17 13:29	1
N-Propylbenzene	ND		1.0	0.45	ug/L			05/06/17 13:29	1
o-Xylene	ND		1.0	0.28	ug/L			05/06/17 13:29	1
Styrene	ND		1.0	0.23	ug/L			05/06/17 13:29	1
Toluene	ND		1.0	0.23	ug/L			05/06/17 13:29	1
Xylenes, Total	ND		2.0	0.24	ug/L			05/06/17 13:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*61 - 138*		*05/06/17 13:29*	*1*
4-Bromofluorobenzene (Surr)	*92*		*69 - 120*		*05/06/17 13:29*	*1*
Dibromofluoromethane (Surr)	*84*		*69 - 124*		*05/06/17 13:29*	*1*
Toluene-d8 (Surr)	*103*		*73 - 120*		*05/06/17 13:29*	*1*

Lab Sample ID: LCS 240-277838/4
Matrix: Water
Analysis Batch: 277838

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	20.0	17.8		ug/L		89	64 - 147
1,2,4-Trimethylbenzene	20.0	20.7		ug/L		103	80 - 120
1,3,5-Trimethylbenzene	20.0	21.0		ug/L		105	79 - 120
Benzene	20.0	18.6		ug/L		93	79 - 120
Chloromethane	20.0	17.5		ug/L		87	59 - 124
Ethylbenzene	20.0	20.8		ug/L		104	80 - 120
Methyl tert-butyl ether	20.0	18.6		ug/L		93	73 - 120
m-Xylene & p-Xylene	20.0	20.2		ug/L		101	80 - 120
Naphthalene	20.0	22.0		ug/L		110	31 - 127
n-Butylbenzene	20.0	19.9		ug/L		100	60 - 137
N-Propylbenzene	20.0	21.7		ug/L		109	76 - 120
o-Xylene	20.0	20.3		ug/L		102	80 - 120
Styrene	20.0	20.4		ug/L		102	80 - 121
Toluene	20.0	21.0		ug/L		105	78 - 120
Xylenes, Total	40.0	40.5		ug/L		101	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*61 - 138*
4-Bromofluorobenzene (Surr)	*97*		*69 - 120*
Dibromofluoromethane (Surr)	*88*		*69 - 124*

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

Lab Sample ID: LCS 240-277838/4
Matrix: Water
Analysis Batch: 277838

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	105		73 - 120

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

Lab Sample ID: MB 180-210043/1-A
Matrix: Water
Analysis Batch: 210409

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 210043

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.029	ug/L		05/03/17 08:33	05/06/17 14:19	1
Acenaphthylene	ND		0.19	0.022	ug/L		05/03/17 08:33	05/06/17 14:19	1
Anthracene	ND		0.19	0.019	ug/L		05/03/17 08:33	05/06/17 14:19	1
Benzo[a]anthracene	ND		0.19	0.037	ug/L		05/03/17 08:33	05/06/17 14:19	1
Benzo[a]pyrene	ND		0.19	0.028	ug/L		05/03/17 08:33	05/06/17 14:19	1
Benzo[b]fluoranthene	ND		0.19	0.049	ug/L		05/03/17 08:33	05/06/17 14:19	1
Benzo[g,h,i]perylene	ND		0.19	0.029	ug/L		05/03/17 08:33	05/06/17 14:19	1
Benzo[k]fluoranthene	ND		0.19	0.030	ug/L		05/03/17 08:33	05/06/17 14:19	1
Bis(2-chloroethoxy)methane	ND		1.0	0.13	ug/L		05/03/17 08:33	05/06/17 14:19	1
Bis(2-chloroethyl)ether	ND		0.19	0.032	ug/L		05/03/17 08:33	05/06/17 14:19	1
bis(chloroisopropyl) ether	ND		0.19	0.024	ug/L		05/03/17 08:33	05/06/17 14:19	1
Bis(2-ethylhexyl) phthalate	ND		2.0	0.44	ug/L		05/03/17 08:33	05/06/17 14:19	1
4-Bromophenyl phenyl ether	ND		1.0	0.12	ug/L		05/03/17 08:33	05/06/17 14:19	1
Butyl benzyl phthalate	ND		1.0	0.21	ug/L		05/03/17 08:33	05/06/17 14:19	1
4-Chloroaniline	ND		1.0	0.29	ug/L		05/03/17 08:33	05/06/17 14:19	1
4-Chloro-3-methylphenol	ND		1.0	0.17	ug/L		05/03/17 08:33	05/06/17 14:19	1
2-Chloronaphthalene	ND		0.19	0.031	ug/L		05/03/17 08:33	05/06/17 14:19	1
2-Chlorophenol	ND		1.0	0.23	ug/L		05/03/17 08:33	05/06/17 14:19	1
4-Chlorophenyl phenyl ether	ND		1.0	0.080	ug/L		05/03/17 08:33	05/06/17 14:19	1
Chrysene	ND		0.19	0.031	ug/L		05/03/17 08:33	05/06/17 14:19	1
Dibenz(a,h)anthracene	ND		0.19	0.027	ug/L		05/03/17 08:33	05/06/17 14:19	1
Dibenzofuran	ND		1.0	0.097	ug/L		05/03/17 08:33	05/06/17 14:19	1
1,2-Dichlorobenzene	ND		1.0	0.11	ug/L		05/03/17 08:33	05/06/17 14:19	1
1,3-Dichlorobenzene	ND		1.0	0.075	ug/L		05/03/17 08:33	05/06/17 14:19	1
1,4-Dichlorobenzene	ND		1.0	0.16	ug/L		05/03/17 08:33	05/06/17 14:19	1
3,3'-Dichlorobenzidine	ND		1.0	0.15	ug/L		05/03/17 08:33	05/06/17 14:19	1
2,4-Dichlorophenol	ND		0.19	0.067	ug/L		05/03/17 08:33	05/06/17 14:19	1
Diethyl phthalate	ND		1.0	0.30	ug/L		05/03/17 08:33	05/06/17 14:19	1
2,4-Dimethylphenol	ND		1.0	0.17	ug/L		05/03/17 08:33	05/06/17 14:19	1
Dimethyl phthalate	ND		1.0	0.18	ug/L		05/03/17 08:33	05/06/17 14:19	1
Di-n-butyl phthalate	ND		1.0	0.24	ug/L		05/03/17 08:33	05/06/17 14:19	1
4,6-Dinitro-2-methylphenol	ND		5.0	1.6	ug/L		05/03/17 08:33	05/06/17 14:19	1
2,4-Dinitrophenol	ND		5.0	2.5	ug/L		05/03/17 08:33	05/06/17 14:19	1
2,4-Dinitrotoluene	ND		1.0	0.21	ug/L		05/03/17 08:33	05/06/17 14:19	1
2,6-Dinitrotoluene	ND		1.0	0.14	ug/L		05/03/17 08:33	05/06/17 14:19	1
Di-n-octyl phthalate	ND		1.0	0.20	ug/L		05/03/17 08:33	05/06/17 14:19	1
Fluoranthene	ND		0.19	0.021	ug/L		05/03/17 08:33	05/06/17 14:19	1
Fluorene	ND		0.19	0.024	ug/L		05/03/17 08:33	05/06/17 14:19	1
Hexachlorobenzene	ND		0.19	0.061	ug/L		05/03/17 08:33	05/06/17 14:19	1

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

Lab Sample ID: MB 180-210043/1-A
Matrix: Water
Analysis Batch: 210409

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 210043

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		0.19	0.094	ug/L		05/03/17 08:33	05/06/17 14:19	1
Hexachlorocyclopentadiene	ND		1.0	0.14	ug/L		05/03/17 08:33	05/06/17 14:19	1
Hexachloroethane	ND		1.0	0.14	ug/L		05/03/17 08:33	05/06/17 14:19	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.043	ug/L		05/03/17 08:33	05/06/17 14:19	1
Isophorone	ND		1.0	0.074	ug/L		05/03/17 08:33	05/06/17 14:19	1
1-Methylnaphthalene	ND		0.19	0.031	ug/L		05/03/17 08:33	05/06/17 14:19	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		05/03/17 08:33	05/06/17 14:19	1
2-Methylphenol	ND		1.0	0.19	ug/L		05/03/17 08:33	05/06/17 14:19	1
Methylphenol, 3 & 4	ND		1.0	0.21	ug/L		05/03/17 08:33	05/06/17 14:19	1
Naphthalene	ND		0.19	0.023	ug/L		05/03/17 08:33	05/06/17 14:19	1
2-Nitroaniline	ND		5.0	0.67	ug/L		05/03/17 08:33	05/06/17 14:19	1
3-Nitroaniline	ND		5.0	0.81	ug/L		05/03/17 08:33	05/06/17 14:19	1
4-Nitroaniline	ND		5.0	0.77	ug/L		05/03/17 08:33	05/06/17 14:19	1
Nitrobenzene	ND		2.0	0.15	ug/L		05/03/17 08:33	05/06/17 14:19	1
2-Nitrophenol	ND		1.0	0.11	ug/L		05/03/17 08:33	05/06/17 14:19	1
4-Nitrophenol	ND		5.0	0.80	ug/L		05/03/17 08:33	05/06/17 14:19	1
N-Nitrosodi-n-propylamine	ND		0.19	0.050	ug/L		05/03/17 08:33	05/06/17 14:19	1
N-Nitrosodiphenylamine	ND		1.0	0.12	ug/L		05/03/17 08:33	05/06/17 14:19	1
Pentachlorophenol	ND		1.0	0.50	ug/L		05/03/17 08:33	05/06/17 14:19	1
Phenanthrene	ND		0.19	0.042	ug/L		05/03/17 08:33	05/06/17 14:19	1
Phenol	ND		1.0	0.055	ug/L		05/03/17 08:33	05/06/17 14:19	1
Pyrene	ND		0.19	0.023	ug/L		05/03/17 08:33	05/06/17 14:19	1
2,3,4,6-Tetrachlorophenol	ND		1.0	0.11	ug/L		05/03/17 08:33	05/06/17 14:19	1
2,3,5,6-Tetrachlorophenol	ND		1.0	0.12	ug/L		05/03/17 08:33	05/06/17 14:19	1
1,2,4-Trichlorobenzene	ND		1.0	0.085	ug/L		05/03/17 08:33	05/06/17 14:19	1
2,4,5-Trichlorophenol	ND		1.0	0.12	ug/L		05/03/17 08:33	05/06/17 14:19	1
2,4,6-Trichlorophenol	ND		1.0	0.30	ug/L		05/03/17 08:33	05/06/17 14:19	1
Benzoic acid	ND		5.0	1.6	ug/L		05/03/17 08:33	05/06/17 14:19	1
Benzyl alcohol	ND		1.0	0.20	ug/L		05/03/17 08:33	05/06/17 14:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*24 - 100*	*05/03/17 08:33*	*05/06/17 14:19*	*1*
2-Fluorophenol (Surr)	*59*		*20 - 100*	*05/03/17 08:33*	*05/06/17 14:19*	*1*
Nitrobenzene-d5 (Surr)	*57*		*25 - 105*	*05/03/17 08:33*	*05/06/17 14:19*	*1*
Phenol-d5 (Surr)	*57*		*21 - 100*	*05/03/17 08:33*	*05/06/17 14:19*	*1*
Terphenyl-d14 (Surr)	*63*		*20 - 124*	*05/03/17 08:33*	*05/06/17 14:19*	*1*
2,4,6-Tribromophenol (Surr)	*57*		*22 - 118*	*05/03/17 08:33*	*05/06/17 14:19*	*1*

Lab Sample ID: LCS 180-210043/2-A
Matrix: Water
Analysis Batch: 210409

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 210043

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	20.0	12.7		ug/L		64	49 - 100
Acenaphthylene	20.0	12.7		ug/L		64	51 - 100
Anthracene	20.0	13.8		ug/L		69	53 - 100
Benzo[a]anthracene	20.0	13.2		ug/L		66	52 - 100
Benzo[a]pyrene	20.0	13.3		ug/L		66	51 - 100

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

Lab Sample ID: LCS 180-210043/2-A
Matrix: Water
Analysis Batch: 210409

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 210043

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[b]fluoranthene	20.0	11.6		ug/L		58	49 - 100
Benzo[g,h,i]perylene	20.0	13.0		ug/L		65	47 - 100
Benzo[k]fluoranthene	20.0	13.3		ug/L		66	49 - 100
Bis(2-chloroethoxy)methane	20.0	12.5		ug/L		62	49 - 100
Bis(2-chloroethyl)ether	20.0	12.8		ug/L		64	46 - 100
bis(chloroisopropyl) ether	20.0	12.0		ug/L		60	37 - 100
Bis(2-ethylhexyl) phthalate	20.0	13.8		ug/L		69	51 - 100
4-Bromophenyl phenyl ether	20.0	13.2		ug/L		66	53 - 100
Butyl benzyl phthalate	20.0	13.9		ug/L		69	50 - 100
4-Chloroaniline	20.0	12.2		ug/L		61	48 - 100
4-Chloro-3-methylphenol	20.0	12.8		ug/L		64	51 - 100
2-Chloronaphthalene	20.0	12.8		ug/L		64	50 - 100
2-Chlorophenol	20.0	13.4		ug/L		67	49 - 100
4-Chlorophenyl phenyl ether	20.0	12.9		ug/L		65	51 - 100
Chrysene	20.0	12.9		ug/L		65	51 - 100
Dibenz(a,h)anthracene	20.0	13.1		ug/L		66	49 - 100
Dibenzofuran	20.0	13.3		ug/L		66	50 - 100
1,2-Dichlorobenzene	20.0	12.8		ug/L		64	46 - 100
1,3-Dichlorobenzene	20.0	12.7		ug/L		63	45 - 100
1,4-Dichlorobenzene	20.0	12.6		ug/L		63	45 - 100
3,3'-Dichlorobenzidine	20.0	11.8		ug/L		59	42 - 100
2,4-Dichlorophenol	20.0	13.3		ug/L		67	52 - 100
Diethyl phthalate	20.0	13.5		ug/L		68	47 - 100
2,4-Dimethylphenol	20.0	12.9		ug/L		65	50 - 100
Dimethyl phthalate	20.0	13.0		ug/L		65	51 - 100
Di-n-butyl phthalate	20.0	14.8		ug/L		74	51 - 100
4,6-Dinitro-2-methylphenol	40.0	26.3		ug/L		66	50 - 100
2,4-Dinitrophenol	40.0	26.5		ug/L		66	40 - 102
2,4-Dinitrotoluene	20.0	13.9		ug/L		70	52 - 100
2,6-Dinitrotoluene	20.0	14.0		ug/L		70	54 - 100
Di-n-octyl phthalate	20.0	12.1		ug/L		61	48 - 100
Fluoranthene	20.0	13.8		ug/L		69	50 - 100
Fluorene	20.0	13.1		ug/L		65	50 - 100
Hexachlorobenzene	20.0	12.6		ug/L		63	51 - 100
Hexachlorobutadiene	20.0	12.6		ug/L		63	46 - 100
Hexachlorocyclopentadiene	20.0	11.5		ug/L		57	43 - 100
Hexachloroethane	20.0	12.7		ug/L		63	45 - 100
Indeno[1,2,3-cd]pyrene	20.0	13.2		ug/L		66	48 - 100
Isophorone	20.0	12.2		ug/L		61	48 - 100
1-Methylnaphthalene	20.0	13.1		ug/L		66	50 - 100
2-Methylnaphthalene	20.0	12.7		ug/L		64	49 - 100
2-Methylphenol	20.0	13.7		ug/L		68	48 - 100
Methylphenol, 3 & 4	20.0	13.8		ug/L		69	49 - 100
Naphthalene	20.0	13.2		ug/L		66	48 - 100
2-Nitroaniline	20.0	13.3		ug/L		67	47 - 102
3-Nitroaniline	20.0	13.8		ug/L		69	50 - 100
4-Nitroaniline	20.0	13.5		ug/L		67	43 - 101
Nitrobenzene	20.0	12.4		ug/L		62	47 - 100

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

Lab Sample ID: LCS 180-210043/2-A
Matrix: Water
Analysis Batch: 210409

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 210043

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Nitrophenol	20.0	14.6		ug/L		73	52 - 100
4-Nitrophenol	40.0	25.2		ug/L		63	37 - 117
N-Nitrosodi-n-propylamine	20.0	12.7		ug/L		63	47 - 100
N-Nitrosodiphenylamine	20.0	13.1		ug/L		66	51 - 100
Pentachlorophenol	40.0	27.1		ug/L		68	41 - 100
Phenanthrene	20.0	13.1		ug/L		65	51 - 100
Phenol	20.0	12.8		ug/L		64	47 - 100
Pyrene	20.0	12.6		ug/L		63	49 - 100
2,3,4,6-Tetrachlorophenol	20.0	12.5		ug/L		63	50 - 100
1,2,4-Trichlorobenzene	20.0	12.9		ug/L		65	48 - 100
2,4,5-Trichlorophenol	20.0	13.4		ug/L		67	52 - 100
2,4,6-Trichlorophenol	20.0	13.6		ug/L		68	53 - 100
Benzoic acid	20.0	14.9		ug/L		74	34 - 104
Benzyl alcohol	20.0	12.8		ug/L		64	44 - 100

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*58*		*24 - 100*
2-Fluorophenol (Surr)	*59*		*20 - 100*
Nitrobenzene-d5 (Surr)	*55*		*25 - 105*
Phenol-d5 (Surr)	*58*		*21 - 100*
Terphenyl-d14 (Surr)	*56*		*20 - 124*
2,4,6-Tribromophenol (Surr)	*61*		*22 - 118*

Lab Sample ID: LCSD 180-210043/3-A
Matrix: Water
Analysis Batch: 210409

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 210043

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	20.0	12.8		ug/L		64	49 - 100	1	15
Acenaphthylene	20.0	12.9		ug/L		65	51 - 100	2	15
Anthracene	20.0	13.7		ug/L		68	53 - 100	1	15
Benzo[a]anthracene	20.0	13.4		ug/L		67	52 - 100	2	15
Benzo[a]pyrene	20.0	13.6		ug/L		68	51 - 100	2	15
Benzo[b]fluoranthene	20.0	11.9		ug/L		60	49 - 100	3	15
Benzo[g,h,i]perylene	20.0	13.2		ug/L		66	47 - 100	1	15
Benzo[k]fluoranthene	20.0	13.5		ug/L		67	49 - 100	1	15
Bis(2-chloroethoxy)methane	20.0	12.8		ug/L		64	49 - 100	3	15
Bis(2-chloroethyl)ether	20.0	12.7		ug/L		64	46 - 100	1	15
bis(chloroisopropyl) ether	20.0	11.6		ug/L		58	37 - 100	3	15
Bis(2-ethylhexyl) phthalate	20.0	14.1		ug/L		71	51 - 100	2	15
4-Bromophenyl phenyl ether	20.0	13.2		ug/L		66	53 - 100	0	15
Butyl benzyl phthalate	20.0	13.9		ug/L		69	50 - 100	0	15
4-Chloroaniline	20.0	12.4		ug/L		62	48 - 100	2	15
4-Chloro-3-methylphenol	20.0	13.1		ug/L		66	51 - 100	2	15
2-Chloronaphthalene	20.0	13.0		ug/L		65	50 - 100	2	15
2-Chlorophenol	20.0	13.2		ug/L		66	49 - 100	2	15
4-Chlorophenyl phenyl ether	20.0	13.2		ug/L		66	51 - 100	2	15
Chrysene	20.0	13.4		ug/L		67	51 - 100	3	15

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

Lab Sample ID: LCSD 180-210043/3-A
Matrix: Water
Analysis Batch: 210409

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 210043

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dibenz(a,h)anthracene	20.0	13.6		ug/L		68	49 - 100	4	15
Dibenzofuran	20.0	13.3		ug/L		67	50 - 100	1	15
1,2-Dichlorobenzene	20.0	12.7		ug/L		64	46 - 100	1	15
1,3-Dichlorobenzene	20.0	12.4		ug/L		62	45 - 100	2	15
1,4-Dichlorobenzene	20.0	12.6		ug/L		63	45 - 100	1	15
3,3'-Dichlorobenzidine	20.0	12.2		ug/L		61	42 - 100	4	15
2,4-Dichlorophenol	20.0	13.6		ug/L		68	52 - 100	2	15
Diethyl phthalate	20.0	13.7		ug/L		68	47 - 100	1	15
2,4-Dimethylphenol	20.0	13.0		ug/L		65	50 - 100	1	15
Dimethyl phthalate	20.0	13.4		ug/L		67	51 - 100	2	15
Di-n-butyl phthalate	20.0	14.9		ug/L		75	51 - 100	1	15
4,6-Dinitro-2-methylphenol	40.0	26.5		ug/L		66	50 - 100	1	15
2,4-Dinitrophenol	40.0	27.4		ug/L		68	40 - 102	3	18
2,4-Dinitrotoluene	20.0	14.5		ug/L		72	52 - 100	4	15
2,6-Dinitrotoluene	20.0	14.4		ug/L		72	54 - 100	3	15
Di-n-octyl phthalate	20.0	12.4		ug/L		62	48 - 100	2	15
Fluoranthene	20.0	14.0		ug/L		70	50 - 100	1	15
Fluorene	20.0	13.4		ug/L		67	50 - 100	3	15
Hexachlorobenzene	20.0	12.9		ug/L		65	51 - 100	3	15
Hexachlorobutadiene	20.0	12.6		ug/L		63	46 - 100	0	15
Hexachlorocyclopentadiene	20.0	11.9		ug/L		60	43 - 100	4	15
Hexachloroethane	20.0	12.6		ug/L		63	45 - 100	1	15
Indeno[1,2,3-cd]pyrene	20.0	13.6		ug/L		68	48 - 100	3	15
Isophorone	20.0	12.5		ug/L		62	48 - 100	2	15
1-Methylnaphthalene	20.0	13.2		ug/L		66	50 - 100	0	15
2-Methylnaphthalene	20.0	13.1		ug/L		65	49 - 100	3	15
2-Methylphenol	20.0	13.5		ug/L		67	48 - 100	2	15
Methylphenol, 3 & 4	20.0	13.6		ug/L		68	49 - 100	1	15
Naphthalene	20.0	13.4		ug/L		67	48 - 100	1	15
2-Nitroaniline	20.0	13.5		ug/L		68	47 - 102	1	15
3-Nitroaniline	20.0	14.5		ug/L		72	50 - 100	5	15
4-Nitroaniline	20.0	13.6		ug/L		68	43 - 101	1	15
Nitrobenzene	20.0	12.6		ug/L		63	47 - 100	2	15
2-Nitrophenol	20.0	15.3		ug/L		76	52 - 100	4	15
4-Nitrophenol	40.0	25.3		ug/L		63	37 - 117	0	15
N-Nitrosodi-n-propylamine	20.0	12.4		ug/L		62	47 - 100	2	15
N-Nitrosodiphenylamine	20.0	13.0		ug/L		65	51 - 100	1	15
Pentachlorophenol	40.0	27.1		ug/L		68	41 - 100	0	15
Phenanthrene	20.0	13.2		ug/L		66	51 - 100	1	15
Phenol	20.0	13.0		ug/L		65	47 - 100	1	15
Pyrene	20.0	13.3		ug/L		67	49 - 100	5	15
2,3,4,6-Tetrachlorophenol	20.0	12.6		ug/L		63	50 - 100	1	15
1,2,4-Trichlorobenzene	20.0	12.8		ug/L		64	48 - 100	1	15
2,4,5-Trichlorophenol	20.0	13.9		ug/L		69	52 - 100	4	15
2,4,6-Trichlorophenol	20.0	14.3		ug/L		71	53 - 100	5	15
Benzoic acid	20.0	15.4		ug/L		77	34 - 104	3	17
Benzyl alcohol	20.0	12.9		ug/L		64	44 - 100	1	15

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

Lab Sample ID: LCSD 180-210043/3-A
Matrix: Water
Analysis Batch: 210409

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 210043

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*24 - 100*
2-Fluorophenol (Surr)	*60*		*20 - 100*
Nitrobenzene-d5 (Surr)	*57*		*25 - 105*
Phenol-d5 (Surr)	*57*		*21 - 100*
Terphenyl-d14 (Surr)	*57*		*20 - 124*
2,4,6-Tribromophenol (Surr)	*63*		*22 - 118*

Lab Sample ID: MB 180-210177/1-A
Matrix: Water
Analysis Batch: 210324

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 210177

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.029	ug/L		05/04/17 09:19	05/06/17 16:14	1
Acenaphthylene	ND		0.19	0.022	ug/L		05/04/17 09:19	05/06/17 16:14	1
Anthracene	ND		0.19	0.019	ug/L		05/04/17 09:19	05/06/17 16:14	1
Benzo[a]anthracene	ND		0.19	0.037	ug/L		05/04/17 09:19	05/06/17 16:14	1
Benzo[a]pyrene	ND		0.19	0.028	ug/L		05/04/17 09:19	05/06/17 16:14	1
Benzo[b]fluoranthene	ND		0.19	0.049	ug/L		05/04/17 09:19	05/06/17 16:14	1
Benzo[g,h,i]perylene	ND		0.19	0.029	ug/L		05/04/17 09:19	05/06/17 16:14	1
Benzo[k]fluoranthene	ND		0.19	0.030	ug/L		05/04/17 09:19	05/06/17 16:14	1
Bis(2-chloroethoxy)methane	ND		1.0	0.13	ug/L		05/04/17 09:19	05/06/17 16:14	1
Bis(2-chloroethyl)ether	ND		0.19	0.032	ug/L		05/04/17 09:19	05/06/17 16:14	1
bis(chloroisopropyl) ether	ND		0.19	0.024	ug/L		05/04/17 09:19	05/06/17 16:14	1
Bis(2-ethylhexyl) phthalate	ND		2.0	0.44	ug/L		05/04/17 09:19	05/06/17 16:14	1
4-Bromophenyl phenyl ether	ND		1.0	0.12	ug/L		05/04/17 09:19	05/06/17 16:14	1
Butyl benzyl phthalate	ND		1.0	0.21	ug/L		05/04/17 09:19	05/06/17 16:14	1
4-Chloroaniline	ND		1.0	0.29	ug/L		05/04/17 09:19	05/06/17 16:14	1
4-Chloro-3-methylphenol	ND		1.0	0.17	ug/L		05/04/17 09:19	05/06/17 16:14	1
2-Chloronaphthalene	ND		0.19	0.031	ug/L		05/04/17 09:19	05/06/17 16:14	1
2-Chlorophenol	ND		1.0	0.23	ug/L		05/04/17 09:19	05/06/17 16:14	1
4-Chlorophenyl phenyl ether	ND		1.0	0.080	ug/L		05/04/17 09:19	05/06/17 16:14	1
Chrysene	ND		0.19	0.031	ug/L		05/04/17 09:19	05/06/17 16:14	1
Dibenz(a,h)anthracene	ND		0.19	0.027	ug/L		05/04/17 09:19	05/06/17 16:14	1
Dibenzofuran	ND		1.0	0.097	ug/L		05/04/17 09:19	05/06/17 16:14	1
1,2-Dichlorobenzene	ND		1.0	0.11	ug/L		05/04/17 09:19	05/06/17 16:14	1
1,3-Dichlorobenzene	ND		1.0	0.075	ug/L		05/04/17 09:19	05/06/17 16:14	1
1,4-Dichlorobenzene	ND		1.0	0.16	ug/L		05/04/17 09:19	05/06/17 16:14	1
3,3'-Dichlorobenzidine	ND		1.0	0.15	ug/L		05/04/17 09:19	05/06/17 16:14	1
2,4-Dichlorophenol	ND		0.19	0.067	ug/L		05/04/17 09:19	05/06/17 16:14	1
Diethyl phthalate	ND		1.0	0.30	ug/L		05/04/17 09:19	05/06/17 16:14	1
2,4-Dimethylphenol	ND		1.0	0.17	ug/L		05/04/17 09:19	05/06/17 16:14	1
Dimethyl phthalate	ND		1.0	0.18	ug/L		05/04/17 09:19	05/06/17 16:14	1
Di-n-butyl phthalate	ND		1.0	0.24	ug/L		05/04/17 09:19	05/06/17 16:14	1
4,6-Dinitro-2-methylphenol	ND		5.0	1.6	ug/L		05/04/17 09:19	05/06/17 16:14	1
2,4-Dinitrophenol	ND		5.0	2.5	ug/L		05/04/17 09:19	05/06/17 16:14	1
2,4-Dinitrotoluene	ND		1.0	0.21	ug/L		05/04/17 09:19	05/06/17 16:14	1
2,6-Dinitrotoluene	ND		1.0	0.14	ug/L		05/04/17 09:19	05/06/17 16:14	1
Di-n-octyl phthalate	ND		1.0	0.20	ug/L		05/04/17 09:19	05/06/17 16:14	1

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

Lab Sample ID: MB 180-210177/1-A
Matrix: Water
Analysis Batch: 210324

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 210177

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.19	0.021	ug/L		05/04/17 09:19	05/06/17 16:14	1
Fluorene	ND		0.19	0.024	ug/L		05/04/17 09:19	05/06/17 16:14	1
Hexachlorobenzene	ND		0.19	0.061	ug/L		05/04/17 09:19	05/06/17 16:14	1
Hexachlorobutadiene	ND		0.19	0.094	ug/L		05/04/17 09:19	05/06/17 16:14	1
Hexachlorocyclopentadiene	ND		1.0	0.14	ug/L		05/04/17 09:19	05/06/17 16:14	1
Hexachloroethane	ND		1.0	0.14	ug/L		05/04/17 09:19	05/06/17 16:14	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.043	ug/L		05/04/17 09:19	05/06/17 16:14	1
Isophorone	ND		1.0	0.074	ug/L		05/04/17 09:19	05/06/17 16:14	1
1-Methylnaphthalene	ND		0.19	0.031	ug/L		05/04/17 09:19	05/06/17 16:14	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		05/04/17 09:19	05/06/17 16:14	1
2-Methylphenol	ND		1.0	0.19	ug/L		05/04/17 09:19	05/06/17 16:14	1
Methylphenol, 3 & 4	ND		1.0	0.21	ug/L		05/04/17 09:19	05/06/17 16:14	1
2-Nitroaniline	ND		5.0	0.67	ug/L		05/04/17 09:19	05/06/17 16:14	1
3-Nitroaniline	ND		5.0	0.81	ug/L		05/04/17 09:19	05/06/17 16:14	1
4-Nitroaniline	ND		5.0	0.77	ug/L		05/04/17 09:19	05/06/17 16:14	1
Nitrobenzene	ND		2.0	0.15	ug/L		05/04/17 09:19	05/06/17 16:14	1
2-Nitrophenol	ND		1.0	0.11	ug/L		05/04/17 09:19	05/06/17 16:14	1
4-Nitrophenol	ND		5.0	0.80	ug/L		05/04/17 09:19	05/06/17 16:14	1
N-Nitrosodi-n-propylamine	ND		0.19	0.050	ug/L		05/04/17 09:19	05/06/17 16:14	1
N-Nitrosodiphenylamine	ND		1.0	0.12	ug/L		05/04/17 09:19	05/06/17 16:14	1
Pentachlorophenol	ND		1.0	0.50	ug/L		05/04/17 09:19	05/06/17 16:14	1
Phenanthrene	ND		0.19	0.042	ug/L		05/04/17 09:19	05/06/17 16:14	1
Phenol	ND		1.0	0.055	ug/L		05/04/17 09:19	05/06/17 16:14	1
Pyrene	ND		0.19	0.023	ug/L		05/04/17 09:19	05/06/17 16:14	1
2,3,4,6-Tetrachlorophenol	ND		1.0	0.11	ug/L		05/04/17 09:19	05/06/17 16:14	1
2,3,5,6-Tetrachlorophenol	ND		1.0	0.12	ug/L		05/04/17 09:19	05/06/17 16:14	1
1,2,4-Trichlorobenzene	ND		1.0	0.085	ug/L		05/04/17 09:19	05/06/17 16:14	1
2,4,5-Trichlorophenol	ND		1.0	0.12	ug/L		05/04/17 09:19	05/06/17 16:14	1
2,4,6-Trichlorophenol	ND		1.0	0.30	ug/L		05/04/17 09:19	05/06/17 16:14	1
Benzoic acid	ND		5.0	1.6	ug/L		05/04/17 09:19	05/06/17 16:14	1
Benzyl alcohol	ND		1.0	0.20	ug/L		05/04/17 09:19	05/06/17 16:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*55*		*24 - 100*	*05/04/17 09:19*	*05/06/17 16:14*	*1*
2-Fluorophenol (Surr)	*60*		*20 - 100*	*05/04/17 09:19*	*05/06/17 16:14*	*1*
Nitrobenzene-d5 (Surr)	*65*		*25 - 105*	*05/04/17 09:19*	*05/06/17 16:14*	*1*
Phenol-d5 (Surr)	*59*		*21 - 100*	*05/04/17 09:19*	*05/06/17 16:14*	*1*
Terphenyl-d14 (Surr)	*55*		*20 - 124*	*05/04/17 09:19*	*05/06/17 16:14*	*1*
2,4,6-Tribromophenol (Surr)	*48*		*22 - 118*	*05/04/17 09:19*	*05/06/17 16:14*	*1*

Lab Sample ID: LCS 180-210177/2-A
Matrix: Water
Analysis Batch: 210324

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 210177

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	20.0	12.4		ug/L		62	49 - 100
Acenaphthylene	20.0	11.5		ug/L		57	51 - 100
Anthracene	20.0	13.2		ug/L		66	53 - 100

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

Lab Sample ID: LCS 180-210177/2-A
Matrix: Water
Analysis Batch: 210324

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 210177

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	20.0	12.7		ug/L		64	52 - 100
Benzo[a]pyrene	20.0	14.2		ug/L		71	51 - 100
Benzo[b]fluoranthene	20.0	14.1		ug/L		70	49 - 100
Benzo[g,h,i]perylene	20.0	13.1		ug/L		65	47 - 100
Benzo[k]fluoranthene	20.0	14.5		ug/L		72	49 - 100
Bis(2-chloroethoxy)methane	20.0	14.9		ug/L		74	49 - 100
Bis(2-chloroethyl)ether	20.0	15.0		ug/L		75	46 - 100
bis(chloroisopropyl) ether	20.0	17.2		ug/L		86	37 - 100
Bis(2-ethylhexyl) phthalate	20.0	13.8		ug/L		69	51 - 100
4-Bromophenyl phenyl ether	20.0	14.1		ug/L		70	53 - 100
Butyl benzyl phthalate	20.0	13.3		ug/L		67	50 - 100
4-Chloroaniline	20.0	12.8		ug/L		64	48 - 100
4-Chloro-3-methylphenol	20.0	14.3		ug/L		72	51 - 100
2-Chloronaphthalene	20.0	12.9		ug/L		65	50 - 100
2-Chlorophenol	20.0	13.0		ug/L		65	49 - 100
4-Chlorophenyl phenyl ether	20.0	12.8		ug/L		64	51 - 100
Chrysene	20.0	12.5		ug/L		62	51 - 100
Dibenz(a,h)anthracene	20.0	13.2		ug/L		66	49 - 100
Dibenzofuran	20.0	12.7		ug/L		64	50 - 100
1,2-Dichlorobenzene	20.0	13.7		ug/L		68	46 - 100
1,3-Dichlorobenzene	20.0	13.6		ug/L		68	45 - 100
1,4-Dichlorobenzene	20.0	13.6		ug/L		68	45 - 100
3,3'-Dichlorobenzidine	20.0	14.6		ug/L		73	42 - 100
2,4-Dichlorophenol	20.0	14.6		ug/L		73	52 - 100
Diethyl phthalate	20.0	13.5		ug/L		67	47 - 100
2,4-Dimethylphenol	20.0	15.0		ug/L		75	50 - 100
Dimethyl phthalate	20.0	13.5		ug/L		68	51 - 100
Di-n-butyl phthalate	20.0	13.3		ug/L		66	51 - 100
4,6-Dinitro-2-methylphenol	40.0	23.5		ug/L		59	50 - 100
2,4-Dinitrophenol	40.0	22.5		ug/L		56	40 - 102
2,4-Dinitrotoluene	20.0	14.0		ug/L		70	52 - 100
2,6-Dinitrotoluene	20.0	13.4		ug/L		67	54 - 100
Di-n-octyl phthalate	20.0	12.9		ug/L		64	48 - 100
Fluoranthene	20.0	14.5		ug/L		72	50 - 100
Fluorene	20.0	12.8		ug/L		64	50 - 100
Hexachlorobenzene	20.0	13.4		ug/L		67	51 - 100
Hexachlorobutadiene	20.0	15.1		ug/L		75	46 - 100
Hexachlorocyclopentadiene	20.0	11.4		ug/L		57	43 - 100
Hexachloroethane	20.0	13.9		ug/L		69	45 - 100
Indeno[1,2,3-cd]pyrene	20.0	13.6		ug/L		68	48 - 100
Isophorone	20.0	14.7		ug/L		74	48 - 100
1-Methylnaphthalene	20.0	13.0		ug/L		65	50 - 100
2-Methylnaphthalene	20.0	12.6		ug/L		63	49 - 100
2-Methylphenol	20.0	12.9		ug/L		64	48 - 100
Methylphenol, 3 & 4	20.0	13.1		ug/L		65	49 - 100
2-Nitroaniline	20.0	15.7		ug/L		78	47 - 102
3-Nitroaniline	20.0	12.5		ug/L		63	50 - 100
4-Nitroaniline	20.0	12.5		ug/L		62	43 - 101

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

Lab Sample ID: LCS 180-210177/2-A
Matrix: Water
Analysis Batch: 210324

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 210177

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrobenzene	20.0	17.2		ug/L		86	47 - 100
2-Nitrophenol	20.0	13.2		ug/L		66	52 - 100
4-Nitrophenol	40.0	33.5		ug/L		84	37 - 117
N-Nitrosodi-n-propylamine	20.0	14.4		ug/L		72	47 - 100
N-Nitrosodiphenylamine	20.0	12.5		ug/L		62	51 - 100
Pentachlorophenol	40.0	25.4		ug/L		64	41 - 100
Phenanthrene	20.0	13.4		ug/L		67	51 - 100
Phenol	20.0	14.4		ug/L		72	47 - 100
Pyrene	20.0	13.3		ug/L		66	49 - 100
2,3,4,6-Tetrachlorophenol	20.0	13.6		ug/L		68	50 - 100
1,2,4-Trichlorobenzene	20.0	14.5		ug/L		72	48 - 100
2,4,5-Trichlorophenol	20.0	14.2		ug/L		71	52 - 100
2,4,6-Trichlorophenol	20.0	14.1		ug/L		70	53 - 100
Benzoic acid	20.0	12.3		ug/L		62	34 - 104
Benzyl alcohol	20.0	14.2		ug/L		71	44 - 100

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*56*		*24 - 100*
2-Fluorophenol (Surr)	*67*		*20 - 100*
Nitrobenzene-d5 (Surr)	*73*		*25 - 105*
Phenol-d5 (Surr)	*65*		*21 - 100*
Terphenyl-d14 (Surr)	*57*		*20 - 124*
2,4,6-Tribromophenol (Surr)	*56*		*22 - 118*

Lab Sample ID: LCSD 180-210177/3-A
Matrix: Water
Analysis Batch: 210324

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 210177

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	20.0	11.0		ug/L		55	49 - 100	12	15
Acenaphthylene	20.0	10.3		ug/L		52	51 - 100	11	15
Anthracene	20.0	11.8		ug/L		59	53 - 100	11	15
Benzo[a]anthracene	20.0	11.4		ug/L		57	52 - 100	11	15
Benzo[a]pyrene	20.0	12.5		ug/L		63	51 - 100	12	15
Benzo[b]fluoranthene	20.0	12.0	*	ug/L		60	49 - 100	16	15
Benzo[g,h,i]perylene	20.0	11.4		ug/L		57	47 - 100	14	15
Benzo[k]fluoranthene	20.0	13.0		ug/L		65	49 - 100	11	15
Bis(2-chloroethoxy)methane	20.0	13.2		ug/L		66	49 - 100	12	15
Bis(2-chloroethyl)ether	20.0	13.4		ug/L		67	46 - 100	11	15
bis(chloroisopropyl) ether	20.0	15.1		ug/L		75	37 - 100	13	15
Bis(2-ethylhexyl) phthalate	20.0	12.4		ug/L		62	51 - 100	11	15
4-Bromophenyl phenyl ether	20.0	12.7		ug/L		63	53 - 100	10	15
Butyl benzyl phthalate	20.0	12.0		ug/L		60	50 - 100	10	15
4-Chloroaniline	20.0	11.5		ug/L		58	48 - 100	11	15
4-Chloro-3-methylphenol	20.0	12.6		ug/L		63	51 - 100	13	15
2-Chloronaphthalene	20.0	11.7		ug/L		59	50 - 100	10	15
2-Chlorophenol	20.0	11.6		ug/L		58	49 - 100	12	15
4-Chlorophenyl phenyl ether	20.0	11.4		ug/L		57	51 - 100	11	15

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

Lab Sample ID: LCSD 180-210177/3-A
Matrix: Water
Analysis Batch: 210324

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 210177

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chrysene	20.0	11.3		ug/L		56	51 - 100	10	15
Dibenz(a,h)anthracene	20.0	11.5		ug/L		57	49 - 100	14	15
Dibenzofuran	20.0	11.4		ug/L		57	50 - 100	11	15
1,2-Dichlorobenzene	20.0	12.4		ug/L		62	46 - 100	10	15
1,3-Dichlorobenzene	20.0	12.3		ug/L		62	45 - 100	10	15
1,4-Dichlorobenzene	20.0	12.2		ug/L		61	45 - 100	11	15
3,3'-Dichlorobenzidine	20.0	13.1		ug/L		65	42 - 100	11	15
2,4-Dichlorophenol	20.0	13.2		ug/L		66	52 - 100	10	15
Diethyl phthalate	20.0	11.6		ug/L		58	47 - 100	15	15
2,4-Dimethylphenol	20.0	13.3		ug/L		66	50 - 100	12	15
Dimethyl phthalate	20.0	12.2		ug/L		61	51 - 100	10	15
Di-n-butyl phthalate	20.0	11.7		ug/L		58	51 - 100	13	15
4,6-Dinitro-2-methylphenol	40.0	22.5		ug/L		56	50 - 100	4	15
2,4-Dinitrophenol	40.0	20.4		ug/L		51	40 - 102	10	18
2,4-Dinitrotoluene	20.0	12.4		ug/L		62	52 - 100	12	15
2,6-Dinitrotoluene	20.0	12.3		ug/L		61	54 - 100	9	15
Di-n-octyl phthalate	20.0	11.4		ug/L		57	48 - 100	12	15
Fluoranthene	20.0	12.8		ug/L		64	50 - 100	12	15
Fluorene	20.0	11.1		ug/L		55	50 - 100	14	15
Hexachlorobenzene	20.0	12.1		ug/L		61	51 - 100	10	15
Hexachlorobutadiene	20.0	13.3		ug/L		67	46 - 100	12	15
Hexachlorocyclopentadiene	20.0	10.4		ug/L		52	43 - 100	9	15
Hexachloroethane	20.0	12.4		ug/L		62	45 - 100	11	15
Indeno[1,2,3-cd]pyrene	20.0	11.8		ug/L		59	48 - 100	14	15
Isophorone	20.0	13.2		ug/L		66	48 - 100	11	15
1-Methylnaphthalene	20.0	11.7		ug/L		59	50 - 100	10	15
2-Methylnaphthalene	20.0	11.3		ug/L		56	49 - 100	11	15
2-Methylphenol	20.0	11.8		ug/L		59	48 - 100	9	15
Methylphenol, 3 & 4	20.0	11.5		ug/L		58	49 - 100	13	15
2-Nitroaniline	20.0	13.9		ug/L		69	47 - 102	12	15
3-Nitroaniline	20.0	11.2		ug/L		56	50 - 100	11	15
4-Nitroaniline	20.0	11.4		ug/L		57	43 - 101	9	15
Nitrobenzene	20.0	15.3		ug/L		77	47 - 100	11	15
2-Nitrophenol	20.0	12.0		ug/L		60	52 - 100	9	15
4-Nitrophenol	40.0	28.3	*	ug/L		71	37 - 117	17	15
N-Nitrosodi-n-propylamine	20.0	12.9		ug/L		64	47 - 100	11	15
N-Nitrosodiphenylamine	20.0	11.4		ug/L		57	51 - 100	9	15
Pentachlorophenol	40.0	23.1		ug/L		58	41 - 100	10	15
Phenanthrene	20.0	11.9		ug/L		59	51 - 100	12	15
Phenol	20.0	12.7		ug/L		63	47 - 100	13	15
Pyrene	20.0	12.0		ug/L		60	49 - 100	10	15
2,3,4,6-Tetrachlorophenol	20.0	12.2		ug/L		61	50 - 100	12	15
1,2,4-Trichlorobenzene	20.0	13.0		ug/L		65	48 - 100	11	15
2,4,5-Trichlorophenol	20.0	12.5		ug/L		62	52 - 100	13	15
2,4,6-Trichlorophenol	20.0	12.7		ug/L		64	53 - 100	10	15
Benzoic acid	20.0	11.6		ug/L		58	34 - 104	6	17
Benzyl alcohol	20.0	12.6		ug/L		63	44 - 100	11	15

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

Lab Sample ID: LCSD 180-210177/3-A
Matrix: Water
Analysis Batch: 210324

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 210177

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*51*		*24 - 100*
2-Fluorophenol (Surr)	*58*		*20 - 100*
Nitrobenzene-d5 (Surr)	*65*		*25 - 105*
Phenol-d5 (Surr)	*58*		*21 - 100*
Terphenyl-d14 (Surr)	*51*		*20 - 124*
2,4,6-Tribromophenol (Surr)	*49*		*22 - 118*

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

Lab Sample ID: MB 140-10937/13-A
Matrix: Water
Analysis Batch: 10968

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 10937

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	0.54	pg/L		05/01/17 15:01	05/03/17 01:54	1
Total TCDD	ND		10	0.54	pg/L		05/01/17 15:01	05/03/17 01:54	1
1,2,3,7,8-PeCDD	1.69	J q	50	0.82	pg/L		05/01/17 15:01	05/03/17 01:54	1
Total PeCDD	3.40	J q	50	0.82	pg/L		05/01/17 15:01	05/03/17 01:54	1
1,2,3,4,7,8-HxCDD	3.88	J	50	0.20	pg/L		05/01/17 15:01	05/03/17 01:54	1
1,2,3,6,7,8-HxCDD	4.28	J	50	0.21	pg/L		05/01/17 15:01	05/03/17 01:54	1
1,2,3,7,8,9-HxCDD	4.49	J	50	0.19	pg/L		05/01/17 15:01	05/03/17 01:54	1
Total HxCDD	25.1	J q	50	0.20	pg/L		05/01/17 15:01	05/03/17 01:54	1
1,2,3,4,6,7,8-HpCDD	6.63	J	50	0.53	pg/L		05/01/17 15:01	05/03/17 01:54	1
Total HpCDD	9.75	J	50	0.53	pg/L		05/01/17 15:01	05/03/17 01:54	1
OCDD	17.1	J	100	0.31	pg/L		05/01/17 15:01	05/03/17 01:54	1
2,3,7,8-TCDF	ND		10	0.34	pg/L		05/01/17 15:01	05/03/17 01:54	1
Total TCDF	ND		10	0.34	pg/L		05/01/17 15:01	05/03/17 01:54	1
1,2,3,7,8-PeCDF	ND		50	1.0	pg/L		05/01/17 15:01	05/03/17 01:54	1
2,3,4,7,8-PeCDF	2.85	J	50	0.92	pg/L		05/01/17 15:01	05/03/17 01:54	1
Total PeCDF	2.85	J	50	0.97	pg/L		05/01/17 15:01	05/03/17 01:54	1
1,2,3,4,7,8-HxCDF	3.05	J q	50	0.20	pg/L		05/01/17 15:01	05/03/17 01:54	1
1,2,3,6,7,8-HxCDF	3.42	J	50	0.20	pg/L		05/01/17 15:01	05/03/17 01:54	1
2,3,4,6,7,8-HxCDF	4.31	J q	50	0.22	pg/L		05/01/17 15:01	05/03/17 01:54	1
1,2,3,7,8,9-HxCDF	4.99	J q	50	0.26	pg/L		05/01/17 15:01	05/03/17 01:54	1
Total HxCDF	19.0	J q	50	0.22	pg/L		05/01/17 15:01	05/03/17 01:54	1
1,2,3,4,6,7,8-HpCDF	6.34	J	50	0.14	pg/L		05/01/17 15:01	05/03/17 01:54	1
1,2,3,4,7,8,9-HpCDF	6.28	J	50	0.19	pg/L		05/01/17 15:01	05/03/17 01:54	1
Total HpCDF	12.6	J	50	0.16	pg/L		05/01/17 15:01	05/03/17 01:54	1
OCDF	14.8	J	100	0.13	pg/L		05/01/17 15:01	05/03/17 01:54	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*88*		*40 - 135*	*05/01/17 15:01*	*05/03/17 01:54*	*1*
13C-1,2,3,7,8-PeCDD	*91*		*40 - 135*	*05/01/17 15:01*	*05/03/17 01:54*	*1*
13C-1,2,3,4,7,8-HxCDD	*86*		*40 - 135*	*05/01/17 15:01*	*05/03/17 01:54*	*1*
13C-1,2,3,6,7,8-HxCDD	*81*		*40 - 135*	*05/01/17 15:01*	*05/03/17 01:54*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*87*		*40 - 135*	*05/01/17 15:01*	*05/03/17 01:54*	*1*
13C-OCDD	*80*		*40 - 135*	*05/01/17 15:01*	*05/03/17 01:54*	*1*
13C-2,3,7,8-TCDF	*88*		*40 - 135*	*05/01/17 15:01*	*05/03/17 01:54*	*1*

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

Lab Sample ID: MB 140-10937/13-A
Matrix: Water
Analysis Batch: 10968

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 10937

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	88		40 - 135	05/01/17 15:01	05/03/17 01:54	1
13C-2,3,4,7,8-PeCDF	88		40 - 135	05/01/17 15:01	05/03/17 01:54	1
13C-1,2,3,4,7,8-HxCDF	84		40 - 135	05/01/17 15:01	05/03/17 01:54	1
13C-1,2,3,6,7,8-HxCDF	77		40 - 135	05/01/17 15:01	05/03/17 01:54	1
13C-2,3,4,6,7,8-HxCDF	82		40 - 135	05/01/17 15:01	05/03/17 01:54	1
13C-1,2,3,7,8,9-HxCDF	83		40 - 135	05/01/17 15:01	05/03/17 01:54	1
13C-1,2,3,4,6,7,8-HpCDF	74		40 - 135	05/01/17 15:01	05/03/17 01:54	1
13C-1,2,3,4,7,8,9-HpCDF	79		40 - 135	05/01/17 15:01	05/03/17 01:54	1
13C-OCDF	75		40 - 135	05/01/17 15:01	05/03/17 01:54	1

Lab Sample ID: LCS 140-10937/14-A
Matrix: Water
Analysis Batch: 10968

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 10937

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	200	187		pg/L		93	77 - 127
1,2,3,7,8-PeCDD	1000	952		pg/L		95	78 - 128
1,2,3,4,7,8-HxCDD	1000	958		pg/L		96	73 - 123
1,2,3,6,7,8-HxCDD	1000	935		pg/L		93	72 - 127
1,2,3,7,8,9-HxCDD	1000	1030		pg/L		103	76 - 126
1,2,3,4,6,7,8-HpCDD	1000	910		pg/L		91	73 - 123
OCDD	2000	1820		pg/L		91	75 - 125
2,3,7,8-TCDF	200	197		pg/L		98	74 - 124
1,2,3,7,8-PeCDF	1000	886		pg/L		89	74 - 124
2,3,4,7,8-PeCDF	1000	941		pg/L		94	74 - 124
1,2,3,4,7,8-HxCDF	1000	933		pg/L		93	75 - 125
1,2,3,6,7,8-HxCDF	1000	898		pg/L		90	75 - 125
2,3,4,6,7,8-HxCDF	1000	913		pg/L		91	76 - 126
1,2,3,7,8,9-HxCDF	1000	925		pg/L		93	76 - 126
1,2,3,4,6,7,8-HpCDF	1000	949		pg/L		95	71 - 121
1,2,3,4,7,8,9-HpCDF	1000	939		pg/L		94	73 - 123
OCDF	2000	1700		pg/L		85	68 - 132

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	79		40 - 135
13C-1,2,3,7,8-PeCDD	83		40 - 135
13C-1,2,3,4,7,8-HxCDD	78		40 - 135
13C-1,2,3,6,7,8-HxCDD	76		40 - 135
13C-1,2,3,4,6,7,8-HpCDD	86		40 - 135
13C-OCDD	79		40 - 135
13C-2,3,7,8-TCDF	77		40 - 135
13C-1,2,3,7,8-PeCDF	80		40 - 135
13C-2,3,4,7,8-PeCDF	79		40 - 135
13C-1,2,3,4,7,8-HxCDF	79		40 - 135
13C-1,2,3,6,7,8-HxCDF	75		40 - 135
13C-2,3,4,6,7,8-HxCDF	76		40 - 135
13C-1,2,3,7,8,9-HxCDF	79		40 - 135
13C-1,2,3,4,6,7,8-HpCDF	72		40 - 135

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

Lab Sample ID: LCS 140-10937/14-A
Matrix: Water
Analysis Batch: 10968

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 10937

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,4,7,8,9-HpCDF	78		40 - 135
13C-OCDF	77		40 - 135

GC/MS VOA

Analysis Batch: 277838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-65736-1	SUPE-TB-02-042717	Total/NA	Water	8260C	
180-65736-2	SUPE-W-28C-042717	Total/NA	Water	8260C	
180-65736-3	SUPE-W-12CR-042717	Total/NA	Water	8260C	
180-65736-4	SUPE-W-30A-042717	Total/NA	Water	8260C	
180-65736-5	SUPE-W-10AR2-042717	Total/NA	Water	8260C	
180-65736-6	SUPE-EB-02-042717	Total/NA	Water	8260C	
180-65736-7	SUPE-M-99A-042717	Total/NA	Water	8260C	
180-65736-8	SUPE-TB-01-042617	Total/NA	Water	8260C	
180-65736-9	SUPE-W-30C-042617	Total/NA	Water	8260C	
180-65736-10	SUPE-EB-01-042617	Total/NA	Water	8260C	
180-65736-11	SUPE-W-06A-042717	Total/NA	Water	8260C	
180-65736-12	SUPE-W-06C-042717	Total/NA	Water	8260C	
180-65736-13	SUPE-W-12A-042717	Total/NA	Water	8260C	
MB 240-277838/7	Method Blank	Total/NA	Water	8260C	
LCS 240-277838/4	Lab Control Sample	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 210043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-65736-9	SUPE-W-30C-042617	Total/NA	Water	3520C	
180-65736-10	SUPE-EB-01-042617	Total/NA	Water	3520C	
180-65736-14	SUPE-W-18D-042617	Total/NA	Water	3520C	
MB 180-210043/1-A	Method Blank	Total/NA	Water	3520C	
LCS 180-210043/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 180-210043/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Prep Batch: 210177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-65736-2	SUPE-W-28C-042717	Total/NA	Water	3520C	
180-65736-3	SUPE-W-12CR-042717	Total/NA	Water	3520C	
180-65736-4	SUPE-W-30A-042717	Total/NA	Water	3520C	
180-65736-5	SUPE-W-10AR2-042717	Total/NA	Water	3520C	
180-65736-6	SUPE-EB-02-042717	Total/NA	Water	3520C	
180-65736-7	SUPE-M-99A-042717	Total/NA	Water	3520C	
180-65736-11	SUPE-W-06A-042717	Total/NA	Water	3520C	
180-65736-12	SUPE-W-06C-042717	Total/NA	Water	3520C	
180-65736-13	SUPE-W-12A-042717	Total/NA	Water	3520C	
MB 180-210177/1-A	Method Blank	Total/NA	Water	3520C	
LCS 180-210177/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 180-210177/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 210324

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-65736-2	SUPE-W-28C-042717	Total/NA	Water	8270D LL	210177
180-65736-3	SUPE-W-12CR-042717	Total/NA	Water	8270D LL	210177
180-65736-4	SUPE-W-30A-042717	Total/NA	Water	8270D LL	210177
180-65736-5	SUPE-W-10AR2-042717	Total/NA	Water	8270D LL	210177
180-65736-6	SUPE-EB-02-042717	Total/NA	Water	8270D LL	210177
180-65736-7	SUPE-M-99A-042717	Total/NA	Water	8270D LL	210177

GC/MS Semi VOA (Continued)

Analysis Batch: 210324 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-65736-11	SUPE-W-06A-042717	Total/NA	Water	8270D LL	210177
180-65736-12	SUPE-W-06C-042717	Total/NA	Water	8270D LL	210177
180-65736-13	SUPE-W-12A-042717	Total/NA	Water	8270D LL	210177
MB 180-210177/1-A	Method Blank	Total/NA	Water	8270D LL	210177
LCS 180-210177/2-A	Lab Control Sample	Total/NA	Water	8270D LL	210177
LCSD 180-210177/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	210177

Analysis Batch: 210409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-210043/1-A	Method Blank	Total/NA	Water	8270D LL	210043
LCS 180-210043/2-A	Lab Control Sample	Total/NA	Water	8270D LL	210043
LCSD 180-210043/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	210043

Analysis Batch: 210526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-65736-9	SUPE-W-30C-042617	Total/NA	Water	8270D LL	210043
180-65736-10	SUPE-EB-01-042617	Total/NA	Water	8270D LL	210043
180-65736-14	SUPE-W-18D-042617	Total/NA	Water	8270D LL	210043

Specialty Organics

Prep Batch: 10937

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-65736-2	SUPE-W-28C-042717	Total/NA	Water	8290	
180-65736-3	SUPE-W-12CR-042717	Total/NA	Water	8290	
180-65736-4	SUPE-W-30A-042717	Total/NA	Water	8290	
180-65736-5	SUPE-W-10AR2-042717	Total/NA	Water	8290	
180-65736-6	SUPE-EB-02-042717	Total/NA	Water	8290	
180-65736-7	SUPE-M-99A-042717	Total/NA	Water	8290	
180-65736-9	SUPE-W-30C-042617	Total/NA	Water	8290	
180-65736-10	SUPE-EB-01-042617	Total/NA	Water	8290	
180-65736-11	SUPE-W-06A-042717	Total/NA	Water	8290	
180-65736-12	SUPE-W-06C-042717	Total/NA	Water	8290	
180-65736-13	SUPE-W-12A-042717	Total/NA	Water	8290	
MB 140-10937/13-A	Method Blank	Total/NA	Water	8290	
LCS 140-10937/14-A	Lab Control Sample	Total/NA	Water	8290	

Analysis Batch: 10968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-65736-2	SUPE-W-28C-042717	Total/NA	Water	8290	10937
180-65736-3	SUPE-W-12CR-042717	Total/NA	Water	8290	10937
180-65736-4	SUPE-W-30A-042717	Total/NA	Water	8290	10937
180-65736-5	SUPE-W-10AR2-042717	Total/NA	Water	8290	10937
180-65736-6	SUPE-EB-02-042717	Total/NA	Water	8290	10937
MB 140-10937/13-A	Method Blank	Total/NA	Water	8290	10937
LCS 140-10937/14-A	Lab Control Sample	Total/NA	Water	8290	10937

Analysis Batch: 10980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-65736-7	SUPE-M-99A-042717	Total/NA	Water	8290	10937

Specialty Organics (Continued)

Analysis Batch: 10980 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-65736-9	SUPE-W-30C-042617	Total/NA	Water	8290	10937
180-65736-10	SUPE-EB-01-042617	Total/NA	Water	8290	10937
180-65736-11	SUPE-W-06A-042717	Total/NA	Water	8290	10937
180-65736-12	SUPE-W-06C-042717	Total/NA	Water	8290	10937
180-65736-13	SUPE-W-12A-042717	Total/NA	Water	8290	10937

CHAIN OF CUSTODY RECORD/LAB REQUEST FOR

180-65736 Chain of Custody

REF.# 33

33

Project Name:	Superior 2017 1SA Sampling	Company:	Field & Technical Services	Client:	Beazer East, Inc.
Project Number:	OM-0556-17	Address:	200 Third Avenue	Contact:	(724) 554-4421
Laboratory:	TAPIT		Carnegie, PA 15106		nbachik.2006@f-ts.com
Shipment Method	FEDEX		(412) 279-3363		
Program:	Superior 2017 1SA Sampling_001				

Sample Date	Sample Time	Matrix	Sample Identification	Analysis	8260B_VOA+naphtha	8270C_SVOC (less naphtha)															
				Preservative	HCL	None															
				Total Bottle Count																	Notes:
04/27/2017	0910	GW	SUPE-TB-02-042717	1	1	0															
04/27/2017	0910	GW	SUPE-W-28C-042717	5	3	2															
04/27/2017	1112	GW	SUPE-W-12CR-042717	5	3	2															
04/27/2017	1243	GW	SUPE-W-30A-042717	5	3	2															
04/27/2017	1451	GW	SUPE-W-10AR2-042717	5	3	2															
04/27/2017	1556	GW	SUPE-EB-02-042717	5	3	2															
04/27/2017	2100	GW	SUPE-M-99A-042717	5	3	2															

Relinquished by:	Received by:	Relinquished by:	Received by:	Turnaround Requirements
Signature: Nathan Bachik	Signature: Debbie Watson	Signature:	Signature:	☐ Rush
Printed Name: Nathan Bachik	Printed Name: Debbie Watson	Printed Name:	Printed Name:	
Firm: FTS	Firm: TAP	Firm	Firm	☒ Standard
Date/Time: 04/27/2017 1625	Date/Time: 4-28-17 9:00	Date/Time:	Date/Time:	

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CHAIN OF CUSTODY RECORD/LABORATORY ANALYSIS REQUEST FORM

REF.# 101524

Project Name:	Superior 2017 1SA Sampling	Company:	Field & Technical Services	Client:	Beazer East, Inc.
Project Number:	OM-0556-17	Address:	200 Third Avenue	Contact:	(724) 207-0014
Laboratory:	TAPIT		Carnegie, PA 15106		jlexie.2006@f-ts.com
Shipment Method	FEDEX		(412) 279-3363		
Program:	Superior 2017 1SA Sampling_001				

Sample Date	Sample Time	Matrix	Sample Identification	Analysis	8260B_VOA+naphtha	8270C_SVOC (less naphtha)														
				Preservative	HCL	None														
				Total Bottle Count																Notes:
04/26/2017	0000	GW	SUPE-TB-01-042617	2	2	0														
04/26/2017	1638	GW	SUPE-W-30C-042617	5	3	2														
04/26/2017	1715	GW	SUPE-EB-01-042617	5	3	2														

Relinquished by:	Received by:	Relinquished by:	Received by:	Turnaround Requirements
Signature:	Signature: Debbie Watson	Signature:	Signature:	☐ Rush
Printed Name: Jena Lexie	Printed Name: Debbie Watson	Printed Name:	Printed Name:	
Firm FTS	Firm TAP	Firm	Firm	☒ Standard
Date/Time: 04/26/2017 1726	Date/Time: 4-28-17 9:00	Date/Time:	Date/Time:	

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CHAIN OF CUSTODY RECORD/LABORATORY ANALYSIS REQUEST FORM

REF.# 101527

[redacted]

Project Name:	Superior 2017 1SA Sampling	Company:	Field & Technical Services	Client:	Beazer East, Inc.
Project Number:	OM-0556-17	Address:	200 Third Avenue	Contact:	(724) 207-0014
Laboratory:	TAPIT		Carnegie, PA 15106		jlexie.2006@f-ts.com
Shipment Method	FEDEX		(412) 279-3363		
Program:	Superior 2017 1SA Sampling_001				

Sample Date	Sample Time	Matrix	Sample Identification	Analysis	8260B_VOA+naphtha	8270C_SVOC (less naphtha)															
				Preservative	HCL	None															
				Total Bottle Count																	Notes:
04/27/2017	1004	GW	SUPE-W-06A-042717	5	3	2															
04/27/2017	1243	GW	SUPE-W-06C-042717	5	3	2															
04/27/2017	1505	GW	SUPE-W-12A-042717	5	3	2															

Relinquished by:	Received by:	Relinquished by:	Received by:	Turnaround Requirements
Signature:	Signature: Debbie Watson	Signature:	Signature:	☐ Rush
Printed Name: Jena Lexie	Printed Name: Debbie Watson	Printed Name:	Printed Name:	
Firm FTS	Firm TAP	Firm	Firm	☒ Standard
Date/Time: 04/27/2017 1622	Date/Time: 4-28-17 9:00	Date/Time:	Date/Time:	

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CHAIN OF CUSTODY RECORD/LABORATORY ANALYSIS REQUEST FORM

REF.# 30

30

Project Name:	Superior 2017 1SA Sampling	Company:	Field & Technical Services	Client:	Beazer East, Inc.
Project Number:	OM-0556-17	Address:	200 Third Avenue	Contact:	(724) 554-4421
Laboratory:	TAPIT		Carnegie, PA 15106		nbachik.2006@f-ts.com
Shipment Method	FEDEX		(412) 279-3363		
Program:	Superior 2017 1SA Sampling_001				

Sample Date	Sample Time	Matrix	Sample Identification	Analysis	8270C_SVOC+naphtha																Notes:
				Preservative	None																
				Total Bottle Count																	
04/26/2017	1642	GW	SUPE-W-18D-042617	2	2																

Relinquished by:	Received by:	Relinquished by:	Received by:	Turnaround Requirements
Signature: Nathan Bachik	Signature: Debbie Watson	Signature:	Signature:	[ ] Rush
Printed Name: Nathan Bachik	Printed Name: Debbie Watson	Printed Name:	Printed Name:	
Firm: FTS	Firm: TAP	Firm	Firm	[X] Standard
Date/Time: 04/26/2017 1714	Date/Time: 4-28-17 9:00	Date/Time:	Date/Time:	

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CHAIN OF CUSTODY RECORD/LABORATORY ANALYSIS REQUEST FORM

FTS Field & Technical Services, LLC

REF.# 34

34

Project Name:	Superior 2017 1SA Sampling	Company:	Field & Technical Services	Client:	Beazer East, Inc.
Project Number:	OM-0556-17	Address:	200 Third Avenue	Contact:	(724) 554-4421
Laboratory:	TAKNOX		Carnegie, PA 15106		nbachik.2006@f-ts.com
Shipment Method	FEDEX		(412) 279-3363		
Program:	Superior 2017 1SA Sampling_001				

Sample Date	Sample Time	Matrix	Sample Identification	Analysis / Preservative / Total Bottle Count	8290_Dioxins/Furans (None)	Notes:
04/27/2017	0910	GW	SUPE-W-28C-042717	2	2	
04/27/2017	1112	GW	SUPE-W-12CR-042717	2	2	
04/27/2017	1243	GW	SUPE-W-30A-042717	2	2	
04/27/2017	1451	GW	SUPE-W-10AR2-042717	2	2	
04/27/2017	1556	GW	SUPE-EB-02-042717	2	2	
04/27/2017	2100	GW	SUPE-M-99A-042717	2	2	

CUSTODY SEALS INTACT
RECEIVED AT RT 0.1, 0.8 / 0.1, 0.8°C
RXD 4.28.17
2 COOLERS FEDX # 7863 8651 1363
7863 8650 5254

Relinquished by:	Received by:	Relinquished by:	Received by:	Turnaround Requirements
Signature: [signature]	Signature: [signature]	Signature:	Signature:	[ ] Rush
Printed Name: Nathan Bachik	Printed Name: BRYAN DAMERON	Printed Name:	Printed Name:	
Firm: FTS	Firm: TA KNOX	Firm:	Firm:	[X] Standard
Date/Time: 04/27/2017 1625	Date/Time: 4.28.17 10:00	Date/Time:	Date/Time:	

Page 1 of 1

CHAIN OF CUSTODY RECORD/LABORATORY ANALYSIS REQUEST FORM

REF.# 101526

Project Name:	Superior 2017 1SA Sampling	Company:	Field & Technical Services	Client:	Beazer East, Inc.
Project Number:	OM-0556-17	Address:	200 Third Avenue	Contact:	(724) 207-0014
Laboratory:	TAKNOX		Carnegie, PA 15106		jlexie.2006@f-ts.com
Shipment Method	FEDEX		(412) 279-3363		
Program:	Superior 2017 1SA Sampling_001				

Sample Date	Sample Time	Matrix	Sample Identification	Analysis	8290_Dioxins/Furans																Notes:
				Preservative	None																
				Total Bottle Count																	
04/27/2017	1004	GW	SUPE-W-06A-042717	2	2	0															
04/27/2017	1243	GW	SUPE-W-06C-042717	2	2	0															
04/27/2017	1505	GW	SUPE-W-12A-042717	2	2	0															

Relinquished by:	Received by:	Relinquished by:	Received by:	Turnaround Requirements
Signature:	Signature:	Signature:	Signature:	☐ Rush
Printed Name: Jena Lexie	Printed Name:	Printed Name:	Printed Name:	
Firm FTS	Firm TA KNOX	Firm	Firm	☒ Standard
Date/Time: 04/27/2017 1622	Date/Time: 4-28-17 10:00	Date/Time:	Date/Time:	

CHAIN OF CUSTODY RECORD/LABORATORY ANALYSIS REQUEST FORM

REF.# 101523

Project Name:	Superior 2017 1SA Sampling	Company:	Field & Technical Services	Client:	Beazer East, Inc.
Project Number:	OM-0556-17	Address:	200 Third Avenue	Contact:	(724) 207-0014
Laboratory:	TAKNOX		Carnegie, PA 15106		jlexie.2006@f-ts.com
Shipment Method	FEDEX		(412) 279-3363		
Program:	Superior 2017 1SA Sampling_001				

Sample Date	Sample Time	Matrix	Sample Identification	Analysis	8290_Dioxins/Furans																Notes:
				Preservative	None																
				Total Bottle Count																	
04/26/2017	1638	GW	SUPE-W-30C-042617	2	2	0															
04/26/2017	1715	GW	SUPE-EB-01-042617	2	2	0															

Relinquished by:	Received by:	Relinquished by:	Received by:	Turnaround Requirements
Signature:	Signature:	Signature:	Signature:	☐ Rush
Printed Name: Jena Lexie	Printed Name:	Printed Name:	Printed Name:	
Firm FTS	Firm TA KNOX	Firm	Firm	☒ Standard
Date/Time: 04/26/2017 1726	Date/Time: 4-26-17 10:00	Date/Time:	Date/Time:	

Login Sample Receipt Checklist

Client: Field & Technical Services LLC

Job Number: 180-65736-1

Login Number: 65736
List Number: 1
Creator: Watson, Debbie

List Source: TestAmerica Pittsburgh

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	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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

TestAmerica Job ID: 480-125450-1
Client Project/Site: Superior, WI Semiannual Groundwater

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

Attn: Ms. Angie Gatchie

Veronica Bortot

Authorized for release by:
10/26/2017 2:53:22 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, WI Semiannual Groundwater

TestAmerica Job ID: 480-125450-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control 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)

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

TestAmerica Job ID: 480-125450-1

Job ID: 480-125450-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-125450-1

Comments
No additional comments.

Receipt
The samples were received on 10/6/2017 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.6º C, 2.7º C, 3.0º C and 3.0º C.

GC/MS VOA
Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-381807 recovered above the upper control limit for 1,1,1-Trichloroethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: SUPE-W-30C-100417, SUPE-W-06A-100417, SUPE-W-06C-100417, SUPE-W-12A-100417, SUPE-W-30A-100417, SUPE-W-28C-100417, SUPE-W-12CR-100417 and SUPE-W-04AR2-100417.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-381881 recovered above the upper control limit for N-Propylbenzene. The samples associated with this CCV were non-detect for the affected analyte; therefore, the data have been reported. The following samples are impacted: SUPE-W-10AR2-100517 and SUPE-EB-02-100517.

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: The following samples contained one base surrogate outside acceptance limits: SUPE-W-30C-100417 and SUPE-W-12A-100417. The
laboratory's SOP allows one acid and one base surrogate to be outside acceptance limits; therefore, re-extraction was not performed. 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.

Detection Summary

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

TestAmerica Job ID: 480-125450-1

Client Sample ID: SUPE-W-30C-100417 — Lab Sample ID: 480-125450-1

No Detections.

Client Sample ID: SUPE-W-06A-100417 — Lab Sample ID: 480-125450-2

No Detections.

Client Sample ID: SUPE-W-06C-100417 — Lab Sample ID: 480-125450-3

No Detections.

Client Sample ID: SUPE-W-12A-100417 — Lab Sample ID: 480-125450-4

No Detections.

Client Sample ID: SUPE-W-30A-100417 — Lab Sample ID: 480-125450-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	5.4		1.0	0.75	ug/L	1		8260C	Total/NA
Benzene	11		1.0	0.41	ug/L	1		8260C	Total/NA
Ethylbenzene	21		1.0	0.74	ug/L	1		8260C	Total/NA
m-Xylene & p-Xylene	3.3		2.0	0.66	ug/L	1		8260C	Total/NA
Naphthalene	26		1.0	0.43	ug/L	1		8260C	Total/NA
n-Butylbenzene	13		1.0	0.64	ug/L	1		8260C	Total/NA
o-Xylene	5.2		1.0	0.76	ug/L	1		8260C	Total/NA
Toluene	1.6		1.0	0.51	ug/L	1		8260C	Total/NA
Xylenes, Total	8.5		2.0	0.66	ug/L	1		8260C	Total/NA
1-Methylnaphthalene	8.1		1.9	0.48	ug/L	1		8270D	Total/NA
Acenaphthene	28		0.96	0.34	ug/L	1		8270D	Total/NA
Acenaphthylene	0.41	J	0.96	0.31	ug/L	1		8270D	Total/NA
Anthracene	0.86	J	0.96	0.31	ug/L	1		8270D	Total/NA
Benzo[a]pyrene	0.29		0.19	0.054	ug/L	1		8270D	Total/NA
Benzo[b]fluoranthene	0.36		0.19	0.055	ug/L	1		8270D	Total/NA
Benzo[k]fluoranthene	0.23		0.19	0.071	ug/L	1		8270D	Total/NA
Chrysene	0.62		0.48	0.13	ug/L	1		8270D	Total/NA
Dibenzofuran	9.7		1.9	0.33	ug/L	1		8270D	Total/NA
Fluoranthene	3.5		0.96	0.31	ug/L	1		8270D	Total/NA
Fluorene	5.9		0.96	0.36	ug/L	1		8270D	Total/NA
Pyrene	2.8		0.96	0.46	ug/L	1		8270D	Total/NA
Benzo[a]anthracene	0.74		0.19	0.042	ug/L	1		8270D	Total/NA
Phenanthrene	1.3		0.96	0.33	ug/L	1		8270D	Total/NA

Client Sample ID: SUPE-W-18D-100417 — Lab Sample ID: 480-125450-6

No Detections.

Client Sample ID: SUPE-W-28C-100417 — Lab Sample ID: 480-125450-7

No Detections.

Client Sample ID: SUPE-W-12CR-100417 — Lab Sample ID: 480-125450-8

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

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

TestAmerica Job ID: 480-125450-1

Client Sample ID: SUPE-W-04AR2-100417 — Lab Sample ID: 480-125450-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	0.55	J	0.95	0.31	ug/L	1		8270D	Total/NA

Client Sample ID: SUPE-EB-01-100417 — Lab Sample ID: 480-125450-10

No Detections.

Client Sample ID: SUPE-W-99A-100417 — Lab Sample ID: 480-125450-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	0.53	J	0.96	0.31	ug/L	1		8270D	Total/NA
Chrysene	0.16	J	0.48	0.13	ug/L	1		8270D	Total/NA
Fluoranthene	0.38	J	0.96	0.31	ug/L	1		8270D	Total/NA
Benzo[a]anthracene	0.18	J	0.19	0.042	ug/L	1		8270D	Total/NA

Client Sample ID: SUPE-TB-01-100517 — Lab Sample ID: 480-125450-12

No Detections.

Client Sample ID: SUPE-W-10AR2-100517 — Lab Sample ID: 480-125450-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	6.5		1.0	0.75	ug/L	1		8260C	Total/NA
Benzene	16		1.0	0.41	ug/L	1		8260C	Total/NA
Ethylbenzene	33		1.0	0.74	ug/L	1		8260C	Total/NA
m-Xylene & p-Xylene	3.9		2.0	0.66	ug/L	1		8260C	Total/NA
Naphthalene	1.7		1.0	0.43	ug/L	1		8260C	Total/NA
o-Xylene	15		1.0	0.76	ug/L	1		8260C	Total/NA
Toluene	5.0		1.0	0.51	ug/L	1		8260C	Total/NA
Xylenes, Total	19		2.0	0.66	ug/L	1		8260C	Total/NA
1-Methylnaphthalene	23		1.9	0.48	ug/L	1		8270D	Total/NA
Acenaphthene	50		0.96	0.35	ug/L	1		8270D	Total/NA
Acenaphthylene	0.56	J	0.96	0.31	ug/L	1		8270D	Total/NA
Anthracene	0.43	J	0.96	0.31	ug/L	1		8270D	Total/NA
Dibenzofuran	13		1.9	0.34	ug/L	1		8270D	Total/NA
Fluoranthene	1.2		0.96	0.31	ug/L	1		8270D	Total/NA
Fluorene	12		0.96	0.37	ug/L	1		8270D	Total/NA
Pyrene	0.77	J	0.96	0.46	ug/L	1		8270D	Total/NA
Phenanthrene	1.4		0.96	0.34	ug/L	1		8270D	Total/NA

Client Sample ID: SUPE-EB-02-100517 — Lab Sample ID: 480-125450-14

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: SUPE-W-30C-100417

Date Collected: 10/04/17 10:52
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-1

Matrix: Water

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			10/14/17 15:40	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			10/14/17 15:40	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			10/14/17 15:40	1
Benzene	ND		1.0	0.41	ug/L			10/14/17 15:40	1
Chloromethane	ND		1.0	0.35	ug/L			10/14/17 15:40	1
Ethylbenzene	ND		1.0	0.74	ug/L			10/14/17 15:40	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			10/14/17 15:40	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			10/14/17 15:40	1
Naphthalene	ND		1.0	0.43	ug/L			10/14/17 15:40	1
n-Butylbenzene	ND		1.0	0.64	ug/L			10/14/17 15:40	1
N-Propylbenzene	ND		1.0	0.69	ug/L			10/14/17 15:40	1
o-Xylene	ND		1.0	0.76	ug/L			10/14/17 15:40	1
Styrene	ND		1.0	0.73	ug/L			10/14/17 15:40	1
Toluene	ND		1.0	0.51	ug/L			10/14/17 15:40	1
Xylenes, Total	ND		2.0	0.66	ug/L			10/14/17 15:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*10/14/17 15:40*	*1*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*10/14/17 15:40*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 123*		*10/14/17 15:40*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*10/14/17 15:40*	*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		10/11/17 09:07	10/19/17 12:35	1
1,2-Dichlorobenzene	ND		1.9	0.28	ug/L		10/11/17 09:07	10/19/17 12:35	1
1,3-Dichlorobenzene	ND		1.9	0.24	ug/L		10/11/17 09:07	10/19/17 12:35	1
1,4-Dichlorobenzene	ND		1.9	0.26	ug/L		10/11/17 09:07	10/19/17 12:35	1
1-Methylnaphthalene	ND		1.9	0.48	ug/L		10/11/17 09:07	10/19/17 12:35	1
bis(chloroisopropyl) ether	ND		1.9	0.29	ug/L		10/11/17 09:07	10/19/17 12:35	1
2,3,4,6-Tetrachlorophenol	ND		4.8	1.4	ug/L		10/11/17 09:07	10/19/17 12:35	1
2,4,5-Trichlorophenol	ND		9.6	2.2	ug/L		10/11/17 09:07	10/19/17 12:35	1
2,4,6-Trichlorophenol	ND		4.8	1.1	ug/L		10/11/17 09:07	10/19/17 12:35	1
2,4-Dichlorophenol	ND		9.6	2.2	ug/L		10/11/17 09:07	10/19/17 12:35	1
2,4-Dinitrophenol	ND		19	7.1	ug/L		10/11/17 09:07	10/19/17 12:35	1
2,4-Dinitrotoluene	ND		0.96	0.29	ug/L		10/11/17 09:07	10/19/17 12:35	1
2,6-Dinitrotoluene	ND		0.96	0.12	ug/L		10/11/17 09:07	10/19/17 12:35	1
2-Chloronaphthalene	ND		1.9	0.33	ug/L		10/11/17 09:07	10/19/17 12:35	1
2-Chlorophenol	ND		4.8	0.77	ug/L		10/11/17 09:07	10/19/17 12:35	1
2-Methylnaphthalene	ND		1.9	0.12	ug/L		10/11/17 09:07	10/19/17 12:35	1
2-Methylphenol	ND		1.9	0.30	ug/L		10/11/17 09:07	10/19/17 12:35	1
2-Nitroaniline	ND		4.8	1.0	ug/L		10/11/17 09:07	10/19/17 12:35	1
2-Nitrophenol	ND		9.6	2.1	ug/L		10/11/17 09:07	10/19/17 12:35	1
3-Nitroaniline	ND		9.6	2.2	ug/L		10/11/17 09:07	10/19/17 12:35	1
4,6-Dinitro-2-methylphenol	ND		19	4.7	ug/L		10/11/17 09:07	10/19/17 12:35	1
4-Bromophenyl phenyl ether	ND		4.8	0.87	ug/L		10/11/17 09:07	10/19/17 12:35	1
4-Chloro-3-methylphenol	ND		9.6	2.1	ug/L		10/11/17 09:07	10/19/17 12:35	1
4-Chloroaniline	ND		9.6	2.0	ug/L		10/11/17 09:07	10/19/17 12:35	1
4-Chlorophenyl phenyl ether	ND		4.8	0.78	ug/L		10/11/17 09:07	10/19/17 12:35	1
4-Nitroaniline	ND		9.6	3.8	ug/L		10/11/17 09:07	10/19/17 12:35	1

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

TestAmerica Job ID: 480-125450-1

Client Sample ID: SUPE-W-30C-100417
Date Collected: 10/04/17 10:52
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	ND		19	2.2	ug/L		10/11/17 09:07	10/19/17 12:35	1
Acenaphthene	ND		0.96	0.35	ug/L		10/11/17 09:07	10/19/17 12:35	1
Acenaphthylene	ND		0.96	0.31	ug/L		10/11/17 09:07	10/19/17 12:35	1
Anthracene	ND		0.96	0.31	ug/L		10/11/17 09:07	10/19/17 12:35	1
Benzo[a]pyrene	ND		0.19	0.054	ug/L		10/11/17 09:07	10/19/17 12:35	1
Benzo[b]fluoranthene	ND		0.19	0.056	ug/L		10/11/17 09:07	10/19/17 12:35	1
Benzo[g,h,i]perylene	ND		0.96	0.40	ug/L		10/11/17 09:07	10/19/17 12:35	1
Benzo[k]fluoranthene	ND		0.19	0.071	ug/L		10/11/17 09:07	10/19/17 12:35	1
Benzoic acid	ND		19	4.4	ug/L		10/11/17 09:07	10/19/17 12:35	1
Benzyl alcohol	ND		19	2.9	ug/L		10/11/17 09:07	10/19/17 12:35	1
Bis(2-chloroethoxy)methane	ND		1.9	0.29	ug/L		10/11/17 09:07	10/19/17 12:35	1
Bis(2-chloroethyl)ether	ND		1.9	0.34	ug/L		10/11/17 09:07	10/19/17 12:35	1
Bis(2-ethylhexyl) phthalate	ND		9.6	2.3	ug/L		10/11/17 09:07	10/19/17 12:35	1
Butyl benzyl phthalate	ND		1.9	0.26	ug/L		10/11/17 09:07	10/19/17 12:35	1
Chrysene	ND		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 12:35	1
Dibenz(a,h)anthracene	ND		0.29	0.061	ug/L		10/11/17 09:07	10/19/17 12:35	1
Dibenzofuran	ND		1.9	0.34	ug/L		10/11/17 09:07	10/19/17 12:35	1
Diethyl phthalate	ND		1.9	0.42	ug/L		10/11/17 09:07	10/19/17 12:35	1
Dimethyl phthalate	ND		1.9	0.36	ug/L		10/11/17 09:07	10/19/17 12:35	1
Di-n-butyl phthalate	ND		4.8	0.77	ug/L		10/11/17 09:07	10/19/17 12:35	1
Di-n-octyl phthalate	ND		9.6	2.4	ug/L		10/11/17 09:07	10/19/17 12:35	1
2,3,5,6-Tetrachlorophenol	ND		4.8	2.4	ug/L		10/11/17 09:07	10/19/17 12:35	1
Fluoranthene	ND		0.96	0.31	ug/L		10/11/17 09:07	10/19/17 12:35	1
Fluorene	ND		0.96	0.36	ug/L		10/11/17 09:07	10/19/17 12:35	1
Hexachlorobenzene	ND		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 12:35	1
Hexachlorobutadiene	ND		4.8	1.1	ug/L		10/11/17 09:07	10/19/17 12:35	1
Hexachlorocyclopentadiene	ND		19	3.3	ug/L		10/11/17 09:07	10/19/17 12:35	1
Hexachloroethane	ND		4.8	0.93	ug/L		10/11/17 09:07	10/19/17 12:35	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.081	ug/L		10/11/17 09:07	10/19/17 12:35	1
Isophorone	ND		1.9	0.28	ug/L		10/11/17 09:07	10/19/17 12:35	1
Nitrobenzene	ND		0.96	0.43	ug/L		10/11/17 09:07	10/19/17 12:35	1
N-Nitrosodi-n-propylamine	ND		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 12:35	1
N-Nitrosodiphenylamine	ND		1.9	0.33	ug/L		10/11/17 09:07	10/19/17 12:35	1
Pentachlorophenol	ND		19	5.4	ug/L		10/11/17 09:07	10/19/17 12:35	1
Phenol	ND		4.8	0.35	ug/L		10/11/17 09:07	10/19/17 12:35	1
Pyrene	ND		0.96	0.46	ug/L		10/11/17 09:07	10/19/17 12:35	1
2,4-Dimethylphenol	ND		9.6	3.2	ug/L		10/11/17 09:07	10/19/17 12:35	1
Benzo[a]anthracene	ND		0.19	0.042	ug/L		10/11/17 09:07	10/19/17 12:35	1
Phenanthrene	ND		0.96	0.34	ug/L		10/11/17 09:07	10/19/17 12:35	1
3,3'-Dichlorobenzidine	ND		4.8	0.90	ug/L		10/11/17 09:07	10/19/17 12:35	1
3 & 4 Methylphenol	ND		1.9	0.42	ug/L		10/11/17 09:07	10/19/17 12:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*83*		*40 - 145*	*10/11/17 09:07*	*10/19/17 12:35*	*1*
2-Fluorobiphenyl	*79*		*34 - 110*	*10/11/17 09:07*	*10/19/17 12:35*	*1*
2-Fluorophenol (Surr)	*42*		*27 - 110*	*10/11/17 09:07*	*10/19/17 12:35*	*1*
Nitrobenzene-d5 (Surr)	*88*		*36 - 120*	*10/11/17 09:07*	*10/19/17 12:35*	*1*
Phenol-d5 (Surr)	*18*	*X*	*20 - 100*	*10/11/17 09:07*	*10/19/17 12:35*	*1*
Terphenyl-d14 (Surr)	*98*		*40 - 145*	*10/11/17 09:07*	*10/19/17 12:35*	*1*

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

TestAmerica Job ID: 480-125450-1

Client Sample ID: SUPE-W-06A-100417
Date Collected: 10/04/17 11:59
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-2
Matrix: Water

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			10/14/17 16:05	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			10/14/17 16:05	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			10/14/17 16:05	1
Benzene	ND		1.0	0.41	ug/L			10/14/17 16:05	1
Chloromethane	ND		1.0	0.35	ug/L			10/14/17 16:05	1
Ethylbenzene	ND		1.0	0.74	ug/L			10/14/17 16:05	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			10/14/17 16:05	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			10/14/17 16:05	1
Naphthalene	ND		1.0	0.43	ug/L			10/14/17 16:05	1
n-Butylbenzene	ND		1.0	0.64	ug/L			10/14/17 16:05	1
N-Propylbenzene	ND		1.0	0.69	ug/L			10/14/17 16:05	1
o-Xylene	ND		1.0	0.76	ug/L			10/14/17 16:05	1
Styrene	ND		1.0	0.73	ug/L			10/14/17 16:05	1
Toluene	ND		1.0	0.51	ug/L			10/14/17 16:05	1
Xylenes, Total	ND		2.0	0.66	ug/L			10/14/17 16:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*77 - 120*		*10/14/17 16:05*	*1*
4-Bromofluorobenzene (Surr)	*98*		*73 - 120*		*10/14/17 16:05*	*1*
Dibromofluoromethane (Surr)	*97*		*75 - 123*		*10/14/17 16:05*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*10/14/17 16:05*	*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		10/11/17 09:07	10/19/17 16:08	1
1,2-Dichlorobenzene	ND		1.9	0.28	ug/L		10/11/17 09:07	10/19/17 16:08	1
1,3-Dichlorobenzene	ND		1.9	0.24	ug/L		10/11/17 09:07	10/19/17 16:08	1
1,4-Dichlorobenzene	ND		1.9	0.26	ug/L		10/11/17 09:07	10/19/17 16:08	1
1-Methylnaphthalene	ND		1.9	0.48	ug/L		10/11/17 09:07	10/19/17 16:08	1
bis(chloroisopropyl) ether	ND		1.9	0.29	ug/L		10/11/17 09:07	10/19/17 16:08	1
2,3,4,6-Tetrachlorophenol	ND		4.8	1.4	ug/L		10/11/17 09:07	10/19/17 16:08	1
2,4,5-Trichlorophenol	ND		9.6	2.2	ug/L		10/11/17 09:07	10/19/17 16:08	1
2,4,6-Trichlorophenol	ND		4.8	1.1	ug/L		10/11/17 09:07	10/19/17 16:08	1
2,4-Dichlorophenol	ND		9.6	2.2	ug/L		10/11/17 09:07	10/19/17 16:08	1
2,4-Dinitrophenol	ND		19	7.1	ug/L		10/11/17 09:07	10/19/17 16:08	1
2,4-Dinitrotoluene	ND		0.96	0.29	ug/L		10/11/17 09:07	10/19/17 16:08	1
2,6-Dinitrotoluene	ND		0.96	0.11	ug/L		10/11/17 09:07	10/19/17 16:08	1
2-Chloronaphthalene	ND		1.9	0.33	ug/L		10/11/17 09:07	10/19/17 16:08	1
2-Chlorophenol	ND		4.8	0.77	ug/L		10/11/17 09:07	10/19/17 16:08	1
2-Methylnaphthalene	ND		1.9	0.12	ug/L		10/11/17 09:07	10/19/17 16:08	1
2-Methylphenol	ND		1.9	0.30	ug/L		10/11/17 09:07	10/19/17 16:08	1
2-Nitroaniline	ND		4.8	1.0	ug/L		10/11/17 09:07	10/19/17 16:08	1
2-Nitrophenol	ND		9.6	2.1	ug/L		10/11/17 09:07	10/19/17 16:08	1
3-Nitroaniline	ND		9.6	2.2	ug/L		10/11/17 09:07	10/19/17 16:08	1
4,6-Dinitro-2-methylphenol	ND		19	4.7	ug/L		10/11/17 09:07	10/19/17 16:08	1
4-Bromophenyl phenyl ether	ND		4.8	0.87	ug/L		10/11/17 09:07	10/19/17 16:08	1
4-Chloro-3-methylphenol	ND		9.6	2.1	ug/L		10/11/17 09:07	10/19/17 16:08	1
4-Chloroaniline	ND		9.6	2.0	ug/L		10/11/17 09:07	10/19/17 16:08	1
4-Chlorophenyl phenyl ether	ND		4.8	0.78	ug/L		10/11/17 09:07	10/19/17 16:08	1
4-Nitroaniline	ND		9.6	3.8	ug/L		10/11/17 09:07	10/19/17 16:08	1

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

TestAmerica Job ID: 480-125450-1

Client Sample ID: SUPE-W-06A-100417
Date Collected: 10/04/17 11:59
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	ND		19	2.2	ug/L		10/11/17 09:07	10/19/17 16:08	1
Acenaphthene	ND		0.96	0.34	ug/L		10/11/17 09:07	10/19/17 16:08	1
Acenaphthylene	ND		0.96	0.31	ug/L		10/11/17 09:07	10/19/17 16:08	1
Anthracene	ND		0.96	0.31	ug/L		10/11/17 09:07	10/19/17 16:08	1
Benzo[a]pyrene	ND		0.19	0.054	ug/L		10/11/17 09:07	10/19/17 16:08	1
Benzo[b]fluoranthene	ND		0.19	0.056	ug/L		10/11/17 09:07	10/19/17 16:08	1
Benzo[g,h,i]perylene	ND		0.96	0.40	ug/L		10/11/17 09:07	10/19/17 16:08	1
Benzo[k]fluoranthene	ND		0.19	0.071	ug/L		10/11/17 09:07	10/19/17 16:08	1
Benzoic acid	ND		19	4.4	ug/L		10/11/17 09:07	10/19/17 16:08	1
Benzyl alcohol	ND		19	2.9	ug/L		10/11/17 09:07	10/19/17 16:08	1
Bis(2-chloroethoxy)methane	ND		1.9	0.29	ug/L		10/11/17 09:07	10/19/17 16:08	1
Bis(2-chloroethyl)ether	ND		1.9	0.34	ug/L		10/11/17 09:07	10/19/17 16:08	1
Bis(2-ethylhexyl) phthalate	ND		9.6	2.3	ug/L		10/11/17 09:07	10/19/17 16:08	1
Butyl benzyl phthalate	ND		1.9	0.26	ug/L		10/11/17 09:07	10/19/17 16:08	1
Chrysene	ND		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 16:08	1
Dibenz(a,h)anthracene	ND		0.29	0.061	ug/L		10/11/17 09:07	10/19/17 16:08	1
Dibenzofuran	ND		1.9	0.34	ug/L		10/11/17 09:07	10/19/17 16:08	1
Diethyl phthalate	ND		1.9	0.42	ug/L		10/11/17 09:07	10/19/17 16:08	1
Dimethyl phthalate	ND		1.9	0.36	ug/L		10/11/17 09:07	10/19/17 16:08	1
Di-n-butyl phthalate	ND		4.8	0.77	ug/L		10/11/17 09:07	10/19/17 16:08	1
Di-n-octyl phthalate	ND		9.6	2.4	ug/L		10/11/17 09:07	10/19/17 16:08	1
2,3,5,6-Tetrachlorophenol	ND		4.8	2.4	ug/L		10/11/17 09:07	10/19/17 16:08	1
Fluoranthene	ND		0.96	0.31	ug/L		10/11/17 09:07	10/19/17 16:08	1
Fluorene	ND		0.96	0.36	ug/L		10/11/17 09:07	10/19/17 16:08	1
Hexachlorobenzene	ND		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 16:08	1
Hexachlorobutadiene	ND		4.8	1.1	ug/L		10/11/17 09:07	10/19/17 16:08	1
Hexachlorocyclopentadiene	ND		19	3.3	ug/L		10/11/17 09:07	10/19/17 16:08	1
Hexachloroethane	ND		4.8	0.93	ug/L		10/11/17 09:07	10/19/17 16:08	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.080	ug/L		10/11/17 09:07	10/19/17 16:08	1
Isophorone	ND		1.9	0.28	ug/L		10/11/17 09:07	10/19/17 16:08	1
Nitrobenzene	ND		0.96	0.43	ug/L		10/11/17 09:07	10/19/17 16:08	1
N-Nitrosodi-n-propylamine	ND		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 16:08	1
N-Nitrosodiphenylamine	ND		1.9	0.33	ug/L		10/11/17 09:07	10/19/17 16:08	1
Pentachlorophenol	ND		19	5.4	ug/L		10/11/17 09:07	10/19/17 16:08	1
Phenol	ND		4.8	0.34	ug/L		10/11/17 09:07	10/19/17 16:08	1
Pyrene	ND		0.96	0.46	ug/L		10/11/17 09:07	10/19/17 16:08	1
2,4-Dimethylphenol	ND		9.6	3.2	ug/L		10/11/17 09:07	10/19/17 16:08	1
Benzo[a]anthracene	ND		0.19	0.042	ug/L		10/11/17 09:07	10/19/17 16:08	1
Phenanthrene	ND		0.96	0.34	ug/L		10/11/17 09:07	10/19/17 16:08	1
3,3'-Dichlorobenzidine	ND		4.8	0.90	ug/L		10/11/17 09:07	10/19/17 16:08	1
3 & 4 Methylphenol	ND		1.9	0.42	ug/L		10/11/17 09:07	10/19/17 16:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*89*		*40 - 145*	*10/11/17 09:07*	*10/19/17 16:08*	*1*
2-Fluorobiphenyl	*75*		*34 - 110*	*10/11/17 09:07*	*10/19/17 16:08*	*1*
2-Fluorophenol (Surr)	*48*		*27 - 110*	*10/11/17 09:07*	*10/19/17 16:08*	*1*
Nitrobenzene-d5 (Surr)	*88*		*36 - 120*	*10/11/17 09:07*	*10/19/17 16:08*	*1*
Phenol-d5 (Surr)	*22*		*20 - 100*	*10/11/17 09:07*	*10/19/17 16:08*	*1*
Terphenyl-d14 (Surr)	*82*		*40 - 145*	*10/11/17 09:07*	*10/19/17 16:08*	*1*

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

TestAmerica Job ID: 480-125450-1

Client Sample ID: SUPE-W-06C-100417
Date Collected: 10/04/17 12:55
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-3
Matrix: Water

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			10/14/17 16:30	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			10/14/17 16:30	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			10/14/17 16:30	1
Benzene	ND		1.0	0.41	ug/L			10/14/17 16:30	1
Chloromethane	ND		1.0	0.35	ug/L			10/14/17 16:30	1
Ethylbenzene	ND		1.0	0.74	ug/L			10/14/17 16:30	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			10/14/17 16:30	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			10/14/17 16:30	1
Naphthalene	ND		1.0	0.43	ug/L			10/14/17 16:30	1
n-Butylbenzene	ND		1.0	0.64	ug/L			10/14/17 16:30	1
N-Propylbenzene	ND		1.0	0.69	ug/L			10/14/17 16:30	1
o-Xylene	ND		1.0	0.76	ug/L			10/14/17 16:30	1
Styrene	ND		1.0	0.73	ug/L			10/14/17 16:30	1
Toluene	ND		1.0	0.51	ug/L			10/14/17 16:30	1
Xylenes, Total	ND		2.0	0.66	ug/L			10/14/17 16:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*77 - 120*		*10/14/17 16:30*	*1*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*		*10/14/17 16:30*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*10/14/17 16:30*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*10/14/17 16:30*	*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		10/11/17 09:07	10/19/17 16:34	1
1,2-Dichlorobenzene	ND		1.9	0.28	ug/L		10/11/17 09:07	10/19/17 16:34	1
1,3-Dichlorobenzene	ND		1.9	0.24	ug/L		10/11/17 09:07	10/19/17 16:34	1
1,4-Dichlorobenzene	ND		1.9	0.26	ug/L		10/11/17 09:07	10/19/17 16:34	1
1-Methylnaphthalene	ND		1.9	0.48	ug/L		10/11/17 09:07	10/19/17 16:34	1
bis(chloroisopropyl) ether	ND		1.9	0.29	ug/L		10/11/17 09:07	10/19/17 16:34	1
2,3,4,6-Tetrachlorophenol	ND		4.8	1.5	ug/L		10/11/17 09:07	10/19/17 16:34	1
2,4,5-Trichlorophenol	ND		9.6	2.2	ug/L		10/11/17 09:07	10/19/17 16:34	1
2,4,6-Trichlorophenol	ND		4.8	1.1	ug/L		10/11/17 09:07	10/19/17 16:34	1
2,4-Dichlorophenol	ND		9.6	2.2	ug/L		10/11/17 09:07	10/19/17 16:34	1
2,4-Dinitrophenol	ND		19	7.1	ug/L		10/11/17 09:07	10/19/17 16:34	1
2,4-Dinitrotoluene	ND		0.96	0.29	ug/L		10/11/17 09:07	10/19/17 16:34	1
2,6-Dinitrotoluene	ND		0.96	0.12	ug/L		10/11/17 09:07	10/19/17 16:34	1
2-Chloronaphthalene	ND		1.9	0.33	ug/L		10/11/17 09:07	10/19/17 16:34	1
2-Chlorophenol	ND		4.8	0.77	ug/L		10/11/17 09:07	10/19/17 16:34	1
2-Methylnaphthalene	ND		1.9	0.12	ug/L		10/11/17 09:07	10/19/17 16:34	1
2-Methylphenol	ND		1.9	0.30	ug/L		10/11/17 09:07	10/19/17 16:34	1
2-Nitroaniline	ND		4.8	1.0	ug/L		10/11/17 09:07	10/19/17 16:34	1
2-Nitrophenol	ND		9.6	2.1	ug/L		10/11/17 09:07	10/19/17 16:34	1
3-Nitroaniline	ND		9.6	2.2	ug/L		10/11/17 09:07	10/19/17 16:34	1
4,6-Dinitro-2-methylphenol	ND		19	4.7	ug/L		10/11/17 09:07	10/19/17 16:34	1
4-Bromophenyl phenyl ether	ND		4.8	0.87	ug/L		10/11/17 09:07	10/19/17 16:34	1
4-Chloro-3-methylphenol	ND		9.6	2.1	ug/L		10/11/17 09:07	10/19/17 16:34	1
4-Chloroaniline	ND		9.6	2.0	ug/L		10/11/17 09:07	10/19/17 16:34	1
4-Chlorophenyl phenyl ether	ND		4.8	0.78	ug/L		10/11/17 09:07	10/19/17 16:34	1
4-Nitroaniline	ND		9.6	3.8	ug/L		10/11/17 09:07	10/19/17 16:34	1

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

TestAmerica Job ID: 480-125450-1

Client Sample ID: SUPE-W-06C-100417
Date Collected: 10/04/17 12:55
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	ND		19	2.2	ug/L		10/11/17 09:07	10/19/17 16:34	1
Acenaphthene	ND		0.96	0.35	ug/L		10/11/17 09:07	10/19/17 16:34	1
Acenaphthylene	ND		0.96	0.31	ug/L		10/11/17 09:07	10/19/17 16:34	1
Anthracene	ND		0.96	0.31	ug/L		10/11/17 09:07	10/19/17 16:34	1
Benzo[a]pyrene	ND		0.19	0.054	ug/L		10/11/17 09:07	10/19/17 16:34	1
Benzo[b]fluoranthene	ND		0.19	0.056	ug/L		10/11/17 09:07	10/19/17 16:34	1
Benzo[g,h,i]perylene	ND		0.96	0.40	ug/L		10/11/17 09:07	10/19/17 16:34	1
Benzo[k]fluoranthene	ND		0.19	0.071	ug/L		10/11/17 09:07	10/19/17 16:34	1
Benzoic acid	ND		19	4.4	ug/L		10/11/17 09:07	10/19/17 16:34	1
Benzyl alcohol	ND		19	2.9	ug/L		10/11/17 09:07	10/19/17 16:34	1
Bis(2-chloroethoxy)methane	ND		1.9	0.29	ug/L		10/11/17 09:07	10/19/17 16:34	1
Bis(2-chloroethyl)ether	ND		1.9	0.34	ug/L		10/11/17 09:07	10/19/17 16:34	1
Bis(2-ethylhexyl) phthalate	ND		9.6	2.3	ug/L		10/11/17 09:07	10/19/17 16:34	1
Butyl benzyl phthalate	ND		1.9	0.26	ug/L		10/11/17 09:07	10/19/17 16:34	1
Chrysene	ND		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 16:34	1
Dibenz(a,h)anthracene	ND		0.29	0.061	ug/L		10/11/17 09:07	10/19/17 16:34	1
Dibenzofuran	ND		1.9	0.34	ug/L		10/11/17 09:07	10/19/17 16:34	1
Diethyl phthalate	ND		1.9	0.42	ug/L		10/11/17 09:07	10/19/17 16:34	1
Dimethyl phthalate	ND		1.9	0.37	ug/L		10/11/17 09:07	10/19/17 16:34	1
Di-n-butyl phthalate	ND		4.8	0.77	ug/L		10/11/17 09:07	10/19/17 16:34	1
Di-n-octyl phthalate	ND		9.6	2.4	ug/L		10/11/17 09:07	10/19/17 16:34	1
2,3,5,6-Tetrachlorophenol	ND		4.8	2.4	ug/L		10/11/17 09:07	10/19/17 16:34	1
Fluoranthene	ND		0.96	0.31	ug/L		10/11/17 09:07	10/19/17 16:34	1
Fluorene	ND		0.96	0.37	ug/L		10/11/17 09:07	10/19/17 16:34	1
Hexachlorobenzene	ND		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 16:34	1
Hexachlorobutadiene	ND		4.8	1.1	ug/L		10/11/17 09:07	10/19/17 16:34	1
Hexachlorocyclopentadiene	ND		19	3.3	ug/L		10/11/17 09:07	10/19/17 16:34	1
Hexachloroethane	ND		4.8	0.93	ug/L		10/11/17 09:07	10/19/17 16:34	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.081	ug/L		10/11/17 09:07	10/19/17 16:34	1
Isophorone	ND		1.9	0.28	ug/L		10/11/17 09:07	10/19/17 16:34	1
Nitrobenzene	ND		0.96	0.43	ug/L		10/11/17 09:07	10/19/17 16:34	1
N-Nitrosodi-n-propylamine	ND		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 16:34	1
N-Nitrosodiphenylamine	ND		1.9	0.33	ug/L		10/11/17 09:07	10/19/17 16:34	1
Pentachlorophenol	ND		19	5.4	ug/L		10/11/17 09:07	10/19/17 16:34	1
Phenol	ND		4.8	0.35	ug/L		10/11/17 09:07	10/19/17 16:34	1
Pyrene	ND		0.96	0.46	ug/L		10/11/17 09:07	10/19/17 16:34	1
2,4-Dimethylphenol	ND		9.6	3.2	ug/L		10/11/17 09:07	10/19/17 16:34	1
Benzo[a]anthracene	ND		0.19	0.042	ug/L		10/11/17 09:07	10/19/17 16:34	1
Phenanthrene	ND		0.96	0.34	ug/L		10/11/17 09:07	10/19/17 16:34	1
3,3'-Dichlorobenzidine	ND		4.8	0.90	ug/L		10/11/17 09:07	10/19/17 16:34	1
3 & 4 Methylphenol	ND		1.9	0.42	ug/L		10/11/17 09:07	10/19/17 16:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*88*		*40 - 145*	*10/11/17 09:07*	*10/19/17 16:34*	*1*
2-Fluorobiphenyl	*77*		*34 - 110*	*10/11/17 09:07*	*10/19/17 16:34*	*1*
2-Fluorophenol (Surr)	*43*		*27 - 110*	*10/11/17 09:07*	*10/19/17 16:34*	*1*
Nitrobenzene-d5 (Surr)	*91*		*36 - 120*	*10/11/17 09:07*	*10/19/17 16:34*	*1*
Phenol-d5 (Surr)	*21*		*20 - 100*	*10/11/17 09:07*	*10/19/17 16:34*	*1*
Terphenyl-d14 (Surr)	*86*		*40 - 145*	*10/11/17 09:07*	*10/19/17 16:34*	*1*

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

TestAmerica Job ID: 480-125450-1

Client Sample ID: SUPE-W-12A-100417
Date Collected: 10/04/17 13:57
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-4
Matrix: Water

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			10/14/17 16:55	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			10/14/17 16:55	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			10/14/17 16:55	1
Benzene	ND		1.0	0.41	ug/L			10/14/17 16:55	1
Chloromethane	ND		1.0	0.35	ug/L			10/14/17 16:55	1
Ethylbenzene	ND		1.0	0.74	ug/L			10/14/17 16:55	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			10/14/17 16:55	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			10/14/17 16:55	1
Naphthalene	ND		1.0	0.43	ug/L			10/14/17 16:55	1
n-Butylbenzene	ND		1.0	0.64	ug/L			10/14/17 16:55	1
N-Propylbenzene	ND		1.0	0.69	ug/L			10/14/17 16:55	1
o-Xylene	ND		1.0	0.76	ug/L			10/14/17 16:55	1
Styrene	ND		1.0	0.73	ug/L			10/14/17 16:55	1
Toluene	ND		1.0	0.51	ug/L			10/14/17 16:55	1
Xylenes, Total	ND		2.0	0.66	ug/L			10/14/17 16:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*77 - 120*		*10/14/17 16:55*	*1*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*10/14/17 16:55*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 123*		*10/14/17 16:55*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*10/14/17 16:55*	*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		10/11/17 09:07	10/19/17 17:01	1
1,2-Dichlorobenzene	ND		1.9	0.28	ug/L		10/11/17 09:07	10/19/17 17:01	1
1,3-Dichlorobenzene	ND		1.9	0.24	ug/L		10/11/17 09:07	10/19/17 17:01	1
1,4-Dichlorobenzene	ND		1.9	0.26	ug/L		10/11/17 09:07	10/19/17 17:01	1
1-Methylnaphthalene	ND		1.9	0.48	ug/L		10/11/17 09:07	10/19/17 17:01	1
bis(chloroisopropyl) ether	ND		1.9	0.29	ug/L		10/11/17 09:07	10/19/17 17:01	1
2,3,4,6-Tetrachlorophenol	ND		4.8	1.4	ug/L		10/11/17 09:07	10/19/17 17:01	1
2,4,5-Trichlorophenol	ND		9.6	2.2	ug/L		10/11/17 09:07	10/19/17 17:01	1
2,4,6-Trichlorophenol	ND		4.8	1.1	ug/L		10/11/17 09:07	10/19/17 17:01	1
2,4-Dichlorophenol	ND		9.6	2.2	ug/L		10/11/17 09:07	10/19/17 17:01	1
2,4-Dinitrophenol	ND		19	7.1	ug/L		10/11/17 09:07	10/19/17 17:01	1
2,4-Dinitrotoluene	ND		0.96	0.29	ug/L		10/11/17 09:07	10/19/17 17:01	1
2,6-Dinitrotoluene	ND		0.96	0.11	ug/L		10/11/17 09:07	10/19/17 17:01	1
2-Chloronaphthalene	ND		1.9	0.33	ug/L		10/11/17 09:07	10/19/17 17:01	1
2-Chlorophenol	ND		4.8	0.77	ug/L		10/11/17 09:07	10/19/17 17:01	1
2-Methylnaphthalene	ND		1.9	0.12	ug/L		10/11/17 09:07	10/19/17 17:01	1
2-Methylphenol	ND		1.9	0.30	ug/L		10/11/17 09:07	10/19/17 17:01	1
2-Nitroaniline	ND		4.8	1.0	ug/L		10/11/17 09:07	10/19/17 17:01	1
2-Nitrophenol	ND		9.6	2.0	ug/L		10/11/17 09:07	10/19/17 17:01	1
3-Nitroaniline	ND		9.6	2.2	ug/L		10/11/17 09:07	10/19/17 17:01	1
4,6-Dinitro-2-methylphenol	ND		19	4.7	ug/L		10/11/17 09:07	10/19/17 17:01	1
4-Bromophenyl phenyl ether	ND		4.8	0.87	ug/L		10/11/17 09:07	10/19/17 17:01	1
4-Chloro-3-methylphenol	ND		9.6	2.1	ug/L		10/11/17 09:07	10/19/17 17:01	1
4-Chloroaniline	ND		9.6	2.0	ug/L		10/11/17 09:07	10/19/17 17:01	1
4-Chlorophenyl phenyl ether	ND		4.8	0.78	ug/L		10/11/17 09:07	10/19/17 17:01	1
4-Nitroaniline	ND		9.6	3.8	ug/L		10/11/17 09:07	10/19/17 17:01	1

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

TestAmerica Job ID: 480-125450-1

Client Sample ID: SUPE-W-12A-100417
Date Collected: 10/04/17 13:57
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	ND		19	2.2	ug/L		10/11/17 09:07	10/19/17 17:01	1
Acenaphthene	ND		0.96	0.34	ug/L		10/11/17 09:07	10/19/17 17:01	1
Acenaphthylene	ND		0.96	0.31	ug/L		10/11/17 09:07	10/19/17 17:01	1
Anthracene	ND		0.96	0.31	ug/L		10/11/17 09:07	10/19/17 17:01	1
Benzo[a]pyrene	ND		0.19	0.054	ug/L		10/11/17 09:07	10/19/17 17:01	1
Benzo[b]fluoranthene	ND		0.19	0.055	ug/L		10/11/17 09:07	10/19/17 17:01	1
Benzo[g,h,i]perylene	ND		0.96	0.40	ug/L		10/11/17 09:07	10/19/17 17:01	1
Benzo[k]fluoranthene	ND		0.19	0.071	ug/L		10/11/17 09:07	10/19/17 17:01	1
Benzoic acid	ND		19	4.4	ug/L		10/11/17 09:07	10/19/17 17:01	1
Benzyl alcohol	ND		19	2.9	ug/L		10/11/17 09:07	10/19/17 17:01	1
Bis(2-chloroethoxy)methane	ND		1.9	0.29	ug/L		10/11/17 09:07	10/19/17 17:01	1
Bis(2-chloroethyl)ether	ND		1.9	0.33	ug/L		10/11/17 09:07	10/19/17 17:01	1
Bis(2-ethylhexyl) phthalate	ND		9.6	2.3	ug/L		10/11/17 09:07	10/19/17 17:01	1
Butyl benzyl phthalate	ND		1.9	0.26	ug/L		10/11/17 09:07	10/19/17 17:01	1
Chrysene	ND		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 17:01	1
Dibenz(a,h)anthracene	ND		0.29	0.061	ug/L		10/11/17 09:07	10/19/17 17:01	1
Dibenzofuran	ND		1.9	0.33	ug/L		10/11/17 09:07	10/19/17 17:01	1
Diethyl phthalate	ND		1.9	0.42	ug/L		10/11/17 09:07	10/19/17 17:01	1
Dimethyl phthalate	ND		1.9	0.36	ug/L		10/11/17 09:07	10/19/17 17:01	1
Di-n-butyl phthalate	ND		4.8	0.77	ug/L		10/11/17 09:07	10/19/17 17:01	1
Di-n-octyl phthalate	ND		9.6	2.4	ug/L		10/11/17 09:07	10/19/17 17:01	1
2,3,5,6-Tetrachlorophenol	ND		4.8	2.4	ug/L		10/11/17 09:07	10/19/17 17:01	1
Fluoranthene	ND		0.96	0.31	ug/L		10/11/17 09:07	10/19/17 17:01	1
Fluorene	ND		0.96	0.36	ug/L		10/11/17 09:07	10/19/17 17:01	1
Hexachlorobenzene	ND		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 17:01	1
Hexachlorobutadiene	ND		4.8	1.1	ug/L		10/11/17 09:07	10/19/17 17:01	1
Hexachlorocyclopentadiene	ND		19	3.3	ug/L		10/11/17 09:07	10/19/17 17:01	1
Hexachloroethane	ND		4.8	0.93	ug/L		10/11/17 09:07	10/19/17 17:01	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.080	ug/L		10/11/17 09:07	10/19/17 17:01	1
Isophorone	ND		1.9	0.28	ug/L		10/11/17 09:07	10/19/17 17:01	1
Nitrobenzene	ND		0.96	0.43	ug/L		10/11/17 09:07	10/19/17 17:01	1
N-Nitrosodi-n-propylamine	ND		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 17:01	1
N-Nitrosodiphenylamine	ND		1.9	0.33	ug/L		10/11/17 09:07	10/19/17 17:01	1
Pentachlorophenol	ND		19	5.4	ug/L		10/11/17 09:07	10/19/17 17:01	1
Phenol	ND		4.8	0.34	ug/L		10/11/17 09:07	10/19/17 17:01	1
Pyrene	ND		0.96	0.46	ug/L		10/11/17 09:07	10/19/17 17:01	1
2,4-Dimethylphenol	ND		9.6	3.2	ug/L		10/11/17 09:07	10/19/17 17:01	1
Benzo[a]anthracene	ND		0.19	0.042	ug/L		10/11/17 09:07	10/19/17 17:01	1
Phenanthrene	ND		0.96	0.33	ug/L		10/11/17 09:07	10/19/17 17:01	1
3,3'-Dichlorobenzidine	ND		4.8	0.90	ug/L		10/11/17 09:07	10/19/17 17:01	1
3 & 4 Methylphenol	ND		1.9	0.42	ug/L		10/11/17 09:07	10/19/17 17:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*85*		*40 - 145*	*10/11/17 09:07*	*10/19/17 17:01*	*1*
2-Fluorobiphenyl	*76*		*34 - 110*	*10/11/17 09:07*	*10/19/17 17:01*	*1*
2-Fluorophenol (Surr)	*39*		*27 - 110*	*10/11/17 09:07*	*10/19/17 17:01*	*1*
Nitrobenzene-d5 (Surr)	*88*		*36 - 120*	*10/11/17 09:07*	*10/19/17 17:01*	*1*
Phenol-d5 (Surr)	*19*	*X*	*20 - 100*	*10/11/17 09:07*	*10/19/17 17:01*	*1*
Terphenyl-d14 (Surr)	*86*		*40 - 145*	*10/11/17 09:07*	*10/19/17 17:01*	*1*

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

TestAmerica Job ID: 480-125450-1

Client Sample ID: SUPE-W-30A-100417
Date Collected: 10/04/17 15:06
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-5
Matrix: Water

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			10/14/17 17:20	1
1,2,4-Trimethylbenzene	**5.4**		1.0	0.75	ug/L			10/14/17 17:20	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			10/14/17 17:20	1
Benzene	**11**		1.0	0.41	ug/L			10/14/17 17:20	1
Chloromethane	ND		1.0	0.35	ug/L			10/14/17 17:20	1
Ethylbenzene	**21**		1.0	0.74	ug/L			10/14/17 17:20	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			10/14/17 17:20	1
m-Xylene & p-Xylene	**3.3**		2.0	0.66	ug/L			10/14/17 17:20	1
Naphthalene	**26**		1.0	0.43	ug/L			10/14/17 17:20	1
n-Butylbenzene	**13**		1.0	0.64	ug/L			10/14/17 17:20	1
N-Propylbenzene	ND		1.0	0.69	ug/L			10/14/17 17:20	1
o-Xylene	**5.2**		1.0	0.76	ug/L			10/14/17 17:20	1
Styrene	ND		1.0	0.73	ug/L			10/14/17 17:20	1
Toluene	**1.6**		1.0	0.51	ug/L			10/14/17 17:20	1
Xylenes, Total	**8.5**		2.0	0.66	ug/L			10/14/17 17:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*77 - 120*		*10/14/17 17:20*	*1*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*10/14/17 17:20*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 123*		*10/14/17 17:20*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*10/14/17 17:20*	*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		10/11/17 09:07	10/19/17 17:28	1
1,2-Dichlorobenzene	ND		1.9	0.28	ug/L		10/11/17 09:07	10/19/17 17:28	1
1,3-Dichlorobenzene	ND		1.9	0.24	ug/L		10/11/17 09:07	10/19/17 17:28	1
1,4-Dichlorobenzene	ND		1.9	0.26	ug/L		10/11/17 09:07	10/19/17 17:28	1
1-Methylnaphthalene	**8.1**		1.9	0.48	ug/L		10/11/17 09:07	10/19/17 17:28	1
bis(chloroisopropyl) ether	ND		1.9	0.29	ug/L		10/11/17 09:07	10/19/17 17:28	1
2,3,4,6-Tetrachlorophenol	ND		4.8	1.4	ug/L		10/11/17 09:07	10/19/17 17:28	1
2,4,5-Trichlorophenol	ND		9.6	2.2	ug/L		10/11/17 09:07	10/19/17 17:28	1
2,4,6-Trichlorophenol	ND		4.8	1.1	ug/L		10/11/17 09:07	10/19/17 17:28	1
2,4-Dichlorophenol	ND		9.6	2.2	ug/L		10/11/17 09:07	10/19/17 17:28	1
2,4-Dinitrophenol	ND		19	7.1	ug/L		10/11/17 09:07	10/19/17 17:28	1
2,4-Dinitrotoluene	ND		0.96	0.29	ug/L		10/11/17 09:07	10/19/17 17:28	1
2,6-Dinitrotoluene	ND		0.96	0.11	ug/L		10/11/17 09:07	10/19/17 17:28	1
2-Chloronaphthalene	ND		1.9	0.32	ug/L		10/11/17 09:07	10/19/17 17:28	1
2-Chlorophenol	ND		4.8	0.76	ug/L		10/11/17 09:07	10/19/17 17:28	1
2-Methylnaphthalene	ND		1.9	0.12	ug/L		10/11/17 09:07	10/19/17 17:28	1
2-Methylphenol	ND		1.9	0.30	ug/L		10/11/17 09:07	10/19/17 17:28	1
2-Nitroaniline	ND		4.8	1.0	ug/L		10/11/17 09:07	10/19/17 17:28	1
2-Nitrophenol	ND		9.6	2.0	ug/L		10/11/17 09:07	10/19/17 17:28	1
3-Nitroaniline	ND		9.6	2.2	ug/L		10/11/17 09:07	10/19/17 17:28	1
4,6-Dinitro-2-methylphenol	ND		19	4.7	ug/L		10/11/17 09:07	10/19/17 17:28	1
4-Bromophenyl phenyl ether	ND		4.8	0.87	ug/L		10/11/17 09:07	10/19/17 17:28	1
4-Chloro-3-methylphenol	ND		9.6	2.1	ug/L		10/11/17 09:07	10/19/17 17:28	1
4-Chloroaniline	ND		9.6	2.0	ug/L		10/11/17 09:07	10/19/17 17:28	1
4-Chlorophenyl phenyl ether	ND		4.8	0.77	ug/L		10/11/17 09:07	10/19/17 17:28	1
4-Nitroaniline	ND		9.6	3.8	ug/L		10/11/17 09:07	10/19/17 17:28	1

Client Sample ID: SUPE-W-30A-100417
Date Collected: 10/04/17 15:06
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	ND		19	2.2	ug/L		10/11/17 09:07	10/19/17 17:28	1
Acenaphthene	**28**		0.96	0.34	ug/L		10/11/17 09:07	10/19/17 17:28	1
Acenaphthylene	**0.41**	**J**	0.96	0.31	ug/L		10/11/17 09:07	10/19/17 17:28	1
Anthracene	**0.86**	**J**	0.96	0.31	ug/L		10/11/17 09:07	10/19/17 17:28	1
Benzo[a]pyrene	**0.29**		0.19	0.054	ug/L		10/11/17 09:07	10/19/17 17:28	1
Benzo[b]fluoranthene	**0.36**		0.19	0.055	ug/L		10/11/17 09:07	10/19/17 17:28	1
Benzo[g,h,i]perylene	ND		0.96	0.40	ug/L		10/11/17 09:07	10/19/17 17:28	1
Benzo[k]fluoranthene	**0.23**		0.19	0.071	ug/L		10/11/17 09:07	10/19/17 17:28	1
Benzoic acid	ND		19	4.4	ug/L		10/11/17 09:07	10/19/17 17:28	1
Benzyl alcohol	ND		19	2.9	ug/L		10/11/17 09:07	10/19/17 17:28	1
Bis(2-chloroethoxy)methane	ND		1.9	0.29	ug/L		10/11/17 09:07	10/19/17 17:28	1
Bis(2-chloroethyl)ether	ND		1.9	0.33	ug/L		10/11/17 09:07	10/19/17 17:28	1
Bis(2-ethylhexyl) phthalate	ND		9.6	2.3	ug/L		10/11/17 09:07	10/19/17 17:28	1
Butyl benzyl phthalate	ND		1.9	0.26	ug/L		10/11/17 09:07	10/19/17 17:28	1
Chrysene	**0.62**		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 17:28	1
Dibenz(a,h)anthracene	ND		0.29	0.061	ug/L		10/11/17 09:07	10/19/17 17:28	1
Dibenzofuran	**9.7**		1.9	0.33	ug/L		10/11/17 09:07	10/19/17 17:28	1
Diethyl phthalate	ND		1.9	0.42	ug/L		10/11/17 09:07	10/19/17 17:28	1
Dimethyl phthalate	ND		1.9	0.36	ug/L		10/11/17 09:07	10/19/17 17:28	1
Di-n-butyl phthalate	ND		4.8	0.76	ug/L		10/11/17 09:07	10/19/17 17:28	1
Di-n-octyl phthalate	ND		9.6	2.4	ug/L		10/11/17 09:07	10/19/17 17:28	1
2,3,5,6-Tetrachlorophenol	ND		4.8	2.4	ug/L		10/11/17 09:07	10/19/17 17:28	1
Fluoranthene	**3.5**		0.96	0.31	ug/L		10/11/17 09:07	10/19/17 17:28	1
Fluorene	**5.9**		0.96	0.36	ug/L		10/11/17 09:07	10/19/17 17:28	1
Hexachlorobenzene	ND		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 17:28	1
Hexachlorobutadiene	ND		4.8	1.1	ug/L		10/11/17 09:07	10/19/17 17:28	1
Hexachlorocyclopentadiene	ND		19	3.3	ug/L		10/11/17 09:07	10/19/17 17:28	1
Hexachloroethane	ND		4.8	0.93	ug/L		10/11/17 09:07	10/19/17 17:28	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.080	ug/L		10/11/17 09:07	10/19/17 17:28	1
Isophorone	ND		1.9	0.28	ug/L		10/11/17 09:07	10/19/17 17:28	1
Nitrobenzene	ND		0.96	0.43	ug/L		10/11/17 09:07	10/19/17 17:28	1
N-Nitrosodi-n-propylamine	ND		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 17:28	1
N-Nitrosodiphenylamine	ND		1.9	0.32	ug/L		10/11/17 09:07	10/19/17 17:28	1
Pentachlorophenol	ND		19	5.4	ug/L		10/11/17 09:07	10/19/17 17:28	1
Phenol	ND		4.8	0.34	ug/L		10/11/17 09:07	10/19/17 17:28	1
Pyrene	**2.8**		0.96	0.46	ug/L		10/11/17 09:07	10/19/17 17:28	1
2,4-Dimethylphenol	ND		9.6	3.2	ug/L		10/11/17 09:07	10/19/17 17:28	1
Benzo[a]anthracene	**0.74**		0.19	0.042	ug/L		10/11/17 09:07	10/19/17 17:28	1
Phenanthrene	**1.3**		0.96	0.33	ug/L		10/11/17 09:07	10/19/17 17:28	1
3,3'-Dichlorobenzidine	ND		4.8	0.90	ug/L		10/11/17 09:07	10/19/17 17:28	1
3 & 4 Methylphenol	ND		1.9	0.42	ug/L		10/11/17 09:07	10/19/17 17:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*95*		*40 - 145*	*10/11/17 09:07*	*10/19/17 17:28*	*1*
2-Fluorobiphenyl	*79*		*34 - 110*	*10/11/17 09:07*	*10/19/17 17:28*	*1*
2-Fluorophenol (Surr)	*48*		*27 - 110*	*10/11/17 09:07*	*10/19/17 17:28*	*1*
Nitrobenzene-d5 (Surr)	*88*		*36 - 120*	*10/11/17 09:07*	*10/19/17 17:28*	*1*
Phenol-d5 (Surr)	*25*		*20 - 100*	*10/11/17 09:07*	*10/19/17 17:28*	*1*
Terphenyl-d14 (Surr)	*76*		*40 - 145*	*10/11/17 09:07*	*10/19/17 17:28*	*1*

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

TestAmerica Job ID: 480-125450-1

Client Sample ID: SUPE-W-18D-100417
Date Collected: 10/04/17 11:20
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-6
Matrix: Water

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	0.29	ug/L		10/11/17 09:07	10/19/17 17:54	1
1,2-Dichlorobenzene	ND		2.0	0.28	ug/L		10/11/17 09:07	10/19/17 17:54	1
1,3-Dichlorobenzene	ND		2.0	0.24	ug/L		10/11/17 09:07	10/19/17 17:54	1
1,4-Dichlorobenzene	ND		2.0	0.26	ug/L		10/11/17 09:07	10/19/17 17:54	1
1-Methylnaphthalene	ND		2.0	0.49	ug/L		10/11/17 09:07	10/19/17 17:54	1
bis(chloroisopropyl) ether	ND		2.0	0.29	ug/L		10/11/17 09:07	10/19/17 17:54	1
2,3,4,6-Tetrachlorophenol	ND		4.9	1.5	ug/L		10/11/17 09:07	10/19/17 17:54	1
2,4,5-Trichlorophenol	ND		9.8	2.2	ug/L		10/11/17 09:07	10/19/17 17:54	1
2,4,6-Trichlorophenol	ND		4.9	1.1	ug/L		10/11/17 09:07	10/19/17 17:54	1
2,4-Dichlorophenol	ND		9.8	2.2	ug/L		10/11/17 09:07	10/19/17 17:54	1
2,4-Dinitrophenol	ND		20	7.3	ug/L		10/11/17 09:07	10/19/17 17:54	1
2,4-Dinitrotoluene	ND		0.98	0.29	ug/L		10/11/17 09:07	10/19/17 17:54	1
2,6-Dinitrotoluene	ND		0.98	0.12	ug/L		10/11/17 09:07	10/19/17 17:54	1
2-Chloronaphthalene	ND		2.0	0.33	ug/L		10/11/17 09:07	10/19/17 17:54	1
2-Chlorophenol	ND		4.9	0.78	ug/L		10/11/17 09:07	10/19/17 17:54	1
2-Methylnaphthalene	ND		2.0	0.13	ug/L		10/11/17 09:07	10/19/17 17:54	1
2-Methylphenol	ND		2.0	0.30	ug/L		10/11/17 09:07	10/19/17 17:54	1
2-Nitroaniline	ND		4.9	1.1	ug/L		10/11/17 09:07	10/19/17 17:54	1
2-Nitrophenol	ND		9.8	2.1	ug/L		10/11/17 09:07	10/19/17 17:54	1
3-Nitroaniline	ND		9.8	2.2	ug/L		10/11/17 09:07	10/19/17 17:54	1
4,6-Dinitro-2-methylphenol	ND		20	4.8	ug/L		10/11/17 09:07	10/19/17 17:54	1
4-Bromophenyl phenyl ether	ND		4.9	0.89	ug/L		10/11/17 09:07	10/19/17 17:54	1
4-Chloro-3-methylphenol	ND		9.8	2.2	ug/L		10/11/17 09:07	10/19/17 17:54	1
4-Chloroaniline	ND		9.8	2.1	ug/L		10/11/17 09:07	10/19/17 17:54	1
4-Chlorophenyl phenyl ether	ND		4.9	0.79	ug/L		10/11/17 09:07	10/19/17 17:54	1
4-Nitroaniline	ND		9.8	3.8	ug/L		10/11/17 09:07	10/19/17 17:54	1
4-Nitrophenol	ND		20	2.3	ug/L		10/11/17 09:07	10/19/17 17:54	1
Acenaphthene	ND		0.98	0.35	ug/L		10/11/17 09:07	10/19/17 17:54	1
Acenaphthylene	ND		0.98	0.31	ug/L		10/11/17 09:07	10/19/17 17:54	1
Anthracene	ND		0.98	0.31	ug/L		10/11/17 09:07	10/19/17 17:54	1
Benzo[a]pyrene	ND		0.20	0.055	ug/L		10/11/17 09:07	10/19/17 17:54	1
Benzo[b]fluoranthene	ND		0.20	0.057	ug/L		10/11/17 09:07	10/19/17 17:54	1
Benzo[g,h,i]perylene	ND		0.98	0.41	ug/L		10/11/17 09:07	10/19/17 17:54	1
Benzo[k]fluoranthene	ND		0.20	0.072	ug/L		10/11/17 09:07	10/19/17 17:54	1
Benzoic acid	ND		20	4.5	ug/L		10/11/17 09:07	10/19/17 17:54	1
Benzyl alcohol	ND		20	3.0	ug/L		10/11/17 09:07	10/19/17 17:54	1
Bis(2-chloroethoxy)methane	ND		2.0	0.29	ug/L		10/11/17 09:07	10/19/17 17:54	1
Bis(2-chloroethyl)ether	ND		2.0	0.34	ug/L		10/11/17 09:07	10/19/17 17:54	1
Bis(2-ethylhexyl) phthalate	ND		9.8	2.4	ug/L		10/11/17 09:07	10/19/17 17:54	1
Butyl benzyl phthalate	ND		2.0	0.26	ug/L		10/11/17 09:07	10/19/17 17:54	1
Chrysene	ND		0.49	0.14	ug/L		10/11/17 09:07	10/19/17 17:54	1
Dibenz(a,h)anthracene	ND		0.29	0.063	ug/L		10/11/17 09:07	10/19/17 17:54	1
Dibenzofuran	ND		2.0	0.34	ug/L		10/11/17 09:07	10/19/17 17:54	1
Diethyl phthalate	ND		2.0	0.43	ug/L		10/11/17 09:07	10/19/17 17:54	1
Dimethyl phthalate	ND		2.0	0.37	ug/L		10/11/17 09:07	10/19/17 17:54	1
Di-n-butyl phthalate	ND		4.9	0.78	ug/L		10/11/17 09:07	10/19/17 17:54	1
Di-n-octyl phthalate	ND		9.8	2.4	ug/L		10/11/17 09:07	10/19/17 17:54	1
2,3,5,6-Tetrachlorophenol	ND		4.9	2.4	ug/L		10/11/17 09:07	10/19/17 17:54	1
Fluoranthene	ND		0.98	0.31	ug/L		10/11/17 09:07	10/19/17 17:54	1

Client Sample ID: SUPE-W-18D-100417

Lab Sample ID: 480-125450-6

Date Collected: 10/04/17 11:20

Matrix: Water

Date Received: 10/06/17 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.98	0.37	ug/L		10/11/17 09:07	10/19/17 17:54	1
Hexachlorobenzene	ND		0.49	0.14	ug/L		10/11/17 09:07	10/19/17 17:54	1
Hexachlorobutadiene	ND		4.9	1.1	ug/L		10/11/17 09:07	10/19/17 17:54	1
Hexachlorocyclopentadiene	ND		20	3.4	ug/L		10/11/17 09:07	10/19/17 17:54	1
Hexachloroethane	ND		4.9	0.95	ug/L		10/11/17 09:07	10/19/17 17:54	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.082	ug/L		10/11/17 09:07	10/19/17 17:54	1
Isophorone	ND		2.0	0.28	ug/L		10/11/17 09:07	10/19/17 17:54	1
Naphthalene	ND		0.98	0.29	ug/L		10/11/17 09:07	10/19/17 17:54	1
Nitrobenzene	ND		0.98	0.44	ug/L		10/11/17 09:07	10/19/17 17:54	1
N-Nitrosodi-n-propylamine	ND		0.49	0.14	ug/L		10/11/17 09:07	10/19/17 17:54	1
N-Nitrosodiphenylamine	ND		2.0	0.33	ug/L		10/11/17 09:07	10/19/17 17:54	1
Pentachlorophenol	ND		20	5.5	ug/L		10/11/17 09:07	10/19/17 17:54	1
Phenol	ND		4.9	0.35	ug/L		10/11/17 09:07	10/19/17 17:54	1
Pyrene	ND		0.98	0.47	ug/L		10/11/17 09:07	10/19/17 17:54	1
2,4-Dimethylphenol	ND		9.8	3.3	ug/L		10/11/17 09:07	10/19/17 17:54	1
Benzo[a]anthracene	ND		0.20	0.043	ug/L		10/11/17 09:07	10/19/17 17:54	1
Phenanthrene	ND		0.98	0.34	ug/L		10/11/17 09:07	10/19/17 17:54	1
3,3'-Dichlorobenzidine	ND		4.9	0.92	ug/L		10/11/17 09:07	10/19/17 17:54	1
3 & 4 Methylphenol	ND		2.0	0.43	ug/L		10/11/17 09:07	10/19/17 17:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*90*		*40 - 145*	*10/11/17 09:07*	*10/19/17 17:54*	*1*
2-Fluorobiphenyl	*75*		*34 - 110*	*10/11/17 09:07*	*10/19/17 17:54*	*1*
2-Fluorophenol (Surr)	*43*		*27 - 110*	*10/11/17 09:07*	*10/19/17 17:54*	*1*
Nitrobenzene-d5 (Surr)	*85*		*36 - 120*	*10/11/17 09:07*	*10/19/17 17:54*	*1*
Phenol-d5 (Surr)	*20*		*20 - 100*	*10/11/17 09:07*	*10/19/17 17:54*	*1*
Terphenyl-d14 (Surr)	*95*		*40 - 145*	*10/11/17 09:07*	*10/19/17 17:54*	*1*

Client Sample ID: SUPE-W-28C-100417

Lab Sample ID: 480-125450-7

Date Collected: 10/04/17 12:57

Matrix: Water

Date Received: 10/06/17 09:15

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			10/14/17 17:45	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			10/14/17 17:45	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			10/14/17 17:45	1
Benzene	ND		1.0	0.41	ug/L			10/14/17 17:45	1
Chloromethane	ND		1.0	0.35	ug/L			10/14/17 17:45	1
Ethylbenzene	ND		1.0	0.74	ug/L			10/14/17 17:45	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			10/14/17 17:45	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			10/14/17 17:45	1
Naphthalene	ND		1.0	0.43	ug/L			10/14/17 17:45	1
n-Butylbenzene	ND		1.0	0.64	ug/L			10/14/17 17:45	1
N-Propylbenzene	ND		1.0	0.69	ug/L			10/14/17 17:45	1
o-Xylene	ND		1.0	0.76	ug/L			10/14/17 17:45	1
Styrene	ND		1.0	0.73	ug/L			10/14/17 17:45	1
Toluene	ND		1.0	0.51	ug/L			10/14/17 17:45	1
Xylenes, Total	ND		2.0	0.66	ug/L			10/14/17 17:45	1

Client Sample ID: SUPE-W-28C-100417

Date Collected: 10/04/17 12:57
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-7

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*77 - 120*		*10/14/17 17:45*	*1*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*10/14/17 17:45*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 123*		*10/14/17 17:45*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*10/14/17 17:45*	*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	0.29	ug/L		10/11/17 09:07	10/19/17 18:20	1
1,2-Dichlorobenzene	ND		2.0	0.29	ug/L		10/11/17 09:07	10/19/17 18:20	1
1,3-Dichlorobenzene	ND		2.0	0.25	ug/L		10/11/17 09:07	10/19/17 18:20	1
1,4-Dichlorobenzene	ND		2.0	0.27	ug/L		10/11/17 09:07	10/19/17 18:20	1
1-Methylnaphthalene	ND		2.0	0.49	ug/L		10/11/17 09:07	10/19/17 18:20	1
bis(chloroisopropyl) ether	ND		2.0	0.29	ug/L		10/11/17 09:07	10/19/17 18:20	1
2,3,4,6-Tetrachlorophenol	ND		4.9	1.5	ug/L		10/11/17 09:07	10/19/17 18:20	1
2,4,5-Trichlorophenol	ND		9.8	2.3	ug/L		10/11/17 09:07	10/19/17 18:20	1
2,4,6-Trichlorophenol	ND		4.9	1.1	ug/L		10/11/17 09:07	10/19/17 18:20	1
2,4-Dichlorophenol	ND		9.8	2.2	ug/L		10/11/17 09:07	10/19/17 18:20	1
2,4-Dinitrophenol	ND		20	7.3	ug/L		10/11/17 09:07	10/19/17 18:20	1
2,4-Dinitrotoluene	ND		0.98	0.29	ug/L		10/11/17 09:07	10/19/17 18:20	1
2,6-Dinitrotoluene	ND		0.98	0.12	ug/L		10/11/17 09:07	10/19/17 18:20	1
2-Chloronaphthalene	ND		2.0	0.33	ug/L		10/11/17 09:07	10/19/17 18:20	1
2-Chlorophenol	ND		4.9	0.79	ug/L		10/11/17 09:07	10/19/17 18:20	1
2-Methylnaphthalene	ND		2.0	0.13	ug/L		10/11/17 09:07	10/19/17 18:20	1
2-Methylphenol	ND		2.0	0.30	ug/L		10/11/17 09:07	10/19/17 18:20	1
2-Nitroaniline	ND		4.9	1.1	ug/L		10/11/17 09:07	10/19/17 18:20	1
2-Nitrophenol	ND		9.8	2.1	ug/L		10/11/17 09:07	10/19/17 18:20	1
3-Nitroaniline	ND		9.8	2.3	ug/L		10/11/17 09:07	10/19/17 18:20	1
4,6-Dinitro-2-methylphenol	ND		20	4.8	ug/L		10/11/17 09:07	10/19/17 18:20	1
4-Bromophenyl phenyl ether	ND		4.9	0.89	ug/L		10/11/17 09:07	10/19/17 18:20	1
4-Chloro-3-methylphenol	ND		9.8	2.2	ug/L		10/11/17 09:07	10/19/17 18:20	1
4-Chloroaniline	ND		9.8	2.1	ug/L		10/11/17 09:07	10/19/17 18:20	1
4-Chlorophenyl phenyl ether	ND		4.9	0.80	ug/L		10/11/17 09:07	10/19/17 18:20	1
4-Nitroaniline	ND		9.8	3.9	ug/L		10/11/17 09:07	10/19/17 18:20	1
4-Nitrophenol	ND		20	2.3	ug/L		10/11/17 09:07	10/19/17 18:20	1
Acenaphthene	ND		0.98	0.35	ug/L		10/11/17 09:07	10/19/17 18:20	1
Acenaphthylene	ND		0.98	0.31	ug/L		10/11/17 09:07	10/19/17 18:20	1
Anthracene	ND		0.98	0.31	ug/L		10/11/17 09:07	10/19/17 18:20	1
Benzo[a]pyrene	ND		0.20	0.055	ug/L		10/11/17 09:07	10/19/17 18:20	1
Benzo[b]fluoranthene	ND		0.20	0.057	ug/L		10/11/17 09:07	10/19/17 18:20	1
Benzo[g,h,i]perylene	ND		0.98	0.41	ug/L		10/11/17 09:07	10/19/17 18:20	1
Benzo[k]fluoranthene	ND		0.20	0.073	ug/L		10/11/17 09:07	10/19/17 18:20	1
Benzoic acid	ND		20	4.5	ug/L		10/11/17 09:07	10/19/17 18:20	1
Benzyl alcohol	ND		20	3.0	ug/L		10/11/17 09:07	10/19/17 18:20	1
Bis(2-chloroethoxy)methane	ND		2.0	0.29	ug/L		10/11/17 09:07	10/19/17 18:20	1
Bis(2-chloroethyl)ether	ND		2.0	0.34	ug/L		10/11/17 09:07	10/19/17 18:20	1
Bis(2-ethylhexyl) phthalate	ND		9.8	2.4	ug/L		10/11/17 09:07	10/19/17 18:20	1
Butyl benzyl phthalate	ND		2.0	0.27	ug/L		10/11/17 09:07	10/19/17 18:20	1
Chrysene	ND		0.49	0.14	ug/L		10/11/17 09:07	10/19/17 18:20	1
Dibenz(a,h)anthracene	ND		0.29	0.063	ug/L		10/11/17 09:07	10/19/17 18:20	1
Dibenzofuran	ND		2.0	0.34	ug/L		10/11/17 09:07	10/19/17 18:20	1

Client Sample ID: SUPE-W-28C-100417

Lab Sample ID: 480-125450-7

Date Collected: 10/04/17 12:57

Matrix: Water

Date Received: 10/06/17 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diethyl phthalate	ND		2.0	0.43	ug/L		10/11/17 09:07	10/19/17 18:20	1
Dimethyl phthalate	ND		2.0	0.37	ug/L		10/11/17 09:07	10/19/17 18:20	1
Di-n-butyl phthalate	ND		4.9	0.79	ug/L		10/11/17 09:07	10/19/17 18:20	1
Di-n-octyl phthalate	ND		9.8	2.4	ug/L		10/11/17 09:07	10/19/17 18:20	1
2,3,5,6-Tetrachlorophenol	ND		4.9	2.5	ug/L		10/11/17 09:07	10/19/17 18:20	1
Fluoranthene	ND		0.98	0.31	ug/L		10/11/17 09:07	10/19/17 18:20	1
Fluorene	ND		0.98	0.37	ug/L		10/11/17 09:07	10/19/17 18:20	1
Hexachlorobenzene	ND		0.49	0.14	ug/L		10/11/17 09:07	10/19/17 18:20	1
Hexachlorobutadiene	ND		4.9	1.1	ug/L		10/11/17 09:07	10/19/17 18:20	1
Hexachlorocyclopentadiene	ND		20	3.4	ug/L		10/11/17 09:07	10/19/17 18:20	1
Hexachloroethane	ND		4.9	0.95	ug/L		10/11/17 09:07	10/19/17 18:20	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.083	ug/L		10/11/17 09:07	10/19/17 18:20	1
Isophorone	ND		2.0	0.29	ug/L		10/11/17 09:07	10/19/17 18:20	1
Nitrobenzene	ND		0.98	0.44	ug/L		10/11/17 09:07	10/19/17 18:20	1
N-Nitrosodi-n-propylamine	ND		0.49	0.14	ug/L		10/11/17 09:07	10/19/17 18:20	1
N-Nitrosodiphenylamine	ND		2.0	0.33	ug/L		10/11/17 09:07	10/19/17 18:20	1
Pentachlorophenol	ND		20	5.5	ug/L		10/11/17 09:07	10/19/17 18:20	1
Phenol	ND		4.9	0.35	ug/L		10/11/17 09:07	10/19/17 18:20	1
Pyrene	ND		0.98	0.47	ug/L		10/11/17 09:07	10/19/17 18:20	1
2,4-Dimethylphenol	ND		9.8	3.3	ug/L		10/11/17 09:07	10/19/17 18:20	1
Benzo[a]anthracene	ND		0.20	0.043	ug/L		10/11/17 09:07	10/19/17 18:20	1
Phenanthrene	ND		0.98	0.34	ug/L		10/11/17 09:07	10/19/17 18:20	1
3,3'-Dichlorobenzidine	ND		4.9	0.92	ug/L		10/11/17 09:07	10/19/17 18:20	1
3 & 4 Methylphenol	ND		2.0	0.43	ug/L		10/11/17 09:07	10/19/17 18:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*93*		*40 - 145*	*10/11/17 09:07*	*10/19/17 18:20*	*1*
2-Fluorobiphenyl	*79*		*34 - 110*	*10/11/17 09:07*	*10/19/17 18:20*	*1*
2-Fluorophenol (Surr)	*50*		*27 - 110*	*10/11/17 09:07*	*10/19/17 18:20*	*1*
Nitrobenzene-d5 (Surr)	*89*		*36 - 120*	*10/11/17 09:07*	*10/19/17 18:20*	*1*
Phenol-d5 (Surr)	*22*		*20 - 100*	*10/11/17 09:07*	*10/19/17 18:20*	*1*
Terphenyl-d14 (Surr)	*93*		*40 - 145*	*10/11/17 09:07*	*10/19/17 18:20*	*1*

Client Sample ID: SUPE-W-12CR-100417

Lab Sample ID: 480-125450-8

Date Collected: 10/04/17 14:02

Matrix: Water

Date Received: 10/06/17 09:15

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			10/14/17 18:10	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			10/14/17 18:10	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			10/14/17 18:10	1
Benzene	ND		1.0	0.41	ug/L			10/14/17 18:10	1
Chloromethane	ND		1.0	0.35	ug/L			10/14/17 18:10	1
Ethylbenzene	ND		1.0	0.74	ug/L			10/14/17 18:10	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			10/14/17 18:10	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			10/14/17 18:10	1
Naphthalene	ND		1.0	0.43	ug/L			10/14/17 18:10	1
n-Butylbenzene	ND		1.0	0.64	ug/L			10/14/17 18:10	1
N-Propylbenzene	ND		1.0	0.69	ug/L			10/14/17 18:10	1

Client Sample ID: SUPE-W-12CR-100417
Date Collected: 10/04/17 14:02
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.0	0.76	ug/L			10/14/17 18:10	1
Styrene	ND		1.0	0.73	ug/L			10/14/17 18:10	1
Toluene	ND		1.0	0.51	ug/L			10/14/17 18:10	1
Xylenes, Total	ND		2.0	0.66	ug/L			10/14/17 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*77 - 120*		*10/14/17 18:10*	*1*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*		*10/14/17 18:10*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*10/14/17 18:10*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*10/14/17 18:10*	*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		10/11/17 09:07	10/19/17 18:47	1
1,2-Dichlorobenzene	ND		1.9	0.28	ug/L		10/11/17 09:07	10/19/17 18:47	1
1,3-Dichlorobenzene	ND		1.9	0.24	ug/L		10/11/17 09:07	10/19/17 18:47	1
1,4-Dichlorobenzene	ND		1.9	0.26	ug/L		10/11/17 09:07	10/19/17 18:47	1
1-Methylnaphthalene	ND		1.9	0.48	ug/L		10/11/17 09:07	10/19/17 18:47	1
bis(chloroisopropyl) ether	ND		1.9	0.29	ug/L		10/11/17 09:07	10/19/17 18:47	1
2,3,4,6-Tetrachlorophenol	ND		4.8	1.4	ug/L		10/11/17 09:07	10/19/17 18:47	1
2,4,5-Trichlorophenol	ND		9.6	2.2	ug/L		10/11/17 09:07	10/19/17 18:47	1
2,4,6-Trichlorophenol	ND		4.8	1.1	ug/L		10/11/17 09:07	10/19/17 18:47	1
2,4-Dichlorophenol	ND		9.6	2.2	ug/L		10/11/17 09:07	10/19/17 18:47	1
2,4-Dinitrophenol	ND		19	7.1	ug/L		10/11/17 09:07	10/19/17 18:47	1
2,4-Dinitrotoluene	ND		0.96	0.29	ug/L		10/11/17 09:07	10/19/17 18:47	1
2,6-Dinitrotoluene	ND		0.96	0.11	ug/L		10/11/17 09:07	10/19/17 18:47	1
2-Chloronaphthalene	ND		1.9	0.32	ug/L		10/11/17 09:07	10/19/17 18:47	1
2-Chlorophenol	ND		4.8	0.76	ug/L		10/11/17 09:07	10/19/17 18:47	1
2-Methylnaphthalene	ND		1.9	0.12	ug/L		10/11/17 09:07	10/19/17 18:47	1
2-Methylphenol	ND		1.9	0.30	ug/L		10/11/17 09:07	10/19/17 18:47	1
2-Nitroaniline	ND		4.8	1.0	ug/L		10/11/17 09:07	10/19/17 18:47	1
2-Nitrophenol	ND		9.6	2.0	ug/L		10/11/17 09:07	10/19/17 18:47	1
3-Nitroaniline	ND		9.6	2.2	ug/L		10/11/17 09:07	10/19/17 18:47	1
4,6-Dinitro-2-methylphenol	ND		19	4.7	ug/L		10/11/17 09:07	10/19/17 18:47	1
4-Bromophenyl phenyl ether	ND		4.8	0.87	ug/L		10/11/17 09:07	10/19/17 18:47	1
4-Chloro-3-methylphenol	ND		9.6	2.1	ug/L		10/11/17 09:07	10/19/17 18:47	1
4-Chloroaniline	ND		9.6	2.0	ug/L		10/11/17 09:07	10/19/17 18:47	1
4-Chlorophenyl phenyl ether	ND		4.8	0.77	ug/L		10/11/17 09:07	10/19/17 18:47	1
4-Nitroaniline	ND		9.6	3.8	ug/L		10/11/17 09:07	10/19/17 18:47	1
4-Nitrophenol	ND		19	2.2	ug/L		10/11/17 09:07	10/19/17 18:47	1
Acenaphthene	ND		0.96	0.34	ug/L		10/11/17 09:07	10/19/17 18:47	1
Acenaphthylene	ND		0.96	0.31	ug/L		10/11/17 09:07	10/19/17 18:47	1
Anthracene	ND		0.96	0.31	ug/L		10/11/17 09:07	10/19/17 18:47	1
Benzo[a]pyrene	ND		0.19	0.053	ug/L		10/11/17 09:07	10/19/17 18:47	1
Benzo[b]fluoranthene	ND		0.19	0.055	ug/L		10/11/17 09:07	10/19/17 18:47	1
Benzo[g,h,i]perylene	ND		0.96	0.40	ug/L		10/11/17 09:07	10/19/17 18:47	1
Benzo[k]fluoranthene	ND		0.19	0.071	ug/L		10/11/17 09:07	10/19/17 18:47	1
Benzoic acid	ND		19	4.4	ug/L		10/11/17 09:07	10/19/17 18:47	1
Benzyl alcohol	ND		19	2.9	ug/L		10/11/17 09:07	10/19/17 18:47	1
Bis(2-chloroethoxy)methane	ND		1.9	0.29	ug/L		10/11/17 09:07	10/19/17 18:47	1

Client Sample ID: SUPE-W-12CR-100417

Lab Sample ID: 480-125450-8

Date Collected: 10/04/17 14:02

Matrix: Water

Date Received: 10/06/17 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	ND		1.9	0.33	ug/L		10/11/17 09:07	10/19/17 18:47	1
Bis(2-ethylhexyl) phthalate	ND		9.6	2.3	ug/L		10/11/17 09:07	10/19/17 18:47	1
Butyl benzyl phthalate	ND		1.9	0.26	ug/L		10/11/17 09:07	10/19/17 18:47	1
Chrysene	ND		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 18:47	1
Dibenz(a,h)anthracene	ND		0.29	0.061	ug/L		10/11/17 09:07	10/19/17 18:47	1
Dibenzofuran	ND		1.9	0.33	ug/L		10/11/17 09:07	10/19/17 18:47	1
Diethyl phthalate	ND		1.9	0.42	ug/L		10/11/17 09:07	10/19/17 18:47	1
Dimethyl phthalate	ND		1.9	0.36	ug/L		10/11/17 09:07	10/19/17 18:47	1
Di-n-butyl phthalate	ND		4.8	0.76	ug/L		10/11/17 09:07	10/19/17 18:47	1
Di-n-octyl phthalate	ND		9.6	2.4	ug/L		10/11/17 09:07	10/19/17 18:47	1
2,3,5,6-Tetrachlorophenol	ND		4.8	2.4	ug/L		10/11/17 09:07	10/19/17 18:47	1
Fluoranthene	ND		0.96	0.31	ug/L		10/11/17 09:07	10/19/17 18:47	1
Fluorene	ND		0.96	0.36	ug/L		10/11/17 09:07	10/19/17 18:47	1
Hexachlorobenzene	ND		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 18:47	1
Hexachlorobutadiene	ND		4.8	1.1	ug/L		10/11/17 09:07	10/19/17 18:47	1
Hexachlorocyclopentadiene	ND		19	3.3	ug/L		10/11/17 09:07	10/19/17 18:47	1
Hexachloroethane	ND		4.8	0.93	ug/L		10/11/17 09:07	10/19/17 18:47	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.080	ug/L		10/11/17 09:07	10/19/17 18:47	1
Isophorone	ND		1.9	0.28	ug/L		10/11/17 09:07	10/19/17 18:47	1
Nitrobenzene	ND		0.96	0.43	ug/L		10/11/17 09:07	10/19/17 18:47	1
N-Nitrosodi-n-propylamine	ND		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 18:47	1
N-Nitrosodiphenylamine	ND		1.9	0.32	ug/L		10/11/17 09:07	10/19/17 18:47	1
Pentachlorophenol	ND		19	5.3	ug/L		10/11/17 09:07	10/19/17 18:47	1
Phenol	ND		4.8	0.34	ug/L		10/11/17 09:07	10/19/17 18:47	1
Pyrene	ND		0.96	0.46	ug/L		10/11/17 09:07	10/19/17 18:47	1
2,4-Dimethylphenol	ND		9.6	3.2	ug/L		10/11/17 09:07	10/19/17 18:47	1
Benzo[a]anthracene	ND		0.19	0.042	ug/L		10/11/17 09:07	10/19/17 18:47	1
Phenanthrene	ND		0.96	0.33	ug/L		10/11/17 09:07	10/19/17 18:47	1
3,3'-Dichlorobenzidine	ND		4.8	0.90	ug/L		10/11/17 09:07	10/19/17 18:47	1
3 & 4 Methylphenol	ND		1.9	0.42	ug/L		10/11/17 09:07	10/19/17 18:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*94*		*40 - 145*	*10/11/17 09:07*	*10/19/17 18:47*	*1*
2-Fluorobiphenyl	*79*		*34 - 110*	*10/11/17 09:07*	*10/19/17 18:47*	*1*
2-Fluorophenol (Surr)	*50*		*27 - 110*	*10/11/17 09:07*	*10/19/17 18:47*	*1*
Nitrobenzene-d5 (Surr)	*94*		*36 - 120*	*10/11/17 09:07*	*10/19/17 18:47*	*1*
Phenol-d5 (Surr)	*21*		*20 - 100*	*10/11/17 09:07*	*10/19/17 18:47*	*1*
Terphenyl-d14 (Surr)	*93*		*40 - 145*	*10/11/17 09:07*	*10/19/17 18:47*	*1*

Client Sample ID: SUPE-W-04AR2-100417

Lab Sample ID: 480-125450-9

Date Collected: 10/04/17 15:08

Matrix: Water

Date Received: 10/06/17 09:15

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			10/14/17 18:35	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			10/14/17 18:35	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			10/14/17 18:35	1
Benzene	ND		1.0	0.41	ug/L			10/14/17 18:35	1
Chloromethane	ND		1.0	0.35	ug/L			10/14/17 18:35	1

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

TestAmerica Job ID: 480-125450-1

Client Sample ID: SUPE-W-04AR2-100417
Date Collected: 10/04/17 15:08
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-9
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		1.0	0.74	ug/L			10/14/17 18:35	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			10/14/17 18:35	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			10/14/17 18:35	1
Naphthalene	ND		1.0	0.43	ug/L			10/14/17 18:35	1
n-Butylbenzene	ND		1.0	0.64	ug/L			10/14/17 18:35	1
N-Propylbenzene	ND		1.0	0.69	ug/L			10/14/17 18:35	1
o-Xylene	ND		1.0	0.76	ug/L			10/14/17 18:35	1
Styrene	ND		1.0	0.73	ug/L			10/14/17 18:35	1
Toluene	ND		1.0	0.51	ug/L			10/14/17 18:35	1
Xylenes, Total	ND		2.0	0.66	ug/L			10/14/17 18:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*77 - 120*		*10/14/17 18:35*	*1*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*		*10/14/17 18:35*	*1*
Dibromofluoromethane (Surr)	*97*		*75 - 123*		*10/14/17 18:35*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*10/14/17 18:35*	*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		10/11/17 09:07	10/19/17 19:13	1
1,2-Dichlorobenzene	ND		1.9	0.28	ug/L		10/11/17 09:07	10/19/17 19:13	1
1,3-Dichlorobenzene	ND		1.9	0.24	ug/L		10/11/17 09:07	10/19/17 19:13	1
1,4-Dichlorobenzene	ND		1.9	0.26	ug/L		10/11/17 09:07	10/19/17 19:13	1
1-Methylnaphthalene	ND		1.9	0.48	ug/L		10/11/17 09:07	10/19/17 19:13	1
bis(chloroisopropyl) ether	ND		1.9	0.29	ug/L		10/11/17 09:07	10/19/17 19:13	1
2,3,4,6-Tetrachlorophenol	ND		4.8	1.4	ug/L		10/11/17 09:07	10/19/17 19:13	1
2,4,5-Trichlorophenol	ND		9.5	2.2	ug/L		10/11/17 09:07	10/19/17 19:13	1
2,4,6-Trichlorophenol	ND		4.8	1.0	ug/L		10/11/17 09:07	10/19/17 19:13	1
2,4-Dichlorophenol	ND		9.5	2.2	ug/L		10/11/17 09:07	10/19/17 19:13	1
2,4-Dinitrophenol	ND		19	7.1	ug/L		10/11/17 09:07	10/19/17 19:13	1
2,4-Dinitrotoluene	ND		0.95	0.29	ug/L		10/11/17 09:07	10/19/17 19:13	1
2,6-Dinitrotoluene	ND		0.95	0.11	ug/L		10/11/17 09:07	10/19/17 19:13	1
2-Chloronaphthalene	ND		1.9	0.32	ug/L		10/11/17 09:07	10/19/17 19:13	1
2-Chlorophenol	ND		4.8	0.76	ug/L		10/11/17 09:07	10/19/17 19:13	1
2-Methylnaphthalene	ND		1.9	0.12	ug/L		10/11/17 09:07	10/19/17 19:13	1
2-Methylphenol	ND		1.9	0.30	ug/L		10/11/17 09:07	10/19/17 19:13	1
2-Nitroaniline	ND		4.8	1.0	ug/L		10/11/17 09:07	10/19/17 19:13	1
2-Nitrophenol	ND		9.5	2.0	ug/L		10/11/17 09:07	10/19/17 19:13	1
3-Nitroaniline	ND		9.5	2.2	ug/L		10/11/17 09:07	10/19/17 19:13	1
4,6-Dinitro-2-methylphenol	ND		19	4.7	ug/L		10/11/17 09:07	10/19/17 19:13	1
4-Bromophenyl phenyl ether	ND		4.8	0.87	ug/L		10/11/17 09:07	10/19/17 19:13	1
4-Chloro-3-methylphenol	ND		9.5	2.1	ug/L		10/11/17 09:07	10/19/17 19:13	1
4-Chloroaniline	ND		9.5	2.0	ug/L		10/11/17 09:07	10/19/17 19:13	1
4-Chlorophenyl phenyl ether	ND		4.8	0.77	ug/L		10/11/17 09:07	10/19/17 19:13	1
4-Nitroaniline	ND		9.5	3.7	ug/L		10/11/17 09:07	10/19/17 19:13	1
4-Nitrophenol	ND		19	2.2	ug/L		10/11/17 09:07	10/19/17 19:13	1
Acenaphthene	ND		0.95	0.34	ug/L		10/11/17 09:07	10/19/17 19:13	1
Acenaphthylene	ND		0.95	0.31	ug/L		10/11/17 09:07	10/19/17 19:13	1
Anthracene	**0.55**	**J**	0.95	0.31	ug/L		10/11/17 09:07	10/19/17 19:13	1
Benzo[a]pyrene	ND		0.19	0.053	ug/L		10/11/17 09:07	10/19/17 19:13	1

Client Sample ID: SUPE-W-04AR2-100417
Date Collected: 10/04/17 15:08
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-9
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.19	0.055	ug/L		10/11/17 09:07	10/19/17 19:13	1
Benzo[g,h,i]perylene	ND		0.95	0.40	ug/L		10/11/17 09:07	10/19/17 19:13	1
Benzo[k]fluoranthene	ND		0.19	0.071	ug/L		10/11/17 09:07	10/19/17 19:13	1
Benzoic acid	ND		19	4.4	ug/L		10/11/17 09:07	10/19/17 19:13	1
Benzyl alcohol	ND		19	2.9	ug/L		10/11/17 09:07	10/19/17 19:13	1
Bis(2-chloroethoxy)methane	ND		1.9	0.29	ug/L		10/11/17 09:07	10/19/17 19:13	1
Bis(2-chloroethyl)ether	ND		1.9	0.33	ug/L		10/11/17 09:07	10/19/17 19:13	1
Bis(2-ethylhexyl) phthalate	ND		9.5	2.3	ug/L		10/11/17 09:07	10/19/17 19:13	1
Butyl benzyl phthalate	ND		1.9	0.26	ug/L		10/11/17 09:07	10/19/17 19:13	1
Chrysene	ND		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 19:13	1
Dibenz(a,h)anthracene	ND		0.29	0.061	ug/L		10/11/17 09:07	10/19/17 19:13	1
Dibenzofuran	ND		1.9	0.33	ug/L		10/11/17 09:07	10/19/17 19:13	1
Diethyl phthalate	ND		1.9	0.42	ug/L		10/11/17 09:07	10/19/17 19:13	1
Dimethyl phthalate	ND		1.9	0.36	ug/L		10/11/17 09:07	10/19/17 19:13	1
Di-n-butyl phthalate	ND		4.8	0.76	ug/L		10/11/17 09:07	10/19/17 19:13	1
Di-n-octyl phthalate	ND		9.5	2.4	ug/L		10/11/17 09:07	10/19/17 19:13	1
2,3,5,6-Tetrachlorophenol	ND		4.8	2.4	ug/L		10/11/17 09:07	10/19/17 19:13	1
Fluoranthene	ND		0.95	0.31	ug/L		10/11/17 09:07	10/19/17 19:13	1
Fluorene	ND		0.95	0.36	ug/L		10/11/17 09:07	10/19/17 19:13	1
Hexachlorobenzene	ND		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 19:13	1
Hexachlorobutadiene	ND		4.8	1.1	ug/L		10/11/17 09:07	10/19/17 19:13	1
Hexachlorocyclopentadiene	ND		19	3.3	ug/L		10/11/17 09:07	10/19/17 19:13	1
Hexachloroethane	ND		4.8	0.93	ug/L		10/11/17 09:07	10/19/17 19:13	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.080	ug/L		10/11/17 09:07	10/19/17 19:13	1
Isophorone	ND		1.9	0.28	ug/L		10/11/17 09:07	10/19/17 19:13	1
Nitrobenzene	ND		0.95	0.43	ug/L		10/11/17 09:07	10/19/17 19:13	1
N-Nitrosodi-n-propylamine	ND		0.48	0.13	ug/L		10/11/17 09:07	10/19/17 19:13	1
N-Nitrosodiphenylamine	ND		1.9	0.32	ug/L		10/11/17 09:07	10/19/17 19:13	1
Pentachlorophenol	ND		19	5.3	ug/L		10/11/17 09:07	10/19/17 19:13	1
Phenol	ND		4.8	0.34	ug/L		10/11/17 09:07	10/19/17 19:13	1
Pyrene	ND		0.95	0.46	ug/L		10/11/17 09:07	10/19/17 19:13	1
2,4-Dimethylphenol	ND		9.5	3.2	ug/L		10/11/17 09:07	10/19/17 19:13	1
Benzo[a]anthracene	ND		0.19	0.042	ug/L		10/11/17 09:07	10/19/17 19:13	1
Phenanthrene	ND		0.95	0.33	ug/L		10/11/17 09:07	10/19/17 19:13	1
3,3'-Dichlorobenzidine	ND		4.8	0.90	ug/L		10/11/17 09:07	10/19/17 19:13	1
3 & 4 Methylphenol	ND		1.9	0.42	ug/L		10/11/17 09:07	10/19/17 19:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*90*		*40 - 145*	*10/11/17 09:07*	*10/19/17 19:13*	*1*
2-Fluorobiphenyl	*82*		*34 - 110*	*10/11/17 09:07*	*10/19/17 19:13*	*1*
2-Fluorophenol (Surr)	*42*		*27 - 110*	*10/11/17 09:07*	*10/19/17 19:13*	*1*
Nitrobenzene-d5 (Surr)	*89*		*36 - 120*	*10/11/17 09:07*	*10/19/17 19:13*	*1*
Phenol-d5 (Surr)	*21*		*20 - 100*	*10/11/17 09:07*	*10/19/17 19:13*	*1*
Terphenyl-d14 (Surr)	*94*		*40 - 145*	*10/11/17 09:07*	*10/19/17 19:13*	*1*

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

TestAmerica Job ID: 480-125450-1

Client Sample ID: SUPE-EB-01-100417
Date Collected: 10/04/17 16:10
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-10
Matrix: Water

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			10/14/17 17:23	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			10/14/17 17:23	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			10/14/17 17:23	1
Benzene	ND		1.0	0.41	ug/L			10/14/17 17:23	1
Chloromethane	ND		1.0	0.35	ug/L			10/14/17 17:23	1
Ethylbenzene	ND		1.0	0.74	ug/L			10/14/17 17:23	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			10/14/17 17:23	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			10/14/17 17:23	1
Naphthalene	ND		1.0	0.43	ug/L			10/14/17 17:23	1
n-Butylbenzene	ND		1.0	0.64	ug/L			10/14/17 17:23	1
N-Propylbenzene	ND		1.0	0.69	ug/L			10/14/17 17:23	1
o-Xylene	ND		1.0	0.76	ug/L			10/14/17 17:23	1
Styrene	ND		1.0	0.73	ug/L			10/14/17 17:23	1
Toluene	ND		1.0	0.51	ug/L			10/14/17 17:23	1
Xylenes, Total	ND		2.0	0.66	ug/L			10/14/17 17:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*10/14/17 17:23*	*1*
4-Bromofluorobenzene (Surr)	*91*		*73 - 120*		*10/14/17 17:23*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 123*		*10/14/17 17:23*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*10/14/17 17:23*	*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		10/11/17 09:07	10/19/17 20:07	1
1,2-Dichlorobenzene	ND		1.9	0.28	ug/L		10/11/17 09:07	10/19/17 20:07	1
1,3-Dichlorobenzene	ND		1.9	0.24	ug/L		10/11/17 09:07	10/19/17 20:07	1
1,4-Dichlorobenzene	ND		1.9	0.26	ug/L		10/11/17 09:07	10/19/17 20:07	1
1-Methylnaphthalene	ND		1.9	0.49	ug/L		10/11/17 09:07	10/19/17 20:07	1
bis(chloroisopropyl) ether	ND		1.9	0.29	ug/L		10/11/17 09:07	10/19/17 20:07	1
2,3,4,6-Tetrachlorophenol	ND		4.9	1.5	ug/L		10/11/17 09:07	10/19/17 20:07	1
2,4,5-Trichlorophenol	ND		9.7	2.2	ug/L		10/11/17 09:07	10/19/17 20:07	1
2,4,6-Trichlorophenol	ND		4.9	1.1	ug/L		10/11/17 09:07	10/19/17 20:07	1
2,4-Dichlorophenol	ND		9.7	2.2	ug/L		10/11/17 09:07	10/19/17 20:07	1
2,4-Dinitrophenol	ND		19	7.2	ug/L		10/11/17 09:07	10/19/17 20:07	1
2,4-Dinitrotoluene	ND		0.97	0.29	ug/L		10/11/17 09:07	10/19/17 20:07	1
2,6-Dinitrotoluene	ND		0.97	0.12	ug/L		10/11/17 09:07	10/19/17 20:07	1
2-Chloronaphthalene	ND		1.9	0.33	ug/L		10/11/17 09:07	10/19/17 20:07	1
2-Chlorophenol	ND		4.9	0.78	ug/L		10/11/17 09:07	10/19/17 20:07	1
2-Methylnaphthalene	ND		1.9	0.13	ug/L		10/11/17 09:07	10/19/17 20:07	1
2-Methylphenol	ND		1.9	0.30	ug/L		10/11/17 09:07	10/19/17 20:07	1
2-Nitroaniline	ND		4.9	1.1	ug/L		10/11/17 09:07	10/19/17 20:07	1
2-Nitrophenol	ND		9.7	2.1	ug/L		10/11/17 09:07	10/19/17 20:07	1
3-Nitroaniline	ND		9.7	2.2	ug/L		10/11/17 09:07	10/19/17 20:07	1
4,6-Dinitro-2-methylphenol	ND		19	4.8	ug/L		10/11/17 09:07	10/19/17 20:07	1
4-Bromophenyl phenyl ether	ND		4.9	0.89	ug/L		10/11/17 09:07	10/19/17 20:07	1
4-Chloro-3-methylphenol	ND		9.7	2.1	ug/L		10/11/17 09:07	10/19/17 20:07	1
4-Chloroaniline	ND		9.7	2.0	ug/L		10/11/17 09:07	10/19/17 20:07	1
4-Chlorophenyl phenyl ether	ND		4.9	0.79	ug/L		10/11/17 09:07	10/19/17 20:07	1
4-Nitroaniline	ND		9.7	3.8	ug/L		10/11/17 09:07	10/19/17 20:07	1

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

TestAmerica Job ID: 480-125450-1

Client Sample ID: SUPE-EB-01-100417
Date Collected: 10/04/17 16:10
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-10
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	ND		19	2.3	ug/L		10/11/17 09:07	10/19/17 20:07	1
Acenaphthene	ND		0.97	0.35	ug/L		10/11/17 09:07	10/19/17 20:07	1
Acenaphthylene	ND		0.97	0.31	ug/L		10/11/17 09:07	10/19/17 20:07	1
Anthracene	ND		0.97	0.31	ug/L		10/11/17 09:07	10/19/17 20:07	1
Benzo[a]pyrene	ND		0.19	0.055	ug/L		10/11/17 09:07	10/19/17 20:07	1
Benzo[b]fluoranthene	ND		0.19	0.057	ug/L		10/11/17 09:07	10/19/17 20:07	1
Benzo[g,h,i]perylene	ND		0.97	0.41	ug/L		10/11/17 09:07	10/19/17 20:07	1
Benzo[k]fluoranthene	ND		0.19	0.072	ug/L		10/11/17 09:07	10/19/17 20:07	1
Benzoic acid	ND		19	4.4	ug/L		10/11/17 09:07	10/19/17 20:07	1
Benzyl alcohol	ND		19	3.0	ug/L		10/11/17 09:07	10/19/17 20:07	1
Bis(2-chloroethoxy)methane	ND		1.9	0.29	ug/L		10/11/17 09:07	10/19/17 20:07	1
Bis(2-chloroethyl)ether	ND		1.9	0.34	ug/L		10/11/17 09:07	10/19/17 20:07	1
Bis(2-ethylhexyl) phthalate	ND		9.7	2.4	ug/L		10/11/17 09:07	10/19/17 20:07	1
Butyl benzyl phthalate	ND		1.9	0.26	ug/L		10/11/17 09:07	10/19/17 20:07	1
Chrysene	ND		0.49	0.14	ug/L		10/11/17 09:07	10/19/17 20:07	1
Dibenz(a,h)anthracene	ND		0.29	0.062	ug/L		10/11/17 09:07	10/19/17 20:07	1
Dibenzofuran	ND		1.9	0.34	ug/L		10/11/17 09:07	10/19/17 20:07	1
Diethyl phthalate	ND		1.9	0.43	ug/L		10/11/17 09:07	10/19/17 20:07	1
Dimethyl phthalate	ND		1.9	0.37	ug/L		10/11/17 09:07	10/19/17 20:07	1
Di-n-butyl phthalate	ND		4.9	0.78	ug/L		10/11/17 09:07	10/19/17 20:07	1
Di-n-octyl phthalate	ND		9.7	2.4	ug/L		10/11/17 09:07	10/19/17 20:07	1
2,3,5,6-Tetrachlorophenol	ND		4.9	2.4	ug/L		10/11/17 09:07	10/19/17 20:07	1
Fluoranthene	ND		0.97	0.31	ug/L		10/11/17 09:07	10/19/17 20:07	1
Fluorene	ND		0.97	0.37	ug/L		10/11/17 09:07	10/19/17 20:07	1
Hexachlorobenzene	ND		0.49	0.14	ug/L		10/11/17 09:07	10/19/17 20:07	1
Hexachlorobutadiene	ND		4.9	1.1	ug/L		10/11/17 09:07	10/19/17 20:07	1
Hexachlorocyclopentadiene	ND		19	3.4	ug/L		10/11/17 09:07	10/19/17 20:07	1
Hexachloroethane	ND		4.9	0.95	ug/L		10/11/17 09:07	10/19/17 20:07	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.082	ug/L		10/11/17 09:07	10/19/17 20:07	1
Isophorone	ND		1.9	0.28	ug/L		10/11/17 09:07	10/19/17 20:07	1
Nitrobenzene	ND		0.97	0.44	ug/L		10/11/17 09:07	10/19/17 20:07	1
N-Nitrosodi-n-propylamine	ND		0.49	0.14	ug/L		10/11/17 09:07	10/19/17 20:07	1
N-Nitrosodiphenylamine	ND		1.9	0.33	ug/L		10/11/17 09:07	10/19/17 20:07	1
Pentachlorophenol	ND		19	5.5	ug/L		10/11/17 09:07	10/19/17 20:07	1
Phenol	ND		4.9	0.35	ug/L		10/11/17 09:07	10/19/17 20:07	1
Pyrene	ND		0.97	0.47	ug/L		10/11/17 09:07	10/19/17 20:07	1
2,4-Dimethylphenol	ND		9.7	3.3	ug/L		10/11/17 09:07	10/19/17 20:07	1
Benzo[a]anthracene	ND		0.19	0.043	ug/L		10/11/17 09:07	10/19/17 20:07	1
Phenanthrene	ND		0.97	0.34	ug/L		10/11/17 09:07	10/19/17 20:07	1
3,3'-Dichlorobenzidine	ND		4.9	0.92	ug/L		10/11/17 09:07	10/19/17 20:07	1
3 & 4 Methylphenol	ND		1.9	0.43	ug/L		10/11/17 09:07	10/19/17 20:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*80*		*40 - 145*	*10/11/17 09:07*	*10/19/17 20:07*	*1*
2-Fluorobiphenyl	*80*		*34 - 110*	*10/11/17 09:07*	*10/19/17 20:07*	*1*
2-Fluorophenol (Surr)	*45*		*27 - 110*	*10/11/17 09:07*	*10/19/17 20:07*	*1*
Nitrobenzene-d5 (Surr)	*97*		*36 - 120*	*10/11/17 09:07*	*10/19/17 20:07*	*1*
Phenol-d5 (Surr)	*21*		*20 - 100*	*10/11/17 09:07*	*10/19/17 20:07*	*1*
Terphenyl-d14 (Surr)	*96*		*40 - 145*	*10/11/17 09:07*	*10/19/17 20:07*	*1*

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

TestAmerica Job ID: 480-125450-1

Client Sample ID: SUPE-W-99A-100417
Date Collected: 10/04/17 22:22
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-11
Matrix: Water

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			10/14/17 17:46	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			10/14/17 17:46	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			10/14/17 17:46	1
Benzene	ND		1.0	0.41	ug/L			10/14/17 17:46	1
Chloromethane	ND		1.0	0.35	ug/L			10/14/17 17:46	1
Ethylbenzene	ND		1.0	0.74	ug/L			10/14/17 17:46	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			10/14/17 17:46	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			10/14/17 17:46	1
Naphthalene	ND		1.0	0.43	ug/L			10/14/17 17:46	1
n-Butylbenzene	ND		1.0	0.64	ug/L			10/14/17 17:46	1
N-Propylbenzene	ND		1.0	0.69	ug/L			10/14/17 17:46	1
o-Xylene	ND		1.0	0.76	ug/L			10/14/17 17:46	1
Styrene	ND		1.0	0.73	ug/L			10/14/17 17:46	1
Toluene	ND		1.0	0.51	ug/L			10/14/17 17:46	1
Xylenes, Total	ND		2.0	0.66	ug/L			10/14/17 17:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*77 - 120*		*10/14/17 17:46*	*1*
4-Bromofluorobenzene (Surr)	*91*		*73 - 120*		*10/14/17 17:46*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 123*		*10/14/17 17:46*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*10/14/17 17:46*	*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		10/11/17 09:07	10/20/17 12:32	1
1,2-Dichlorobenzene	ND		1.9	0.28	ug/L		10/11/17 09:07	10/20/17 12:32	1
1,3-Dichlorobenzene	ND		1.9	0.24	ug/L		10/11/17 09:07	10/20/17 12:32	1
1,4-Dichlorobenzene	ND		1.9	0.26	ug/L		10/11/17 09:07	10/20/17 12:32	1
1-Methylnaphthalene	ND		1.9	0.48	ug/L		10/11/17 09:07	10/20/17 12:32	1
bis(chloroisopropyl) ether	ND		1.9	0.29	ug/L		10/11/17 09:07	10/20/17 12:32	1
2,3,4,6-Tetrachlorophenol	ND		4.8	1.5	ug/L		10/11/17 09:07	10/20/17 12:32	1
2,4,5-Trichlorophenol	ND		9.6	2.2	ug/L		10/11/17 09:07	10/20/17 12:32	1
2,4,6-Trichlorophenol	ND		4.8	1.1	ug/L		10/11/17 09:07	10/20/17 12:32	1
2,4-Dichlorophenol	ND		9.6	2.2	ug/L		10/11/17 09:07	10/20/17 12:32	1
2,4-Dinitrophenol	ND		19	7.1	ug/L		10/11/17 09:07	10/20/17 12:32	1
2,4-Dinitrotoluene	ND		0.96	0.29	ug/L		10/11/17 09:07	10/20/17 12:32	1
2,6-Dinitrotoluene	ND		0.96	0.12	ug/L		10/11/17 09:07	10/20/17 12:32	1
2-Chloronaphthalene	ND		1.9	0.33	ug/L		10/11/17 09:07	10/20/17 12:32	1
2-Chlorophenol	ND		4.8	0.77	ug/L		10/11/17 09:07	10/20/17 12:32	1
2-Methylnaphthalene	ND		1.9	0.13	ug/L		10/11/17 09:07	10/20/17 12:32	1
2-Methylphenol	ND		1.9	0.30	ug/L		10/11/17 09:07	10/20/17 12:32	1
2-Nitroaniline	ND		4.8	1.0	ug/L		10/11/17 09:07	10/20/17 12:32	1
2-Nitrophenol	ND		9.6	2.1	ug/L		10/11/17 09:07	10/20/17 12:32	1
3-Nitroaniline	ND		9.6	2.2	ug/L		10/11/17 09:07	10/20/17 12:32	1
4,6-Dinitro-2-methylphenol	ND		19	4.7	ug/L		10/11/17 09:07	10/20/17 12:32	1
4-Bromophenyl phenyl ether	ND		4.8	0.88	ug/L		10/11/17 09:07	10/20/17 12:32	1
4-Chloro-3-methylphenol	ND		9.6	2.1	ug/L		10/11/17 09:07	10/20/17 12:32	1
4-Chloroaniline	ND		9.6	2.0	ug/L		10/11/17 09:07	10/20/17 12:32	1
4-Chlorophenyl phenyl ether	ND		4.8	0.78	ug/L		10/11/17 09:07	10/20/17 12:32	1
4-Nitroaniline	ND		9.6	3.8	ug/L		10/11/17 09:07	10/20/17 12:32	1

Client Sample ID: SUPE-W-99A-100417
Date Collected: 10/04/17 22:22
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-11
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	ND		19	2.3	ug/L		10/11/17 09:07	10/20/17 12:32	1
Acenaphthene	ND		0.96	0.35	ug/L		10/11/17 09:07	10/20/17 12:32	1
Acenaphthylene	ND		0.96	0.31	ug/L		10/11/17 09:07	10/20/17 12:32	1
Anthracene	**0.53**	**J**	0.96	0.31	ug/L		10/11/17 09:07	10/20/17 12:32	1
Benzo[a]pyrene	ND		0.19	0.054	ug/L		10/11/17 09:07	10/20/17 12:32	1
Benzo[b]fluoranthene	ND		0.19	0.056	ug/L		10/11/17 09:07	10/20/17 12:32	1
Benzo[g,h,i]perylene	ND		0.96	0.40	ug/L		10/11/17 09:07	10/20/17 12:32	1
Benzo[k]fluoranthene	ND		0.19	0.071	ug/L		10/11/17 09:07	10/20/17 12:32	1
Benzoic acid	ND		19	4.4	ug/L		10/11/17 09:07	10/20/17 12:32	1
Benzyl alcohol	ND		19	2.9	ug/L		10/11/17 09:07	10/20/17 12:32	1
Bis(2-chloroethoxy)methane	ND		1.9	0.29	ug/L		10/11/17 09:07	10/20/17 12:32	1
Bis(2-chloroethyl)ether	ND		1.9	0.34	ug/L		10/11/17 09:07	10/20/17 12:32	1
Bis(2-ethylhexyl) phthalate	ND		9.6	2.3	ug/L		10/11/17 09:07	10/20/17 12:32	1
Butyl benzyl phthalate	ND		1.9	0.26	ug/L		10/11/17 09:07	10/20/17 12:32	1
Chrysene	**0.16**	**J**	0.48	0.13	ug/L		10/11/17 09:07	10/20/17 12:32	1
Dibenz(a,h)anthracene	ND		0.29	0.062	ug/L		10/11/17 09:07	10/20/17 12:32	1
Dibenzofuran	ND		1.9	0.34	ug/L		10/11/17 09:07	10/20/17 12:32	1
Diethyl phthalate	ND		1.9	0.42	ug/L		10/11/17 09:07	10/20/17 12:32	1
Dimethyl phthalate	ND		1.9	0.37	ug/L		10/11/17 09:07	10/20/17 12:32	1
Di-n-butyl phthalate	ND		4.8	0.77	ug/L		10/11/17 09:07	10/20/17 12:32	1
Di-n-octyl phthalate	ND		9.6	2.4	ug/L		10/11/17 09:07	10/20/17 12:32	1
2,3,5,6-Tetrachlorophenol	ND		4.8	2.4	ug/L		10/11/17 09:07	10/20/17 12:32	1
Fluoranthene	**0.38**	**J**	0.96	0.31	ug/L		10/11/17 09:07	10/20/17 12:32	1
Fluorene	ND		0.96	0.37	ug/L		10/11/17 09:07	10/20/17 12:32	1
Hexachlorobenzene	ND		0.48	0.13	ug/L		10/11/17 09:07	10/20/17 12:32	1
Hexachlorobutadiene	ND		4.8	1.1	ug/L		10/11/17 09:07	10/20/17 12:32	1
Hexachlorocyclopentadiene	ND		19	3.3	ug/L		10/11/17 09:07	10/20/17 12:32	1
Hexachloroethane	ND		4.8	0.93	ug/L		10/11/17 09:07	10/20/17 12:32	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.081	ug/L		10/11/17 09:07	10/20/17 12:32	1
Isophorone	ND		1.9	0.28	ug/L		10/11/17 09:07	10/20/17 12:32	1
Nitrobenzene	ND		0.96	0.43	ug/L		10/11/17 09:07	10/20/17 12:32	1
N-Nitrosodi-n-propylamine	ND		0.48	0.13	ug/L		10/11/17 09:07	10/20/17 12:32	1
N-Nitrosodiphenylamine	ND		1.9	0.33	ug/L		10/11/17 09:07	10/20/17 12:32	1
Pentachlorophenol	ND		19	5.4	ug/L		10/11/17 09:07	10/20/17 12:32	1
Phenol	ND		4.8	0.35	ug/L		10/11/17 09:07	10/20/17 12:32	1
Pyrene	ND		0.96	0.46	ug/L		10/11/17 09:07	10/20/17 12:32	1
2,4-Dimethylphenol	ND		9.6	3.2	ug/L		10/11/17 09:07	10/20/17 12:32	1
Benzo[a]anthracene	**0.18**	**J**	0.19	0.042	ug/L		10/11/17 09:07	10/20/17 12:32	1
Phenanthrene	ND		0.96	0.34	ug/L		10/11/17 09:07	10/20/17 12:32	1
3,3'-Dichlorobenzidine	ND		4.8	0.90	ug/L		10/11/17 09:07	10/20/17 12:32	1
3 & 4 Methylphenol	ND		1.9	0.42	ug/L		10/11/17 09:07	10/20/17 12:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*85*		*40 - 145*	*10/11/17 09:07*	*10/20/17 12:32*	*1*
2-Fluorobiphenyl	*71*		*34 - 110*	*10/11/17 09:07*	*10/20/17 12:32*	*1*
2-Fluorophenol (Surr)	*43*		*27 - 110*	*10/11/17 09:07*	*10/20/17 12:32*	*1*
Nitrobenzene-d5 (Surr)	*78*		*36 - 120*	*10/11/17 09:07*	*10/20/17 12:32*	*1*
Phenol-d5 (Surr)	*25*		*20 - 100*	*10/11/17 09:07*	*10/20/17 12:32*	*1*
Terphenyl-d14 (Surr)	*84*		*40 - 145*	*10/11/17 09:07*	*10/20/17 12:32*	*1*

Client Sample ID: SUPE-TB-01-100517

Lab Sample ID: 480-125450-12

Date Collected: 10/05/17 00:00

Matrix: Water

Date Received: 10/06/17 09:15

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			10/17/17 03:21	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			10/17/17 03:21	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			10/17/17 03:21	1
Benzene	ND		1.0	0.41	ug/L			10/17/17 03:21	1
Chloromethane	ND		1.0	0.35	ug/L			10/17/17 03:21	1
Ethylbenzene	ND		1.0	0.74	ug/L			10/17/17 03:21	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			10/17/17 03:21	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			10/17/17 03:21	1
Naphthalene	ND		1.0	0.43	ug/L			10/17/17 03:21	1
n-Butylbenzene	ND		1.0	0.64	ug/L			10/17/17 03:21	1
N-Propylbenzene	ND		1.0	0.69	ug/L			10/17/17 03:21	1
o-Xylene	ND		1.0	0.76	ug/L			10/17/17 03:21	1
Styrene	ND		1.0	0.73	ug/L			10/17/17 03:21	1
Toluene	ND		1.0	0.51	ug/L			10/17/17 03:21	1
Xylenes, Total	ND		2.0	0.66	ug/L			10/17/17 03:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*77 - 120*		*10/17/17 03:21*	*1*
4-Bromofluorobenzene (Surr)	*94*		*73 - 120*		*10/17/17 03:21*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 123*		*10/17/17 03:21*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*10/17/17 03:21*	*1*

Client Sample ID: SUPE-W-10AR2-100517

Lab Sample ID: 480-125450-13

Date Collected: 10/05/17 07:59

Matrix: Water

Date Received: 10/06/17 09:15

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			10/15/17 21:29	1
1,2,4-Trimethylbenzene	**6.5**		1.0	0.75	ug/L			10/15/17 21:29	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			10/15/17 21:29	1
Benzene	**16**		1.0	0.41	ug/L			10/15/17 21:29	1
Chloromethane	ND		1.0	0.35	ug/L			10/15/17 21:29	1
Ethylbenzene	**33**		1.0	0.74	ug/L			10/15/17 21:29	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			10/15/17 21:29	1
m-Xylene & p-Xylene	**3.9**		2.0	0.66	ug/L			10/15/17 21:29	1
Naphthalene	**1.7**		1.0	0.43	ug/L			10/15/17 21:29	1
n-Butylbenzene	ND		1.0	0.64	ug/L			10/15/17 21:29	1
N-Propylbenzene	ND		1.0	0.69	ug/L			10/15/17 21:29	1
o-Xylene	**15**		1.0	0.76	ug/L			10/15/17 21:29	1
Styrene	ND		1.0	0.73	ug/L			10/15/17 21:29	1
Toluene	**5.0**		1.0	0.51	ug/L			10/15/17 21:29	1
Xylenes, Total	**19**		2.0	0.66	ug/L			10/15/17 21:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*77 - 120*		*10/15/17 21:29*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*10/15/17 21:29*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 123*		*10/15/17 21:29*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*10/15/17 21:29*	*1*

Client Sample ID: SUPE-W-10AR2-100517

Date Collected: 10/05/17 07:59
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-13

Matrix: Water

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		10/11/17 09:07	10/20/17 12:59	1
1,2-Dichlorobenzene	ND		1.9	0.28	ug/L		10/11/17 09:07	10/20/17 12:59	1
1,3-Dichlorobenzene	ND		1.9	0.24	ug/L		10/11/17 09:07	10/20/17 12:59	1
1,4-Dichlorobenzene	ND		1.9	0.26	ug/L		10/11/17 09:07	10/20/17 12:59	1
1-Methylnaphthalene	**23**		1.9	0.48	ug/L		10/11/17 09:07	10/20/17 12:59	1
bis(chloroisopropyl) ether	ND		1.9	0.29	ug/L		10/11/17 09:07	10/20/17 12:59	1
2,3,4,6-Tetrachlorophenol	ND		4.8	1.5	ug/L		10/11/17 09:07	10/20/17 12:59	1
2,4,5-Trichlorophenol	ND		9.6	2.2	ug/L		10/11/17 09:07	10/20/17 12:59	1
2,4,6-Trichlorophenol	ND		4.8	1.1	ug/L		10/11/17 09:07	10/20/17 12:59	1
2,4-Dichlorophenol	ND		9.6	2.2	ug/L		10/11/17 09:07	10/20/17 12:59	1
2,4-Dinitrophenol	ND		19	7.2	ug/L		10/11/17 09:07	10/20/17 12:59	1
2,4-Dinitrotoluene	ND		0.96	0.29	ug/L		10/11/17 09:07	10/20/17 12:59	1
2,6-Dinitrotoluene	ND		0.96	0.12	ug/L		10/11/17 09:07	10/20/17 12:59	1
2-Chloronaphthalene	ND		1.9	0.33	ug/L		10/11/17 09:07	10/20/17 12:59	1
2-Chlorophenol	ND		4.8	0.77	ug/L		10/11/17 09:07	10/20/17 12:59	1
2-Methylnaphthalene	ND		1.9	0.13	ug/L		10/11/17 09:07	10/20/17 12:59	1
2-Methylphenol	ND		1.9	0.30	ug/L		10/11/17 09:07	10/20/17 12:59	1
2-Nitroaniline	ND		4.8	1.0	ug/L		10/11/17 09:07	10/20/17 12:59	1
2-Nitrophenol	ND		9.6	2.1	ug/L		10/11/17 09:07	10/20/17 12:59	1
3-Nitroaniline	ND		9.6	2.2	ug/L		10/11/17 09:07	10/20/17 12:59	1
4,6-Dinitro-2-methylphenol	ND		19	4.7	ug/L		10/11/17 09:07	10/20/17 12:59	1
4-Bromophenyl phenyl ether	ND		4.8	0.88	ug/L		10/11/17 09:07	10/20/17 12:59	1
4-Chloro-3-methylphenol	ND		9.6	2.1	ug/L		10/11/17 09:07	10/20/17 12:59	1
4-Chloroaniline	ND		9.6	2.0	ug/L		10/11/17 09:07	10/20/17 12:59	1
4-Chlorophenyl phenyl ether	ND		4.8	0.78	ug/L		10/11/17 09:07	10/20/17 12:59	1
4-Nitroaniline	ND		9.6	3.8	ug/L		10/11/17 09:07	10/20/17 12:59	1
4-Nitrophenol	ND		19	2.3	ug/L		10/11/17 09:07	10/20/17 12:59	1
Acenaphthene	**50**		0.96	0.35	ug/L		10/11/17 09:07	10/20/17 12:59	1
Acenaphthylene	**0.56**	**J**	0.96	0.31	ug/L		10/11/17 09:07	10/20/17 12:59	1
Anthracene	**0.43**	**J**	0.96	0.31	ug/L		10/11/17 09:07	10/20/17 12:59	1
Benzo[a]pyrene	ND		0.19	0.054	ug/L		10/11/17 09:07	10/20/17 12:59	1
Benzo[b]fluoranthene	ND		0.19	0.056	ug/L		10/11/17 09:07	10/20/17 12:59	1
Benzo[g,h,i]perylene	ND		0.96	0.40	ug/L		10/11/17 09:07	10/20/17 12:59	1
Benzo[k]fluoranthene	ND		0.19	0.071	ug/L		10/11/17 09:07	10/20/17 12:59	1
Benzoic acid	ND		19	4.4	ug/L		10/11/17 09:07	10/20/17 12:59	1
Benzyl alcohol	ND		19	2.9	ug/L		10/11/17 09:07	10/20/17 12:59	1
Bis(2-chloroethoxy)methane	ND		1.9	0.29	ug/L		10/11/17 09:07	10/20/17 12:59	1
Bis(2-chloroethyl)ether	ND		1.9	0.34	ug/L		10/11/17 09:07	10/20/17 12:59	1
Bis(2-ethylhexyl) phthalate	ND		9.6	2.3	ug/L		10/11/17 09:07	10/20/17 12:59	1
Butyl benzyl phthalate	ND		1.9	0.26	ug/L		10/11/17 09:07	10/20/17 12:59	1
Chrysene	ND		0.48	0.13	ug/L		10/11/17 09:07	10/20/17 12:59	1
Dibenz(a,h)anthracene	ND		0.29	0.062	ug/L		10/11/17 09:07	10/20/17 12:59	1
Dibenzofuran	**13**		1.9	0.34	ug/L		10/11/17 09:07	10/20/17 12:59	1
Diethyl phthalate	ND		1.9	0.42	ug/L		10/11/17 09:07	10/20/17 12:59	1
Dimethyl phthalate	ND		1.9	0.37	ug/L		10/11/17 09:07	10/20/17 12:59	1
Di-n-butyl phthalate	ND		4.8	0.77	ug/L		10/11/17 09:07	10/20/17 12:59	1
Di-n-octyl phthalate	ND		9.6	2.4	ug/L		10/11/17 09:07	10/20/17 12:59	1
2,3,5,6-Tetrachlorophenol	ND		4.8	2.4	ug/L		10/11/17 09:07	10/20/17 12:59	1
Fluoranthene	**1.2**		0.96	0.31	ug/L		10/11/17 09:07	10/20/17 12:59	1

Client Sample ID: SUPE-W-10AR2-100517

Lab Sample ID: 480-125450-13

Date Collected: 10/05/17 07:59

Matrix: Water

Date Received: 10/06/17 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	**12**		0.96	0.37	ug/L		10/11/17 09:07	10/20/17 12:59	1
Hexachlorobenzene	ND		0.48	0.13	ug/L		10/11/17 09:07	10/20/17 12:59	1
Hexachlorobutadiene	ND		4.8	1.1	ug/L		10/11/17 09:07	10/20/17 12:59	1
Hexachlorocyclopentadiene	ND		19	3.3	ug/L		10/11/17 09:07	10/20/17 12:59	1
Hexachloroethane	ND		4.8	0.93	ug/L		10/11/17 09:07	10/20/17 12:59	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.081	ug/L		10/11/17 09:07	10/20/17 12:59	1
Isophorone	ND		1.9	0.28	ug/L		10/11/17 09:07	10/20/17 12:59	1
Nitrobenzene	ND		0.96	0.43	ug/L		10/11/17 09:07	10/20/17 12:59	1
N-Nitrosodi-n-propylamine	ND		0.48	0.13	ug/L		10/11/17 09:07	10/20/17 12:59	1
N-Nitrosodiphenylamine	ND		1.9	0.33	ug/L		10/11/17 09:07	10/20/17 12:59	1
Pentachlorophenol	ND		19	5.4	ug/L		10/11/17 09:07	10/20/17 12:59	1
Phenol	ND		4.8	0.35	ug/L		10/11/17 09:07	10/20/17 12:59	1
Pyrene	**0.77**	**J**	0.96	0.46	ug/L		10/11/17 09:07	10/20/17 12:59	1
2,4-Dimethylphenol	ND		9.6	3.2	ug/L		10/11/17 09:07	10/20/17 12:59	1
Benzo[a]anthracene	ND		0.19	0.042	ug/L		10/11/17 09:07	10/20/17 12:59	1
Phenanthrene	**1.4**		0.96	0.34	ug/L		10/11/17 09:07	10/20/17 12:59	1
3,3'-Dichlorobenzidine	ND		4.8	0.91	ug/L		10/11/17 09:07	10/20/17 12:59	1
3 & 4 Methylphenol	ND		1.9	0.42	ug/L		10/11/17 09:07	10/20/17 12:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*86*		*40 - 145*	*10/11/17 09:07*	*10/20/17 12:59*	*1*
2-Fluorobiphenyl	*70*		*34 - 110*	*10/11/17 09:07*	*10/20/17 12:59*	*1*
2-Fluorophenol (Surr)	*44*		*27 - 110*	*10/11/17 09:07*	*10/20/17 12:59*	*1*
Nitrobenzene-d5 (Surr)	*78*		*36 - 120*	*10/11/17 09:07*	*10/20/17 12:59*	*1*
Phenol-d5 (Surr)	*21*		*20 - 100*	*10/11/17 09:07*	*10/20/17 12:59*	*1*
Terphenyl-d14 (Surr)	*82*		*40 - 145*	*10/11/17 09:07*	*10/20/17 12:59*	*1*

Client Sample ID: SUPE-EB-02-100517

Lab Sample ID: 480-125450-14

Date Collected: 10/05/17 08:45

Matrix: Water

Date Received: 10/06/17 09:15

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			10/15/17 21:55	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			10/15/17 21:55	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			10/15/17 21:55	1
Benzene	ND		1.0	0.41	ug/L			10/15/17 21:55	1
Chloromethane	ND		1.0	0.35	ug/L			10/15/17 21:55	1
Ethylbenzene	ND		1.0	0.74	ug/L			10/15/17 21:55	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			10/15/17 21:55	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			10/15/17 21:55	1
Naphthalene	ND		1.0	0.43	ug/L			10/15/17 21:55	1
n-Butylbenzene	ND		1.0	0.64	ug/L			10/15/17 21:55	1
N-Propylbenzene	ND		1.0	0.69	ug/L			10/15/17 21:55	1
o-Xylene	ND		1.0	0.76	ug/L			10/15/17 21:55	1
Styrene	ND		1.0	0.73	ug/L			10/15/17 21:55	1
Toluene	ND		1.0	0.51	ug/L			10/15/17 21:55	1
Xylenes, Total	ND		2.0	0.66	ug/L			10/15/17 21:55	1

Client Sample ID: SUPE-EB-02-100517

Date Collected: 10/05/17 08:45
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-14

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*10/15/17 21:55*	*1*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*10/15/17 21:55*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 123*		*10/15/17 21:55*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*10/15/17 21:55*	*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		10/11/17 09:07	10/20/17 13:26	1
1,2-Dichlorobenzene	ND		2.0	0.29	ug/L		10/11/17 09:07	10/20/17 13:26	1
1,3-Dichlorobenzene	ND		2.0	0.25	ug/L		10/11/17 09:07	10/20/17 13:26	1
1,4-Dichlorobenzene	ND		2.0	0.27	ug/L		10/11/17 09:07	10/20/17 13:26	1
1-Methylnaphthalene	ND		2.0	0.50	ug/L		10/11/17 09:07	10/20/17 13:26	1
bis(chloroisopropyl) ether	ND		2.0	0.30	ug/L		10/11/17 09:07	10/20/17 13:26	1
2,3,4,6-Tetrachlorophenol	ND		5.0	1.5	ug/L		10/11/17 09:07	10/20/17 13:26	1
2,4,5-Trichlorophenol	ND		10	2.3	ug/L		10/11/17 09:07	10/20/17 13:26	1
2,4,6-Trichlorophenol	ND		5.0	1.1	ug/L		10/11/17 09:07	10/20/17 13:26	1
2,4-Dichlorophenol	ND		10	2.3	ug/L		10/11/17 09:07	10/20/17 13:26	1
2,4-Dinitrophenol	ND		20	7.4	ug/L		10/11/17 09:07	10/20/17 13:26	1
2,4-Dinitrotoluene	ND		1.0	0.30	ug/L		10/11/17 09:07	10/20/17 13:26	1
2,6-Dinitrotoluene	ND		1.0	0.12	ug/L		10/11/17 09:07	10/20/17 13:26	1
2-Chloronaphthalene	ND		2.0	0.34	ug/L		10/11/17 09:07	10/20/17 13:26	1
2-Chlorophenol	ND		5.0	0.80	ug/L		10/11/17 09:07	10/20/17 13:26	1
2-Methylnaphthalene	ND		2.0	0.13	ug/L		10/11/17 09:07	10/20/17 13:26	1
2-Methylphenol	ND		2.0	0.31	ug/L		10/11/17 09:07	10/20/17 13:26	1
2-Nitroaniline	ND		5.0	1.1	ug/L		10/11/17 09:07	10/20/17 13:26	1
2-Nitrophenol	ND		10	2.1	ug/L		10/11/17 09:07	10/20/17 13:26	1
3-Nitroaniline	ND		10	2.3	ug/L		10/11/17 09:07	10/20/17 13:26	1
4,6-Dinitro-2-methylphenol	ND		20	4.9	ug/L		10/11/17 09:07	10/20/17 13:26	1
4-Bromophenyl phenyl ether	ND		5.0	0.91	ug/L		10/11/17 09:07	10/20/17 13:26	1
4-Chloro-3-methylphenol	ND		10	2.2	ug/L		10/11/17 09:07	10/20/17 13:26	1
4-Chloroaniline	ND		10	2.1	ug/L		10/11/17 09:07	10/20/17 13:26	1
4-Chlorophenyl phenyl ether	ND		5.0	0.81	ug/L		10/11/17 09:07	10/20/17 13:26	1
4-Nitroaniline	ND		10	3.9	ug/L		10/11/17 09:07	10/20/17 13:26	1
4-Nitrophenol	ND		20	2.3	ug/L		10/11/17 09:07	10/20/17 13:26	1
Acenaphthene	ND		1.0	0.36	ug/L		10/11/17 09:07	10/20/17 13:26	1
Acenaphthylene	ND		1.0	0.32	ug/L		10/11/17 09:07	10/20/17 13:26	1
Anthracene	ND		1.0	0.32	ug/L		10/11/17 09:07	10/20/17 13:26	1
Benzo[a]pyrene	ND		0.20	0.056	ug/L		10/11/17 09:07	10/20/17 13:26	1
Benzo[b]fluoranthene	ND		0.20	0.058	ug/L		10/11/17 09:07	10/20/17 13:26	1
Benzo[g,h,i]perylene	ND		1.0	0.42	ug/L		10/11/17 09:07	10/20/17 13:26	1
Benzo[k]fluoranthene	ND		0.20	0.074	ug/L		10/11/17 09:07	10/20/17 13:26	1
Benzoic acid	ND		20	4.6	ug/L		10/11/17 09:07	10/20/17 13:26	1
Benzyl alcohol	ND		20	3.0	ug/L		10/11/17 09:07	10/20/17 13:26	1
Bis(2-chloroethoxy)methane	ND		2.0	0.30	ug/L		10/11/17 09:07	10/20/17 13:26	1
Bis(2-chloroethyl)ether	ND		2.0	0.35	ug/L		10/11/17 09:07	10/20/17 13:26	1
Bis(2-ethylhexyl) phthalate	ND		10	2.4	ug/L		10/11/17 09:07	10/20/17 13:26	1
Butyl benzyl phthalate	ND		2.0	0.27	ug/L		10/11/17 09:07	10/20/17 13:26	1
Chrysene	ND		0.50	0.14	ug/L		10/11/17 09:07	10/20/17 13:26	1
Dibenz(a,h)anthracene	ND		0.30	0.064	ug/L		10/11/17 09:07	10/20/17 13:26	1
Dibenzofuran	ND		2.0	0.35	ug/L		10/11/17 09:07	10/20/17 13:26	1

Client Sample ID: SUPE-EB-02-100517
Date Collected: 10/05/17 08:45
Date Received: 10/06/17 09:15

Lab Sample ID: 480-125450-14
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diethyl phthalate	ND		2.0	0.44	ug/L		10/11/17 09:07	10/20/17 13:26	1
Dimethyl phthalate	ND		2.0	0.38	ug/L		10/11/17 09:07	10/20/17 13:26	1
Di-n-butyl phthalate	ND		5.0	0.80	ug/L		10/11/17 09:07	10/20/17 13:26	1
Di-n-octyl phthalate	ND		10	2.5	ug/L		10/11/17 09:07	10/20/17 13:26	1
2,3,5,6-Tetrachlorophenol	ND		5.0	2.5	ug/L		10/11/17 09:07	10/20/17 13:26	1
Fluoranthene	ND		1.0	0.32	ug/L		10/11/17 09:07	10/20/17 13:26	1
Fluorene	ND		1.0	0.38	ug/L		10/11/17 09:07	10/20/17 13:26	1
Hexachlorobenzene	ND		0.50	0.14	ug/L		10/11/17 09:07	10/20/17 13:26	1
Hexachlorobutadiene	ND		5.0	1.1	ug/L		10/11/17 09:07	10/20/17 13:26	1
Hexachlorocyclopentadiene	ND		20	3.4	ug/L		10/11/17 09:07	10/20/17 13:26	1
Hexachloroethane	ND		5.0	0.97	ug/L		10/11/17 09:07	10/20/17 13:26	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.084	ug/L		10/11/17 09:07	10/20/17 13:26	1
Isophorone	ND		2.0	0.29	ug/L		10/11/17 09:07	10/20/17 13:26	1
Nitrobenzene	ND		1.0	0.45	ug/L		10/11/17 09:07	10/20/17 13:26	1
N-Nitrosodi-n-propylamine	ND		0.50	0.14	ug/L		10/11/17 09:07	10/20/17 13:26	1
N-Nitrosodiphenylamine	ND		2.0	0.34	ug/L		10/11/17 09:07	10/20/17 13:26	1
Pentachlorophenol	ND		20	5.6	ug/L		10/11/17 09:07	10/20/17 13:26	1
Phenol	ND		5.0	0.36	ug/L		10/11/17 09:07	10/20/17 13:26	1
Pyrene	ND		1.0	0.48	ug/L		10/11/17 09:07	10/20/17 13:26	1
2,4-Dimethylphenol	ND		10	3.3	ug/L		10/11/17 09:07	10/20/17 13:26	1
Benzo[a]anthracene	ND		0.20	0.044	ug/L		10/11/17 09:07	10/20/17 13:26	1
Phenanthrene	ND		1.0	0.35	ug/L		10/11/17 09:07	10/20/17 13:26	1
3,3'-Dichlorobenzidine	ND		5.0	0.94	ug/L		10/11/17 09:07	10/20/17 13:26	1
3 & 4 Methylphenol	ND		2.0	0.44	ug/L		10/11/17 09:07	10/20/17 13:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*80*		*40 - 145*	*10/11/17 09:07*	*10/20/17 13:26*	*1*
2-Fluorobiphenyl	*82*		*34 - 110*	*10/11/17 09:07*	*10/20/17 13:26*	*1*
2-Fluorophenol (Surr)	*49*		*27 - 110*	*10/11/17 09:07*	*10/20/17 13:26*	*1*
Nitrobenzene-d5 (Surr)	*84*		*36 - 120*	*10/11/17 09:07*	*10/20/17 13:26*	*1*
Phenol-d5 (Surr)	*27*		*20 - 100*	*10/11/17 09:07*	*10/20/17 13:26*	*1*
Terphenyl-d14 (Surr)	*94*		*40 - 145*	*10/11/17 09:07*	*10/20/17 13:26*	*1*

Surrogate Summary

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

TestAmerica Job ID: 480-125450-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	12DCE (77-120)	BFB (73-120)	DBFM (75-123)	TOL (80-120)
480-125450-1	SUPE-W-30C-100417	100	101	100	98
480-125450-2	SUPE-W-06A-100417	96	98	97	96
480-125450-3	SUPE-W-06C-100417	96	100	99	97
480-125450-4	SUPE-W-12A-100417	94	101	96	98
480-125450-5	SUPE-W-30A-100417	99	101	96	96
480-125450-7	SUPE-W-28C-100417	96	101	96	98
480-125450-8	SUPE-W-12CR-100417	97	97	99	94
480-125450-9	SUPE-W-04AR2-100417	96	100	97	97
480-125450-10	SUPE-EB-01-100417	100	91	103	98
480-125450-11	SUPE-W-99A-100417	101	91	104	98
480-125450-12	SUPE-TB-01-100517	101	94	103	99
480-125450-13	SUPE-W-10AR2-100517	106	103	104	101
480-125450-14	SUPE-EB-02-100517	100	102	102	100
LCS 480-381807/4	Lab Control Sample	97	101	97	98
LCS 480-381814/5	Lab Control Sample	94	99	100	102
LCS 480-381881/5	Lab Control Sample	105	102	104	102
LCS 480-382072/4	Lab Control Sample	92	102	97	102
MB 480-381807/6	Method Blank	95	99	97	97
MB 480-381814/7	Method Blank	99	95	103	99
MB 480-381881/7	Method Blank	104	101	102	101
MB 480-382072/6	Method Blank	98	93	99	99

Surrogate Legend

12DCE = 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)					
Lab Sample ID	Client Sample ID	TBP (40-145)	FBP (34-110)	2FP (27-110)	NBZ (36-120)	PHL (20-100)	TPH (40-145)
480-125450-1	SUPE-W-30C-100417	83	79	42	88	18 X	98
480-125450-2	SUPE-W-06A-100417	89	75	48	88	22	82
480-125450-3	SUPE-W-06C-100417	88	77	43	91	21	86
480-125450-4	SUPE-W-12A-100417	85	76	39	88	19 X	86
480-125450-5	SUPE-W-30A-100417	95	79	48	88	25	76
480-125450-6	SUPE-W-18D-100417	90	75	43	85	20	95
480-125450-7	SUPE-W-28C-100417	93	79	50	89	22	93
480-125450-8	SUPE-W-12CR-100417	94	79	50	94	21	93
480-125450-9	SUPE-W-04AR2-100417	90	82	42	89	21	94
480-125450-10	SUPE-EB-01-100417	80	80	45	97	21	96
480-125450-11	SUPE-W-99A-100417	85	71	43	78	25	84
480-125450-13	SUPE-W-10AR2-100517	86	70	44	78	21	82
480-125450-14	SUPE-EB-02-100517	80	82	49	84	27	94
LCS 500-404842/2-A	Lab Control Sample	96	84	59	83	35	92
LCSD 500-404842/3-A	Lab Control Sample Dup	96	83	55	87	35	92

Surrogate Summary

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

TestAmerica Job ID: 480-125450-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)							
		TBP	FBP	2FP	NBZ	PHL	TPH		
Lab Sample ID	Client Sample ID	(40-145)	(34-110)	(27-110)	(36-120)	(20-100)	(40-145)		
MB 500-404842/1-A	Method Blank	82	85	59	86	33	96		

Surrogate Legend

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

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

Lab Sample ID: MB 480-381807/6
Matrix: Water
Analysis Batch: 381807

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			10/14/17 10:51	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			10/14/17 10:51	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			10/14/17 10:51	1
Benzene	ND		1.0	0.41	ug/L			10/14/17 10:51	1
Chloromethane	ND		1.0	0.35	ug/L			10/14/17 10:51	1
Ethylbenzene	ND		1.0	0.74	ug/L			10/14/17 10:51	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			10/14/17 10:51	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			10/14/17 10:51	1
Naphthalene	ND		1.0	0.43	ug/L			10/14/17 10:51	1
n-Butylbenzene	ND		1.0	0.64	ug/L			10/14/17 10:51	1
N-Propylbenzene	ND		1.0	0.69	ug/L			10/14/17 10:51	1
o-Xylene	ND		1.0	0.76	ug/L			10/14/17 10:51	1
Styrene	ND		1.0	0.73	ug/L			10/14/17 10:51	1
Toluene	ND		1.0	0.51	ug/L			10/14/17 10:51	1
Xylenes, Total	ND		2.0	0.66	ug/L			10/14/17 10:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*		*10/14/17 10:51*	*1*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*10/14/17 10:51*	*1*
Dibromofluoromethane (Surr)	*97*		*75 - 123*		*10/14/17 10:51*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*10/14/17 10:51*	*1*

Lab Sample ID: LCS 480-381807/4
Matrix: Water
Analysis Batch: 381807

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	27.6		ug/L		110	73 - 126
1,2,4-Trimethylbenzene	25.0	27.1		ug/L		108	76 - 121
1,3,5-Trimethylbenzene	25.0	27.5		ug/L		110	77 - 121
Benzene	25.0	27.0		ug/L		108	71 - 124
Chloromethane	25.0	20.9		ug/L		84	68 - 124
Ethylbenzene	25.0	27.2		ug/L		109	77 - 123
Methyl tert-butyl ether	25.0	26.6		ug/L		107	77 - 120
m-Xylene & p-Xylene	25.0	27.3		ug/L		109	76 - 122
Naphthalene	25.0	26.1		ug/L		105	66 - 125
n-Butylbenzene	25.0	27.3		ug/L		109	71 - 128
N-Propylbenzene	25.0	28.2		ug/L		113	75 - 127
o-Xylene	25.0	27.2		ug/L		109	76 - 122
Styrene	25.0	26.8		ug/L		107	80 - 120
Toluene	25.0	27.3		ug/L		109	80 - 122
Xylenes, Total	50.0	54.5		ug/L		109	76 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*77 - 120*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*
Dibromofluoromethane (Surr)	*97*		*75 - 123*

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

Lab Sample ID: LCS 480-381807/4
Matrix: Water
Analysis Batch: 381807

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	98		80 - 120

Lab Sample ID: MB 480-381814/7
Matrix: Water
Analysis Batch: 381814

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			10/14/17 10:54	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			10/14/17 10:54	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			10/14/17 10:54	1
Benzene	ND		1.0	0.41	ug/L			10/14/17 10:54	1
Chloromethane	ND		1.0	0.35	ug/L			10/14/17 10:54	1
Ethylbenzene	ND		1.0	0.74	ug/L			10/14/17 10:54	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			10/14/17 10:54	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			10/14/17 10:54	1
Naphthalene	ND		1.0	0.43	ug/L			10/14/17 10:54	1
n-Butylbenzene	ND		1.0	0.64	ug/L			10/14/17 10:54	1
N-Propylbenzene	ND		1.0	0.69	ug/L			10/14/17 10:54	1
o-Xylene	ND		1.0	0.76	ug/L			10/14/17 10:54	1
Styrene	ND		1.0	0.73	ug/L			10/14/17 10:54	1
Toluene	ND		1.0	0.51	ug/L			10/14/17 10:54	1
Xylenes, Total	ND		2.0	0.66	ug/L			10/14/17 10:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		77 - 120		10/14/17 10:54	1
4-Bromofluorobenzene (Surr)	95		73 - 120		10/14/17 10:54	1
Dibromofluoromethane (Surr)	103		75 - 123		10/14/17 10:54	1
Toluene-d8 (Surr)	99		80 - 120		10/14/17 10:54	1

Lab Sample ID: LCS 480-381814/5
Matrix: Water
Analysis Batch: 381814

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	25.8		ug/L		103	73 - 126
1,2,4-Trimethylbenzene	25.0	27.2		ug/L		109	76 - 121
1,3,5-Trimethylbenzene	25.0	27.3		ug/L		109	77 - 121
Benzene	25.0	29.9		ug/L		120	71 - 124
Chloromethane	25.0	20.2		ug/L		81	68 - 124
Ethylbenzene	25.0	27.4		ug/L		109	77 - 123
Methyl tert-butyl ether	25.0	26.7		ug/L		107	77 - 120
m-Xylene & p-Xylene	25.0	27.1		ug/L		109	76 - 122
Naphthalene	25.0	23.9		ug/L		96	66 - 125
n-Butylbenzene	25.0	27.6		ug/L		110	71 - 128
N-Propylbenzene	25.0	26.8		ug/L		107	75 - 127
o-Xylene	25.0	26.8		ug/L		107	76 - 122
Styrene	25.0	27.6		ug/L		110	80 - 120
Toluene	25.0	28.3		ug/L		113	80 - 122

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

Lab Sample ID: LCS 480-381814/5
Matrix: Water
Analysis Batch: 381814

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Xylenes, Total	50.0	53.9		ug/L		108	76 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*77 - 120*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*
Dibromofluoromethane (Surr)	*100*		*75 - 123*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: MB 480-381881/7
Matrix: Water
Analysis Batch: 381881

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			10/15/17 15:18	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			10/15/17 15:18	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			10/15/17 15:18	1
Benzene	ND		1.0	0.41	ug/L			10/15/17 15:18	1
Chloromethane	ND		1.0	0.35	ug/L			10/15/17 15:18	1
Ethylbenzene	ND		1.0	0.74	ug/L			10/15/17 15:18	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			10/15/17 15:18	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			10/15/17 15:18	1
Naphthalene	ND		1.0	0.43	ug/L			10/15/17 15:18	1
n-Butylbenzene	ND		1.0	0.64	ug/L			10/15/17 15:18	1
N-Propylbenzene	ND		1.0	0.69	ug/L			10/15/17 15:18	1
o-Xylene	ND		1.0	0.76	ug/L			10/15/17 15:18	1
Styrene	ND		1.0	0.73	ug/L			10/15/17 15:18	1
Toluene	ND		1.0	0.51	ug/L			10/15/17 15:18	1
Xylenes, Total	ND		2.0	0.66	ug/L			10/15/17 15:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*77 - 120*		*10/15/17 15:18*	*1*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*10/15/17 15:18*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 123*		*10/15/17 15:18*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*10/15/17 15:18*	*1*

Lab Sample ID: LCS 480-381881/5
Matrix: Water
Analysis Batch: 381881

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	27.8		ug/L		111	73 - 126
1,2,4-Trimethylbenzene	25.0	27.9		ug/L		112	76 - 121
1,3,5-Trimethylbenzene	25.0	27.8		ug/L		111	77 - 121
Benzene	25.0	27.6		ug/L		110	71 - 124
Chloromethane	25.0	24.3		ug/L		97	68 - 124
Ethylbenzene	25.0	26.9		ug/L		108	77 - 123
Methyl tert-butyl ether	25.0	28.2		ug/L		113	77 - 120
m-Xylene & p-Xylene	25.0	27.4		ug/L		109	76 - 122

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

Lab Sample ID: LCS 480-381881/5
Matrix: Water
Analysis Batch: 381881

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	25.0	27.9		ug/L		112	66 - 125
n-Butylbenzene	25.0	27.7		ug/L		111	71 - 128
N-Propylbenzene	25.0	28.4		ug/L		114	75 - 127
o-Xylene	25.0	27.4		ug/L		110	76 - 122
Styrene	25.0	27.6		ug/L		111	80 - 120
Toluene	25.0	27.6		ug/L		110	80 - 122
Xylenes, Total	50.0	54.8		ug/L		110	76 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*77 - 120*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*
Dibromofluoromethane (Surr)	*104*		*75 - 123*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: MB 480-382072/6
Matrix: Water
Analysis Batch: 382072

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			10/16/17 22:38	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			10/16/17 22:38	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			10/16/17 22:38	1
Benzene	ND		1.0	0.41	ug/L			10/16/17 22:38	1
Chloromethane	ND		1.0	0.35	ug/L			10/16/17 22:38	1
Ethylbenzene	ND		1.0	0.74	ug/L			10/16/17 22:38	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			10/16/17 22:38	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			10/16/17 22:38	1
Naphthalene	ND		1.0	0.43	ug/L			10/16/17 22:38	1
n-Butylbenzene	ND		1.0	0.64	ug/L			10/16/17 22:38	1
N-Propylbenzene	ND		1.0	0.69	ug/L			10/16/17 22:38	1
o-Xylene	ND		1.0	0.76	ug/L			10/16/17 22:38	1
Styrene	ND		1.0	0.73	ug/L			10/16/17 22:38	1
Toluene	ND		1.0	0.51	ug/L			10/16/17 22:38	1
Xylenes, Total	ND		2.0	0.66	ug/L			10/16/17 22:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*		*10/16/17 22:38*	*1*
4-Bromofluorobenzene (Surr)	*93*		*73 - 120*		*10/16/17 22:38*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*10/16/17 22:38*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*10/16/17 22:38*	*1*

Lab Sample ID: LCS 480-382072/4
Matrix: Water
Analysis Batch: 382072

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	23.2		ug/L		93	73 - 126
1,2,4-Trimethylbenzene	25.0	27.2		ug/L		109	76 - 121

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

Lab Sample ID: LCS 480-382072/4
Matrix: Water
Analysis Batch: 382072

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3,5-Trimethylbenzene	25.0	26.2		ug/L		105	77 - 121
Benzene	25.0	28.0		ug/L		112	71 - 124
Chloromethane	25.0	26.8		ug/L		107	68 - 124
Ethylbenzene	25.0	27.2		ug/L		109	77 - 123
Methyl tert-butyl ether	25.0	25.2		ug/L		101	77 - 120
m-Xylene & p-Xylene	25.0	26.7		ug/L		107	76 - 122
Naphthalene	25.0	25.6		ug/L		102	66 - 125
n-Butylbenzene	25.0	27.0		ug/L		108	71 - 128
N-Propylbenzene	25.0	26.2		ug/L		105	75 - 127
o-Xylene	25.0	26.7		ug/L		107	76 - 122
Styrene	25.0	27.3		ug/L		109	80 - 120
Toluene	25.0	27.2		ug/L		109	80 - 122
Xylenes, Total	50.0	53.4		ug/L		107	76 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*77 - 120*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*
Dibromofluoromethane (Surr)	*97*		*75 - 123*
Toluene-d8 (Surr)	*102*		*80 - 120*

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

Lab Sample ID: MB 500-404842/1-A
Matrix: Water
Analysis Batch: 405067

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 404842

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		2.0	0.30	ug/L		10/11/17 09:07	10/12/17 20:33	1
1,2-Dichlorobenzene	ND		2.0	0.29	ug/L		10/11/17 09:07	10/12/17 20:33	1
1,3-Dichlorobenzene	ND		2.0	0.25	ug/L		10/11/17 09:07	10/12/17 20:33	1
1,4-Dichlorobenzene	ND		2.0	0.27	ug/L		10/11/17 09:07	10/12/17 20:33	1
1-Methylnaphthalene	ND		2.0	0.50	ug/L		10/11/17 09:07	10/12/17 20:33	1
bis(chloroisopropyl) ether	ND		2.0	0.30	ug/L		10/11/17 09:07	10/12/17 20:33	1
2,3,4,6-Tetrachlorophenol	ND		5.0	1.5	ug/L		10/11/17 09:07	10/12/17 20:33	1
2,4,5-Trichlorophenol	ND		10	2.3	ug/L		10/11/17 09:07	10/12/17 20:33	1
2,4,6-Trichlorophenol	ND		5.0	1.1	ug/L		10/11/17 09:07	10/12/17 20:33	1
2,4-Dichlorophenol	ND		10	2.3	ug/L		10/11/17 09:07	10/12/17 20:33	1
2,4-Dinitrophenol	ND		20	7.4	ug/L		10/11/17 09:07	10/12/17 20:33	1
2,4-Dinitrotoluene	ND		1.0	0.30	ug/L		10/11/17 09:07	10/12/17 20:33	1
2,6-Dinitrotoluene	ND		1.0	0.12	ug/L		10/11/17 09:07	10/12/17 20:33	1
2-Chloronaphthalene	ND		2.0	0.34	ug/L		10/11/17 09:07	10/12/17 20:33	1
2-Chlorophenol	ND		5.0	0.80	ug/L		10/11/17 09:07	10/12/17 20:33	1
2-Methylnaphthalene	ND		2.0	0.13	ug/L		10/11/17 09:07	10/12/17 20:33	1
2-Methylphenol	ND		2.0	0.31	ug/L		10/11/17 09:07	10/12/17 20:33	1
2-Nitroaniline	ND		5.0	1.1	ug/L		10/11/17 09:07	10/12/17 20:33	1
2-Nitrophenol	ND		10	2.1	ug/L		10/11/17 09:07	10/12/17 20:33	1
3-Nitroaniline	ND		10	2.3	ug/L		10/11/17 09:07	10/12/17 20:33	1
4,6-Dinitro-2-methylphenol	ND		20	4.9	ug/L		10/11/17 09:07	10/12/17 20:33	1

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

Lab Sample ID: MB 500-404842/1-A
Matrix: Water
Analysis Batch: 405067

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 404842

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Bromophenyl phenyl ether	ND		5.0	0.91	ug/L		10/11/17 09:07	10/12/17 20:33	1
4-Chloro-3-methylphenol	ND		10	2.2	ug/L		10/11/17 09:07	10/12/17 20:33	1
4-Chloroaniline	ND		10	2.1	ug/L		10/11/17 09:07	10/12/17 20:33	1
4-Chlorophenyl phenyl ether	ND		5.0	0.81	ug/L		10/11/17 09:07	10/12/17 20:33	1
4-Nitroaniline	ND		10	3.9	ug/L		10/11/17 09:07	10/12/17 20:33	1
4-Nitrophenol	ND		20	2.3	ug/L		10/11/17 09:07	10/12/17 20:33	1
Acenaphthene	ND		1.0	0.36	ug/L		10/11/17 09:07	10/12/17 20:33	1
Acenaphthylene	ND		1.0	0.32	ug/L		10/11/17 09:07	10/12/17 20:33	1
Anthracene	ND		1.0	0.32	ug/L		10/11/17 09:07	10/12/17 20:33	1
Benzo[a]pyrene	ND		0.20	0.056	ug/L		10/11/17 09:07	10/12/17 20:33	1
Benzo[b]fluoranthene	ND		0.20	0.058	ug/L		10/11/17 09:07	10/12/17 20:33	1
Benzo[g,h,i]perylene	ND		1.0	0.42	ug/L		10/11/17 09:07	10/12/17 20:33	1
Benzo[k]fluoranthene	ND		0.20	0.074	ug/L		10/11/17 09:07	10/12/17 20:33	1
Benzoic acid	ND		20	4.6	ug/L		10/11/17 09:07	10/12/17 20:33	1
Benzyl alcohol	ND		20	3.1	ug/L		10/11/17 09:07	10/12/17 20:33	1
Bis(2-chloroethoxy)methane	ND		2.0	0.30	ug/L		10/11/17 09:07	10/12/17 20:33	1
Bis(2-chloroethyl)ether	ND		2.0	0.35	ug/L		10/11/17 09:07	10/12/17 20:33	1
Bis(2-ethylhexyl) phthalate	ND		10	2.4	ug/L		10/11/17 09:07	10/12/17 20:33	1
Butyl benzyl phthalate	ND		2.0	0.27	ug/L		10/11/17 09:07	10/12/17 20:33	1
Chrysene	ND		0.50	0.14	ug/L		10/11/17 09:07	10/12/17 20:33	1
Dibenz(a,h)anthracene	ND		0.30	0.064	ug/L		10/11/17 09:07	10/12/17 20:33	1
Dibenzofuran	ND		2.0	0.35	ug/L		10/11/17 09:07	10/12/17 20:33	1
Diethyl phthalate	ND		2.0	0.44	ug/L		10/11/17 09:07	10/12/17 20:33	1
Dimethyl phthalate	ND		2.0	0.38	ug/L		10/11/17 09:07	10/12/17 20:33	1
Di-n-butyl phthalate	ND		5.0	0.80	ug/L		10/11/17 09:07	10/12/17 20:33	1
Di-n-octyl phthalate	ND		10	2.5	ug/L		10/11/17 09:07	10/12/17 20:33	1
2,3,5,6-Tetrachlorophenol	ND		5.0	2.5	ug/L		10/11/17 09:07	10/12/17 20:33	1
Fluoranthene	ND		1.0	0.32	ug/L		10/11/17 09:07	10/12/17 20:33	1
Fluorene	ND		1.0	0.38	ug/L		10/11/17 09:07	10/12/17 20:33	1
Hexachlorobenzene	ND		0.50	0.14	ug/L		10/11/17 09:07	10/12/17 20:33	1
Hexachlorobutadiene	ND		5.0	1.1	ug/L		10/11/17 09:07	10/12/17 20:33	1
Hexachlorocyclopentadiene	ND		20	3.4	ug/L		10/11/17 09:07	10/12/17 20:33	1
Hexachloroethane	ND		5.0	0.97	ug/L		10/11/17 09:07	10/12/17 20:33	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.084	ug/L		10/11/17 09:07	10/12/17 20:33	1
Isophorone	ND		2.0	0.29	ug/L		10/11/17 09:07	10/12/17 20:33	1
Naphthalene	ND		1.0	0.30	ug/L		10/11/17 09:07	10/12/17 20:33	1
Nitrobenzene	ND		1.0	0.45	ug/L		10/11/17 09:07	10/12/17 20:33	1
N-Nitrosodi-n-propylamine	ND		0.50	0.14	ug/L		10/11/17 09:07	10/12/17 20:33	1
N-Nitrosodiphenylamine	ND		2.0	0.34	ug/L		10/11/17 09:07	10/12/17 20:33	1
Pentachlorophenol	ND		20	5.6	ug/L		10/11/17 09:07	10/12/17 20:33	1
Phenol	ND		5.0	0.36	ug/L		10/11/17 09:07	10/12/17 20:33	1
Pyrene	ND		1.0	0.48	ug/L		10/11/17 09:07	10/12/17 20:33	1
2,4-Dimethylphenol	ND		10	3.3	ug/L		10/11/17 09:07	10/12/17 20:33	1
Benzo[a]anthracene	ND		0.20	0.044	ug/L		10/11/17 09:07	10/12/17 20:33	1
Phenanthrene	ND		1.0	0.35	ug/L		10/11/17 09:07	10/12/17 20:33	1
3,3'-Dichlorobenzidine	ND		5.0	0.94	ug/L		10/11/17 09:07	10/12/17 20:33	1
3 & 4 Methylphenol	ND		2.0	0.44	ug/L		10/11/17 09:07	10/12/17 20:33	1

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

Lab Sample ID: MB 500-404842/1-A
Matrix: Water
Analysis Batch: 405067

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 404842

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	82		40 - 145	10/11/17 09:07	10/12/17 20:33	1
2-Fluorobiphenyl	85		34 - 110	10/11/17 09:07	10/12/17 20:33	1
2-Fluorophenol (Surr)	59		27 - 110	10/11/17 09:07	10/12/17 20:33	1
Nitrobenzene-d5 (Surr)	86		36 - 120	10/11/17 09:07	10/12/17 20:33	1
Phenol-d5 (Surr)	33		20 - 100	10/11/17 09:07	10/12/17 20:33	1
Terphenyl-d14 (Surr)	96		40 - 145	10/11/17 09:07	10/12/17 20:33	1

Lab Sample ID: LCS 500-404842/2-A
Matrix: Water
Analysis Batch: 405067

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 404842

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	40.0	27.7		ug/L		69	26 - 110
1,2-Dichlorobenzene	40.0	25.4		ug/L		64	26 - 110
1,3-Dichlorobenzene	40.0	25.6		ug/L		64	22 - 110
1,4-Dichlorobenzene	40.0	25.9		ug/L		65	23 - 110
1-Methylnaphthalene	40.0	29.3		ug/L		73	38 - 110
bis(chloroisopropyl) ether	40.0	18.7		ug/L		47	38 - 110
2,3,4,6-Tetrachlorophenol	40.0	34.8		ug/L		87	44 - 118
2,4,5-Trichlorophenol	40.0	36.3		ug/L		91	63 - 120
2,4,6-Trichlorophenol	40.0	34.7		ug/L		87	62 - 110
2,4-Dichlorophenol	40.0	33.4		ug/L		83	62 - 110
2,4-Dinitrophenol	80.0	68.1		ug/L		85	37 - 130
2,4-Dinitrotoluene	40.0	37.0		ug/L		93	63 - 122
2,6-Dinitrotoluene	40.0	36.4		ug/L		91	63 - 119
2-Chloronaphthalene	40.0	30.8		ug/L		77	39 - 110
2-Chlorophenol	40.0	30.1		ug/L		75	59 - 110
2-Methylnaphthalene	40.0	28.9		ug/L		72	34 - 110
2-Methylphenol	40.0	27.0		ug/L		68	53 - 110
2-Nitroaniline	40.0	36.3		ug/L		91	59 - 122
2-Nitrophenol	40.0	31.8		ug/L		80	58 - 110
3-Nitroaniline	40.0	33.5		ug/L		84	47 - 123
4,6-Dinitro-2-methylphenol	80.0	61.5		ug/L		77	50 - 117
4-Bromophenyl phenyl ether	40.0	35.5		ug/L		89	58 - 120
4-Chloro-3-methylphenol	40.0	36.0		ug/L		90	64 - 120
4-Chloroaniline	40.0	28.3		ug/L		71	35 - 128
4-Chlorophenyl phenyl ether	40.0	32.4		ug/L		81	47 - 112
4-Nitroaniline	40.0	39.7		ug/L		99	52 - 147
4-Nitrophenol	80.0	33.8		ug/L		42	20 - 110
Acenaphthene	40.0	33.1		ug/L		83	46 - 110
Acenaphthylene	40.0	30.6		ug/L		77	47 - 110
Anthracene	40.0	34.0		ug/L		85	67 - 110
Benzo[a]pyrene	40.0	37.4		ug/L		94	70 - 120
Benzo[b]fluoranthene	40.0	36.2		ug/L		91	69 - 123
Benzo[g,h,i]perylene	40.0	37.5		ug/L		94	70 - 120
Benzo[k]fluoranthene	40.0	35.3		ug/L		88	70 - 120
Benzoic acid	80.0	25.7		ug/L		32	10 - 100
Benzyl alcohol	40.0	22.4		ug/L		56	33 - 127

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

Lab Sample ID: LCS 500-404842/2-A
Matrix: Water
Analysis Batch: 405067

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 404842

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-chloroethoxy)methane	40.0	31.2		ug/L		78	60 - 110
Bis(2-chloroethyl)ether	40.0	28.5		ug/L		71	49 - 110
Bis(2-ethylhexyl) phthalate	40.0	33.9		ug/L		85	69 - 120
Butyl benzyl phthalate	40.0	34.0		ug/L		85	68 - 120
Chrysene	40.0	33.6		ug/L		84	68 - 120
Dibenz(a,h)anthracene	40.0	39.1		ug/L		98	70 - 127
Dibenzofuran	40.0	32.5		ug/L		81	51 - 110
Diethyl phthalate	40.0	34.4		ug/L		86	62 - 120
Dimethyl phthalate	40.0	33.1		ug/L		83	63 - 120
Di-n-butyl phthalate	40.0	33.3		ug/L		83	70 - 120
Di-n-octyl phthalate	40.0	36.8		ug/L		92	70 - 122
Fluoranthene	40.0	34.9		ug/L		87	68 - 120
Fluorene	40.0	32.7		ug/L		82	53 - 120
Hexachlorobenzene	40.0	36.2		ug/L		90	61 - 120
Hexachlorobutadiene	40.0	25.0		ug/L		62	20 - 100
Hexachlorocyclopentadiene	40.0	21.8		ug/L		55	10 - 100
Hexachloroethane	40.0	24.7		ug/L		62	20 - 100
Indeno[1,2,3-cd]pyrene	40.0	38.3		ug/L		96	65 - 133
Isophorone	40.0	30.4		ug/L		76	57 - 110
Naphthalene	40.0	28.7		ug/L		72	36 - 110
Nitrobenzene	40.0	34.4		ug/L		86	53 - 110
N-Nitrosodi-n-propylamine	40.0	29.5		ug/L		74	58 - 110
N-Nitrosodiphenylamine	40.0	35.2		ug/L		88	66 - 110
Pentachlorophenol	80.0	63.1		ug/L		79	23 - 129
Phenol	40.0	13.7		ug/L		34	33 - 100
Pyrene	40.0	33.7		ug/L		84	70 - 110
2,4-Dimethylphenol	40.0	31.7		ug/L		79	51 - 110
Benzo[a]anthracene	40.0	33.9		ug/L		85	70 - 120
Phenanthrene	40.0	35.3		ug/L		88	65 - 120
3,3'-Dichlorobenzidine	40.0	36.5		ug/L		91	60 - 132
3 & 4 Methylphenol	40.0	23.7		ug/L		59	53 - 110

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*96*		*40 - 145*
2-Fluorobiphenyl	*84*		*34 - 110*
2-Fluorophenol (Surr)	*59*		*27 - 110*
Nitrobenzene-d5 (Surr)	*83*		*36 - 120*
Phenol-d5 (Surr)	*35*		*20 - 100*
Terphenyl-d14 (Surr)	*92*		*40 - 145*

Lab Sample ID: LCSD 500-404842/3-A
Matrix: Water
Analysis Batch: 405067

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 404842

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	40.0	26.6		ug/L		67	26 - 110	4	20
1,2-Dichlorobenzene	40.0	24.4		ug/L		61	26 - 110	4	20
1,3-Dichlorobenzene	40.0	24.5		ug/L		61	22 - 110	5	20

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

Lab Sample ID: LCSD 500-404842/3-A
Matrix: Water
Analysis Batch: 405067

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 404842

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dichlorobenzene	40.0	24.7		ug/L		62	23 - 110	5	20
1-Methylnaphthalene	40.0	28.6		ug/L		72	38 - 110	2	20
bis(chloroisopropyl) ether	40.0	18.1		ug/L		45	38 - 110	3	20
2,3,4,6-Tetrachlorophenol	40.0	34.0		ug/L		85	44 - 118	2	20
2,4,5-Trichlorophenol	40.0	34.4		ug/L		86	63 - 120	5	20
2,4,6-Trichlorophenol	40.0	33.5		ug/L		84	62 - 110	4	20
2,4-Dichlorophenol	40.0	33.0		ug/L		83	62 - 110	1	20
2,4-Dinitrophenol	80.0	66.0		ug/L		82	37 - 130	3	20
2,4-Dinitrotoluene	40.0	36.9		ug/L		92	63 - 122	0	20
2,6-Dinitrotoluene	40.0	35.6		ug/L		89	63 - 119	2	20
2-Chloronaphthalene	40.0	29.9		ug/L		75	39 - 110	3	20
2-Chlorophenol	40.0	28.6		ug/L		72	59 - 110	5	20
2-Methylnaphthalene	40.0	27.6		ug/L		69	34 - 110	4	20
2-Methylphenol	40.0	26.4		ug/L		66	53 - 110	3	20
2-Nitroaniline	40.0	35.1		ug/L		88	59 - 122	3	20
2-Nitrophenol	40.0	30.4		ug/L		76	58 - 110	4	20
3-Nitroaniline	40.0	32.9		ug/L		82	47 - 123	2	20
4,6-Dinitro-2-methylphenol	80.0	61.5		ug/L		77	50 - 117	0	20
4-Bromophenyl phenyl ether	40.0	35.1		ug/L		88	58 - 120	1	20
4-Chloro-3-methylphenol	40.0	35.5		ug/L		89	64 - 120	2	20
4-Chloroaniline	40.0	28.1		ug/L		70	35 - 128	1	20
4-Chlorophenyl phenyl ether	40.0	31.9		ug/L		80	47 - 112	1	20
4-Nitroaniline	40.0	39.6		ug/L		99	52 - 147	0	20
4-Nitrophenol	80.0	34.1		ug/L		43	20 - 110	1	20
Acenaphthene	40.0	32.4		ug/L		81	46 - 110	2	20
Acenaphthylene	40.0	29.9		ug/L		75	47 - 110	2	20
Anthracene	40.0	34.1		ug/L		85	67 - 110	0	20
Benzo[a]pyrene	40.0	37.1		ug/L		93	70 - 120	1	20
Benzo[b]fluoranthene	40.0	35.9		ug/L		90	69 - 123	1	20
Benzo[g,h,i]perylene	40.0	37.4		ug/L		93	70 - 120	0	20
Benzo[k]fluoranthene	40.0	35.0		ug/L		87	70 - 120	1	20
Benzoic acid	80.0	23.6		ug/L		29	10 - 100	9	20
Benzyl alcohol	40.0	22.2		ug/L		56	33 - 127	1	20
Bis(2-chloroethoxy)methane	40.0	30.5		ug/L		76	60 - 110	2	20
Bis(2-chloroethyl)ether	40.0	28.0		ug/L		70	49 - 110	2	20
Bis(2-ethylhexyl) phthalate	40.0	33.4		ug/L		83	69 - 120	2	20
Butyl benzyl phthalate	40.0	33.3		ug/L		83	68 - 120	2	20
Chrysene	40.0	33.2		ug/L		83	68 - 120	1	20
Dibenz(a,h)anthracene	40.0	39.0		ug/L		98	70 - 127	0	20
Dibenzofuran	40.0	31.6		ug/L		79	51 - 110	3	20
Diethyl phthalate	40.0	33.4		ug/L		84	62 - 120	3	20
Dimethyl phthalate	40.0	32.7		ug/L		82	63 - 120	1	20
Di-n-butyl phthalate	40.0	33.0		ug/L		83	70 - 120	1	20
Di-n-octyl phthalate	40.0	37.0		ug/L		93	70 - 122	0	20
Fluoranthene	40.0	35.2		ug/L		88	68 - 120	1	20
Fluorene	40.0	31.8		ug/L		80	53 - 120	3	20
Hexachlorobenzene	40.0	35.8		ug/L		89	61 - 120	1	20
Hexachlorobutadiene	40.0	24.2		ug/L		61	20 - 100	3	20

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

Lab Sample ID: LCSD 500-404842/3-A
Matrix: Water
Analysis Batch: 405067

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 404842

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexachlorocyclopentadiene			40.0	20.3		ug/L		51	10 - 100	7	20
Hexachloroethane			40.0	23.4		ug/L		59	20 - 100	5	20
Indeno[1,2,3-cd]pyrene			40.0	38.0		ug/L		95	65 - 133	1	20
Isophorone			40.0	29.7		ug/L		74	57 - 110	2	20
Naphthalene			40.0	27.7		ug/L		69	36 - 110	4	20
Nitrobenzene			40.0	33.5		ug/L		84	53 - 110	3	20
N-Nitrosodi-n-propylamine			40.0	28.5		ug/L		71	58 - 110	3	20
N-Nitrosodiphenylamine			40.0	34.8		ug/L		87	66 - 110	1	20
Pentachlorophenol			80.0	63.3		ug/L		79	23 - 129	0	20
Phenol			40.0	13.5		ug/L		34	33 - 100	1	20
Pyrene			40.0	33.5		ug/L		84	70 - 110	1	20
2,4-Dimethylphenol			40.0	30.8		ug/L		77	51 - 110	3	20
Benzo[a]anthracene			40.0	33.4		ug/L		84	70 - 120	1	20
Phenanthrene			40.0	35.1		ug/L		88	65 - 120	0	20
3,3'-Dichlorobenzidine			40.0	38.4		ug/L		96	60 - 132	5	20
3 & 4 Methylphenol			40.0	23.7		ug/L		59	53 - 110	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*96*		*40 - 145*
2-Fluorobiphenyl	*83*		*34 - 110*
2-Fluorophenol (Surr)	*55*		*27 - 110*
Nitrobenzene-d5 (Surr)	*87*		*36 - 120*
Phenol-d5 (Surr)	*35*		*20 - 100*
Terphenyl-d14 (Surr)	*92*		*40 - 145*

GC/MS VOA

Analysis Batch: 381807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-125450-1	SUPE-W-30C-100417	Total/NA	Water	8260C	
480-125450-2	SUPE-W-06A-100417	Total/NA	Water	8260C	
480-125450-3	SUPE-W-06C-100417	Total/NA	Water	8260C	
480-125450-4	SUPE-W-12A-100417	Total/NA	Water	8260C	
480-125450-5	SUPE-W-30A-100417	Total/NA	Water	8260C	
480-125450-7	SUPE-W-28C-100417	Total/NA	Water	8260C	
480-125450-8	SUPE-W-12CR-100417	Total/NA	Water	8260C	
480-125450-9	SUPE-W-04AR2-100417	Total/NA	Water	8260C	
MB 480-381807/6	Method Blank	Total/NA	Water	8260C	
LCS 480-381807/4	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 381814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-125450-10	SUPE-EB-01-100417	Total/NA	Water	8260C	
480-125450-11	SUPE-W-99A-100417	Total/NA	Water	8260C	
MB 480-381814/7	Method Blank	Total/NA	Water	8260C	
LCS 480-381814/5	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 381881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-125450-13	SUPE-W-10AR2-100517	Total/NA	Water	8260C	
480-125450-14	SUPE-EB-02-100517	Total/NA	Water	8260C	
MB 480-381881/7	Method Blank	Total/NA	Water	8260C	
LCS 480-381881/5	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 382072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-125450-12	SUPE-TB-01-100517	Total/NA	Water	8260C	
MB 480-382072/6	Method Blank	Total/NA	Water	8260C	
LCS 480-382072/4	Lab Control Sample	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 404842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-125450-1	SUPE-W-30C-100417	Total/NA	Water	3510C	
480-125450-2	SUPE-W-06A-100417	Total/NA	Water	3510C	
480-125450-3	SUPE-W-06C-100417	Total/NA	Water	3510C	
480-125450-4	SUPE-W-12A-100417	Total/NA	Water	3510C	
480-125450-5	SUPE-W-30A-100417	Total/NA	Water	3510C	
480-125450-6	SUPE-W-18D-100417	Total/NA	Water	3510C	
480-125450-7	SUPE-W-28C-100417	Total/NA	Water	3510C	
480-125450-8	SUPE-W-12CR-100417	Total/NA	Water	3510C	
480-125450-9	SUPE-W-04AR2-100417	Total/NA	Water	3510C	
480-125450-10	SUPE-EB-01-100417	Total/NA	Water	3510C	
480-125450-11	SUPE-W-99A-100417	Total/NA	Water	3510C	
480-125450-13	SUPE-W-10AR2-100517	Total/NA	Water	3510C	
480-125450-14	SUPE-EB-02-100517	Total/NA	Water	3510C	
MB 500-404842/1-A	Method Blank	Total/NA	Water	3510C	
LCS 500-404842/2-A	Lab Control Sample	Total/NA	Water	3510C	

GC/MS Semi VOA (Continued)

Prep Batch: 404842 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 500-404842/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 405067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-404842/1-A	Method Blank	Total/NA	Water	8270D	404842
LCS 500-404842/2-A	Lab Control Sample	Total/NA	Water	8270D	404842
LCSD 500-404842/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	404842

Analysis Batch: 405983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-125450-1	SUPE-W-30C-100417	Total/NA	Water	8270D	404842
480-125450-2	SUPE-W-06A-100417	Total/NA	Water	8270D	404842
480-125450-3	SUPE-W-06C-100417	Total/NA	Water	8270D	404842
480-125450-4	SUPE-W-12A-100417	Total/NA	Water	8270D	404842
480-125450-5	SUPE-W-30A-100417	Total/NA	Water	8270D	404842
480-125450-6	SUPE-W-18D-100417	Total/NA	Water	8270D	404842
480-125450-7	SUPE-W-28C-100417	Total/NA	Water	8270D	404842
480-125450-8	SUPE-W-12CR-100417	Total/NA	Water	8270D	404842
480-125450-9	SUPE-W-04AR2-100417	Total/NA	Water	8270D	404842
480-125450-10	SUPE-EB-01-100417	Total/NA	Water	8270D	404842

Analysis Batch: 406153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-125450-11	SUPE-W-99A-100417	Total/NA	Water	8270D	404842
480-125450-13	SUPE-W-10AR2-100517	Total/NA	Water	8270D	404842
480-125450-14	SUPE-EB-02-100517	Total/NA	Water	8270D	404842

Lab Chronicle

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

TestAmerica Job ID: 480-125450-1

Client Sample ID: SUPE-W-30C-100417
Lab Sample ID: 480-125450-1
Date Collected: 10/04/17 10:52
Matrix: Water
Date Received: 10/06/17 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	381807	10/14/17 15:40	AMM	TAL BUF
Total/NA	Prep	3510C			404842	10/11/17 09:07	BSO	TAL CHI
Total/NA	Analysis	8270D		1	405983	10/19/17 12:35	AJD	TAL CHI

Client Sample ID: SUPE-W-06A-100417
Lab Sample ID: 480-125450-2
Date Collected: 10/04/17 11:59
Matrix: Water
Date Received: 10/06/17 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	381807	10/14/17 16:05	AMM	TAL BUF
Total/NA	Prep	3510C			404842	10/11/17 09:07	BSO	TAL CHI
Total/NA	Analysis	8270D		1	405983	10/19/17 16:08	AJD	TAL CHI

Client Sample ID: SUPE-W-06C-100417
Lab Sample ID: 480-125450-3
Date Collected: 10/04/17 12:55
Matrix: Water
Date Received: 10/06/17 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	381807	10/14/17 16:30	AMM	TAL BUF
Total/NA	Prep	3510C			404842	10/11/17 09:07	BSO	TAL CHI
Total/NA	Analysis	8270D		1	405983	10/19/17 16:34	AJD	TAL CHI

Client Sample ID: SUPE-W-12A-100417
Lab Sample ID: 480-125450-4
Date Collected: 10/04/17 13:57
Matrix: Water
Date Received: 10/06/17 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	381807	10/14/17 16:55	AMM	TAL BUF
Total/NA	Prep	3510C			404842	10/11/17 09:07	BSO	TAL CHI
Total/NA	Analysis	8270D		1	405983	10/19/17 17:01	AJD	TAL CHI

Client Sample ID: SUPE-W-30A-100417
Lab Sample ID: 480-125450-5
Date Collected: 10/04/17 15:06
Matrix: Water
Date Received: 10/06/17 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	381807	10/14/17 17:20	AMM	TAL BUF
Total/NA	Prep	3510C			404842	10/11/17 09:07	BSO	TAL CHI
Total/NA	Analysis	8270D		1	405983	10/19/17 17:28	AJD	TAL CHI

Lab Chronicle

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

TestAmerica Job ID: 480-125450-1

Client Sample ID: SUPE-W-18D-100417
Lab Sample ID: 480-125450-6
Date Collected: 10/04/17 11:20
Matrix: Water
Date Received: 10/06/17 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			404842	10/11/17 09:07	BSO	TAL CHI
Total/NA	Analysis	8270D		1	405983	10/19/17 17:54	AJD	TAL CHI

Client Sample ID: SUPE-W-28C-100417
Lab Sample ID: 480-125450-7
Date Collected: 10/04/17 12:57
Matrix: Water
Date Received: 10/06/17 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	381807	10/14/17 17:45	AMM	TAL BUF
Total/NA	Prep	3510C			404842	10/11/17 09:07	BSO	TAL CHI
Total/NA	Analysis	8270D		1	405983	10/19/17 18:20	AJD	TAL CHI

Client Sample ID: SUPE-W-12CR-100417
Lab Sample ID: 480-125450-8
Date Collected: 10/04/17 14:02
Matrix: Water
Date Received: 10/06/17 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	381807	10/14/17 18:10	AMM	TAL BUF
Total/NA	Prep	3510C			404842	10/11/17 09:07	BSO	TAL CHI
Total/NA	Analysis	8270D		1	405983	10/19/17 18:47	AJD	TAL CHI

Client Sample ID: SUPE-W-04AR2-100417
Lab Sample ID: 480-125450-9
Date Collected: 10/04/17 15:08
Matrix: Water
Date Received: 10/06/17 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	381807	10/14/17 18:35	AMM	TAL BUF
Total/NA	Prep	3510C			404842	10/11/17 09:07	BSO	TAL CHI
Total/NA	Analysis	8270D		1	405983	10/19/17 19:13	AJD	TAL CHI

Client Sample ID: SUPE-EB-01-100417
Lab Sample ID: 480-125450-10
Date Collected: 10/04/17 16:10
Matrix: Water
Date Received: 10/06/17 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	381814	10/14/17 17:23	AMM	TAL BUF
Total/NA	Prep	3510C			404842	10/11/17 09:07	BSO	TAL CHI
Total/NA	Analysis	8270D		1	405983	10/19/17 20:07	AJD	TAL CHI

Lab Chronicle

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

TestAmerica Job ID: 480-125450-1

Client Sample ID: SUPE-W-99A-100417

Lab Sample ID: 480-125450-11
Date Collected: 10/04/17 22:22
Matrix: Water
Date Received: 10/06/17 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	381814	10/14/17 17:46	AMM	TAL BUF
Total/NA	Prep	3510C			404842	10/11/17 09:07	BSO	TAL CHI
Total/NA	Analysis	8270D		1	406153	10/20/17 12:32	WDS	TAL CHI

Client Sample ID: SUPE-TB-01-100517

Lab Sample ID: 480-125450-12
Date Collected: 10/05/17 00:00
Matrix: Water
Date Received: 10/06/17 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	382072	10/17/17 03:21	AMM	TAL BUF

Client Sample ID: SUPE-W-10AR2-100517

Lab Sample ID: 480-125450-13
Date Collected: 10/05/17 07:59
Matrix: Water
Date Received: 10/06/17 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	381881	10/15/17 21:29	RRS	TAL BUF
Total/NA	Prep	3510C			404842	10/11/17 09:07	BSO	TAL CHI
Total/NA	Analysis	8270D		1	406153	10/20/17 12:59	WDS	TAL CHI

Client Sample ID: SUPE-EB-02-100517

Lab Sample ID: 480-125450-14
Date Collected: 10/05/17 08:45
Matrix: Water
Date Received: 10/06/17 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	381881	10/15/17 21:55	RRS	TAL BUF
Total/NA	Prep	3510C			404842	10/11/17 09:07	BSO	TAL CHI
Total/NA	Analysis	8270D		1	406153	10/20/17 13:26	WDS	TAL CHI

Laboratory References:

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

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 480-125450-1

Laboratory: 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	08-31-18

Laboratory: 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	08-31-18

Laboratory: 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
A2LA	A2LA		PA00164	07-31-18
Arkansas DEQ	State Program	6	88-0690	06-27-18
California	State Program	9	2891	03-31-18
Connecticut	State Program	1	PH-0688	09-30-18
Florida	NELAP	4	E871008	06-30-18
Illinois	NELAP	5	200005	06-30-18
Kansas	NELAP	7	E-10350	01-31-18
Louisiana	NELAP	6	04041	06-30-18
Nevada	State Program	9	PA00164	07-31-18
New Hampshire	NELAP	1	2030	04-04-18
New Jersey	NELAP	2	PA005	06-30-18
New York	NELAP	2	11182	03-31-18
North Carolina (WW/SW)	State Program	4	434	12-31-17
Pennsylvania	NELAP	3	02-00416	04-30-18
South Carolina	State Program	4	89014	04-30-18
Texas	NELAP	6	T104704528-15-2	03-31-18
US Fish & Wildlife	Federal		LE94312A-1	07-31-18
USDA	Federal		P330-16-00211	06-26-19
Utah	NELAP	8	PA001462015-4	05-31-18
Virginia	NELAP	3	460189	09-14-18
West Virginia DEP	State Program	3	142	01-31-18
Wisconsin	State Program	5	998027800	08-31-18

Method Summary

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

TestAmerica Job ID: 480-125450-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CHI

Protocol References:

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

Laboratory References:

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

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

Sample Summary

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

TestAmerica Job ID: 480-125450-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-125450-1	SUPE-W-30C-100417	Water	10/04/17 10:52	10/06/17 09:15
480-125450-2	SUPE-W-06A-100417	Water	10/04/17 11:59	10/06/17 09:15
480-125450-3	SUPE-W-06C-100417	Water	10/04/17 12:55	10/06/17 09:15
480-125450-4	SUPE-W-12A-100417	Water	10/04/17 13:57	10/06/17 09:15
480-125450-5	SUPE-W-30A-100417	Water	10/04/17 15:06	10/06/17 09:15
480-125450-6	SUPE-W-18D-100417	Water	10/04/17 11:20	10/06/17 09:15
480-125450-7	SUPE-W-28C-100417	Water	10/04/17 12:57	10/06/17 09:15
480-125450-8	SUPE-W-12CR-100417	Water	10/04/17 14:02	10/06/17 09:15
480-125450-9	SUPE-W-04AR2-100417	Water	10/04/17 15:08	10/06/17 09:15
480-125450-10	SUPE-EB-01-100417	Water	10/04/17 16:10	10/06/17 09:15
480-125450-11	SUPE-W-99A-100417	Water	10/04/17 22:22	10/06/17 09:15
480-125450-12	SUPE-TB-01-100517	Water	10/05/17 00:00	10/06/17 09:15
480-125450-13	SUPE-W-10AR2-100517	Water	10/05/17 07:59	10/06/17 09:15
480-125450-14	SUPE-EB-02-100517	Water	10/05/17 08:45	10/06/17 09:15

CHAIN OF CUSTODY RECORD/LABORATORY ANALYSIS REQUEST FORM

480-125450 COC

Project Name:	Superior 2017 2SA Sampling	Company:	Field & Technical Services	Client:	Beazer East, Inc.
Project Number:	OM-0556-17	Address:	200 Third Avenue	Contact:	(33) 0 3-0102
Laboratory:	TAPIT		Carnegie, PA 15106		ccoats.2006@f-ts.com
Shipment Method	FEDEX		(412) 279-3363		
Program:	Superior 2017 2SA Sampling_001				

Sample Date	Sample Time	Matrix	Sample Identification	Analysis	8260B_VOA+naphtha	8270C_SVOC (less naphtha)														
				Preservative	HCL	None														
				Total Bottle Count																Notes:
10/04/2017	1052	GW	SUPE-W-30C-100417	5	3	2														
10/04/2017	1159	GW	SUPE-W-06A-100417	5	3	2														
10/04/2017	1255	GW	SUPE-W-06C-100417	5	3	2														
10/04/2017	1357	GW	SUPE-W-12A-100417	5	3	2														
10/04/2017	1506	GW	SUPE-W-30A-100417	5	3	2														

Relinquished by:	Received by:	Relinquished by:	Received by:	Turnaround Requirements
Signature:	Signature:	Signature:	Signature:	☐ Rush
Printed Name: Cody Coats	Printed Name: Carl Jansh	Printed Name:	Printed Name:	
Firm FTS	Firm	Firm	Firm	☒ Standard
Date/Time: 10/04/2017 1847	Date/Time: 10/6/17 0915	Date/Time:	Date/Time:	

2.7 #1

Page 1 of 1

CHAIN OF CUSTODY RECORD/LABORATORY ANALYSIS REQUEST FORM

342

480-125450-02 C

Project Name:	Superior 2017 2SA Sampling	Company:	Field & Technical Services	Client:	Beazer East, Inc.
Project Number:	OM-0556-17	Address:	200 Third Avenue	Contact:	(412) 680-4312
Laboratory:	TAPIT		Carnegie, PA 15106		brick.2006@f-ts.com
Shipment Method	FEDEX		(412) 279-3363		
Program:	Superior 2017 2SA Sampling_001				

Sample Date	Sample Time	Matrix	Sample Identification	Analysis	8270C_SVOC+naphtha	8260B_VOA+naphtha	8270C_SVOC (less naphtha)													Notes:
				Preservative	None															
				Total Bottle Count																
10/04/2017	1120	GW	SUPE-W-18D-100417	2	2	0	0													
10/04/2017	1257	GW	SUPE-W-28C-100417	5	0	3	2													
10/04/2017	1402	GW	SUPE-W-12CR-100417	5	0	3	2													
10/04/2017	1508	GW	SUPE-W-04AR2-100417	5	0	3	2													
10/04/2017	1610	GW	SUPE-EB-01-100417	5	0	3	2													
10/04/2017	2222	GW	SUPE-W-99A-100417	5	0	3	2													

Relinquished by:	Received by:	Relinquished by:	Received by:	Turnaround Requirements
Signature:	Signature:	Signature:	Signature:	☐ Rush
Printed Name: Brendan Rick	Printed Name: Carl Jansz	Printed Name:	Printed Name:	
Firm FTS	Firm	Firm	Firm	☒ Standard
Date/Time: 10/04/2017 1840	Date/Time: 10/6/17 0915	Date/Time:	Date/Time:	

3.0, 2.6 #1

CHAIN OF CUSTODY RECORD/LABORATORY ANALYSIS REQUEST FORM

1713

480-125450-03 C(

Project Name:	Superior 2017 2SA Sampling	Company:	Field & Technical Services	Client:	Beazer East, Inc.
Project Number:	OM-0556-17	Address:	200 Third Avenue	Contact:	(33) 0 3-0102
Laboratory:	TAPIT		Carnegie, PA 15106		ccoats.2006@f-ts.com
Shipment Method	FEDEX		(412) 279-3363		
Program:	Superior 2017 2SA Sampling_001				

Sample Date	Sample Time	Matrix	Sample Identification	Analysis	8260B_VOA+naphtha	8270C_SVOC (less naphtha)															
				Preservative	HCL	None															
				Total Bottle Count																	Notes:
10/05/2017	0000	GW	SUPE-TB-01-100517	3	3	0															
10/05/2017	0759	GW	SUPE-W-10AR2-100517	5	3	2															
10/05/2017	0845	GW	SUPE-EB-02-100517	5	3	2															

Relinquished by:	Received by:	Relinquished by:	Received by:	Turnaround Requirements
Signature:	Signature:	Signature:	Signature:	☐ Rush
Printed Name: Cody Coats	Printed Name: Carl Janish	Printed Name:	Printed Name:	
Firm FTS	Firm	Firm	Firm	☒ Standard
Date/Time: 10/05/2017 0846	Date/Time: 10/6/17 0915	Date/Time:	Date/Time:	

3.0 #1

Page 1 of 1

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 480-37830.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: veronica.bortot@testamericainc.com	State of Origin: Wisconsin	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Wisconsin		Job #: 480-125450-1
Address: 2417 Bond Street, ,	Due Date Requested: 10/24/2017			Preservation Codes:
City: University Park	TAT Requested (days):			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)
State, Zip: IL, 60484	480-125450 COC			
Phone: 708-534-5200(Tel) 708-534-5211(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: Superior, WI Semiannual Groundwater	Project #: 18015916			
Site:	SSOW#:			

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 n	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SUPE-W-30C-100417 (480-125450-1)	10/4/17	10:52 Central		Water			X	2	
SUPE-W-06A-100417 (480-125450-2)	10/4/17	11:59 Central		Water			X	2	
SUPE-W-06C-100417 (480-125450-3)	10/4/17	12:55 Central		Water			X	2	
SUPE-W-12A-100417 (480-125450-4)	10/4/17	13:57 Central		Water			X	2	
SUPE-W-30A-100417 (480-125450-5)	10/4/17	15:06 Central		Water			X	2	
SUPE-W-18D-100417 (480-125450-6)	10/4/17	11:20 Central		Water			X	2	
SUPE-W-28C-100417 (480-125450-7)	10/4/17	12:57 Central		Water			X	2	
SUPE-W-12CR-100417 (480-125450-8)	10/4/17	14:02 Central		Water			X	2	
SUPE-W-04AR2-100417 (480-125450-9)	10/4/17	15:08 Central		Water			X	2	

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		10/9/17 1700	TAB		10/10/17 0930	TA-CHI
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

1.3 → 0.7, 3.1, 0.9 → 0.3

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 480-37830.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: veronica.bortot@testamericainc.com	State of Origin: Wisconsin	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Wisconsin		Job #: 480-125450-1
Address: 2417 Bond Street, ,	Due Date Requested: 10/24/2017			
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

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-EB-01-100417 (480-125450-10)	10/4/17	16:10 Central		Water			X	2	
SUPE-W-99A-100417 (480-125450-11)	10/4/17	22:22 Central		Water			X	2	
SUPE-W-10AR2-100517 (480-125450-13)	10/5/17	07:59 Central		Water			X	2	
SUPE-EB-02-100517 (480-125450-14)	10/5/17	08:45 Central		Water			X	2	

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

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

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by:	10/9/17 1700	TAB		10/10/17 0930	TA-CHI
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:

Login Sample Receipt Checklist

Client: Field & Technical Services LLC

Job Number: 480-125450-1

Login Number: 125450
List Number: 1
Creator: Janish, Carl M

List Source: TestAmerica Buffalo

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	
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.	N/A	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Field & Technical Services LLC

Job Number: 480-125450-1

Login Number: 125450
List Number: 2
Creator: Scott, Sherri L

List Source: TestAmerica Chicago
List Creation: 10/10/17 12:47 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	0.7,3.1,0.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX D

Data Summary Tables

First Semi-Annual Event

Table D1
Summary of Detected Constituents
First Semi-Annual 2017 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	7.1	NA	NA	NA
W-30A	1-Methylnaphthalene	1.9	NA	NA	NA
W-12CR	2,3,4,6-Tetrachlorophenol	0.19 J	NA	NA	NA
W-10AR2	Acenaphthene	23	NA	NA	NA
W-30A	Acenaphthene	12	NA	NA	NA
W-10AR2	Acenaphthylene	0.46	NA	NA	NA
W-30A	Acenaphthylene	0.32	NA	NA	NA
W-10AR2	Anthracene	0.17 J	600	3000	NA
W-12A	Anthracene	0.026 J	600	3000	NA
W-30A	Anthracene	0.47	600	3000	NA
W-30A	Benzo(a)anthracene	0.5	NA	NA	NA
W-30A	Benzo(a)pyrene	0.18	0.02	0.2	0.2
W-30A	Benzo(b)fluoranthene	0.29	0.02	0.2	NA
W-30A	Benzo(k)fluoranthene	0.16 J	NA	NA	NA
W-30A	Chrysene	0.5	0.02	0.2	NA
W-10AR2	Dibenzofuran	5.9	NA	NA	NA
W-30A	Dibenzofuran	3.5	NA	NA	NA
W-10AR2	Fluoranthene	0.79	80	400	NA
W-30A	Fluoranthene	3.1	80	400	NA
W-10AR2	Fluorene	5.9	80	400	NA
W-30A	Fluorene	2.7	80	400	NA
W-10AR2	Phenanthrene	0.51	NA	NA	NA
W-30A	Phenanthrene	1.3	NA	NA	NA
W-10AR2	Phenol	0.51 J	400	2000	NA
W-30A	Phenol	0.39 J	400	2000	NA
W-10AR2	Pyrene	0.41	50	250	NA
W-30A	Pyrene	2.2	50	250	NA
8260C					
W-10AR2	1,2,4-Trimethylbenzene	4.1	96*	480*	NA
W-30A	1,2,4-Trimethylbenzene	3.9	96*	480*	NA
W-10AR2	Benzene	8.6	0.5	5	5
W-30A	Benzene	5.6	0.5	5	5
W-10AR2	Ethylbenzene	19	140	700	700
W-30A	Ethylbenzene	18	140	700	700
W-10AR2	Naphthalene	2	10	100	NA
W-30A	Naphthalene	14	10	100	NA
W-10AR2	Xylene, Meta & Para	1.6 J	400**	2000**	10000**
W-30A	Xylene, Meta & Para	1.6 J	400**	2000**	10000**
W-10AR2	Xylene, Ortho	11	400**	2000**	10000**
W-30A	Xylene, Ortho	3.4	400**	2000**	10000**

Table D1
Summary of Detected Constituents
First Semi-Annual 2017 Sampling Event
Superior Facility
Superior, Wisconsin

Location	Parameter	Results ug/L	PAL ug/L	ES ug/L	MCL ug/L
8290					
W-10AR2	1,2,3,4,6,7,8-HPCDD	0.000037 J	NA	NA	NA
W-12A	1,2,3,4,6,7,8-HPCDD	0.000075	NA	NA	NA
W-30A	1,2,3,4,6,7,8-HPCDD	0.00059	NA	NA	NA
W-30A	1,2,3,4,6,7,8-HPCDF	0.00022	NA	NA	NA
W-30A	1,2,3,4,7,8-HXCDF	0.000029 J	NA	NA	NA
W-30A	1,2,3,6,7,8-HXCDD	0.000023 J	NA	NA	NA
W-30A	1,2,3,6,7,8-HXCDF	0.000037 JI	NA	NA	NA
W-10AR2	1,2,3,7,8-PECDF	0.00000057 JQ	NA	NA	NA
W-12A	1,2,3,7,8-PECDF	0.00000062 J	NA	NA	NA
W-30A	1,2,3,7,8-PECDF	0.0000023 JQ	NA	NA	NA
W-30A	2,3,7,8-TCDF	0.00000055 JQ	NA	NA	NA
W-10AR2	OCDD	0.00043	NA	NA	NA
W-12A	OCDD	0.00078	NA	NA	NA
W-30A	OCDD	0.0072	NA	NA	NA
W-12A	OCDF	0.000075 J	NA	NA	NA
W-30A	OCDF	0.00061	NA	NA	NA
W-10AR2	Total HPCDD	0.000074	NA	NA	NA
W-12A	Total HPCDD	0.00014	NA	NA	NA
W-30A	Total HPCDD	0.0012	NA	NA	NA
W-12A	Total HPCDF	0.0001	NA	NA	NA
W-30A	Total HPCDF	0.00085	NA	NA	NA
W-12A	Total HXCDF	0.00011QI	NA	NA	NA
W-30A	Total HXCDF	0.00075 I	NA	NA	NA
W-12A	Total PECDF	0.00005 Q	NA	NA	NA
W-30A	Total PECDF	0.00031 QI	NA	NA	NA
W-10AR2	Total TCDF	0.000004 J	NA	NA	NA
W-12A	Total TCDF	0.000017 Q	NA	NA	NA
W-30A	Total TCDF	0.00011 QI	NA	NA	NA
W-10AR2	2,3,7,8-TCDD TEQ	5.16E-07	3E-06	0.00003	0.00003
W-12A	2,3,7,8-TCDD TEQ	1.03E-06	3E-06	0.00003	0.00003
W-30A	2,3,7,8-TCDD TEQ	1.95E-05	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

Q - Estimated maximum possible concentration

* - 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.

Second Semi-Annual Event

Table D2
Summary of Detected Constituents
Second Semi-Annual 2017 Sampling Event
Superior Facility
Superior, Wisconsin

Location	Parameter	Results ug/L	PAL ug/L	ES ug/L	MCL ug/L
8270D					
W-10AR2	1-Methylnaphthalene	23	NA	NA	NA
W-30A	1-Methylnaphthalene	8.1	NA	NA	NA
W-10AR2	Acenaphthene	50	NA	NA	NA
W-30A	Acenaphthene	28	NA	NA	NA
W-10AR2	Acenaphthylene	0.56 J	NA	NA	NA
W-30A	Acenaphthylene	0.41 J	NA	NA	NA
W-04AR2	Anthracene	0.55 J	600	3000	NA
W-04AR2 DUP	Anthracene	0.53 J	600	3000	NA
W-10AR2	Anthracene	0.43 J	600	3000	NA
W-30A	Anthracene	0.86 J	600	3000	NA
W-04AR2 DUP	Benzo(a)anthracene	0.18 J	NA	NA	NA
W-30A	Benzo(a)anthracene	0.74	NA	NA	NA
W-30A	Benzo(a)pyrene	0.29	0.02	0.2	0.2
W-30A	Benzo(b)fluoranthene	0.36	0.02	0.2	NA
W-30A	Benzo(k)fluoranthene	0.23	NA	NA	NA
W-04AR2 DUP	Chrysene	0.16 J	0.02	0.2	NA
W-30A	Chrysene	0.62	0.02	0.2	NA
W-10AR2	Dibenzofuran	13	NA	NA	NA
W-30A	Dibenzofuran	9.7	NA	NA	NA
W-04AR2 DUP	Fluoranthene	0.38 J	80	400	NA
W-10AR2	Fluoranthene	1.2	80	400	NA
W-30A	Fluoranthene	3.5	80	400	NA
W-10AR2	Fluorene	12	80	400	NA
W-30A	Fluorene	5.9	80	400	NA
W-10AR2	Phenanthrene	1.4	NA	NA	NA
W-30A	Phenanthrene	1.3	NA	NA	NA
W-10AR2	Pyrene	0.77 J	50	250	NA
W-30A	Pyrene	2.8	50	250	NA

Table D2
Summary of Detected Constituents
Second Semi-Annual 2017 Sampling Event
Superior Facility
Superior, Wisconsin

Location	Parameter	Results ug/L	PAL ug/L	ES ug/L	MCL ug/L
8260C					
W-10AR2	1,2,4-Trimethylbenzene	6.5	96*	480*	NA
W-30A	1,2,4-Trimethylbenzene	5.4	96*	480*	NA
W-10AR2	Benzene	16	0.5	5	5
W-30A	Benzene	11	0.5	5	5
W-10AR2	Ethylbenzene	33	140	700	700
W-30A	Ethylbenzene	21	140	700	700
W-10AR2	Naphthalene	1.7	10	100	NA
W-30A	Naphthalene	26	10	100	NA
W-30A	n-Butylbenzene	13	NA	NA	NA
W-10AR2	Toluene	5	160	800	1000
W-30A	Toluene	1.6	160	800	1000
W-10AR2	Xylene, Meta & Para	3.9	400**	2000**	10000**
W-30A	Xylene, Meta & Para	3.3	400**	2000**	10000**
W-10AR2	Xylene, Ortho	15	400**	2000**	10000**
W-30A	Xylene, Ortho	5.2	400**	2000**	10000**

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

APPENDIX E

Linear Regression Analysis

BENZENE STATISTICAL ANALYSIS

	W-10AR2 Benzene	W-30A Benzene	PAL	ES/MCL
Feb-99		0	0.5	5
May-99		0	0.5	5
Aug-99	140	0	0.5	5
Nov-99	140	0	0.5	5
Feb-00	130	0	0.5	5
May-00	110	0	0.5	5
Aug-00	0	0	0.5	5
Nov-00	120	0	0.5	5
Feb-01	100	14	0.5	5
May-01	73	0	0.5	5
Aug-01	0	32	0.5	5
Dec-01	91	100	0.5	5
Apr-02	28	2.8	0.5	5
Oct-02	63	0	0.5	5
Apr-03	75	19	0.5	5
Oct-03	11	0	0.5	5
Apr-04	41	0.18	0.5	5
Oct-04	44	0	0.5	5
Apr-05	54	0	0.5	5
Oct-05	14	3.7	0.5	5
Apr-06	35	0.14	0.5	5
Oct-06	46	13	0.5	5
Apr-07	5	0	0.5	5
Oct-07	0	0	0.5	5
May-08	3.7	0	0.5	5
Oct-08	5.5	0	0.5	5
Apr-09	5.4	0.4	0.5	5
Oct-09	21	0.29	0.5	5
Apr-10	8.6	0.35	0.5	5
Oct-10	1.2	8.9	0.5	5
Apr-11	0	0	0.5	5
Oct-11	28	22	0.5	5
Apr-12	2.2	0	0.5	5
Oct-12	30	17	0.5	5
May-13	2.4	0	0.5	5
Oct-13	17	2.3	0.5	5
Apr-14	0.64	0	0.5	5
Oct-14	9.3	3.7	0.5	5
Apr-15	8.7	0.33	0.5	5
Oct-15	13	8.2	0.5	5
Apr-16	5.8	2.5	0.5	5
Oct-16	12	8.5	0.5	5
Apr-17	8.6	5.6	0.5	5
Oct-17	16	11	0.5	5

Benzene data for Feb-99 W-10AR2 and May-99 W-10AR2 not included; Well W-10A was abandoned prior to 3rd quarter 1999 sampling and well W-10AR was installed. Data is not available for W-10A.

SUMMARY OUTPUT FOR W-10AR2 (August 1999 - October 2017)

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.687119297
R Square	0.472132929
Adjusted R Square	0.458936252
Standard Error	31.51818635
Observations	42

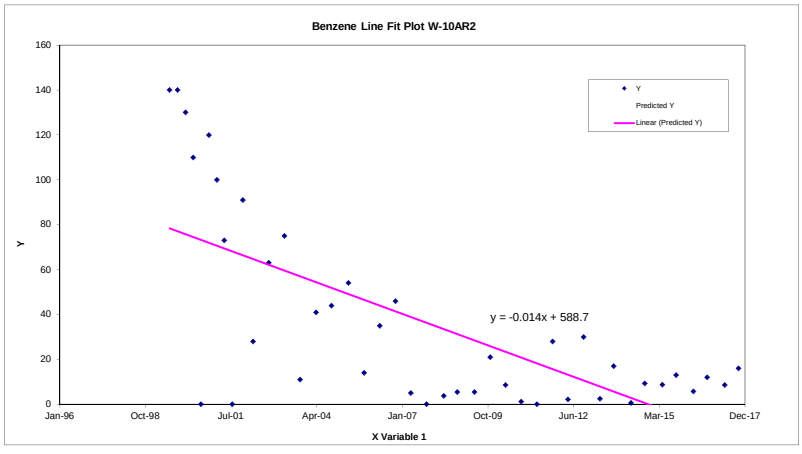
ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	35540.38674	35540.38674	35.77665323	5.0205E-07
Residual	40	39735.84283	993.3960707		
Total	41	75276.22956			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	588.6989119	92.50348101	6.364073065	1.45477E-07	401.742403	775.6554209	401.742403	775.6554209
X Variable 1	-0.014029622	0.002345558	-5.981358811	5.0205E-07	-0.018770171	-0.009289073	-0.018770171	-0.009289073

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	78.3994549	61.6005451
2	77.10872964	62.89127036
3	75.81800437	54.18199563
4	74.55533835	35.44466165
5	73.26461309	-73.26461309
6	71.97388783	48.02611217
7	70.68316256	29.31683744
8	69.43452616	3.565473836
9	68.1438009	-68.1438009
10	66.43218696	24.56781304
11	64.73460265	-36.73460265
12	62.16718174	0.83281826
13	59.61379046	15.38620954
14	57.04636955	-46.04636955
15	54.43685977	-13.43685977
16	51.86943887	-7.869438868
17	49.10560325	4.894396753
18	46.53818234	-32.53818234
19	43.98479106	-8.984791056
20	41.41737015	4.58262985
21	38.89203811	-33.89203811
22	36.33864683	-36.33864683
23	33.49063347	-29.79063347
24	31.31604199	-25.81604199
25	28.48205826	-23.08205826
26	25.91463735	-4.914637352
27	23.38930531	-14.78930531
28	20.80785478	-19.60785478
29	18.26849312	-18.26849312
30	15.70107222	12.29892778
31	13.17574018	-10.97574018
32	10.59428965	19.40571035
33	7.942691006	-5.542691006
34	5.66989217	11.33010783
35	2.835908437	-2.195908437
36	0.577139224	8.722860776
37	-2.284903754	10.98490375
38	-4.543672967	17.54367297
39	-7.363627077	13.16362708
40	-9.636425913	21.63642591
41	-12.49846889	21.09846889
42	-14.7572381	30.7572381



BENZENE STATISTICAL ANALYSIS

SUMMARY OUTPUT FOR W-30A (February 1999 - October 2017)

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.081232716
R Square	0.006598754
Adjusted R Square	-0.017053656
Standard Error	16.28428461
Observations	44

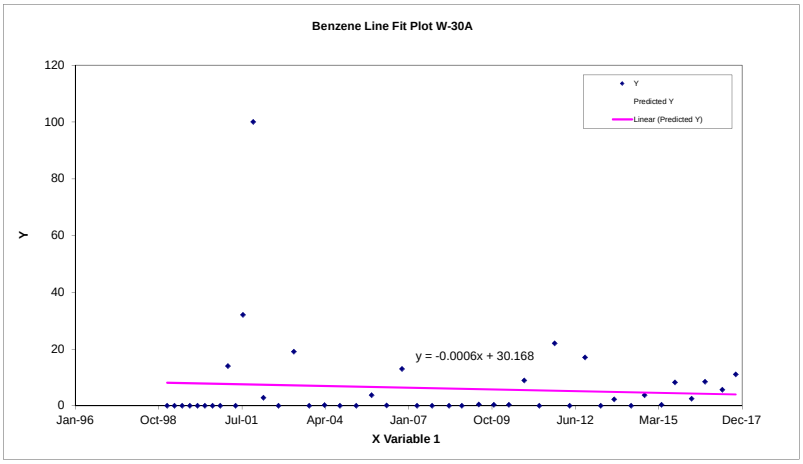
ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	73.98163276	73.98163276	0.278988655	0.600144784
Residual	42	11137.47286	265.1779254		
Total	43	11211.4545			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	30.16776389	45.31043652	0.665801661	0.509178298	-61.272399	121.6079268	-61.272399	121.6079268
X Variable 1	-0.000609007	0.001152999	-0.528193767	0.600144784	-0.002935854	0.00171784	-0.002935854	0.00171784

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	8.126577888	-8.126577888
2	8.072376254	-8.072376254
3	8.016347598	-8.016347598
4	7.960318942	-7.960318942
5	7.904290286	-7.904290286
6	7.849479645	-7.849479645
7	7.793450989	-7.793450989
8	7.737422333	-7.737422333
9	7.681393677	6.318606323
10	7.627192043	-7.627192043
11	7.571163387	24.42883661
12	7.496864517	92.50313548
13	7.423174655	-4.623174655
14	7.31172635	-7.31172635
15	7.200887053	11.79911295
16	7.089438748	-7.089438748
17	6.976163422	-6.796163422
18	6.864715118	-6.864715118
19	6.744740713	-6.744740713
20	6.633292409	-2.933292409
21	6.522453111	-6.382453111
22	6.411004807	6.588995193
23	6.301383524	-6.301383524
24	6.190544226	-6.190544226
25	6.066915779	-6.066915779
26	5.972519674	-5.972519674
27	5.849500234	-5.449500234
28	5.73805193	-5.44805193
29	5.628430647	-5.278430647
30	5.516373335	3.383626665
31	5.406143045	-5.406143045
32	5.29469474	16.70530526
33	5.185073457	-5.185073457
34	5.073016145	11.92698385
35	4.957913798	-4.957913798
36	4.859254643	-2.559254643
37	4.736235203	-4.736235203
38	4.638185055	-0.938185055
39	4.513947601	-4.183947601
40	4.415897453	3.784102547
41	4.293487021	-1.793487021
42	4.194827866	4.305172134
43	4.070590411	1.529409589
44	3.972540264	7.027459736



CHRYSENE STATISTICAL ANALYSIS

	W-10AR2 Chrysene	W-30A Chrysene	PAL	ES
Feb-99		28	0.02	0.2
May-99		0	0.02	0.2
Aug-99	0	13	0.02	0.2
Nov-99	0	0	0.02	0.2
Feb-00	0	0	0.02	0.2
May-00	0	33	0.02	0.2
Aug-00	0	6.6	0.02	0.2
Nov-00	3.2	4.1	0.02	0.2
Feb-01	1.4	0	0.02	0.2
May-01	0.62	13	0.02	0.2
Aug-01	0	5.3	0.02	0.2
Dec-01	1	0.059	0.02	0.2
Apr-02	0	0.36	0.02	0.2
Oct-02	0	0.12	0.02	0.2
Apr-03	0	0	0.02	0.2
Oct-03	0	0.067	0.02	0.2
Apr-04	0	0.041	0.02	0.2
Oct-04	0	0	0.02	0.2
Apr-05	0	0	0.02	0.2
Oct-05	0	0	0.02	0.2
Apr-06	0	0	0.02	0.2
Oct-06	0	0.68	0.02	0.2
Apr-07	0.19	4.2	0.02	0.2
Oct-07	0	0.074	0.02	0.2
May-08	0	0	0.02	0.2
Oct-08	0	0	0.02	0.2
Apr-09	0	0	0.02	0.2
Oct-09	0	0	0.02	0.2
Apr-10	0	0	0.02	0.2
Oct-10	0	0.22	0.02	0.2
Apr-11	0	0.22	0.02	0.2
Oct-11	0	0.2	0.02	0.2
Apr-12	0	0	0.02	0.2
Oct-12	3.4	2	0.02	0.2
May-13	0	0	0.02	0.2
Oct-13	0	0	0.02	0.2
Apr-14	0	0.05	0.02	0.2
Oct-14	0	0	0.02	0.2
Apr-15	0	0	0.02	0.2
Oct-15	0	0	0.02	0.2
Apr-16	0	0.13	0.02	0.2
Oct-16	0	0	0.02	0.2
Apr-17	0	0.5	0.02	0.2
Oct-17	0	0.62	0.02	0.2

Chrysene data for Feb-99 W-10AR2 and May-99 W-10AR2not included; Well W-10A was abandoned prior to 3rd quarter 1999 sampling and well W-10AR was installed. Data is not available for W-10A.

SUMMARY OUTPUT FOR W-10AR2 (August 1999 - October 2017)

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.140951515
R Square	0.01986733
Adjusted R Square	-0.004635987
Standard Error	0.748906164
Observations	42

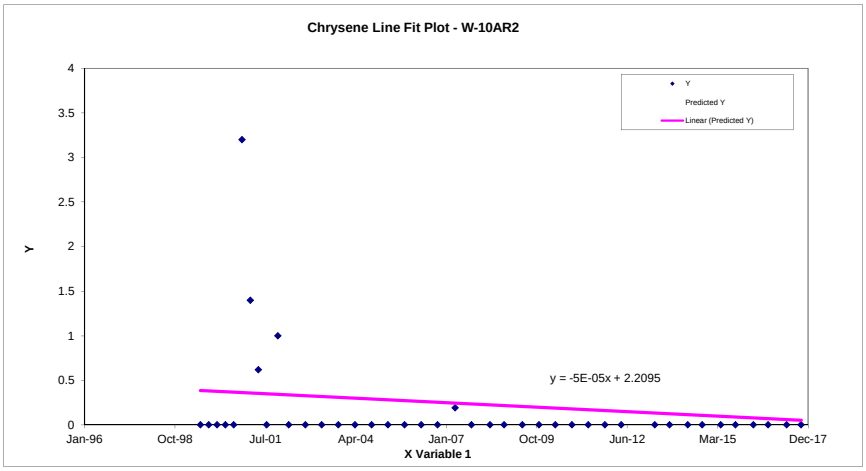
ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.45474657	0.45474657	0.810801646	0.373272856
Residual	40	22.43441772	0.560860443		
Total	41	22.88916429			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	2.209492919	2.197423337	1.005492607	0.320703803	-2.23166531	6.650651149	-2.23166531	6.650651149
X Variable 1	-5.01736E-05	5.57209E-05	-0.900445249	0.373272856	-0.00016279	6.24425E-05	-0.00016279	6.24425E-05

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	0.384529388	-0.384529388
2	0.379913419	-0.379913419
3	0.375297449	-0.375297449
4	0.370781828	-0.370781828
5	0.366165858	-0.366165858
6	0.361549889	2.838450111
7	0.35693392	1.04306608
8	0.352468472	0.267531528
9	0.347852503	-0.347852503
10	0.341731326	0.658268674
11	0.335660323	-0.335660323
12	0.326478559	-0.326478559
13	0.317346968	-0.317346968
14	0.308165203	-0.308165203
15	0.298832917	-0.298832917
16	0.289651153	-0.289651153
17	0.280519562	-0.280519562
18	0.271337797	-0.271337797
19	0.262206206	-0.262206206
20	0.253024441	-0.253024441
21	0.243240594	-0.053240594
22	0.23420935	-0.23420935
23	0.223923766	-0.223923766
24	0.216146862	-0.216146862
25	0.206011799	-0.206011799
26	0.196830035	-0.196830035
27	0.187798791	-0.187798791
28	0.178566852	-0.178566852
29	0.169485435	-0.169485435
30	0.16030367	-0.16030367
31	0.151272426	-0.151272426
32	0.142040488	3.257959512
33	0.132557682	-0.132557682
34	0.124429562	-0.124429562
35	0.1142945	-0.1142945
36	0.106216554	-0.106216554
37	0.095981144	-0.095981144
38	0.087903198	-0.087903198
39	0.077818309	-0.077818309
40	0.069690189	-0.069690189
41	0.05945478	-0.05945478
42	0.051376834	-0.051376834



CHRYSENE STATISTICAL ANALYSIS

SUMMARY OUTPUT FOR W-30A (February 1999 - October 2017)

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.418567575
R Square	0.175198815
Adjusted R Square	0.155560691
Standard Error	6.321147982
Observations	44

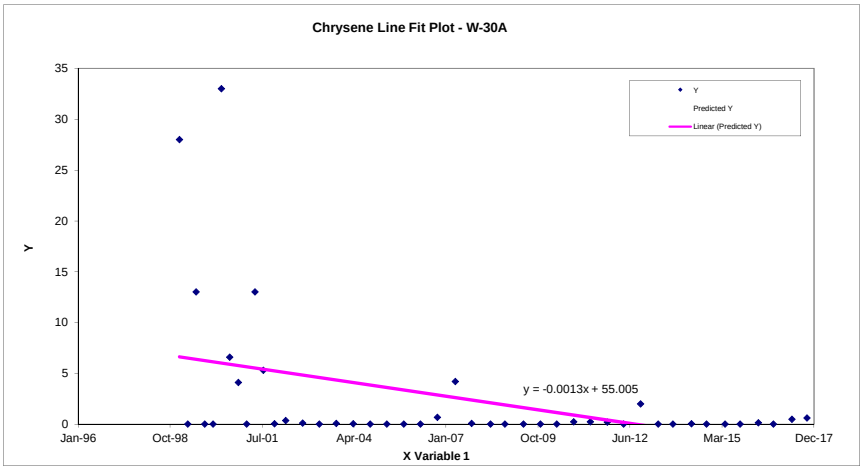
ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	356.4700881	356.4700881	8.921362337	0.004689219
Residual	42	1678.190296	39.95691181		
Total	43	2034.660384			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	55.00477168	17.5850604	3.12792623	0.003194387	19.51668305	90.49286031	19.51668305	90.49286031
X Variable 1	-0.001336613	0.000447497	-2.986864968	0.004689219	-0.002239698	-0.000433528	-0.002239698	-0.000433528

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	6.630075528	21.36992447
2	6.511116975	-6.511116975
3	6.388148583	6.611851417
4	6.265180191	-6.265180191
5	6.142211799	-6.142211799
6	6.021916632	26.97808337
7	5.89894824	0.70105176
8	5.775979848	-1.675979848
9	5.653011456	-5.653011456
10	5.534052903	7.465947097
11	5.411084511	-0.111084511
12	5.24801773	-5.18901773
13	5.086287562	-4.726287562
14	4.841687391	-4.721687391
15	4.598423833	-4.598423833
16	4.353823662	-4.286823662
17	4.105213651	-4.064213651
18	3.86061348	-3.86061348
19	3.617349922	-3.617349922
20	3.372749751	-3.372749751
21	3.129486193	-3.129486193
22	2.884886021	-2.204886021
23	2.624246495	1.575753505
24	2.383656162	-2.309656162
25	2.109650506	-2.109650506
26	1.902475498	-1.902475498
27	1.63247968	-1.63247968
28	1.387879509	-1.387879509
29	1.147289177	-1.147289177
30	0.901352393	-0.681352393
31	0.659425447	-0.439425447
32	0.414825276	-0.214825276
33	0.174234944	-0.174234944
34	-0.07170184	2.07170184
35	-0.324321689	0.324321689
36	-0.540852988	0.540852988
37	-0.810848806	0.860848806
38	-1.026043492	1.026043492
39	-1.298712535	1.298712535
40	-1.513907221	1.513907221
41	-1.782566426	1.912566426
42	-1.999097725	1.999097725
43	-2.271766768	2.771766768
44	-2.486961454	3.106961454



NAPHTHALENE STATISTICAL ANALYSIS

	W-10AR2 Naphthalene	W-30A Naphthalene	PAL	ES/MCL
Feb-99		8500	10	100
May-99		5300	10	100
Aug-99	4100	2600	10	100
Nov-99	5300	4800	10	100
Feb-00	4400	6200	10	100
May-00	3400	2700	10	100
Aug-00	3400	1400	10	100
Nov-00	3000	2000	10	100
Feb-01	3100	4000	10	100
May-01	2500	2600	10	100
Aug-01	0	8000	10	100
Dec-01	3800	56	10	100
Apr-02	1000	1600	10	100
Oct-02	1900	0	10	100
Apr-03	1200	1300	10	100
Oct-03	290	240	10	100
Apr-04	800	7.1	10	100
Oct-04	1400	130	10	100
Apr-05	2000	110	10	100
Oct-05	660	92	10	100
Apr-06	2000	22	10	100
Oct-06	2100	610	10	100
Apr-07	220	2500	10	100
Oct-07	0	0	10	100
May-08	70	20	10	100
Oct-08	240	37	10	100
Apr-09	200	54	10	100
Oct-09	660	44	10	100
Apr-10	200	35	10	100
Oct-10	33	300	10	100
Apr-11	60	84	10	100
Oct-11	890	810	10	100
Apr-12	210	9.9	10	100
Oct-12	780	230	10	100
May-13	11	15	10	100
Oct-13	69	96	10	100
Apr-14	4.9	4.2	10	100
Oct-14	47	11	10	100
Apr-15	37	1.8	10	100
Oct-15	49	37	10	100
Apr-16	7.2	11	10	100
Oct-16	1.5	12	10	100
Apr-17	2	14	10	100
Oct-17	1.7	26	10	100

Naphthalene data for Feb-99 W-10AR2 and May-99 W-10AR2 not included; Well W-10A was abandoned prior to 3rd quarter 1999 sampling and well W-10AR was installed. Data is not available for W-10A.

SUMMARY OUTPUT FOR W-10AR2 (August 1999 - October 2017)

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.768237101
R Square	0.590188244
Adjusted R Square	0.57994295
Standard Error	962.8104095
Observations	42

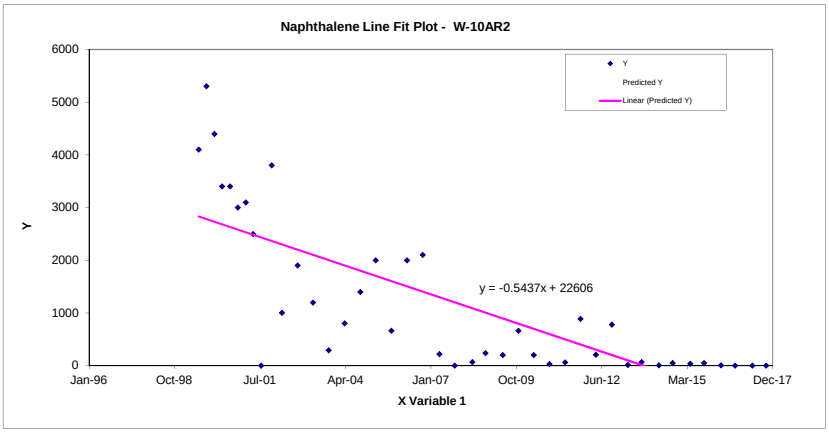
ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	53400790.68	53400790.68	57.60578954	2.86728E-09
Residual	40	37080155.38	927003.8846		
Total	41	90480946.06			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	22605.96588	2825.056281	8.001952396	7.85706E-10	16896.31415	28315.6176	16896.31415	28315.6176
X Variable 1	-0.543706087	0.071635967	-7.589847795	2.86728E-09	-0.688487777	-0.398924397	-0.688487777	-0.398924397

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	2829.744367	1270.255633
2	2779.723407	2520.276593
3	2729.702447	1670.297553
4	2680.768899	719.2311009
5	2630.747939	769.2520609
6	2580.726979	419.2730209
7	2530.706019	569.2939809
8	2482.316177	17.68382268
9	2432.295217	-2432.295217
10	2365.963075	1434.036925
11	2300.174638	-1300.174638
12	2200.676424	-300.6764241
13	2101.721916	-901.7219163
14	2002.223702	-1712.223702
15	1901.09437	-1101.09437
16	1801.596156	-401.5961561
17	1702.641648	297.3583517
18	1603.143434	-943.1434343
19	1504.188926	495.8110736
20	1404.690712	695.3092875
21	1298.668025	-1078.668025
22	1200.80093	-1200.80093
23	1089.341182	-1019.341182
24	1005.066738	-765.0667384
25	895.2381088	-695.2381088
26	795.7398948	-135.7398948
27	697.8727991	-497.8727991
28	597.8308791	-564.8308791
29	499.4200773	-439.4200773
30	399.9218633	490.0781367
31	302.0547676	-92.05476763
32	202.0128476	577.9871524
33	99.2523971	-88.2523971
34	11.17201097	57.82798903
35	-98.65661865	103.5566186
36	-186.1932987	233.1932987
37	-297.1093405	334.1093405
38	-384.6460205	433.6460205
39	-493.930944	501.130944
40	-582.0113302	583.5113302
41	-692.927372	694.927372
42	-780.464052	782.164052



NAPHTHALENE STATISTICAL ANALYSIS

SUMMARY OUTPUT FOR W-30A (February 1999 - October 2017)

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.635805863
R Square	0.404249096
Adjusted R Square	0.390064551
Standard Error	1715.726256
Observations	44

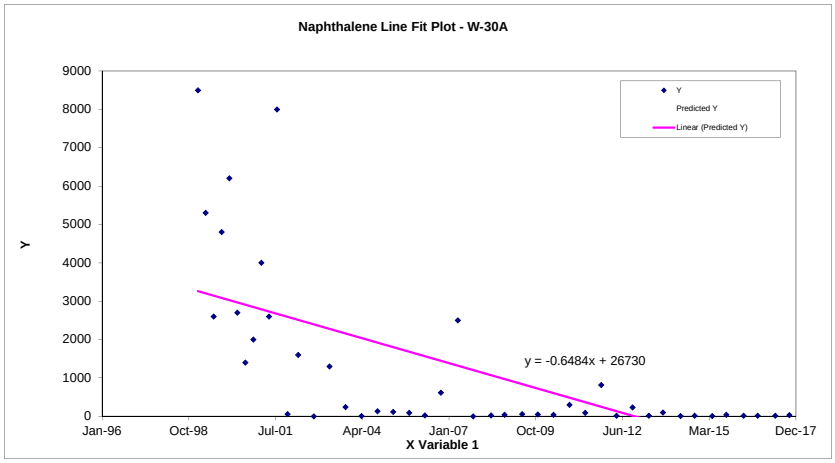
ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	83893754.81	83893754.81	28.49926355	3.52557E-06
Residual	42	123636096.6	2943716.587		
Total	43	207529851.5			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	26730.13422	4773.049125	5.600221895	1.48994E-06	17097.73111	36362.53732	17097.73111	36362.53732
X Variable 1	-0.648423784	0.121462473	-5.33847015	3.52557E-06	-0.893544978	-0.403302591	-0.893544978	-0.403302591

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	3262.380619	5237.619381
2	3204.670902	2095.329098
3	3145.015914	-545.0159141
4	3085.360926	1714.639074
5	3025.705938	3174.294062
6	2967.347797	-267.3477973
7	2907.692809	-1507.692809
8	2848.037821	-848.037821
9	2788.382833	1211.617167
10	2730.673116	-130.673116
11	2671.018128	5328.981872
12	2591.910426	-2535.910426
13	2513.451148	-913.4511483
14	2394.789596	-2394.789596
15	2276.776467	-976.7764671
16	2158.114915	-1918.114915
17	2037.508091	-2030.408091
18	1918.846538	-1788.846538
19	1800.833409	-1690.833409
20	1682.171857	-1590.171857
21	1564.158728	-1542.158728
22	1445.497176	-835.4971757
23	1319.054538	1180.945462
24	1202.338257	-1202.338257
25	1069.411381	-1049.411381
26	968.9056943	-931.9056943
27	837.9240899	-783.9240899
28	719.2625374	-675.2625374
29	602.5462563	-567.5462563
30	483.23628	-183.23628
31	365.871575	-281.871575
32	247.2100225	562.7899775
33	130.4937414	-120.5937414
34	11.18376506	218.8162349
35	-111.3683302	126.3683302
36	-216.4129832	312.4129832
37	-347.3945876	351.5945876
38	-451.7908169	462.7908169
39	-584.0692688	585.8692688
40	-688.4654981	725.4654981
41	-818.7986787	829.7986787
42	-923.8433318	935.8433318
43	-1056.121784	1070.121784
44	-1160.518013	1186.518013



PENTACHLOROPHENOL STATISTICAL ANALYSIS

	W-10AR2 Penta		W-30A Penta	PAL	ES
Feb-99		Feb-99	0	0.1	1
May-99		May-99	6	0.1	1
Aug-99	260	Aug-99	6	0.1	1
Nov-99	320	Nov-99	10	0.1	1
Feb-00	450	Feb-00	3.1	0.1	1
May-00	150	May-00	0	0.1	1
Aug-00	280	Aug-00	0	0.1	1
Nov-00	440	Nov-00	1.1	0.1	1
Feb-01	290	Feb-01	3.7	0.1	1
May-01	140	May-01	0	0.1	1
Dec-01	400	Aug-01	3.8	0.1	1
Apr-02	58	Dec-01	0	0.1	1
Oct-02	0.0255	Apr-02	1.7	0.1	1
Apr-03	3.8	Oct-02	0.18	0.1	1
Oct-03	60	Apr-03	0.95	0.1	1
Apr-04	42	Oct-03	0.4	0.1	1
Oct-04	38	Apr-04	0	0.1	1
Apr-05	0.4695	Oct-04	0	0.1	1
Oct-05	8.3	Apr-05	0	0.1	1
Apr-06	0	Oct-05	0.11	0.1	1
Oct-06	0.305	Apr-06	0	0.1	1
Apr-07	16	Oct-06	0.24	0.1	1
Oct-07	0	Apr-07	0	0.1	1
May-08	0	Oct-07	0	0.1	1
Oct-08	0	May-08	0	0.1	1
Apr-09	0	Oct-08	0	0.1	1
Oct-09	0	Apr-09	0	0.1	1
Apr-10	0	Oct-09	0	0.1	1
Oct-10	0	Apr-10	0	0.1	1
Apr-11	0	Oct-10	0	0.1	1
Oct-11	0	Apr-11	0	0.1	1
Apr-12	0	Oct-11	0	0.1	1
Oct-12	0	Apr-12	0	0.1	1
May-13	0.81	Oct-12	0	0.1	1
Oct-13	0	May-13	0	0.1	1
Apr-14	0.76	Oct-13	0	0.1	1
Oct-14	0.35	Apr-14	0	0.1	1
Apr-15	0	Oct-14	0	0.1	1
Oct-15	0	Apr-15	0.39	0.1	1
Apr-16	0	Oct-15	0	0.1	1
Oct-16	0	Apr-16	0	0.1	1
Apr-17	0	Oct-16	0	0.1	1
Oct-17	0	Apr-17	0	0.1	1
		Oct-17	0	0.1	1

Pentachlorophenol data for Feb-99 W-10AR2 and May-99 W-10AR2not included; Well W-10A was abandoned prior to 3rd quarter 1999 sampling and well W-10AR was installed. Data is not available for W-10A. Pentachlorophenol data for Aug-01 W-10AR2 not available

SUMMARY OUTPUT FOR W-10AR2 (August 1999 - October 2017)

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.677002642
R Square	0.458332578
Adjusted R Square	0.444443669
Standard Error	100.5323884
Observations	41

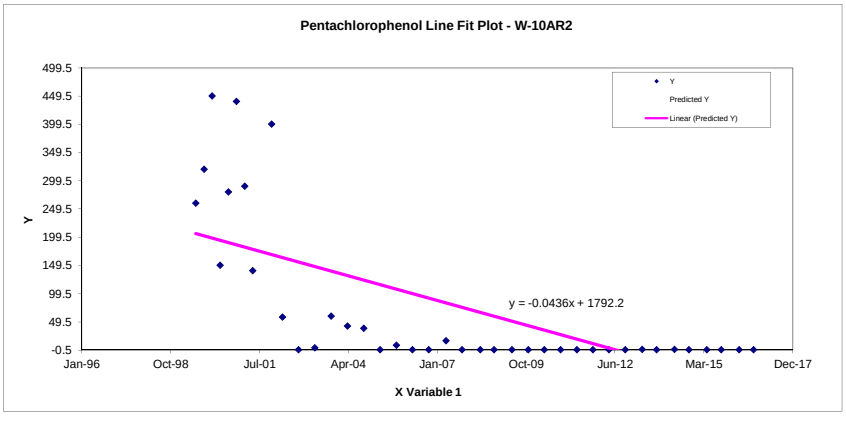
ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	333522.102	333522.102	32.99989955	1.17236E-06
Residual	39	394163.6839	10106.76113		
Total	40	727685.7859			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1792.227333	299.8359921	5.977358891	5.56789E-07	1185.751795	2398.702872	1185.751795	2398.702872
X Variable 1	-0.043615115	0.007592429	-5.744553904	1.17236E-06	-0.058972251	-0.028257979	-0.058972251	-0.028257979

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	205.8147554	54.18524457
2	201.8021649	118.1978351
3	197.7895743	252.2104257
4	193.8642139	-43.86421392
5	189.8516233	90.14837666
6	185.8390328	254.1609672
7	181.8264422	108.1735578
8	177.9446969	-37.94469695
9	168.6110623	231.3889377
10	163.3336334	-105.3336334
11	155.3520674	-155.3265674
12	147.4141165	-143.6141165
13	139.4325504	-79.43255041
14	131.320139	-89.32013902
15	123.338573	-85.33857297
16	115.400622	-114.931122
17	107.419056	-99.119056
18	99.48110507	-99.48110507
19	91.49953902	-91.19453902
20	82.9945916	-66.9945916
21	75.1438709	-75.1438709
22	66.20277232	-66.20277232
23	59.4424295	-59.4424295
24	50.63217627	-50.63217627
25	42.65061023	-42.65061023
26	34.79988953	-34.79988953
27	26.77470837	-26.77470837
28	18.88037255	-18.88037255
29	10.89880651	-10.89880651
30	3.048085808	-3.048085808
31	-4.977095351	4.977095351
32	-13.22035209	14.03035209
33	-20.28600072	20.28600072
34	-29.09625395	29.85625395
35	-36.11828746	36.46828746
36	-45.01577092	45.01577092
37	-52.03780443	52.03780443
38	-60.80444255	60.80444255
39	-67.87009118	67.87009118
40	-76.76757464	76.76757464
41	-83.78960815	83.78960815



PENTACHLOROPHENOL STATISTICAL ANALYSIS

SUMMARY OUTPUT FOR W-30A (February 1999 - October 2017)

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.496405587
R Square	0.246418507
Adjusted R Square	0.228476091
Standard Error	1.811567389
Observations	44

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	45.0714341	45.0714341	13.7338528	0.000609976
Residual	42	137.8346091	3.281776407		
Total	43	182.9060432			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	19.50539728	5.039692617	3.870354555	0.000372902	9.334885819	29.67590873	9.334885819	29.67590873
X Variable 1	-0.000475277	0.000128248	-3.705921316	0.000609976	-0.000734092	-0.000216462	-0.000734092	-0.000216462

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	2.304175477	-2.304175477
2	2.261875832	3.738124168
3	2.218150357	3.781849643
4	2.174424881	7.825575119
5	2.130699406	0.969300594
6	2.087924484	-2.087924484
7	2.044199009	-2.044199009
8	2.000473533	-0.900473533
9	1.956748058	1.743251942
10	1.914448413	-1.914448413
11	1.870722938	1.929277062
12	1.812739155	-1.812739155
13	1.75523065	-0.05523065
14	1.668254976	-1.488254976
15	1.581754579	-0.631754579
16	1.494778905	-1.094778905
17	1.4063774	-1.4063774
18	1.319401726	-1.319401726
19	1.23290133	-1.23290133
20	1.145925656	-1.035925656
21	1.059425259	-1.059425259
22	0.972449585	-0.732449585
23	0.879770588	-0.879770588
24	0.794220745	-0.794220745
25	0.696788979	-0.696788979
26	0.623121058	-0.623121058
27	0.527115123	-0.527115123
28	0.440614726	-0.440614726
29	0.354589606	-0.354589606
30	0.267138656	-0.267138656
31	0.181113535	-0.181113535
32	0.094137862	-0.094137862
33	0.008588018	-0.008588018
34	-0.078862932	0.078862932
35	-0.168690268	0.168690268
36	-0.245685127	0.245685127
37	-0.341691062	0.341691062
38	-0.418210644	0.418210644
39	-0.515167133	0.905167133
40	-0.591686714	0.591686714
41	-0.687217373	0.687217373
42	-0.764212232	0.764212232
43	-0.86116872	0.86116872
44	-0.937688302	0.937688302