



**2017 ANNUAL
PROGRESS REPORT
PENTAIR FLOW TECHNOLOGIES, LLC
DELAVAN, WISCONSIN FACILITY
SOURCE AREA REMEDIATION**

**BRRTS# 02-65-529579
FACILITY ID# 265091640**

February 13, 2018

Prepared For:

Pentair Flow Technologies, LLC
293 Wright Street
Delavan, Wisconsin 53115

Prepared By:

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Project No. 117-7469002





February 13, 2018
(117-7469002.02)

Mr. Thomas Wentland
Waste Management Engineer
Wisconsin Department of Natural Resources
P.O. Box 408
Plymouth, WI 53073-0408

RE: Annual Progress Report, Source Area Remedial Action, Pentair Flow Technologies, LLC
Facility, Delavan, Wisconsin
BRRTS# 02-65-529579, FID# 265091640

Dear Mr. Wentland:

Enclosed is the Annual Progress Report for the source area remedial action at the Pentair Flow Technologies, LLC (former Sta-Rite Industries) facility in Delavan, Wisconsin.

<u>SITE NAME/ACTIVITY:</u> Contract No. SF-90-02 Delavan Municipal Well #4 Delavan, Wisconsin Source Area Remediation	<u>DATE:</u> February 13, 2018 <u>PERIOD:</u> January 1 through December 31, 2017
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The format of this report follows the Wisconsin Department of Natural Resources (WDNR) "Guidance for Design, Installation, and Operation of Soil Venting Systems," WDNR Emergency and Remedial Response Section, July 1993, PUBL-SW185-93.

The following activities took place in 2017:

1. The groundwater extraction wells on the Delavan facility were operated and monthly samples were collected from the storm sewer outfall (SS-1 sample identification) where the groundwater is discharged.
2. Four replacement groundwater extraction wells were installed, developed and brought on-line. The replacement extraction wells were installed to replace original extraction wells EX-3, EX-4, EX-5 and EX-7. The replacement extraction wells are designated EX-3R, EX-4R, EX-5R and EX-7R and are shown on Figure 1.
3. Quarterly groundwater samples were collected from monitor well TW-4 per the request of the WDNR.

4. Annual sampling of the wells that are part of the groundwater monitoring program for the Delavan facility was performed in July except that three of the extraction wells were sampled on October 24th.
5. Pumping rate measurements were collected from Delavan facility extraction wells EX-1, EX-2R, EX-5, EX-6 and EX-7 in March and from extraction wells EX-1, EX-5, EX-6 and EX-7 in June. EX-3 and EX-4 were shut down on June 28, 2016 due to plugging of the well screens and EX-2R was shut down on March 13, 2017 because the buried electric line to the well was cut during excavation work to repair a buried water line damaged during the drilling of replacement extraction well EX-3R. Pumping rate measurements were collected from all seven of the Delavan facility extraction wells the last week of September after EX-2R and the four new replacement extraction wells were brought on-line.
6. A Draft Institutional Control Implementation and Assurance Plan (ICIAP) was prepared for the Delavan facility property and submitted to the WDNR and U.S. Environmental Protection Agency (EPA).

If you require additional information or have any questions regarding these matters, please contact me at your convenience.

Sincerely,

Tetra Tech



Mark A. Manthey, P.G.
Associate Hydrogeologist
mark.manthey@tetrattech.com

Encs.

cc: Steven Scharinger, Pentair Flow Technologies, LLC
Robert Thiboldeaux, PhD, Senior Toxicologist, Wisconsin Department of Health Services
Michell Hegger, EPA (Electronic copy via email.)

TETRA TECH

SUMMARY OF PROGRESS MADE THIS REPORTING PERIOD

The following remedial action activities took place in 2017:

1. Pentair Flow Technologies contracted a water well driller (Sam's Well Drilling, Inc.) to install replacement extraction wells for extraction wells EX-3, EX-4, EX-5 and EX-7 because probable clogging of the well screens was causing the pumping rates of the wells to decline and rehabilitation efforts performed on the wells over the years proved to only temporarily improve the pumping rates in the wells. The replacement extraction wells were drilled, installed and developed during the first half of 2017 and brought on-line in September as the new submersible pumps and groundwater discharge piping were installed. The replacement extraction wells are designated EX-3R, EX-4R, EX-5R and EX-7R. The location, ground surface elevation and top of well casing elevation of the four replacement extraction wells were surveyed by a State of Wisconsin licensed surveyor (Kapur & Associates, Inc.) on September 26th. The old extraction wells were properly abandoned by the water well driller after the replacement extraction wells were brought on-line. The locations of the replacement extraction wells are shown on Figure 1. Copies of the well construction reports for the replacement extraction wells and the well filling and sealing forms for the old extraction wells are provided in Appendix A.
2. As requested by the Wisconsin Department of Natural Resources (WDNR) in its February 8, 2017 letter, Pentair Flow Technologies began collecting groundwater samples from monitor well TW-4 on a quarterly schedule during the first quarter of 2017 (January – March). The increase in sampling frequency of TW-4 from annual to quarterly was requested because the trichloroethene (TCE) concentration in the annual groundwater samples collected from TW-4 increased from 20 ug/L for the 2014 sample to 36 ug/L for the 2015 sample. The quarterly groundwater samples were collected from TW-4 on March 1st, May 17th, July 13th and October 24th. The results from the first three quarterly sampling events were reported to the WDNR, Wisconsin Department of Health Services and U.S. Environmental Protection Agency (EPA)

in quarterly progress reports. The results from the fourth quarter sampling event are included in this progress report and the laboratory analytical report is included in Appendix B.

3. One round of groundwater samples was collected from the monitor wells and groundwater extraction wells that are part of the groundwater monitoring program for the Delavan facility July 12th to July 13th. The collection of a groundwater sample from EX-2R was delayed until October 24th because EX-2R was shut down during the July sampling event (see discussion in #4 below). Replacement extraction wells EX-3R and EX-7R were also sampled on October 24th after they were brought on-line.

The analytical results from 2017 showed slight decreases in the concentrations or no detections of the volatile organic compounds (VOCs) analyzed in nine (9) of the wells sampled and slight increases in one or two of the VOCs analyzed in six (6) of the wells sampled compared to the 2016 data. The analytical results from the 2017 sampling round indicate the contaminant plume is exhibiting an overall stable to decreasing trend in the site contaminants. The analytical results for the groundwater samples collected from the site during this reporting period are summarized on Table 1, Table 2 and Figure 1. Charts showing the trends in VOC concentrations for select site monitor wells are included as Figures 2 through 8. Laboratory results and field data sheets for the annual groundwater sampling event are included in Appendix B and copies of the monthly discharge monitoring reports containing the analytical results collected at the storm sewer outfall where the groundwater pumped from the Delavan facility groundwater extraction system extraction wells discharges are provided in Appendix C.

4. Pumping rate measurements were collected from Delavan facility extraction wells EX-1, EX-2R, EX-5, EX-6 and EX-7 by Delavan facility personnel in March and from extraction wells EX-1, EX-5, EX-6 and EX-7 in June. Extraction wells EX-3 and EX-4 were shut down on June 28, 2016 because probable clogging of the well screens caused their pumping rates to fall below 3 gallons per minute (gpm). Pumping from EX-2R stopped on March 13th because the buried electrical line to EX-2R was cut during excavation activities to repair a buried water line that is part of the Delavan facility fire suppression system. The water line was damaged during the

drilling of replacement extraction well EX-3R. Pumping rate measurements were collected from all seven of the Delavan facility extraction wells the last week of September after EX-2R and the four new replacement extraction wells were brought on-line. The pumping rate measurements are presented on Table 3.

5. The pump in extraction well EX-6 was re-wired on September 19th because it was found to be running backwards. The re-wiring of the pump increased its pumping rate from approximately 30 gpm to over 100 gpm.
6. As requested by the WDNR in its October 25, 2017 letter, which was received by Pentair Flow Technologies on November 6, 2017, a Draft Institutional Control Implementation and Assurance Plan (ICIAP) was prepared for the Delavan facility property. The Draft ICIAP was submitted to the WDNR and U.S. Environmental Protection Agency (EPA) on December 22, 2017.

GROUNDWATER

Residual groundwater impacts originating from the former southeast extraction system (SES) and former sump source areas are controlled by extraction wells EX-1 and newly installed replacement extraction EX-7R. Groundwater downgradient of the former chip storage extraction system (CSES) source area is controlled by extraction wells EX-2R, EX-3R, EX-4R, EX-5R, and EX-6 (see Figure 1). Wastewater discharge monitoring reports documenting the flow rate and effluent chemistry where the combined flow from the seven extraction wells is discharged to the storm sewer (storm sewer outfall SS-1) are provided in Appendix C.

Groundwater Sampling

As noted above quarterly groundwater samples were collected from monitor well TW-4 on March 1st, May 17th, July 13th and October 24th. The annual groundwater sampling round was conducted

July 12th to July 13th, except, as noted above, that the groundwater samples collected from EX-2R, EX-3R and EX-7R were collected on October 24th. The monitor wells and groundwater extraction wells that are part of the Delavan facility groundwater monitoring program are listed on Table 4. The field sampling forms and the analytical results for the annual sampling round are provided in Appendix B. The analytical results for the sampling points that are part of the Delavan facility groundwater monitoring plan are summarized on Table 1 and Table 2. Table 1 presents the analytical results for the chlorinated volatile organic compounds (CVOCs) for which all of the site monitoring points are analyzed, which include tetrachloroethene (PCE), 1,1,1-trichloroethane (TCA), trichloroethene (TCE), 1,1,2-trichloroethane and vinyl chloride. Table 2 summarizes the analytical results for monitoring well TW-4, which is analyzed for the full list of volatile organic compounds (VOCs). Total VOC concentrations for the annual sampling event are also listed next to each sampling point on Figure 1. Time versus concentration plots were prepared and graphed for contaminant concentrations in the most highly impacted wells near Plant 1 and Plant 2 and are included as Figures 2 through 8.

The following summarizes the trends in water quality at site monitoring points.

Plant 1: Four monitor wells and two extraction wells were sampled during this reporting period. Contaminants of concern are 1,1,1-trichloroethane (TCA) and trichloroethene (TCE). The tetrachloroethene (PCE) results for the Plant 1 wells are also discussed as it is a contaminant of concern at Plant 2.

PCE: No PCE was detected in any of the groundwater samples collected from the Plant 1 wells.

TCA: TCA was detected in the groundwater samples collected from all four of the Plant 1 monitor wells sampled and in the samples collected from extraction wells EX-2R and EX-3R. All the reported TCA concentrations were below the TCA Chapter NR140 groundwater quality standards. Comparison of the 2016 TCA results to the 2017 TCA results is presented below:

TCA NR140 Enforcement Standard (ES) = 200 ug/L

TCA NR140 Preventive Action Limit (PAL) = 40 ug/L

- TCA concentrations in MW-1026 decreased from 21 ug/L to 14 ug/L. The reported TCA concentrations in previous samples collected from MW-1026 were 18 ug/L in 2015, 7.4 ug/L in 2014, 15 ug/L in 2013, 25 ug/L in 2012, 20 ug/L in 2011, 15 ug/L in 2010, 6.9 ug/L in 2009, not detected in 2008, 41 ug/L in 2007 and 93 ug/L in 2006. The 2017 analytical data confirms an overall declining trend in TCA concentrations at MW-1026 over the past eleven years.
- The TCA concentration in MW-1027 increased slightly from 6.8 ug/L to 7.1 ug/L. TCA concentrations in MW-1027 have exhibited a declining trend since the 2005 sampling event and TCA concentrations in TW-4 have not exceeded its PAL since the July 2006 sampling event. 1994 was the last time the TCA concentration in MW-1027 exceeded the ES.
- TCA concentrations in TW-4 increased slightly from 20 ug/L to 27 ug/L between the July 2016 and July 2017 sampling events. The TCA concentration in the fourth quarter sample collected from TW-4 on October 24th was 22 ug/L. TCA concentrations in TW-4 have been below its PAL since the July 2013 sampling round and the 2011 through 2017 TCA concentrations are the lowest six reported TCA concentrations for samples collected from TW-4. The TCA data suggest there is a declining trend in TCA impacts at TW-4. 2001 was the last time the TCA concentration in TW-4 exceeded the ES.
- The TCA concentration in D-25R increased from no detection (detection limit = 0.38 ug/L) in 2016 to 2.9 ug/L in 2017, which is still

well below the PAL of 40 ug/L. TCA concentrations in the D-25R samples have exhibited a declining trend since the 2005 sampling event and TCA concentrations have been below the PAL since the October 1996 sampling round.

- The TCA concentration in extraction well EX-2R decreased slightly from 4.2 ug/L to 3.7 ug/L. TCA concentration in EX-2R have not exceeded the PAL since 1997.
- The reported TCA concentration in the groundwater sample collected from replacement extraction well EX-3R on October 24th was 2.3 ug/L, which is lower than the reported TCA concentration for the sample collected from original extraction well EX-3 in 2015. EX-3 was not sampled in 2016 because, as noted above, it was shut down in June due to clogging of the well screen.

TCE: TCE concentrations exceeded the NR140 ES of 5.0 ug/L in the groundwater samples collected from monitor wells MW-1027 and TW-4 and extraction well EX-2R during this reporting period. The reported TCE concentration in the sample collected from monitor well MW-1026 and D-25R and extraction well EX-3R exceeded the PAL of 0.50 ug/L. Comparison of the 2016 TCE results to the 2017 TCE results is presented below:

TCE NR140 ES = 5.0 ug/L

TCE NR140 PAL = 0.50 ug/L

- TCE concentrations in MW-1026 decreased from 6.2 ug/L to 3.6 ug/L. Review of the TCE results on Table 1 reveals TCE concentrations in the groundwater samples from MW-1026 are exhibiting an overall declining trend since the 2005 sampling round when the reported TCE concentration in the MW-1026 sample was 21 ug/L.

- TCE concentrations in MW-1027 decreased from 34 ug/L to 27 ug/L. The 34 ug/L and 27 ug/L concentrations are the lowest historical TCE concentration for groundwater samples collected from MW-1027 and confirms a declining trend in TCE impacts at MW-1027.
- The reported TCE concentration in monitor well TW-4 increased from 15 ug/L to 19 ug/L between the July 2016 and July 2017 sampling rounds and the fourth quarter sample collected on October 24th had a reported TCE concentration of 16 ug/L. Review of the TCE results for the TW-4 samples presented on Table 1 shows TCE concentrations have been below 20 ug/L since the July 2016 sampling event and have exhibited an overall declining trend since 1993.
- At monitor well D-25R, the TCE concentration increased from 0.57 ug/L to 2.3 ug/L. The 0.57 ug/L TCE concentration is the lowest TCE concentrations reported for samples collected from D-25R since April of 1997 when no TCE was detected in the sample above the detection limit of 0.5 ug/L. The TCE data indicate an overall declining trend in TCE impacts at D-25R. TCE concentrations in groundwater samples collected from D-25R have not exceeded the ES since the July 2010 sampling event.
- The TCE concentration in extraction well EX-2R decreased slightly from 7.1 ug/L to 6.3 ug/L. TCE concentrations in the EX-2R samples have been below 10 ug/L since the July 2012 sampling event.
- The groundwater sample collected from replacement extraction EX-3R on October 24th had a reported TCE concentration of 3.3 ug/L, which is slightly lower than the TCE concentration reported for the sample collected from EX-3 in 2015.

Plant 2: Seven monitor wells and two extraction wells were sampled during this reporting period. Contaminants of concern are PCE, TCA, and TCE.

PCE: PCE was detected above its ES of 5.0 ug/L in the groundwater samples collected from monitor well D-15 and extraction well EX-7R. The PAL for PCE, which is 0.50 ug/L, was exceeded in the groundwater sample collected from monitor well TW-3. No PCE was detected in the groundwater samples collected from monitor wells D-18, MW-2004, MW-2005R, MW-2011 and TW-1 and extraction well EX-1. A comparison of the 2016 PCE results to the 2017 PCE results is presented below:

PCE NR140 ES = 5.0 ug/L

PCE NR140 PAL = 0.50 ug/L

- No PCE was detected in the samples collected from monitor wells D-18, MW-2004, MW-2011 and TW-1 in 2016 and 2017.
- The PCE concentration in MW-2005R decreased from 2.4 ug/L in 2016 to not being detected above the detection limit of 0.37 ug/L in 2017. The PCE concentrations in the samples collected from MW-2005R have been below 3 ug/L since the July 2007 sampling event and suggest an overall stable to declining trend in PCE impacts at MW-2005R since 2007. The PCE concentration in MW-2005R has not exceeded the ES of 5.0 ug/L since 2004.
- PCE concentrations in monitor well D-15 decreased slightly from 10 ug/L to 9.8 ug/L. The PCE concentration in the 2015 sample was 4.5 ug/L and the 2014 sample had a reported PCE concentration of 4.2 ug/L. The PCE concentrations for the 2015 and 2016 samples are the lowest reported PCE concentration for samples collected from D-15 between the November 1991 sampling round and the 2017 sampling round.

- The PCE concentration in TW-3 increased slightly from 0.54 ug/L to 0.59 ug/L. PCE impacts in TW-3 have been below the 5.0 ug/L ES since the 2002 sampling event.
- The PCE concentration in extraction well EX-1 decreased from 0.72 ug/L to no detection (0.37 ug/L detection limit). PCE concentrations in EX-1 have been below the ES of 5.0 ug/L since the 2004 sampling event.
- The PCE concentration in the sample collected from replacement extraction well EX-7R on October 24th was 7.3 ug/L, which is slightly higher than the PCE concentration of 6.5 ug/L reported for the sample collected from original extraction well EX-7 in 2016. The PCE results from the 2010 to 2017 sampling rounds suggest an overall declining trend in PCE impacts in the former sump source area.

TCA: TCA was only detected in the groundwater sample collected from monitor well MW-2011 at a concentration of 2.1 ug/L, which is well below the Chapter NR140 PAL of 40 ug/L.

TCE: The Chapter NR140 ES for TCE of 5.0 ug/L was exceeded in the groundwater samples collected from monitor wells MW-2011 and D-15. The PAL for TCE (0.50 ug/L) was exceeded in the groundwater samples collected from monitor well D-18 and replacement extraction well EX-7R. No TCE was detected in the groundwater samples collected from monitor wells MW-2004, MW-2005R, TW-1 and TW-3 and extraction well EX-1. A comparison of the 2016 TCE results to the 2017 TCE results is presented below:

TCE NR140 ES = 5.0 ug/L

TCE NR140 PAL = 0.50 ug/L

- No TCE was detected in the 2016 and 2017 groundwater samples collected from monitor wells MW-2004, MW-2005R and TW-1 and extraction well EX-1.
- The TCE concentration in monitor well D-18 increased slightly from 0.47 ug/L to 0.61 ug/L. TCE impacts in D-18 have been below 1.0 ug/L since the July 2010 sampling event and have not exceeded the ES of 5.0 ug/L since 2003.
- The TCE concentration in monitor well MW-2011 decreased from 29 ug/L to 16 ug/L. The reported TCE concentration in the 2015 sample was 7.2 ug/L and is the lowest reported TCE concentrations for samples collected from MW-2011. TCE concentrations in previous samples collected from MW-2011 ranged from 12 ug/L to 39 ug/L so the 2016 and 2017 TCE result are in the same range as historical TCE concentrations.
- The TCE concentration in monitor well D-15 decreased slightly from 13 ug/L to 12 ug/L. The reported TCE concentration in the July 2015 sample was 8.5 ug/L and the July 2014 sample collected from D-15 had a reported TCE concentration 7.7 ug/L. The 7.7 ug/L and 8.5 ug/L concentrations are the lowest TCE concentrations reported for samples collected from D-15 between 1991 and 2017. Review of the TCE data presented on Figure 5 shows TCE concentrations in D-15 are exhibiting an overall declining trend since the April 2001 sampling event.
- TCE concentrations in monitor well TW-3 decreased from 0.29 ug/L to not being detected above the detection limit of 0.16 ug/L. The TCE concentration of 0.29 ug/L reported for the 2016 sample is the lowest

reported TCE concentration for a groundwater sample collected from TW-3 between 1991 and 2016 and the 2017 sample was the first time TCE has not been detected in a sample collected from TW-3.

- As noted above TCE was not detected in the July 2016 and July 2017 samples collected from EX-1. TCE concentrations in EX-1 have been below the PAL of 0.50 ug/L since the July 2013 sampling event and have been below the ES of 5.0 since the September 2004 sampling event.
- The TCE concentration in the groundwater sample collected from replacement extraction well EX-7R was 3.8 ug/L, which is slightly higher than the reported TCE concentration of 3.4 ug/L for the sample collected from original extraction well EX-7 in July 2016.

Installation of Replacement Extraction Wells and Extraction Wells Pumping Rate Measurements

As discussed in the 2015 progress report, Pentair Flow Technologies decided to install replacement extraction wells for existing extraction wells EX-3, EX-4, EX-5, EX-6 and EX-7 on a schedule of two to four replacement wells per year instead of having to continually rehabilitate the existing extraction wells. Pentair Flow Technologies contracted Sam's Well Drilling, Inc. to install replacement extraction wells for extraction wells EX-3, EX-4, EX-5 and EX-7. The replacement extraction wells were drilled, installed and developed during the first half of 2017 and brought on-line as the new submersible pumps and groundwater discharge piping were installed. The four replacement extraction wells, EX-3R, EX-4R, EX-5R and EX-7R, were surveyed by a State of Wisconsin licensed surveyor (Kapur & Associates, Inc.) on September 26th. The old extraction wells were properly abandoned by the water well driller after the replacement extraction wells were brought on-line. The locations of the replacement extraction wells are shown on Figure 1. Copies of the well construction reports for the replacement extraction wells and the well filling and sealing forms for the old extraction wells are provided in Appendix A. Replacement extraction

wells EX-3R and EX-4R were brought on-line September 15th and EX-5R and EX-7R were brought on-line September 21st.

Delavan facility personnel collected pumping rate measurements from the five operating Delavan facility extraction wells, EX-1, EX-2R, EX-5, EX-6 and EX-7, the first week of March. As noted previously, extraction wells EX-3 and EX-4 were shut down on June 28, 2016 because probable clogging of the well screens caused their pumping rates to fall below 3 gpm. EX-2R was shut down on March 13th because the buried electrical line to the well was cut during excavation activities to repair a buried water line that is part of the Delavan facility fire suppression system. The water line was damaged during the drilling of replacement extraction well EX-3R. Pumping rate measurements were collected from all seven of the Delavan facility extraction wells the last week of September after EX-2R and the four new replacement extraction wells were brought on-line. The pumping rate measurements are presented on Table 3. The pumping rates were measured by fully closing the valve to the buried groundwater discharge line that transports groundwater flow from the extraction well to the storm sewer and fully opening the valve on the sample tap line of the extraction well. The groundwater was then discharged into a 55-gallon drum and the amount of time required to fill the 55-gallon drum was recorded. Three pumping rate measurements were taken at each extraction well and the average pumping rate was calculated from the three measurements.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Significant reductions in VOC impacts at site monitor wells have been observed since the remedial action began. While VOC removal from the dual soil vapor extraction/groundwater extraction (SVE/GWE) wells in the former CSES and former SES areas and the SVE wells in the former sump source area has been discontinued, hydraulic control of the contaminant plume is maintained

by pumping from the seven groundwater extraction wells located on the Delavan facility property (EX-1, EX-2R, EX-3R, EX-4R, EX-5R, EX-6 and EX-7R)..

Recommendations

1. Pumping from extraction wells EX-1, EX-2R, EX-3R, EX-4R, EX-5R, EX-6 and EX-7R will continue.
2. The pumping rate in extraction well EX-6 increased after the pump was re-wired from approximately 30 gpm to over 100 gpm. Therefore replacement of EX-6 is not recommended at this time
3. EX-1 will not be replaced at this time because it is still pumping at an acceptable rate and the annual groundwater samples collected from EX-1 indicate concentrations of the Delavan facility contaminants of concern have been below their respective ESs since the September 2004 sampling event. Additional groundwater samples will be collected from EX-1 in 2018 to aid in determining whether it is appropriate to stop groundwater extraction from EX-1.
4. Annual sampling of the monitor wells and extraction wells that are part of the groundwater monitoring program for the Delavan facility will continue (Table 4). Quarterly sampling of monitor well TW-4 will also continue.
5. An annual site inspection of the Delavan facility property to document current site conditions and land use as described in the Draft ICIAP will be performed in conjunction with the annual groundwater sampling event.
6. Flow meters will be installed in the four storm sewer grates located on the Delavan facility property where the groundwater discharge lines from the Delavan facility extraction wells connect to the storm sewer system. The flow meters will then be used to document the volume of groundwater discharged to the storm sewer by the Delavan facility groundwater

extraction system and to calculate the pumping rates of the Delavan facility groundwater extraction wells going forward instead of the current method described above. The flow meter measurements will be used for reporting the total daily flow rates on the monthly discharge monitoring reports for the Delavan facility groundwater extraction system.

FIGURES

- Figure 1. Site Layout and Total VOC Concentrations for Site Groundwater Monitoring Points
- Figure 2. Plant 1 Trichloroethene (TCE) Concentration Changes
- Figure 3. Plant 1 1,1,1-Trichloroethane (TCA) Concentration Changes
- Figure 4. Plant 1 Total VOC Concentration Changes
- Figure 5. Plant 2 Trichloroethene (TCE) Concentration Changes
- Figure 6. Plant 2 1,1,1-Trichloroethane (TCA) Concentration Changes
- Figure 7. Plant 2 Tetrachloroethene (PCE) Concentration Changes
- Figure 8. Plant 2 Total VOC Concentration Changes

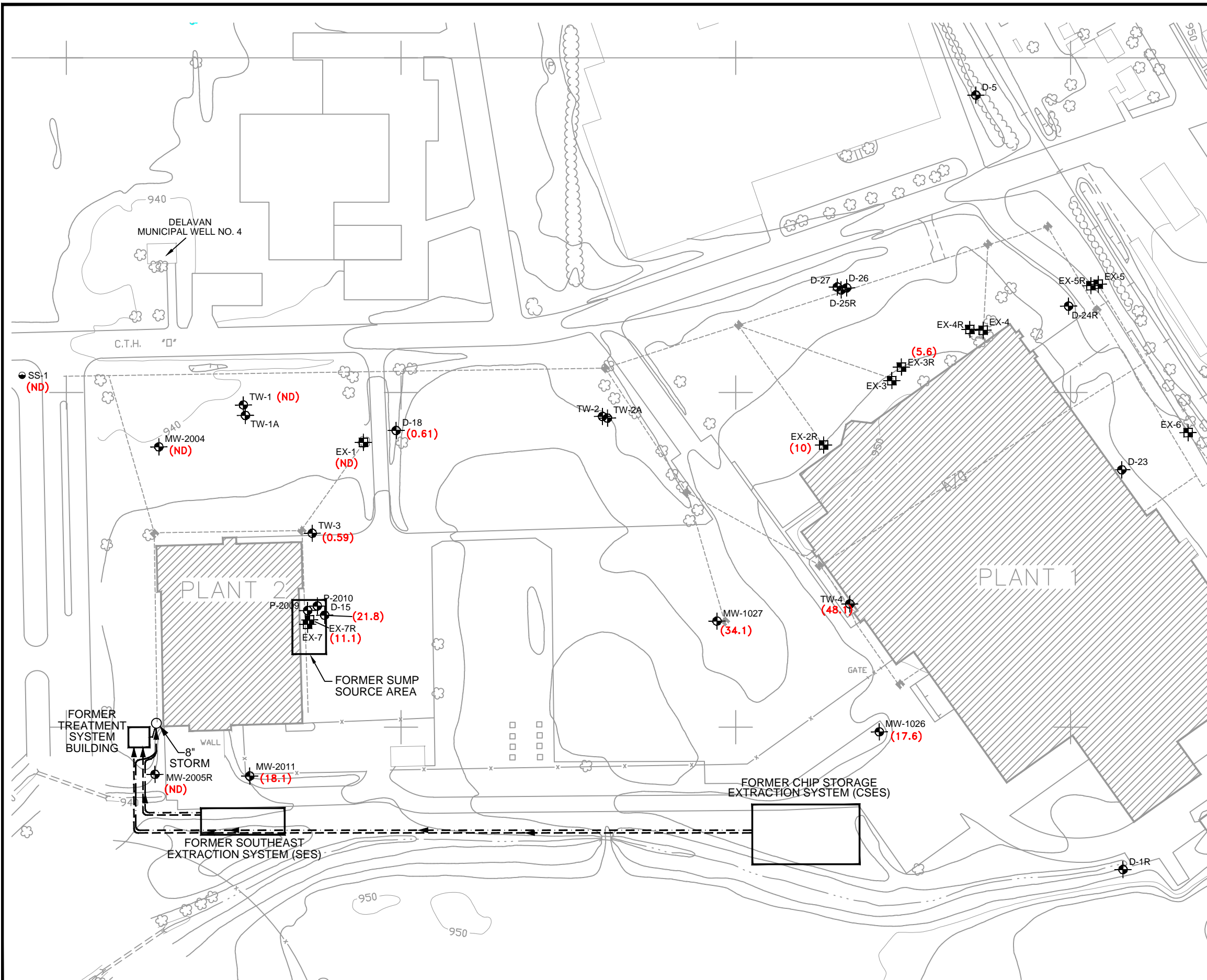
TABLES

- Table 1. Summary of Target Compound List VOCs Groundwater Monitoring Analytical Results for Pentair Flow Technologies, LLC Delavan Facility Monitoring Points
- Table 2. Summary of VOCs Groundwater Monitoring Analytical Results for Plant #1 Monitor Well TW-4
- Table 3. Pentair Flow Technologies, LLC Delavan Facility Extraction Wells Pumping Rate Measurements
- Table 4. Delavan Facility Groundwater Monitoring Program





APPENDICES

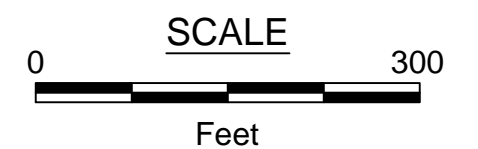
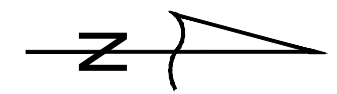
- Appendix A. Replacement Extraction Wells Well Construction Reports and Original Extraction Wells Well Filling & Sealing Forms
- Appendix B. Groundwater Monitoring Analytical Results and Field Data Sheets.
- Appendix C. Wastewater Discharge Monitoring Reports and Storm Sewer Outfall SS-1 Analytical Results


FIGURES



EXPLANATION

-  MW-2004 MONITOR WELL LOCATION AND DESIGNATION
-  E-3 EXTRACTION WELL LOCATION AND DESIGNATION
-  SS-1 STORM SEWER SAMPLE LOCATION AND DESIGNATION
-  P-2009 PIEZOMETER LOCATION AND DESIGNATION
- (11.1) TOTAL VOCs CONCENTRATION (ug/L) FROM 2017 SAMPLING ROUND
- (ND) NO VOCs DETECTED
- NOTE: EX-2R, EX-3R AND EX-7R SAMPLES COLLECTED ON OCTOBER 24, 2017. ALL OTHER SAMPLES WERE COLLECTED JULY 12-13, 2017.



STA-RITE INDUSTRIES, INC. DELAVAN, WISCONSIN	DATE: 1/23/18
	DESIGNED: HJW
SITE LAYOUT AND TOTAL VOCs CONCENTRATIONS FOR GROUNDWATER MONITORING POINTS	CHECKED: MAM
	APPROVED: MAM
	DRAWN: HJW
PROJ.: 117-7469002	
	
Figure 1	

Base map from Aero-Metric Engineering, 4/16/88.

Figure 2. Plant 1 Trichloroethene (TCE) Concentration Changes
ES = 5 ug/L, PAL = 0.5 ug/L

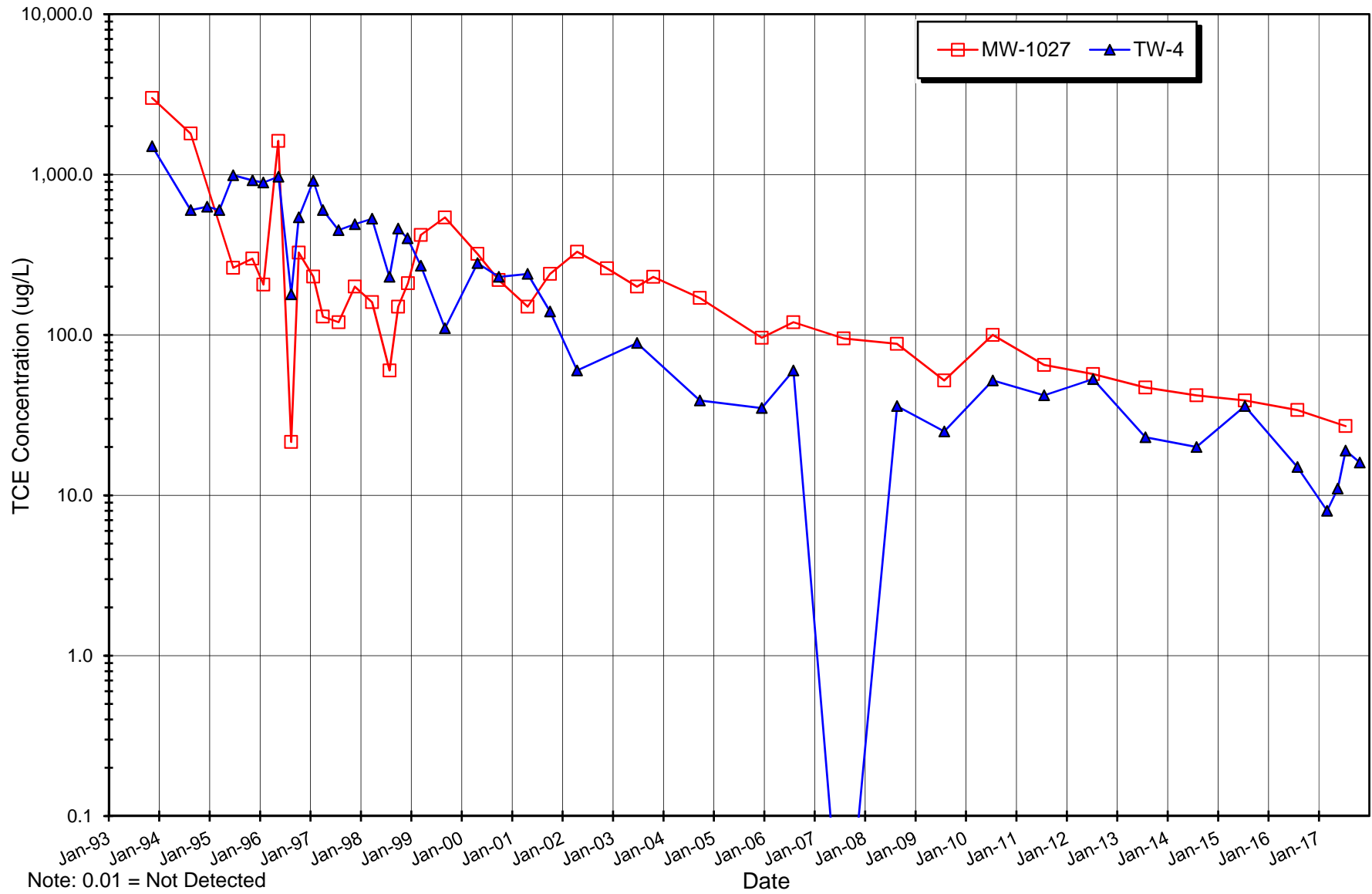


Figure 3. Plant 1 1,1,1-Trichloroethane (TCA) Concentration Changes
ES = 200 ug/L, PAL = 40 ug/L

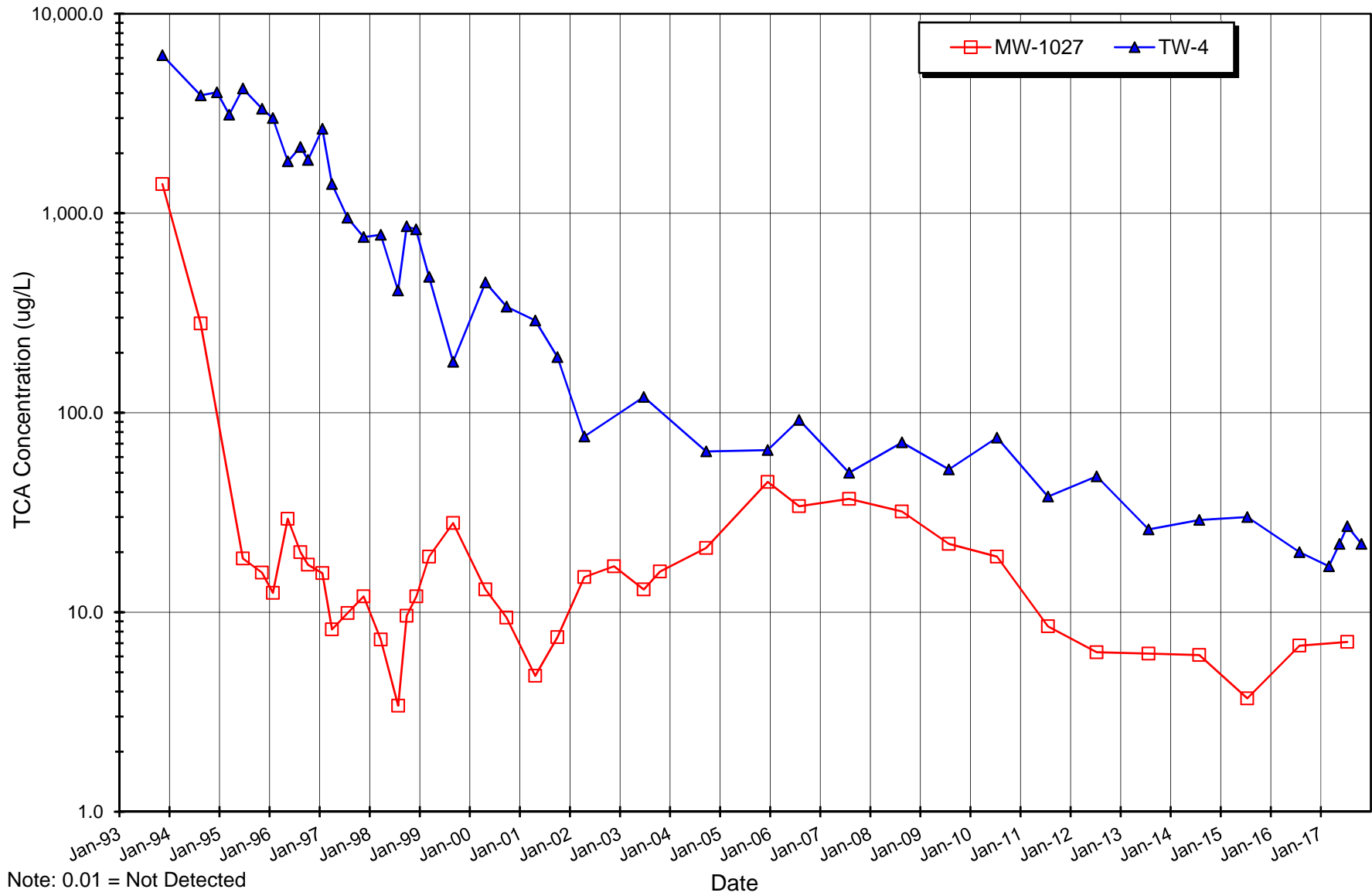


Figure 4. Plant 1 Total VOC Concentration Changes

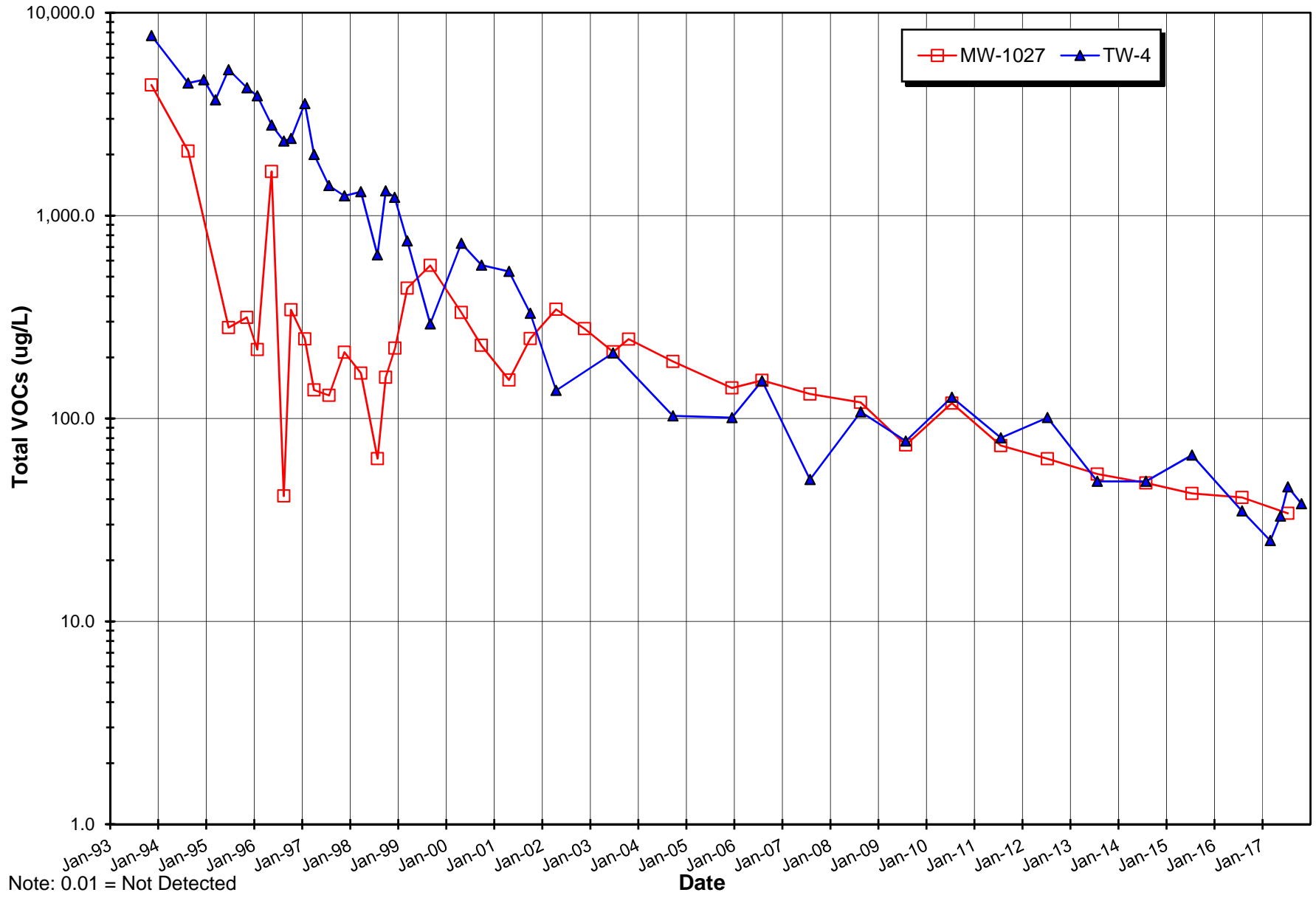


Figure 5. Plant 2 Trichloroethene (TCE) Concentration Changes
ES = 5 ug/L, PAL = 0.5 ug/L

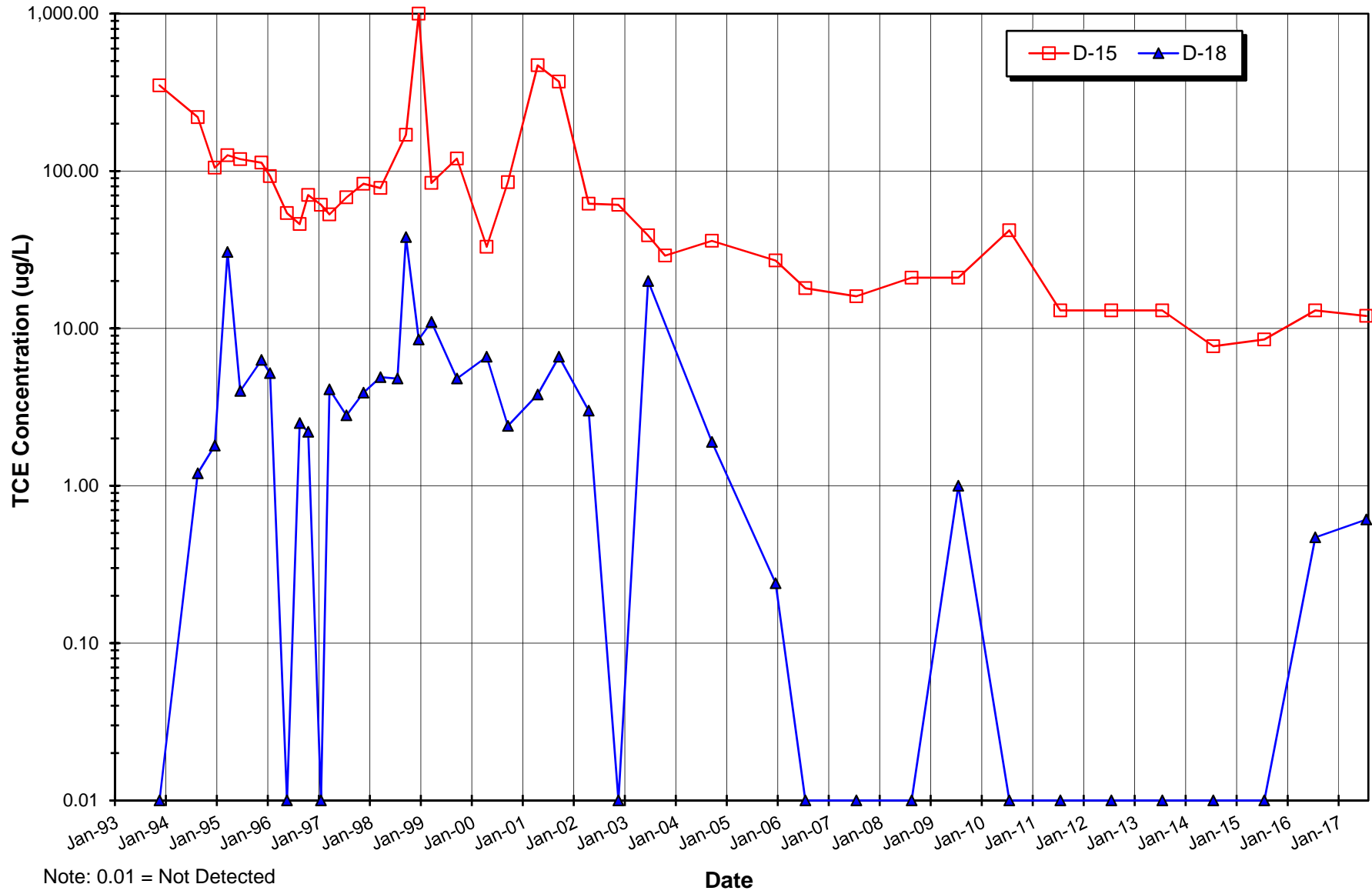
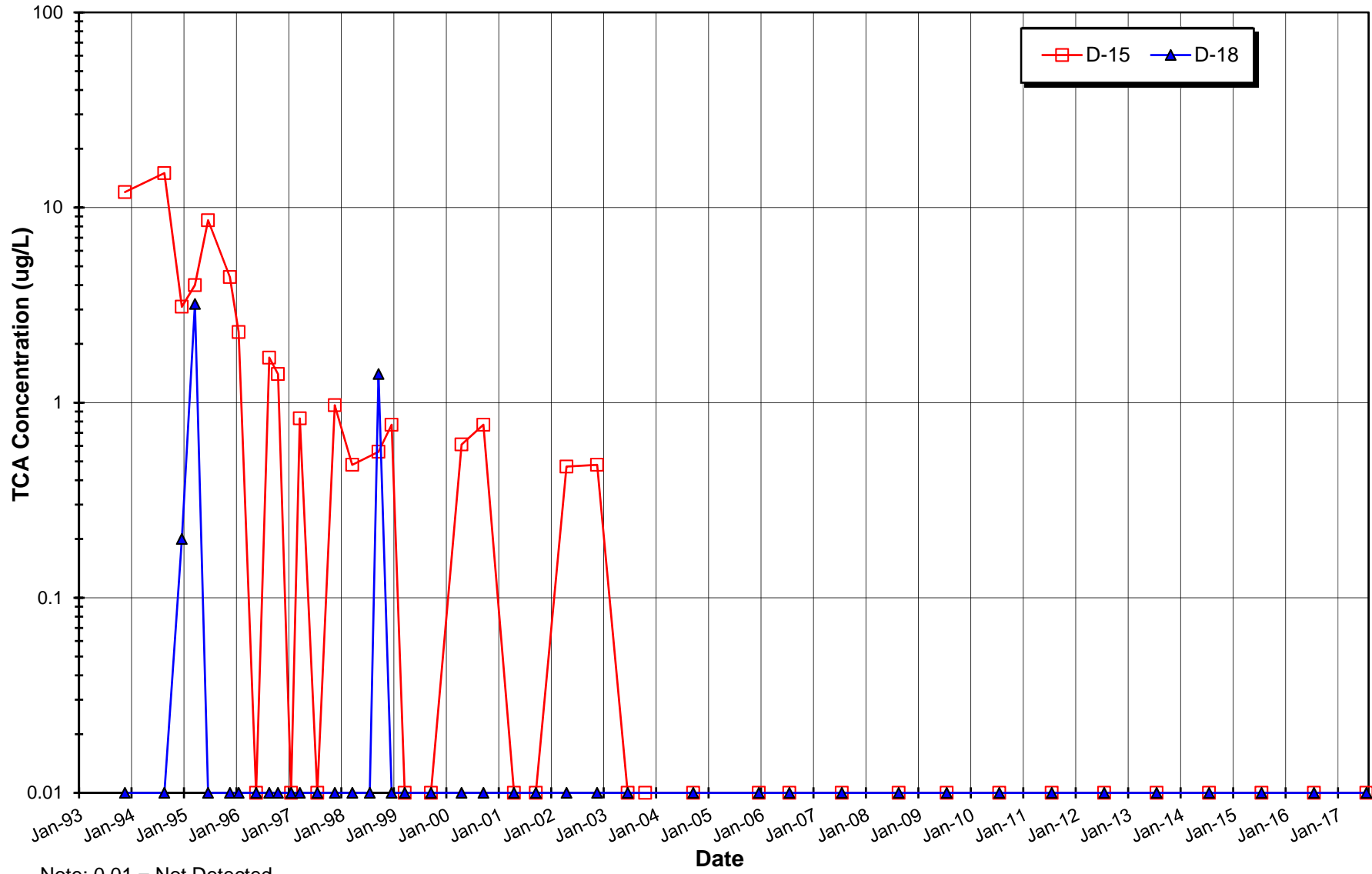


Figure 6. Plant 2 1,1,1-Trichloroethane (TCA) Concentration Changes
ES = 200 ug/L, PAL = 40 ug/L



Note: 0.01 = Not Detected

Figure 7. Plant 2 Tetrachloroethene (PCE) Concentration Changes
ES = 5 ug/L, PAL = 0.5 ug/L

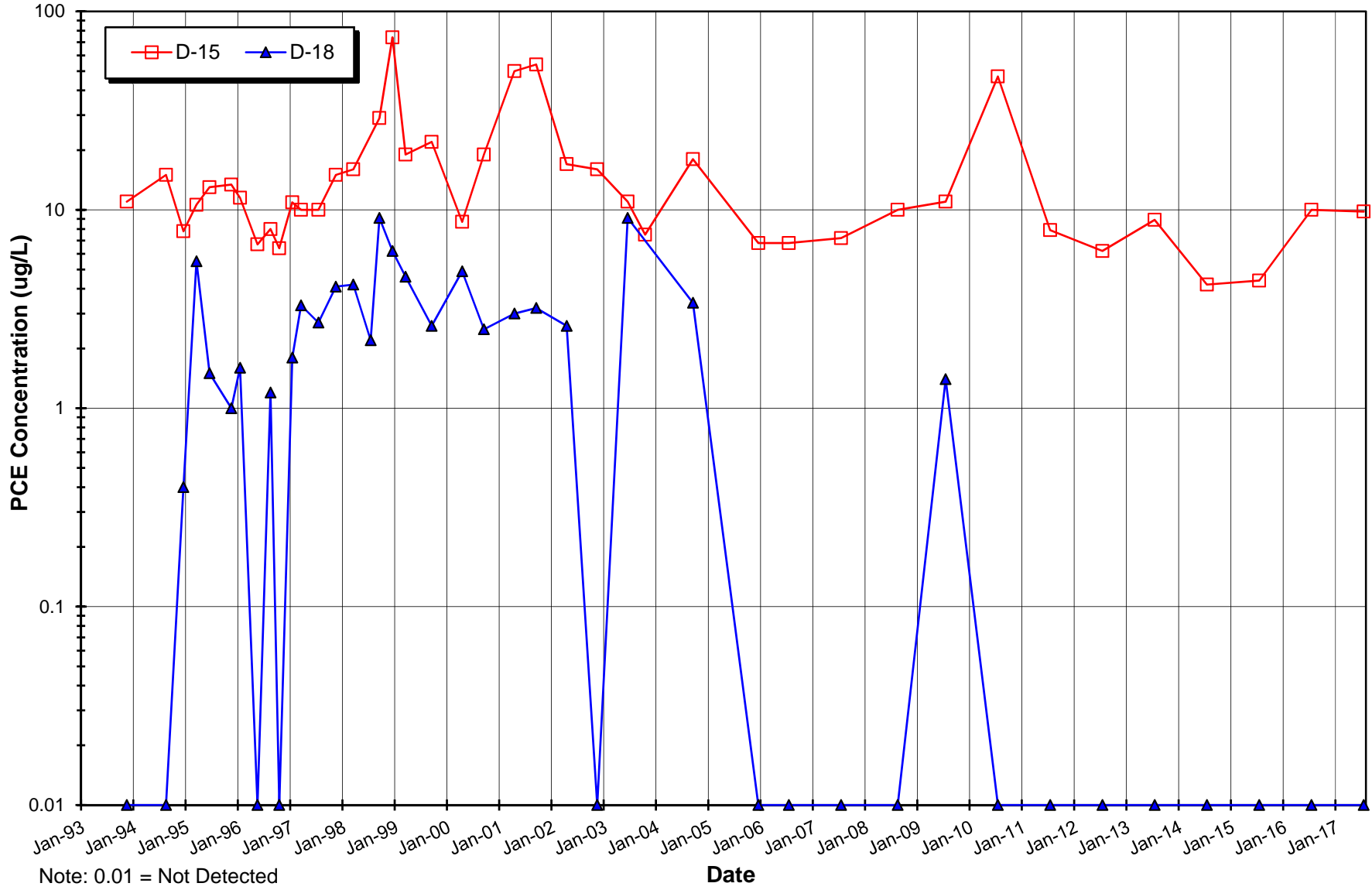
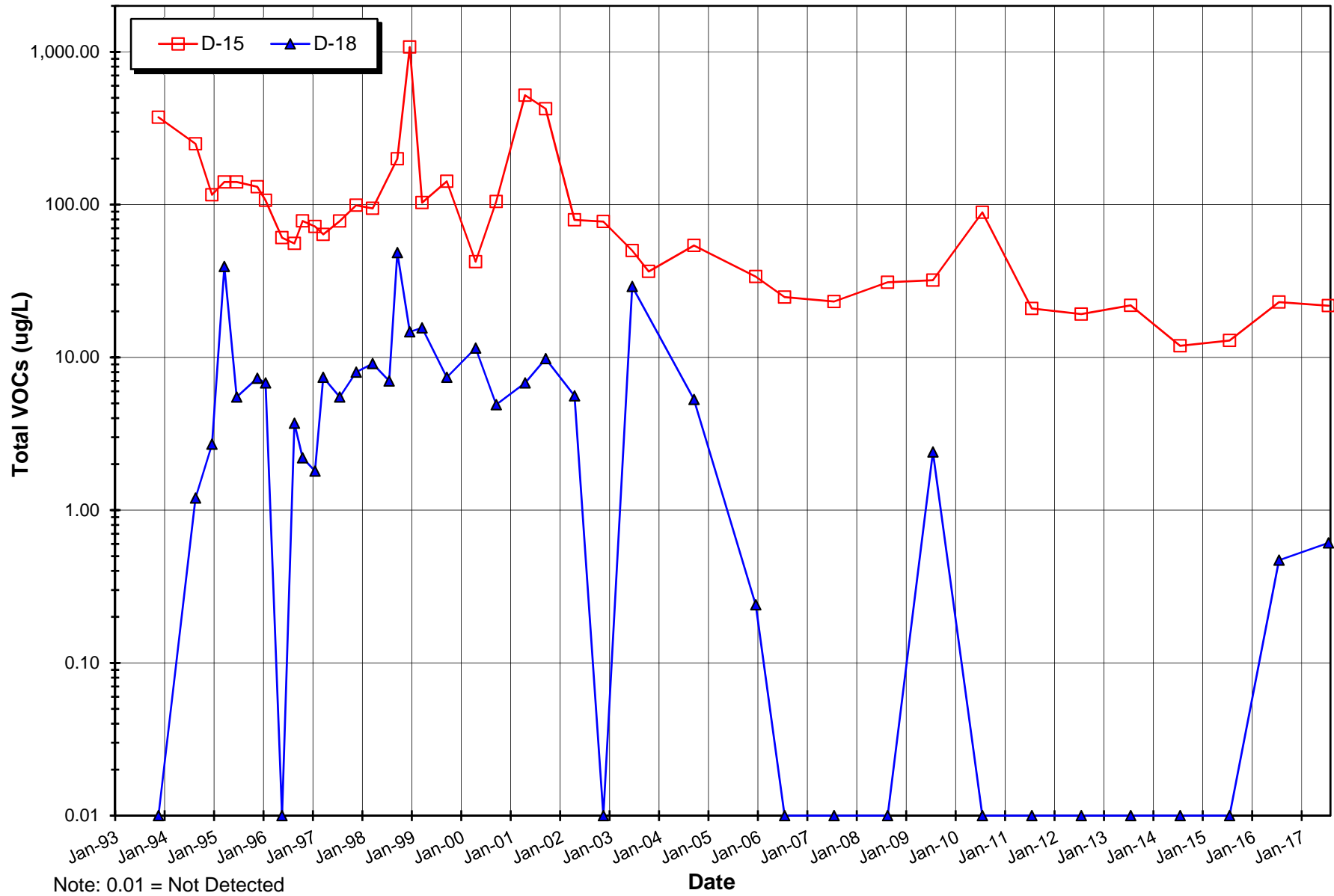


Figure 8. Plant 2 Total VOC Concentration Changes



Note: 0.01 = Not Detected

TABLES

Table 1. Summary of Target Compound List VOCs Groundwater Monitoring Analytical Results for Pentair Flow Technologies, LLC Delavan Facility Monitoring

SAMPLE ID	DATE	PCE	1,1,1-TCA	TCE	1,1,2-TCA	Vinyl Chloride	Total VOCs
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NR 140 ES		5.0	200	5	5	0.2	
NR 140 PAL		0.5	40	0.5	0.5	0.02	
Plant #1							
MW-1026	10/29/91	0.60	16000	1300	8.2	<0.3	17308.8
	10/29/91	1.2	15000	1300	7.1	<0.3	16308.3
Downgradient Monitor Wells	12/11/91	1.0	22000	1500	10	<0.3	23511
	11/11/93	<0.5	4500	250	1.0	<0.3	4751
	08/16/94	<1	1500	210	NA	<5	1710
MW-1026	12/13/94	<25	865	183	NA	<25	1048
	03/13/95	NA	NA	NA	NA	NA	0
	06/21/95	<0.34	41.9	72	<0.19	<0.27	113.9
	11/07/95	<0.5	<0.5	52.4	NA	<0.5	52.4
	01/25/96	<0.5	49.6	30.8	NA	<0.5	80.4
	05/13/96	<0.5	74.4	27.1	NA	<0.5	101.5
	08/13/96	<0.5	41	33.1	5.6	<0.5	79.7
	10/08/96	<0.5	26.1	21.5	1.8	<0.5	49.4
	01/21/97	<0.5	27	17.1	NA	<0.5	44.1
	04/01/97	<0.63	28	15	NA	<0.46	43
	07/23/97	<0.63	22	11	1.0	<0.46	34
	11/18/97	<0.25	20	13	NA	<0.25	33
	03/23/98	<0.63	15	10	NA	<0.46	25
	07/27/98	<0.25	8.4	4.5	1.8	<0.25	14.7
	09/28/98	<0.63	21	15	1.7	<0.46	37.7
	12/08/98	<0.63	24	14	NA	<0.46	38
	03/12/99	<0.63	21	13	NA	<0.46	34
	09/25/03	<0.50	25	6.1	<0.25	<0.25	31.1
	12/15/03	<0.50	34	10	<0.20	<0.25	44
	12/14/05	<0.50	91	21	0.27	<0.20	112.27
	07/31/06	<1.0	93	18	NA	NA	111
	07/31/07	<0.50	41	9.8	<0.25	<0.20	50.8
	08/19/08	<0.50	<0.50	<0.20	<0.25	<0.20	0
	07/28/09	<0.50	6.9	8	<0.25	<0.20	14.9
	07/14/10	<0.50	15	3.2	<0.25	<0.20	18.2
	07/21/11	<0.50	20	5.9	<0.25	<0.20	25.9
MW-1026	07/10/12	<0.17	25	7.3	<0.28	<0.10	32.3

Table 1. Summary of Target Compound List VOCs Groundwater Monitoring Analytical Results for Pentair Flow Technologies, LLC Delavan Facility Monitoring

SAMPLE ID	DATE	PCE	1,1,1-TCA	TCE	1,1,2-TCA	Vinyl Chloride	Total VOCs
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NR 140 ES		5.0	200	5	5	0.2	
NR 140 PAL		0.5	40	0.5	0.5	0.02	
MW-1026	07/24/13	<0.17	15	4.4	<0.28	<0.10	19.4
	07/29/14	<0.17	7.4	1.8	<0.28	<0.10	9.2
	07/14/15	<0.17	18	5.3	<0.28	<0.10	23.3
	07/29/16	<0.37	21	6.2	<0.35	<0.20	27.2
MW-1026	07/13/17	<0.37	14	3.6	<0.35	<0.20	17.6
MW-1027	10/29/91	<0.5	780	1700	<0.5	<0.3	2480
	12/12/91	<0.5	500	1200	<0.5	<0.3	1700
	11/11/93	<0.5	1400	3000	<0.5	<0.3	4400
	08/17/94	<1	280	1800	NA	<5	2080
	06/21/95	<0.34	18.6	262	<0.19	<0.27	280.6
	11/07/95	<0.5	15.8	299	NA	<0.5	314.8
	01/26/96	<0.5	12.5	206	NA	<0.5	218.5
	05/13/96	<0.5	29.4	1620	NA	<0.5	1649.4
	08/14/96	<0.5	20	21.5	<0.5	<0.5	41.5
	10/08/96	<0.5	17.3	326	<0.5	<0.5	343.3
	01/21/97	<0.5	15.7	231	NA	<0.5	246.7
	04/01/97	<0.63	8.2	130	NA	<0.46	138.2
	07/24/97	<0.63	9.9	120	<0.15	<0.46	129.9
	11/18/97	<0.25	12	200	NA	<0.25	212
	03/23/98	<0.63	7.3	160	NA	<0.46	167.3
	07/28/98	<1.2	3.4	60	<1.2	<1.2	63.4
	09/28/98	<0.63	9.6	150	<0.28	<0.46	159.6
	12/08/98	<1.3	12	210	NA	<0.46	222
	03/11/99	<3.2	19	420	NA	<2.3	439
	09/02/99	<3.2	28	540	NA	NA	568
	04/25/00	<3.2	13	320	NA	<2.3	333
	09/25/00	<3.2	9.4	220	NA	NA	229.4
	04/23/01	<1.0	4.8	150	NA	<1.0	154.8
	10/02/01	<1.0	7.5	240	<1.0	NA	247.5
	04/16/02	<1.2	15	330	<1.2	NA	345
	11/19/02	<1.2	17	260	<1.2	NA	277
	06/24/03	<5.0	13	200	<2.5	NA	213
MW-1027	10/20/03	<0.50	16	230	<0.25	NA	246

Table 1. Summary of Target Compound List VOCs Groundwater Monitoring Analytical Results for Pentair Flow Technologies, LLC Delavan Facility Monitoring

SAMPLE ID	DATE	PCE	1,1,1-TCA	TCE	1,1,2-TCA	Vinyl Chloride	Total VOCs
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NR 140 ES		5.0	200	5	5	0.2	
NR 140 PAL		0.5	40	0.5	0.5	0.02	
MW-1027	09/21/04	<2.0	21	170	NA	<0.80	191
	12/14/05	<0.50	45	96	0.38	<0.20	141.38
	07/31/06	<1.0	34	120	NA	NA	154
	07/31/07	<0.50	37	95	<0.25	<0.20	132
	08/19/08	<0.50	32	88	<0.25	<0.20	120
MW-1027	07/28/09	<0.50	22	52	<0.25	<0.20	74
	07/14/10	<0.50	19	100	<0.25	<0.20	119
	07/21/11	<0.50	8.5	65	<0.25	<0.20	73.5
	07/10/12	<0.17	6.3	57	<0.28	<0.10	63.3
	07/24/13	<0.17	6.2	47	<0.28	<0.10	53.2
	07/29/14	<0.17	6.1	42	<0.28	<0.10	48.1
	07/14/15	<0.17	3.7	39	<0.28	<0.10	42.7
	07/29/16	<0.37	6.8	34	<0.35	<0.20	40.8
MW-1027	07/13/17	<0.37	7.1	27	<0.35	<0.20	34.1
TW-4	11/05/91	0.50	10000	1100	5.6	<0.3	11106.1
	12/12/91	0.60	11000	1200	4.5	<0.3	12205.1
	11/11/93	0.80	6200	1500	3.2	<0.3	7704
	08/17/94	<1	3900	600	NA	<5	4500
	12/14/94	<50	4040	630	NA	<50	4670
	03/13/95	ND	3120	600	NA	ND	3720
	06/21/95	NA	4220	990	17.6	5.4	5233
	11/08/95	1.2	3340	920	NA	<0.5	4261.2
	01/25/96	1.1	3000	891	NA	<0.5	3892.1
	05/14/96	0.90	1820	969	NA	<0.5	2789.9
	08/14/96	<0.5	2150	179	1.8	<0.5	2330.8
	10/08/96	0.90	1850	541	6.3	<0.5	2398.2
	01/21/97	<0.5	2650	913	NA	<0.5	3563
	04/01/97	0.83	1400	600	NA	<0.46	2000.83
	07/23/97	0.67	950	450	4.4	<0.46	1405.07
	11/18/97	0.83	760	490	NA	<0.25	1250.83
	03/23/98	0.74	780	530	NA	<0.46	1310.74
	07/27/98	<2.5	410	230	<2.5	<2.5	640
TW-4	09/28/98	<0.63	860	460	2.8	<0.46	1322.8

Table 1. Summary of Target Compound List VOCs Groundwater Monitoring Analytical Results for Pentair Flow Technologies, LLC Delavan Facility Monitoring

SAMPLE ID	DATE	PCE	1,1,1-TCA	TCE	1,1,2-TCA	Vinyl Chloride	Total VOCs
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NR 140 ES		5.0	200	5	5	0.2	
NR 140 PAL		0.5	40	0.5	0.5	0.02	
TW-4	12/05/98	<6.3	830	400	NA	<4.6	1230
	03/11/99	<6.3	480	270	NA	<4.6	750
	09/02/99	<3.2	180	110	2.4	<2.3	292.4
	04/25/00	<3.2	450	280	NA	<2.3	730
	09/26/00	<6.3	340	230	<1.5	<4.6	570
	04/23/01	0.60	290	240	NA	<0.25	530.6
	10/02/01	<2.0	190	140	<2.0	<2.0	330
	04/16/02	<0.25	76	60	1.5	<0.25	137.5
TW-4	06/24/03	<1.0	120	89	1.4	<1.0	210.4
	09/21/04	<0.50	64	39	NA	<0.20	103
	12/14/05	<0.50	65	35	0.92	<0.20	100.92
	07/31/06	<0.50	92	60	1.3	<0.20	153.3
	07/31/07	<0.50	50	<0.20	<0.25	<0.20	50
	08/20/08	<0.50	71	36	0.73	<0.20	107.73
	07/28/09	<0.50	52	25	0.34	<0.20	77.34
TW-4	07/14/10	<0.50	75	52	0.28	<0.20	127.28
	07/21/11	<0.50	38	42	0.28	<0.20	80.28
	07/10/12	<0.17	48	53	<0.28	<0.10	101
	07/24/13	<0.17	26	23	<0.28	<0.10	49
	07/29/14	<0.17	29	20	<0.28	<0.10	49
	07/14/15	<0.17	30	36	<0.28	<0.10	66
TW-4	07/29/16	<0.37	20	15	<0.35	<0.20	35
	03/01/17	<0.37	17	8.0	<0.35	<0.20	25
	05/17/17	<0.37	22	11	<0.35	<0.20	33
	07/13/17	<0.37	27	19	<0.35	<0.20	46
TW-4	10/24/17	<0.37	22	16	<0.35	<0.20	38
D-25R	10/29/91	<0.5	<0.5	11	<0.5	<0.3	11
	12/13/91	0.60	13	13	<0.5	<0.3	26.6
	11/11/93	<0.5	6.0	4.7	<0.5	<0.3	10.7
	08/17/94	<1	3.1	4.6	NA	<5	7.7
	12/13/94	0.40	4.7	5.4	NA	<0.5	10.5
	03/13/95	ND	4.3	3.2	NA	ND	7.5
D-25R	06/26/95	<0.34	3.1	<0.19	<0.19	<0.27	3.1

Table 1. Summary of Target Compound List VOCs Groundwater Monitoring Analytical Results for Pentair Flow Technologies, LLC Delavan Facility Monitoring

SAMPLE ID	DATE	PCE	1,1,1-TCA	TCE	1,1,2-TCA	Vinyl Chloride	Total VOCs
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NR 140 ES		5.0	200	5	5	0.2	
NR 140 PAL		0.5	40	0.5	0.5	0.02	
D-25R	11/07/95	<0.5	5.1	<0.5	NA	<0.5	5.1
	01/25/96	<0.5	4.7	5.1	NA	<0.5	9.8
	05/14/96	<0.5	6.9	6.3	NA	<0.5	13.2
	08/14/96	1.5	43.7	38.3	<0.5	<0.5	83.5
D-25R	10/09/96	<0.5	8.2	10.1	<0.5	<0.5	18.3
	01/20/97	<0.5	10.4	<0.5	NA	<0.5	10.4
	04/01/97	0.77	11	9.1	NA	<0.46	20.87
	07/24/97	0.86	9.5	9.8	<0.15	<0.46	20.16
	11/18/97	0.84	6.7	8.7	NA	<0.25	16.24
	03/23/98	0.71	5	7.5	NA	<0.46	13.21
	07/28/98	<0.25	2.1	2.7	<0.25	<0.25	4.8
	09/28/98	0.78	6.6	9.2	<0.28	<0.46	16.58
	12/08/98	0.70	6.5	8.7	NA	<0.46	15.9
	03/12/99	0.78	5.6	7.7	NA	<0.46	14.08
	09/02/99	0.72	6.7	8.4	NA	NA	15.82
	04/25/00	1.0	3.5	4.0	NA	<0.46	8.5
	09/26/00	0.82	4.5	4.7	NA	NA	10.02
D-25R	04/23/01	0.45	3.1	4.3	NA	<0.25	7.85
	10/02/01	0.58	4.0	3.8	<0.25	NA	8.38
	04/16/02	0.58	4.3	4.7	<0.25	NA	9.58
	11/19/02	0.87	7.6	6.2	<0.25	NA	14.67
	06/24/03	0.86	6.1	7.7	<0.25	NA	14.66
	10/20/03	0.71	4.3	4.6	<0.25	NA	9.61
	09/21/04	0.61	3.5	3.3	NA	<0.20	7.41
	12/13/05	0.59	15	12	<0.25	<0.20	27.59
	07/31/06	0.53	12	25	NA	NA	37.53
	07/31/07	<0.50	8.0	12	<0.25	<0.20	20
	08/20/08	0.51	7.3	8.3	<0.25	<0.20	16.11
	07/28/09	<0.50	6.2	6.0	<0.25	<0.20	12.2
	07/13/10	<0.50	8.4	7.6	<0.25	<0.20	16
	07/20/11	<0.50	1.4	2.7	<0.25	<0.20	4.1
	07/10/12	<0.17	1.3	1.4	<0.28	<0.10	2.7
D-25R	07/24/13	<0.17	1.0	1.0	<0.28	<0.10	2

Table 1. Summary of Target Compound List VOCs Groundwater Monitoring Analytical Results for Pentair Flow Technologies, LLC Delavan Facility Monitoring

SAMPLE ID	DATE	PCE	1,1,1-TCA	TCE	1,1,2-TCA	Vinyl Chloride	Total VOCs	
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
NR 140 ES		5.0	200	5	5	0.2		
NR 140 PAL		0.5	40	0.5	0.5	0.02		
Original Extraction Wells	D-25R	07/29/14	<0.17	0.7	0.82	<0.28	<0.10	1.49
		07/14/15	<0.17	<0.20	0.71	<0.28	<0.10	0.71
		07/28/16	<0.37	<0.38	0.57	<0.35	<0.20	0.57
	D-25R	07/12/17	<0.37	2.9	2.3	<0.35	<0.20	5.2
	EX-2	11/07/91	<0.5	870	210	1.1	<0.3	1081.1
		12/18/91	<0.5	1260	268	1.4	<0.3	1529.4
		11/11/93	<0.5	890	250	1.3	<0.3	1141.3
		12/13/94	<0.5	17.3	3.5	NA	<0.5	20.8
		06/21/95	<0.34	375	96.4	<0.19	<0.27	471.4
	EX-2 / EX-2R	08/14/96	<0.5	99.8	52	<0.5	<0.5	151.8
		07/25/97	<0.63	1.2	2.6	<0.15	<0.46	3.8
		07/28/98	<0.25	0.79	2.1	<0.25	<0.25	2.89
		09/07/99	<0.63	15	34	NA	NA	49
		04/18/00	<0.63	1.3	3.7	NA	<0.46	5
		09/26/00	<0.63	18	36	NA	<0.46	54
		04/19/01	<0.25	2.6	8.4	NA	<0.25	11
		10/02/01	<0.25	16	34	<0.25	NA	50
		04/16/02	<0.25	8.4	22	<0.25	NA	30.4
		06/24/03	<0.50	0.69	2.9	<0.25	NA	3.59
		09/21/04	<0.50	11	25	NA	<0.20	36
		07/31/06	<0.50	0.61	1.7	NA	NA	2.31
		07/31/07	<0.50	6.3	6.7	<0.25	<0.20	13
	EX-2R	08/20/08	<0.50	15	22	<0.25	<0.20	37
		07/28/09	<0.50	5.0	4.5	<0.25	<0.20	9.5
		10/05/10	<0.50	8.2	21	<0.25	<0.20	29.2
		07/21/11	<0.50	5.0	15	<0.25	<0.20	20
		07/11/12	<0.17	3.2	9.8	<0.28	<0.10	13
		07/24/13	<0.17	4.6	7.0	<0.28	<0.10	11.6
		07/30/14	<0.17	3.3	5.8	<0.28	<0.10	9.1
		07/15/15	<0.17	1.4	3.8	<0.28	<0.10	5.2
	07/28/16	<0.37	4.2	7.1	<0.35	<0.20	11.3	
EX-2R	10/24/17	<0.37	3.7	6.3	<0.35	<0.20	10	
EX-3	11/07/91	<0.5	50	14	<0.5	<0.3	64	

Table 1. Summary of Target Compound List VOCs Groundwater Monitoring Analytical Results for Pentair Flow Technologies, LLC Delavan Facility Monitoring

SAMPLE ID	DATE	PCE	1,1,1-TCA	TCE	1,1,2-TCA	Vinyl Chloride	Total VOCs
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NR 140 ES		5.0	200	5	5	0.2	
NR 140 PAL		0.5	40	0.5	0.5	0.02	
Original Extraction Wells	12/18/91	<0.5	30.3	9.5	<0.5	<0.3	39.8
	11/11/93	<0.5	<0.5	<0.5	<0.5	<0.3	0
	12/13/94	<0.5	14.4	5.8	NA	<0.5	20.2
	06/21/95	<0.34	8.7	4.0	<0.19	<0.27	12.7
	08/14/96	<0.5	4.5	3.6	<0.5	<0.5	8.1
	07/25/97	<0.63	93	52	0.4	<0.46	145.4
	EX-3 07/28/98	<0.25	30	28	<0.25	<0.25	58
	09/07/99	<0.63	22	26	NA	NA	48
	04/18/00	<0.63	37	55	NA	<0.46	92
	09/26/00	<0.63	25	28	NA	NA	53
	04/19/01	<0.25	27	38	NA	<0.25	65
	10/02/01	<0.25	13	17	<0.25	NA	30
	04/16/02	<0.25	21	28	<0.25	NA	49
	06/24/03	<0.50	23	46	<0.25	NA	69
	09/21/04	<0.50	13	17	NA	<0.20	30
	12/14/05	<0.50	28	34	0.29	<0.20	62.29
	07/31/06	<0.50	32	66	NA	NA	98
	07/31/07	<0.50	15	25	<0.25	<0.20	40
	08/20/08	<0.50	7.5	3.6	<0.25	<0.20	11.1
	07/28/09	<0.50	14	21	<0.25	<0.20	35
	EX-3 07/14/10	<0.50	38	29	0.34	<0.20	67.34
	EX-3 07/21/11	<0.50	34	33	0.33	<0.20	67.33
	07/11/12	<0.17	15	18	<0.28	<0.10	33
	07/24/13	<0.17	2.2	2.2	<0.28	<0.10	4.4
	07/30/14	<0.17	1.6	2.2	<0.28	<0.10	3.8
	EX-3/ 07/15/15	<0.17	3.1	3.5	<0.28	<0.10	6.6
	EX-3R 10/24/17	<0.37	2.3	3.3	<0.35	<0.20	5.6
	Storm Sewer Outfall	SS-1 11/11/93	0.90	71	24	<0.5	<0.3
08/16/94		<1	55	25	NA	<5	80
12/14/94		0.10	11.2	3.0	NA	<0.5	14.3
06/21/95		<0.34	31.2	18.1	<0.19	<0.27	49.3
11/06/95		<0.5	21.7	<0.5	NA	<0.5	21.7
SS-1 01/25/96	2.6	17.1	21.1	NA	<0.5	40.8	

Table 1. Summary of Target Compound List VOCs Groundwater Monitoring Analytical Results for Pentair Flow Technologies, LLC Delavan Facility Monitoring

SAMPLE ID	DATE	PCE	1,1,1-TCA	TCE	1,1,2-TCA	Vinyl Chloride	Total VOCs
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NR 140 ES		5.0	200	5	5	0.2	
NR 140 PAL		0.5	40	0.5	0.5	0.02	
SS-1	05/13/96	0.60	12.6	8.2	NA	<0.5	21.4
	08/13/96	0.70	8.3	7.8	<0.5	<0.5	16.8
	10/08/96	0.70	6.7	8.8	<0.5	<0.5	16.2
	01/20/97	0.70	8.1	8.9	<0.5	<0.5	17.7
	04/01/97	0.74	5.8	6.6	NA	<0.46	13.14
	07/23/97	<0.63	1.2	1.5	<0.15	<0.46	2.7
	11/18/97	<0.25	4.9	4.9	NA	<0.25	9.8
SS-1	09/02/99	3.4	3.1	17	NA	<0.46	23.5
	09/25/00	<0.63	0.37	2.1	NA	NA	2.47
	10/01/01	<0.25	1.5	3.7	<0.25	<0.25	5.2
	04/17/02	1.1	1.4	5.2	<0.25	NA	7.7
	12/04/02	0.71	1.2	4.4	<0.25	<0.25	6.31
	03/08/04	<0.50	0.90	2.5	<0.25	<0.20	3.4
	04/05/04	<0.50	<0.50	3.2	<0.25	<0.20	3.2
	06/22/05	0.78	0.52	2.2	<0.25	<0.20	3.5
	12/07/05	1.8	0.67	0.64	<0.25	<0.20	3.11
	08/01/06	0.71	<0.50	1.6	NA	<0.20	2.31
	08/01/07	<0.50	0.80	1.9	<0.25	<0.20	2.7
	08/20/08	0.50	<0.50	0.79	<0.25	<0.20	1.29
	07/28/09	<0.50	1.8	3.2	<0.25	<0.20	5
	07/20/10	<0.50	<0.50	0.47	<0.25	<0.20	0.47
	07/13/11	<0.50	<0.50	1.5	<0.25	<0.20	1.5
	07/10/12	<0.17	<0.20	1.5	<0.28	<0.10	1.5
	07/15/13	<0.17	<0.20	<0.19	<0.28	<0.10	0
SS-1	07/14/14	<0.17	<0.20	0.75	<0.28	<0.10	0.75
	07/06/15	0.67	<0.20	0.85	<0.28	<0.10	1.52
	07/20/16	<0.37	<0.38	0.88	<0.35	<0.20	0.88
SS-1	07/19/17	<0.37	<0.38	<0.16	<0.35	<0.20	0

Table 1. Summary of Target Compound List VOCs Groundwater Monitoring Analytical Results for Pentair Flow Technologies, LLC Delavan Facility Monitoring

SAMPLE ID	DATE	PCE	1,1,1-TCA	TCE	1,1,2-TCA	Vinyl Chloride	Total VOCs	
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
NR 140 ES		5.0	200	5	5	0.2		
NR 140 PAL		0.5	40	0.5	0.5	0.02		
Plant #2								
D-18	11/04/91	<0.5	<0.5	1.5	<0.5	<0.3	1.5	
D-18	12/12/91	0.90	0.5	2.1	<0.5	<0.3	3.5	
Southeast Source Area and Former Sump Source Area Monitor Wells	11/11/93	<0.5	<0.5	<0.5	<0.5	<0.3	0	
	08/16/94	<1	<1	1.2	NA	<5	1.2	
	12/13/94	0.40	0.20	1.8	NA	0.30	2.7	
	03/13/95	5.5	3.2	30.6	NA	ND	39.3	
	06/21/95	1.5	<0.13	4.0	<0.19	<0.27	5.5	
	11/06/95	1.0	<0.5	6.3	NA	<0.5	7.3	
	01/25/96	1.6	<0.5	5.2	NA	<0.5	6.8	
	D-18	05/13/96	<0.5	<0.5	<0.5	NA	<0.5	0
		08/13/96	1.2	<0.5	2.5	<0.5	<0.5	3.7
	D-18	10/08/96	<0.5	<0.5	2.2	<0.5	<0.5	2.2
	D-18	01/20/97	1.8	<0.5	<0.5	NA	<0.5	1.8
		03/31/97	3.3	<0.28	4.1	NA	<0.46	7.4
		07/23/97	2.7	<0.28	2.8	<0.15	<0.46	5.5
		11/17/97	4.1	<0.28	3.9	NA	<0.48	8
		03/23/98	4.2	<0.28	4.9	NA	<0.46	9.1
		07/27/98	2.2	<0.25	4.8	<0.15	<0.25	7
		09/25/98	9.1	1.4	38	<0.28	<0.46	48.5
		12/08/98	6.2	<0.28	8.5	NA	<0.46	14.7
		03/11/99	4.6	<0.28	11	NA	<0.46	15.6
		09/07/99	2.6	<0.28	4.8	NA	NA	7.4
	04/25/00	4.9	<0.28	6.6	NA	<0.46	11.5	
	09/25/00	2.5	<0.28	2.4	NA	NA	4.9	
	04/19/01	3.0	<0.25	3.8	NA	<0.25	6.8	
	09/27/01	3.2	<0.25	6.6	<0.25	NA	9.8	
	04/17/02	2.6	<0.25	3.0	<0.25	NA	5.6	
	09/27/01							
	06/20/03	9.1	<0.50	20	<0.25	NA	29.1	
	10/20/03	Not Sampled.						
	09/20/04	3.4	<0.50	1.9	NA	<0.20	5.3	
D-18	12/14/05	<0.50	<0.50	0.24	<0.25	<0.20	0.24	

Table 1. Summary of Target Compound List VOCs Groundwater Monitoring Analytical Results for Pentair Flow Technologies, LLC Delavan Facility Monitoring

SAMPLE ID	DATE	PCE	1,1,1-TCA	TCE	1,1,2-TCA	Vinyl Chloride	Total VOCs
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NR 140 ES		5.0	200	5	5	0.2	
NR 140 PAL		0.5	40	0.5	0.5	0.02	
D-18	07/31/06	<0.50	<0.50	<0.20	NA	NA	0
	07/31/07	<0.50	<0.50	<0.20	<0.25	<0.20	0
	08/19/08	<0.50	<0.50	<0.20	<0.25	<0.20	0
	07/28/09	1.4	<0.50	1.0	<0.25	<0.20	2.4
D-18	07/13/10	<0.50	<0.50	<0.20	<0.25	<0.20	0
	07/20/11	<0.50	<0.50	<0.20	<0.25	<0.20	0
	07/10/12	<0.17	<0.20	<0.19	<0.28	<0.10	0
	07/24/13	<0.17	<0.20	<0.19	<0.28	<0.10	0
	07/29/14	<0.17	<0.20	<0.19	<0.28	<0.10	0
D-18	07/14/15	<0.17	<0.20	<0.19	<0.28	<0.10	0
	07/28/16	<0.37	<0.38	0.47	<0.35	<0.20	0.47
D-18	07/12/17	<0.37	<0.38	0.61	<0.35	<0.20	0.61
MW-2004	10/29/91	6.4	4.8	37	<0.5	<0.3	48.2
	12/13/91	11	2.6	61	<0.5	<0.3	74.6
	11/11/93	2.5	14	5.6	<0.5	<0.3	22.1
	12/13/94	0.70	0.20	1.8	NA	0.3	3
	06/21/95	3.2	17.6	14.2	3.4	<0.27	38.4
	08/13/96	0.96	7.2	5.2	<0.5	<0.5	13.36
	07/23/97	<0.63	1.9	1.7	<0.15	<0.46	3.6
	07/27/98	<0.25	<0.25	0.94	<0.15	<0.25	0.94
MW-2004	09/07/99	<0.63	<0.28	<0.49	NA	NA	0
	04/26/00	<0.63	<0.28	<0.49	NA	NA	0
	09/27/01	<0.25	<0.25	<0.25	<0.25	NA	0
	11/18/02	<0.25	<0.25	<0.25	<0.25	NA	0
	06/20/03	<0.50	<0.50	<0.25	<0.25	NA	0
	09/20/04	<0.50	<0.50	<0.20	NA	<0.20	0
	12/13/05	<0.50	<0.50	0.50	<0.25	<0.20	0.5
	07/29/06	<0.50	<0.50	0.37	NA	NA	0.37
	07/31/07	<0.50	<0.50	<0.20	<0.25	<0.20	0
	08/19/08	<0.50	<0.50	<0.20	<0.25	<0.20	0
	07/28/09	<0.50	<0.50	<0.20	<0.25	<0.20	0
	07/13/10	<0.50	<0.50	<0.20	<0.25	<0.20	0
	07/20/11	<0.50	<0.50	<0.20	<0.25	<0.20	0
MW-2004	07/10/12	<0.17	<0.20	<0.19	<0.28	<0.10	0

Table 1. Summary of Target Compound List VOCs Groundwater Monitoring Analytical Results for Pentair Flow Technologies, LLC Delavan Facility Monitoring

SAMPLE ID	DATE	PCE	1,1,1-TCA	TCE	1,1,2-TCA	Vinyl Chloride	Total VOCs
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NR 140 ES		5.0	200	5	5	0.2	
NR 140 PAL		0.5	40	0.5	0.5	0.02	
MW-2004	07/24/13	<0.17	<0.20	<0.19	<0.28	<0.10	0
	07/29/14	<0.17	<0.20	<0.19	<0.28	<0.10	0
	07/14/15	<0.17	<0.20	0.65	<0.28	<0.10	0.65
	07/28/16	<0.37	<0.38	<0.16	<0.35	<0.20	0
MW-2004	07/12/17	<0.37	<0.38	<0.16	<0.35	<0.20	0
MW-2005	10/28/91	30	2.7	20	<0.5	<0.3	52.7
	12/13/91	32	3.0	23	<0.5	<0.3	58
MW-2005	11/11/93	47	3.1	31	<0.5	<0.3	81.1
	12/13/94	0.40	<0.5	<0.5	NA	<0.5	0.4
	08/16/94	<1	<1	<1	NA	<5	0
	06/21/95	0.70	<0.13	0.70	<0.19	<0.27	1.4
	11/07/95	1.9	<0.5	2.7	NA	<0.5	4.6
	01/25/96	10.9	<0.5	5.2	NA	<0.5	16.1
	05/13/96	<0.5	<0.5	<0.5	NA	<0.5	0
	08/13/96	10.2	<0.5	2.1	<0.5	<0.5	12.3
MW-2005	10/08/96	13	<0.5	<0.5	<0.5	<0.5	13
	01/20/97	24	<0.5	10.1	NA	<0.5	34.1
	04/01/97	47	0.76	8.8	NA	<0.46	56.56
	07/23/97	<0.63	15	1.6	<0.15	<0.46	16.6
	11/18/97	2.7	<0.25	0.33	NA	<0.25	3.03
	03/23/98	3.0	<0.28	0.51	NA	<0.46	3.51
	07/21/98	19	<0.25	1.3	<0.15	<0.25	20.3
	09/25/98	14	<0.28	1.1	<0.28	<0.46	15.1
	12/05/98	6.2	<0.28	5.2	NA	<0.46	11.4
	03/12/99	7.8	<0.28	8.9	NA	<0.46	16.7
	09/07/99	7.8	<0.28	1.0	NA	NA	8.8
	04/25/00	1.2	<0.28	<0.49	NA	<0.46	1.2
	09/25/00	1.7	<0.28	<0.49	NA	NA	1.7
	04/19/01	5.7	<0.25	0.60	NA	<0.25	6.3
	09/27/01	7.5	<0.25	0.62	<0.25	NA	8.12
	04/17/02	9.8	<0.25	0.89	<0.25	NA	10.69
	06/20/03	6.0	<0.50	0.87	<0.25	NA	6.87
MW-2005	09/20/04	17	<0.50	1.3	NA	<0.20	18.3

Table 1. Summary of Target Compound List VOCs Groundwater Monitoring Analytical Results for Pentair Flow Technologies, LLC Delavan Facility Monitoring

SAMPLE ID	DATE	PCE	1,1,1-TCA	TCE	1,1,2-TCA	Vinyl Chloride	Total VOCs
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NR 140 ES		5.0	200	5	5	0.2	
NR 140 PAL		0.5	40	0.5	0.5	0.02	
MW-2005R	07/30/07	2.8	<0.50	<0.20	<0.25	<0.20	2.8
	08/18/08	<0.50	<0.50	<0.20	<0.25	<0.20	0
	07/27/09	<0.50	<0.50	<0.20	<0.25	<0.20	0
	07/13/10	<0.50	<0.50	<0.20	<0.25	<0.20	0
	07/20/11	<0.50	<0.50	<0.20	<0.25	<0.20	0
	07/10/12	<0.17	<0.20	<0.19	<0.28	<0.10	0
	07/24/13	<0.17	<0.20	<0.19	<0.28	<0.10	0
	07/29/14	2.9	<0.20	<0.19	<0.28	<0.10	2.9
MW-2005R	07/14/15	<0.17	<0.20	<0.19	<0.28	<0.10	0
	07/28/16	2.4	<0.38	<0.16	<0.35	<0.20	2.4
MW-2005R	07/12/17	<0.37	<0.38	<0.16	<0.35	<0.20	0
MW-2011	07/30/07	<0.50	2.9	30	<0.25	<0.20	32.9
	08/18/08	<0.50	2.0	12	<0.25	<0.20	14
MW-2011	07/27/09	<0.50	1.5	14	<0.25	<0.20	15.5
	07/13/10	<0.50	2.8	13	<0.25	<0.20	15.8
	07/20/11	<0.50	2.7	20	<0.25	<0.20	22.7
MW-2011	07/10/12	<0.17	3.4	39	<0.28	<0.10	42.4
MW-2011	07/24/13	<0.17	2.3	9.0	<0.28	<0.10	11.3
	07/29/14	<0.17	4.1	35	<0.28	<0.10	39.1
	07/14/15	<0.17	<0.20	7.2	<0.28	<0.10	7.2
	07/28/16	<0.37	3.3	29	<0.35	<0.20	32.3
MW-2011	07/12/17	<0.37	2.1	16	<0.35	<0.20	18.1
D-15	11/05/91	26	45	420	<0.5	<0.3	491
	12/12/91	24	31	390	<0.5	<0.3	445
	11/11/93	11	12	350	<0.5	<0.3	373
	08/16/94	15	15	220	NA	<5	250
	12/13/94	7.8	3.1	105	NA	<5	115.9
	03/13/95	10.6	4.0	126	NA	ND	140.6
	06/21/95	13	8.6	119	<0.19	<0.27	140.6
	11/06/95	13.4	4.4	113	NA	<0.5	130.8
	01/25/96	11.5	2.3	92.8	NA	<0.5	106.6
	05/13/96	6.7	<0.5	54	NA	<0.5	60.7
D-15	08/15/96	8.0	1.7	46	<0.5	<0.5	55.7

Table 1. Summary of Target Compound List VOCs Groundwater Monitoring Analytical Results for Pentair Flow Technologies, LLC Delavan Facility Monitoring

SAMPLE ID	DATE	PCE	1,1,1-TCA	TCE	1,1,2-TCA	Vinyl Chloride	Total VOCs	
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
NR 140 ES		5.0	200	5	5	0.2		
NR 140 PAL		0.5	40	0.5	0.5	0.02		
D-15	10/08/96	6.4	1.4	70.4	<0.5	<0.5	78.2	
	01/20/97	10.9	<0.5	61	NA	<0.5	71.9	
	03/31/97	10	0.83	53	NA	<0.46	63.83	
	07/23/97	10	<0.28	68	<0.15	<0.46	78	
	11/17/97	15	0.97	83	NA	<0.48	98.97	
	03/23/98	16	0.48	78	NA	<0.46	94.48	
	07/27/98	Not Sampled.						
	09/26/98	29	0.56	170	<0.28	<0.46	199.56	
	12/08/98	74	0.77	1000	NA	<0.46	1074.77	
	03/11/99	19	<0.56	84	NA	<0.92	103	
	09/07/99	22	<0.56	120	NA	NA	142	
	04/25/00	8.7	0.61	33	NA	<0.46	42.31	
	09/28/00	19	0.77	85	NA	NA	104.77	
	04/19/01	50	<2.5	470	NA	<2.5	520	
	09/27/01	54	<2.5	370	<2.5	NA	424	
D-15	04/15/02	17	0.47	62	<2.5	NA	79.47	
	11/19/02	16	0.48	61	<0.25	NA	77.48	
	06/20/03	11	<0.50	39	<0.25	NA	50	
	10/20/03	7.5	<0.50	29	<0.25	NA	36.5	
D-15	09/20/04	18	<0.50	36	NA	<0.20	54	
	12/13/05	6.8	<0.50	27	<0.25	<0.20	33.8	
	07/27/06	6.8	<0.50	18	NA	NA	24.8	
	07/31/07	7.2	<0.50	16	<0.25	<0.20	23.2	
	08/18/08	10	<0.50	21	<0.25	<0.20	31	
	07/27/09	11	<0.50	21	<0.25	<0.20	32	
	07/13/10	47	<0.50	42	<0.25	<0.20	89	
	07/20/11	7.9	<0.50	13	<0.25	<0.20	20.9	
	07/10/12	6.2	<0.20	13	<0.28	<0.10	19.2	
	07/24/13	8.9	<0.20	13	<0.28	<0.10	21.9	
	07/29/14	4.2	<0.20	7.7	<0.28	<0.10	11.9	
	07/14/15	4.4	<0.20	8.5	<0.28	<0.10	12.9	
	07/28/16	10	<0.38	13	<0.35	<0.20	23	
D-15	07/12/17	9.8	<0.38	12	<0.35	<0.20	21.8	

Table 1. Summary of Target Compound List VOCs Groundwater Monitoring Analytical Results for Pentair Flow Technologies, LLC Delavan Facility Monitoring

SAMPLE ID	DATE	PCE	1,1,1-TCA	TCE	1,1,2-TCA	Vinyl Chloride	Total VOCs
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NR 140 ES		5.0	200	5	5	0.2	
NR 140 PAL		0.5	40	0.5	0.5	0.02	
TW-1	10/29/91	<0.5	1.3	18	<0.5	<0.3	19.3
	12/13/91	4.9	1.1	48	<0.5	<0.3	54
	11/11/93	4.0	9.1	20	<0.5	<0.3	33.1
	08/16/94	2.4	<1	14	NA	<5	16.4
	12/13/94	0.40	0.30	4.1	NA	<0.5	4.8
	03/13/95	NA	NA	NA	NA	NA	0
	06/21/95	1.1	1.8	4.9	<0.19	<0.27	7.8
	11/07/95	1.0	<0.5	8.7	NA	<0.5	9.7
	01/25/96	1.5	1.3	4.7	NA	<0.5	7.5
	05/13/96	1.1	0.60	2.9	NA	<0.5	4.6
	08/13/96	0.90	0.70	2.7	<0.5	<0.5	4.3
	10/08/96	<0.5	<0.5	<0.5	<0.5	<0.5	0
	01/20/97	2.1	3.0	10	NA	<0.5	15.1
	03/31/97	2.0	3.1	5.9	NA	<0.46	11
	07/23/97	0.88	0.74	2.5	<1.1	<0.46	4.12
	11/17/97	0.88	0.55	2.0	NA	<0.48	3.43
	03/23/98	<0.63	<0.28	1.7	NA	<0.46	1.7
	07/28/98	<0.25	<0.25	1.7	<0.15	<0.25	1.7
	09/26/98	<0.63	<0.28	1.7	<0.28	<0.46	1.7
	12/08/98	<0.63	<0.28	1.5	NA	<0.46	1.5
TW-1	03/12/99	<0.63	<0.28	1.0	NA	<0.46	1
	09/07/99	<0.63	0.57	2.4	NA	NA	2.97
	09/26/00	1.1	0.81	7.3	NA	NA	9.21
TW-1	09/28/01	<0.25	<0.25	1.2	<0.25	NA	1.2
	12/13/05	<0.50	<0.50	0.22	<0.25	<0.20	0.22
	12/13/05	<0.50	<0.50	0.22	<0.25	<0.20	0.22
	07/29/06	<0.50	<0.50	0.20	NA	NA	0.2
	07/31/07	<0.50	<0.50	1.2	<0.25	<0.20	1.2
	08/19/08	0.53	<0.50	0.62	<0.25	<0.20	1.15
	07/28/09	<0.50	<0.50	0.27	<0.25	<0.20	0.27
	07/13/10	<0.50	<0.50	0.38	<0.25	<0.20	0.38
	07/20/11	<0.50	<0.50	0.28	<0.25	<0.20	0.28
TW-1	07/10/12	<0.17	<0.20	0.31	<0.28	<0.10	0.31

Table 1. Summary of Target Compound List VOCs Groundwater Monitoring Analytical Results for Pentair Flow Technologies, LLC Delavan Facility Monitoring

SAMPLE ID	DATE	PCE	1,1,1-TCA	TCE	1,1,2-TCA	Vinyl Chloride	Total VOCs
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NR 140 ES		5.0	200	5	5	0.2	
NR 140 PAL		0.5	40	0.5	0.5	0.02	
TW-1	07/24/13	<0.17	<0.20	<0.19	<0.28	<0.10	0
	07/29/14	<0.17	<0.20	<0.19	<0.28	<0.10	0
TW-1	07/14/15	<0.17	<0.20	<0.19	<0.28	<0.10	0
	07/28/16	<0.37	<0.38	<0.16	<0.35	<0.20	0
TW-1	07/12/17	<0.37	<0.38	<0.16	<0.35	<0.20	0
TW-3	10/30/91	6.8	1.7	19	<0.5	<0.3	27.5
	12/12/91	8.3	1.3	22	<0.5	<0.3	31.6
	11/11/93	7.5	0.70	12	<0.5	<0.3	20.2
	12/14/94	5.3	11.6	5.5	NA	<0.5	22.4
	06/21/95	5.5	11.9	7.4	<0.19	<0.27	24.8
	08/13/96	2.3	9.7	8.1	<0.5	<0.5	20.1
	07/23/97	1.7	3.6	4.3	<0.15	<0.46	9.6
	07/28/98	<0.25	1.0	1.6	<0.15	<0.25	2.6
	09/07/99	1.9	1.1	3.2	NA	NA	6.2
	04/25/00	1.2	0.74	1.9	NA	<0.46	3.84
TW-3	09/25/00	1.5	0.72	3.0	NA	NA	5.22
	04/19/01	2.7	0.68	6.0	NA	<0.25	9.38
	09/27/01	7.5	1.3	21.0	<0.25	NA	29.8
	04/16/02	2.1	0.40	3.2	<0.25	NA	5.7
	11/19/02	4.0	0.53	7.8	<0.25	NA	12.33
	06/24/03	2.5	<0.50	2.6	<0.25	NA	5.1
TW-3	10/20/03	2.8	<0.50	2.0	<0.25	NA	4.8
	09/20/04	2.8	<0.50	2.8	NA	<0.20	5.6
	12/13/05	1.7	<0.50	1.6	<0.25	<0.20	3.3
	07/27/06	1.4	<0.50	1.2	NA	NA	2.6
TW-3	07/31/07	0.97	<0.50	0.94	<0.25	<0.20	1.91
	08/20/08	1.5	<0.50	0.79	<0.25	<0.20	2.29
TW-3	07/27/09	1.8	<0.50	0.86	<0.25	<0.20	2.66
	07/13/10	3.1	<0.50	4.9	<0.25	<0.20	8
	07/20/11	1.5	<0.50	0.63	<0.25	<0.20	2.13
TW-3	07/10/12	2.7	<0.20	1.1	<0.28	<0.10	3.8
	07/24/13	1.3	<0.20	0.61	<0.28	<0.10	1.91
TW-3	07/29/14	0.63	<0.20	0.38	<0.28	<0.10	1.01

Table 1. Summary of Target Compound List VOCs Groundwater Monitoring Analytical Results for Pentair Flow Technologies, LLC Delavan Facility Monitoring

SAMPLE ID	DATE	PCE	1,1,1-TCA	TCE	1,1,2-TCA	Vinyl Chloride	Total VOCs	
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
NR 140 ES		5.0	200	5	5	0.2		
NR 140 PAL		0.5	40	0.5	0.5	0.02		
Original Extraction Well	TW-3	07/14/15	<0.17	<0.20	0.64	<0.28	<0.10	0.64
		07/28/16	0.54	<0.38	0.29	<0.35	<0.20	0.83
	TW-3	07/12/17	0.59	<0.38	<0.16	<0.35	<0.20	0.59
	EX-1	11/07/91	8.2	3.7	20	<0.5	<0.3	31.9
		12/18/91	6.3	3.9	14.6	<0.5	<0.3	24.8
		11/11/93	6.8	2.3	13	<0.5	<0.3	22.1
		12/13/94	4.7	2.7	11	NA	<0.5	18.4
	EX-1	06/21/95	6.2	<0.13	14.7	<0.19	<0.27	20.9
		08/13/96	2.8	1.6	6.7	<0.5	<0.5	11.1
		07/23/97	3.1	1.5	5.4	<0.15	<0.46	10
		07/28/98	<0.25	0.47	5.2	<0.15	<0.25	5.67
		09/07/99	3.4	0.32	8.7	NA	NA	12.42
		09/26/00	3.0	0.39	11	NA	NA	14.39
		10/02/01	7.1	<0.25	27	<0.25	NA	34.1
		09/21/04	3.8	<0.50	4.2	NA	<0.20	8
		12/14/05	1.4	<0.50	1.4	<0.25	<0.20	2.8
		07/31/06	1.4	<0.50	1.5	NA	NA	2.9
		07/31/07	1.3	<0.50	0.84	<0.25	<0.20	2.14
		08/20/08	1.1	<0.50	0.75	<0.25	<0.20	1.85
		07/14/10	1.7	<0.50	3.1	<0.25	<0.20	4.8
		07/21/11	1.1	<0.50	1.0	<0.25	<0.20	2.1
		07/11/12	1.3	<0.20	1.2	<0.28	<0.10	2.5
	EX-1	07/24/13	0.89	<0.20	0.47	<0.28	<0.10	1.36
	EX-1	07/30/14	0.71	<0.20	0.42	<0.28	<0.10	1.13
		07/15/15	<0.17	<0.20	<0.19	<0.28	<0.10	0
		07/28/16	0.72	<0.38	<0.16	<0.35	<0.20	0.72
EX-1	07/13/17	<0.37	<0.38	<0.16	<0.35	<0.20	0	
EX-7	11/07/91	37	5.0	350	<0.5	<0.3	392	
	12/18/91	44	5.1	241	<0.5	<0.3	290.1	
	11/11/93	27	8.1	160	<0.5	<0.3	195.1	
	12/13/94	19.6	0.80	62.8	NA	<0.5	83.2	
	06/21/95	60.6	<0.13	105	<0.19	<0.27	165.6	
EX-7	08/13/96	48.3	<0.5	243	<0.5	<0.5	291.3	

Table 1. Summary of Target Compound List VOCs Groundwater Monitoring Analytical Results for Pentair Flow Technologies, LLC Delavan Facility Monitoring

SAMPLE ID	DATE	PCE	1,1,1-TCA	TCE	1,1,2-TCA	Vinyl Chloride	Total VOCs
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NR 140 ES		5.0	200	5	5	0.2	
NR 140 PAL		0.5	40	0.5	0.5	0.02	
EX-7	07/23/97	24	0.49	130	<0.15	<0.5	154.49
	07/28/98	<50	<50	1000	<50	<50	1000
	09/07/99	130	<2.8	490	NA	NA	620
	04/18/00	77	0.87	150	NA	<0.46	227.87
	09/26/00	56	<0.56	140	NA	NA	196
	04/19/01	56	<1.0	110	NA	<1.0	166
	04/16/02	19	<0.25	35	NA	<1.0	54
	11/19/02	26	0.40	58	<0.25	NA	84.4
EX-7	06/24/03	20	<0.50	26	<0.25	NA	46
	10/20/03	<0.50	<0.50	30	<0.25	NA	30
	09/21/04	25	<0.50	36	NA	<0.20	61
	12/14/05	14	<0.50	29	<0.25	<0.20	43
	07/31/06	14	<0.50	22	NA	NA	36
	07/31/07	9.0	<0.50	10	<0.25	<0.20	19
	08/20/08	6.2	<0.50	7.5	<0.25	<0.20	13.7
	07/29/09	7.5	<0.50	9.3	<0.25	<0.20	16.8
	07/15/10	98	<0.50	130	<0.25	<0.20	228
	07/21/11	7.8	<0.50	8.6	<0.25	<0.20	16.4
	07/11/12	7.0	<0.20	<0.19	<0.28	<0.10	7
	07/24/13	5.6	<0.20	3.9	<0.28	<0.10	9.5
	07/30/14	6.4	<0.20	4.6	<0.28	<0.10	11
	07/15/15	8.8	<0.20	6.4	<0.28	<0.10	15.2
EX-7/ EX-7R	07/28/16	6.5	<0.38	3.4	<0.35	<0.20	9.9
	10/24/17	7.3	<0.38	3.8	<0.35	<0.20	11.1

Notes:

VOCs = Volatile Organic Compounds

ug/L = micrograms parts per liter, which is equivalent to parts per billion (ppb).

ES = Enforcement Standard, PAL = Preventative Action Limit

Orange Highlight = above ES, Yellow Highlight = above PAL

PCE = Tetrachloroethene

TCA = Trichloroethane

TCE = Trichloroethene

Table 2. Summary of VOCs Groundwater Monitoring Analytical Results for Plant #1 Monitor Well TW-4

WELL	DATE	PCE	1,1,1-TCA	TCE	1,1,2-TCA	Vinyl Chloride	Acetone	Benzene	Chloroform	1,1-DCA	1,2-DCA	1,1-DCE	CIS-1,2-DCE	Trans-1,2-DCE	Methylene Chloride	Ethylbenzene	Xylenes, Total	Total VOCs
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NR 140	ES	5.0	200	5	5	0.2	9000	5.0	6	850	5	7	70	100	5	700	2000	
NR 140	PAL	0.5	40	0.5	0.5	0.02	1800	0.5	0.6	85	0.5	0.7	7	20	0.5	140	400	
TW-4	11/05/91	0.50	10000	1100	5.6	<0.3	<1.0	<0.5	4.0	61	<0.5	440.0	50	<0.5	2.4	<0.5	<1.0	11663.5
	12/12/91	0.60	11000	1200	4.5	<0.3	<1.0	<0.5	3.7	93	3	680.0	52	<0.5	<1	<0.5	<1.0	13036.8
	11/11/93	0.80	6200	1500	3.2	<0.3	<1.0	<0.5	<0.5	26	<0.5	490	25	<0.5	<1.0	<0.5	<1.0	8245
	08/17/94	<1	3900	600	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4500
	12/14/94	<50	4040	630	NA	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4670
	03/13/95	ND	3120	600	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3720
	06/21/95	NA	4220	990	17.6	5.4	<1.0	NA	3.8	113	<0.5	415	93.6	NA	NA	NA	NA	5858.4
	11/08/95	1.2	3340	920	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4261.2
	01/25/96	1.1	3000	891	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3892.1
	05/14/96	0.90	1820	969	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2789.9
	08/14/96	<0.5	2150	179	1.8	<0.5	<1.0	<0.5	<0.5	12	<1.6	36.7	NA	<0.5	NA	<0.5	NA	2379.5
	10/08/96	0.90	1850	541	6.3	<0.5	<1.0	<0.5	1.0	36.3	<1.6	196	NA	<0.5	NA	<0.5	NA	2631.5
	01/21/97	<0.5	2650	913	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3563
	04/01/97	0.83	1400	600	NA	<0.46	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2000.83
	07/23/97	0.67	950	450	4.4	<0.46	3.4	0.3	0.70	24	<0.20	66	36	0.5	<0.87	<0.38	<1.1	1535.97
	11/18/97	0.83	760	490	NA	<0.25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1250.83
	03/23/98	0.74	780	530	NA	<0.46	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1310.74
	07/27/98	<2.5	410	230	<2.5	<2.5	<20	<1.0	<2.5	13	<2.5	16	21	<2.5	15	<2.5	<5.0	705
	09/28/98	<0.63	860	460	2.8	<0.46	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1322.8
	12/05/98	<6.3	830	400	NA	<4.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1230
	03/11/99	<6.3	480	270	NA	<4.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	750
	09/02/99	<3.2	180	110	2.4	<2.3	NA	<1.6	<0.90	<1.2	<1.0	19	2.0	<2.0	<4.4	<1.9	<5.5	313.4
	04/25/00	<3.2	450	280	NA	<2.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5.5	730
	09/26/00	<6.3	340	230	<1.5	<4.6	NA	<3.1	<1.8	5.2	<2.0	15	10	<3.9	<8.7	<3.8	<5.5	600.2
TW-4	04/23/01	0.60	290	240	NA	<0.25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	530.6

Table 2. Summary of VOCs Groundwater Monitoring Analytical Results for Plant #1 Monitor Well TW-4

WELL	DATE	PCE	1,1,1-TCA	TCE	1,1,2-TCA	Vinyl Chloride	Acetone	Benzene	Chloroform	1,1-DCA	1,2-DCA	1,1-DCE	CIS-1,2-DCE	Trans-1,2-DCE	Methylene Chloride	Ethylbenzene	Xylenes, Total	Total VOCs
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NR 140	ES	5.0	200	5	5	0.2	9000	5.0	6	850	5	7	70	100	5	700	2000	
NR 140	PAL	0.5	40	0.5	0.5	0.02	1800	0.5	0.6	85	0.5	0.7	7	20	0.5	140	400	
TW-4	10/02/01	<2.0	190	140	<2.0	<2.0	NA	<0.80	<2.0	2.1	<2.0	6.8	3.0	<2.0	8.1	<2.0	<2.0	350
	04/16/02	<0.25	76	60	1.5	<0.25	NA	<0.10	<0.25	1.4	<0.25	2.5	0.76	<0.25	0.47	<0.25	<0.25	142.63
	06/24/03	<1.0	120	89	1.4	<1.0	NA	<0.50	<0.50	2.1	<1.0	4.7	3.7	<1.0	<2.0	<1.0	<1.0	220.9
	09/21/04	<0.50	64	39	NA	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	103
	12/14/05	<0.50	65	35	0.92	<0.20	<2.0	<0.20	<0.20	0.76	<0.50	1.6	0.55	<0.50	<1.0	<0.50	<0.50	103.83
	07/31/06	<0.50	92	60	1.3	<0.20	<2.0	<0.20	<0.20	1.3	<0.50	2.9	1.4	<0.50	<1.0	<0.50	<0.50	158.9
	07/31/07	<0.50	50	<0.20	<0.25	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50
	08/20/08	<0.50	71	36	0.73	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	107.73
	07/28/09	<0.50	52	25	0.34	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	77.34
	07/14/10	<0.50	75	52	0.28	<0.20	NA	<0.20	<0.20	<0.50	<0.50	2.1	<0.50	<0.50	<1.0	<0.50	<0.50	129.38
	07/21/11	<0.50	38	42	0.28	<0.20	NA	<0.20	<0.20	0.52	<0.50	0.78	<0.50	<0.50	<1.0	<0.50	<0.50	81.58
	07/10/12	<0.17	48	53	<0.28	<0.10	NA	<0.074	<0.20	1.8	<0.28	1.8	<0.12	<0.25	<0.68	<0.50	<0.068	104.6
	07/24/13	<0.17	26	23	<0.28	<0.10	NA	<0.074	<0.20	0.54	<0.28	1.1	<0.12	<0.25	<0.68	0.13	0.20	50.97
	07/29/14	<0.17	29	20	<0.28	<0.10	NA	<0.074	<0.20	<0.19	<0.28	0.9	<0.12	<0.25	<0.68	<0.13	<0.068	49.9
07/14/15	<0.17	30	36	<0.28	<0.10	NA	<0.074	<0.20	4.9	<0.28	1.4	1.7	<0.25	8.2 B	<0.10	<0.068	82.2	
TW-4	07/29/16	<0.37	20	15	<0.35	<0.20	NA	<0.15	<0.37	<0.41	<0.39	<0.39	<0.41	<0.35	<1.6	<0.18	<0.22	35
	03/01/17	<0.37	17	8.0	<0.35	<0.20	NA	<0.15	<0.37	<0.41	<0.39	<0.39	<0.41	<0.35	<1.6	<0.18	<0.22	25
	05/17/17	<0.37	22	11	<0.35	<0.20	NA	<0.15	<0.37	0.96	<0.39	0.90	<0.41	<0.35	<1.6	<0.18	<0.22	34.86
	07/13/17	<0.37	27	19	<0.35	<0.20	NA	<0.15	<0.37	1.1	<0.39	1.0	<0.41	<0.35	<1.6	<0.18	<0.22	48.1
	10/24/17	<0.37	22	16	<0.35	<0.20	NA	<0.15	<0.37	<0.41	<0.39	0.91	<0.41	<0.35	<1.6	<0.18	<0.22	38.91

Notes: All values listed are in parts per billion (ug/L).

VOCs = Volatile Organic Compounds

ES = Enforcement Standard, PAL = Preventative Action Limit

Orange Highlight = above ES, Yellow Highlight = above PAL

ND = not detected, NA = not analyzed or no data available

PCE = Tetrachloroethene

TCA = Trichloroethane

TCE = Trichloroethene

DCA = Dichloroethane

DCE = Dichloroethene

B = Detected in blank sample at a similar concentration.

Table 3. Pentair Flow Technologies, LLC Delavan Facility Extraction Wells Pumping Rates Measurements

Well Identification	Date	Pumping Rate (gpm)	Comments
EX-1	March 2018	51.8	
EX-2R	March 2018	31.5	
EX-3	March 2018	0.0	Down due to low pumping rate (less than 3 gpm).
EX-4	March 2018	0.0	Down due to low pumping rate (less than 3 gpm).
EX-5	March 2018	45.4	
EX-6	March 2018	29.1	
EX-7	March 2018	39.4	
TOTAL PUMPING RATES		197.3	gpm
		284,160.7	gallons per day
		0.2842	million gallons per day
Well Identification	Date	Pumping Rate (gpm)	Comments
EX-1	June 2017	61.9	
EX-2R	June 2017	0.0	Shut down March 13 due to cut electrical line.
EX-3	June 2017	0.0	Down due to low pumping rate (less than 3 gpm).
EX-4	June 2017	0.0	Down due to low pumping rate (less than 3 gpm).
EX-5	June 2017	49.7	
EX-6	June 2017	30.8	
EX-7	June 2017	47.8	
TOTAL PUMPING RATES		190.2	gpm
		273,888.0	gallons per day
		0.2739	million gallons per day
Well Identification	Date	Pumping Rate (gpm)	Comments
EX-1	September 2017	61.5	
EX-2R	September 2017	69.2	
EX-3R	September 2017	39.8	
EX-4R	September 2017	40.9	
EX-5R	September 2017	41.6	
EX-6	September 2017	105.3	
EX-7R	September 2017	39.9	
TOTAL PUMPING RATES		398.2	gpm
		573,408.0	gallons per day
		0.5734	million gallons per day

Notes: gpm = gallons per minute NM = Not Measured
 EX-2R, EX-3R and EX-4R brought on-line September 15, 2017.
 EX-5R and EX-7R brought on-line September 21, 2017.

Table 4. Delavan Facility Groundwater Monitoring Program Well List
Pentair Flow Technologies, LLC, Delavan, Wisconsin

Monitoring Point	Sampling Frequency	Parameters
Plant 1 Monitoring Points		
D-25R	Annual	PCE, TCA, TCE, VC
MW-1026	Annual	PCE, TCA, TCE, VC
MW-1027	Annual	PCE, TCA, TCE, VC
TW-4	Quarterly	VOCs
EX-2R	Annual	PCE, TCA, TCE, VC
EX-3R	Annual	PCE, TCA, TCE, VC
Plant 2 Monitoring Points		
D-15	Annual	PCE, TCA, TCE, VC
D-18	Annual	PCE, TCA, TCE, VC
MW-2004	Annual	PCE, TCA, TCE, VC
MW-2005R	Annual	PCE, TCA, TCE, VC
MW-2011	Annual	PCE, TCA, TCE, VC
TW-1	Annual	PCE, TCA, TCE, VC
TW-3	Annual	PCE, TCA, TCE, VC
EX-1	Annual	PCE, TCA, TCE, VC
EX-7R	Annual	PCE, TCA, TCE, VC
Site Monitoring Point		
Storm Sewer Grate (SS-1)	Annual	PCE, TCA, TCE, VC

PCE = Tetrachloroethene

TCA = 1,1,1-Trichloroethane and 1,1,2-Trichloroethane

TCE = Trichloroethene

VC = Vinyl Chloride

VOCs = Volatile Organic Compounds

APPENDIX A
REPLACEMENT EXTRACTION WELLS
WELL CONSTRUCTION REPORTS AND
ORIGINAL EXTRACTION WELLS WELL FILLING & SEALING FORMS

TETRA TECH

**Well Construction Report For
WISCONSIN UNIQUE WELL NUMBER YT587**

State of WI - Private Water Systems - DG/2
Department of Natural Resources, Box 7921
Madison, WI 53707
Form 3300-77A
(R 8/00)

Property Owner **PENTAIR** Telephone **414-852-2700**
Number
Mailing Address **293 WRIGHT STREET**
City **DELEVAN** State **WI** Zip Code **53115**
County of Well Location **Walworth** County Well Permit No. **W** Well Completion Date **06/02/2017**

I. Well Location
 Town City Village
of **DELEVAN** Fire # (if available) **293**
Grid or Street Address or Road Name and Number
WRIGHT STREET
Subdivision Name Lot # Block #

Well Constructor (Business Name) **SAM'S WELL DRILLING INC** License # **370** Facility ID Number (Public Wells)
Address **PO BOX 150** Public Well Plan Approval # **W--0601-4222**
City **RANDOLPH** State **WI** Zip Code **53956** Date of Approval (mm/dd/yyyy) **12/12/2016**
Hicap Permanent well # **91930** Common Well # **3** Specific Capacity **4** gpm/ft

Gov't Lot # or **SW** 1/4 of **NE** 1/4 of
Section **17** T **2** N; R **16** E W
Latitude Deg. **42** Min. **38.064**
Longitude Deg. **88** Min. **37.524**
2. Well Type New Replacement Reconstruction Lat/Long Method **GPS008**
of previous unique well # constructed in
Reason for replaced or Reconstructed Well?
EXTRACTION WELL EXR-3

3. Well serves **1** # of homes and or **INDUSTRY** High capacity Well? Yes No
(e.g. barn, restaurant, church, school, industry, etc.) Property? Yes No

Drilled Driven Point Jetted Other:

4. Is the well located upslope or sideslope and not downslope from any contamination source, including those on neighboring properties? Yes No
Well located within 1,200 feet of a quarry? Yes No If yes, distance in feet from quarry:
Well located in floodplain? Yes No
Distance in Feet from Well to Nearest:
1. Landfill
2. Building Overhang
3. Septic Holding Tank
4. Sewage Absorption Unit
5. Nonconforming Pit
6. Buried Home Heating Oil Tank
7. Buried Petroleum Tank
8. Shoreline Swimming Pool
9. Downspout/Yard Hydrant
10. Privy
11. Foundation Drain to Clearwater
12. Foundation Drain to Sewer
13. Building Drain
 Cast Iron or Plastic Other
14. Building Sewer Gravity Pressure
 Cast Iron or Plastic Other
15. Collector or Street Sewer:
 Sanitary units in. diam.
 Storm =< 6 > 6
16. Clearwater Sump

17. Wastewater Sump
18. Paved Animal Barn Pen
19. Animal Yard or Shelter
20. Silo
21. Barn Gutter
22. Manure Pipe Gravity Pressure
 Cast Iron or Plastic Other
23. Other Manure Storage
24. Ditch
25. Other NR 812 Waste Storage

5. Drillhole Dimensions and Construction Method		From		To		Upper		Lower	
Dia. (in.)	(ft.)	(ft.)	(ft.)	Enlarged Drillhole		Open Bedrock			
8	0	53		<input type="checkbox"/>	---1. Rotary - Mud Circulation-----	<input type="checkbox"/>			
				<input type="checkbox"/>	---2. Rotary - Air-----	<input type="checkbox"/>			
				<input type="checkbox"/>	---3. Rotary - Air and Foam-----	<input type="checkbox"/>			
				<input type="checkbox"/>	---4. Drill-Through Casing Hammer	<input type="checkbox"/>			
				<input type="checkbox"/>	---5. Reverse Rotary	<input type="checkbox"/>			
				<input type="checkbox"/>	---6. Cable-tool Bit in. dia-----	<input type="checkbox"/>			
				<input checked="" type="checkbox"/>	7. Dual Rotary	<input type="checkbox"/>			
				<input type="checkbox"/>	8. Temp. Outer Casing in. dia. depth (ft)	<input type="checkbox"/>			
					Removed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
					If no, why not?				

8. Geology		From	To
Type, Caving/Noncaving, Color, Hardness, etc		(ft.)	(ft.)
--ZS Clay & Gravel, Sandy		0	21
--YM Sand & Gravel, Silty		21	34
--Y- Sand & Gravel		34	53
--C- CLAY		53	53

6. Casing, Liner, Screen		Material, Weight, Specification		From	To
Dia. (in.)				(ft.)	(ft.)
	8 STD BLK, PIPE, .320 WALL, P.E., A53B			0	32
	BORUSAN MANNESMANN 8X6 K PACKER, A53B				
	8 46" STD BLACK PIPE .280 WALL RISER,			32	35
6	#20 SLOTTED SS (33-43) #30 SLOTTED SS (43)			33	53

9. Static Water Level
ft. above ground surface
30 ft. below ground surface
11. Well is: Above Grade
12 in. Below Grade
Developed? Yes No
Disinfected? Yes No
Capped? Yes No
10. Pump Test
Pumping Level **35** ft. below surface
Pumping at **20** GPM for **1** hours

7. Grout or Other Sealing Material. Method		From	To	# Sacks
Method: MOUNDED	Kind of Sealing Material	(ft.)	(ft.)	Cement
	Granular bentonite	0	53	1

12. Did you notify the owner of the need to permanently abandon and fill all unused wells on this property?
 Yes No If no, explain:
13. Signature of the Well Constructor or Supervisory Driller **JVG** Date signed **06/02/2017**
Signature of Drill Rig Operator (Mandatory unless same as above) **DB** Date signed **06/02/2017**

**Well Construction Report For
WISCONSIN UNIQUE WELL NUMBER YT588**

State of WI - Private Water Systems - DG/2
Department of Natural Resources, Box 7921
Madison, WI 53707
Form 3300-77A
(R 8/00)

Property Owner **PENTAIR** Telephone **414-852-2700**
Number
Mailing Address **293 WRIGHT STREET**
City **DELEVAN** State **WI** Zip Code **53115**
County of Well Location **Walworth** County Well Permit No. **W** Well Completion Date **06/02/2017**

Please type or Print using a black Pen
Please Use Decimals Instead of Fractions.
1. Well Location
 Town City Village
of **DELEVAN** Fire # (if available) **293**

Well Constructor (Business Name) **SAM'S WELL DRILLING INC** License # **370** Facility ID Number (Public Wells)
Address **PO BOX 150** Public Well Plan Approval # **W--0601-4229**
City **RANDOLPH** State **WI** Zip Code **53956** Date of Approval (mm/dd/yyyy) **12/21/2016**
Hicap Permanent well # **91931** Common Well # **4** Specific Capacity **4** gpm/ft

Grid or Street Address or Road Name and Number **WRIGHT ST**
Subdivision Name Lot # Block #

Gov't Lot # or NW 1/4 of SE 1/4 of
Section **17** T **2** N; R **16** E W
Latitude Deg. **42** Min. **38.076**
Longitude Deg. **88** Min. **37.542**

3. Well serves **1** # of homes and or **INDUSTRY** High capacity Well? Yes No
(e.g. barn, restaurant, church, school, industry, etc.) Property? Yes No

2. Well Type New Replacement Reconstruction Lat/Long Method **GPS008**
of previous unique well # constructed in
Reason for replaced or Reconstructed Well?
EXTRACTION WELL EXR-4
 Drilled Driven Point Jetted Other:

4. Is the well located upslope or sideslope and not downslope from any contamination source, including those on neighboring properties? Yes No
Well located within 1,200 feet of a quarry? Yes No If yes, distance in feet from quarry:
Well located in floodplain? Yes No
Distance in Feet from Well to Nearest:
1. Landfill
2. Building Overhang
3. Septic Holding Tank
4. Sewage Absorption Unit
5. Nonconforming Pit
6. Buried Home Heating Oil Tank
7. Buried Petroleum Tank
8. Shoreline Swimming Pool
9. Downspout/Yard Hydrant
10. Privy
11. Foundation Drain to Clearwater
12. Foundation Drain to Sewer
13. Building Drain
 Cast Iron or Plastic Other
14. Building Sewer Gravity Pressure
 Cast Iron or Plastic Other
15. Collector or Street Sewer:
 Sanitary units in. diam.
 Storm =< 6 > 6
16. Clearwater Sump

17. Wastewater Sump
18. Paved Animal Barn Pen
19. Animal Yard or Shelter
20. Silo
21. Barn Gutter
22. Manure Pipe Gravity Pressure
 Cast Iron or Plastic Other
23. Other Manure Storage
24. Ditch
25. Other NR 812 Waste Storage

5. Drillhole Dimensions and Construction Method		Lower Open Bedrock	
From (ft.)	To (ft.)	Upper Enlarged Drillhole	Lower Open Bedrock
8	0	53	
		<input type="checkbox"/> ---1. Rotary - Mud Circulation-----	<input type="checkbox"/>
		<input type="checkbox"/> ---2. Rotary - Air-----	<input type="checkbox"/>
		<input type="checkbox"/> ---3. Rotary - Air and Foam-----	<input type="checkbox"/>
		<input type="checkbox"/> ---4. Drill-Through Casing Hammer	
		<input type="checkbox"/> ---5. Reverse Rotary	
		<input type="checkbox"/> ---6. Cable-tool Bit in. dia-----	<input type="checkbox"/>
		<input checked="" type="checkbox"/> 7. Dual Rotary	<input type="checkbox"/>
		<input type="checkbox"/> 8. Temp. Outer Casing in. dia. depth (ft)	
		Removed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
		If no, why not?	

8.	Geology	From (ft.)	To (ft.)
--C-	Clay	0	18
--YC	Sand & Gravel, Clayey	18	35
--Y-	Sand & Gravel	35	53
--C-	CLAY	53	53

6. Casing, Liner, Screen Material, Weight, Specification		From (ft.)	To (ft.)
8 STD BLK, PIPE, .322 WALL, P.E., A53B	BORUSAN MANNESMANN	0	35
8 STD BLK PIPE, 280 WALL, RISER, IPSCO, W-K/PACKER, A53B		34	35
Dia. (in.)	Screen type, material & slot size		
6	#20 SLOTTED STAINLESS STEEL 35-49; #10 S	35	53

9. Static Water Level
ft. above ground surface
30 ft. below ground surface
11. Well is: Above Grade
12 in. Below Grade
Developed? Yes No
Disinfected? Yes No
Capped? Yes No

7. Grout or Other Sealing Material. Method		From (ft.)	To (ft.)	# Sacks Cement
Method: MOUNDED	Kind of Sealing Material			
GRANULAR BENTONITE		0	35	1

12. Did you notify the owner of the need to permanently abandon and fill all unused wells on this property?
 Yes No If no, explain:
13. Signature of the Well Constructor or Supervisory Driller **JVG** Date signed **06/02/2017**
Signature of Drill Rig Operator (Mandatory unless same as above) **DB** Date signed **06/02/2017**

**Well Construction Report For
WISCONSIN UNIQUE WELL NUMBER YT385**

State of WI - Private Water Systems - DG/2
Department of Natural Resources, Box 7921
Madison, WI 53707
Form 3300-77A
(R 8/00)

Property Owner **PENTAIR**
Telephone Number **608-335-5573**

Please type or Print using a black Pen
Please Use Decimals Instead of Fractions.

Mailing Address **293 WRIGHT STREET**

1. Well Location
 Town City Village
Fire # (if available) **293**

City **DELEVAN** State **WI** Zip Code **53115**

of **DELEVAN**
Grid or Street Address or Road Name and Number
WRIGHT ST

County of Well Location **Walworth** County Well Permit No. **W** Well Completion Date **05/31/2017**

Subdivision Name Lot # Block #

Well Constructor (Business Name) **SAM'S WELL DRILLING INC** License # **370** Facility ID Number (Public Wells)

Gov't Lot # or **SW** 1/4 of **NE** 1/4 of
Section **17** T **2** N; R **16** E W

Address **PO BOX 150** Public Well Plan Approval #
W--0601-4229

Latitude Deg. **42** Min. Longitude Deg. **88** Min. **37.542**

City **RANDOLPH** State **WI** Zip Code **53956** Date of Approval (mm/dd/yyyy)
12/21/2016

2. Well Type New Replacement Reconstruction Lat/Long Method
GPS008

Hicap Permanent well # **91932** Common Well # **5** Specific Capacity **gpm/ft**

of previous unique well # constructed in
Reason for replaced or Reconstructed Well?

3. Well serves **1** # of homes and or **INDUSTRY** High capacity Well? Yes No
(e.g. barn, restaurant, church, school, industry, etc.) Property? Yes No

EXTRACTION WELL EXR-5
 Drilled Driven Point Jetted Other:

4. Is the well located upslope or sideslope and not downslope from any contamination source, including those on neighboring properties? Yes No

Well located within 1,200 feet of a quarry? Yes No If yes, distance in feet from quarry:
Well located in floodplain? Yes No
Distance in Feet from Well to Nearest:

- 17. Wastewater Sump
- 18. Paved Animal Barn Pen
- 19. Animal Yard or Shelter
- 20. Silo
- 21. Barn Gutter
- 22. Manure Pipe Gravity Pressure
 Cast Iron or Plastic Other
- 23. Other Manure Storage
- 24. Ditch

- 1. Landfill
- 2. Building Overhang
- 3. Septic Holding Tank
- 4. Sewage Absorption Unit
- 5. Nonconforming Pit
- 6. Buried Home Heating Oil Tank
- 7. Buried Petroleum Tank
- 8. Shoreline Swimming Pool
- 9. Downspout/Yard Hydrant
- 10. Privy
- 11. Foundation Drain to Clearwater
- 12. Foundation Drain to Sewer
- 13. Building Drain
 Cast Iron or Plastic Other
- 14. Building Sewer Gravity Pressure
 Cast Iron or Plastic Other
- 15. Collector or Street Sewer:
 Sanitary units in. diam.
 Storm =< 6 > 6
- 16. Clearwater Sump

5. Drillhole Dimensions and Construction Method		8. Geology		
From (ft.)	To (ft.)	Type, Caving/Noncaving, Color, Hardness, etc	From (ft.)	To (ft.)
8	0	--GS Gravel/Cobbles/Boulders/Stones, Sandy	0	11
	47	--Z- Clay & Gravel	11	30
		--YM Sand & Gravel, Silty	30	36
		--G- Gravel/Cobbles/Boulders/Stones	36	47
		--C- CLAY	47	48

6. Casing, Liner, Screen	Material, Weight, Specification	From (ft.)	To (ft.)
Dia. (in.)			
8	STD BLK, PIPE, .322 WALL, P.E.,	0	31
	8 STD BLK PIPE, 280 WALL, RISER, IPSCO, W-K/PACK, A53B	30	31
6	#20 SLOTTED STAINLESS	31	47

9. Static Water Level
ft. above ground surface
30 ft. below ground surface

10. Pump Test
Pumping Level **30** ft. below surface
Pumping at **10** GPM for **1** hours

11. Well is: Above Grade
12 in. Below Grade
Developed? Yes No
Disinfected? Yes No
Capped? Yes No

7. Grout or Other Sealing Material. Method	From (ft.)	To (ft.)	# Sacks Cement
Method: MOUNDED			
Kind of Sealing Material			
Granular bentonite	0	31	1

12. Did you notify the owner of the need to permanently abandon and fill all unused wells on this property?
 Yes No If no, explain:

13. Signature of the Well Constructor or Supervisory Driller **JVG** Date signed **05/31/2017**
Signature of Drill Rig Operator (Mandatory unless same as above) **DB** Date signed **05/31/2017**

**Well Construction Report For
WISCONSIN UNIQUE WELL NUMBER YT386**

State of WI - Private Water Systems - DG/2
Department of Natural Resources, Box 7921
Madison, WI 53707
Form 3300-77A
(R 8/00)

Property **PENTAIR**
Owner Telephone **608-335-5573**
Number

Please type or Print using a black Pen
Please Use Decimals Instead of Fractions.

Mailing **293 WRIGHT STREET**
Address

1. Well Location
 Town City Village
Fire # (if available)
175

City **DELEVAN** State **WI** Zip Code **53115**

of **DELEVAN**
Grid or Street Address or Road Name and Number
WRIGHT ST

County of Well Location **Walworth** County Well Permit No. **W** Well Completion Date **06/01/2017**

Subdivision Name Lot # Block #

Well Constructor (Business Name) **SAM'S WELL DRILLING INC** License # **370** Facility ID Number (Public Wells)

Gov't Lot # or **NE** 1/4 of **SE** 1/4 of
Section **17** T **2** N; R **16** E W

Address **PO BOX 150** Public Well Plan Approval #
W--0601-4229

Latitude Deg. **42** Min. **37.914**
Longitude Deg **88** Min. **37.428**

City **RANDOLPH** State **WI** Zip Code **53956** Date of Approval (mm/dd/yyyy)
12/21/2016

2. Well Type New Lat/Long Method
 Replacement Reconstruction **GPS008**

Hicap Permanent well # **91934** Common Well # **7** Specific Capacity **8** gpm/ft

of previous unique well # constructed in
Reason for replaced or Reconstructed Well?

3. Well serves **1** # of homes and or **INDUSTRY** High capacity Well? Yes No
(e.g. barn, restaurant, church, school, industry, etc.) Property? Yes No

EXTRACTION WELL EXR-7
 Drilled Driven Point Jetted Other:

4. Is the well located upslope or sideslope and not downslope from any contamination source, including those on neighboring properties? Yes No

Well located within 1,200 feet of a quarry? Yes No If yes, distance in feet from quarry:

Well located in floodplain? Yes No

Distance in Feet from Well to Nearest:

- 1. Landfill
- 2. Building Overhang
- 3. Septic Holding Tank
- 4. Sewage Absorption Unit
- 5. Nonconforming Pit
- 6. Buried Home Heating Oil Tank
- 7. Buried Petroleum Tank
- 8. Shoreline Swimming Pool
- 9. Downspout/Yard Hydrant
- 10. Privy
- 11. Foundation Drain to Clearwater
- 12. Foundation Drain to Sewer
- 13. Building Drain
 Cast Iron or Plastic Other
- 14. Building Sewer Gravity Pressure
 Cast Iron or Plastic Other
- 15. Collector or Street Sewer:
 Sanitary units in. diam.
 Storm =< 6 > 6
- 16. Clearwater Sump

- 17. Wastewater Sump
- 18. Paved Animal Barn Pen
- 19. Animal Yard or Shelter
- 20. Silo
- 21. Barn Gutter
- 22. Manure Pipe Gravity Pressure
 Cast Iron or Plastic Other
- 23. Other Manure Storage
- 24. Ditch
- 25. Other NR 812 Waste Storage

5. Drillhole Dimensions and Construction Method		From		To		Upper		Lower	
Dia. (in.)	(ft.)	(ft.)	(ft.)	Enlarged Drillhole		Open Bedrock			
8	0	50		<input type="checkbox"/>	---1. Rotary - Mud Circulation-----	<input type="checkbox"/>			
				<input type="checkbox"/>	---2. Rotary - Air-----	<input type="checkbox"/>			
				<input type="checkbox"/>	---3. Rotary - Air and Foam-----	<input type="checkbox"/>			
				<input type="checkbox"/>	---4. Drill-Through Casing Hammer	<input type="checkbox"/>			
				<input type="checkbox"/>	---5. Reverse Rotary	<input type="checkbox"/>			
				<input type="checkbox"/>	---6. Cable-tool Bit in. dia-----	<input type="checkbox"/>			
				<input checked="" type="checkbox"/>	7. Dual Rotary	<input type="checkbox"/>			
				<input type="checkbox"/>	8. Temp. Outer Casing in. dia. depth (ft)	<input type="checkbox"/>			
					Removed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
					If no, why not?				

8. Geology	From (ft.)	To (ft.)
Type, Caving/Noncaving, Color, Hardness, etc		
--Y- Sand & Gravel	0	6
--XG Sand & Clay, w/Gravel/Cobbles/Boulders/S	6	36
--Y- Sand & Gravel	36	47
--YM Sand & Gravel, Silty	47	50

6. Casing, Liner, Screen	Material, Weight, Specification	From (ft.)	To (ft.)
Dia. (in.)			
8	STD BLK, PIPE, .320 WALL, P.E., A53B	0	36
	BORUSAM MANNESMANN		
8	STD BLK PIPE, .280 WALL, RISER, IPSCO, W-K/PACK, A53B	35	36
Dia. (in.)	Screen type, material & slot size		
6	#10 SLOTTED STAINLESS 36 TO 40, #20 SLOT	36	50

9. Static Water Level
ft. above ground surface
30 ft. below ground surface

10. Pump Test
Pumping Level **35** ft. below surface
Pumping at **40** GPM for **1** hours

11. Well is: Above Grade
12 in. Below Grade
Developed? Yes No
Disinfected? Yes No
Capped? Yes No

7. Grout or Other Sealing Material. Method	From (ft.)	To (ft.)	# Sacks Cement
Method: MOUNDED			
Kind of Sealing Material			
Granular bentonite	0	36	1

12. Did you notify the owner of the need to permanently abandon and fill all unused wells on this property?
 Yes No If no, explain:

13. Signature of the Well Constructor or Supervisory Driller Date signed
JVG **06/01/2017**

Signature of Drill Rig Operator (Mandatory unless same as above) Date signed
DB **06/01/2017**

Wisconsin Department of Natural Resources

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295 and 299, Wis. Stats., and ch. NR 141 Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295 and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose.

Date of Filling & Sealing: 08/08/2017**Rec #: 153906**

Verification. Check only if well filling & sealing was done previously and you are just verifying that work.: No

1. Well Location Information

County: WI Unique Well #: DNR Hicap Well #:
Walworth

Latitude: (DD.DDDDD°) Longitude: (DD.DDDDD°) GPS Method Code:
42.63434 °N 88.62541 °W GPS008

Qtr/Qtr: Quarter: Section #: Township #: Range #: Gov't Lot #:
North

Well Street Address: Subdivision Name:
293 WRIGHT STREET

Well City/Village/Town: Well Zip Code: Lot #:
DELAVAN 53115

Reason for Filling & Sealing: Does a new well replace this well? WI Unique Well # of Replacement Well:
LOW PRODUCER Yes YT587

2. Facility / Owner Information

Facility Name: FID #: License/Permit/Monitoring #:
Original Well Owner:

Present Well Owner: Mailing Address of Present Owner:
PENTAIR 293 WRIGHT ST
City: State: Zip Code:
DELAVAN WI 53115

3. Well / Drillhole / Borehole Information

Well Type: Original Construction Date: Construction Type: (specify Other):
Water Well (mm/dd/yyyy) Drilled

Formation Type: Total Well Depth From Ground Surface (ft.):
46.00

Casing Diameter (in.): Lower Drillhole Diameter (in.): Casing Depth (ft.):
8.00

Was well annular space grouted? If yes, to what depth (ft.): Depth to Water (ft.):

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed? Yes Liner(s) removed? No
If no, was liner perforated?

Screen removed? No Casing/Loop left in place? Yes

Was casing cut off below surface? Yes Did sealing material rise to surface? Yes

Did material settle after 24 hours? No If yes, was hole retopped?

If bentonite chips were used, were they hydrated with water from a known water source? Yes

Required Method of Placing Sealing Material: (Explain Other):

Screened & Poured (Bentonite Chips)

Water Well Sealing Materials: For Monitoring Wells and other Drillholes:

Bentonite Chips

5. Material Used to Fill Well / Drillhole

Material: From (ft.): To (ft.): # and Units of Sealant: Mix Ratio or Mud Weight:

NATIVE SOIL Surface 3.00 NATIVE SOIL NATIVE SOIL

BENTONITE CHIPS 3.00 46.00 22 BAGS 50# BAGS

6. Comments

FOUND 4 OLD WELL LOGS FROM 1984..... WW344, WW345, WW346, WW347..... ALL 46 FEET DEEP, ALL THE SAME CONSTRUCTION. NOT SURE WHICH ONE THIS WAS.

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing:

TODD HUEMANN

License #: 6138

T HUEMANN WELL & PUMP INC 39608 60TH ST

Phone: 262-539-2399

BURLINGTON WI 53105-7502

Email Address: TODDHUEMANN1@GMAIL.COM

8. DNR Use Only

Signed On: 09/06/2017 Received On: 09/06/2017

Submitted By: eucherd1990 Approved On: 09/07/2017

The Official Internet site for the Wisconsin Department of Natural Resources

101 S. Webster Street . PO Box 7921 . Madison, Wisconsin 53707-7921 . 608.266.2621

Wisconsin Department of Natural Resources

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295 and 299, Wis. Stats., and ch. NR 141 Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295 and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose.

Date of Filling & Sealing: 08/08/2017**Rec #: 153908**

Verification. Check only if well filling & sealing was done previously and you are just verifying that work.: No

1. Well Location Information

County: WI Unique Well #: DNR Hicap Well #:
Walworth

Latitude: (DD.DDDDD°) Longitude: (DD.DDDDD°) GPS Method Code:
42.63466 °N 88.62565 °W GPS008

Qtr/Qtr: Quarter: Section #: Township #: Range #: Gov't Lot #:
North

Well Street Address: Subdivision Name:
293 WRIGHT STREET

Well City/Village/Town: Well Zip Code: Lot #:
DELAVAN 53115

Reason for Filling & Sealing: Does a new well replace this well? WI Unique Well # of Replacement Well:
LOW PRODUCER Yes YT588

2. Facility / Owner Information

Facility Name: FID #: License/Permit/Monitoring #:
Original Well Owner:

Present Well Owner: Mailing Address of Present Owner:
PENTAIR 293 WRIGHT ST
City: State: Zip Code:
DELAVAN WI 53115

3. Well / Drillhole / Borehole Information

Well Type: Original Construction Date: Construction Type: (specify Other):
Water Well (mm/dd/yyyy) Drilled

Formation Type: Total Well Depth From Ground Surface (ft.):
46.50

Casing Diameter (in.): Lower Drillhole Diameter (in.): Casing Depth (ft.):
8.00

Was well annular space grouted? If yes, to what depth (ft.): Depth to Water (ft.):

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed? Yes Liner(s) removed? N/A
If no, was liner perforated?

Screen removed? No Casing/Loop left in place? Yes

Was casing cut off below surface? Yes Did sealing material rise to surface? Yes

Did material settle after 24 hours? No If yes, was hole retopped?

If bentonite chips were used, were they hydrated with water from a known water source? Yes

Required Method of Placing Sealing Material: (Explain Other):

Screened & Poured (Bentonite Chips)

Water Well Sealing Materials: For Monitoring Wells and other Drillholes:

Bentonite Chips

5. Material Used to Fill Well / Drillhole

Material: From (ft.): To (ft.): # and Units of Sealant: Mix Ratio or Mud Weight:

NATIVE SOIL Surface 3.00 NATIVE SOIL NATIVE SOIL

BENTONITE CHIPS 3.00 46.00 22 BAGS 50# BAGS

6. Comments

FOUND 4 OLD WELL LOGS: WW344, WW345, WW346, WW347..... ALL WITH SAME DEPTH AND CONSTRUCTION SPECS. NOT SURE WHICH ONE THIS ONE WAS.

I SAID 46.5 FEET DEEP ON THIS REPORT BECAUSE THE COMPUTER KICKED BACK AS "DUPLICATE REPORT."

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing:

TODD HUEMANN

License #: 6138

T HUEMANN WELL & PUMP INC 39608 60TH ST

BURLINGTON WI 53105-7502

Phone: 262-539-2399

Email Address: TODDHUEMANN1@GMAIL.COM

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Wisconsin Department of Natural Resources

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005

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Date of Filling & Sealing: 09/25/2017**Rec #: 154265**

Verification. Check only if well filling & sealing was done previously and you are just verifying that work.: No

1. Well Location Information

County: WI Unique Well #: DNR Hicap Well #:
Walworth

Latitude: (DD.DDDDD°) Longitude: (DD.DDDDD°) GPS Method Code:
42.63515 °N 88.62593 °W GPS008

Qtr/Qtr: Quarter: Section #: Township #: Range #: Gov't Lot #:
North

Well Street Address: Subdivision Name:
293 WRIGHT STREET

Well City/Village/Town: Well Zip Code: Lot #:
DELAVAN 53115

Reason for Filling & Sealing: Does a new well replace this well? WI Unique Well # of Replacement Well:
LOW PRODUCTION Yes YT385

2. Facility / Owner Information

Facility Name: FID #: License/Permit/Monitoring #:
Original Well Owner:

Present Well Owner: Mailing Address of Present Owner:
PENTAIR 293 WRIGHT STREET
City: State: Zip Code:
DELAVAN WI 53121

3. Well / Drillhole / Borehole Information

Well Type: Original Construction Date: Construction Type: (specify Other):
Water Well (mm/dd/yyyy) Drilled

Formation Type: Total Well Depth From Ground Surface (ft.):
44.00

Casing Diameter (in.): Lower Drillhole Diameter (in.): Casing Depth (ft.):
8.00

Was well annular space grouted? If yes, to what depth (ft.): Depth to Water (ft.):
29.00

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed? Yes Liner(s) removed? N/A
If no, was liner perforated?

Screen removed? No Casing/Loop left in place? Yes

Was casing cut off below surface? No Did sealing material rise to surface? Yes

Did material settle after 24 hours? No If yes, was hole retopped?

If bentonite chips were used, were they hydrated with water from a known water source? Yes

Required Method of Placing Sealing Material: (Explain Other):

Conductor Pipe-Gravity

Water Well Sealing Materials: For Monitoring Wells and other Drillholes:

Bentonite Chips

5. Material Used to Fill Well / Drillhole

Material:	From (ft.):	To (ft.):	# and Units of Sealant:	Mix Ratio or Mud Weight:
NEAT CEMENT	Surface	3.00	APPROXIMATELY 1 94-POUND BAG	5/6 TO 1
BENTONITE CHIPS	3.00	44.00	21 BAGS OF BENTONITE CHIPS	50# BAGS

6. Comments

COORDINATED WITH DNR REP GREG ROANHOUSE ABOUT ABANDONING THIS WELL. THIS EXTRACTION WELL IN ON THE GROUNDS OF THE PENTAIR FACTORY IN DELAVAN, WI. THIS OLD WELL IS SURROUNDED BY A HIGH PRESSURE 2-INCH GAS LINE, 2 EACH 460-VOLT ELECTRIC LINES, AND THREE BOLLARDS CEMENTED IN THE GROUND FOR TRAFFIC SAFETY. I ASKED GREG IF WE COULD TURN THIS ABANDONED WELL INTO A BOLLARD ALSO BY FILLING THE TOP WITH NEAT CEMENT. HE SAID YES.

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing: TODD HUEMANN	License #:	6138
T HUEMANN WELL & PUMP INC 39608 60TH ST BURLINGTON WI 53105-7502	Phone:	262-539-2399
	Email Address:	TODDHUEMANN1@GMAIL.COM

8. DNR Use Only

Signed On: 09/27/2017 Received On: 09/27/2017

Submitted By: eucherd1990 Approved On:

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Wisconsin Department of Natural Resources

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295 and 299, Wis. Stats., and ch. NR 141 Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295 and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose.

Date of Filling & Sealing: 09/15/2017**Rec #: 154266**

Verification. Check only if well filling & sealing was done previously and you are just verifying that work.: No

1. Well Location Information

County: WI Unique Well #: DNR Hicap Well #:
Walworth

Latitude: (DD.DDDDD°) Longitude: (DD.DDDDD°) GPS Method Code:
42.63191 °N 88.62406 °W GPS008

Qtr/Qtr: Quarter: Section #: Township #: Range #: Gov't Lot #:
North

Well Street Address: Subdivision Name:
293 WRIGHT STREET

Well City/Village/Town: Well Zip Code: Lot #:
DELAVAN 53115

Reason for Filling & Sealing: Does a new well replace this well? WI Unique Well # of Replacement Well:
LOW PRODUCTION Yes YT386

2. Facility / Owner Information

Facility Name: FID #: License/Permit/Monitoring #:
Original Well Owner:

Present Well Owner: Mailing Address of Present Owner:
PENTAIR 293 WRIGHT STREET
City: State: Zip Code:
DELAVAN WI 53115

3. Well / Drillhole / Borehole Information

Well Type: Original Construction Date: Construction Type: (specify Other):
Water Well (mm/dd/yyyy) Drilled

Formation Type: Total Well Depth From Ground Surface (ft.):
49.00

Casing Diameter (in.): Lower Drillhole Diameter (in.): Casing Depth (ft.):
8.00

Was well annular space grouted? If yes, to what depth (ft.): Depth to Water (ft.):
30.00

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed? Yes Liner(s) removed? N/A
If no, was liner perforated?

Screen removed? No Casing/Loop left in place? Yes

Was casing cut off below surface? Yes Did sealing material rise to surface? Yes

Did material settle after 24 hours? No If yes, was hole retopped?

If bentonite chips were used, were they hydrated with water from a known water source? Yes

Required Method of Placing Sealing Material: (Explain Other):

Conductor Pipe-Gravity

Water Well Sealing Materials: For Monitoring Wells and other Drillholes:

Bentonite Chips

5. Material Used to Fill Well / Drillhole

Material:	From (ft.):	To (ft.):	# and Units of Sealant:	Mix Ratio or Mud Weight:
NATIVE SOIL	Surface	3.00	NATIVE SOIL	NATIVE SOIL
BENTONITE CHIPS	3.00	49.00	23 BAGS OF BENTONITE CHIPS	50# BAGS

6. Comments

ON PENTAIR FACTORY GROUNDS. #7.

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing:	License #:	6138
TODD HUEMANN		
T HUEMANN WELL & PUMP INC 39608 60TH ST	Phone:	262-539-2399
BURLINGTON WI 53105-7502	Email Address:	TODDHUEMANN1@GMAIL.COM

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APPENDIX B
GROUNDWATER MONITORING ANALYTICAL RESULTS
AND FIELD DATA SHEETS

TETRA TECH

TETRA TECH FIELD WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION			INSTRUMENTS		
PROJECT	Delavan Facility Remedial Action		Temp. & pH	HANNA	
PROJECT NO.	117-7469002.0.2		Conductivity	HANNA	
LOCATION	Delavan, WI		ORP	NA	
PERSONNEL	Todd M. Thomson		DO	NA	
SAMPLE POINT	MW-2005R	MW-2011	D-15	TW-3	MW-2004
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	7-12-17	7-12-17	7-12-17	7-12-17	7-12-17
CLOCK TIME (Military)	10:30	16:20	17:30	15:30	11:30
DEPTH TO WATER (ft)*	21.35	22.61	27.62	29.09	23.86
MEASURED WELL DEPTH (ft)*	37.81	36.51	38.18	50.73	39.33
CASING VOLUME (gallons)	2.7	2.3	1.7	3.5	2.5
PURGE VOLUME (gallons)	12	10	10	15	10
DEPTH SAMPLE TAKEN (ft)*	35	32	36	40	35
SAMPLING DEVICE	HANGING BOILER				→
FIELD TEMPERATURE (°C)	9.8	13.9	14.5	15.6	14.3
pH	8.01	7.69	7.66	7.63	7.94
ELEC. COND. (uS/cm) at 25° C	1392	2483	1922	1306	947
ORP (mV)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (ppm)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (% Sat.)	NA	NA	NA	NA	NA
COLOR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
ODOR	NONE	NONE	NONE	NONE	NONE
CLARITY	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
SAMPLING PARAMETERS	# OF CONTAINERS & VOLUME; CONTAINER TYPE (A = AMBER GLASS; G = GLASS; P = PLASTIC); PRESERVATIVE TYPE (L = LAB ADDED; F = FIELD ADDED) OR NEUTRAL; FILTERED (YES or NO)				
PCE, TCE, TCA, Vinyl Chloride (EPA Method 8260B)	3 - 40 ml; G; L; HCl; No	3 - 40 ml; G; L; HCl; No	3 - 40 ml; G; L; HCl; No	3 - 40 ml; G; L; HCl; No	3 - 40 ml; G; L; HCl; No
<u>Comments:</u>					
NAME OF LABORATORY	Test America	Test America	Test America	Test America	Test America
DATE SENT TO LAB	7-13-17	7-13-17	7-13-17	7-13-17	7-13-17
SAMPLER'S NAME	TMT	TMT	TMT	TMT	TMT

*Measured from top of well casing.

TETRA TECH FIELD WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION			INSTRUMENTS		
PROJECT	Delavan Facility Remedial Action		Temp. & pH	HANNA	
PROJECT NO.	117-7469002.02		Conductivity	HANNA	
LOCATION	Delavan, WI		ORP	NA	
PERSONNEL	Todd M. Thomson		DO	NA	
SAMPLE POINT	TW-1	D-18	D-25R	MW-1027	TW-4
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	7-12-17	7-12-17	7-12-17	7-13-17	7-13-17
CLOCK TIME (Military)	12:10	13:00	14:00	10:20	08:50
DEPTH TO WATER (ft)*	23.50	27.13	28.88	26.06	34.04
MEASURED WELL DEPTH (ft)*	45.50	39.90	42.39	39.98	50.52
CASING VOLUME (gallons)	3.6	2.1	2.2	2.3	2.7
PURGE VOLUME (gallons)	15	10	10	10	15
DEPTH SAMPLE TAKEN (ft)*	40	35	40	35	45
SAMPLING DEVICE	HANGING BAILER				
FIELD TEMPERATURE (°C)	14.1	11.2	15.4	14.3	14.4
pH	7.80	7.76	7.48	7.65	7.47
ELEC. COND. (uS/cm) at 25° C	1020	1038	1448	1129	2266
ORP (mV)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (ppm)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (% Sat.)	NA	NA	NA	NA	NA
COLOR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
ODOR	NONE	NONE	NONE	NONE	NONE
CLARITY	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
SAMPLING PARAMETERS	# OF CONTAINERS & VOLUME; CONTAINER TYPE (A = AMBER GLASS; G = GLASS; P = PLASTIC); PRESERVATIVE TYPE (L = LAB ADDED; F = FIELD ADDED) OR NEUTRAL; FILTERED (YES or NO)				
PCE, TCE, TCA, Vinyl Chloride (EPA Method 8260B)	3 - 40 ml; G; L; HCl; No	3 - 40 ml; G; L; HCl; No	3 - 40 ml; G; HCl; No	3 - 40 ml; G; L; HCl; No	
VOCs (EPA Method 8260B)					3 - 40 ml; G; L; HCl; No
<p><u>Comments:</u></p>					
NAME OF LABORATORY	Test America	Test America	Test America	Test America	Test America
DATE SENT TO LAB	7-13-17	7-13-17	7-13-17	7-13-17	7-13-17
SAMPLER'S NAME	TMT	TMT	TMT	TMT	TMT

*Measured from top of well casing.

TETRA TECH FIELD WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION			INSTRUMENTS		
PROJECT	Delavan Facility Remedial Action		Temp. & pH	HANNA	
PROJECT NO.	117-7469002.02		Conductivity	HANNA	
LOCATION	Delavan, WI		ORP	NA	
PERSONNEL	Todd M. Thomson		DO	NA	
SAMPLE POINT	MW-1026	EX-1	EX-2R	EX-3	EX-7
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	7-13-17	7-13-17			
CLOCK TIME (Military)	12:20	12:50			
DEPTH TO WATER (ft)*	27.99	NA			
MEASURED WELL DEPTH (ft)*	36.00	NA			
CASING VOLUME (gallons)	1.3	NA			
PURGE VOLUME (gallons)	10	GRAB			
DEPTH SAMPLE TAKEN (ft)*	35	NA			
SAMPLING DEVICE	HANGING BLOWER SPIGOT				
FIELD TEMPERATURE (°C)	13.9	14.1			
pH	7.72	7.65			
ELEC. COND. (uS/cm) at 25° C	934	1295			
ORP (mV)	NA	NA			
DISSOLVED OXYGEN (ppm)	NA	NA			
DISSOLVED OXYGEN (% Sat.)	NA	NA			
COLOR	BROWN	CLEAR			
ODOR	NONE	NONE			
CLARITY	TURBID	CLEAR			
SAMPLING PARAMETERS	# OF CONTAINERS & VOLUME; CONTAINER TYPE (A = AMBER GLASS; G = GLASS; P = PLASTIC); PRESERVATIVE TYPE (L = LAB ADDED; F = FIELD ADDED) OR NEUTRAL; FILTERED (YES or NO)				
PCE, TCE, TCA, Vinyl Chloride (EPA Method 8260B)	3 - 40 ml; G; L; HCl; No	3 - 40 ml; G; L; HCl; No	3 - 40 ml; G; L; HCl; No	3 - 40 ml; G; L; HCl; No	3 - 40 ml; G; L; HCl; No
<u>Comments:</u>					
NAME OF LABORATORY	Test America	Test America	Test America	Test America	Test America
DATE SENT TO LAB	7-13-17	7-13-17			
SAMPLER'S NAME	TMT	TMT	TMT	TMT	TMT

*Measured from top of well casing.

Sta-Rite Delavan Facility Field Water Level Data Sheet

Well ID	2017 Date	Time	Depth to Groundwater (feet btoc)	Notes
Plant 1 Wells				
EX-2R	NA	NA	NA	
EX-3	NA	NA	NA	
EX-4	NA	NA	NA	
EX-5	NA	NA	NA	
EX-6	NA	NA	NA	
TW-2	7-12-17	13:15	27.38	
TW-2A	7-12-17	13:20	27.93	
TW-4	7-13-17	08:00	34.04	
D-1R	7-13-17	11:10	29.34	
D-5	7-12-17	14:25	29.40	
D-14R	NA	NA	NA	UNABLE TO LOCATE:
D-23	7-13-17	11:20	28.78	
D-24R	7-13-17	11:25	26.66	
D-25R	7-12-17	13:25	28.88	
D-26	7-12-17	13:30	28.41	
D-27	7-12-17	13:35	28.57	
MW-1026	7-13-17	11:50	27.99	
MW-1027	7-13-17	09:30	26.06	
Plant 2 Wells				
EX-1	NA	NA	NA	
EX-7	NA	NA	NA	
TW-1	7-12-17	11:35	23.50	
TW-1A	7-12-17	11:40	24.78	
TW-3	7-12-17	14:55	29.09	
D-15	7-12-17	16:50	27.62	
P-2009	7-12-17	16:55	27.81	
P-2010	7-12-17	17:00	27.49	
D-18	7-12-17	12:30	27.13	
MW-2004	7-12-17	10:45	23.86	
MW-2005R	7-12-17	09:30	21.35	
MW-2011	7-12-17	11:50	27.99	

TETRA TECH FIELD WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION		INSTRUMENTS			
PROJECT	Delavan Facility Remedial Action	Temp. & pH	Hanna		
PROJECT NO.	117-7469002.02	Conductivity	Hanna		
LOCATION	Delavan, Wi.	ORP	NA		
PERSONNEL	Todd M Thomson	DO	NA		
SAMPLE POINT ID	TW-4				
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	10-24-17				
CLOCK TIME (Military)	11:40				
DEPTH TO WATER (ft)*	35.53				
MEASURED WELL DEPTH (ft)*	50.52				
CASING VOLUME (gallons)	2.5				
PURGE VOLUME (gallons)	10				
DEPTH SAMPLE TAKEN (ft)*	45				
SAMPLING DEVICE	Handing Bottle				
FIELD TEMPERATURE (°C)	14.3				
pH	6.84				
ELEC. COND. (uS/cm)	Measured	NA			
	at 25° C	1990			
ORP (mV)	NA				
DISSOLVED OXYGEN (ppm)	NA				
DISSOLVED OXYGEN (% Sat.)	NA				
COLOR	CLEAR				
ODOR	NONE				
CLARITY	CLEAR				
SAMPLING PARAMETERS	# OF CONTAINERS & VOLUME; CONTAINER TYPE (A = AMBER GLASS; G = GLASS; P = PLASTIC); PRESERVATIVE TYPE (L = LAB ADDED; F = FIELD ADDED) OR NEUTRAL; FILTERED (YES or NO)				
VOCs (EPA Method 8260 B)	3 - 40 ml; G; L; HCL; No				
NAME OF LABORATORY	Test America				
DATE SENT TO LAB	10-24-17				
SAMPLER-S NAME	TMT				

*Measured from top of well casing.

TETRA TECH FIELD WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION		INSTRUMENTS			
PROJECT	Delavan Facility Remedial Action	Temp. & pH	HANNA		
PROJECT NO.	117-7469002.02	Conductivity	HANNA		
LOCATION	Delavan, WI	ORP	NA		
PERSONNEL	Todd M. Thomson	DO	NA		
SAMPLE POINT	MW-1026	EX-1	EX-2R	EX-3R	EX-7R
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)			10-24-17	10-24-17	10-24-17
CLOCK TIME (Military)			12:30	12:15	12:45
DEPTH TO WATER (ft)*			NA	NA	NA
MEASURED WELL DEPTH (ft)*			NA	NA	NA
CASING VOLUME (gallons)			NA	NA	NA
PURGE VOLUME (gallons)			GRAB	GRAB	GRAB
DEPTH SAMPLE TAKEN (ft)*			NA	NA	NA
SAMPLING DEVICE			SPIGOT	SPIGOT	SPIGOT
FIELD TEMPERATURE (°C)			12.3	14.0	12.4
pH			7.03	6.97	7.16
ELEC. COND. (uS/cm) at 25° C			2037	1273	1343
ORP (mV)			NA	NA	NA
DISSOLVED OXYGEN (ppm)			NA	NA	NA
DISSOLVED OXYGEN (% Sat.)			NA	NA	NA
COLOR			CLEAR	CLEAR	CLEAR
ODOR			NONE	NONE	NONE
CLARITY			CLEAR	CLEAR	CLEAR
SAMPLING PARAMETERS	# OF CONTAINERS & VOLUME; CONTAINER TYPE (A = AMBER GLASS; G = GLASS; P = PLASTIC); PRESERVATIVE TYPE (L = LAB ADDED; F = FIELD ADDED) OR NEUTRAL; FILTERED (YES or NO)				
PCE, TCE, TCA, Vinyl Chloride (EPA Method 8260B)	3 - 40 ml; G; L; HCl; No	3 - 40 ml; G; L; HCl; No	3 - 40 ml; G; L; HCl; No	3 - 40 ml; G; L; HCl; No	3 - 40 ml; G; L; HCl; No
<u>Comments:</u>					
NAME OF LABORATORY	Test America	Test America	Test America	Test America	Test America
DATE SENT TO LAB			10-24-17	10-24-17	10-24-17
SAMPLER'S NAME	TMT	TMT	TMT	TMT	TMT

*Measured from top of well casing.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-131036-1

Client Project/Site: Pentair - Delavan 117-7469002.02

For:

Tetra Tech GEO

175 N Corporate Drive

Suite 100

Brookfield, Wisconsin 53045

Attn: Mr. Mark Manthey



Authorized for release by:

7/25/2017 3:56:19 PM

Sandie Fredrick, Project Manager II

(920)261-1660

sandie.fredrick@testamericainc.com

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

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

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Case Narrative

Client: Tetra Tech GEO
Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

Job ID: 500-131036-1

Laboratory: TestAmerica Chicago

Narrative

**Job Narrative
500-131036-1**

Comments

No additional comments.

Receipt

The samples were received on 7/14/2017 9:58 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7° C.

GC/MS VOA

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

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Detection Summary

Client: Tetra Tech GEO
Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

Client Sample ID: MW-2005R

Lab Sample ID: 500-131036-1

No Detections.

Client Sample ID: MW-2004

Lab Sample ID: 500-131036-2

No Detections.

Client Sample ID: TW-1

Lab Sample ID: 500-131036-3

No Detections.

Client Sample ID: D-18

Lab Sample ID: 500-131036-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.61		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: D-25R

Lab Sample ID: 500-131036-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	2.9		1.0	0.38	ug/L	1		8260B	Total/NA
Trichloroethene	2.3		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: TW-3

Lab Sample ID: 500-131036-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	0.59	J	1.0	0.37	ug/L	1		8260B	Total/NA

Client Sample ID: MW-2011

Lab Sample ID: 500-131036-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	2.1		1.0	0.38	ug/L	1		8260B	Total/NA
Trichloroethene	16		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: D-15

Lab Sample ID: 500-131036-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	9.8		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	12		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: TW-4

Lab Sample ID: 500-131036-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	1.1		1.0	0.41	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	1.0		1.0	0.39	ug/L	1		8260B	Total/NA
1,1,1-Trichloroethane	27		1.0	0.38	ug/L	1		8260B	Total/NA
Trichloroethene	19		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: MW-1027

Lab Sample ID: 500-131036-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	7.1		1.0	0.38	ug/L	1		8260B	Total/NA
Trichloroethene	27		0.50	0.16	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Detection Summary

Client: Tetra Tech GEO
Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

Client Sample ID: MW-1026

Lab Sample ID: 500-131036-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	14		1.0	0.38	ug/L	1		8260B	Total/NA
Trichloroethene	3.6		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: EX-1

Lab Sample ID: 500-131036-12

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 500-131036-13

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago



Method Summary

Client: Tetra Tech GEO
Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile 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 CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



Sample Summary

Client: Tetra Tech GEO
Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-131036-1	MW-2005R	Water	07/12/17 10:30	07/14/17 09:58
500-131036-2	MW-2004	Water	07/12/17 11:30	07/14/17 09:58
500-131036-3	TW-1	Water	07/12/17 12:10	07/14/17 09:58
500-131036-4	D-18	Water	07/12/17 13:00	07/14/17 09:58
500-131036-5	D-25R	Water	07/12/17 14:00	07/14/17 09:58
500-131036-6	TW-3	Water	07/12/17 15:30	07/14/17 09:58
500-131036-7	MW-2011	Water	07/12/17 16:20	07/14/17 09:58
500-131036-8	D-15	Water	07/12/17 17:30	07/14/17 09:58
500-131036-9	TW-4	Water	07/13/17 08:50	07/14/17 09:58
500-131036-10	MW-1027	Water	07/13/17 10:20	07/14/17 09:58
500-131036-11	MW-1026	Water	07/13/17 12:20	07/14/17 09:58
500-131036-12	EX-1	Water	07/13/17 12:50	07/14/17 09:58
500-131036-13	TRIP BLANK	Water	07/12/17 00:00	07/14/17 09:58

Client Sample Results

Client: Tetra Tech GEO
 Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

Client Sample ID: MW-2005R

Date Collected: 07/12/17 10:30

Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/19/17 23:01	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/19/17 23:01	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/19/17 23:01	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/19/17 23:01	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			07/19/17 23:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		75 - 126		07/19/17 23:01	1
4-Bromofluorobenzene (Surr)	93		72 - 124		07/19/17 23:01	1
Dibromofluoromethane	93		75 - 120		07/19/17 23:01	1
Toluene-d8 (Surr)	90		75 - 120		07/19/17 23:01	1

Client Sample ID: MW-2004

Date Collected: 07/12/17 11:30

Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/19/17 23:27	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/19/17 23:27	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/19/17 23:27	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/19/17 23:27	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			07/19/17 23:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		75 - 126		07/19/17 23:27	1
4-Bromofluorobenzene (Surr)	91		72 - 124		07/19/17 23:27	1
Dibromofluoromethane	95		75 - 120		07/19/17 23:27	1
Toluene-d8 (Surr)	89		75 - 120		07/19/17 23:27	1

Client Sample ID: TW-1

Date Collected: 07/12/17 12:10

Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/19/17 23:54	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/19/17 23:54	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/19/17 23:54	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/19/17 23:54	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			07/19/17 23:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		75 - 126		07/19/17 23:54	1
4-Bromofluorobenzene (Surr)	95		72 - 124		07/19/17 23:54	1
Dibromofluoromethane	93		75 - 120		07/19/17 23:54	1
Toluene-d8 (Surr)	92		75 - 120		07/19/17 23:54	1

TestAmerica Chicago

Client Sample Results

Client: Tetra Tech GEO
Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

Client Sample ID: D-18

Date Collected: 07/12/17 13:00

Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/20/17 00:21	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/20/17 00:21	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/20/17 00:21	1
Trichloroethene	0.61		0.50	0.16	ug/L			07/20/17 00:21	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			07/20/17 00:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		75 - 126		07/20/17 00:21	1
4-Bromofluorobenzene (Surr)	94		72 - 124		07/20/17 00:21	1
Dibromofluoromethane	96		75 - 120		07/20/17 00:21	1
Toluene-d8 (Surr)	91		75 - 120		07/20/17 00:21	1

Client Sample ID: D-25R

Date Collected: 07/12/17 14:00

Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	2.9		1.0	0.38	ug/L			07/20/17 00:47	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/20/17 00:47	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/20/17 00:47	1
Trichloroethene	2.3		0.50	0.16	ug/L			07/20/17 00:47	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			07/20/17 00:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		75 - 126		07/20/17 00:47	1
4-Bromofluorobenzene (Surr)	93		72 - 124		07/20/17 00:47	1
Dibromofluoromethane	94		75 - 120		07/20/17 00:47	1
Toluene-d8 (Surr)	90		75 - 120		07/20/17 00:47	1

Client Sample ID: TW-3

Date Collected: 07/12/17 15:30

Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/20/17 02:58	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/20/17 02:58	1
Tetrachloroethene	0.59 J		1.0	0.37	ug/L			07/20/17 02:58	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/20/17 02:58	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			07/20/17 02:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		75 - 126		07/20/17 02:58	1
4-Bromofluorobenzene (Surr)	94		72 - 124		07/20/17 02:58	1
Dibromofluoromethane	95		75 - 120		07/20/17 02:58	1
Toluene-d8 (Surr)	92		75 - 120		07/20/17 02:58	1

TestAmerica Chicago

Client Sample Results

Client: Tetra Tech GEO
Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

Client Sample ID: MW-2011

Lab Sample ID: 500-131036-7

Date Collected: 07/12/17 16:20

Matrix: Water

Date Received: 07/14/17 09:58

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	2.1		1.0	0.38	ug/L			07/20/17 03:25	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/20/17 03:25	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/20/17 03:25	1
Trichloroethene	16		0.50	0.16	ug/L			07/20/17 03:25	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			07/20/17 03:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		75 - 126		07/20/17 03:25	1
4-Bromofluorobenzene (Surr)	97		72 - 124		07/20/17 03:25	1
Dibromofluoromethane	94		75 - 120		07/20/17 03:25	1
Toluene-d8 (Surr)	90		75 - 120		07/20/17 03:25	1

Client Sample ID: D-15

Lab Sample ID: 500-131036-8

Date Collected: 07/12/17 17:30

Matrix: Water

Date Received: 07/14/17 09:58

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/20/17 03:51	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/20/17 03:51	1
Tetrachloroethene	9.8		1.0	0.37	ug/L			07/20/17 03:51	1
Trichloroethene	12		0.50	0.16	ug/L			07/20/17 03:51	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			07/20/17 03:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		75 - 126		07/20/17 03:51	1
4-Bromofluorobenzene (Surr)	96		72 - 124		07/20/17 03:51	1
Dibromofluoromethane	94		75 - 120		07/20/17 03:51	1
Toluene-d8 (Surr)	91		75 - 120		07/20/17 03:51	1

Client Sample ID: TW-4

Lab Sample ID: 500-131036-9

Date Collected: 07/13/17 08:50

Matrix: Water

Date Received: 07/14/17 09:58

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			07/20/17 04:17	1
Bromobenzene	<0.36		1.0	0.36	ug/L			07/20/17 04:17	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/20/17 04:17	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/20/17 04:17	1
Bromoform	<0.48		1.0	0.48	ug/L			07/20/17 04:17	1
Bromomethane	<0.80		2.0	0.80	ug/L			07/20/17 04:17	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/20/17 04:17	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			07/20/17 04:17	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/20/17 04:17	1
Chloroform	<0.37		2.0	0.37	ug/L			07/20/17 04:17	1
Chloromethane	<0.32		1.0	0.32	ug/L			07/20/17 04:17	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			07/20/17 04:17	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			07/20/17 04:17	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			07/20/17 04:17	1

TestAmerica Chicago

Client Sample Results

Client: Tetra Tech GEO
 Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

Client Sample ID: TW-4
Date Collected: 07/13/17 08:50
Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-9
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			07/20/17 04:17	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			07/20/17 04:17	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			07/20/17 04:17	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			07/20/17 04:17	1
Dibromomethane	<0.27		1.0	0.27	ug/L			07/20/17 04:17	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/20/17 04:17	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/20/17 04:17	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/20/17 04:17	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			07/20/17 04:17	1
1,1-Dichloroethane	1.1		1.0	0.41	ug/L			07/20/17 04:17	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/20/17 04:17	1
1,1-Dichloroethene	1.0		1.0	0.39	ug/L			07/20/17 04:17	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/20/17 04:17	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/20/17 04:17	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/20/17 04:17	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/20/17 04:17	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/20/17 04:17	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/20/17 04:17	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/20/17 04:17	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			07/20/17 04:17	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			07/20/17 04:17	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			07/20/17 04:17	1
Naphthalene	<0.34		1.0	0.34	ug/L			07/20/17 04:17	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			07/20/17 04:17	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			07/20/17 04:17	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			07/20/17 04:17	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			07/20/17 04:17	1
Styrene	<0.39		1.0	0.39	ug/L			07/20/17 04:17	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			07/20/17 04:17	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			07/20/17 04:17	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			07/20/17 04:17	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/20/17 04:17	1
Toluene	<0.15		0.50	0.15	ug/L			07/20/17 04:17	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			07/20/17 04:17	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			07/20/17 04:17	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/20/17 04:17	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/20/17 04:17	1
1,1,1-Trichloroethane	27		1.0	0.38	ug/L			07/20/17 04:17	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/20/17 04:17	1
Trichloroethene	19		0.50	0.16	ug/L			07/20/17 04:17	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/20/17 04:17	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			07/20/17 04:17	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/20/17 04:17	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/20/17 04:17	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			07/20/17 04:17	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/20/17 04:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		72 - 124		07/20/17 04:17	1
Dibromofluoromethane	94		75 - 120		07/20/17 04:17	1

TestAmerica Chicago

Client Sample Results

Client: Tetra Tech GEO
Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

Client Sample ID: TW-4
Date Collected: 07/13/17 08:50
Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-9
Matrix: Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		75 - 126		07/20/17 04:17	1
Toluene-d8 (Surr)	91		75 - 120		07/20/17 04:17	1

Client Sample ID: MW-1027
Date Collected: 07/13/17 10:20
Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-10
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	7.1		1.0	0.38	ug/L			07/21/17 17:34	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/21/17 17:34	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/21/17 17:34	1
Trichloroethene	27		0.50	0.16	ug/L			07/21/17 17:34	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			07/21/17 17:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		75 - 126		07/21/17 17:34	1
4-Bromofluorobenzene (Surr)	95		72 - 124		07/21/17 17:34	1
Dibromofluoromethane	94		75 - 120		07/21/17 17:34	1
Toluene-d8 (Surr)	97		75 - 120		07/21/17 17:34	1

Client Sample ID: MW-1026
Date Collected: 07/13/17 12:20
Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-11
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	14		1.0	0.38	ug/L			07/21/17 18:02	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/21/17 18:02	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/21/17 18:02	1
Trichloroethene	3.6		0.50	0.16	ug/L			07/21/17 18:02	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			07/21/17 18:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		75 - 126		07/21/17 18:02	1
4-Bromofluorobenzene (Surr)	95		72 - 124		07/21/17 18:02	1
Dibromofluoromethane	95		75 - 120		07/21/17 18:02	1
Toluene-d8 (Surr)	97		75 - 120		07/21/17 18:02	1

Client Sample ID: EX-1
Date Collected: 07/13/17 12:50
Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-12
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/21/17 18:29	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/21/17 18:29	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/21/17 18:29	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/21/17 18:29	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			07/21/17 18:29	1

TestAmerica Chicago

Client Sample Results

Client: Tetra Tech GEO
 Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

Client Sample ID: EX-1

Date Collected: 07/13/17 12:50

Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-12

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		75 - 126		07/21/17 18:29	1
4-Bromofluorobenzene (Surr)	93		72 - 124		07/21/17 18:29	1
Dibromofluoromethane	95		75 - 120		07/21/17 18:29	1
Toluene-d8 (Surr)	97		75 - 120		07/21/17 18:29	1

Client Sample ID: TRIP BLANK

Date Collected: 07/12/17 00:00

Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-13

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			07/21/17 17:07	1
Bromobenzene	<0.36		1.0	0.36	ug/L			07/21/17 17:07	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/21/17 17:07	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/21/17 17:07	1
Bromoform	<0.48		1.0	0.48	ug/L			07/21/17 17:07	1
Bromomethane	<0.80		2.0	0.80	ug/L			07/21/17 17:07	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/21/17 17:07	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			07/21/17 17:07	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/21/17 17:07	1
Chloroform	<0.37		2.0	0.37	ug/L			07/21/17 17:07	1
Chloromethane	<0.32		1.0	0.32	ug/L			07/21/17 17:07	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			07/21/17 17:07	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			07/21/17 17:07	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			07/21/17 17:07	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			07/21/17 17:07	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			07/21/17 17:07	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			07/21/17 17:07	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			07/21/17 17:07	1
Dibromomethane	<0.27		1.0	0.27	ug/L			07/21/17 17:07	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/21/17 17:07	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/21/17 17:07	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/21/17 17:07	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			07/21/17 17:07	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			07/21/17 17:07	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/21/17 17:07	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			07/21/17 17:07	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/21/17 17:07	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/21/17 17:07	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/21/17 17:07	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/21/17 17:07	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/21/17 17:07	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/21/17 17:07	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/21/17 17:07	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			07/21/17 17:07	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			07/21/17 17:07	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			07/21/17 17:07	1
Naphthalene	<0.34		1.0	0.34	ug/L			07/21/17 17:07	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			07/21/17 17:07	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			07/21/17 17:07	1

TestAmerica Chicago

Client Sample Results

Client: Tetra Tech GEO
 Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 500-131036-13

Date Collected: 07/12/17 00:00

Matrix: Water

Date Received: 07/14/17 09:58

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			07/21/17 17:07	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			07/21/17 17:07	1
Styrene	<0.39		1.0	0.39	ug/L			07/21/17 17:07	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			07/21/17 17:07	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			07/21/17 17:07	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			07/21/17 17:07	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/21/17 17:07	1
Toluene	<0.15		0.50	0.15	ug/L			07/21/17 17:07	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			07/21/17 17:07	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			07/21/17 17:07	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/21/17 17:07	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/21/17 17:07	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/21/17 17:07	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/21/17 17:07	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/21/17 17:07	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/21/17 17:07	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			07/21/17 17:07	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/21/17 17:07	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/21/17 17:07	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			07/21/17 17:07	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/21/17 17:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		72 - 124		07/21/17 17:07	1
Dibromofluoromethane	93		75 - 120		07/21/17 17:07	1
1,2-Dichloroethane-d4 (Surr)	94		75 - 126		07/21/17 17:07	1
Toluene-d8 (Surr)	97		75 - 120		07/21/17 17:07	1

Definitions/Glossary

Client: Tetra Tech GEO
Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

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.

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)

QC Association Summary

Client: Tetra Tech GEO
Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

GC/MS VOA

Analysis Batch: 393613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-131036-1	MW-2005R	Total/NA	Water	8260B	
500-131036-2	MW-2004	Total/NA	Water	8260B	
500-131036-3	TW-1	Total/NA	Water	8260B	
500-131036-4	D-18	Total/NA	Water	8260B	
500-131036-5	D-25R	Total/NA	Water	8260B	
500-131036-6	TW-3	Total/NA	Water	8260B	
500-131036-7	MW-2011	Total/NA	Water	8260B	
500-131036-8	D-15	Total/NA	Water	8260B	
500-131036-9	TW-4	Total/NA	Water	8260B	
MB 500-393613/6	Method Blank	Total/NA	Water	8260B	
LCS 500-393613/4	Lab Control Sample	Total/NA	Water	8260B	
500-131036-1 MS	MW-2005R	Total/NA	Water	8260B	
500-131036-1 MSD	MW-2005R	Total/NA	Water	8260B	

Analysis Batch: 393987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-131036-10	MW-1027	Total/NA	Water	8260B	
500-131036-11	MW-1026	Total/NA	Water	8260B	
500-131036-12	EX-1	Total/NA	Water	8260B	
500-131036-13	TRIP BLANK	Total/NA	Water	8260B	
MB 500-393987/5	Method Blank	Total/NA	Water	8260B	
LCS 500-393987/4	Lab Control Sample	Total/NA	Water	8260B	

Surrogate Summary

Client: Tetra Tech GEO
 Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (75-126)	BFB (72-124)	DBFM (75-120)	TOL (75-120)
500-131036-1	MW-2005R	87	93	93	90
500-131036-1 MS	MW-2005R	90	90	99	87
500-131036-1 MSD	MW-2005R	90	91	99	86
500-131036-2	MW-2004	87	91	95	89
500-131036-3	TW-1	87	95	93	92
500-131036-4	D-18	88	94	96	91
500-131036-5	D-25R	87	93	94	90
500-131036-6	TW-3	86	94	95	92
500-131036-7	MW-2011	89	97	94	90
500-131036-8	D-15	88	96	94	91
500-131036-9	TW-4	88	96	94	91
500-131036-10	MW-1027	96	95	94	97
500-131036-11	MW-1026	96	95	95	97
500-131036-12	EX-1	95	93	95	97
500-131036-13	TRIP BLANK	94	94	93	97
LCS 500-393613/4	Lab Control Sample	89	91	96	89
LCS 500-393987/4	Lab Control Sample	93	90	91	98
MB 500-393613/6	Method Blank	91	95	94	90
MB 500-393987/5	Method Blank	98	98	96	97

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Tetra Tech GEO
 Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-393613/6

Matrix: Water

Analysis Batch: 393613

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			07/19/17 22:35	1
Bromobenzene	<0.36		1.0	0.36	ug/L			07/19/17 22:35	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/19/17 22:35	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/19/17 22:35	1
Bromoform	<0.48		1.0	0.48	ug/L			07/19/17 22:35	1
Bromomethane	<0.80		2.0	0.80	ug/L			07/19/17 22:35	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/19/17 22:35	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			07/19/17 22:35	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/19/17 22:35	1
Chloroform	<0.37		2.0	0.37	ug/L			07/19/17 22:35	1
Chloromethane	<0.32		1.0	0.32	ug/L			07/19/17 22:35	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			07/19/17 22:35	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			07/19/17 22:35	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			07/19/17 22:35	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			07/19/17 22:35	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			07/19/17 22:35	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			07/19/17 22:35	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			07/19/17 22:35	1
Dibromomethane	<0.27		1.0	0.27	ug/L			07/19/17 22:35	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/19/17 22:35	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/19/17 22:35	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/19/17 22:35	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			07/19/17 22:35	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			07/19/17 22:35	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/19/17 22:35	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			07/19/17 22:35	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/19/17 22:35	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/19/17 22:35	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/19/17 22:35	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/19/17 22:35	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/19/17 22:35	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/19/17 22:35	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/19/17 22:35	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			07/19/17 22:35	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			07/19/17 22:35	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			07/19/17 22:35	1
Naphthalene	<0.34		1.0	0.34	ug/L			07/19/17 22:35	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			07/19/17 22:35	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			07/19/17 22:35	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			07/19/17 22:35	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			07/19/17 22:35	1
Styrene	<0.39		1.0	0.39	ug/L			07/19/17 22:35	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			07/19/17 22:35	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			07/19/17 22:35	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			07/19/17 22:35	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/19/17 22:35	1
Toluene	<0.15		0.50	0.15	ug/L			07/19/17 22:35	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			07/19/17 22:35	1

TestAmerica Chicago

QC Sample Results

Client: Tetra Tech GEO
 Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

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

Lab Sample ID: MB 500-393613/6
Matrix: Water
Analysis Batch: 393613

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			07/19/17 22:35	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/19/17 22:35	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/19/17 22:35	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/19/17 22:35	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/19/17 22:35	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/19/17 22:35	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/19/17 22:35	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			07/19/17 22:35	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/19/17 22:35	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/19/17 22:35	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			07/19/17 22:35	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/19/17 22:35	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		72 - 124		07/19/17 22:35	1
Dibromofluoromethane	94		75 - 120		07/19/17 22:35	1
1,2-Dichloroethane-d4 (Surr)	91		75 - 126		07/19/17 22:35	1
Toluene-d8 (Surr)	90		75 - 120		07/19/17 22:35	1

Lab Sample ID: LCS 500-393613/4
Matrix: Water
Analysis Batch: 393613

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	44.1		ug/L		88	70 - 120
Bromobenzene	50.0	48.8		ug/L		98	70 - 122
Bromochloromethane	50.0	49.8		ug/L		100	65 - 122
Bromodichloromethane	50.0	42.6		ug/L		85	69 - 120
Bromoform	50.0	40.3		ug/L		81	56 - 132
Bromomethane	50.0	55.1		ug/L		110	40 - 130
Carbon tetrachloride	50.0	45.4		ug/L		91	65 - 122
Chlorobenzene	50.0	43.0		ug/L		86	70 - 120
Chloroethane	50.0	42.1		ug/L		84	45 - 127
Chloroform	50.0	43.8		ug/L		88	70 - 120
Chloromethane	50.0	49.2		ug/L		98	54 - 147
2-Chlorotoluene	50.0	43.2		ug/L		86	70 - 125
4-Chlorotoluene	50.0	43.0		ug/L		86	68 - 124
cis-1,2-Dichloroethene	50.0	46.4		ug/L		93	70 - 125
cis-1,3-Dichloropropene	50.0	41.0		ug/L		82	64 - 127
Dibromochloromethane	50.0	45.0		ug/L		90	68 - 125
1,2-Dibromo-3-Chloropropane	50.0	38.1		ug/L		76	56 - 123
1,2-Dibromoethane	50.0	46.9		ug/L		94	70 - 125
Dibromomethane	50.0	45.5		ug/L		91	70 - 120
1,2-Dichlorobenzene	50.0	47.2		ug/L		94	70 - 125
1,3-Dichlorobenzene	50.0	45.9		ug/L		92	70 - 125
1,4-Dichlorobenzene	50.0	45.3		ug/L		91	70 - 120
Dichlorodifluoromethane	50.0	49.5		ug/L		99	40 - 150
1,1-Dichloroethane	50.0	44.5		ug/L		89	70 - 125

TestAmerica Chicago

QC Sample Results

Client: Tetra Tech GEO
 Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

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

Lab Sample ID: LCS 500-393613/4
Matrix: Water
Analysis Batch: 393613

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	50.0	43.5		ug/L		87	68 - 127
1,1-Dichloroethene	50.0	48.8		ug/L		98	67 - 122
1,2-Dichloropropane	50.0	45.2		ug/L		90	67 - 130
1,3-Dichloropropane	50.0	43.5		ug/L		87	62 - 136
2,2-Dichloropropane	50.0	48.5		ug/L		97	58 - 129
1,1-Dichloropropene	50.0	44.3		ug/L		89	70 - 121
Ethylbenzene	50.0	46.3		ug/L		93	70 - 120
Hexachlorobutadiene	50.0	44.0		ug/L		88	51 - 150
Isopropylbenzene	50.0	47.1		ug/L		94	70 - 126
Methylene Chloride	50.0	46.4		ug/L		93	69 - 125
Methyl tert-butyl ether	50.0	44.9		ug/L		90	70 - 120
Naphthalene	50.0	50.8		ug/L		102	59 - 130
n-Butylbenzene	50.0	43.5		ug/L		87	68 - 125
N-Propylbenzene	50.0	43.4		ug/L		87	69 - 127
p-Isopropyltoluene	50.0	46.4		ug/L		93	70 - 125
sec-Butylbenzene	50.0	47.1		ug/L		94	70 - 123
Styrene	50.0	45.6		ug/L		91	70 - 120
tert-Butylbenzene	50.0	46.8		ug/L		94	70 - 121
1,1,1,2-Tetrachloroethane	50.0	43.2		ug/L		86	70 - 125
1,1,2,2-Tetrachloroethane	50.0	45.0		ug/L		90	67 - 127
Tetrachloroethene	50.0	45.8		ug/L		92	70 - 128
Toluene	50.0	44.0		ug/L		88	70 - 125
trans-1,2-Dichloroethene	50.0	48.2		ug/L		96	70 - 125
trans-1,3-Dichloropropene	50.0	41.1		ug/L		82	62 - 128
1,2,3-Trichlorobenzene	50.0	52.4		ug/L		105	55 - 140
1,2,4-Trichlorobenzene	50.0	47.6		ug/L		95	66 - 127
1,1,1-Trichloroethane	50.0	45.0		ug/L		90	70 - 125
1,1,2-Trichloroethane	50.0	44.1		ug/L		88	70 - 122
Trichloroethene	50.0	50.9		ug/L		102	70 - 125
Trichlorofluoromethane	50.0	47.4		ug/L		95	70 - 126
1,2,3-Trichloropropane	50.0	44.4		ug/L		89	50 - 133
1,2,4-Trimethylbenzene	50.0	46.2		ug/L		92	70 - 123
1,3,5-Trimethylbenzene	50.0	46.2		ug/L		92	70 - 123
Vinyl chloride	50.0	44.5		ug/L		89	64 - 126
Xylenes, Total	100	84.1		ug/L		84	70 - 125

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	91		72 - 124
Dibromofluoromethane	96		75 - 120
1,2-Dichloroethane-d4 (Surr)	89		75 - 126
Toluene-d8 (Surr)	89		75 - 120

Lab Sample ID: 500-131036-1 MS
Matrix: Water
Analysis Batch: 393613

Client Sample ID: MW-2005R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	<0.37		50.0	54.3		ug/L		109	70 - 128

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QC Sample Results

Client: Tetra Tech GEO
 Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

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

Lab Sample ID: 500-131036-1 MS

Matrix: Water

Analysis Batch: 393613

Client Sample ID: MW-2005R

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	<0.38		50.0	57.0		ug/L		114	70 - 125
1,1,2-Trichloroethane	<0.35		50.0	51.5		ug/L		103	70 - 122
Trichloroethene	<0.16		50.0	62.5		ug/L		125	70 - 125
Vinyl chloride	<0.20		50.0	52.3		ug/L		105	64 - 126

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	90		72 - 124
Dibromofluoromethane	99		75 - 120
1,2-Dichloroethane-d4 (Surr)	90		75 - 126
Toluene-d8 (Surr)	87		75 - 120

Lab Sample ID: 500-131036-1 MSD

Matrix: Water

Analysis Batch: 393613

Client Sample ID: MW-2005R

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Tetrachloroethene	<0.37		50.0	52.8		ug/L		106	70 - 128	3	20
1,1,1-Trichloroethane	<0.38		50.0	56.6		ug/L		113	70 - 125	1	20
1,1,2-Trichloroethane	<0.35		50.0	50.6		ug/L		101	70 - 122	2	20
Trichloroethene	<0.16		50.0	61.3		ug/L		123	70 - 125	2	20
Vinyl chloride	<0.20		50.0	51.3		ug/L		103	64 - 126	2	20

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	91		72 - 124
Dibromofluoromethane	99		75 - 120
1,2-Dichloroethane-d4 (Surr)	90		75 - 126
Toluene-d8 (Surr)	86		75 - 120

Lab Sample ID: MB 500-393987/5

Matrix: Water

Analysis Batch: 393987

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			07/21/17 14:21	1
Bromobenzene	<0.36		1.0	0.36	ug/L			07/21/17 14:21	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/21/17 14:21	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/21/17 14:21	1
Bromoform	<0.48		1.0	0.48	ug/L			07/21/17 14:21	1
Bromomethane	<0.80		2.0	0.80	ug/L			07/21/17 14:21	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/21/17 14:21	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			07/21/17 14:21	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/21/17 14:21	1
Chloroform	<0.37		2.0	0.37	ug/L			07/21/17 14:21	1
Chloromethane	<0.32		1.0	0.32	ug/L			07/21/17 14:21	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			07/21/17 14:21	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			07/21/17 14:21	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			07/21/17 14:21	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			07/21/17 14:21	1

TestAmerica Chicago

QC Sample Results

Client: Tetra Tech GEO
 Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

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

Lab Sample ID: MB 500-393987/5
Matrix: Water
Analysis Batch: 393987

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Dibromochloromethane	<0.49		1.0	0.49	ug/L			07/21/17 14:21	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			07/21/17 14:21	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			07/21/17 14:21	1
Dibromomethane	<0.27		1.0	0.27	ug/L			07/21/17 14:21	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/21/17 14:21	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/21/17 14:21	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/21/17 14:21	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			07/21/17 14:21	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			07/21/17 14:21	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/21/17 14:21	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			07/21/17 14:21	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/21/17 14:21	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/21/17 14:21	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/21/17 14:21	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/21/17 14:21	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/21/17 14:21	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/21/17 14:21	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/21/17 14:21	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			07/21/17 14:21	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			07/21/17 14:21	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			07/21/17 14:21	1
Naphthalene	<0.34		1.0	0.34	ug/L			07/21/17 14:21	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			07/21/17 14:21	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			07/21/17 14:21	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			07/21/17 14:21	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			07/21/17 14:21	1
Styrene	<0.39		1.0	0.39	ug/L			07/21/17 14:21	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			07/21/17 14:21	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			07/21/17 14:21	1
1,1,1,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			07/21/17 14:21	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/21/17 14:21	1
Toluene	<0.15		0.50	0.15	ug/L			07/21/17 14:21	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			07/21/17 14:21	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			07/21/17 14:21	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/21/17 14:21	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/21/17 14:21	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/21/17 14:21	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/21/17 14:21	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/21/17 14:21	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/21/17 14:21	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			07/21/17 14:21	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/21/17 14:21	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/21/17 14:21	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			07/21/17 14:21	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/21/17 14:21	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	98		72 - 124		07/21/17 14:21	1

TestAmerica Chicago

QC Sample Results

Client: Tetra Tech GEO
 Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

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

Lab Sample ID: MB 500-393987/5
Matrix: Water
Analysis Batch: 393987

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	96		75 - 120		07/21/17 14:21	1
1,2-Dichloroethane-d4 (Surr)	98		75 - 126		07/21/17 14:21	1
Toluene-d8 (Surr)	97		75 - 120		07/21/17 14:21	1

Lab Sample ID: LCS 500-393987/4
Matrix: Water
Analysis Batch: 393987

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	42.7		ug/L		85	70 - 120
Bromobenzene	50.0	41.2		ug/L		82	70 - 122
Bromochloromethane	50.0	41.5		ug/L		83	65 - 122
Bromodichloromethane	50.0	41.3		ug/L		83	69 - 120
Bromoform	50.0	39.3		ug/L		79	56 - 132
Bromomethane	50.0	53.3		ug/L		107	40 - 130
Carbon tetrachloride	50.0	42.9		ug/L		86	65 - 122
Chlorobenzene	50.0	42.9		ug/L		86	70 - 120
Chloroethane	50.0	43.3		ug/L		87	45 - 127
Chloroform	50.0	42.6		ug/L		85	70 - 120
Chloromethane	50.0	38.5		ug/L		77	54 - 147
2-Chlorotoluene	50.0	41.9		ug/L		84	70 - 125
4-Chlorotoluene	50.0	42.8		ug/L		86	68 - 124
cis-1,2-Dichloroethene	50.0	41.6		ug/L		83	70 - 125
cis-1,3-Dichloropropene	50.0	40.8		ug/L		82	64 - 127
Dibromochloromethane	50.0	41.7		ug/L		83	68 - 125
1,2-Dibromo-3-Chloropropane	50.0	39.3		ug/L		79	56 - 123
1,2-Dibromoethane	50.0	42.7		ug/L		85	70 - 125
Dibromomethane	50.0	41.9		ug/L		84	70 - 120
1,2-Dichlorobenzene	50.0	41.7		ug/L		83	70 - 125
1,3-Dichlorobenzene	50.0	41.3		ug/L		83	70 - 125
1,4-Dichlorobenzene	50.0	41.0		ug/L		82	70 - 120
Dichlorodifluoromethane	50.0	34.8		ug/L		70	40 - 150
1,1-Dichloroethane	50.0	42.9		ug/L		86	70 - 125
1,2-Dichloroethane	50.0	42.3		ug/L		85	68 - 127
1,1-Dichloroethene	50.0	44.1		ug/L		88	67 - 122
1,2-Dichloropropane	50.0	42.7		ug/L		85	67 - 130
1,3-Dichloropropane	50.0	43.5		ug/L		87	62 - 136
2,2-Dichloropropane	50.0	42.1		ug/L		84	58 - 129
1,1-Dichloropropene	50.0	43.2		ug/L		86	70 - 121
Ethylbenzene	50.0	43.4		ug/L		87	70 - 120
Hexachlorobutadiene	50.0	37.5		ug/L		75	51 - 150
Isopropylbenzene	50.0	43.1		ug/L		86	70 - 126
Methylene Chloride	50.0	44.7		ug/L		89	69 - 125
Methyl tert-butyl ether	50.0	40.4		ug/L		81	70 - 120
Naphthalene	50.0	38.5		ug/L		77	59 - 130
n-Butylbenzene	50.0	42.9		ug/L		86	68 - 125
N-Propylbenzene	50.0	43.8		ug/L		88	69 - 127
p-Isopropyltoluene	50.0	41.9		ug/L		84	70 - 125

TestAmerica Chicago

QC Sample Results

Client: Tetra Tech GEO
 Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

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

Lab Sample ID: LCS 500-393987/4

Matrix: Water

Analysis Batch: 393987

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
sec-Butylbenzene	50.0	42.6		ug/L		85	70 - 123
Styrene	50.0	43.0		ug/L		86	70 - 120
tert-Butylbenzene	50.0	41.3		ug/L		83	70 - 121
1,1,1,2-Tetrachloroethane	50.0	41.1		ug/L		82	70 - 125
1,1,2,2-Tetrachloroethane	50.0	46.8		ug/L		94	67 - 127
Tetrachloroethene	50.0	44.4		ug/L		89	70 - 128
Toluene	50.0	44.5		ug/L		89	70 - 125
trans-1,2-Dichloroethene	50.0	43.7		ug/L		87	70 - 125
trans-1,3-Dichloropropene	50.0	40.7		ug/L		81	62 - 128
1,2,3-Trichlorobenzene	50.0	39.2		ug/L		78	55 - 140
1,2,4-Trichlorobenzene	50.0	40.1		ug/L		80	66 - 127
1,1,1-Trichloroethane	50.0	43.0		ug/L		86	70 - 125
1,1,2-Trichloroethane	50.0	42.1		ug/L		84	70 - 122
Trichloroethene	50.0	42.6		ug/L		85	70 - 125
Trichlorofluoromethane	50.0	41.2		ug/L		82	70 - 126
1,2,3-Trichloropropane	50.0	38.0		ug/L		76	50 - 133
1,2,4-Trimethylbenzene	50.0	42.1		ug/L		84	70 - 123
1,3,5-Trimethylbenzene	50.0	42.6		ug/L		85	70 - 123
Vinyl chloride	50.0	38.1		ug/L		76	64 - 126
Xylenes, Total	100	87.5		ug/L		88	70 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		72 - 124
Dibromofluoromethane	91		75 - 120
1,2-Dichloroethane-d4 (Surr)	93		75 - 126
Toluene-d8 (Surr)	98		75 - 120

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

Client Sample ID: MW-2005R

Date Collected: 07/12/17 10:30

Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	393613	07/19/17 23:01	EMA	TAL CHI

Client Sample ID: MW-2004

Date Collected: 07/12/17 11:30

Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	393613	07/19/17 23:27	EMA	TAL CHI

Client Sample ID: TW-1

Date Collected: 07/12/17 12:10

Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	393613	07/19/17 23:54	EMA	TAL CHI

Client Sample ID: D-18

Date Collected: 07/12/17 13:00

Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	393613	07/20/17 00:21	EMA	TAL CHI

Client Sample ID: D-25R

Date Collected: 07/12/17 14:00

Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	393613	07/20/17 00:47	EMA	TAL CHI

Client Sample ID: TW-3

Date Collected: 07/12/17 15:30

Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	393613	07/20/17 02:58	EMA	TAL CHI

TestAmerica Chicago

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

Client Sample ID: MW-2011

Date Collected: 07/12/17 16:20

Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	393613	07/20/17 03:25	EMA	TAL CHI

Client Sample ID: D-15

Date Collected: 07/12/17 17:30

Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	393613	07/20/17 03:51	EMA	TAL CHI

Client Sample ID: TW-4

Date Collected: 07/13/17 08:50

Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	393613	07/20/17 04:17	EMA	TAL CHI

Client Sample ID: MW-1027

Date Collected: 07/13/17 10:20

Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	393987	07/21/17 17:34	PJH	TAL CHI

Client Sample ID: MW-1026

Date Collected: 07/13/17 12:20

Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	393987	07/21/17 18:02	PJH	TAL CHI

Client Sample ID: EX-1

Date Collected: 07/13/17 12:50

Date Received: 07/14/17 09:58

Lab Sample ID: 500-131036-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	393987	07/21/17 18:29	PJH	TAL CHI

TestAmerica Chicago

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 500-131036-13

Date Collected: 07/12/17 00:00

Matrix: Water

Date Received: 07/14/17 09:58

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	393987	07/21/17 17:07	PJH	TAL CHI

Laboratory References:

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

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Accreditation/Certification Summary

Client: Tetra Tech GEO
Project/Site: Pentair - Delavan 117-7469002.02

TestAmerica Job ID: 500-131036-1

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	08-31-17 *

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- 11
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- 13
- 14
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* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 6
Phone: 708.534.5200 Fax: 708.53



500-131036 COC

Report To (optional)
Contact: MARK MANTHEY
Company: TETRA TECH
Address: 175 N. CORPORATE DR. SUITE 1000
BROOKFIELD, WI 53005
Phone: (262) 792-1282
Fax:
E-Mail:

Bill To (optional)
Contact: Same As Report To
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-131036
Chain of Custody Number:
Page 1 of 2
Temperature °C of Cooler: 2.7

Client		Client Project #		Preservative		Parameter		Matrix		Preservative Key	
Project Name		Lab Project #		Sample		Matrix		Matrix			
<u>TETRA TECH</u>		<u>117-7469002-02</u>		<u>1</u> <u>1</u> <u>1</u> <u>1</u>		<u>PEE</u> <u>TEA</u> <u>TEE</u> <u>VINYL</u> <u>CHLORIDE</u> <u>VOCs & BTEX</u>				1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other	
<u>TENTAIR FLOW TECHNOLOGIES</u>											
<u>DELAWAN, WI</u>										Comments	
<u>TODD M. THOMPSON</u>		<u>SANDIE FREDRICK</u>									
Lab ID	MS/MSD	Sample ID	Sampling Date	Time	# of Containers	Matrix	Matrix	Matrix	Matrix	Matrix	Matrix
<u>1</u>		<u>MW-2005R</u>	<u>7-12</u>	<u>10:30</u>	<u>3</u>	<u>GW</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>2</u>		<u>MW-2004</u>	<u>7-12</u>	<u>11:30</u>	<u>3</u>		<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>3</u>		<u>TW-1</u>	<u>7-12</u>	<u>12:10</u>	<u>3</u>		<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>4</u>		<u>D-18</u>	<u>7-12</u>	<u>13:00</u>	<u>3</u>		<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>5</u>		<u>D-25R</u>	<u>7-12</u>	<u>14:00</u>	<u>3</u>		<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>6</u>		<u>TW-3</u>	<u>7-12</u>	<u>15:30</u>	<u>3</u>		<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>7</u>		<u>MW-2011</u>	<u>7-12</u>	<u>16:20</u>	<u>3</u>		<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>8</u>		<u>D-15</u>	<u>7-12</u>	<u>17:30</u>	<u>3</u>		<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>9</u>		<u>TW-4</u>	<u>7-13</u>	<u>08:50</u>	<u>3</u>		<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>10</u>		<u>MW-1027</u>	<u>7-13</u>	<u>10:20</u>	<u>3</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>

Turnaround Time Required (Business Days) STANDARD
 Requested Due Date: 7-13-17
 Sample Disposal: Return to Client Disposal by Lab Archive for Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: [Signature] Company: TETRA TECH Date: 7-13-17 Time: 17:00
 Relinquished By: [Signature] Company: TA Date: 7-14-17 Time: 09:58
 Lab Courier: FEDEX
 Shipped: FEDEX
 Hand Delivered:

Matrix Key
 WW - Wastewater SE - Sediment
 W - Water SO - Soil
 S - Soil L - Leachate
 SL - Sludge WL - Wipe
 MS - Miscellaneous DW - Drinking Water
 OL - Oil O - Other
 A - Air

Client Comments:
 Lab Comments:

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
 Phone: 708.534.5200 Fax: 708.534.5211

Report To (optional)
 Contact: MARK MONTHELY
 Company: TETRA TECH
 Address: 1751 CORPORATE DR. SUITE 100
BRACKFELD, WI 53415
 Phone: (262) 792-1282
 Fax:
 E-Mail:

Bill To (optional)
 Contact: Same As Report To
 Company:
 Address:
 Address:
 Phone:
 Fax:
 PO#/Reference#

Chain of Custody Record

Lab Job #: 500-131036
 Chain of Custody Number:
 Page 2 of 2
 Temperature °C of Cooler: 2.7

Client		Client Project #		Preservative		Parameter		Comments					
<u>TETRA TECH</u>		<u>117-7469002.02</u>											
Project Name		Lab Project #											
<u>PENTAIR FLOW TECHNOLOGIES</u>													
Project Location/State		Lab Project #											
<u>DELAWARE, WI</u>													
Sampler		Lab PM											
<u>TODD M. THOMAS</u>		<u>SANDIE FREDRICK</u>											
Lab ID	MS/MSD	Sample ID	Sampling Date	Time	# of Containers	Matrix							
<u>11</u>		<u>MW-1026</u>	<u>7-13</u>	<u>12:20</u>	<u>3 GW</u>	<u>PCE</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>12</u>		<u>EX-1</u>	<u>7-13</u>	<u>12:50</u>	<u>3 GW</u>	<u>TEA</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>13</u>		<u>TRIP BLANK</u>	<u>---</u>	<u>---</u>	<u>2 RL</u>	<u>TEE</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
						<u>VINYL</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
						<u>CHLORIDE</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
						<u>Van's 8600</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		

- Preservative Key
1. HCL, Cool to 4°
 2. H2SO4, Cool to 4°
 3. HNO3, Cool to 4°
 4. NaOH, Cool to 4°
 5. NaOH/Zn, Cool to 4°
 6. NaHSO4
 7. Cool to 4°
 8. None
 9. Other

Turnaround Time Required (Business Days) STANDARD
 ___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days ___ Other
 Requested Due Date: _____

Sample Disposal
 Return to Client Disposal by Lab Archive for ___ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>[Signature]</u> Company: <u>TETRA TECH</u> Date: <u>7-13-17</u> Time: <u>17:00</u>	Received By: <u>[Signature]</u> Company: <u>TA</u> Date: <u>7-14-17</u> Time: <u>0958</u>
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: _____ Company: _____ Date: _____ Time: _____
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: _____ Company: _____ Date: _____ Time: _____

Lab Courier: _____
 Shipped: FEDEX
 Hand Delivered: _____

- Matrix Key
- WW - Wastewater
 - W - Water
 - S - Soil
 - SL - Sludge
 - MS - Miscellaneous
 - OL - Oil
 - A - Air
 - SE - Sediment
 - SO - Soil
 - L - Leachate
 - WI - Wipe
 - DW - Drinking Water
 - O - Other

Client Comments:

Lab Comments:



Login Sample Receipt Checklist

Client: Tetra Tech GEO

Job Number: 500-131036-1

Login Number: 131036

List Source: TestAmerica Chicago

List Number: 1

Creator: James, Jeff A

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-136222-1

Client Project/Site: Pentair - 117-7469002.02

For:

Tetra Tech GEO

175 N Corporate Drive

Suite 100

Brookfield, Wisconsin 53045

Attn: Mr. Mark Manthey



Authorized for release by:

11/7/2017 3:39:05 PM

Sandie Fredrick, Project Manager II

(920)261-1660

sandie.fredrick@testamericainc.com

LINKS

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results through

TotalAccess

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

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Case Narrative

Client: Tetra Tech GEO
Project/Site: Pentair - 117-7469002.02

TestAmerica Job ID: 500-136222-1

Job ID: 500-136222-1

Laboratory: TestAmerica Chicago

Narrative

**Job Narrative
500-136222-1**

Comments

No additional comments.

Receipt

The samples were received on 10/25/2017 8:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.5° C.

GC/MS VOA

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

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Detection Summary

Client: Tetra Tech GEO
Project/Site: Pentair - 117-7469002.02

TestAmerica Job ID: 500-136222-1

Client Sample ID: TW-4

Lab Sample ID: 500-136222-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.91	J	1.0	0.39	ug/L	1		8260B	Total/NA
1,1,1-Trichloroethane	22		1.0	0.38	ug/L	1		8260B	Total/NA
Trichloroethene	16		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: EX-2R

Lab Sample ID: 500-136222-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	3.7		1.0	0.38	ug/L	1		8260B	Total/NA
Trichloroethene	6.3		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: EX-3R

Lab Sample ID: 500-136222-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	2.3		1.0	0.38	ug/L	1		8260B	Total/NA
Trichloroethene	3.3		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: EX-7R

Lab Sample ID: 500-136222-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	7.3		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	3.8		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: Trip Blank

Lab Sample ID: 500-136222-5

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Method Summary

Client: Tetra Tech GEO
Project/Site: Pentair - 117-7469002.02

TestAmerica Job ID: 500-136222-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile 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 CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



Sample Summary

Client: Tetra Tech GEO
Project/Site: Pentair - 117-7469002.02

TestAmerica Job ID: 500-136222-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-136222-1	TW-4	Ground Water	10/24/17 11:40	10/25/17 08:45
500-136222-2	EX-2R	Ground Water	10/24/17 12:30	10/25/17 08:45
500-136222-3	EX-3R	Ground Water	10/24/17 12:15	10/25/17 08:45
500-136222-4	EX-7R	Ground Water	10/24/17 12:45	10/25/17 08:45
500-136222-5	Trip Blank	Water	10/24/17 00:00	10/25/17 08:45

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Client Sample Results

Client: Tetra Tech GEO
 Project/Site: Pentair - 117-7469002.02

TestAmerica Job ID: 500-136222-1

Client Sample ID: TW-4
Date Collected: 10/24/17 11:40
Date Received: 10/25/17 08:45

Lab Sample ID: 500-136222-1
Matrix: Ground Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			11/03/17 00:49	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/03/17 00:49	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/03/17 00:49	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/03/17 00:49	1
Bromoform	<0.48		1.0	0.48	ug/L			11/03/17 00:49	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/03/17 00:49	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/03/17 00:49	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/03/17 00:49	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/03/17 00:49	1
Chloroform	<0.37		2.0	0.37	ug/L			11/03/17 00:49	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/03/17 00:49	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/03/17 00:49	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/03/17 00:49	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/03/17 00:49	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/03/17 00:49	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/03/17 00:49	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/03/17 00:49	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/03/17 00:49	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/03/17 00:49	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/03/17 00:49	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/03/17 00:49	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/03/17 00:49	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/03/17 00:49	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/03/17 00:49	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/03/17 00:49	1
1,1-Dichloroethene	0.91	J	1.0	0.39	ug/L			11/03/17 00:49	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/03/17 00:49	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/03/17 00:49	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/03/17 00:49	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/03/17 00:49	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/03/17 00:49	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/03/17 00:49	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/03/17 00:49	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/03/17 00:49	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/03/17 00:49	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/03/17 00:49	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/03/17 00:49	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/03/17 00:49	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/03/17 00:49	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/03/17 00:49	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/03/17 00:49	1
Styrene	<0.39		1.0	0.39	ug/L			11/03/17 00:49	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/03/17 00:49	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/03/17 00:49	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/03/17 00:49	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/03/17 00:49	1
Toluene	<0.15		0.50	0.15	ug/L			11/03/17 00:49	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/03/17 00:49	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/03/17 00:49	1

TestAmerica Chicago

Client Sample Results

Client: Tetra Tech GEO
Project/Site: Pentair - 117-7469002.02

TestAmerica Job ID: 500-136222-1

Client Sample ID: TW-4
Date Collected: 10/24/17 11:40
Date Received: 10/25/17 08:45

Lab Sample ID: 500-136222-1
Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/03/17 00:49	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/03/17 00:49	1
1,1,1-Trichloroethane	22		1.0	0.38	ug/L			11/03/17 00:49	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/03/17 00:49	1
Trichloroethene	16		0.50	0.16	ug/L			11/03/17 00:49	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/03/17 00:49	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/03/17 00:49	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/03/17 00:49	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/03/17 00:49	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/03/17 00:49	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/03/17 00:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		72 - 124					11/03/17 00:49	1
Dibromofluoromethane	92		75 - 120					11/03/17 00:49	1
1,2-Dichloroethane-d4 (Surr)	93		75 - 126					11/03/17 00:49	1
Toluene-d8 (Surr)	105		75 - 120					11/03/17 00:49	1

Client Sample ID: EX-2R
Date Collected: 10/24/17 12:30
Date Received: 10/25/17 08:45

Lab Sample ID: 500-136222-2
Matrix: Ground Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/03/17 01:15	1
1,1,1-Trichloroethane	3.7		1.0	0.38	ug/L			11/03/17 01:15	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/03/17 01:15	1
Trichloroethene	6.3		0.50	0.16	ug/L			11/03/17 01:15	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/03/17 01:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		72 - 124					11/03/17 01:15	1
Dibromofluoromethane	94		75 - 120					11/03/17 01:15	1
1,2-Dichloroethane-d4 (Surr)	93		75 - 126					11/03/17 01:15	1
Toluene-d8 (Surr)	106		75 - 120					11/03/17 01:15	1

Client Sample ID: EX-3R
Date Collected: 10/24/17 12:15
Date Received: 10/25/17 08:45

Lab Sample ID: 500-136222-3
Matrix: Ground Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/03/17 01:42	1
1,1,1-Trichloroethane	2.3		1.0	0.38	ug/L			11/03/17 01:42	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/03/17 01:42	1
Trichloroethene	3.3		0.50	0.16	ug/L			11/03/17 01:42	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/03/17 01:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		72 - 124					11/03/17 01:42	1
Dibromofluoromethane	93		75 - 120					11/03/17 01:42	1

TestAmerica Chicago

Client Sample Results

Client: Tetra Tech GEO
Project/Site: Pentair - 117-7469002.02

TestAmerica Job ID: 500-136222-1

Client Sample ID: EX-3R

Date Collected: 10/24/17 12:15

Date Received: 10/25/17 08:45

Lab Sample ID: 500-136222-3

Matrix: Ground Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		75 - 126		11/03/17 01:42	1
Toluene-d8 (Surr)	102		75 - 120		11/03/17 01:42	1

Client Sample ID: EX-7R

Date Collected: 10/24/17 12:45

Date Received: 10/25/17 08:45

Lab Sample ID: 500-136222-4

Matrix: Ground Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	7.3		1.0	0.37	ug/L			11/03/17 02:09	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/03/17 02:09	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/03/17 02:09	1
Trichloroethene	3.8		0.50	0.16	ug/L			11/03/17 02:09	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/03/17 02:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		72 - 124		11/03/17 02:09	1
Dibromofluoromethane	94		75 - 120		11/03/17 02:09	1
1,2-Dichloroethane-d4 (Surr)	96		75 - 126		11/03/17 02:09	1
Toluene-d8 (Surr)	101		75 - 120		11/03/17 02:09	1

Client Sample ID: Trip Blank

Date Collected: 10/24/17 00:00

Date Received: 10/25/17 08:45

Lab Sample ID: 500-136222-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			11/03/17 02:35	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/03/17 02:35	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/03/17 02:35	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/03/17 02:35	1
Bromoform	<0.48		1.0	0.48	ug/L			11/03/17 02:35	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/03/17 02:35	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/03/17 02:35	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/03/17 02:35	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/03/17 02:35	1
Chloroform	<0.37		2.0	0.37	ug/L			11/03/17 02:35	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/03/17 02:35	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/03/17 02:35	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/03/17 02:35	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/03/17 02:35	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/03/17 02:35	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/03/17 02:35	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/03/17 02:35	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/03/17 02:35	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/03/17 02:35	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/03/17 02:35	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/03/17 02:35	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/03/17 02:35	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/03/17 02:35	1

TestAmerica Chicago

Client Sample Results

Client: Tetra Tech GEO
Project/Site: Pentair - 117-7469002.02

TestAmerica Job ID: 500-136222-1

Client Sample ID: Trip Blank

Lab Sample ID: 500-136222-5

Date Collected: 10/24/17 00:00

Matrix: Water

Date Received: 10/25/17 08:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/03/17 02:35	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/03/17 02:35	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/03/17 02:35	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/03/17 02:35	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/03/17 02:35	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/03/17 02:35	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/03/17 02:35	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/03/17 02:35	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/03/17 02:35	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/03/17 02:35	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/03/17 02:35	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/03/17 02:35	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/03/17 02:35	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/03/17 02:35	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/03/17 02:35	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/03/17 02:35	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/03/17 02:35	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/03/17 02:35	1
Styrene	<0.39		1.0	0.39	ug/L			11/03/17 02:35	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/03/17 02:35	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/03/17 02:35	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/03/17 02:35	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/03/17 02:35	1
Toluene	<0.15		0.50	0.15	ug/L			11/03/17 02:35	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/03/17 02:35	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/03/17 02:35	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/03/17 02:35	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/03/17 02:35	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/03/17 02:35	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/03/17 02:35	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/03/17 02:35	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/03/17 02:35	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/03/17 02:35	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/03/17 02:35	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/03/17 02:35	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/03/17 02:35	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/03/17 02:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		72 - 124		11/03/17 02:35	1
Dibromofluoromethane	94		75 - 120		11/03/17 02:35	1
1,2-Dichloroethane-d4 (Surr)	94		75 - 126		11/03/17 02:35	1
Toluene-d8 (Surr)	105		75 - 120		11/03/17 02:35	1

Definitions/Glossary

Client: Tetra Tech GEO
Project/Site: Pentair - 117-7469002.02

TestAmerica Job ID: 500-136222-1

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.

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)

QC Association Summary

Client: Tetra Tech GEO
Project/Site: Pentair - 117-7469002.02

TestAmerica Job ID: 500-136222-1

GC/MS VOA

Analysis Batch: 408188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-136222-1	TW-4	Total/NA	Ground Water	8260B	
500-136222-2	EX-2R	Total/NA	Ground Water	8260B	
500-136222-3	EX-3R	Total/NA	Ground Water	8260B	
500-136222-4	EX-7R	Total/NA	Ground Water	8260B	
500-136222-5	Trip Blank	Total/NA	Water	8260B	
MB 500-408188/10	Method Blank	Total/NA	Water	8260B	
LCS 500-408188/8	Lab Control Sample	Total/NA	Water	8260B	

Surrogate Summary

Client: Tetra Tech GEO
Project/Site: Pentair - 117-7469002.02

TestAmerica Job ID: 500-136222-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Ground Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	DBFM	12DCE	TOL
		(72-124)	(75-120)	(75-126)	(75-120)
500-136222-1	TW-4	91	92	93	105
500-136222-2	EX-2R	89	94	93	106
500-136222-3	EX-3R	88	93	96	102
500-136222-4	EX-7R	91	94	96	101

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	DBFM	12DCE	TOL
		(72-124)	(75-120)	(75-126)	(75-120)
500-136222-5	Trip Blank	91	94	94	105
LCS 500-408188/8	Lab Control Sample	86	91	90	105
MB 500-408188/10	Method Blank	91	92	97	103

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Tetra Tech GEO
 Project/Site: Pentair - 117-7469002.02

TestAmerica Job ID: 500-136222-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-408188/10
Matrix: Water
Analysis Batch: 408188

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			11/02/17 19:51	1
Bromobenzene	<0.36		1.0	0.36	ug/L			11/02/17 19:51	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			11/02/17 19:51	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			11/02/17 19:51	1
Bromoform	<0.48		1.0	0.48	ug/L			11/02/17 19:51	1
Bromomethane	<0.80		2.0	0.80	ug/L			11/02/17 19:51	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			11/02/17 19:51	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			11/02/17 19:51	1
Chloroethane	<0.51		1.0	0.51	ug/L			11/02/17 19:51	1
Chloroform	<0.37		2.0	0.37	ug/L			11/02/17 19:51	1
Chloromethane	<0.32		1.0	0.32	ug/L			11/02/17 19:51	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			11/02/17 19:51	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			11/02/17 19:51	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			11/02/17 19:51	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			11/02/17 19:51	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			11/02/17 19:51	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			11/02/17 19:51	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			11/02/17 19:51	1
Dibromomethane	<0.27		1.0	0.27	ug/L			11/02/17 19:51	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			11/02/17 19:51	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			11/02/17 19:51	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			11/02/17 19:51	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			11/02/17 19:51	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			11/02/17 19:51	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			11/02/17 19:51	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			11/02/17 19:51	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			11/02/17 19:51	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			11/02/17 19:51	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			11/02/17 19:51	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			11/02/17 19:51	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/02/17 19:51	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			11/02/17 19:51	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			11/02/17 19:51	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			11/02/17 19:51	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			11/02/17 19:51	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			11/02/17 19:51	1
Naphthalene	<0.34		1.0	0.34	ug/L			11/02/17 19:51	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			11/02/17 19:51	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			11/02/17 19:51	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			11/02/17 19:51	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/17 19:51	1
Styrene	<0.39		1.0	0.39	ug/L			11/02/17 19:51	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			11/02/17 19:51	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			11/02/17 19:51	1
1,1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			11/02/17 19:51	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/02/17 19:51	1
Toluene	<0.15		0.50	0.15	ug/L			11/02/17 19:51	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			11/02/17 19:51	1

TestAmerica Chicago

QC Sample Results

Client: Tetra Tech GEO
Project/Site: Pentair - 117-7469002.02

TestAmerica Job ID: 500-136222-1

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

Lab Sample ID: MB 500-408188/10
Matrix: Water
Analysis Batch: 408188

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/02/17 19:51	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			11/02/17 19:51	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			11/02/17 19:51	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/02/17 19:51	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/02/17 19:51	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/02/17 19:51	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			11/02/17 19:51	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			11/02/17 19:51	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			11/02/17 19:51	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			11/02/17 19:51	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/02/17 19:51	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/02/17 19:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		72 - 124		11/02/17 19:51	1
Dibromofluoromethane	92		75 - 120		11/02/17 19:51	1
1,2-Dichloroethane-d4 (Surr)	97		75 - 126		11/02/17 19:51	1
Toluene-d8 (Surr)	103		75 - 120		11/02/17 19:51	1

Lab Sample ID: LCS 500-408188/8
Matrix: Water
Analysis Batch: 408188

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	47.4		ug/L		95	70 - 120
Bromobenzene	50.0	39.2		ug/L		78	70 - 122
Bromochloromethane	50.0	46.8		ug/L		94	65 - 122
Bromodichloromethane	50.0	42.5		ug/L		85	69 - 120
Bromoform	50.0	37.6		ug/L		75	56 - 132
Bromomethane	50.0	36.2		ug/L		72	40 - 130
Carbon tetrachloride	50.0	42.4		ug/L		85	65 - 122
Chlorobenzene	50.0	47.3		ug/L		95	70 - 120
Chloroethane	50.0	42.6		ug/L		85	45 - 127
Chloroform	50.0	45.2		ug/L		90	70 - 120
Chloromethane	50.0	40.4		ug/L		81	54 - 147
2-Chlorotoluene	50.0	40.7		ug/L		81	70 - 125
4-Chlorotoluene	50.0	40.8		ug/L		82	68 - 124
cis-1,2-Dichloroethene	50.0	45.5		ug/L		91	70 - 125
cis-1,3-Dichloropropene	50.0	46.3		ug/L		93	64 - 127
Dibromochloromethane	50.0	42.3		ug/L		85	68 - 125
1,2-Dibromo-3-Chloropropane	50.0	38.2		ug/L		76	56 - 123
1,2-Dibromoethane	50.0	48.6		ug/L		97	70 - 125
Dibromomethane	50.0	44.3		ug/L		89	70 - 120
1,2-Dichlorobenzene	50.0	43.9		ug/L		88	70 - 125
1,3-Dichlorobenzene	50.0	43.1		ug/L		86	70 - 125
1,4-Dichlorobenzene	50.0	42.9		ug/L		86	70 - 120
Dichlorodifluoromethane	50.0	21.8		ug/L		44	40 - 150
1,1-Dichloroethane	50.0	50.7		ug/L		101	70 - 125

TestAmerica Chicago

QC Sample Results

Client: Tetra Tech GEO
Project/Site: Pentair - 117-7469002.02

TestAmerica Job ID: 500-136222-1

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

Lab Sample ID: LCS 500-408188/8

Matrix: Water

Analysis Batch: 408188

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	50.0	46.7		ug/L		93	68 - 127
1,1-Dichloroethene	50.0	49.3		ug/L		99	67 - 122
1,2-Dichloropropane	50.0	51.5		ug/L		103	67 - 130
1,3-Dichloropropane	50.0	50.5		ug/L		101	62 - 136
2,2-Dichloropropane	50.0	46.1		ug/L		92	58 - 129
1,1-Dichloropropene	50.0	49.3		ug/L		99	70 - 121
Ethylbenzene	50.0	47.8		ug/L		96	70 - 120
Hexachlorobutadiene	50.0	39.7		ug/L		79	51 - 150
Isopropylbenzene	50.0	44.0		ug/L		88	70 - 126
Methylene Chloride	50.0	50.0		ug/L		100	69 - 125
Methyl tert-butyl ether	50.0	46.1		ug/L		92	70 - 120
Naphthalene	50.0	44.0		ug/L		88	59 - 130
n-Butylbenzene	50.0	43.8		ug/L		88	68 - 125
N-Propylbenzene	50.0	42.9		ug/L		86	69 - 127
p-Isopropyltoluene	50.0	43.4		ug/L		87	70 - 125
sec-Butylbenzene	50.0	44.3		ug/L		89	70 - 123
Styrene	50.0	47.4		ug/L		95	70 - 120
tert-Butylbenzene	50.0	41.9		ug/L		84	70 - 121
1,1,1,2-Tetrachloroethane	50.0	43.7		ug/L		87	70 - 125
1,1,1,2,2-Tetrachloroethane	50.0	44.1		ug/L		88	67 - 127
Tetrachloroethene	50.0	50.3		ug/L		101	70 - 128
Toluene	50.0	46.8		ug/L		94	70 - 125
trans-1,2-Dichloroethene	50.0	47.9		ug/L		96	70 - 125
trans-1,3-Dichloropropene	50.0	46.0		ug/L		92	62 - 128
1,2,3-Trichlorobenzene	50.0	45.5		ug/L		91	55 - 140
1,2,4-Trichlorobenzene	50.0	42.3		ug/L		85	66 - 127
1,1,1-Trichloroethane	50.0	43.7		ug/L		87	70 - 125
1,1,2-Trichloroethane	50.0	49.5		ug/L		99	70 - 122
Trichloroethene	50.0	50.8		ug/L		102	70 - 125
Trichlorofluoromethane	50.0	38.2		ug/L		76	70 - 126
1,2,3-Trichloropropane	50.0	38.3		ug/L		77	50 - 133
1,2,4-Trimethylbenzene	50.0	42.9		ug/L		86	70 - 123
1,3,5-Trimethylbenzene	50.0	43.6		ug/L		87	70 - 123
Vinyl chloride	50.0	40.6		ug/L		81	64 - 126
Xylenes, Total	100	91.0		ug/L		91	70 - 125

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	86		72 - 124
Dibromofluoromethane	91		75 - 120
1,2-Dichloroethane-d4 (Surr)	90		75 - 126
Toluene-d8 (Surr)	105		75 - 120

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Pentair - 117-7469002.02

TestAmerica Job ID: 500-136222-1

Client Sample ID: TW-4
Date Collected: 10/24/17 11:40
Date Received: 10/25/17 08:45

Lab Sample ID: 500-136222-1
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	408188	11/03/17 00:49	PMF	TAL CHI

Client Sample ID: EX-2R
Date Collected: 10/24/17 12:30
Date Received: 10/25/17 08:45

Lab Sample ID: 500-136222-2
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	408188	11/03/17 01:15	PMF	TAL CHI

Client Sample ID: EX-3R
Date Collected: 10/24/17 12:15
Date Received: 10/25/17 08:45

Lab Sample ID: 500-136222-3
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	408188	11/03/17 01:42	PMF	TAL CHI

Client Sample ID: EX-7R
Date Collected: 10/24/17 12:45
Date Received: 10/25/17 08:45

Lab Sample ID: 500-136222-4
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	408188	11/03/17 02:09	PMF	TAL CHI

Client Sample ID: Trip Blank
Date Collected: 10/24/17 00:00
Date Received: 10/25/17 08:45

Lab Sample ID: 500-136222-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	408188	11/03/17 02:35	PMF	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

Client: Tetra Tech GEO
Project/Site: Pentair - 117-7469002.02

TestAmerica Job ID: 500-136222-1

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

Report To (optional)
Contact: MARK MANTLEY
Company: TETRA TECH
Address: 1511 CORPORATE DR. SUITE 100
BRADFORD, WI 53045
Phone: (262) 792-1282
Fax:
E-Mail:

Bill To (optional)
Contact: SAME AS REPORT TO:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference# 500-136222 COC

Chain of Custody Record

Lab Job #: 500-136222
Chain of Custody Number:
Page 1 of 1
Temperature °C of Cooler: 0.5



Client		Client Project #		Preservative		Parameter		Matrix		Preservative Key
Project Name		Lab Project #		Matrix		Matrix		Matrix		
<u>TETRA TECH</u>		<u>117-7469002.02</u>		<u>1</u>		<u>1</u>		<u>1</u>		1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other
<u>PENTAIR FLOW TECHNOLOGIES</u>				<u>1</u>		<u>1</u>		<u>1</u>		
<u>DELANAN, WI</u>				<u>1</u>		<u>1</u>		<u>1</u>		Comments
<u>TED M. THOMPSON</u>		<u>SANDIE FREDRICK</u>		<u>1</u>		<u>1</u>		<u>1</u>		
Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix				
<u>1</u>		<u>TWS-4</u>	<u>10-24</u>	<u>11:40</u>	<u>3</u>	<u>GW</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>2</u>		<u>EX-2R</u>	<u>10-24</u>	<u>12:30</u>	<u>3</u>	<u>↓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>3</u>		<u>EX-3R</u>	<u>10-24</u>	<u>12:15</u>	<u>3</u>	<u>↓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>4</u>		<u>EX-7R</u>	<u>10-24</u>	<u>12:45</u>	<u>3</u>	<u>↓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>5</u>		<u>TRIP BLANK</u>	<u>—</u>	<u>—</u>	<u>1</u>	<u>DL</u>	<u>✓</u>			<u>LAB PREPARED</u>

Turnaround Time Required (Business Days) STANDARD
 1 Day 2 Days 5 Days 7 Days 10 Days 15 Days Other
 Requested Due Date:
 Sample Disposal: Return to Client Disposal by Lab Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: [Signature] Company: TETRA TECH Date: 10-24-17 Time: 14:00
 Received By: [Signature] Company: TA Date: 10-24-17 Time: 14:00
 Relinquished By: [Signature] Company: TA Date: 10-24-17 Time: 16:00
 Received By: [Signature] Company: TA Date: 10/25/17 Time: 0845
 Relinquished By: _____ Company: _____ Date: _____ Time: _____
 Received By: _____ Company: _____ Date: _____ Time: _____
 Lab Courier:
 Shipped:
 Hand Delivered: Test America

Matrix Key
 WW - Wastewater SE - Sediment
 W - Water SO - Soil
 S - Soil L - Leachate
 SL - Sludge WI - Wipe
 MS - Miscellaneous DW - Drinking Water
 OL - Oil O - Other
 A - Air

Client Comments:
 Lab Comments:

Login Sample Receipt Checklist

Client: Tetra Tech GEO

Job Number: 500-136222-1

Login Number: 136222

List Source: TestAmerica Chicago

List Number: 1

Creator: Kelsey, Shawn M

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	0.5c
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	

APPENDIX C

WASTEWATER DISCHARGE MONITORING REPORTS AND

STORM SEWER OUTFALL SS-1 ANALYTICAL RESULTS

TETRA TECH

Wastewater Discharge Monitoring Long Report

For DNR Use Only

Facility Name: PENTAIR FLOW TECHNOLOGIES LLC
 Contact Address: 293 S. Wright St
 Delavan, WI 53115
 Facility Contact: Dennis Schwind, Env. Tech
 Phone Number: (262) 728-7225
 Reporting Period: 01/01/2017 - 01/31/2017
 Form Due Date: 02/21/2017
 Permit Number: 0055816

Date Received:
 DOC: 374493
 FIN: 7072
 FID: 265010900
 Region: Southeast Region
 Permit Drafter: Laura A Dietrich
 Reviewer: Theera T. Ratarasarn
 Office: Milwaukee

Sample Point	001	001	001	001	001	
Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
Parameter	211	487	457	388	388	
Description	Flow Rate	Temperature	Suspended Solids, Total	Phosphorus, Total	Phosphorus, Total	
Units	MGD	degF	mg/L	mg/L	lbs/day	
Sample Type	TOT DAILY	GRAB	GRAB	GRAB	CALCULATED	
Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1					
	2					
	3					
	4					
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	14					
	15					
	16					
	17					
	18					
	19					
	20					
	21					
	22					
	23	0.3534	51.26	4.0	0.10	0.295
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	211		487		457		388	
	Description	Flow Rate		Temperature		Suspended Solids, Total		Phosphorus, Total	
	Units	MGD		degF		mg/L		mg/L	
Summary Values	Monthly Avg	0.3534		51.26		4		0.1	
	Daily Max	0.3534		51.26		4		0.1	
	Daily Min	0.3534		51.26		4		0.1	
Limit(s) in Effect	Monthly Avg						0.24	0	
QA/QC Information	LOD					2.5		0.015	
	LOQ					5		0.05	
	QC Exceedance	N		N		Y		N	
	Lab Certification					999580010		999580010	

	Sample Point	001	001	001	001	
	Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
	Parameter	490	508	561	517	
	Description	Tetrachloroethylene	Trichloro- ethylene	1,1,1-Trichloro- ethane	Vinyl chloride	
	Units	ug/L	ug/L	ug/L	ug/L	
	Sample Type	GRAB	GRAB	GRAB	GRAB	
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
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	22					
	23		<0.37	0.53	<0.38	<0.20
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	29					
	30					
	31					

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	490		508		561		517	
	Description	Tetrachloroethylene		Trichloro- ethylene		1,1,1-Trichloro- ethane		Vinyl chloride	
	Units	ug/L		ug/L		ug/L		ug/L	
Summary Values	Monthly Avg	0		0.53		0		0	
	Daily Max	<0.37		0.53		<0.38		<0.2	
	Daily Min	<0.37		0.53		<0.38		<0.2	
Limit(s) in Effect	Monthly Avg	50	0	50	0	50	0	10	0
QA/QC Information	LOD	0.37		0.16		0.38		0.2	
	LOQ	1		0.5		1		0.5	
	QC Exceedance	N		N		N		N	
	Lab Certification	999580010		999580010		999580010		999580010	

Footnotes (DNR Use Only; Instructions for completing this form that are unique for your facility may be displayed here.)

General Remarks

The total flow rate was calculated from pumping rate measurements taken from the Delavan facility extraction wells by Pentair Flow Technologies Delavan facility personnel on November 4, 2016.

Laboratory Quality Control Comments

J = Result is less than the LOQ but greater than the LOD and the concentration is an approximate value.

GEOTRANS, INC. FIELD WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION			INSTRUMENTS		
PROJECT	Delavan Facility Remedial Action		Temp. & pH	HI 98129	
PROJECT NO.	Delavan well #4 WPDES		Conductivity	HI 98129	
LOCATION	Delavan, WI		ORP		
PERSONNEL	NICK Dade		DO		
SAMPLE POINT	SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	01/23/2017				
CLOCK TIME (Military)	1045				
DEPTH TO WATER (ft)*	NA	NA	NA	NA	NA
MEASURED WELL DEPTH (ft)*	NA	NA	NA	NA	NA
CASING VOLUME (gallons)	NA	NA	NA	NA	NA
PURGE VOLUME (gallons)	NA	NA	NA	NA	NA
DEPTH SAMPLE TAKEN (ft)*	NA	NA	NA	NA	NA
SAMPLING DEVICE					
FIELD TEMPERATURE (°C)	10.7				
pH	8.27				
ELEC. COND. (uS/cm)	Measured	650			
	at 25° C	NA			
ORP (mV)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (ppm)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (% Sat.)	NA	NA	NA	NA	NA
COLOR	Clear				
ODOR	None				
CLARITY	Clear				
SAMPLING PARAMETERS	# OF CONTAINERS & VOLUME; CONTAINER TYPE (A = AMBER GLASS; G = GLASS; P = PLASTIC); PRESERVATIVE TYPE (L = LAB ADDED; F = FIELD ADDED) OR NEUTRAL; FILTERED (YES or NO)				
TCE, 1,1,1-TCA, 1,1,2-TCA, PCE, Vinyl Chloride (EPA Method SW 8260B)	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.
Comments: TCE = Trichloroethene. TCA = Trichloroethane. PCE = Tetrachloroethene.					
NAME OF LABORATORY	Test America	Test America	Test America	Test America	Test America
DATE SENT TO LAB	1/23/17				
SAMPLER'S NAME	NICK Dade				

*Measured from top of well casing.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-122970-1
Client Project/Site: Delavan Well #4 WPDES

For:
Pentair Water
293 Wright Street
Delavan, Wisconsin 53115

Attn: Dennis Schwind



Authorized for release by:
1/27/2017 3:22:02 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

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Definitions/Glossary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-122970-1

Qualifiers

General Chemistry

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.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-122970-1

Job ID: 500-122970-1

Laboratory: TestAmerica Chicago

Narrative

**Job Narrative
500-122970-1**

Comments

No additional comments.

Receipt

The samples were received on 1/24/2017 10:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.3° C.

GC/MS VOA

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

General Chemistry

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



Client Sample Results

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-122970-1

Client Sample ID: SS1
Date Collected: 01/23/17 10:45
Date Received: 01/24/17 10:25

Lab Sample ID: 500-122970-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			01/25/17 13:30	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			01/25/17 13:30	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			01/25/17 13:30	1
Trichloroethene	0.53		0.50	0.16	ug/L			01/25/17 13:30	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			01/25/17 13:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		71 - 127		01/25/17 13:30	1
4-Bromofluorobenzene (Surr)	94		71 - 120		01/25/17 13:30	1
Dibromofluoromethane	88		70 - 120		01/25/17 13:30	1
Toluene-d8 (Surr)	93		75 - 120		01/25/17 13:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	4.0	J	5.0	2.5	mg/L			01/24/17 15:50	1
Chloride	290		10	3.5	mg/L			01/24/17 22:16	5
Phosphorus as P	0.10		0.050	0.015	mg/L		01/25/17 16:26	01/26/17 18:01	1

Client Sample ID: Trip Blank

Date Collected: 01/23/17 00:00
Date Received: 01/24/17 10:25

Lab Sample ID: 500-122970-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			01/25/17 13:03	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			01/25/17 13:03	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			01/25/17 13:03	1
Trichloroethene	<0.16		0.50	0.16	ug/L			01/25/17 13:03	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			01/25/17 13:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		71 - 127		01/25/17 13:03	1
4-Bromofluorobenzene (Surr)	95		71 - 120		01/25/17 13:03	1
Dibromofluoromethane	86		70 - 120		01/25/17 13:03	1
Toluene-d8 (Surr)	93		75 - 120		01/25/17 13:03	1

Lab Chronicle

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-122970-1

Client Sample ID: SS1

Date Collected: 01/23/17 10:45

Date Received: 01/24/17 10:25

Lab Sample ID: 500-122970-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	369740	01/25/17 13:30	TCT	TAL CHI
Total/NA	Analysis	SM 2540D		1	369659	01/24/17 15:50 (Start) 01/24/17 15:51 (End)	SMO	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	369706	01/24/17 22:16	HMW	TAL CHI
Total/NA	Prep	SM 4500 P B			369829	01/25/17 16:26	JBJ	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	369983	01/26/17 18:01 (Start) 01/26/17 18:01 (End)	JBJ	TAL CHI

Client Sample ID: Trip Blank

Date Collected: 01/23/17 00:00

Date Received: 01/24/17 10:25

Lab Sample ID: 500-122970-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	369740	01/25/17 13:03	TCT	TAL CHI

Laboratory References:

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

Certification Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-122970-1

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	999580010	08-31-17

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Method Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-122970-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 P E	Phosphorus	SM	TAL CHI

Protocol References:

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

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

Laboratory References:

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

Sample Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-122970-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-122970-1	SS1	Water	01/23/17 10:45	01/24/17 10:25
500-122970-2	Trip Blank	Water	01/23/17 00:00	01/24/17 10:25

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TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 6046
Phone: 708.534.5200 Fax: 708.534.5



500-122970 COC

Report To: (optional) <u>Mark Manthey</u>	Bill To: (optional) <u>Nick Dade</u>
Contact: <u>Nick Dade Dennis Schwind</u>	Contact: <u>Nick Dade</u>
Company: _____	Company: <u>Pentair</u>
Address: _____	Address: <u>293 S Wright St</u>
Address: _____	Address: <u>Delavan, WI 53115</u>
Phone: _____	Phone: <u>262-728-5551</u>
Fax: _____	Fax: _____
E-Mail: _____	PO#/Reference#: _____

Chain of Custody Record

Lab Job #: 500-122970

Chain of Custody Number: _____

Page _____ of _____

Temperature °C of Cooler: 13

Client		Client Project #		Preservative		HCl		HCl		HCl		HCl		H ₂ SO ₄		Preservative Key 1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other	
Project Name		Parameter		TCE		TCA		PCE		Vinyl Chloride		Chloride		Total Suspended Solids			Comments
Project Location/State		Lab Project #		# of Containers		Matrix											
Sampler		Lab PM		Date		Time											
<u>Pentair Flow Technologies LLC</u>		<u>Delavan Well #4 WPDES</u>		<u>6</u>		<u>W</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>			
<u>Delavan, WI</u>		<u>Nick Dade</u>		<u>1045</u>		<u>1/23/17</u>										<u>Added by TA</u>	
<u>SSL</u>																	
<u>Trip Blank</u>																	

Turnaround Time Required (Business Days)

1 Day 2 Days 5 Days 7 Days 10 Days 15 Days Other

Sample Disposal

Return to Client Disposal by Lab Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>Nick Dade</u>	Company: <u>Pentair</u>	Date: <u>1/23/17</u>	Time: <u>11:30 AM</u>	Received By: <u>Dennis Schwind</u>	Company: <u>TH-CHE</u>	Date: <u>1/24/17</u>	Time: <u>1:00 PM</u>
Relinquished By:	Company:	Date:	Time:	Received By:	Company:	Date:	Time:
Relinquished By:	Company:	Date:	Time:	Received By:	Company:	Date:	Time:

Lab Courier: _____

Shipped: Fed Ex

Hand Delivered: _____

Matrix Key

- | | |
|--------------------|---------------------|
| WW - Wastewater | SE - Sediment |
| W - Water | SO - Soil |
| S - Soil | L - Leachate |
| SL - Sludge | WI - Wipe |
| MS - Miscellaneous | DW - Drinking Water |
| OL - Oil | O - Other |
| A - Air | |

Client Comments

Lab Comments:

Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-122970-1

Login Number: 122970

List Source: TestAmerica Chicago

List Number: 1

Creator: Scott, Sherri L

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.3
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Wastewater Discharge Monitoring Long Report

For DNR Use Only

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 Contact Address: 293 S. Wright St
 Delavan, WI 53115
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 Phone Number: (262) 728-7225
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 Form Due Date: 03/21/2017
 Permit Number: 0055816

Date Received:
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 Region: Southeast Region
 Permit Drafter: Laura A Dietrich
 Reviewer: Theera T. Ratarasarn
 Office: Milwaukee

	Sample Point	001	001	001	001	001	
	Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
	Parameter	211	487	457	388	388	
	Description	Flow Rate	Temperature	Suspended Solids, Total	Phosphorus, Total	Phosphorus, Total	
	Units	MGD	degF	mg/L	mg/L	lbs/day	
	Sample Type	TOT DAILY	GRAB	GRAB	GRAB	CALCULATED	
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1						
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	17						
	18						
	19						
		20	0.3534	55.40	<2.5	0.034	0.100
		21					
		22					
		23					
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		26					
		27					
		28					
		29					
		30					
		31					

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	211		487		457		388	
	Description	Flow Rate		Temperature		Suspended Solids, Total		Phosphorus, Total	
	Units	MGD		degF		mg/L		mg/L	
Summary Values	Monthly Avg	0.3534		55.4		0		0.034	
	Daily Max	0.3534		55.4		<2.5		0.034	
	Daily Min	0.3534		55.4		<2.5		0.034	
Limit(s) in Effect	Monthly Avg						0.24	0	
QA/QC Information	LOD					2.5		0.015	
	LOQ					5		0.05	
	QC Exceedance	N		N		N		Y	
	Lab Certification					999580010		999580010	

	Sample Point	001	001	001	001	
	Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
	Parameter	490	508	561	517	
	Description	Tetrachloroethylene	Trichloro- ethylene	1,1,1-Trichloro- ethane	Vinyl chloride	
	Units	ug/L	ug/L	ug/L	ug/L	
	Sample Type	GRAB	GRAB	GRAB	GRAB	
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1					
	2					
	3					
	4					
	5					
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	8					
	9					
	10					
	11					
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	15					
	16					
	17					
	18					
	19					
	20		<0.37	0.58	<0.38	<0.20
	21					
	22					
	23					
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	25					
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	27					
	28					
	29					
	30					
	31					

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	490		508		561		517	
	Description	Tetrachloroethylene		Trichloro- ethylene		1,1,1-Trichloro- ethane		Vinyl chloride	
	Units	ug/L		ug/L		ug/L		ug/L	
Summary Values	Monthly Avg	0		0.58		0		0	
	Daily Max	<0.37		0.58		<0.38		<0.2	
	Daily Min	<0.37		0.58		<0.38		<0.2	
Limit(s) in Effect	Monthly Avg	50	0	50	0	50	0	10	0
QA/QC Information	LOD	0.37		0.16		0.38		0.2	
	LOQ	1		0.5		1		0.5	
	QC Exceedance	N		N		N		N	
	Lab Certification	999580010		999580010		999580010		999580010	

Footnotes (DNR Use Only; Instructions for completing this form that are unique for your facility may be displayed here.)

General Remarks

The total flow rate was calculated from pumping rate measurements taken from the Delavan facility extraction wells by Pentair Flow Technologies Delavan facility personnel on November 4, 2016.

Laboratory Quality Control Comments

J = Result is less than the LOQ but greater than the LOD and the concentration is an approximate value.

GEOTRANS, INC. FIELD WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION			INSTRUMENTS		
PROJECT	Delavan Facility Remedial Action		Temp. & pH	Russell RLO60P	
PROJECT NO.	Delavan Well #4		Conductivity	Hanna HI 98129	
LOCATION	Delavan, WI		ORP		
PERSONNEL	Nick Dade		DO		
SAMPLE POINT	SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	02/20/2017				
CLOCK TIME (Military)	1005				
DEPTH TO WATER (ft)*	NA	NA	NA	NA	NA
MEASURED WELL DEPTH (ft)*	NA	NA	NA	NA	NA
CASING VOLUME (gallons)	NA	NA	NA	NA	NA
PURGE VOLUME (gallons)	NA	NA	NA	NA	NA
DEPTH SAMPLE TAKEN (ft)*	NA	NA	NA	NA	NA
SAMPLING DEVICE	Russell/Hanna				
FIELD TEMPERATURE (°C)	13.0				
pH	7.18				
ELEC. COND. (uS/cm)	Measured	590			
	at 25° C	---			
ORP (mV)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (ppm)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (% Sat.)	NA	NA	NA	NA	NA
COLOR	Clear				
ODOR	None				
CLARITY	Clear				
SAMPLING PARAMETERS	# OF CONTAINERS & VOLUME; CONTAINER TYPE (A = AMBER GLASS; G = GLASS; P = PLASTIC); PRESERVATIVE TYPE (L = LAB ADDED; F = FIELD ADDED) OR NEUTRAL; FILTERED (YES or NO)				
TCE, 1,1,1-TCA, 1,1,2-TCA, PCE, Vinyl Chloride (EPA Method SW 8260B)	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.
Comments: TCE = Trichloroethene. TCA = Trichloroethane. PCE = Tetrachloroethene.					
NAME OF LABORATORY	Test America	Test America	Test America	Test America	Test America
DATE SENT TO LAB	02/20/17				
SAMPLER'S NAME	Nick Dade				

*Measured from top of well casing.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-124136-1

Client Project/Site: Delavan Well #4 WPDES

For:

Pentair Water

293 Wright Street

Delavan, Wisconsin 53115

Attn: Dennis Schwind



Authorized for release by:

2/24/2017 4:12:56 PM

Sandie Fredrick, Project Manager II

(920)261-1660

sandie.fredrick@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

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Definitions/Glossary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-124136-1

Qualifiers

General Chemistry

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.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-124136-1

Job ID: 500-124136-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-124136-1

Comments

No additional comments.

Receipt

The samples were received on 2/21/2017 10:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4° C.

GC/MS VOA

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

General Chemistry

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



Client Sample Results

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-124136-1

Client Sample ID: SS1
Date Collected: 02/20/17 10:05
Date Received: 02/21/17 10:25

Lab Sample ID: 500-124136-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			02/22/17 11:50	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			02/22/17 11:50	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			02/22/17 11:50	1
Trichloroethene	0.58		0.50	0.16	ug/L			02/22/17 11:50	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			02/22/17 11:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		71 - 127		02/22/17 11:50	1
4-Bromofluorobenzene (Surr)	85		71 - 120		02/22/17 11:50	1
Dibromofluoromethane	86		70 - 120		02/22/17 11:50	1
Toluene-d8 (Surr)	87		75 - 120		02/22/17 11:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<2.5		5.0	2.5	mg/L			02/21/17 12:55	1
Chloride	200		10	3.5	mg/L			02/21/17 22:08	5
Phosphorus as P	0.034	J	0.050	0.015	mg/L		02/23/17 16:16	02/24/17 11:34	1

Client Sample ID: Trip Blank
Date Collected: 02/20/17 00:00
Date Received: 02/21/17 10:25

Lab Sample ID: 500-124136-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			02/22/17 12:16	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			02/22/17 12:16	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			02/22/17 12:16	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/22/17 12:16	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			02/22/17 12:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		71 - 127		02/22/17 12:16	1
4-Bromofluorobenzene (Surr)	84		71 - 120		02/22/17 12:16	1
Dibromofluoromethane	85		70 - 120		02/22/17 12:16	1
Toluene-d8 (Surr)	89		75 - 120		02/22/17 12:16	1

Lab Chronicle

Client: Pentair Water
 Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-124136-1

Client Sample ID: SS1

Date Collected: 02/20/17 10:05

Date Received: 02/21/17 10:25

Lab Sample ID: 500-124136-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	373031	02/22/17 11:50	TCT	TAL CHI
Total/NA	Analysis	SM 2540D		1	372933	02/21/17 12:55 (Start) 02/21/17 12:57 (End)	SMO	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		5	373005	02/21/17 22:08	HMW	TAL CHI
Total/NA	Prep	SM 4500 P B			373311	02/23/17 16:16	JBJ	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	373445	02/24/17 11:34 (Start) 02/24/17 11:34 (End)	MTB	TAL CHI

Client Sample ID: Trip Blank

Date Collected: 02/20/17 00:00

Date Received: 02/21/17 10:25

Lab Sample ID: 500-124136-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	373031	02/22/17 12:16	TCT	TAL CHI

Laboratory References:

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

Certification Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-124136-1

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	999580010	08-31-17

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Method Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-124136-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 P E	Phosphorus	SM	TAL CHI

Protocol References:

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

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

Laboratory References:

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

Sample Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-124136-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-124136-1	SS1	Water	02/20/17 10:05	02/21/17 10:25
500-124136-2	Trip Blank	Water	02/20/17 00:00	02/21/17 10:25

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
 Phone: 708.534.5200 Fax: 708.534.5211

Report To: (optional) Dennis Schwind
 Contact: Mark Manthey Nick Dade
 Company: _____
 Address: _____
 Address: _____
 Phone: _____
 Fax: _____
 E-Mail: _____

Bill To: (optional)
 Contact: _____
 Company: Pentair Flow Technologies LLC
 Address: 293 S Wright St
 Address: Delavan WI 53115
 Phone: 262-728-5551
 Fax: _____
 PO#/Reference#: _____

Chain of Custody Record

Lab Job #: 500-124136
 Chain of Custody Number: _____
 Page _____ of _____
 Temperature °C of Cooler: 1.4

Client		Client Project #		Preservative		HCl		HCl		HCl		HCl		H ₂ SO ₄		Preservative Key 1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other		
Project Name		Lab Project #		Parameter		TCE		TCA		PCE		Vinyl Chloride		Chloride			Total Suspended Solids	Phosphorus
Project Location/State		Lab PM		# of Containers Matrix														
Lab ID	MS/MSD	Sample ID	Date	Time												Comments		
Pentair Flow Technologies				HCl		HCl		HCl		HCl		H ₂ SO ₄						
Delavan Well #4 WPDES				TCE		TCA		PCE		Vinyl Chloride		Chloride		Total Suspended Solids		Phosphorus		
Delavan WI				6 W		X		X		X		X		X		X		
Nick Dade																		
1		SS1	02/20/17	1005			X	X	X	X	X	X	X	X	X			
2		Trip blanks															Added by JTA	

Turnaround Time Required (Business Days)
 ___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days ___ Other
 Requested Due Date _____


Sample Disposal
 Return to Client Disposal by Lab Archive for ___ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By <i>Mark Dade</i>	Company Pentair	Date 02/20/17	Time 1045	Received By <i>[Signature]</i>	Company TA	Date 02/21/17	Time 1055	Lab Courier
Relinquished By	Company	Date	Time	Received By	Company	Date	Time	Shipped FedEx
Relinquished By	Company	Date	Time	Received By	Company	Date	Time	Hand Delivered

- Matrix Key
- WW - Wastewater
 - W - Water
 - S - Soil
 - SL - Sludge
 - MS - Miscellaneous
 - OL - Oil
 - A - Air
 - SE - Sediment
 - SO - Soil
 - L - Leachate
 - WI - Wipe
 - DW - Drinking Water
 - O - Other

Client Comments

Lab Comments:



500-124136 COC

Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-124136-1

Login Number: 124136

List Source: TestAmerica Chicago

List Number: 1

Creator: Kelsey, Shawn M

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.4c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Wastewater Discharge Monitoring Long Report

For DNR Use Only

Facility Name: PENTAIR FLOW TECHNOLOGIES LLC
 Contact Address: 293 S. Wright St
 Delavan, WI 53115
 Facility Contact: Dennis Schwind, Env. Tech
 Phone Number: (262) 728-7225
 Reporting Period: 03/01/2017 - 03/31/2017
 Form Due Date: 04/21/2017
 Permit Number: 0055816

Date Received:
 DOC: 374495
 FIN: 7072
 FID: 265010900
 Region: Southeast Region
 Permit Drafter: Laura A Dietrich
 Reviewer: Theera T. Ratarasarn
 Office: Milwaukee

Sample Point	001	001	001	001	001	
Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
Parameter	211	487	457	388	388	
Description	Flow Rate	Temperature	Suspended Solids, Total	Phosphorus, Total	Phosphorus, Total	
Units	MGD	degF	mg/L	mg/L	lbs/day	
Sample Type	TOT DAILY	GRAB	GRAB	GRAB	CALCULATED	
Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19					
	20		56.30	<2.5	0.039	0.092
	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28	0.2842				
	29					
	30					
	31					

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	211		487		457		388	
	Description	Flow Rate		Temperature		Suspended Solids, Total		Phosphorus, Total	
	Units	MGD		degF		mg/L		mg/L	
Summary Values	Monthly Avg	0.2842		56.3		0		0.039	
	Daily Max	0.2842		56.3		<2.5		0.039	
	Daily Min	0.2842		56.3		<2.5		0.039	
Limit(s) in Effect	Monthly Avg						0.24	0	
QA/QC Information	LOD					2.5		0.015	
	LOQ					5		0.05	
	QC Exceedance	N		N		N		Y	
	Lab Certification					999580010		999580010	

	Sample Point	001	001	001	001	
	Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
	Parameter	490	508	561	517	
	Description	Tetrachloroethylene	Trichloro- ethylene	1,1,1-Trichloro- ethane	Vinyl chloride	
	Units	ug/L	ug/L	ug/L	ug/L	
	Sample Type	GRAB	GRAB	GRAB	GRAB	
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19					
	20		<0.37	<0.16	<0.38	<0.20
	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	490		508		561		517	
	Description	Tetrachloroethylene		Trichloro- ethylene		1,1,1-Trichloro- ethane		Vinyl chloride	
	Units	ug/L		ug/L		ug/L		ug/L	
Summary Values	Monthly Avg	0		0		0		0	
	Daily Max	<0.37		<0.16		<0.38		<0.2	
	Daily Min	<0.37		<0.16		<0.38		<0.2	
Limit(s) in Effect	Monthly Avg	50	0	50	0	50	0	10	0
QA/QC Information	LOD	0.37		0.16		0.38		0.2	
	LOQ	1		0.5		1		0.5	
	QC Exceedance	N		N		N		N	
	Lab Certification	999580010		999580010		999580010		999580010	

Footnotes (DNR Use Only; Instructions for completing this form that are unique for your facility may be displayed here.)

General Remarks

The total flow rate was calculated from pumping rate measurements taken from the Delavan facility extraction wells by Pentair Flow Technologies Delavan facility personnel on March 28, 2017.

Laboratory Quality Control Comments

J = Result is less than the LOQ but greater than the LOD and the concentration is an approximate value.

GEOTRANS, INC. FIELD WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION			INSTRUMENTS		
PROJECT	Delavan Facility Remedial Action		Temp. & pH	Russell RLO60P	
PROJECT NO.	Delavan Well #4		Conductivity	Hanna HI98129	
LOCATION	Delavan, WI		ORP		
PERSONNEL	Nick Dade		DO		
SAMPLE POINT	SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	03/20/2017				
CLOCK TIME (Military)	1040				
DEPTH TO WATER (ft)*	NA	NA	NA	NA	NA
MEASURED WELL DEPTH (ft)*	NA	NA	NA	NA	NA
CASING VOLUME (gallons)	NA	NA	NA	NA	NA
PURGE VOLUME (gallons)	NA	NA	NA	NA	NA
DEPTH SAMPLE TAKEN (ft)*	NA	NA	NA	NA	NA
SAMPLING DEVICE	Russell/Hanna				
FIELD TEMPERATURE (°C)	13.5				
pH	7.55				
ELEC. COND. (uS/cm)	Measured	522			
	at 25° C				
ORP (mV)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (ppm)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (% Sat.)	NA	NA	NA	NA	NA
COLOR	clear				
ODOR	None				
CLARITY	clear				
SAMPLING PARAMETERS	# OF CONTAINERS & VOLUME; CONTAINER TYPE (A = AMBER GLASS; G = GLASS; P = PLASTIC); PRESERVATIVE TYPE (L = LAB ADDED; F = FIELD ADDED) OR NEUTRAL; FILTERED (YES or NO)				
TCE, 1,1,1-TCA, 1,1,2-TCA, PCE, Vinyl Chloride (EPA Method SW 8260B)	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.
Comments: TCE = Trichloroethene. TCA = Trichloroethane. PCE = Tetrachloroethene.					
NAME OF LABORATORY	Test America	Test America	Test America	Test America	Test America
DATE SENT TO LAB	03/20/2017				
SAMPLER'S NAME	Nick Dade				

*Measured from top of well casing.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-125381-1

Client Project/Site: Delavan Well #4 WPDES

For:

Pentair Water

293 Wright Street

Delavan, Wisconsin 53115

Attn: Dennis Schwind



Authorized for release by:

3/29/2017 12:49:02 PM

Therese Hargraves, Project Manager I

therese.hargraves@testamericainc.com

Designee for

Sandie Fredrick, Project Manager II

(920)261-1660

sandie.fredrick@testamericainc.com

LINKS

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results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

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Definitions/Glossary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-125381-1

Qualifiers

General Chemistry

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.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-125381-1

Job ID: 500-125381-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-125381-1

Comments

No additional comments.

Receipt

The samples were received on 3/21/2017 10:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.8° C.

GC/MS VOA

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

General Chemistry

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



Client Sample Results

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-125381-1

Client Sample ID: SS1
Date Collected: 03/20/17 10:40
Date Received: 03/21/17 10:30

Lab Sample ID: 500-125381-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			03/23/17 13:18	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			03/23/17 13:18	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			03/23/17 13:18	1
Trichloroethene	<0.16		0.50	0.16	ug/L			03/23/17 13:18	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			03/23/17 13:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		71 - 127		03/23/17 13:18	1
4-Bromofluorobenzene (Surr)	98		71 - 120		03/23/17 13:18	1
Dibromofluoromethane	95		70 - 120		03/23/17 13:18	1
Toluene-d8 (Surr)	101		75 - 120		03/23/17 13:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<2.5		5.0	2.5	mg/L			03/21/17 14:43	1
Chloride	170		10	3.5	mg/L			03/21/17 18:30	5
Phosphorus as P	0.039	J	0.050	0.015	mg/L		03/21/17 15:15	03/22/17 20:28	1

Client Sample ID: Trip Blank
Date Collected: 03/20/17 00:00
Date Received: 03/21/17 10:30

Lab Sample ID: 500-125381-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			03/23/17 13:45	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			03/23/17 13:45	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			03/23/17 13:45	1
Trichloroethene	<0.16		0.50	0.16	ug/L			03/23/17 13:45	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			03/23/17 13:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		71 - 127		03/23/17 13:45	1
4-Bromofluorobenzene (Surr)	101		71 - 120		03/23/17 13:45	1
Dibromofluoromethane	95		70 - 120		03/23/17 13:45	1
Toluene-d8 (Surr)	105		75 - 120		03/23/17 13:45	1

Lab Chronicle

Client: Pentair Water
 Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-125381-1

Client Sample ID: SS1

Date Collected: 03/20/17 10:40

Date Received: 03/21/17 10:30

Lab Sample ID: 500-125381-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377000	03/23/17 13:18	EMA	TAL CHI
Total/NA	Analysis	SM 2540D		1	376700	03/21/17 14:43 (Start) 03/21/17 14:45 (End)	SMO	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		5	376758	03/21/17 18:30	HMW	TAL CHI
Total/NA	Prep	SM 4500 P B			376702	03/21/17 15:15	JBJ	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	376943	03/22/17 20:28 (Start) 03/22/17 20:28 (End)	JBJ	TAL CHI

Client Sample ID: Trip Blank

Date Collected: 03/20/17 00:00

Date Received: 03/21/17 10:30

Lab Sample ID: 500-125381-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377000	03/23/17 13:45	EMA	TAL CHI

Laboratory References:

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

Certification Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-125381-1

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	999580010	08-31-17

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Method Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-125381-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 P E	Phosphorus	SM	TAL CHI

Protocol References:

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

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

Laboratory References:

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

Sample Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-125381-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-125381-1	SS1	Water	03/20/17 10:40	03/21/17 10:30
500-125381-2	Trip Blank	Water	03/20/17 00:00	03/21/17 10:30

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TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 61
Phone: 708.534.5200 Fax: 708.534.5200



500-125381 COC

Report To: Nick Dade (optional) Dennis Schwind (optional)
Contact: Mark Manthey
Company: Pentair
Address: 293 S Wright St
Delavan WI 53115
Phone: 262-728-5551
Fax: _____
E-Mail: _____

Bill To: _____ (optional)
Contact: Pentair Flow Technologies LLC
Company: _____
Address: _____
Address: _____
Phone: _____
Fax: _____
PO#/Reference#: _____

Chain of Custody Record

Lab Job #: 500-125381
Chain of Custody Number: _____
Page _____ of _____
Temperature °C of Cooler: 28

Client		Client Project #		Preservative		Parameter		HCl		HCl		HCl		HCl		H ₂ SO ₄		Preservative Key			
<u>Pentair</u>				<u>HCl</u>		<u>HCl</u>		<u>HCl</u>		<u>HCl</u>		<u>H₂SO₄</u>						1. HCl, Cool to 4° 2. H ₂ SO ₄ , Cool to 4° 3. HNO ₃ , Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO ₄ 7. Cool to 4° 8. None 9. Other			
Project Name		Lab Project #		# of Containers		Matrix		TCE		TCA		PCE		Vinyl Chloride		Phosphorus		T.S.S		Chloride	
<u>Delavan Well #4 WPDES</u>								<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>			
Project Location/State		Lab PM		Date		Time														Comments	
<u>Delavan WI</u>				<u>3/20/17</u>		<u>1040</u>		<u>6</u>		<u>W</u>											
Sampler		Sample ID																			
<u>Nick Dade</u>		<u>SS1</u>																			
		<u>Trip Blank</u>																		<u>Added by TA</u>	

Turnaround Time Required (Business Days)

___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days ___ Other

Sample Disposal

Return to Client Disposal by Lab Archive for ___ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By <u>Nick Dade</u>	Company <u>Pentair</u>	Date <u>03/20/17</u>	Time <u>11:25 AM</u>	Received By <u>[Signature]</u>	Company <u>TA-CAL</u>	Date <u>3/21/17</u>	Time <u>1030</u>
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier: _____
Shipped: Fed Ex
Hand Delivered: _____

- Matrix Key
- WW - Wastewater
 - W - Water
 - S - Soil
 - SL - Sludge
 - MS - Miscellaneous
 - OL - Oil
 - A - Air
 - SE - Sediment
 - SO - Soil
 - L - Leachate
 - WI - Wipe
 - DW - Drinking Water
 - O - Other

Client Comments: _____

Lab Comments: _____

Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-125381-1

Login Number: 125381

List Source: TestAmerica Chicago

List Number: 1

Creator: Scott, Sherri L

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.8
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Wastewater Discharge Monitoring Long Report

For DNR Use Only

Facility Name: PENTAIR FLOW TECHNOLOGIES LLC
 Contact Address: 293 S. Wright St
 Delavan, WI 53115
 Facility Contact: Dennis Schwind, Env. Tech
 Phone Number: (262) 728-7225
 Reporting Period: 04/01/2017 - 04/30/2017
 Form Due Date: 05/21/2017
 Permit Number: 0055816

Date Received:
 DOC: 380968
 FIN: 7072
 FID: 265010900
 Region: Southeast Region
 Permit Drafter: Laura A Dietrich
 Reviewer: Theera T. Ratarasarn
 Office: Fitchburg

Sample Point	001	001	001	001	001	
Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
Parameter	211	487	457	388	388	
Description	Flow Rate	Temperature	Suspended Solids, Total	Phosphorus, Total	Phosphorus, Total	
Units	MGD	degF	mg/L	mg/L	lbs/day	
Sample Type	TOT DAILY	GRAB	GRAB	GRAB	CALCULATED	
Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19					
	20					
	21					
	22					
	23					
	24	0.2842	56.84	2.5	0.067	0.159
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	211		487		457		388	
	Description	Flow Rate		Temperature		Suspended Solids, Total		Phosphorus, Total	
	Units	MGD		degF		mg/L		mg/L	
Summary Values	Monthly Avg	0.2842		56.84		2.5		0.067	
	Daily Max	0.2842		56.84		2.5		0.067	
	Daily Min	0.2842		56.84		2.5		0.067	
Limit(s) in Effect	Monthly Avg						0.24	0	
QA/QC Information	LOD					1.9		0.024	
	LOQ					5		0.05	
	QC Exceedance	N		N		Y		N	
	Lab Certification					999580010		999580010	

	Sample Point	001	001	001	001	
	Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
	Parameter	490	508	561	517	
	Description	Tetrachloroethylene	Trichloro- ethylene	1,1,1-Trichloro- ethane	Vinyl chloride	
	Units	ug/L	ug/L	ug/L	ug/L	
	Sample Type	GRAB	GRAB	GRAB	GRAB	
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19					
	20					
	21					
	22					
	23					
	24		0.61	0.32	<0.38	<0.20
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	490		508		561		517	
	Description	Tetrachloroethylene		Trichloro- ethylene		1,1,1-Trichloro- ethane		Vinyl chloride	
	Units	ug/L		ug/L		ug/L		ug/L	
Summary Values	Monthly Avg	0.61		0.32		0		0	
	Daily Max	0.61		0.32		<0.38		<0.2	
	Daily Min	0.61		0.32		<0.38		<0.2	
Limit(s) in Effect	Monthly Avg	50	0	50	0	50	0	10	0
QA/QC Information	LOD	0.37		0.16		0.38		0.2	
	LOQ	1		0.5		1		0.5	
	QC Exceedance	Y		Y		N		N	
	Lab Certification	999580010		999580010		999580010		999580010	

Footnotes (DNR Use Only; Instructions for completing this form that are unique for your facility may be displayed here.)

General Remarks

The total flow rate was calculated from pumping rate measurements taken from the Delavan facility extraction wells by Pentair Flow Technologies Delavan facility personnel on March 28, 2017.

Laboratory Quality Control Comments

J = Result is less than the LOQ but greater than the LOD and the concentration is an approximate value.

GEOTRANS, INC. FIELD WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION			INSTRUMENTS		
PROJECT	Delavan Facility Remedial Action		Temp. & pH	Russell RLO60P	
PROJECT NO.	Delavan Well #4		Conductivity	Hanna HI98129	
LOCATION	Delavan, WI		ORP		
PERSONNEL	Nick Dade		DO		
SAMPLE POINT	SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	04/24/2017				
CLOCK TIME (Military)	1130				
DEPTH TO WATER (ft)*	NA	NA	NA	NA	NA
MEASURED WELL DEPTH (ft)*	NA	NA	NA	NA	NA
CASING VOLUME (gallons)	NA	NA	NA	NA	NA
PURGE VOLUME (gallons)	NA	NA	NA	NA	NA
DEPTH SAMPLE TAKEN (ft)*	NA	NA	NA	NA	NA
SAMPLING DEVICE	RLO60P				
FIELD TEMPERATURE (°C)	13.8				
pH	7.47				
ELEC. COND. (µS/cm)	Measured	515			
	at 25° C	-			
ORP (mV)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (ppm)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (% Sat.)	NA	NA	NA	NA	NA
COLOR	None				
ODOR	None				
CLARITY	Clear				
SAMPLING PARAMETERS	# OF CONTAINERS & VOLUME; CONTAINER TYPE (A = AMBER GLASS; G = GLASS; P = PLASTIC); PRESERVATIVE TYPE (L = LAB ADDED; F = FIELD ADDED) OR NEUTRAL; FILTERED (YES or NO)				
TCE, 1,1,1-TCA, 1,1,2-TCA, PCE, Vinyl Chloride (EPA Method SW 8260B)	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.
<p>Comments: TCE = Trichloroethene. TCA = Trichloroethane. PCE = Tetrachloroethene.</p>					
NAME OF LABORATORY	Test America	Test America	Test America	Test America	Test America
DATE SENT TO LAB	4/24/17				
SAMPLER'S NAME	Nick Dade				

*Measured from top of well casing.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-127096-1

Client Project/Site: Delavan Well #4 WPDES

For:

Pentair Water

293 Wright Street

Delavan, Wisconsin 53115

Attn: Dennis Schwind



Authorized for release by:

5/4/2017 8:05:55 AM

Sandie Fredrick, Project Manager II

(920)261-1660

sandie.fredrick@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

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Definitions/Glossary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-127096-1

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.

General Chemistry

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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-127096-1

Job ID: 500-127096-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-127096-1

Comments

No additional comments.

Receipt

The samples were received on 4/25/2017 10:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.9° C.

GC/MS VOA

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

General Chemistry

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



Client Sample Results

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-127096-1

Client Sample ID: SS1
Date Collected: 04/24/17 11:30
Date Received: 04/25/17 10:20

Lab Sample ID: 500-127096-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			04/29/17 15:38	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			04/29/17 15:38	1
Tetrachloroethene	0.61	J	1.0	0.37	ug/L			04/29/17 15:38	1
Trichloroethene	0.32	J	0.50	0.16	ug/L			04/29/17 15:38	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			04/29/17 15:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		75 - 126		04/29/17 15:38	1
4-Bromofluorobenzene (Surr)	106		72 - 124		04/29/17 15:38	1
Dibromofluoromethane	93		75 - 120		04/29/17 15:38	1
Toluene-d8 (Surr)	107		75 - 120		04/29/17 15:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.5	J	5.0	1.9	mg/L			04/27/17 15:18	1
Chloride	160		10	5.0	mg/L			04/27/17 19:51	5
Phosphorus as P	0.067		0.050	0.024	mg/L		04/26/17 15:15	04/26/17 21:11	1

Client Sample ID: Trip Blank
Date Collected: 04/24/17 00:00
Date Received: 04/25/17 10:20

Lab Sample ID: 500-127096-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			04/29/17 16:05	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			04/29/17 16:05	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			04/29/17 16:05	1
Trichloroethene	<0.16		0.50	0.16	ug/L			04/29/17 16:05	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			04/29/17 16:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		75 - 126		04/29/17 16:05	1
4-Bromofluorobenzene (Surr)	109		72 - 124		04/29/17 16:05	1
Dibromofluoromethane	90		75 - 120		04/29/17 16:05	1
Toluene-d8 (Surr)	106		75 - 120		04/29/17 16:05	1

Lab Chronicle

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-127096-1

Client Sample ID: SS1

Date Collected: 04/24/17 11:30

Date Received: 04/25/17 10:20

Lab Sample ID: 500-127096-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	382915	04/29/17 15:38	JMP	TAL CHI
Total/NA	Analysis	SM 2540D		1	382606	04/27/17 15:18 (Start) 04/27/17 15:19 (End)	SMO	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		5	382650	04/27/17 19:51	HMW	TAL CHI
Total/NA	Prep	SM 4500 P B			382385	04/26/17 15:15	JBJ	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	382425	04/26/17 21:11 (Start) 04/26/17 21:12 (End)	JBJ	TAL CHI

Client Sample ID: Trip Blank

Date Collected: 04/24/17 00:00

Date Received: 04/25/17 10:20

Lab Sample ID: 500-127096-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	382915	04/29/17 16:05	JMP	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-127096-1

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	08-31-17

- 1
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Method Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-127096-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 P E	Phosphorus	SM	TAL CHI

Protocol References:

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

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

Laboratory References:

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

Sample Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-127096-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-127096-1	SS1	Water	04/24/17 11:30	04/25/17 10:20
500-127096-2	Trip Blank	Water	04/24/17 00:00	04/25/17 10:20

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
 Phone: 708.534.5200 Fax: 708.534.5211

Report To: ^(optional) Mark Manthey ^(optional) _____
 Contact: Nick Dade, Dennis Schwinn Contact: _____
 Company: Pentair Company: _____
 Address: 293 S Wright St Address: _____
 Address: Delavan WI 53115 Address: _____
 Phone: 262-728-5551 Phone: _____
 Fax: _____ Fax: _____
 E-Mail: _____ PO#/Reference#: _____

Chain of Custody Record

Lab Job #: 500-127096
 Chain of Custody Number: _____
 Page _____ of _____
 Temperature °C of Cooler: 5.7 → 5.9

Client		Client Project #		Preservative		Parameter		Matrix		Comments		
<u>Pentair</u>				<u>HCl</u>	<u>HCl</u>	<u>HCl</u>	<u>H₂SO₄</u>				Preservative Key 1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other	
Project Name		Lab Project #		TCE		TCA		PCE		Phosphorus		
<u>Delavan Well #4 WPDES</u>												
Project Location/State		Lab PM		TSS		Chloride						
<u>Delavan, WI</u>												
Sampler												
<u>Nick Dade</u>												
Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix						
<u>1</u>		<u>SS1</u>	<u>04/24/17</u>	<u>1130</u>	<u>5</u>	<u>W</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	
<u>2</u>		<u>Trip Blank</u>			<u>1</u>						<u>Added by TA</u>	

Turnaround Time Required (Business Days)

___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days ___ Other

Sample Disposal

Return to Client Disposal by Lab Archive for ___ Months (A fee may be assessed if samples are retained longer than 1 month)

Requested Due Date _____

Relinquished By <u>Nick Dade</u>	Company <u>Pentair</u>	Date <u>4/24/17</u>	Time <u>1205</u>	Received By <u>[Signature]</u>	Company <u>TA</u>	Date <u>04/25/17</u>	Time <u>1020</u>	Lab Courier
Relinquished By	Company	Date	Time	Received By	Company	Date	Time	Shipped <u>Fed Ex</u>
Relinquished By	Company	Date	Time	Received By	Company	Date	Time	Hand Delivered

Matrix Key

- WW - Wastewater
- W - Water
- S - Soil
- SL - Sludge
- MS - Miscellaneous
- OL - Oil
- A - Air
- SE - Sediment
- SO - Soil
- L - Leachate
- WI - Wipe
- DW - Drinking Water
- O - Other

Client Comments

Lab Comments:



500-127096 COC

Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-127096-1

Login Number: 127096

List Source: TestAmerica Chicago

List Number: 1

Creator: Kelsey, Shawn M

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	5.9c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Wastewater Discharge Monitoring Long Report

For DNR Use Only

Facility Name: PENTAIR FLOW TECHNOLOGIES LLC
 Contact Address: 293 S. Wright St
 Delavan, WI 53115
 Facility Contact: Dennis Schwind, Env. Tech
 Phone Number: (262) 728-7225
 Reporting Period: 05/01/2017 - 05/31/2017
 Form Due Date: 06/21/2017
 Permit Number: 0055816

Date Received:
 DOC: 380969
 FIN: 7072
 FID: 265010900
 Region: Southeast Region
 Permit Drafter: Laura A Dietrich
 Reviewer: Theera T. Ratarasarn
 Office: Fitchburg

Sample Point	001	001	001	001	001	
Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
Parameter	211	487	457	388	388	
Description	Flow Rate	Temperature	Suspended Solids, Total	Phosphorus, Total	Phosphorus, Total	
Units	MGD	degF	mg/L	mg/L	lbs/day	
Sample Type	TOT DAILY	GRAB	GRAB	GRAB	CALCULATED	
Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
	8	0.2842	55.22	<1.9	0.033	0.078
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18					
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	20					
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	28					
	29					
	30					
	31					

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	211		487		457		388	
	Description	Flow Rate		Temperature		Suspended Solids, Total		Phosphorus, Total	
	Units	MGD		degF		mg/L		mg/L	
Summary Values	Monthly Avg	0.2842		55.22		0		0.033	
	Daily Max	0.2842		55.22		<1.9		0.033	
	Daily Min	0.2842		55.22		<1.9		0.033	
Limit(s) in Effect	Monthly Avg						0.24	0	
QA/QC Information	LOD					1.9		0.024	
	LOQ					5		0.05	
	QC Exceedance	N		N		N		Y	
	Lab Certification					999580010		999580010	

	Sample Point	001	001	001	001
	Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole
	Parameter	490	508	561	517
	Description	Tetrachloroethylene	Trichloro- ethylene	1,1,1-Trichloro- ethane	Vinyl chloride
	Units	ug/L	ug/L	ug/L	ug/L
	Sample Type	GRAB	GRAB	GRAB	GRAB
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY
Sample Results	Day 1				
	2				
	3				
	4				
	5				
	6				
	7				
	8	<0.37	<0.16	<0.38	<0.20
	9				
	10				
	11				
	12				
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	16				
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	30				
	31				

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	490		508		561		517	
	Description	Tetrachloroethylene		Trichloro- ethylene		1,1,1-Trichloro- ethane		Vinyl chloride	
	Units	ug/L		ug/L		ug/L		ug/L	
Summary Values	Monthly Avg	0		0		0		0	
	Daily Max	<0.37		<0.16		<0.38		<0.2	
	Daily Min	<0.37		<0.16		<0.38		<0.2	
Limit(s) in Effect	Monthly Avg	50	0	50	0	50	0	10	0
QA/QC Information	LOD	0.37		0.16		0.38		0.2	
	LOQ	1		0.5		1		0.5	
	QC Exceedance	N		N		N		N	
	Lab Certification	999580010		999580010		999580010		999580010	

Footnotes (DNR Use Only; Instructions for completing this form that are unique for your facility may be displayed here.)

General Remarks

The total flow rate was calculated from pumping rate measurements taken from the Delavan facility extraction wells by Pentair Flow Technologies Delavan facility personnel on March 28, 2017.

Laboratory Quality Control Comments

J = Result is less than the LOQ but greater than the LOD and the concentration is an approximate value.

GEOTRANS, INC. FIELD WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION			INSTRUMENTS		
PROJECT	Delavan Facility Remedial Action		Temp. & pH	HI98123	
PROJECT NO.	DELAVAN WELL #4 WPDES		Conductivity	HI98129	
LOCATION	Delavan, WI		ORP		
PERSONNEL	Dennis Schwirz		DO		
SAMPLE POINT	SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	5/8/17				
CLOCK TIME (Military)	0955				
DEPTH TO WATER (ft)*	NA	NA	NA	NA	NA
MEASURED WELL DEPTH (ft)*	NA	NA	NA	NA	NA
CASING VOLUME (gallons)	NA	NA	NA	NA	NA
PURGE VOLUME (gallons)	NA	NA	NA	NA	NA
DEPTH SAMPLE TAKEN (ft)*	NA	NA	NA	NA	NA
SAMPLING DEVICE	HI98129				
FIELD TEMPERATURE (°C)	12.9				
pH	7.51				
ELEC. COND. (uS/cm)	Measured	1099			
	at 25° C				
ORP (mV)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (ppm)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (% Sat.)	NA	NA	NA	NA	NA
COLOR	CLEAR				
ODOR	NONE				
CLARITY	CLEAR				
SAMPLING PARAMETERS	# OF CONTAINERS & VOLUME; CONTAINER TYPE (A = AMBER GLASS; G = GLASS; P = PLASTIC); PRESERVATIVE TYPE (L = LAB ADDED; F = FIELD ADDED) OR NEUTRAL; FILTERED (YES or NO)				
TCE, 1,1,1-TCA, 1,1,2-TCA, PCE, Vinyl Chloride (EPA Method SW 8260B)	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.
<p>Comments: TCE = Trichloroethene. TCA = Trichloroethane. PCE = Tetrachloroethene.</p>					
NAME OF LABORATORY	Test America	Test America	Test America	Test America	Test America
DATE SENT TO LAB	5/8/17				
SAMPLER'S NAME	Dennis Schwirz				

*Measured from top of well casing.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-127839-1

Client Project/Site: Delavan Well #4 WPDES

For:

Pentair Water

293 Wright Street

Delavan, Wisconsin 53115

Attn: Dennis Schwind



Authorized for release by:

5/23/2017 12:38:41 PM

Sandie Fredrick, Project Manager II

(920)261-1660

sandie.fredrick@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

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Definitions/Glossary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-127839-1

Qualifiers

General Chemistry

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.

Glossary

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

Case Narrative

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-127839-1

Job ID: 500-127839-1

Laboratory: TestAmerica Chicago

Narrative

**Job Narrative
500-127839-1**

Comments

No additional comments.

Receipt

The samples were received on 5/9/2017 9:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.0° C.

GC/MS VOA

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

General Chemistry

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



Client Sample Results

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-127839-1

Client Sample ID: SS1

Date Collected: 05/08/17 09:55

Date Received: 05/09/17 09:40

Lab Sample ID: 500-127839-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			05/19/17 17:13	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			05/19/17 17:13	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			05/19/17 17:13	1
Trichloroethene	<0.16		0.50	0.16	ug/L			05/19/17 17:13	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			05/19/17 17:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		75 - 126		05/19/17 17:13	1
4-Bromofluorobenzene (Surr)	117		72 - 124		05/19/17 17:13	1
Dibromofluoromethane	100		75 - 120		05/19/17 17:13	1
Toluene-d8 (Surr)	106		75 - 120		05/19/17 17:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<1.9		5.0	1.9	mg/L			05/11/17 14:12	1
Chloride	180		10	5.0	mg/L			05/12/17 01:11	5
Phosphorus as P	0.033 J		0.050	0.024	mg/L		05/10/17 12:35	05/11/17 16:40	1

Client Sample ID: Trip Blank

Date Collected: 05/08/17 00:00

Date Received: 05/09/17 09:40

Lab Sample ID: 500-127839-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			05/19/17 16:46	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			05/19/17 16:46	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			05/19/17 16:46	1
Trichloroethene	<0.16		0.50	0.16	ug/L			05/19/17 16:46	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			05/19/17 16:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	119		75 - 126		05/19/17 16:46	1
4-Bromofluorobenzene (Surr)	117		72 - 124		05/19/17 16:46	1
Dibromofluoromethane	99		75 - 120		05/19/17 16:46	1
Toluene-d8 (Surr)	106		75 - 120		05/19/17 16:46	1

Lab Chronicle

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-127839-1

Client Sample ID: SS1

Date Collected: 05/08/17 09:55

Date Received: 05/09/17 09:40

Lab Sample ID: 500-127839-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	385955	05/19/17 17:13	JMP	TAL CHI
Total/NA	Analysis	SM 2540D		1	384816	05/11/17 14:12 (Start) 05/11/17 14:14 (End)	SMO	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		5	384862	05/12/17 01:11	HMW	TAL CHI
Total/NA	Prep	SM 4500 P B			384597	05/10/17 12:35	JB	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	385001	05/11/17 16:40 (Start) 05/11/17 16:40 (End)	JB	TAL CHI

Client Sample ID: Trip Blank

Date Collected: 05/08/17 00:00

Date Received: 05/09/17 09:40

Lab Sample ID: 500-127839-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	385955	05/19/17 16:46	JMP	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-127839-1

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	08-31-17

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Method Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-127839-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 P E	Phosphorus	SM	TAL CHI

Protocol References:

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

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

Laboratory References:

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

Sample Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-127839-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-127839-1	SS1	Water	05/08/17 09:55	05/09/17 09:40
500-127839-2	Trip Blank	Water	05/08/17 00:00	05/09/17 09:40

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
 Phone: 708.534.5200 Fax: 708.534.5211

Report To: Nick Page (optional)
 Contact: Mark Menthay Dennis Schwind
 Company: Pentair
 Address: 2935 Wright St
Delavan WI 53115
 Phone: 262-728-5551
 Fax: _____
 E-Mail: _____

Bill To: _____ (optional)
 Contact: _____
 Company: _____
 Address: _____
 Address: _____
 Phone: _____
 Fax: _____
 PO#/Reference#: _____

Chain of Custody Record

Lab Job #: 500-127839
 Chain of Custody Number: _____
 Page _____ of _____
 Temperature °C of Cooler: 49-75.0

Client		Client Project #		Preservative		Parameter		Matrix		Comments		
PENTAIR FLOW TECHNOLOGIES		DELAVAN WELL #4 WPDES		HCl	HCl	HCl	HCl	H ₂ O ₂			Preservative Key 7 4° 1 to 4° 1 to 4° Cool to 4° 500-127839 COC 8. 0.0000	
Project Name		Project Location/State		Sample		Lab Project #		Lab PM				
DELAVAN WI		Dennis Schwind		TCE		TCA		PCE		Viny Chloride		
MS/MSD		Sample ID		Sampling		# of Containers		Matrix				
				Date Time								
1	SS1	5/8/17	0955	6	W	X	X	X	X	X	X	
2	Trip Blank											Added by TA 05/09/17 AS

Turnaround Time Required (Business Days)

1 Day 2 Days 5 Days 7 Days 10 Days 15 Days Other

Sample Disposal

Return to Client Disposal by Lab Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>Dennis Schwind</u> Company: <u>Pentair</u> Date: <u>5/8/17</u> Time: <u>1045</u>	Received By: <u>Sarah Sandy</u> Company: <u>TACHIE</u> Date: <u>05/09/17</u> Time: <u>0940</u>
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: _____ Company: _____ Date: _____ Time: _____
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: _____ Company: _____ Date: _____ Time: _____

Lab Courier: _____
 Shipped: Ex Priority
 Hand Delivered: _____

Matrix Key

- WW - Wastewater
- W - Water
- S - Soil
- SL - Sludge
- MS - Miscellaneous
- OL - Oil
- A - Air
- SE - Sediment
- SO - Soil
- L - Leachate
- WI - Wipe
- DW - Drinking Water
- O - Other

Client Comments:

Lab Comments:

ORIGIN ID: JVLA (888) 472-0884
CUSTOMER SERVICE
PENTAIR FLOW TECHNOLOGIES
293 SOUTH WRIGHT STREET

SHIP DATE: 08MAY17
ACTWGT: 13.95 LB MAN
CAD: 583065/CAF3011

DELAVAN, WI 53115
UNITED STATES US

BILL SENDER

TEST AMERICA

2417 BOND ST

UNIVERSITY PARK IL 60484

540C1/8734/727F

INV: REF: DEPT:
PO:



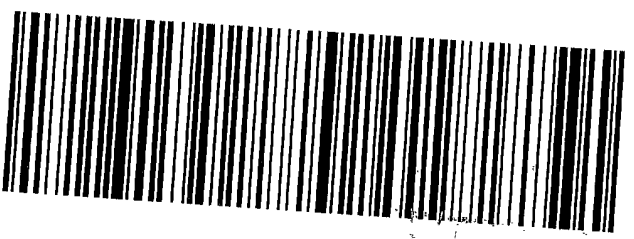
TRK# 4215 2705 3941
0201

TUE - 09 MAY 10:30A
PRIORITY OVERNIGHT

79 JOTA

60484
IL-US ORD

Part # 1561450-434 RITZ EXP 01/16 ***



500-127839 Waybill

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Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-127839-1

Login Number: 127839

List Source: TestAmerica Chicago

List Number: 1

Creator: Sanchez, Ariel M

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	5.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Wastewater Discharge Monitoring Long Report

For DNR Use Only

Facility Name: PENTAIR FLOW TECHNOLOGIES LLC
 Contact Address: 293 S. Wright St
 Delavan, WI 53115
 Facility Contact: Dennis Schwind, Env. Tech
 Phone Number: (262) 728-7225
 Reporting Period: 06/01/2017 - 06/30/2017
 Form Due Date: 07/21/2017
 Permit Number: 0055816

Date Received:
 DOC: 380970
 FIN: 7072
 FID: 265010900
 Region: Southeast Region
 Permit Drafter: Laura A Dietrich
 Reviewer: Theera T. Ratarasarn
 Office: Fitchburg

Sample Point	001	001	001	001	001	
Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
Parameter	211	487	457	388	388	
Description	Flow Rate	Temperature	Suspended Solids, Total	Phosphorus, Total	Phosphorus, Total	
Units	MGD	degF	mg/L	mg/L	lbs/day	
Sample Type	TOT DAILY	GRAB	GRAB	GRAB	CALCULATED	
Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
	8	0.2842	56.66	<1.9	0.15	0.356
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19					
	20					
	21					
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	28					
	29					
	30					
	31					

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	211		487		457		388	
	Description	Flow Rate		Temperature		Suspended Solids, Total		Phosphorus, Total	
	Units	MGD		degF		mg/L		mg/L	
Summary Values	Monthly Avg	0.2842		56.66		0		0.15	
	Daily Max	0.2842		56.66		<1.9		0.15	
	Daily Min	0.2842		56.66		<1.9		0.15	
Limit(s) in Effect	Monthly Avg						0.24	0	
QA/QC Information	LOD					1.9		0.024	
	LOQ					5		0.05	
	QC Exceedance	N		N		N		N	
	Lab Certification					999580010		999580010	

	Sample Point	001	001	001	001
	Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole
	Parameter	490	508	561	517
	Description	Tetrachloroethylene	Trichloro- ethylene	1,1,1-Trichloro- ethane	Vinyl chloride
	Units	ug/L	ug/L	ug/L	ug/L
	Sample Type	GRAB	GRAB	GRAB	GRAB
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY
Sample Results	Day 1				
	2				
	3				
	4				
	5				
	6				
	7				
	8	0.57	<0.16	<0.38	<0.20
	9				
	10				
	11				
	12				
	13				
	14				
	15				
	16				
	17				
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	28				
	29				
	30				
	31				

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	490		508		561		517	
	Description	Tetrachloroethylene		Trichloro- ethylene		1,1,1-Trichloro- ethane		Vinyl chloride	
	Units	ug/L		ug/L		ug/L		ug/L	
Summary Values	Monthly Avg	0.57		0		0		0	
	Daily Max	0.57		<0.16		<0.38		<0.2	
	Daily Min	0.57		<0.16		<0.38		<0.2	
Limit(s) in Effect	Monthly Avg	50	0	50	0	50	0	10	0
QA/QC Information	LOD	0.37		0.16		0.38		0.2	
	LOQ	1		0.5		1		0.5	
	QC Exceedance	Y		N		N		N	
	Lab Certification	999580010		999580010		999580010		999580010	

Footnotes (DNR Use Only; Instructions for completing this form that are unique for your facility may be displayed here.)

General Remarks

The total flow rate was calculated from pumping rate measurements taken from the Delavan facility extraction wells by Pentair Flow Technologies Delavan facility personnel on March 28, 2017.

Laboratory Quality Control Comments

J = Result is less than the LOQ but greater than the LOD and the concentration is an approximate value.

GEOTRANS, INC. FIELD WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION		INSTRUMENTS				
PROJECT	Delavan Facility Remedial Action	Temp. & pH	HS 92124			
PROJECT NO.	10112121	Conductivity	1105			
LOCATION	Delavan, WI	ORP				
PERSONNEL	W. Jones	DO				
SAMPLE POINT	SS-1	SS-1	SS-1	SS-1	SS-1	
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	
DATE (month/day/year)	06/08/17					
CLOCK TIME (Military)	0940					
DEPTH TO WATER (ft)*	NA	NA	NA	NA	NA	
MEASURED WELL DEPTH (ft)*	NA	NA	NA	NA	NA	
CASING VOLUME (gallons)	NA	NA	NA	NA	NA	
PURGE VOLUME (gallons)	NA	NA	NA	NA	NA	
DEPTH SAMPLE TAKEN (ft)*	NA	NA	NA	NA	NA	
SAMPLING DEVICE	HS 2789					
FIELD TEMPERATURE (°C)	13.7					
pH	7.56					
ELEC. COND. (uS/cm)	Measured at 25° C					
	1105					
ORP (mV)	NA	NA	NA	NA	NA	
DISSOLVED OXYGEN (ppm)	NA	NA	NA	NA	NA	
DISSOLVED OXYGEN (% Sat.)	NA	NA	NA	NA	NA	
COLOR	CLEAR					
ODOR	NONE					
CLARITY	CLEAR					
SAMPLING PARAMETERS	# OF CONTAINERS & VOLUME; CONTAINER TYPE (A = AMBER GLASS; G = GLASS; P = PLASTIC); PRESERVATIVE TYPE (L = LAB ADDED; F = FIELD ADDED) OR NEUTRAL; FILTERED (YES or NO)					
TCE, 1,1,1-TCA, 1,1,2-TCA, PCE, Vinyl Chloride (EPA Method SW 8260B)	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	
Comments: TCE = Trichloroethene. TCA = Trichloroethane. PCE = Tetrachloroethene.						
NAME OF LABORATORY	Test America	Test America	Test America	Test America	Test America	
DATE SENT TO LAB	6/8/17					
SAMPLER'S NAME	W. Jones					

*Measured from top of well casing.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-129421-1

Client Project/Site: Delavan Well #4 WPDES

For:

Pentair Water

293 Wright Street

Delavan, Wisconsin 53115

Attn: Dennis Schwind



Authorized for release by:

6/20/2017 2:09:44 PM

Sandie Fredrick, Project Manager II

(920)261-1660

sandie.fredrick@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

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Definitions/Glossary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-129421-1

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.

Glossary

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

Case Narrative

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-129421-1

Job ID: 500-129421-1

Laboratory: TestAmerica Chicago

Narrative

**Job Narrative
500-129421-1**

Comments

No additional comments.

Receipt

The samples were received on 6/9/2017 10:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.7° C.

GC/MS VOA

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

General Chemistry

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



Client Sample Results

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-129421-1

Client Sample ID: SS1
Date Collected: 06/08/17 09:40
Date Received: 06/09/17 10:15

Lab Sample ID: 500-129421-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/16/17 16:36	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/16/17 16:36	1
Tetrachloroethene	0.57	J	1.0	0.37	ug/L			06/16/17 16:36	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/16/17 16:36	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/16/17 16:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		75 - 126		06/16/17 16:36	1
4-Bromofluorobenzene (Surr)	105		72 - 124		06/16/17 16:36	1
Dibromofluoromethane	94		75 - 120		06/16/17 16:36	1
Toluene-d8 (Surr)	102		75 - 120		06/16/17 16:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<1.9		5.0	1.9	mg/L			06/12/17 10:39	1
Chloride	180		2.0	1.0	mg/L			06/12/17 00:05	1
Phosphorus as P	0.15		0.050	0.024	mg/L		06/12/17 11:08	06/13/17 16:48	1

Client Sample ID: Trip Blank
Date Collected: 06/08/17 00:00
Date Received: 06/09/17 10:15

Lab Sample ID: 500-129421-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/16/17 14:30	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/16/17 14:30	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/16/17 14:30	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/16/17 14:30	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/16/17 14:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		75 - 126		06/16/17 14:30	1
4-Bromofluorobenzene (Surr)	103		72 - 124		06/16/17 14:30	1
Dibromofluoromethane	94		75 - 120		06/16/17 14:30	1
Toluene-d8 (Surr)	102		75 - 120		06/16/17 14:30	1

Lab Chronicle

Client: Pentair Water
 Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-129421-1

Client Sample ID: SS1

Date Collected: 06/08/17 09:40

Date Received: 06/09/17 10:15

Lab Sample ID: 500-129421-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	389748	06/16/17 16:36	EMA	TAL CHI
Total/NA	Analysis	SM 2540D		1	389119	06/12/17 10:39 (Start) 06/12/17 10:41 (End)	SMO	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		1	389174	06/12/17 00:05	HMW	TAL CHI
Total/NA	Prep	SM 4500 P B			389113	06/12/17 11:08	JBJ	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	389316	06/13/17 16:48 (Start) 06/13/17 16:48 (End)	JBJ	TAL CHI

Client Sample ID: Trip Blank

Date Collected: 06/08/17 00:00

Date Received: 06/09/17 10:15

Lab Sample ID: 500-129421-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	389748	06/16/17 14:30	EMA	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-129421-1

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	08-31-17

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Method Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-129421-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 P E	Phosphorus	SM	TAL CHI

Protocol References:

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

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

Laboratory References:

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

Sample Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-129421-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-129421-1	SS1	Water	06/08/17 09:40	06/09/17 10:15
500-129421-2	Trip Blank	Water	06/08/17 00:00	06/09/17 10:15

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TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 60
Phone: 708.534.5200 Fax: 708.534



500-129421 COC

Report To Wick Dade (optional) Mark Manthey Bill To _____ (optional)
 Contact: Dennis Schwind Contact: _____
 Company: Pentair Flow Technologies Company: _____
 Address: 293 Wright St Address: _____
 Address: Delavan WI 53115 Address: _____
 Phone: 262-728-5551 Phone: _____
 Fax: _____ Fax: _____
 E-Mail: _____ PO#/Reference# _____

Chain of Custody Record

Lab Job #: 500-129421
 Chain of Custody Number: _____
 Page _____ of _____
 Temperature °C of Cooler: 3.6 → 3.7

Client		Client Project #		Preservative		Parameter		Matrix		Comments	
<u>Pentair Flow Technologies</u>		<u>WPDES Delavan Well #4</u>		<u>HCl HCl HCl HCl H₂SO₄</u>		<u>TCG TCA PCE Vinyl Chloride P T.S.S. Chloride</u>				Preservative Key 1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other	
Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix					
<u>1</u>		<u>SSI</u>	<u>6/8/17</u>	<u>0940</u>	<u>5</u>	<u>W</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
<u>2</u>		<u>Trip Blank</u>			<u>1</u>						

Turnaround Time Required (Business Days)

Sample Disposal

1 Day 2 Days 5 Days 7 Days 10 Days 15 Days Other
 Return to Client Disposal by Lab Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By <u>Ronald...</u> Company <u>Pentair</u> Date <u>6/8/17</u> Time <u>1030</u>	Received By <u>[Signature]</u> Company <u>TA</u> Date <u>6-9-17</u> Time <u>1015</u>
Relinquished By Company Date Time	Received By Company Date Time
Relinquished By Company Date Time	Received By Company Date Time

Lab Courier: _____
 Shipped: _____
 Hand Delivered: _____

- Matrix Key
- WW - Wastewater
 - W - Water
 - S - Soil
 - SL - Sludge
 - MS - Miscellaneous
 - OL - Oil
 - A - Air
 - SE - Sediment
 - SO - Soil
 - L - Leachate
 - WI - Wipe
 - DW - Drinking Water
 - O - Other

Client Comments: _____

Lab Comments: 12 gal.

ORIGIN ID: JVLA (888) 472-0884
CUSTOMER SERVICE
PENTAIR FLOW TECHNOLOGIES
293 SOUTH WRIGHT STREET

SHIP DATE: 09JUN17
ACTWGT: 11.90 LB
CAD: 583065/CAFE3011

DELAVAN, MI 53115
UNITED STATES US

BILL SENDER

0 TEST AMERICA

2417 BOND ST

UNIVERSITY PARK IL 60484

548CL/R502/727F

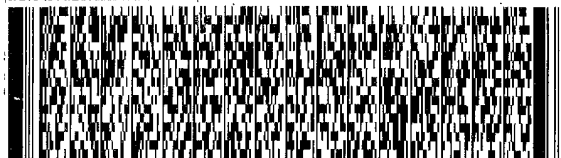


500-129421 Waybill

INV:
PO:

REF:

DEPT:



FedEx
Express



J161216101001uv

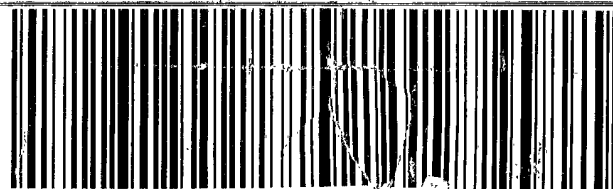
TRK# 4215 2705 5186
0201

FRI - 09 JUN 10:30A
PRIORITY OVERNIGHT

79 JOTA

60484
IL US ORD

Part # 156148V-434 RITZ APV EXP 12/17



Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-129421-1

Login Number: 129421

List Source: TestAmerica Chicago

List Number: 1

Creator: James, Jeff A

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	3.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Wastewater Discharge Monitoring Long Report

For DNR Use Only

Facility Name: PENTAIR FLOW TECHNOLOGIES LLC
 Contact Address: 293 S. Wright St
 Delavan, WI 53115
 Facility Contact: Dennis Schwind, Env. Tech
 Phone Number: (262) 728-7225
 Reporting Period: 07/01/2017 - 07/31/2017
 Form Due Date: 08/21/2017
 Permit Number: 0055816

Date Received:
 DOC: 385363
 FIN: 7072
 FID: 265010900
 Region: Southeast Region
 Permit Drafter: Laura A Dietrich
 Reviewer: Bryan D Hartsook
 Office: Milwaukee

Sample Point	001	001	001	001	001	
Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
Parameter	211	487	457	388	388	
Description	Flow Rate	Temperature	Suspended Solids, Total	Phosphorus, Total	Phosphorus, Total	
Units	MGD	degF	mg/L	mg/L	lbs/day	
Sample Type	TOT DAILY	GRAB	GRAB	GRAB	CALCULATED	
Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19	0.2739	75.38	6	0.077	0.176
	20					
	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	211		487		457		388	
	Description	Flow Rate		Temperature		Suspended Solids, Total		Phosphorus, Total	
	Units	MGD		degF		mg/L		mg/L	
Summary Values	Monthly Avg	0.2739		75.38		6		0.077	
	Daily Max	0.2739		75.38		6		0.077	
	Daily Min	0.2739		75.38		6		0.077	
Limit(s) in Effect	Monthly Avg						0.24	0	
QA/QC Information	LOD					1.9		0.024	
	LOQ					5		0.05	
	QC Exceedance	N		N		N		N	
	Lab Certification					999580010		999580010	

	Sample Point	001	001	001	001	
	Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
	Parameter	490	508	561	517	
	Description	Tetrachloroethylene	Trichloro- ethylene	1,1,1-Trichloro- ethane	Vinyl chloride	
	Units	ug/L	ug/L	ug/L	ug/L	
	Sample Type	GRAB	GRAB	GRAB	GRAB	
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18		<0.37	<0.16	<0.38	<0.20
	19					
	20					
	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	490		508		561		517	
	Description	Tetrachloroethylene		Trichloro- ethylene		1,1,1-Trichloro- ethane		Vinyl chloride	
	Units	ug/L		ug/L		ug/L		ug/L	
Summary Values	Monthly Avg	0		0		0		0	
	Daily Max	<0.37		<0.16		<0.38		<0.2	
	Daily Min	<0.37		<0.16		<0.38		<0.2	
Limit(s) in Effect	Monthly Avg	50	0	50	0	50	0	10	0
QA/QC Information	LOD	0.37		0.16		0.38		0.2	
	LOQ	1		0.5		1		0.5	
	QC Exceedance	N		N		N		N	
	Lab Certification	999580010		999580010		999580010		999580010	

Footnotes (DNR Use Only; Instructions for completing this form that are unique for your facility may be displayed here.)

General Remarks

The total flow rate was calculated from pumping rate measurements taken from the Delavan facility extraction wells by Pentair Flow Technologies Delavan facility personnel on June 29, 2017.

Laboratory Quality Control Comments

GEOTRANS, INC. FIELD WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION			INSTRUMENTS		
PROJECT	Delavan Facility Remedial Action		Temp. & pH	HI98129	
PROJECT NO.	Delavan Well #4		Conductivity	HI98129	
LOCATION	Delavan, WI		ORP		
PERSONNEL			DO		
SAMPLE POINT	SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	07/19/17				
CLOCK TIME (Military)	11:38				
DEPTH TO WATER (ft)*	NA	NA	NA	NA	NA
MEASURED WELL DEPTH (ft)*	NA	NA	NA	NA	NA
CASING VOLUME (gallons)	NA	NA	NA	NA	NA
PURGE VOLUME (gallons)	NA	NA	NA	NA	NA
DEPTH SAMPLE TAKEN (ft)*	NA	NA	NA	NA	NA
SAMPLING DEVICE	HI98129				
FIELD TEMPERATURE (°C)	24.1				
pH	8.11				
ELEC. COND. (uS/cm)	Measured	609			
	at 25° C				
ORP (mV)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (ppm)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (% Sat)	NA	NA	NA	NA	NA
COLOR	Clear				
ODOR	None				
CLARITY	Clear				
SAMPLING PARAMETERS	# OF CONTAINERS & VOLUME; CONTAINER TYPE (A = AMBER GLASS; G = GLASS; P = PLASTIC); PRESERVATIVE TYPE (L = LAB ADDED; F = FIELD ADDED) OR NEUTRAL; FILTERED (YES or NO)				
TCE, 1,1,1-TCA, 1,1,2-TCA, PCE, Vinyl Chloride (EPA Method SW 8260B)	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.
<p>Comments: TCE = Trichloroethene. TCA = Trichloroethane. PCE = Tetrachloroethene.</p>					
NAME OF LABORATORY	Test America	Test America	Test America	Test America	Test America
DATE SENT TO LAB	7-19-17				
SAMPLER'S NAME	Thomas Samuel				

*Measured from top of well casing.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-131370-1
Client Project/Site: Delavan Well #4 WPDES

For:
Pentair Water
293 Wright Street
Delavan, Wisconsin 53115

Attn: Thomas Samuel



Authorized for release by:
7/31/2017 1:52:13 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

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Table of Contents

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Table of Contents	2
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Client Sample Results	5
Lab Chronicle	6
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Method Summary	8
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Definitions/Glossary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-131370-1

Glossary

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

Case Narrative

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-131370-1

Job ID: 500-131370-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-131370-1

Comments

No additional comments.

Receipt

The samples were received on 7/20/2017 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 14.5° C.

GC/MS VOA

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

General Chemistry

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



Client Sample Results

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-131370-1

Client Sample ID: SS1
Date Collected: 07/19/17 00:00
Date Received: 07/20/17 09:50

Lab Sample ID: 500-131370-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/28/17 03:53	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/28/17 03:53	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/28/17 03:53	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/28/17 03:53	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			07/28/17 03:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		75 - 126		07/28/17 03:53	1
4-Bromofluorobenzene (Surr)	104		72 - 124		07/28/17 03:53	1
Dibromofluoromethane	101		75 - 120		07/28/17 03:53	1
Toluene-d8 (Surr)	102		75 - 120		07/28/17 03:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	6.0		5.0	1.9	mg/L			07/20/17 17:34	1
Chloride	120		10	5.0	mg/L			07/30/17 23:56	5
Phosphorus as P	0.077		0.050	0.024	mg/L		07/24/17 08:16	07/25/17 08:22	1

Client Sample ID: Trip Blank
Date Collected: 07/19/17 00:00
Date Received: 07/20/17 09:50

Lab Sample ID: 500-131370-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/28/17 04:22	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/28/17 04:22	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/28/17 04:22	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/28/17 04:22	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			07/28/17 04:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		75 - 126		07/28/17 04:22	1
4-Bromofluorobenzene (Surr)	103		72 - 124		07/28/17 04:22	1
Dibromofluoromethane	97		75 - 120		07/28/17 04:22	1
Toluene-d8 (Surr)	101		75 - 120		07/28/17 04:22	1

Lab Chronicle

Client: Pentair Water
 Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-131370-1

Client Sample ID: SS1
Date Collected: 07/19/17 00:00
Date Received: 07/20/17 09:50

Lab Sample ID: 500-131370-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	394804	07/28/17 03:53	PMF	TAL CHI
Total/NA	Analysis	SM 2540D		1	393886	07/20/17 17:34 (Start) 07/20/17 17:35 (End)	SMO	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	395160	07/30/17 23:56	HMW	TAL CHI
Total/NA	Prep	SM 4500 P B			394142	07/24/17 08:16	JBj	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	394351	07/25/17 08:22 (Start) 07/25/17 08:22 (End)	JBj	TAL CHI

Client Sample ID: Trip Blank
Date Collected: 07/19/17 00:00
Date Received: 07/20/17 09:50

Lab Sample ID: 500-131370-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	394804	07/28/17 04:22	PMF	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-131370-1

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	08-31-17 *

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

TestAmerica Chicago



Method Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-131370-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 P E	Phosphorus	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

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



Sample Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-131370-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-131370-1	SS1	Water	07/19/17 00:00	07/20/17 09:50
500-131370-2	Trip Blank	Water	07/19/17 00:00	07/20/17 09:50

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TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 1
Phone: 708.534.5200 Fax: 708.5



500-131370 COC

Report To ^(optional) Mark Manthey
Contact: Thomas Samuel
Company: Pentair Flow Technologies
Address: 293 S. Wright St.
Address: Delavan, WI 53115
Phone: 262-728-5551
Fax: _____
E-Mail: _____

Bill To ^(optional) _____
Contact: _____
Company: _____
Address: _____
Address: _____
Phone: _____
Fax: _____
PO#/Reference# _____

Chain of Custody Record

Lab Job #: 500-131370
Chain of Custody Number: _____
Page _____ of _____
Temperature °C of Cooler: 16.4-7.45

Client		Client Project #		Preservative		Parameter		HCl		HCl		HCl		HCl		H ₂ SO ₄		Preservative Key			
<u>Pentair Flow Technologies</u>								<u>TCE</u>		<u>TCA</u>		<u>PCE</u>		<u>Vinyl Chloride</u>		<u>P</u>		<u>T.S.S.</u>		<u>Chloride</u>	
Project Name		Lab Project #		# of Containers		Matrix												1. HCL, Cool to 4°			
<u>WPDES Delavan Well #4</u>																		2. H2SO4, Cool to 4°			
Project Location/State		Lab PM		Date		Time												3. HNO3, Cool to 4°			
<u>Delavan, WI</u>				<u>7/19/17</u>														4. NaOH, Cool to 4°			
Sampler																		5. NaOH/Zn, Cool to 4°			
<u>Thomas Samuel</u>																		6. NaHSO4			
Lab ID	MS/MSD	Sample ID		Sampling		# of Containers	Matrix											7. Cool to 4°			
<u>1</u>		<u>SSI</u>				<u>5</u>	<u>W</u>	<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		8. None			
<u>2</u>		<u>Trip Blank</u>				<u>1</u>												9. Other			
																		Comments			

Turnaround Time Required (Business Days)

1 Day 2 Days 5 Days 7 Days 10 Days 15 Days Other

Requested Due Date _____

Sample Disposal

Return to Client Disposal by Lab Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By <u>Thomas Samuel</u> Company <u>Pentair</u> Date <u>7-19-17</u> Time <u>11:38</u>	Received By <u>Shen-Lois FA-CAT</u> Company _____ Date <u>7/20/17</u> Time <u>0950</u>
Relinquished By _____ Company _____ Date _____ Time _____	Received By _____ Company _____ Date _____ Time _____
Relinquished By _____ Company _____ Date _____ Time _____	Received By _____ Company _____ Date _____ Time _____

Lab Courier _____
Shipped Fed-X
Hand Delivered _____

Matrix Key

WW - Wastewater SE - Sediment
W - Water SO - Soil
S - Soil L - Leachate
SL - Sludge WI - Wipe
MS - Miscellaneous DW - Drinking Water
OL - Oil O - Other
A - Air

Client Comments

Lab Comments:

Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-131370-1

Login Number: 131370

List Source: TestAmerica Chicago

List Number: 1

Creator: Scott, Sherri L

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	14.5
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Wastewater Discharge Monitoring Long Report

For DNR Use Only

Facility Name: PENTAIR FLOW TECHNOLOGIES LLC
 Contact Address: 293 S. Wright St
 Delavan, WI 53115
 Facility Contact: Dennis Schwind, Env. Tech
 Phone Number: (262) 728-7225
 Reporting Period: 08/01/2017 - 08/31/2017
 Form Due Date: 09/21/2017
 Permit Number: 0055816

Date Received:	
DOC:	385364
FIN:	7072
FID:	265010900
Region:	Southeast Region
Permit Drafter:	Laura A Dietrich
Reviewer:	Bryan D Hartsook
Office:	Milwaukee

	Sample Point	001	001	001	001	001	
	Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
	Parameter	211	487	457	388	388	
	Description	Flow Rate	Temperature	Suspended Solids, Total	Phosphorus, Total	Phosphorus, Total	
	Units	MGD	degF	mg/L	mg/L	lbs/day	
	Sample Type	TOT DAILY	GRAB	GRAB	GRAB	CALCULATED	
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1						
	2						
	3						
	4						
	5						
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	7						
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	10						
	11						
	12						
	13						
	14						
	15						
	16		0.2739	59.00	<1.9	0.041	0.094
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	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	211		487		457		388	
	Description	Flow Rate		Temperature		Suspended Solids, Total		Phosphorus, Total	
	Units	MGD		degF		mg/L		mg/L	
Summary Values	Monthly Avg	0.2739		59		0		0.041	
	Daily Max	0.2739		59		<1.9		0.041	
	Daily Min	0.2739		59		<1.9		0.041	
Limit(s) in Effect	Monthly Avg						0.24	0	
QA/QC Information	LOD					1.9		0.024	
	LOQ					5		0.05	
	QC Exceedance	N		N		N		Y	
	Lab Certification					999580010		999580010	

	Sample Point	001	001	001	001	
	Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
	Parameter	490	508	561	517	
	Description	Tetrachloroethylene	Trichloro- ethylene	1,1,1-Trichloro- ethane	Vinyl chloride	
	Units	ug/L	ug/L	ug/L	ug/L	
	Sample Type	GRAB	GRAB	GRAB	GRAB	
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
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	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16		0.82	1.5	0.57	<0.20
	17					
	18					
	19					
	20					
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	24					
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	30					
	31					

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	490		508		561		517	
	Description	Tetrachloroethylene		Trichloro- ethylene		1,1,1-Trichloro- ethane		Vinyl chloride	
	Units	ug/L		ug/L		ug/L		ug/L	
Summary Values	Monthly Avg	0.82		1.5		0.57		0	
	Daily Max	0.82		1.5		0.57		<0.2	
	Daily Min	0.82		1.5		0.57		<0.2	
Limit(s) in Effect	Monthly Avg	50	0	50	0	50	0	10	0
QA/QC Information	LOD	0.37		0.16		0.38		0.2	
	LOQ	1		0.5		1		0.5	
	QC Exceedance	Y		N		Y		N	
	Lab Certification	999580010		999580010		999580010		999580010	

Footnotes (DNR Use Only; Instructions for completing this form that are unique for your facility may be displayed here.)

General Remarks

The total flow rate was calculated from pumping rate measurements taken from the Delavan facility extraction wells by Tetra Tech and Pentair Flow Technologies Delavan facility personnel on July 29, 2016.

Laboratory Quality Control Comments

J = Result is less than the LOQ but greater than the LOD and the concentration is an approximate value.

Submitted by Mark Manthey(mmanthey) on 9/6/2017 10:29:54 AM

GEOTRANS, INC. FIELD WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION			INSTRUMENTS		
PROJECT	Delavan Facility Remedial Action		Temp. & pH	HI 98129	
PROJECT NO.	Delavan Well #4		Conductivity	HI 98129	
LOCATION	Delavan, WI		ORP		
PERSONNEL	Tom Samuel		DO		
SAMPLE POINT	SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	8-16-17				
CLOCK TIME (Military)	11:17				
DEPTH TO WATER (ft)*	NA	NA	NA	NA	NA
MEASURED WELL DEPTH (ft)*	NA	NA	NA	NA	NA
CASING VOLUME (gallons)	NA	NA	NA	NA	NA
PURGE VOLUME (gallons)	NA	NA	NA	NA	NA
DEPTH SAMPLE TAKEN (ft)*	NA	NA	NA	NA	NA
SAMPLING DEVICE	HI 98129				
FIELD TEMPERATURE (°C)	15.0				
pH	7.42				
ELEC. COND. (uS/cm)	Measured	1490			
	at 25° C				
ORP (mV)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (ppm)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (% Sat.)	NA	NA	NA	NA	NA
COLOR	Clear				
ODOR	None				
CLARITY	Clear				
SAMPLING PARAMETERS	# OF CONTAINERS & VOLUME; CONTAINER TYPE (A = AMBER GLASS; G = GLASS; P = PLASTIC); PRESERVATIVE TYPE (L = LAB ADDED; F = FIELD ADDED) OR NEUTRAL; FILTERED (YES or NO)				
TCE, 1,1,1-TCA, 1,1,2-TCA, PCE, Vinyl Chloride (EPA Method SW 8260B)	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.
Comments: TCE = Trichloroethene. TCA = Trichloroethane. PCE = Tetrachloroethene.					
NAME OF LABORATORY	Test America	Test America	Test America	Test America	Test America
DATE SENT TO LAB	8-16-17				
SAMPLER'S NAME	Tom Samuel				

*Measured from top of well casing.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-132791-1
Client Project/Site: Delavan Well #4 WPDES

For:
Pentair Water
293 Wright Street
Delavan, Wisconsin 53115

Attn: Dennis Schwind



Authorized for release by:
8/29/2017 5:00:09 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

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Definitions/Glossary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-132791-1

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.

General Chemistry

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.

Glossary

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

Case Narrative

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-132791-1

Job ID: 500-132791-1

Laboratory: TestAmerica Chicago

Narrative

**Job Narrative
500-132791-1**

Comments

No additional comments.

Receipt

The samples were received on 8/17/2017 10:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 10.4° C.

Receipt Exceptions

The following samples was received at the laboratory outside the required temperature criteria: SS1 (500-132791-1) and Trip Blank (500-132791-2).

GC/MS VOA

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

General Chemistry

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



Client Sample Results

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-132791-1

Client Sample ID: SS1

Date Collected: 08/16/17 11:17

Date Received: 08/17/17 10:25

Lab Sample ID: 500-132791-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.57	J	1.0	0.38	ug/L			08/23/17 15:41	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			08/23/17 15:41	1
Tetrachloroethene	0.82	J	1.0	0.37	ug/L			08/23/17 15:41	1
Trichloroethene	1.5		0.50	0.16	ug/L			08/23/17 15:41	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			08/23/17 15:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		75 - 126		08/23/17 15:41	1
4-Bromofluorobenzene (Surr)	101		72 - 124		08/23/17 15:41	1
Dibromofluoromethane	104		75 - 120		08/23/17 15:41	1
Toluene-d8 (Surr)	92		75 - 120		08/23/17 15:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<1.9		5.0	1.9	mg/L			08/23/17 12:57	1
Chloride	330		10	5.0	mg/L			08/17/17 19:05	5
Phosphorus as P	0.041	J	0.050	0.024	mg/L		08/23/17 14:30	08/24/17 10:59	1

Client Sample ID: Trip Blank

Date Collected: 08/16/17 00:00

Date Received: 08/17/17 10:25

Lab Sample ID: 500-132791-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			08/23/17 16:07	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			08/23/17 16:07	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			08/23/17 16:07	1
Trichloroethene	<0.16		0.50	0.16	ug/L			08/23/17 16:07	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			08/23/17 16:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		75 - 126		08/23/17 16:07	1
4-Bromofluorobenzene (Surr)	101		72 - 124		08/23/17 16:07	1
Dibromofluoromethane	102		75 - 120		08/23/17 16:07	1
Toluene-d8 (Surr)	93		75 - 120		08/23/17 16:07	1

Lab Chronicle

Client: Pentair Water
 Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-132791-1

Client Sample ID: SS1

Date Collected: 08/16/17 11:17

Date Received: 08/17/17 10:25

Lab Sample ID: 500-132791-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	398548	08/23/17 15:41	PJH	TAL CHI
Total/NA	Analysis	SM 2540D		1	398658	08/23/17 12:57 (Start) 08/23/17 12:58 (End)	SMO	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	397892	08/17/17 19:05	HMW	TAL CHI
Total/NA	Prep	SM 4500 P B			398671	08/23/17 14:30	MTB	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	398850	08/24/17 10:59 (Start) 08/24/17 11:00 (End)	MTB	TAL CHI

Client Sample ID: Trip Blank

Date Collected: 08/16/17 00:00

Date Received: 08/17/17 10:25

Lab Sample ID: 500-132791-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	398548	08/23/17 16:07	PJH	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-132791-1

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

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Method Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-132791-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 P E	Phosphorus	SM	TAL CHI

Protocol References:

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

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

Laboratory References:

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

Sample Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-132791-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-132791-1	SS1	Water	08/16/17 11:17	08/17/17 10:25
500-132791-2	Trip Blank	Water	08/16/17 00:00	08/17/17 10:25

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
 Phone: 708.534.5200 Fax: 708.534.5211


Report To *Mark Manthey* (optional)
 Contact: *Thomas Samuel*
 Company: *Pentair Flow Technologies*
 Address: *293 Wright St.*
 Address: *Delaven, WI 53115*
 Phone: *262-726-5551*
 Fax:
 E-Mail:

Bill To (optional)
 Contact:
 Company:
 Address:
 Address:
 Phone:
 Fax:
 PO#/Reference#

Chain of Custody Record

Lab Job #: *500-132791*
 Chain of Custody Number:
 Page _____ of _____
 Temperature °C of Cooler: *10.3 → 10.4*

Client		Client Project #		Preservative		Parameter		Matrix		Matrix		Matrix		Matrix		Matrix		Matrix		Matrix	
<i>Pentair Flow Technologies</i>																					
Project Name		Lab Project #																			
<i>WPDES Delaven Well #4</i>																					
Project Location/State		Lab PM																			
<i>Delaven, WI</i>																					
Sampler																					
<i>Tom Samuel</i>																					
Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix	TCE	TCA	PCE	Vinyl Chloride	P	T.S.S.	Chloride	Comments							
<i>1</i>		<i>SSI</i>	<i>8-16-17</i>	<i>11:17</i>	<i>5</i>	<i>W</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>								
<i>2</i>		<i>Trip Blank</i>			<i>1</i>																

Preservative Key
 Cool to 4°

 500-132791 COC

Turnaround Time Required (Business Days)

___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days ___ Other

Sample Disposal

Return to Client Disposal by Lab Archive for ___ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By <i>Thomas Samuel</i>	Company <i>Pentair</i>	Date <i>8-16-17</i>	Time <i>11:42</i>	Received By <i>Devin Samy</i>	Company <i>TAUTE</i>	Date <i>08/17/17</i>	Time <i>1025</i>
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
 Shipped *Ex Priority*
 Hand Delivered

- Matrix Key
- WW - Wastewater
 - W - Water
 - S - Soil
 - SL - Sludge
 - MS - Miscellaneous
 - OL - Oil
 - A - Air
 - SE - Sediment
 - SO - Soil
 - L - Leachate
 - WI - Wipe
 - DW - Drinking Water
 - O - Other

Client Comments

Lab Comments:

Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-132791-1

Login Number: 132791

List Source: TestAmerica Chicago

List Number: 1

Creator: Sanchez, Ariel M

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.	False	On ice.
Cooler Temperature is recorded.	True	10.4
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	



Wastewater Discharge Monitoring Long Report

For DNR Use Only

Facility Name: PENTAIR FLOW TECHNOLOGIES LLC
 Contact Address: 293 S. Wright St
 Delavan, WI 53115
 Facility Contact: Dennis Schwind, Env. Tech
 Phone Number: (262) 728-7225
 Reporting Period: 09/01/2017 - 09/30/2017
 Form Due Date: 10/21/2017
 Permit Number: 0055816

Date Received:	
DOC:	385365
FIN:	7072
FID:	265010900
Region:	Southeast Region
Permit Drafter:	Laura A Dietrich
Reviewer:	Bryan D Hartsook
Office:	Milwaukee

Sample Point	001	001	001	001	001	
Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
Parameter	211	487	457	388	388	
Description	Flow Rate	Temperature	Suspended Solids, Total	Phosphorus, Total	Phosphorus, Total	
Units	MGD	degF	mg/L	mg/L	lbs/day	
Sample Type	TOT DAILY	GRAB	GRAB	GRAB	CALCULATED	
Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1					
	2					
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	17					
	18					
	19					
	20					
	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28	0.2739	57.56	<1.9	0.045	0.103
	29					
	30					
	31					

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	211		487		457		388	
	Description	Flow Rate		Temperature		Suspended Solids, Total		Phosphorus, Total	
	Units	MGD		degF		mg/L		mg/L	
Summary Values	Monthly Avg	0.2739		57.56		0		0.045	
	Daily Max	0.2739		57.56		<1.9		0.045	
	Daily Min	0.2739		57.56		<1.9		0.045	
Limit(s) in Effect	Monthly Avg						0.24	0	
QA/QC Information	LOD					1.9		0.024	
	LOQ					5		0.05	
	QC Exceedance	N		N		N		Y	
	Lab Certification					999580010		999580010	

	Sample Point	001	001	001	001	
	Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
	Parameter	490	508	561	517	
	Description	Tetrachloroethylene	Trichloro- ethylene	1,1,1-Trichloro- ethane	Vinyl chloride	
	Units	ug/L	ug/L	ug/L	ug/L	
	Sample Type	GRAB	GRAB	GRAB	GRAB	
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
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	18					
	19					
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	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28		<0.37	1.1	<0.38	<0.20
	29					
	30					
	31					

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	490		508		561		517	
	Description	Tetrachloroethylene		Trichloro- ethylene		1,1,1-Trichloro- ethane		Vinyl chloride	
	Units	ug/L		ug/L		ug/L		ug/L	
Summary Values	Monthly Avg	0		1.1		0		0	
	Daily Max	<0.37		1.1		<0.38		<0.2	
	Daily Min	<0.37		1.1		<0.38		<0.2	
Limit(s) in Effect	Monthly Avg	50	0	50	0	50	0	10	0
QA/QC Information	LOD	0.37		0.16		0.38		0.2	
	LOQ	1		0.5		1		0.5	
	QC Exceedance	N		N		N		N	
	Lab Certification	999580010		999580010		999580010		999580010	

Footnotes (DNR Use Only; Instructions for completing this form that are unique for your facility may be displayed here.)

General Remarks

The total flow rate was calculated from pumping rate measurements taken from the Delavan facility extraction wells by Pentair Flow Technologies Delavan facility personnel on June 29, 2017.

Laboratory Quality Control Comments

J = Result is less than the LOQ but greater than the LOD and the concentration is an approximate value.

GEOTRANS, INC. FIELD WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION			INSTRUMENTS		
PROJECT	Delavan Facility Remedial Action		Temp. & pH	HI 98129	
PROJECT NO.	Delavan Well #4		Conductivity	HI 98129	
LOCATION	Delavan, WI		ORP		
PERSONNEL	Tom S.		DD		
SAMPLE POINT	SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	9-28-17				
CLOCK TIME (Military)	10:33				
DEPTH TO WATER (ft)*	NA	NA	NA	NA	NA
MEASURED WELL DEPTH (ft)*	NA	NA	NA	NA	NA
CASING VOLUME (gallons)	NA	NA	NA	NA	NA
PURGE VOLUME (gallons)	NA	NA	NA	NA	NA
DEPTH SAMPLE TAKEN (ft)*	NA	NA	NA	NA	NA
SAMPLING DEVICE	HI 98129				
FIELD TEMPERATURE (°C)	14.2				
pH	7.56				
ELEC. COND. (uS/cm)	Measured	1196			
	at 25° C				
ORP (mV)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (ppm)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (% Sat.)	NA	NA	NA	NA	NA
COLOR	Clear				
ODOR	None				
CLARITY	Clear				
SAMPLING PARAMETERS	# OF CONTAINERS & VOLUME; CONTAINER TYPE (A = AMBER GLASS; G = GLASS; P = PLASTIC); PRESERVATIVE TYPE (L = LAB ADDED; F = FIELD ADDED) OR NEUTRAL; FILTERED (YES or NO)				
TCE, 1,1,1-TCA, 1,1,2-TCA, PCE, Vinyl Chloride (EPA Method SW 8260B)	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.
Comments: TCE = Trichloroethene. TCA = Trichloroethane. PCE = Tetrachloroethene.					
NAME OF LABORATORY	Test America	Test America	Test America	Test America	Test America
DATE SENT TO LAB	9-28-17				
SAMPLER'S NAME	Tom S.				

*Measured from top of well casing.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-134818-1
Client Project/Site: Delavan Well #4 WPDES

For:
Pentair Water
293 Wright Street
Delavan, Wisconsin 53115

Attn: Dennis Schwind



Authorized for release by:
10/11/2017 9:11:31 AM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

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Definitions/Glossary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-134818-1

Qualifiers

General Chemistry

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.

Glossary

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

Case Narrative

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-134818-1

Job ID: 500-134818-1

Laboratory: TestAmerica Chicago

Narrative

**Job Narrative
500-134818-1**

Comments

No additional comments.

Receipt

The samples were received on 9/29/2017 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.0° C.

GC/MS VOA

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

General Chemistry

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



Client Sample Results

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-134818-1

Client Sample ID: SS1
Date Collected: 09/28/17 10:33
Date Received: 09/29/17 09:15

Lab Sample ID: 500-134818-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			10/10/17 17:14	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			10/10/17 17:14	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			10/10/17 17:14	1
Trichloroethene	1.1		0.50	0.16	ug/L			10/10/17 17:14	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			10/10/17 17:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		75 - 126		10/10/17 17:14	1
4-Bromofluorobenzene (Surr)	92		72 - 124		10/10/17 17:14	1
Dibromofluoromethane	104		75 - 120		10/10/17 17:14	1
Toluene-d8 (Surr)	90		75 - 120		10/10/17 17:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<1.9		5.0	1.9	mg/L			10/02/17 13:05	1
Chloride	210		10	5.0	mg/L			10/01/17 20:46	5
Phosphorus as P	0.045	J	0.050	0.024	mg/L		10/04/17 13:09	10/05/17 14:00	1

Client Sample ID: Trip Blank
Date Collected: 09/28/17 00:00
Date Received: 09/29/17 09:15

Lab Sample ID: 500-134818-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			10/10/17 17:44	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			10/10/17 17:44	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			10/10/17 17:44	1
Trichloroethene	<0.16		0.50	0.16	ug/L			10/10/17 17:44	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			10/10/17 17:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		75 - 126		10/10/17 17:44	1
4-Bromofluorobenzene (Surr)	93		72 - 124		10/10/17 17:44	1
Dibromofluoromethane	106		75 - 120		10/10/17 17:44	1
Toluene-d8 (Surr)	91		75 - 120		10/10/17 17:44	1

Lab Chronicle

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-134818-1

Client Sample ID: SS1

Date Collected: 09/28/17 10:33

Date Received: 09/29/17 09:15

Lab Sample ID: 500-134818-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	404676	10/10/17 17:14	EMA	TAL CHI
Total/NA	Analysis	SM 2540D		1	403559	10/02/17 13:05 (Start) 10/02/17 13:07 (End)	SMO	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		5	403460	10/01/17 20:46	HMW	TAL CHI
Total/NA	Prep	SM 4500 P B			403951	10/04/17 13:09	RMP	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	404154	10/05/17 14:00 (Start) 10/05/17 14:00 (End)	RMP	TAL CHI

Client Sample ID: Trip Blank

Date Collected: 09/28/17 00:00

Date Received: 09/29/17 09:15

Lab Sample ID: 500-134818-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	404676	10/10/17 17:44	EMA	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-134818-1

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

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Method Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-134818-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 P E	Phosphorus	SM	TAL CHI

Protocol References:

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

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

Laboratory References:

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

Sample Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-134818-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-134818-1	SS1	Water	09/28/17 10:33	09/29/17 09:15
500-134818-2	Trip Blank	Water	09/28/17 00:00	09/29/17 09:15

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TestAmerica

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2417 Bond Street, University Park, IL 6048
Phone: 708.534.5200 Fax: 708.534.5151



500-134818 COC

Report To Tom Samuel + Mark Manthey (optional) Bill To _____ (optional)
 Contact: Tom Samuel Contact: _____
 Company: Pentair Flow Technologies LLC Company: _____
 Address: 293 S. Wright St. Address: _____
 Address: Delavan, WI 53115 Address: _____
 Phone: 262-728-5551 Phone: _____
 Fax: _____ Fax: _____
 E-Mail: _____ PO#/Reference# _____

Chain of Custody Record

Lab Job #: 500-134818
 Chain of Custody Number: _____
 Page _____ of _____
 Temperature °C of Cooler: 29.730

Client		Client Project #		Preservative		Parameter		H ₂ SO ₄		T.S.S.		Chloride		Preservative Key 1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other
<u>Pentair Flow Technologies</u>				<u>HCl HCl HCl HCl</u>				<u>H₂SO₄</u>		<u>T.S.S.</u>		<u>Chloride</u>		
Project Name <u>WPDES Delavan Well #4</u>		Lab Project #		TCE		TCA		PCE		Vinyl Chloride		P		
Project Location/State <u>Delavan, WI</u>		Lab PM		Date		Time		# of Containers		Matrix				Comments
Sampler <u>Tom Samuel</u>				9-28-17		10:33		5		W				
Lab ID	MS/MSD	Sample ID												
1		551		9-28-17		10:33		5		W		X X X X X X X		
2		Trip Blank						1						

Turnaround Time Required (Business Days)
 ___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days ___ Other
 Requested Due Date _____

Sample Disposal
 Return to Client Disposal by Lab Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By <u>Thomas Samuel Pentair</u>	Company Pentair	Date 9-28-17	Time 11:11	Received By <u>Shirley Lewis TA-CHE</u>	Company TA-CHE	Date 9/29/17	Time 0915
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier: _____
 Shipped: FedEx
 Hand Delivered: _____

<p>Matrix Key</p> <p>WW - Wastewater SE - Sediment W - Water SO - Soil S - Soil L - Leachate SL - Sludge WL - Wipe MS - Miscellaneous DW - Drinking Water OL - Oil O - Other A - Air</p>	Client Comments	Lab Comments:
--	-----------------	---------------

Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-134818-1

Login Number: 134818

List Source: TestAmerica Chicago

List Number: 1

Creator: Scott, Sherri L

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	3.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Wastewater Discharge Monitoring Long Report

For DNR Use Only

Facility Name: PENTAIR FLOW TECHNOLOGIES LLC
 Contact Address: 293 S. Wright St
 Delavan, WI 53115
 Facility Contact: Dennis Schwind, Env. Tech
 Phone Number: (262) 728-7225
 Reporting Period: 10/01/2017 - 10/31/2017
 Form Due Date: 11/21/2017
 Permit Number: 0055816

Date Received:	
DOC:	388651
FIN:	7072
FID:	265010900
Region:	Southeast Region
Permit Drafter:	Laura A Dietrich
Reviewer:	Andrew K Greer
Office:	Milwaukee

Sample Point	001	001	001	001	001	
Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
Parameter	211	487	457	388	388	
Description	Flow Rate	Temperature	Suspended Solids, Total	Phosphorus, Total	Phosphorus, Total	
Units	MGD	degF	mg/L	mg/L	lbs/day	
Sample Type	TOT DAILY	GRAB	GRAB	GRAB	CALCULATED	
Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18	0.2739	57.56	<1.9	0.052	0.119
	19					
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	31					

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	211		487		457		388	
	Description	Flow Rate		Temperature		Suspended Solids, Total		Phosphorus, Total	
	Units	MGD		degF		mg/L		mg/L	
Summary Values	Monthly Avg	0.2739		57.56		0		0.052	
	Daily Max	0.2739		57.56		<1.9		0.052	
	Daily Min	0.2739		57.56		<1.9		0.052	
Limit(s) in Effect	Monthly Avg						0.24	0	
QA/QC Information	LOD					1.9		0.024	
	LOQ					5		0.05	
	QC Exceedance	N		N		N		N	
	Lab Certification					999580010		999580010	

	Sample Point	001	001	001	001	
	Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
	Parameter	490	508	561	517	
	Description	Tetrachloroethylene	Trichloro- ethylene	1,1,1-Trichloro- ethane	Vinyl chloride	
	Units	ug/L	ug/L	ug/L	ug/L	
	Sample Type	GRAB	GRAB	GRAB	GRAB	
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18		<0.37	0.78	<0.38	<0.20
	19					
	20					
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	25					
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	27					
	28					
	29					
	30					
	31					

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	490		508		561		517	
	Description	Tetrachloroethylene		Trichloro- ethylene		1,1,1-Trichloro- ethane		Vinyl chloride	
	Units	ug/L		ug/L		ug/L		ug/L	
Summary Values	Monthly Avg	0		0.78		0		0	
	Daily Max	<0.37		0.78		<0.38		<0.2	
	Daily Min	<0.37		0.78		<0.38		<0.2	
Limit(s) in Effect	Monthly Avg	50	0	50	0	50	0	10	0
QA/QC Information	LOD	0.37		0.16		0.38		0.2	
	LOQ	1		0.5		1		0.5	
	QC Exceedance	N		N		N		N	
	Lab Certification	999580010		999580010		999580010		999580010	

Footnotes (DNR Use Only; Instructions for completing this form that are unique for your facility may be displayed here.)

General Remarks

The total flow rate was calculated from pumping rate measurements taken from the Delavan facility extraction wells by Tetra Tech and Pentair Flow Technologies Delavan facility personnel on July 29, 2016.

Laboratory Quality Control Comments

GEOTRANS, INC. FIELD WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION			INSTRUMENTS		
PROJECT	Delavan Facility Remedial Action		Temp. & pH	HI 98129	
PROJECT NO.	Delavan Well #4		Conductivity	HI 98129	
LOCATION	Delavan, WI		ORP		
PERSONNEL	Scharinger		DO		
SAMPLE POINT	SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	10-18-17				
CLOCK TIME (Military)	074142				
DEPTH TO WATER (ft)	NA	NA	NA	NA	NA
MEASURED WELL DEPTH (ft)	NA	NA	NA	NA	NA
CASING VOLUME (gallons)	NA	NA	NA	NA	NA
PURGE VOLUME (gallons)	NA	NA	NA	NA	NA
DEPTH SAMPLE TAKEN (ft)	NA	NA	NA	NA	NA
SAMPLING DEVICE	HI 98129				
FIELD TEMPERATURE (°C)	14.2				
pH	7.58				
ELEC. COND. (uS/cm)	Measured	1232			
	at 25° C	1232 11			
ORP (mV)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (ppm)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (% Sat.)	NA	NA	NA	NA	NA
COLOR	Clear				
ODOR	NONE				
CLARITY	Clear				
SAMPLING PARAMETERS	# OF CONTAINERS & VOLUME; CONTAINER TYPE (A = AMBER GLASS; G = GLASS; P = PLASTIC); PRESERVATIVE TYPE (L = LAB ADDED; F = FIELD ADDED) OR NEUTRAL; FILTERED (YES or NO)				
TCE, 1,1,1-TCA, 1,1,2-TCA, PCE, Vinyl Chloride (EPA Method SW 8260B)	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.
Comments: TCE = Trichloroethene. TCA = Trichloroethane. PCE = Tetrachloroethene.					
NAME OF LABORATORY	Test America	Test America	Test America	Test America	Test America
DATE SENT TO LAB	10-18-17				
SAMPLER'S NAME	[Signature]				

*Measured from top of well casing.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-135941-1

Client Project/Site: Delavan Well #4 WPDES

For:

Pentair Water

293 Wright Street

Delavan, Wisconsin 53115

Attn: Steve Scharinger



Authorized for release by:

10/27/2017 8:30:47 AM

Eric Lang, Manager of Project Management

(708)534-5200

eric.lang@testamericainc.com

Designee for

Sandie Fredrick, Project Manager II

(920)261-1660

sandie.fredrick@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

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Definitions/Glossary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-135941-1

Glossary

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

Case Narrative

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-135941-1

Job ID: 500-135941-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-135941-1

Comments

No additional comments.

Receipt

The samples were received on 10/19/2017 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.9° C.

GC/MS VOA

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

General Chemistry

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



Client Sample Results

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-135941-1

Client Sample ID: SS1

Date Collected: 10/18/17 14:42

Date Received: 10/19/17 09:45

Lab Sample ID: 500-135941-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			10/22/17 04:49	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			10/22/17 04:49	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			10/22/17 04:49	1
Trichloroethene	0.78		0.50	0.16	ug/L			10/22/17 04:49	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			10/22/17 04:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		75 - 126		10/22/17 04:49	1
4-Bromofluorobenzene (Surr)	92		72 - 124		10/22/17 04:49	1
Dibromofluoromethane	97		75 - 120		10/22/17 04:49	1
Toluene-d8 (Surr)	102		75 - 120		10/22/17 04:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<1.9		5.0	1.9	mg/L			10/20/17 12:32	1
Chloride	220		10	5.0	mg/L			10/24/17 01:56	5
Phosphorus as P	0.052		0.050	0.024	mg/L		10/24/17 12:24	10/25/17 13:57	1

Client Sample ID: Trip Blank

Date Collected: 10/18/17 00:00

Date Received: 10/19/17 09:45

Lab Sample ID: 500-135941-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			10/22/17 05:16	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			10/22/17 05:16	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			10/22/17 05:16	1
Trichloroethene	<0.16		0.50	0.16	ug/L			10/22/17 05:16	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			10/22/17 05:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		75 - 126		10/22/17 05:16	1
4-Bromofluorobenzene (Surr)	94		72 - 124		10/22/17 05:16	1
Dibromofluoromethane	98		75 - 120		10/22/17 05:16	1
Toluene-d8 (Surr)	102		75 - 120		10/22/17 05:16	1

Lab Chronicle

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-135941-1

Client Sample ID: SS1

Date Collected: 10/18/17 14:42

Date Received: 10/19/17 09:45

Lab Sample ID: 500-135941-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	406352	10/22/17 04:49	PMF	TAL CHI
Total/NA	Analysis	SM 2540D		1	406228	10/20/17 12:32 (Start) 10/20/17 12:33 (End)	SMO	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	406753	10/24/17 01:56	HMW	TAL CHI
Total/NA	Prep	SM 4500 P B			406697	10/24/17 12:24	RMP	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	406981	10/25/17 13:57 (Start) 10/25/17 13:57 (End)	RMP	TAL CHI

Client Sample ID: Trip Blank

Date Collected: 10/18/17 00:00

Date Received: 10/19/17 09:45

Lab Sample ID: 500-135941-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	406352	10/22/17 05:16	PMF	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-135941-1

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

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Method Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-135941-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 P E	Phosphorus	SM	TAL CHI

Protocol References:

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

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

Laboratory References:

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

Sample Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-135941-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-135941-1	SS1	Water	10/18/17 14:42	10/19/17 09:45
500-135941-2	Trip Blank	Water	10/18/17 00:00	10/19/17 09:45

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
 Phone: 708.534.5200 Fax: 708.534.5211

Report To: Steve Schamper (optional) Mark Manthey (optional) Bill To: _____
 Contact: Steve Schamper Contact: _____
 Company: Pentair Flow Tech Company: _____
 Address: 293 Wright St. Address: _____
 Address: Delavan WI 53115 Address: _____
 Phone: 262 728-7408 Phone: _____
 Fax: _____ PO#:Reference#: _____
 E-Mail: Steve.Schamper@pentair.com

Chain of Custody Record

Lab Job #: 500735941
 Chain of Custody Number: _____
 Page _____ of _____
 Temperature °C of Cooler: 3.9

Client		Client Project #		Preservative		Parameter		Matrix		Comments	
<u>Pentair Flow Technologies</u>		<u>WRDES Delavan Well #4</u>		<u>HCl HCl HCl HCl H2SO4</u>		<u>TCE TCA TCE Vinyl chloride</u>		<u>of TSS, chloride</u>		Preservative Key 1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other	
Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix					
<u>1</u>		<u>SS1</u>	<u>10/18/17</u>	<u>14:42</u>	<u>5</u>	<u>W</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
<u>2</u>		<u>Trap Blank</u>	<u>10/18/17</u>		<u>1</u>						



Turnaround Time Required (Business Days)
 ___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days ___ Other
 Requested Due Date: _____

Sample Disposal
 Return to Client Disposal by Lab Archive for ___ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>[Signature]</u> Company: _____ Date: <u>10/18/17</u> Time: <u>14:58pm</u>	Received By: <u>[Signature]</u> Company: <u>TRATE</u> Date: <u>10/19/17</u> Time: <u>0945</u>
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: _____ Company: _____ Date: _____ Time: _____
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: _____ Company: _____ Date: _____ Time: _____

Lab Courier: _____
 Shipped: Ex Priority
 Hand Delivered: _____

- Matrix Key
- WW - Wastewater
 - W - Water
 - S - Soil
 - SL - Sludge
 - MS - Miscellaneous
 - OL - Oil
 - A - Air
 - SE - Sediment
 - SO - Soil
 - L - Leachate
 - WI - Wipe
 - DW - Drinking Water
 - O - Other

Client Comments: _____
 Lab Comments: _____

Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-135941-1

Login Number: 135941

List Source: TestAmerica Chicago

List Number: 1

Creator: Sanchez, Ariel M

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	3.9
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Wastewater Discharge Monitoring Long Report

For DNR Use Only

Facility Name: PENTAIR FLOW TECHNOLOGIES LLC
 Contact Address: 293 S. Wright St
 Delavan, WI 53115
 Facility Contact: Dennis Schwind, Env. Tech
 Phone Number: (262) 728-7225
 Reporting Period: 11/01/2017 - 11/30/2017
 Form Due Date: 12/21/2017
 Permit Number: 0055816

Date Received:
 DOC: 388652
 FIN: 7072
 FID: 265010900
 Region: Southeast Region
 Permit Drafter: Laura A Dietrich
 Reviewer: Andrew K Greer
 Office: Milwaukee

Sample Point	001	001	001	001	001	
Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
Parameter	211	487	457	388	388	
Description	Flow Rate	Temperature	Suspended Solids, Total	Phosphorus, Total	Phosphorus, Total	
Units	MGD	degF	mg/L	mg/L	lbs/day	
Sample Type	TOT DAILY	GRAB	GRAB	GRAB	CALCULATED	
Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
	8	0.2739	54.68	2.0	0.040	0.091
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
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	29					
	30					
	31					

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	211		487		457		388	
	Description	Flow Rate		Temperature		Suspended Solids, Total		Phosphorus, Total	
	Units	MGD		degF		mg/L		mg/L	
Summary Values	Monthly Avg	0.2739		54.68		2		0.04	
	Daily Max	0.2739		54.68		2		0.04	
	Daily Min	0.2739		54.68		2		0.04	
Limit(s) in Effect	Monthly Avg						0.24	0	
QA/QC Information	LOD				1.9		0.024		
	LOQ				5		0.05		
	QC Exceedance	N		N		Y		Y	
	Lab Certification				999580010		999580010		

	Sample Point	001	001	001	001
	Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole
	Parameter	490	508	561	517
	Description	Tetrachloroethylene	Trichloro- ethylene	1,1,1-Trichloro- ethane	Vinyl chloride
	Units	ug/L	ug/L	ug/L	ug/L
	Sample Type	GRAB	GRAB	GRAB	GRAB
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY
Sample Results	Day 1				
	2				
	3				
	4				
	5				
	6				
	7				
	8	<0.37	0.67	<0.38	<0.20
	9				
	10				
	11				
	12				
	13				
	14				
	15				
	16				
	17				
	18				
	19				
	20				
	21				
	22				
	23				
	24				
	25				
	26				
	27				
	28				
	29				
	30				
	31				

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	490		508		561		517	
	Description	Tetrachloroethylene		Trichloro- ethylene		1,1,1-Trichloro- ethane		Vinyl chloride	
	Units	ug/L		ug/L		ug/L		ug/L	
Summary Values	Monthly Avg	0		0.67		0		0	
	Daily Max	<0.37		0.67		<0.38		<0.2	
	Daily Min	<0.37		0.67		<0.38		<0.2	
Limit(s) in Effect	Monthly Avg	50	0	50	0	50	0	10	0
QA/QC Information	LOD	0.37		0.16		0.38		0.2	
	LOQ	1		0.5		1		0.5	
	QC Exceedance	N		N		N		N	
	Lab Certification	999580010		999580010		999580010		999580010	

Footnotes (DNR Use Only; Instructions for completing this form that are unique for your facility may be displayed here.)

General Remarks

The total flow rate was calculated from pumping rate measurements taken from the Delavan facility extraction wells by Pentair Flow Technologies Delavan facility personnel on June 29, 2017.

Laboratory Quality Control Comments

J = Result is less than the LOQ but greater than the LOD and the concentration is an approximate value.

GEOTRANS, INC. FIELD WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION			INSTRUMENTS		
PROJECT	Delavan Facility Remedial Action		Temp. & pH	NI 98129	
PROJECT NO.	Delavan Well #4		Conductivity	HI 98129	
LOCATION	Delavan, WI		ORP		
PERSONNEL	Dennis Schwind		DO		
SAMPLE POINT	SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	11/8/17				
CLOCK TIME (Military)	0930				
DEPTH TO WATER (ft)*	NA	NA	NA	NA	NA
MEASURED WELL DEPTH (ft)*	NA	NA	NA	NA	NA
CASING VOLUME (gallons)	NA	NA	NA	NA	NA
PURGE VOLUME (gallons)	NA	NA	NA	NA	NA
DEPTH SAMPLE TAKEN (ft)*	NA	NA	NA	NA	NA
SAMPLING DEVICE	HI 98129				
FIELD TEMPERATURE (°C)	12.6				
pH	7.64				
ELEC. COND. (uS/cm)	Measured	1160			
	at 25° C				
ORP (mV)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (ppm)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (% Sat.)	NA	NA	NA	NA	NA
COLOR					
ODOR					
CLARITY					
SAMPLING PARAMETERS	# OF CONTAINERS & VOLUME; CONTAINER TYPE (A = AMBER GLASS; G = GLASS; P = PLASTIC); PRESERVATIVE TYPE (L = LAB ADDED; F = FIELD ADDED) OR NEUTRAL; FILTERED (YES or NO)				
TCE, 1,1,1-TCA, 1,1,2-TCA, PCE, Vinyl Chloride (EPA Method SW 8260B)	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.
Comments: TCE = Trichloroethene. TCA = Trichloroethane. PCE = Tetrachloroethene.					
NAME OF LABORATORY	Test America	Test America	Test America	Test America	Test America
DATE SENT TO LAB	11/8/17				
SAMPLER'S NAME	<i>Dennis Schwind</i>				

*Measured from top of well casing.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-137035-1
Client Project/Site: Delavan Well #4 WPDES

For:
Pentair Water
293 Wright Street
Delavan, Wisconsin 53115

Attn: Steve Scharinger



Authorized for release by:
11/22/2017 11:56:15 AM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



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www.testamericainc.com

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

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

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Definitions/Glossary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-137035-1

Qualifiers

General Chemistry

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

Glossary

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

Case Narrative

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-137035-1

Job ID: 500-137035-1

Laboratory: TestAmerica Chicago

Narrative

**Job Narrative
500-137035-1**

Comments

No additional comments.

Receipt

The samples were received on 11/9/2017 9:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.1° C.

GC/MS VOA

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

General Chemistry

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



Client Sample Results

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-137035-1

Client Sample ID: SS1
Date Collected: 11/08/17 09:30
Date Received: 11/09/17 09:10

Lab Sample ID: 500-137035-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/17/17 16:41	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/17/17 16:41	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/17/17 16:41	1
Trichloroethene	0.67		0.50	0.16	ug/L			11/17/17 16:41	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/17/17 16:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		75 - 126		11/17/17 16:41	1
4-Bromofluorobenzene (Surr)	101		72 - 124		11/17/17 16:41	1
Dibromofluoromethane	103		75 - 120		11/17/17 16:41	1
Toluene-d8 (Surr)	106		75 - 120		11/17/17 16:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.0	J	5.0	1.9	mg/L			11/10/17 12:46	1
Chloride	190	F1	10	5.0	mg/L			11/10/17 04:03	5
Phosphorus as P	0.040	J	0.050	0.024	mg/L		11/14/17 11:12	11/15/17 14:36	1

Client Sample ID: Trip Blank
Date Collected: 11/08/17 00:00
Date Received: 11/09/17 09:10

Lab Sample ID: 500-137035-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			11/17/17 17:11	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/17/17 17:11	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/17/17 17:11	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/17/17 17:11	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			11/17/17 17:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		75 - 126		11/17/17 17:11	1
4-Bromofluorobenzene (Surr)	100		72 - 124		11/17/17 17:11	1
Dibromofluoromethane	93		75 - 120		11/17/17 17:11	1
Toluene-d8 (Surr)	107		75 - 120		11/17/17 17:11	1

Lab Chronicle

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-137035-1

Client Sample ID: SS1

Date Collected: 11/08/17 09:30

Date Received: 11/09/17 09:10

Lab Sample ID: 500-137035-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	410442	11/17/17 16:41	JMP	TAL CHI
Total/NA	Analysis	SM 2540D		1	409425	11/10/17 12:46 (Start) 11/10/17 12:47 (End)	SMO	TAL CHI
Total/NA	Analysis	SM 4500 CI- E		5	409471	11/10/17 04:03	HMW	TAL CHI
Total/NA	Prep	SM 4500 P B			409872	11/14/17 11:12	RMP	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	410178	11/15/17 14:36 (Start) 11/15/17 14:37 (End)	RMP	TAL CHI

Client Sample ID: Trip Blank

Date Collected: 11/08/17 00:00

Date Received: 11/09/17 09:10

Lab Sample ID: 500-137035-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	410442	11/17/17 17:11	JMP	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-137035-1

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

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Method Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-137035-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 P E	Phosphorus	SM	TAL CHI

Protocol References:

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

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

Laboratory References:

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

Sample Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-137035-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-137035-1	SS1	Water	11/08/17 09:30	11/09/17 09:10
500-137035-2	Trip Blank	Water	11/08/17 00:00	11/09/17 09:10

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
 Phone: 708.534.5200 Fax: 708.534.5211

Report To *Mark Manthey* (optional)
 Contact: *Steve Scharinger*
 Company: *Pentair Flow Technologies*
 Address: *293 Wright St*
 Address: *Delavan WI 53115*
 Phone: *262-708-5551*
 Fax: _____
 E-Mail: _____

Bill To _____ (optional)
 Contact: _____
 Company: _____
 Address: _____
 Address: _____
 Phone: _____
 Fax: _____
 PO#/Reference#: _____

Chain of Custody Record

Lab Job #: *500-137035*
 Chain of Custody Number: _____
 Page _____ of _____
 Temperature °C of Cooler: *2.1*



Client		Client Project #		Preservative		Parameter		Matrix		Comments		
<i>Pentair Flow Technologies</i>				<i>HCl</i>	<i>HCl</i>	<i>HCl</i>	<i>HCl</i>	<i>H₂SO₄</i>			Preservative Key 1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other	
<i>WPDES Delavan Well #4</i>												
<i>Delavan WI</i>				<i>TCE</i>	<i>TCA</i>	<i>PCB</i>	<i>Vinyl Chloride</i>	<i>P</i>	<i>T.S.S</i>	<i>Chloride</i>		
Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix						
<i>1</i>		<i>551</i>	<i>11/9/17</i>	<i>0930</i>	<i>5</i>	<i>W</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	
<i>2</i>		<i>Trip Blank</i>			<i>1</i>							

Turnaround Time Required (Business Days)

___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days ___ Other

Sample Disposal

Return to Client Disposal by Lab Archive for ___ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By <i>Dennis Schwind</i>	Company <i>Pentair</i>	Date <i>11/9/17</i>	Time <i>09:40</i>	Received By <i>[Signature]</i>	Company <i>TA</i>	Date <i>11/09/17</i>	Time <i>0910</i>
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier: _____
 Shipped:
 Hand Delivered: _____

Matrix Key
 WW - Wastewater SE - Sediment
 W - Water SO - Soil
 S - Soil L - Leachate
 SL - Sludge WI - Wipe
 MS - Miscellaneous DW - Drinking Water
 OL - Oil O - Other
 A - Air

Client Comments

Lab Comments:

Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-137035-1

Login Number: 137035

List Source: TestAmerica Chicago

List Number: 1

Creator: Kelsey, Shawn M

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.1c
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	



Wastewater Discharge Monitoring Long Report

For DNR Use Only

Facility Name: PENTAIR FLOW TECHNOLOGIES LLC
 Contact Address: 293 S. Wright St
 Delavan, WI 53115
 Facility Contact: Dennis Schwind, Env. Tech
 Phone Number: (262) 728-7225
 Reporting Period: 12/01/2017 - 12/31/2017
 Form Due Date: 01/21/2018
 Permit Number: 0055816

Date Received:
 DOC: 388653
 FIN: 7072
 FID: 265010900
 Region: Southeast Region
 Permit Drafter: Laura A Dietrich
 Reviewer: Andrew K Greer
 Office: Milwaukee

	Sample Point	001	001	001	001	001	
	Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
	Parameter	211	487	457	388	388	
	Description	Flow Rate	Temperature	Suspended Solids, Total	Phosphorus, Total	Phosphorus, Total	
	Units	MGD	degF	mg/L	mg/L	lbs/day	
	Sample Type	TOT DAILY	GRAB	GRAB	GRAB	CALCULATED	
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1						
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						
	11						
	12						
	13						
	14						
	15						
	16						
	17						
	18						
		19	0.2739	54.32	<1.9	<0.024	0.055
		20					
		21					
		22					
		23					
		24					
		25					
		26					
		27					
		28					
		29					
		30					
		31					

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	211		487		457		388	
	Description	Flow Rate		Temperature		Suspended Solids, Total		Phosphorus, Total	
	Units	MGD		degF		mg/L		mg/L	
Summary Values	Monthly Avg	0.2739		54.32		0		0	
	Daily Max	0.2739		54.32		<1.9		<0.024	
	Daily Min	0.2739		54.32		<1.9		<0.024	
Limit(s) in Effect	Monthly Avg						0.24	0	
QA/QC Information	LOD					1.9		0.024	
	LOQ					5		0.05	
	QC Exceedance	N		N		N		N	
	Lab Certification					999580010		999580010	

	Sample Point	001	001	001	001	
	Description	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	Storm sewer manhole	
	Parameter	490	508	561	517	
	Description	Tetrachloroethylene	Trichloro- ethylene	1,1,1-Trichloro- ethane	Vinyl chloride	
	Units	ug/L	ug/L	ug/L	ug/L	
	Sample Type	GRAB	GRAB	GRAB	GRAB	
	Frequency	MONTHLY	MONTHLY	MONTHLY	MONTHLY	
Sample Results	Day 1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18		<0.37	0.63	<0.38	<0.20
	19					
	20					
	21					
	22					
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					

	Sample Point	001		001		001		001	
	Description	Storm sewer manhole		Storm sewer manhole		Storm sewer manhole		Storm sewer manhole	
	Parameter	490		508		561		517	
	Description	Tetrachloroethylene		Trichloro- ethylene		1,1,1-Trichloro- ethane		Vinyl chloride	
	Units	ug/L		ug/L		ug/L		ug/L	
Summary Values	Monthly Avg	0		0.63		0		0	
	Daily Max	<0.37		0.63		<0.38		<0.2	
	Daily Min	<0.37		0.63		<0.38		<0.2	
Limit(s) in Effect	Monthly Avg	50	0	50	0	50	0	10	0
QA/QC Information	LOD	0.37		0.16		0.38		0.2	
	LOQ	1		0.5		1		0.5	
	QC Exceedance	N		N		N		N	
	Lab Certification	999580010		999580010		999580010		999580010	

Footnotes (DNR Use Only; Instructions for completing this form that are unique for your facility may be displayed here.)

General Remarks

The total flow rate was calculated from pumping rate measurements taken from the Delavan facility extraction wells by Pentair Flow Technologies Delavan facility personnel on June 29, 2017.

Laboratory Quality Control Comments

GEOTRANS, INC. FIELD WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION			INSTRUMENTS		
PROJECT	Delavan Facility Remedial Action		Temp. & pH	HI 98129	
PROJECT NO.	Delavan Well #4		Conductivity	HI 98129	
LOCATION	Delavan, WI		ORP		
PERSONNEL	Steve Scharinger		DO		
SAMPLE POINT	SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	12/19/17				
CLOCK TIME (Military)	10:31 AM				
DEPTH TO WATER (ft)*	NA	NA	NA	NA	NA
MEASURED WELL DEPTH (ft)*	NA	NA	NA	NA	NA
CASING VOLUME (gallons)	NA	NA	NA	NA	NA
PURGE VOLUME (gallons)	NA	NA	NA	NA	NA
DEPTH SAMPLE TAKEN (ft)*	NA	NA	NA	NA	NA
SAMPLING DEVICE	HI 98129				
FIELD TEMPERATURE (°C)	12.4				
pH	7.58				
ELEC. COND. (uS/cm)	Measured	1161			
	at 25° C				
ORP (mV)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (ppm)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (% Sat.)	NA	NA	NA	NA	NA
COLOR	CLEAR				
ODOR	NONE				
CLARITY	CLEAR				
SAMPLING PARAMETERS	# OF CONTAINERS & VOLUME; CONTAINER TYPE (A = AMBER GLASS; G = GLASS; P = PLASTIC); PRESERVATIVE TYPE (L = LAB ADDED; F = FIELD ADDED) OR NEUTRAL; FILTERED (YES or NO)				
TCE, 1,1,1-TCA, 1,1,2-TCA, PCE, Vinyl Chloride (EPA Method SW 8260B)	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.	3 - 40 ml; G; HCl - L; No.
<p><u>Comments:</u> TCE = Trichloroethene. TCA = Trichloroethane. PCE = Tetrachloroethene.</p>					
NAME OF LABORATORY	Test America	Test America	Test America	Test America	Test America
DATE SENT TO LAB	12/19/17				
SAMPLER'S NAME	S. Scharinger				

*Measured from top of well casing.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-138920-1
Client Project/Site: Delavan Well #4 WPDES

For:
Pentair Water
293 Wright Street
Delavan, Wisconsin 53115

Attn: Steve Scharinger



Authorized for release by:
12/28/2017 1:54:16 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

LINKS

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results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

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Definitions/Glossary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-138920-1

Glossary

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

Case Narrative

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-138920-1

Job ID: 500-138920-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-138920-1

Comments

No additional comments.

Receipt

The samples were received on 12/20/2017 10:05 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.1° C.

GC/MS VOA

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

General Chemistry

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



Client Sample Results

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-138920-1

Client Sample ID: SS1
Date Collected: 12/19/17 10:41
Date Received: 12/20/17 10:05

Lab Sample ID: 500-138920-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			12/28/17 02:50	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			12/28/17 02:50	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			12/28/17 02:50	1
Trichloroethene	0.63		0.50	0.16	ug/L			12/28/17 02:50	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			12/28/17 02:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		75 - 126		12/28/17 02:50	1
4-Bromofluorobenzene (Surr)	106		72 - 124		12/28/17 02:50	1
Dibromofluoromethane	94		75 - 120		12/28/17 02:50	1
Toluene-d8 (Surr)	94		75 - 120		12/28/17 02:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<1.9		5.0	1.9	mg/L			12/20/17 15:57	1
Chloride	190		10	5.0	mg/L			12/21/17 20:13	5
Phosphorus as P	<0.024		0.050	0.024	mg/L		12/27/17 08:56	12/28/17 09:06	1

Client Sample ID: Trip Blank
Date Collected: 12/19/17 00:00
Date Received: 12/20/17 10:05

Lab Sample ID: 500-138920-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			12/28/17 03:15	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			12/28/17 03:15	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			12/28/17 03:15	1
Trichloroethene	<0.16		0.50	0.16	ug/L			12/28/17 03:15	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			12/28/17 03:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		75 - 126		12/28/17 03:15	1
4-Bromofluorobenzene (Surr)	103		72 - 124		12/28/17 03:15	1
Dibromofluoromethane	95		75 - 120		12/28/17 03:15	1
Toluene-d8 (Surr)	95		75 - 120		12/28/17 03:15	1

Lab Chronicle

Client: Pentair Water
 Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-138920-1

Client Sample ID: SS1
Date Collected: 12/19/17 10:41
Date Received: 12/20/17 10:05

Lab Sample ID: 500-138920-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	415376	12/28/17 02:50	EMA	TAL CHI
Total/NA	Analysis	SM 2540D		1	414698	12/20/17 15:57 (Start) 12/20/17 15:58 (End)	SMO	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	414920	12/21/17 20:13	HMW	TAL CHI
Total/NA	Prep	SM 4500 P B			415303	12/27/17 08:56	RMP	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	415461	12/28/17 09:06 (Start) 12/28/17 09:06 (End)	RMP	TAL CHI

Client Sample ID: Trip Blank
Date Collected: 12/19/17 00:00
Date Received: 12/20/17 10:05

Lab Sample ID: 500-138920-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	415376	12/28/17 03:15	EMA	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-138920-1

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

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Method Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-138920-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 P E	Phosphorus	SM	TAL CHI

Protocol References:

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

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

Laboratory References:

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

Sample Summary

Client: Pentair Water
Project/Site: Delavan Well #4 WPDES

TestAmerica Job ID: 500-138920-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-138920-1	SS1	Water	12/19/17 10:41	12/20/17 10:05
500-138920-2	Trip Blank	Water	12/19/17 00:00	12/20/17 10:05

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
 Phone: 708.534.5200 Fax: 708.534.5211

Report To (optional) Steve Scharinger Bill To (optional) _____
 Contact: Steve Scharinger Contact: _____
 Company: Pentair Flow Tech Company: _____
 Address: Delavan WI 53115 Address: _____
 Address: 293 Wright St. Address: _____
 Phone: 262 728 7408 Phone: _____
 Fax: _____ Fax: _____
 E-Mail: Steve.Scharinger@Pentair.com PO#/Reference# _____

Chain of Custody Record

Lab Job #: 500-138920
 Chain of Custody Number: _____
 Page _____ of _____
 Temperature °C of Cooler: 4.1

Client		Client Project #		Preservative		Parameter		Matrix		Comments		
<u>Pentair Flow Technologies</u>		<u>WPDES Delavan Well #4</u>		<u>HCl HCl HCl HCl H2SO4</u>		<u>TCE TCA PCE Vinyl Chloride P T.S.S. Chloride</u>				Preservative Key 1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other		
Lab ID	MS/MSD	Sample ID	Sampling		# of Containers	Matrix						
			Date	Time								
<u>1</u>		<u>SSI</u>	<u>12/19/17</u>	<u>10:41A</u>	<u>5W</u>		<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	
<u>2</u>		<u>Trip Blank</u>	<u>12/19/17</u>		<u>1</u>							



500-138920 COC

Turnaround Time Required (Business Days) 1 Day 2 Days 5 Days 7 Days 10 Days 15 Days Other
 Requested Due Date _____
 Sample Disposal: Return to Client Disposal by Lab Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>[Signature]</u> Company: <u>Pentair</u> Date: <u>12/19/17</u> Time: <u>11:16AM</u>	Received By: <u>[Signature]</u> Company: <u>TACHT</u> Date: <u>12/20/17</u> Time: <u>1005</u>
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: _____ Company: _____ Date: _____ Time: _____
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: _____ Company: _____ Date: _____ Time: _____

Lab Courier: _____
 Shipped: FX Priority
 Hand Delivered: _____

- Matrix Key
- WW - Wastewater
 - W - Water
 - S - Soil
 - SL - Sludge
 - MS - Miscellaneous
 - OL - Oil
 - A - Air
 - SE - Sediment
 - SO - Soil
 - L - Leachate
 - WI - Wipe
 - DW - Drinking Water
 - O - Other

Client Comments: _____
 Lab Comments: _____

Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-138920-1

Login Number: 138920

List Source: TestAmerica Chicago

List Number: 1

Creator: Sanchez, Ariel M

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	4.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



TETRA TECH