2019 ANNUAL
PROGRESS REPORT
PENTAIR FLOW TECHNOLOGIES, LLC
DELAVAN, WISCONSIN FACILITY
SOURCE AREA REMEDIATION

BRRTS# 02-65-529579
FACILITY ID# 265091640

February 24, 2020

Prepared For:

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

Prepared By:

Tetra Tech
Brookfield Lakes Corporate Center XII
175 N. Corporate Drive, Suite 100
Brookfield, Wisconsin 53045

Project No. 117-7469004

CERTIFICATION

Hydrogeologist:

I hereby certify that I am a hydrogeologist as that term is defined in s. NR712.03(1), Wis. Adm. Code, and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR700 to 726, Wis. Adm. Code.

Mark A. Manthey, P.G.
Associate Hydrogeologist
Tetra Tech

TETRA TECH

TETRA TECH

February 24, 2020
(117-7469004.01)

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.

SITE NAME/ACTIVITY:	DATE: February 24, 2020
Contract No. SF-90-02	
Delavan Municipal Well #4	
Delavan, Wisconsin	
Source Area Remediation	PERIOD: January 1 through December 31, 2019

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 2019:

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. New 30 gallon-per-minute (gpm) pumps were installed in extraction wells EX-1 and EX-2R and the pump motor in extraction well EX-4R was re-wired on March 28th.

3. Monitor wells D-3, D-4, D-5 and D-6, which are not part of the Delavan facility groundwater monitoring program, were abandoned in accordance with Chapter NR141 of the Wisconsin Administrative Code. WDNR Well / Drillhole / Borehole Filling & Sealing Report (Form 3300-005) forms were filled out for each monitor well. Copies of the forms are provided in Appendix A.

4. Annual sampling of the wells that are part of the groundwater monitoring program for the Delavan facility was performed in July. Groundwater samples were also collected from the three Delavan facility extraction wells that are not on the annual sampling schedule (EX-4R, EX-5R and EX-6) during the July sampling event to document current contaminant concentrations in these wells as they had not been sampled since the mid-1990s. All existing site monitor wells were also inspected and any damage to the surface seals, protective casings or well casings were noted.

5. New locks were installed on the protector tops of monitor wells TW-1A, TW-2, TW-2A, D-1R, D-23, D-25R, D-26, D-27, P-2010 and MW-2004.

6. An annual site inspection of the Delavan facility was performed during the annual groundwater sampling event to document the surface conditions in the two areas on the Delavan facility property containing residual volatile organic compounds (VOCs) impacts in the subsurface soil. A visual inspection of the entire Delavan facility property was also performed to document any potential land-use changes including the undeveloped east half of the property. Photographs were also be taken to document site conditions.

7. The cellular endpoint connected to the Badger Meter Dynasonics® U500w ultrasonic meter installed on the discharge line of extraction well EX-1 failed on May 24th, which resulted in no flow data being uploaded from the meter to the AquaCUE® website after May 24th. A new cellular endpoint was ordered from Badger Meter and it was installed by Pentair Flow Technologies personnel on September 17th. Uploading of flow data from the EX-1 meter resumed on September 18th.

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@tetratech.com

Encs.

cc: Maxwell Geyer, Pentair Flow Technologies, LLC (Electronic copy via email.)
Robert Thiboldeaux, PhD, Senior Toxicologist, Wisconsin Department of Health Services (Electronic copy via email.)
William Ryan, EPA (Electronic copy via email.)

SUMMARY OF PROGRESS MADE THIS REPORTING PERIOD

The following remedial action activities took place in 2019:

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. The pump motor in extraction well EX-4R was re-wired by a pump installer on March 28th. New 30 gallon-per-minute (gpm) pumps were also installed in extraction wells EX-1 and EX-2R by the pump installer on March 28th.

3. As recommended in the 2018 Annual Progress Report, monitor wells D-3, D-4, D-5 and D-6, which are not part of the Delavan facility groundwater monitoring program, were abandoned in accordance with Chapter NR141 of the Wisconsin Administrative Code on July 14th as all four monitor wells are no longer being sampled and D-3 and D-5 were found to be damaged during the 2018 well inspection. WDNR Well / Drillhole / Borehole Filling & Sealing Report (Form 3300-005) forms were filled out for each monitor well. Copies of the forms are provided in Appendix A.

4. 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 17th to July 18th. Groundwater samples were also collected from extraction wells EX-4R, EX-5R and EX-6, which are not on the annual sampling schedule, to document current contaminant concentrations in these wells as they had not been sampled since the mid-1990s. All existing Delavan facility monitor wells were also inspected and any damage to the surface seals, protective casings or well casings were noted.

   The analytical results from 2019 showed moderate to slight decreases in the concentrations or no detections of the volatile organic compounds (VOCs) analyzed in ten (10) of the wells

sampled, which includes no VOCs detected in the samples collected from extraction wells EX-5R and EX-6. Trichloroethene (TCE) and 1,1,1-trichloroethane (TCA) were detected at the same concentration 1.0 ug/L in the sample collected from extraction well EX-4R, which are below their respective Chapter NR140 enforcement standards (ESs). The reported VOC concentrations for the 2018 and 2019 samples collected from monitor well TW-4 were either the same or exhibited a slight decrease. VOC concentrations exhibited stable to moderate increases in concentration in four monitor wells and two extraction wells. The analytical results from the 2019 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 C 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 D.

5. The above-grade protector tops of monitor wells TW-1A, D-1R, D-23, D-26 and P-2010 were found to be missing locks during the 2018 well inspection and the locks on the above-grade protector tops of monitor wells D-25R and D-27 were broken. New locks were installed on the protector tops of these monitor wells during the July 2019 sampling event. New locks were also installed on the protector tops of monitor wells TW-2, TW-2A and MW-2004 as the old locks on these wells were found to be broken during the 2019 well inspection.

6. As described in the Final Institutional Control Implementation and Assurance Plan (ICIAP) for the Delavan facility property (February 16, 2018), an annual site inspection of the Delavan facility was performed during the annual groundwater sampling event to document the surface conditions in the two areas on the Delavan facility property containing residual volatile organic compounds (VOCs) impacts in the subsurface soil. The first area is located next to the north wall of Plant 2 in the former sump source area and contains residual TCE impacts in the soil at a depth of 28 feet below ground surface that are protective of commercial and industrial site

uses but are not protective of non-commercial/non-industrial uses. The second area is found beneath the concrete floor of Plant 1 and south of the south wall of Plant 1 and contains pervasive low-level VOCs impacts in the subsurface soil. The approximate extent of the low-level VOCs impacts in the soil beneath and south of Plant 1 is shown on Figure 1. Inspection of surface conditions in this area is needed to confirm the surface cover of the concrete floor of Plant 1 and the paved areas south of the south wall of Plant 1 are still intact to prevent direct contact with the potentially impacted soils. A visual inspection of the entire Delavan facility property was also performed to document any potential land-use changes including the former locations of the chip storage extraction system (CSES) and southeast extraction system (SES) and the undeveloped land on the east half of the property. Photographs were taken to document site conditions.

The site inspection confirmed the surface cover remains intact in the area of the residual VOCs impacts beneath and south of Plant 1 and the surface conditions in the former sump source area are unchanged. The undeveloped land on the east half of the property remains undeveloped and land use in and around the developed portion of the Delavan facility property including the former CSES area and former SES area remains the same. Photographs documenting site conditions are included in Appendix B.

7. The Orion® LTE cellular endpoint connected to the Badger Meter Dynasonics® U500w ultrasonic meter installed on the discharge line of extraction well EX-1 failed on May 24th. The failure of the cellular endpoint resulted in no flow data from the meter on the EX-1 discharge line being recorded from May 24th to September 17th. A new cellular endpoint was ordered from Badger Meter and it was installed by Pentair Flow Technologies personnel on September 17th. Recording of flow data from the EX-1 meter resumed on September 18th.

GROUNDWATER

Residual groundwater impacts originating from the former SES and former sump source areas are controlled by extraction wells EX-1 and EX-7R. Groundwater downgradient of the former CSES source area and the pervasive low-level residual VOCs impacts in the subsurface soil beneath a portion of the concrete floor of Plant 1 and south of the south wall of Plant 1 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 D.

Groundwater Sampling

The annual groundwater sampling round was conducted July 17th to July 18th, which included collecting groundwater samples from extraction wells EX-4R, EX-5R and EX-6 for the first time since the mid-1990s. 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 C. 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. The analytical results for groundwater samples collected from extraction wells EX-4R, EX-5R and EX-6 are also included on Table 1. 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 monitor 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 five 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 three of the Plant 1 monitor wells sampled and three of the Plant 1 extraction wells. All the reported TCA concentrations were below the TCA Chapter NR140 groundwater quality standards. Comparison of the 2018 TCA results to the 2019 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 11 ug/L to 2.8 ug/L. The reported TCA concentrations in previous samples collected from MW-1026 were 14 ug/L in 2017, 21 ug/L in 2016, 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 2019 analytical data confirms an overall declining trend in TCA concentrations at MW-1026 over the past 13 years.

- The reported TCA concentrations in the 2018 and 2019 samples collected from MW-1027 were the same (4.9 ug/L). TCA

concentrations in MW-1027 have exhibited a declining trend since the 2005 sampling event and TCA concentrations in MW-1027 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.

- The reported TCA concentrations in the 2018 and 2019 samples collected from TW-4 were the same (26 ug/L). TCA concentrations in TW-4 have been below its PAL since the July 2013 sampling round and the 2011 through 2019 TCA concentrations are the lowest 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 slightly from no detection (detection limit = 0.38 ug/L) to 0.55 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 1.7 ug/L in 2018 to 1.0 ug/L in 2019. TCA concentration in EX-2R have not exceeded the PAL since 1997.

- The TCA concentration in extraction well EX-3R increased from 2.4 ug/L in 2018 to 4.5 ug/L in 2019. EX-3R is the replacement extraction well for original extraction well EX-3 and was brought on-line in September 2017. TCA concentrations in the EX-3 samples have not exceeded the PAL since 1997.

- TCA was detected at a concentration of 1.0 ug/L in the sample collected from EX-4R and TCA was not detected above its detection limit 0.37 ug/L in the samples collected from EX-5R and EX-6.

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-3R during this reporting period. The reported TCE concentration in the samples collected from monitor wells MW-1026 and D-25R and extraction wells EX-2R and EX-4R exceeded the PAL of 0.50 ug/L. Comparison of the 2018 TCE results to the 2019 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 2.7 ug/L to 0.98 ug/L. TCE concentrations in the groundwater samples collected 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.

- The TCE concentration in MW-1027 increased from 27 ug/L to 41 ug/L. The 27 ug/L concentration reported for the 2018 sample is the lowest historical TCE concentration for groundwater samples collected from MW-1027. TCE concentrations at MW-1027 continue to exhibit on overall declining trend even with the increase in concentration in the 2019 sample.

- The reported TCE concentrations for the groundwater samples collected from monitor well TW-4 in 2018 and 2019 were both 18 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 on overall declining trend since 1993.

- At monitor well D-25R, the TCE concentration decreased slightly from 0.55 ug/L to 0.54 ug/L. The 0.54 ug/L TCE concentration is the lowest TCE concentration 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 from 3.6 ug/L to 2.8 ug/L. TCE concentrations in the EX-2R samples have been below 10 ug/L since the July 2012 sampling event.

- The TCE concentration in extraction well EX-3R increased from 2.4 ug/L to 5.2 ug/L. TCE concentrations are still exhibiting a decreasing trend at EX-3/EX-3R even with the increase from 2018 to 2019. The last time the TCE concentration was above the ES in a sample collected from EW-3 was in July 2012 when the reported TCE concentration was 18 ug/L.

- TCE was detected at a concentration of 1.0 ug/L in the sample collected from extraction well EX-4R. TCE was not detected in the samples collected from EX-5R and EX-6.

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 extraction wells EX-1. No PCE was detected in the groundwater samples collected from monitor wells D-18, MW-2004, MW-2005R, MW-2011, TW-1 and TW-3. A comparison of the 2018 PCE results to the 2019 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-2005R, MW-2011, TW-1 and TW-3 in 2018 and 2019. PCE was last detected in D-18 in 2009 and was last detected in MW-2004 in 1997. PCE has never been detected in MW-2011 and was last detected in TW-1 in 2008. The PCE concentrations in the samples collected from MW-2005R, which replaced original monitor well MW-2005 in 2007, 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 last sample collected from MW-2005 in September 2004 had a reported PCE concentration of 17 ug/L. PCE impacts in TW-3 have been below the 5.0 ug/L ES since the 2002 sampling event.

- PCE concentrations in monitor well D-15 increased from 6.3 ug/L to 8.3 ug/L. The PCE concentrations in D-15 have ranged from 4.2 ug/L to 10.0 ug/L since the July 2011 sampling event. The PCE concentrations for the 2014 and 2015 samples are the lowest reported PCE concentration for samples collected from D-15 between the November 1991 sampling round and the 2019 sampling round. The 2019 PCE results confirms a decreasing trend in PCE concentrations at monitor well D-15 since the July 2010 sampling round when the reported PCE

concentration in D-15 was 47 ug/L.

- The PCE concentration in extraction well EX-1 decreased slightly from 0.60 ug/L to 0.53 ug/L. PCE concentrations in EX-1 have been below the ES of 5.0 ug/L since the 2004 sampling event.

- The PCE concentration in replacement extraction well EX-7R, which replaced original extraction well EX-7 and was brought on-line in September 2017, increased from 4.7 ug/L in 2018 to 5.4 ug/L in 2018. The PCE results from EX-7 and EX-7R from the 2010 to 2019 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 2.2 ug/L, which is well below the Chapter NR140 PAL of 40 ug/L. All the reported TCA detections in samples collected from MW-2011 are below the NR140 PAL.

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 sample collected from replacement extraction well EX-7R. TCE was detected in EX-1 at a reported concentration of 0.30 ug/L, which is below the PAL. No TCE was detected in the groundwater samples collected from monitor wells D-18, MW-2004, MW-2005R, TW-1 and TW-3. A comparison of the 2018 TCE results to the 2019 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 2018 and 2019 groundwater samples collected from monitor wells D-18, MW-2004, MW-2005R, TW-1 and

TW-3. 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. TCE concentrations have been below the ES of 5.0 ug/L in groundwater samples collected from monitor well MW-2004 since the 1997 annual sampling event and the PAL has not been exceeded since the 2015 sampling event. TCE has never been detected in a groundwater sample collected from MW-2005R, which replaced original monitor well MW-2005 in 2007. The last sample collected from MW-2005 in September 2004 had a reported TCE concentration of 1.3 ug/L. TCE was last detected in a groundwater sample collected from monitor well TW-1 in July 2012 at a concentration of 0.31 ug/L. TCE was last detected in the July 2016 sample collected from TW-3 at a concentration of 0.29 ug/L. TCE concentration in TW-3 have been below the ES since the June 2003 sampling event.

- The TCE concentration in monitor well MW-2011 increased from 7.6 ug/L to 13 ug/L. The reported TCE concentrations in MW-2011 have ranged from 35 ug/L to 7.2 ug/L from 2014 to 2019 and are on a decreasing trend.

- The TCE concentration in monitor well D-15 increased slightly from 7.0 ug/L to 8.4 ug/L. Review of the TCE data presented on Figure 5 shows TCE concentrations in D-15 are exhibiting on overall decreasing trend since the April 2001 sampling event.

- The reported TCE concentrations for the 2018 and 2019 samples collected from EX-1 were both 0.30 ug/L. 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 reported TCE concentrations for the 2018 and 2019 samples collected from extraction well EX-7R were both 2.4 ug/L. The TCE results from EX-7 and EX-7R from the 2010 to 2019 sampling rounds suggest an overall declining trend in PCE impacts in the former sump source area.

Extraction Wells Maintenance and Meter Readings

The pump motor in extraction well EX-4R failed on January 3rd. The cause for the failure was determined to be faulty wiring. The pump motor was re-wired by a pump installer on March 28th and pumping from EX-4R was resumed the same day. New 30 gallon-per-minute (gpm) pumps were also installed in extraction wells EX-1 and EX-2R by the pump installer on March 28th. The new pump was installed in EX-1 because as reported in the 2018 Annual Report, the old pump was pumping erratically. The new pump was installed in EX-2R to match the same size pumps that were installed in EX-1, EX-3R, EX-4R, EX-5R and EX-7R.

The Orion® LTE cellular endpoint connected to the Badger Meter Dynasonics® U500w ultrasonic meter installed on the discharge line of extraction well EX-1 failed on May 24th. The cellular endpoint transmits the meter readings to the Badger Meter AquaCUE® Flow Measurement Manager site, which allows access to the flow data over the internet. The failure of the cellular endpoint resulted in no flow data being uploaded from the meter on the EX-1 discharge line from May 24th to September 17th. A new cellular endpoint was ordered from Badger Meter and it was installed by Pentair Flow Technologies personnel on September 17th. Uploading of flow data from the EX-1 meter resumed on September 18th.

As reported in the 2018 Annual Progress report, the four Badger Meter Dynasonics® U500w Ultrasonic meters that read flow from extraction wells EX-1, EX-2R, EX-3R, EX-4R and EX-5R were installed and brought on-line in May 2018. The meter that reads flow from EX-6 was installed and brought on-line in August 2018 and the meter that reads flow from EX-7R was installed and brought on-line in November 2018. The meters that read flow from extraction wells EX-1, EX-

2R, EX-3R, EX-4R, EX-5R and EX-6 are installed in storm sewer manholes on the Delavan facility property. One meter reads the combined flow from extraction wells EX-2R and EX-3R and four meters read the individual flow from EX-1, EX-4R, EX-5R and EX-6. The meter that reads the flow from extraction well EX-7R is installed in an insulated enclosure at the wellhead. The monthly flow data from the U500w Ultrasonic meters downloaded from the AquaCUE® Flow Measurement Manager site is summarized on Table 3. The monthly flow data indicate extraction wells EX-2R, EX-3R, EX-4R, EX-5R and EX-7R are operating at average pumping rates of approximately 23 to 42 gallons per minute (gpm) and EX-6 is operating at pumping rates of approximately 80 to 87 gpm. The data from the U500w Ultrasonic meter installed on the groundwater discharge line of extraction EX-1 indicate the average pumping rate of EX-1 was between 12 and 20 gpm before the pump was replaced with a new 30 gpm pump on March 28th. The average pumping rate in EX-1 increased to 32 to 42 gpm after the new 30 gpm pump was installed in the well.

The pump in extraction well EX-1 shut down on October 31st. The AquaCUE® Flow Measurement Manager sent out an automatic notice of the zero flow readings. Pentair Flow Technologies personnel determined the pump needs to be replaced. A new pump will be installed in EX-1 in the spring of 2020.

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. A new pump will be installed in extraction well EX-1 to replace the pump that failed on October 31, 2019 in the spring of 2020.

3. The 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, which suggest it may be appropriate to stop groundwater extraction from EX-1 within a few years. If it is determined that pumping from EX-1 is longer necessary, EX-1 will not be decommissioned as it will be used as a backup for extraction well EX-7R for instances when EX-7R is shut down for repairs or if the pump in EX-7R fails.

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). All the site monitor wells will be inspected as part of the annual groundwater sampling event.

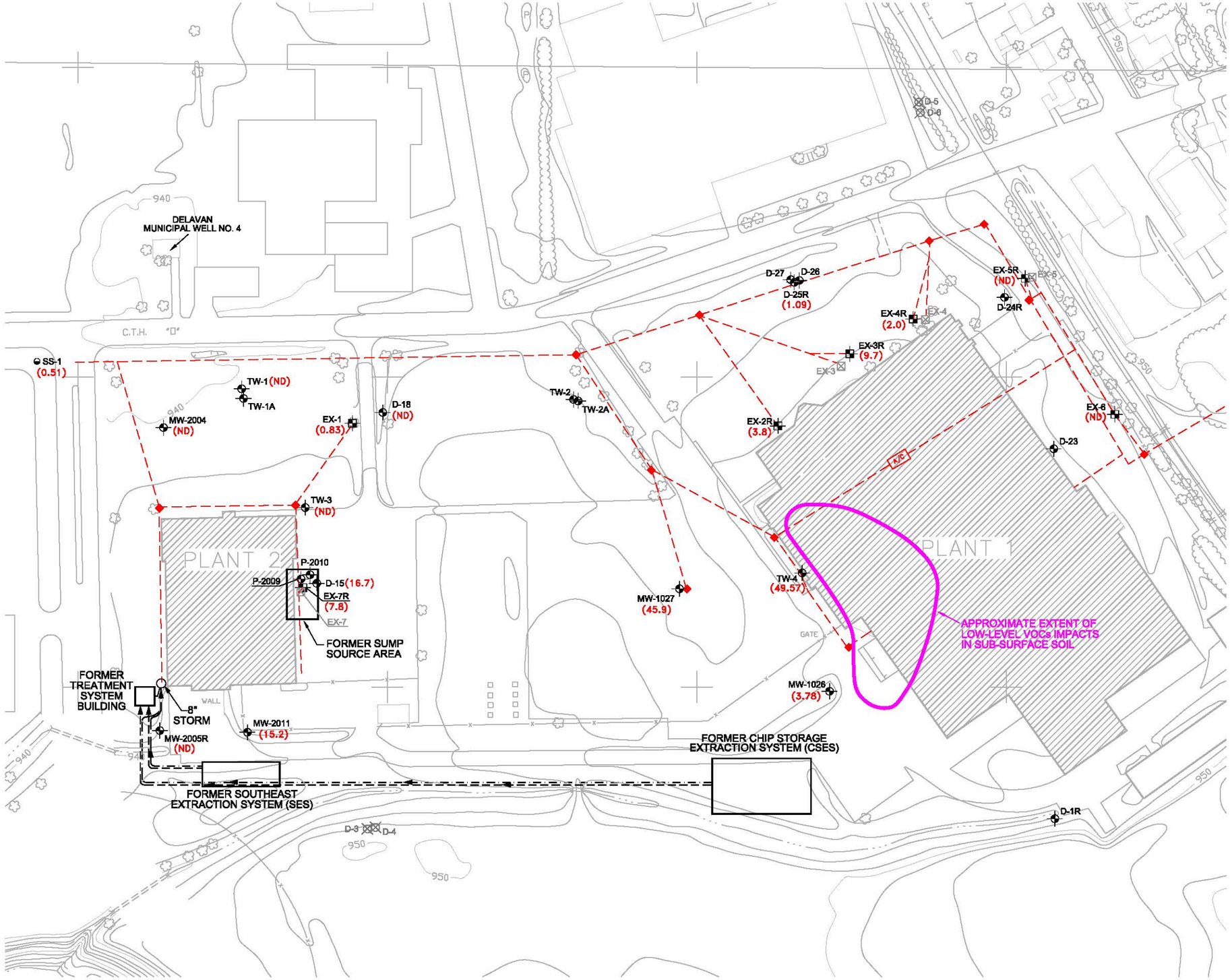
5. An annual site inspection of the Delavan facility property to document current site conditions and land use as described in the Final ICIAP will be performed in conjunction with the annual groundwater sampling event.

FIGURES

TABLES

APPENDICES

FIGURES



EXPLANATION

- MW-2004 — MONITOR WELL LOCATION AND DESIGNATION
- D-4 — FORMER LOCATION AND DESIGNATION OF MONITOR WELL THAT WAS ABANDONED ON JULY 14, 2019
- E-3 — EXTRACTION WELL LOCATION AND DESIGNATION
- SS-1 — STORM SEWER SAMPLE LOCATION AND DESIGNATION
- P-2009 — PIEZOMETER LOCATION AND DESIGNATION
- EX-7 — FORMER EXTRACTION WELL LOCATION AND DESIGNATION (FILLED AND SEALED IN 2017)
- EXTRACTION WELL/ STORM SEWER PIPING
- (16.7) — TOTAL VOCs CONCENTRATION (ug/L) FROM 2019 SAMPLING ROUND
- (ND) — NO VOCs DETECTED

N

SCALE

0 330

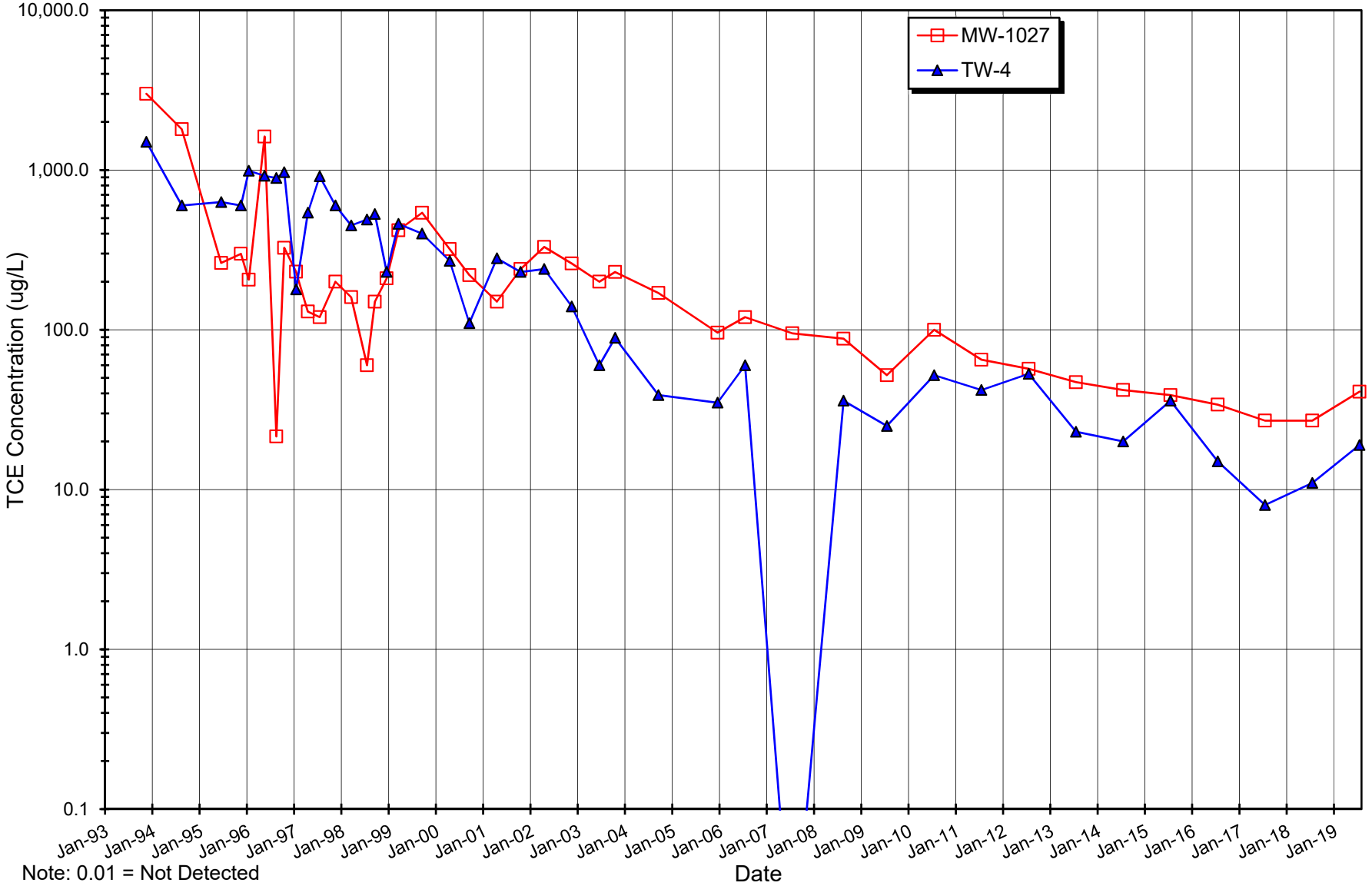
Feet

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

STA-RITE INDUSTRIES, INC. DELAVAN, WISCONSIN	DATE:	1/29/20
	DESIGNED:	CMP
SITE LAYOUT AND TOTAL VOCs CONCENTRATIONS FOR GROUNDWATER MONITORING POINTS	CHECKED:	MAM
	APPROVED:	MAM
	DRAWN:	CMP
	PROJ.:	117-7469004
TETRA TECH	Figure	1

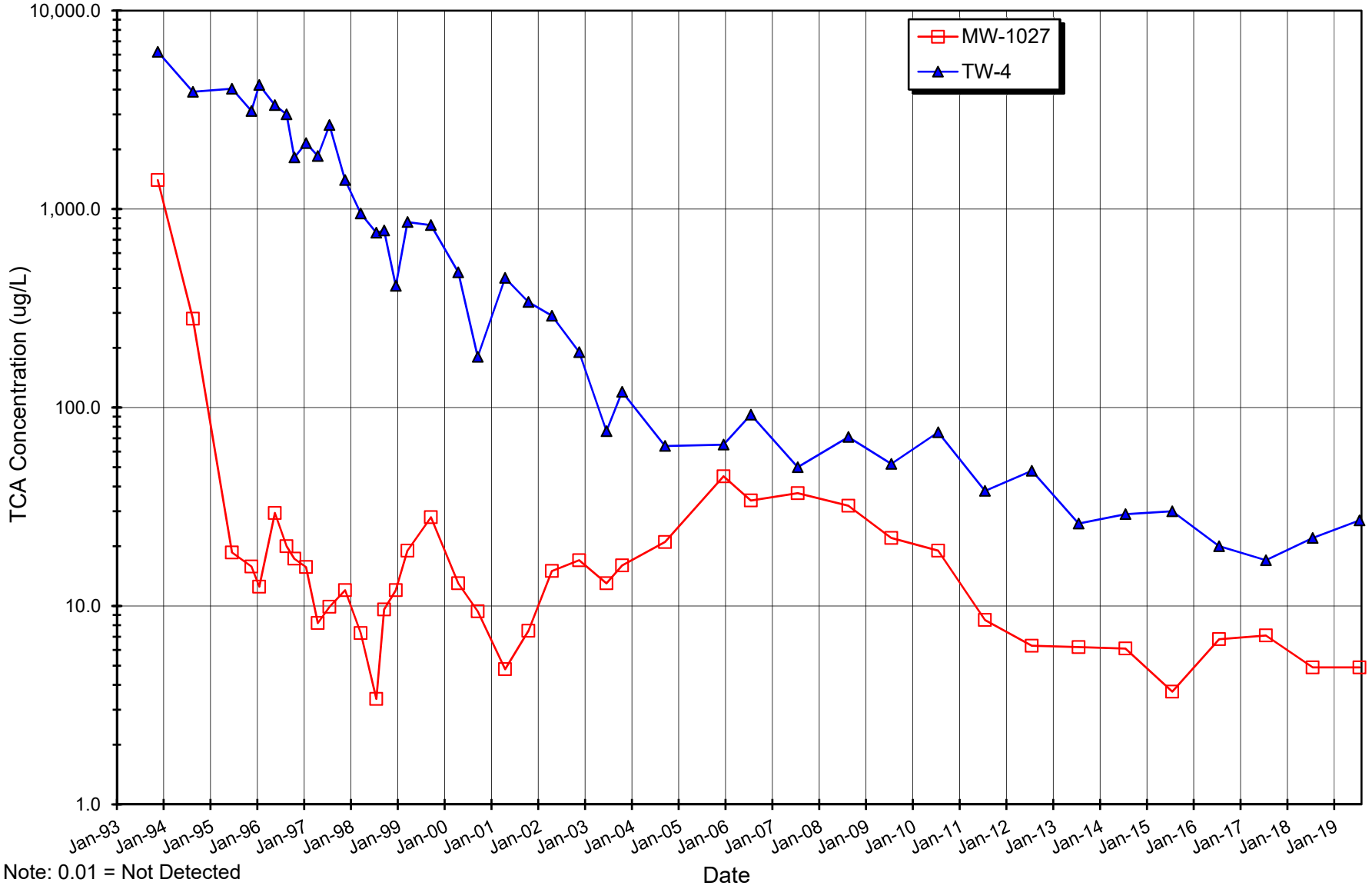
S:\CAD\STA-RITE\DELAVAN\JANUARY 2020\7469002FIG1_1-29-20.DWG

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



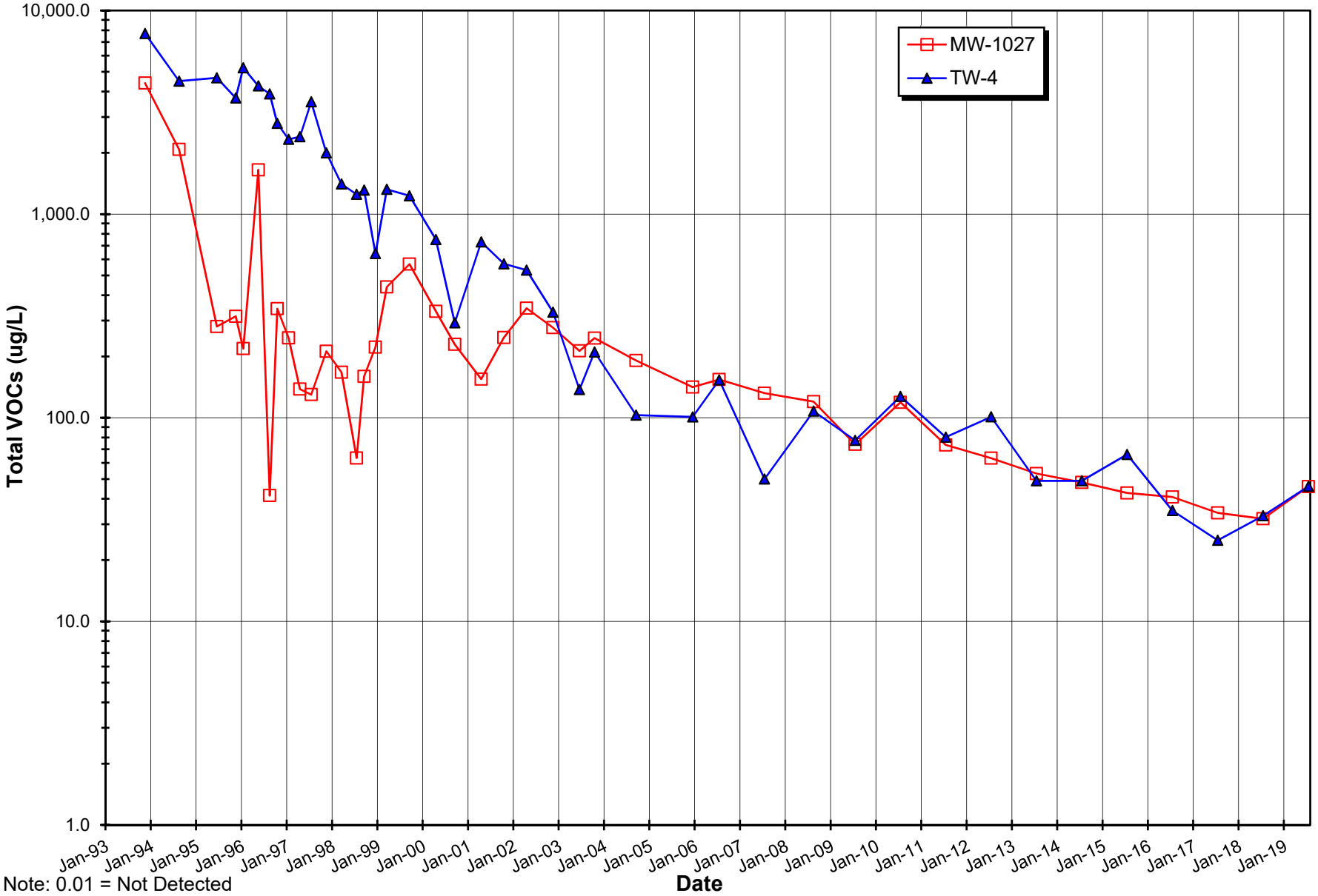
Note: 0.01 = Not Detected

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



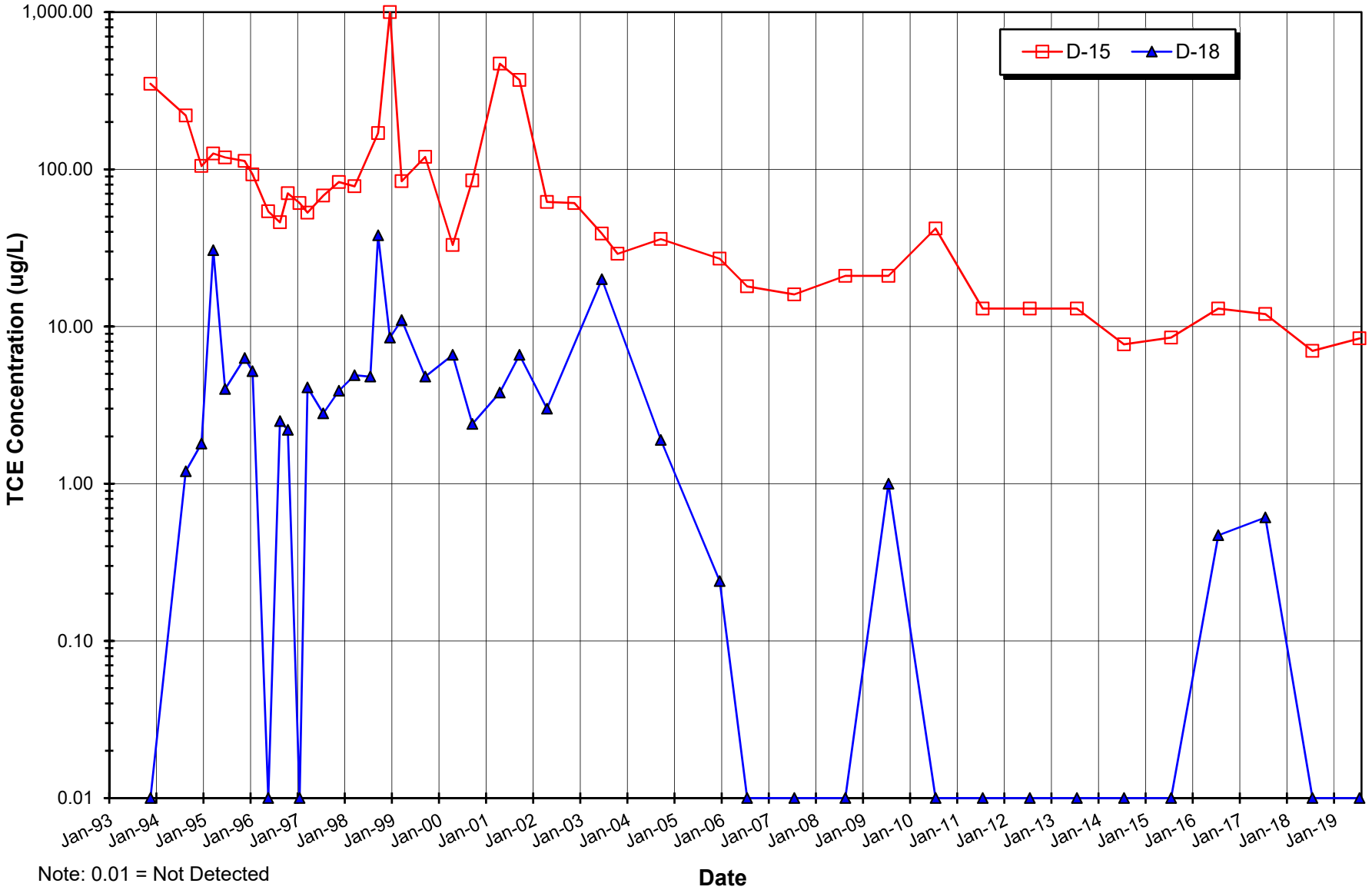
Note: 0.01 = Not Detected

Figure 4. Plant 1 Total VOC Concentration Changes



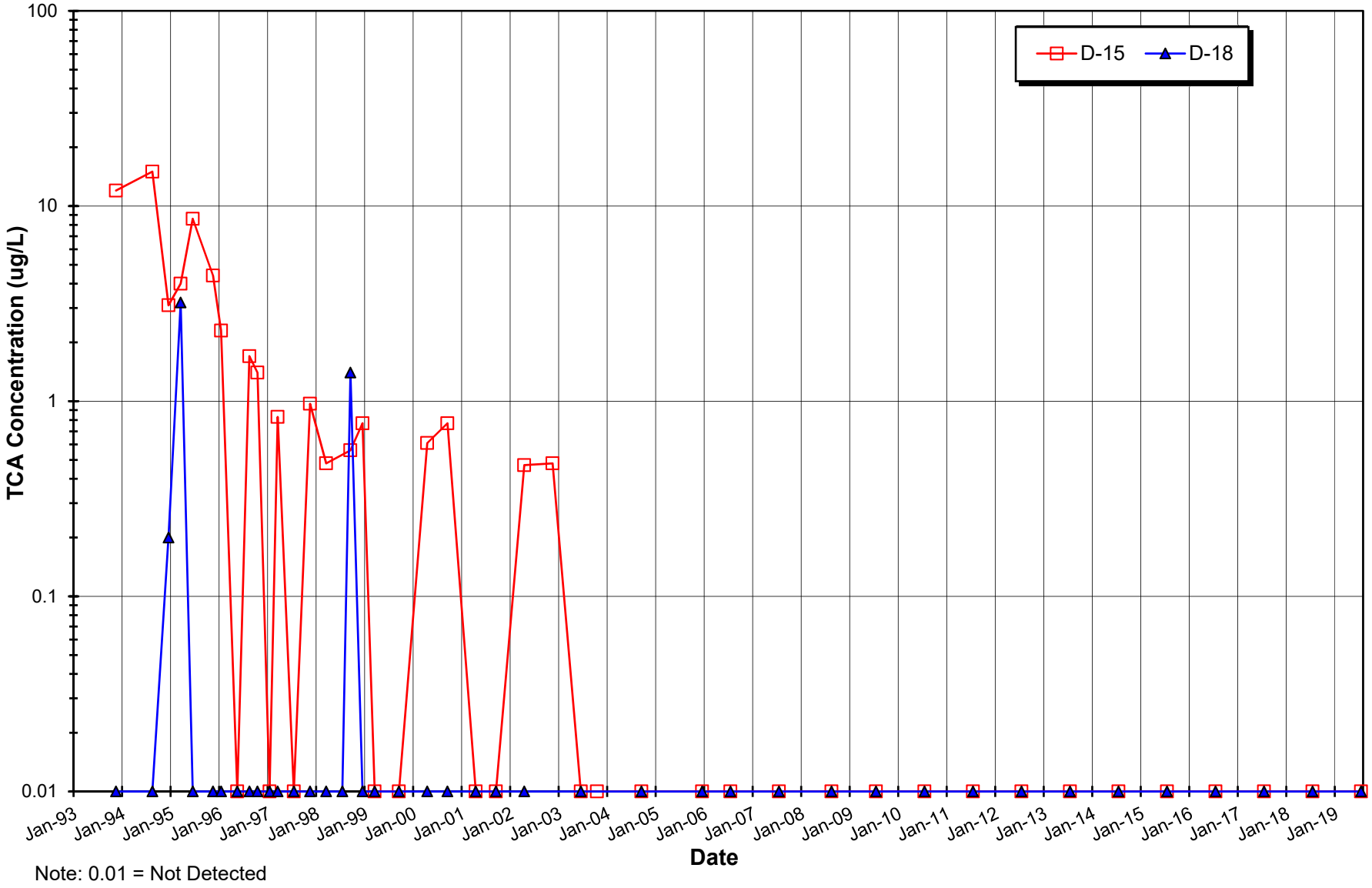
Note: 0.01 = Not Detected

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



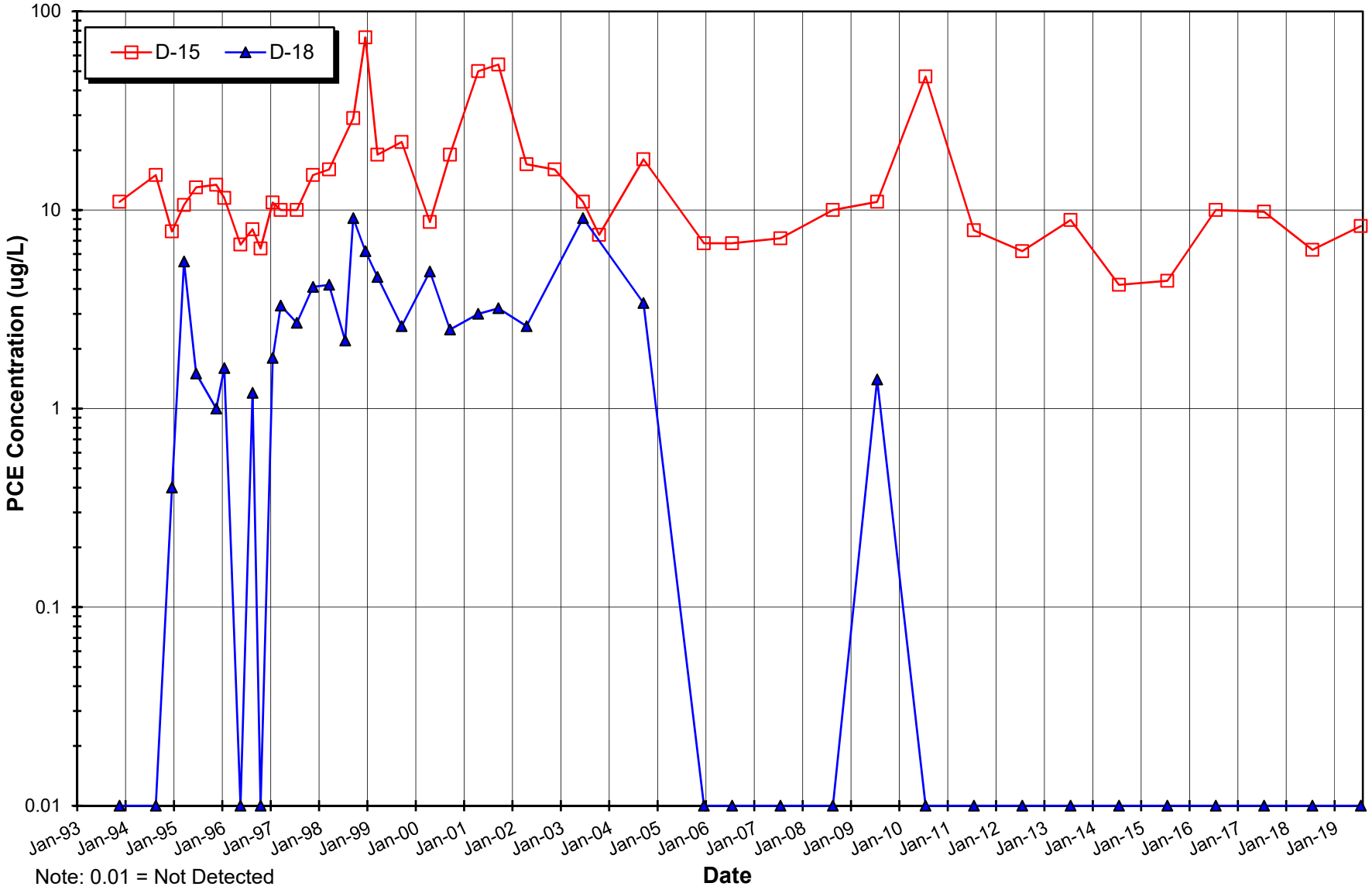
Note: 0.01 = Not Detected

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



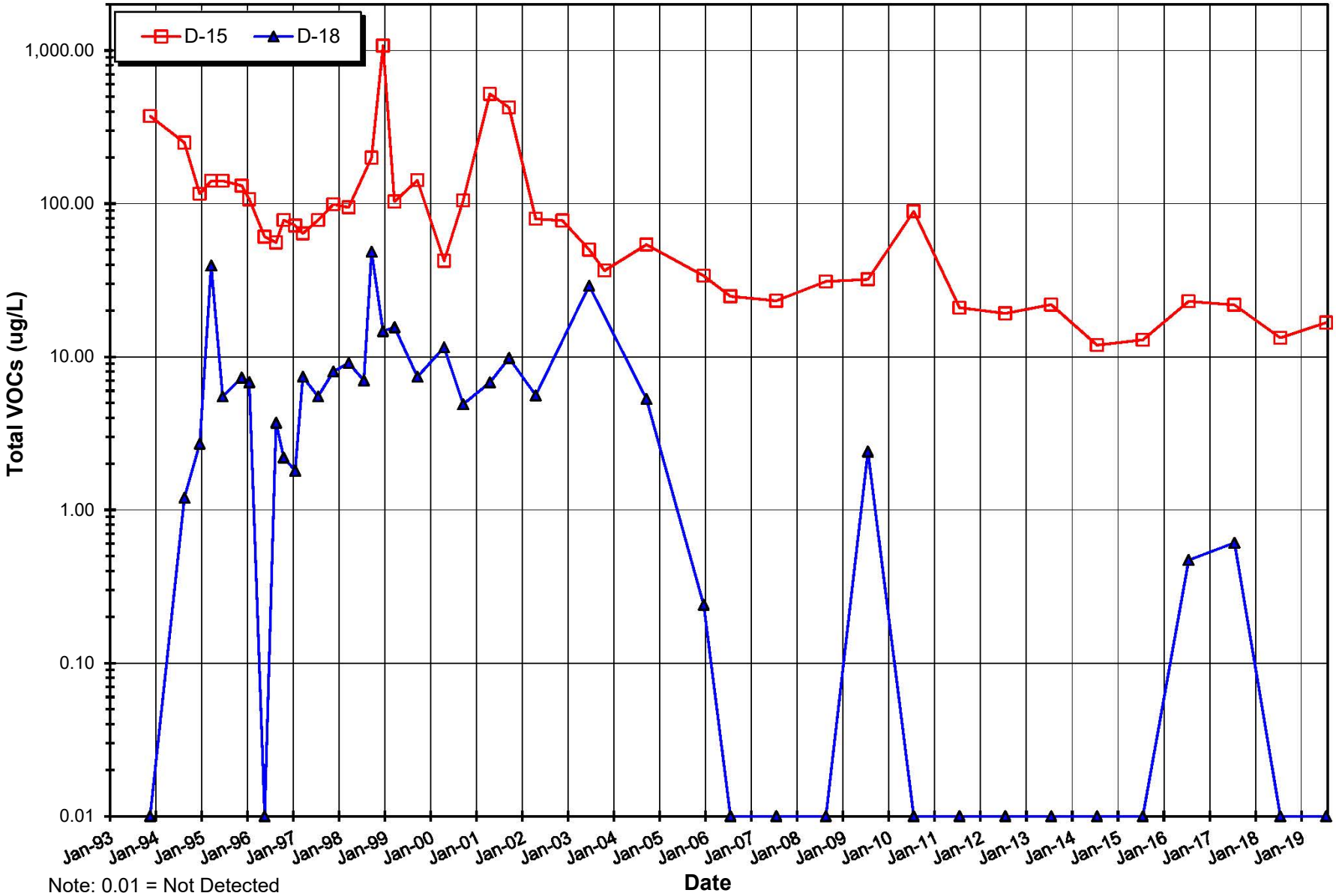
Note: 0.01 = Not Detected

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



Note: 0.01 = Not Detected

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	12/11/91	**1.0**	**22000**	**1500**	**10**	<0.3	23511
Monitor	11/11/93	<0.5	**4500**	**250**	**1.0**	<0.3	4751
Wells	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
	07/13/17	<0.37	**14**	**3.6**	<0.35	<0.20	17.6
	07/30/18	<0.37	**11**	**2.7**	<0.35	<0.20	13.7
MW-1026	07/18/19	<0.37	**2.8**	**0.98**	<0.35	<0.20	3.78
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
MW-1027	11/19/02	<1.2	**17**	**260**	<1.2	NA	277

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	06/24/03	<5.0	**13**	**200**	<2.5	NA	213
	10/20/03	<0.50	**16**	**230**	<0.25	NA	246
	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
	07/13/17	<0.37	**7.1**	**27**	<0.35	<0.20	34.1
	07/30/18	<0.37	**4.9**	**27**	<0.35	<0.20	31.9
MW-1027	07/17/19	<0.37	**4.9**	**41**	<0.35	<0.20	45.9
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
TW-4	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
TW-4	07/23/97	**0.67**	**950**	**450**	**4.4**	<0.46	1405.07

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	11/18/97	**0.83**	**760**	**490**	NA	<0.25	1250.83
	03/23/98	**0.74**	**780**	**530**	NA	<0.46	1310.74
TW-4	07/27/98	<2.5	**410**	**230**	<2.5	<2.5	640
	09/28/98	<0.63	**860**	**460**	**2.8**	<0.46	1322.8
	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
	10/24/17	<0.37	**22**	**16**	<0.35	<0.20	38
	02/28/18	<0.37	**20**	**11**	<0.35	<0.20	31
	05/10/18	<0.74	**27**	**16**	<0.33	<0.50	43
TW-4	07/30/18	<0.37	**26**	**18**	<0.35	<0.20	44

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	07/18/19	<0.37	**26**	**18**	<0.35	<0.20	44
D-25R	10/29/91	<0.5	<0.5	**11**	<0.5	<0.3	11
D-25R	12/13/91	**0.60**	13	**13**	<0.5	<0.3	26.6
D-25R	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
	06/26/95	<0.34	**3.1**	<0.19	<0.19	<0.27	3.1
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
D-25R	12/13/05	**0.59**	**15**	**12**	<0.25	<0.20	27.59

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	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
D-25R	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
	07/24/13	<0.17	**1.0**	**1.0**	<0.28	<0.10	2
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
	07/12/17	<0.37	**2.9**	**2.3**	<0.35	<0.20	5.2
	07/30/18	<0.37	<0.38	**0.55**	<0.35	<0.20	0.55
D-25R	07/17/19	<0.37	0.55	**0.54**	<0.35	<0.20	1.09
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
Original	11/11/93	<0.5	**890**	**250**	**1.3**	<0.3	1141.3
Extraction	12/13/94	<0.5	**17.3**	**3.5**	NA	<0.5	20.8
Wells	06/21/95	<0.34	**375**	**96.4**	<0.19	<0.27	471.4
EX-2 /	08/14/96	<0.5	**99.8**	**52**	<0.5	<0.5	151.8
EX-2R	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

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-2R	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
EX-2R	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
	10/24/17	<0.37	**3.7**	**6.3**	<0.35	<0.20	10
	07/31/18	<0.37	**1.7**	**3.6**	<0.35	<0.20	5.3
EX-2R	07/18/19	<0.37	**1.0**	**2.8**	<0.35	<0.20	3.8
EX-3	11/07/91	<0.5	**50**	**14**	<0.5	<0.3	64
	12/18/91	<0.5	30.3	**9.5**	<0.5	<0.3	39.8
Original	11/11/93	<0.5	<0.5	<0.5	<0.5	<0.3	0
Extraction	12/13/94	<0.5	**14.4**	**5.8**	NA	<0.5	20.2
Wells	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

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-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
	07/31/18	<0.37	**2.4**	**2.4**	<0.35	<0.20	4.8
EX-3R	07/18/19	<0.37	**4.5**	**5.2**	<0.35	<0.20	9.7
EX-4R	07/18/19	<0.37	**1.0**	**1.0**	<0.35	<0.20	2
EX-5R	07/18/19	<0.37	<0.38	<0.16	<0.35	<0.20	0
EX-6	07/18/19	<0.37	<0.38	<0.16	<0.35	<0.20	0
SS-1	11/11/93	**0.90**	**71**	**24**	<0.5	<0.3	95.9
	08/16/94	<1	**55**	**25**	NA	<5	80
Storm Sewer	12/14/94	0.10	**11.2**	**3.0**	NA	<0.5	14.3
Outfall	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
	01/25/96	**2.6**	**17.1**	**21.1**	NA	<0.5	40.8
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
SS-1	12/07/05	**1.8**	**0.67**	**0.64**	<0.25	<0.20	3.11

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	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
	07/14/14	<0.17	<0.20	**0.75**	<0.28	<0.10	0.75
SS-1	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
	07/19/17	<0.37	<0.38	<0.16	<0.35	<0.20	0
SS-1	07/11/18	<0.37	<0.38	**0.51**	<0.35	<0.20	0.51
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	11/11/93	<0.5	<0.5	<0.5	<0.5	<0.3	0
Source Area	08/16/94	<1	<1	**1.2**	NA	<5	1.2
and	12/13/94	**0.40**	**0.20**	**1.8**	NA	**0.30**	2.7
Former Sump	03/13/95	**5.5**	**3.2**	**30.6**	NA	ND	39.3
Source Area	06/21/95	**1.5**	<0.13	**4.0**	<0.19	<0.27	5.5
Monitor	11/06/95	**1.0**	<0.5	**6.3**	NA	<0.5	7.3
Wells	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
	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
D-18	09/25/98	**9.1**	**1.4**	**38**	<0.28	<0.46	48.5

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	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
	06/20/03	**9.1**	<0.50	**20**	<0.25	NA	29.1
D-18	10/20/03	**Not Sampled.**					
	09/20/04	**3.4**	<0.50	**1.9**	NA	<0.20	5.3
	12/14/05	<0.50	<0.50	**0.24**	<0.25	<0.20	0.24
	07/31/06	<0.50	<0.50	<0.20	NA	NA	0
D-18	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
	07/12/17	<0.37	<0.38	**0.61**	<0.35	<0.20	0.61
	07/30/18	<0.37	<0.38	<0.16	<0.35	<0.20	0
D-18	07/17/19	<0.37	<0.38	<0.16	<0.35	<0.20	0
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
MW-2004	07/23/97	<0.63	**1.9**	**1.7**	<0.15	<0.46	3.6

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	07/27/98	<0.25	<0.25	**0.94**	<0.15	<0.25	0.94
	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
MW-2004	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
	07/10/12	<0.17	<0.20	<0.19	<0.28	<0.10	0
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
	07/12/17	<0.37	<0.38	<0.16	<0.35	<0.20	0
	07/30/18	<0.37	<0.38	<0.16	<0.35	<0.20	0
MW-2004	07/17/19	<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
	10/08/96	**13**	<0.5	<0.5	<0.5	<0.5	13
MW-2005	01/20/97	**24**	<0.5	**10.1**	NA	<0.5	34.1

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	
MW-2005	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
MW-2005	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
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
	07/12/17	<0.37	<0.38	<0.16	<0.35	<0.20	0
	07/30/18	<0.37	<0.38	<0.16	<0.35	<0.20	0
MW-2005R	07/17/19	<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
MW-2011	07/13/10	<0.50	**2.8**	**13**	<0.25	<0.20	15.8

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	
MW-2011	07/20/11	<0.50	**2.7**	**20**	<0.25	<0.20	22.7
	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
	07/12/17	<0.37	**2.1**	**16**	<0.35	<0.20	18.1
	07/30/18	<0.37	**1.2**	**7.6**	<0.35	<0.20	8.8
MW-2011	07/17/19	<0.37	**2.2**	**13**	<0.35	<0.20	15.2
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
D-15	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
D-15	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
	08/15/96	**8.0**	**1.7**	**46**	<0.5	<0.5	55.7
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
D-15	09/28/00	**19**	**0.77**	**85**	NA	NA	104.77

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	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
D-15	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
D-15	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
	07/12/17	**9.8**	<0.38	**12**	<0.35	<0.20	21.8
	07/31/18	**6.3**	<0.38	**7.0**	<0.35	<0.20	13.3
D-15	07/17/19	**8.3**	<0.38	**8.4**	<0.35	<0.20	16.7
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
TW-1	08/13/96	**0.90**	**0.70**	**2.7**	<0.5	<0.5	4.3

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	
TW-1	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
TW-1	12/13/05	<0.50	<0.50	**0.22**	<0.25	<0.20	0.22
TW-1	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
TW-1	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
	07/10/12	<0.17	<0.20	**0.31**	<0.28	<0.10	0.31
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
	07/12/17	<0.37	<0.38	<0.16	<0.35	<0.20	0
	07/30/18	<0.37	<0.38	<0.16	<0.35	<0.20	0
TW-1	07/17/19	<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
TW-3	12/14/94	**5.3**	**11.6**	**5.5**	NA	<0.5	22.4

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-3	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
TW-3	07/27/06	**1.4**	<0.50	**1.2**	NA	NA	2.6
	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
	07/27/09	**1.8**	<0.50	**0.86**	<0.25	<0.20	2.66
TW-3	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
	07/29/14	**0.63**	<0.20	**0.38**	<0.28	<0.10	1.01
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
	07/12/17	**0.59**	<0.38	<0.16	<0.35	<0.20	0.59
	07/30/18	<0.37	<0.38	<0.16	<0.35	<0.20	0
TW-3	07/17/19	<0.37	<0.38	<0.16	<0.35	<0.20	0
EX-1	11/07/91	**8.2**	**3.7**	**20**	<0.5	<0.3	31.9
Original	12/18/91	**6.3**	**3.9**	**14.6**	<0.5	<0.3	24.8
Extraction	11/11/93	**6.8**	**2.3**	**13**	<0.5	<0.3	22.1
Well	12/13/94	**4.7**	**2.7**	**11**	NA	<0.5	18.4

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-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
	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
	07/13/17	<0.37	<0.38	<0.16	<0.35	<0.20	0
	07/31/18	**0.60**	<0.38	**0.30**	<0.35	<0.20	0.9
EX-1	07/18/19	**0.53**	<0.38	**0.30**	<0.35	<0.20	0.83
EX-7	11/07/91	**37**	**5.0**	**350**	<0.5	<0.3	392
Original	12/18/91	**44**	**5.1**	**241**	<0.5	<0.3	290.1
Extraction	11/11/93	**27**	**8.1**	**160**	<0.5	<0.3	195.1
Well	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
	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
EX-7	09/26/00	**56**	<0.56	**140**	NA	NA	196

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	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
EX-7	07/15/15	**8.8**	<0.20	**6.4**	<0.28	<0.10	15.2

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	
EX-7/	07/28/16	**6.5**	<0.38	**3.4**	<0.35	<0.20	9.9
EX-7R	10/24/17	**7.3**	<0.38	**3.8**	<0.35	<0.20	11.1
	07/31/18	**4.7**	<0.38	**2.4**	<0.35	<0.20	7.1
EX-7R	07/18/19	**5.4**	<0.38	**2.4**	<0.35	<0.20	7.8

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
	04/23/01	**0.60**	**290**	**240**	NA	<0.25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	530.6
	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
TW-4	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

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	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
	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
	02/28/18	<0.37	**20**	**11**	<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	31
TW-4	05/10/18	<0.74	**27**	**16**	<0.33	<0.50	NA	<0.43	<0.50	**0.58**	<0.50	**0.70**	<0.41	<0.37	<2.5	<0.33	<0.23	44.28
	07/30/18	<0.37	**26**	**18**	<0.35	<0.20	NA	<0.15	<0.37	**4.7**	<0.39	**1.6**	<0.41	<0.35	<1.6	<0.18	<0.22	50.3
	07/18/19	<0.37	**26**	**18**	<0.35	<0.20	NA	<0.15	<0.37	**3.6**	<0.39	**1.1**	0.87	<0.35	<1.6	<0.18	<0.22	49.57

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 Flow Data

Meter/ Well ID	Date	Meter Reading (gallons)	Monthly Flow Data		
			(gal/month)	(gpd)	(gpm)
EX-1	January-19	3,867,185	645,845	20,833.71	14.47
EX-1	February-19	4,704,685	837,500	29,910.71	20.77
EX-1	March-19	5,250,104	545,419	17,594.16	12.22
EX-1	April-19	7,092,578	1,842,474	61,415.80	42.65
EX-1	May-19	8,529,298	1,436,720	46,345.81	32.18
EX-1	June-19	Cellular endpoint failure.			
EX-1	July-19	No data collected.			
EX-1	August-19	New cellular endpoint installed 9/17/2019.			
EX-1	September-19	16,556,341	800,065	26,668.83	18.52
EX-1	October-19	18,437,739	1,881,398	60,690.26	42.15
EX-1	November-19	18,437,739	0	0.00	0.00
EX-1	December-19	18,437,739	0	0.00	0.00
EX-2R EX-3R	January-19	29,124,750	3,502,458	112,982.52	78.46
EX-2R EX-3R	February-19	32,163,167	3,038,417	108,514.89	75.36
EX-2R EX-3R	March-19	35,341,405	3,178,238	102,523.81	71.20
EX-2R EX-3R	April-19	37,984,633	2,643,228	88,107.60	61.19
EX-2R EX-3R	May-19	40,571,378	2,586,745	83,443.39	57.95
EX-2R EX-3R	June-19	42,966,176	2,394,798	79,826.60	55.44
EX-2R EX-3R	July-19	45,332,864	2,366,688	76,344.77	53.02
EX-2R EX-3R	August-19	47,567,842	2,234,978	72,096.06	50.07
EX-2R EX-3R	September-19	49,636,930	2,069,088	68,969.60	47.90
EX-2R EX-3R	October-19	51,745,715	2,108,785	68,025.32	47.24
EX-2R EX-3R	November-19	53,770,087	2,024,372	67,479.07	46.86
EX-2R EX-3R	December-19	55,836,485	2,066,398	66,658.00	46.29
EX-4R	January-19	13,307,566	119,329	3,849.32	2.67
EX-4R	February-19	13,307,566	0	0.00	0.00
EX-4R	March-19	13,520,832	213,266	6,879.55	4.78
EX-4R	April-19	15,317,493	1,796,661	59,888.70	41.59
EX-4R	May-19	17,172,773	1,855,280	59,847.74	41.56
EX-4R	June-19	18,841,033	1,668,260	55,608.67	38.62
EX-4R	July-19	20,493,251	1,652,218	53,297.35	37.01
EX-4R	August-19	22,125,011	1,631,760	52,637.42	36.55
EX-4R	September-19	23,708,291	1,583,280	52,776.00	36.65
EX-4R	October-19	25,522,337	1,814,046	58,517.61	40.64
EX-4R	November-19	27,327,393	1,805,056	60,168.53	41.78
EX-4R	December-19	29,190,285	1,862,892	60,093.29	41.73
EX-5R	January-19	13,709,626	1,858,293	59,944.94	41.63
EX-5R	February-19	15,386,879	1,677,253	59,901.89	41.60
EX-5R	March-19	17,242,789	1,855,910	59,868.06	41.58
EX-5R	April-19	19,038,293	1,795,504	59,850.13	41.56
EX-5R	May-19	20,894,820	1,856,527	59,887.97	41.59
EX-5R	June-19	22,696,840	1,802,020	60,067.33	41.71
EX-5R	July-19	24,560,252	1,863,412	60,110.06	41.74
EX-5R	August-19	26,422,026	1,861,774	60,057.23	41.71
EX-5R	September-19	28,221,995	1,799,969	59,998.97	41.67
EX-5R	October-19	30,085,525	1,863,530	60,113.87	41.75
EX-5R	November-19	31,893,636	1,808,111	60,270.37	41.85
EX-5R	December-19	33,758,373	1,864,737	60,152.81	41.77

Table 3. Pentair Flow Technologies, LLC Delavan Facility Extraction Wells Flow Data

Meter/ Well ID	Date	Meter Reading (gallons)	Monthly Flow Data		
			(gal/month)	(gpd)	(gpm)
EX-6	January-19	18,948,217	3,885,274	125,331.42	87.04
EX-6	February-19	22,459,935	3,511,718	125,418.50	87.10
EX-6	March-19	26,342,018	3,882,083	125,228.48	86.96
EX-6	April-19	30,109,514	3,767,496	125,583.20	87.21
EX-6	May-19	34,003,902	3,894,388	125,625.42	87.24
EX-6	June-19	37,692,614	3,688,712	122,957.07	85.39
EX-6	July-19	41,451,057	3,758,443	121,240.10	84.19
EX-6	August-19	45,165,941	3,714,884	119,834.97	83.22
EX-6	September-19	48,754,269	3,588,328	119,610.93	83.06
EX-6	October-19	52,378,601	3,624,332	116,913.94	81.19
EX-6	November-19	55,872,926	3,494,325	116,477.50	80.89
EX-6	December-19	59,477,489	3,604,563	116,276.23	80.75
EX-7R	January-19	5,428,096	1,844,938	59,514.13	41.33
EX-7R	February-19	7,081,488	1,653,392	59,049.71	41.01
EX-7R	March-19	8,894,664	1,813,176	58,489.55	40.62
EX-7R	April-19	10,631,402	1,736,738	57,891.27	40.20
EX-7R	May-19	12,411,138	1,779,736	57,410.84	39.87
EX-7R	June-19	14,135,731	1,724,593	57,486.43	39.92
EX-7R	July-19	15,936,169	1,800,438	58,078.65	40.33
EX-7R	August-19	17,742,498	1,806,329	58,268.68	40.46
EX-7R	September-19	19,482,331	1,739,833	57,994.43	40.27
EX-7R	October-19	21,277,941	1,795,610	57,922.90	40.22
EX-7R	November-19	23,019,624	1,741,683	58,056.10	40.32
EX-7R	December-19	24,799,152	1,779,528	57,404.13	39.86

Notes:
gal/month: Gallons pumped for the month.
gpd: Average gallons per day.
gpm: Average gallons per minute.

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	Annual	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

MONITOR WELLS D-3, D-4, D-5 AND D-6 BOREHOLE FILLING & SEALING REPORT (FORMER 3300-005) FORMS

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015) Page 1 of 2

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
WALWORTH	D-3	

Latitude / Longitude (see instructions): _____ N _____ W
Format Code: ☐ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range	or Gov't Lot #
NE	SE	17	2 N	☒ E ☐ W	

Well Street Address: 293 WRIGHT STREET
Well City, Village or Town: DELAVAN
Well ZIP Code: 53115
Subdivision Name:
Lot #:
Reason for Removal from Service: NO LONGER IN GW PROGRAM
WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name: PENTAIR FLOW TECHNOLOGIES
Facility ID (FID or PWS): 265091640
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner: PENTAIR
Mailing Address of Present Owner: 293 WRIGHT STREET
City of Present Owner: DELAVAN
State: WI
ZIP Code: 53115

3. Filled & Sealed Well / Drillhole / Borehole Information

☒ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole
Original Construction Date (mm/dd/yyyy): 2-17-1983
If a Well Construction Report is available, please attach.

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug ☐ Other (specify): _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)	Lower Drillhole Diameter (in.)	Casing Depth (ft.)
52.37	2.0	8.0	

Was well annular space grouted? ☐ Yes ☐ No ☒ Unknown
If yes, to what depth (feet)?
Depth to Water (feet): 28.71

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

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☒ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☐ N/A
Was casing cut off below surface?	☒ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☒ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☒ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
AQUA-GEL BENTONITE	Surface	52.4	35 GAL / 50 lbs	0.23 GAL / Ft.

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
ONSITE ENVIRONMENTAL		07-15-2019

Street or Route	Telephone Number
3210 EDMONTON DR.	(608) 887-8992

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
SUN PRAIRIE	WI	53590	TONY KAPUGI	07-15-2019

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
WALWORTH	D-4	

Latitude / Longitude (see instructions): _____ N _____ W
Format Code: ☐ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range	or Gov't Lot #
NE	SE	17	2 N	☒ E ☐ W	

Well Street Address: 293 WRIGHT STREET
Well City, Village or Town: DELAVAN
Well ZIP Code: 53115
Subdivision Name:
Lot #:
Reason for Removal from Service: NO LONGER IN GW PROGRAM
WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name: PENTAIR FLOW TECHNOLOGIES
Facility ID (FID or PWS): 265091640
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner: PENTAIR
Mailing Address of Present Owner: 293 WRIGHT STREET
City of Present Owner: DELAVAN
State: WI
ZIP Code: 53115

3. Filled & Sealed Well / Drillhole / Borehole Information

☒ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 2-17-1983
If a Well Construction Report is available, please attach.

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug ☐ Other (specify): _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)	Lower Drillhole Diameter (in.)	Casing Depth (ft.)
77.0	2.0	8.0	

Was well annular space grouted? ☐ Yes ☐ No ☒ Unknown
If yes, to what depth (feet)?
Depth to Water (feet): 25.60

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

	Yes	No	N/A
Pump and piping removed?	☐	☐	☒
Liner(s) removed?	☐	☐	☒
Liner(s) perforated?	☐	☐	☒
Screen removed?	☐	☒	☐
Casing left in place?	☐	☒	☐
Was casing cut off below surface?	☒	☐	☐
Did sealing material rise to surface?	☒	☐	☐
Did material settle after 24 hours?	☐	☒	☐
If yes, was hole retopped?	☐	☐	☐
If bentonite chips were used, were they hydrated with water from a known safe source?	☐	☐	☒

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☒ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☒ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
AQUA-GEL BENTONITE	Surface	77.0	35 GALS / 50 LBS.	0.23 GALS / ft.

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
ONSITE ENVIRONMENTAL		07-15-2019

Street or Route	Telephone Number
3240 EDMONTON DR.	(608) 837-8992

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
SUN PRAIRIE	WI	53590	TONY KAPUGI	07-15-2019

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
WALWORTH	D-5	

Latitude / Longitude (see instructions): _____ N _____ W
Format Code: ☐ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼ or Gov't Lot #	¼	Section	Township	Range
NE	SE	17	2 N	☒ E ☐ W

Well Street Address: 293 WRIGHT STREET
Well City, Village or Town: DELAVAN
Well ZIP Code: 53115
Subdivision Name:
Lot #:
Reason for Removal from Service: NO LONGER IN GWS PROGRAM
WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name: PENTAIR FLOW TECHNOLOGIES
Facility ID (FID or PWS): 265091640
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner: PENTAIR
Mailing Address of Present Owner: 293 WRIGHT STREET
City of Present Owner: DELAVAN
State: WI
ZIP Code: 53115

3. Filled & Sealed Well / Drillhole / Borehole Information

☒ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole
Original Construction Date (mm/dd/yyyy): 2-22-1983
If a Well Construction Report is available, please attach.

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug ☐ Other (specify): _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)	Lower Drillhole Diameter (in.)	Casing Depth (ft.)
47.73	2.0	8.0	

Was well annular space grouted? ☐ Yes ☐ No ☒ Unknown
If yes, to what depth (feet)?
Depth to Water (feet): 27.10

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

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☒ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☐ N/A
Was casing cut off below surface?	☒ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☒ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☒ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
AQUA-GEL BENTONITE	Surface	47.7	35 GALS / 50 lbs.	0.23 GALS/ft.

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
ONSITE ENVIRONMENTAL		07-15-2019

Street or Route	Telephone Number
3210 EDMONTON DR.	(608) 837-8992

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
SUN PRAIRIE	WI	53590	TONY KAPUGI	07-15-2019

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
WALWORTH	D-6	

Latitude / Longitude (see instructions): _____ N _____ W
Format Code: ☐ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
NE	SE	17	2 N	☒ E ☐ W

or Gov't Lot #

Well Street Address: 293 WRIGHT STREET

Well City, Village or Town	Well ZIP Code
DELAVAN	53115

Subdivision Name	Lot #

Reason for Removal from Service: NO LONGER IN GWS PROGRAM
WI Unique Well # of Replacement Well: _____

2. Facility / Owner Information

Facility Name: PENTAIR FLOW TECHNOLOGIES
Facility ID (FID or PWS): 265091640
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner: PENTAIR
Mailing Address of Present Owner: 293 WRIGHT STREET

City of Present Owner	State	ZIP Code
DELAVAN	WI	53115

3. Filled & Sealed Well / Drillhole / Borehole Information

☒ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 2-21-1983
If a Well Construction Report is available, please attach.

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug ☐ Other (specify): _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
108.67	2.0

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
8.0	

Was well annular space grouted? ☐ Yes ☐ No ☒ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	27.14

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

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☒ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☐ N/A
Was casing cut off below surface?	☒ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☐ Yes	☐ No	☒ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☒ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☒ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
AQUA-GEL BENTONITE	Surface	108.7	35 GALS/50 LBS	0.23 GALS/ft.

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
ONSITE ENVIRONMENTAL		07-15-2019

Street or Route	Telephone Number
3210 EDMONTON DR.	(608) 837-8992

City	State	ZIP Code
SUN PRAIRIE	WI	53590

Signature of Person Doing Work: TONY KAPUGI
Date Signed: 07-15-2019

DNR Use Only

Date Received	Noted By

Comments:

APPENDIX B

MONITOR WELL AND SITE INSPECTON PHOTOGRAPHS

1. Enclosure installed around extraction well EX-7R to protect Dynasonics® U500w ultrasonic meter (former sump source area).

2. North side of property looking east. Plant 1 on right side of photo.

3. Northwest side of property looking south towards Plant 2.

4.Looking east from west side of Wright Street towards main entrance to Plant 1.

5.View of west side of property and Plant 2 from west side of Wright Street.

6.Looking north from Hobbs Drive at south side of property. Plant 2 on right side of photo. Plant 1 in background.

7.View looking north at south side of property. Plant 2 on left of photo. Undeveloped land on right of photo.

8.Middle of property in vicinity of former chip storage extraction system (CSES). Plant 1 in background on left and undeveloped land on right side of photo.

9. View looking north at loading docks on south side of Plant 1.

10. Looking west from north side of property. North wall of Plant 1 on left side of photo.

11. View looking north at paved area south of south wall of Plant 1 where low-level VOCs impacts occur in sub-surface soil.

12. View inside south side of Plant 1 in area where low-level VOCs impacts occur in the sub-surface soil.

APPENDIX C
GROUNDWATER MONITORING ANALYTICAL RESULTS AND FIELD DATA SHEETS

Pentair Delavan Facility Field Water Level Data Sheet

Project Number: 117-7469004.01			Project Name: Pentair Delavan Remedial Action	
Personnel: Todd M Thomson			Instrument: Heron	
Well ID	Date	Time	Depth to Groundwater (feet btoc)	Notes
Plant 1 Wells				
EX-2R	NA	NA	NA	
EX-3R	NA	NA	NA	
EX-4R	NA	NA	NA	
EX-5	NA	NA	NA	
EX-6	NA	NA	NA	
TW-2	7/17/2019	12:30	25.33	New Lock
TW-2A	7/17/2019	12:35	25.81	New Lock
TW-4	7/18/2019	13:50	32.07	
D-1R	7/18/2019	9:20	26.83	New Lock
D-5	7/15/2019	NA	27.1	ABANDONED
D-6	7/15/2019	NA	27.1	ABANDONED
D-14R	NA	NA	NA	
D-23	7/18/2019	9:00	26.78	New Lock
D-24R	7/18/2019	9:05	24.64	
D-25R	7/17/2019	12:45	26.86	New Lock
D-26	7/17/2019	12:50	26.4	New Lock
D-27	7/17/2019	12:55	26.4	New Lock
MW-1026	7/18/2019	12:55	25.78	
MW-1027	7/17/2019	15:50	24.09	
Plant 2 Wells				
EX-1	NA	NA	NA	
EX-7R	NA	NA	NA	
TW-1	7/17/2019	10:15	21.68	
TW-1A	7/17/2019	10:20	22.9	New Lock
TW-3	7/17/2019	11:50	27.2	
D-3	7/15/2019	NA	28.71	ABANDONED
D-4	7/15/2019	NA	25.6	ABANDONED
D-15	7/17/2019	14:20	26.21	
P-2009	7/17/2019	14:25	25.78	
P-2010	7/17/2019	14:30	25.43	New Lock
D-18	7/17/2019	11:05	25.05	
MW-2004	7/17/2019	9:40	22.18	New Lock
MW-2005R	7/17/2019	8:10	19.39	
MW-2011	7/17/2019	13:40	20.49	

TETRA TECH FIELD WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION		INSTRUMENTS	
PROJECT	Delavan Facility Remedial Action	Temp. & pH	Hanna
PROJECT NO.	117-7469004.01	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)	7-17-2019	7-17-2019	7-17-2019	7-17-2019	7-17-2019
CLOCK TIME (Military)	08:40	14:10	15:00	12:20	10:00
DEPTH TO WATER (ft)*	19.39	20.49	26.21	27.20	22.18
MEASURED WELL DEPTH (ft)*	37.81	36.51	38.18	50.73	39.33
CASING VOLUME (gallons)	3.0	2.6	2.0	3.8	2.8
PURGE VOLUME (gallons)	12	12	10	20	12
DEPTH SAMPLE TAKEN (ft)*	35	32	36	40	35
SAMPLING DEVICE	Hanging Bailer	Hanging Bailer	Hanging Bailer	Hanging Bailer	Hanging Bailer
FIELD TEMPERATURE (^{o}C)	12.8	11.2	11.1	13.2	10.7
pH	7.38	7.43	7.11	7.28	7.44
ELEC. COND. (uS/cm) at 25^{o} C	1235	970	>3999	1074	997
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

Comments:

NAME OF LABORATORY	Test America	Test America	Test America	Test America	Test America
DATE SENT TO LAB					
SAMPLER' S NAME	TMT	TMT	TMT	TMT	TMT

*Measured from top of well casing.

TETRA TECH

TETRA TECH FIELD WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION		INSTRUMENTS	
PROJECT	Delavan Facility Remedial Action	Temp. & pH	Hanna
PROJECT NO.	117-7469004.01	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)	7-17-2019	7-17-2019	7-17-2019	7-17-2019	7-18-2019
CLOCK TIME (Military)	10:50	11:40	13:30	16:20	14:30
DEPTH TO WATER (ft)*	21.68	25.05	26.86	24.09	32.07
MEASURED WELL DEPTH (ft)*	45.50	39.90	42.39	39.98	50.52
CASING VOLUME (gallons)	3.9	2.4	2.5	2.6	3.0
PURGE VOLUME (gallons)	20	10	12	15	15
DEPTH SAMPLE TAKEN (ft)*	40	35	40	35	45
SAMPLING DEVICE	Hanging Bailer	Hanging Bailer	Hanging Bailer	Hanging Bailer	Hanging Bailer
FIELD TEMPERATURE (^{o}C)	11.8	12.1	10.7	12.7	13.2
pH	7.32	7.15	7.25	7.27	7.14
ELEC. COND. (uS/cm) at 25^{o} C	870	1022	1227	1312	2828
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

Comments:

NAME OF LABORATORY	Test America	Test America	Test America	Test America	Test America
DATE SENT TO LAB					
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	
PROJECT NO.	117-7469004.01	Conductivity	
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)	7-18-2019	7-18-2019	7-18-2019	7-18-2019	7-18-2019
CLOCK TIME (Military)	13:30	11:00	11:40	12:00	11:20
DEPTH TO WATER (ft)*	25.78	NA	NA	NA	NA
MEASURED WELL DEPTH (ft)*	36.00	NA	NA	NA	NA
CASING VOLUME (gallons)	1.0	NA	NA	NA	NA
PURGE VOLUME (gallons)	5.0	Grab	Grab	Grab	Grab
DEPTH SAMPLE TAKEN (ft)*	35	NA	NA	NA	NA
SAMPLING DEVICE	Hanging Bailer	Spigot	Spigot	Spigot	Spigot
FIELD TEMPERATURE (^{o}C)	15.2	14.4	15.2	16.2	15.2
pH	8.68	7.37	7.28	7.21	7.33
ELEC. COND. (uS/cm) at 25^{o} C	1095	1302	2183	1185	1267
ORP (mV)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (ppm)	NA	NA	NA	NA	NA
DISSOLVED OXYGEN (% Sat.)	NA	NA	NA	NA	NA
COLOR	Brown	Clear	Clear	Clear	Clear
ODOR	None	None	None	None	None
CLARITY	Turbid	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

Comments:

NAME OF LABORATORY	Test America	Test America	Test America	Test America	Test America
DATE SENT TO LAB					
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.	117-7469004.01	Conductivity	Hanna
LOCATION	Delavan, Wi.	ORP	NA
PERSONNEL	Todd M Thomson	DO	NA

SAMPLE POINT ID		EX-4R	EX-5R	EX-6R		
WATER TYPE		Groundwater	Groundwater	Groundwater		
DATE (month/day/year)		7-18-2019	7-18-2019	7-18-2019		
CLOCK TIME (Military)		12:20	10:20	10:04		
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 (^{O}C)		16.7	13.9	13.7		
pH		7.20	7.25	7.24		
ELEC. COND. (uS/cm)	Measured	NA	NA	NA		
	at 25^{o} C	926	880	936		
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		
NAME OF LABORATORY		Test America	Test America	Test America		
DATE SENT TO LAB						
SAMPLER'S NAME		TMT	TMT	TMT		

***Measured from top of well casing.**

TETRA TECH

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

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

Laboratory Job ID: 500-167032-1
Client Project/Site: Pentair Delavan - 117-7469004.01

For:
Tetra Tech GEO
175 N Corporate Drive
Suite 100
Brookfield, Wisconsin 53045

Attn: Mr. Mark Manthey

Sandie Fredrick

Authorized for release by:
7/29/2019 7:03:01 PM

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

Table of Contents

Case Narrative

Client: Tetra Tech GEO
Project/Site: Pentair Delavan - 117-7469004.01

Job ID: 500-167032-1

Job ID: 500-167032-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-167032-1

Comments
No additional comments.

Receipt
The samples were received on 7/20/2019 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.9º C.

GC/MS VOA
The laboratory control sample (LCS) for 496470 recovered outside control limits for the following analyte: 1,2,3-Trichlorobenzene. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

The laboratory control sample (LCS) for 496536 recovered outside control limits for the following analyte: 1,2-Dibromo-3-chloropropane. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

The method blank for analytical batch 496536 contained Naphthalene, 1,2,4-Trichlorobenznene and 1,2,3-Trichlorobenzen above the Method dectection limit (MDL) but below reporting limit (RL). Naphthalene, 1,2,4-Trichlorobenzene and 1,2,3-Trichlorobenzene were non-dectect in the samples: therefore, no re-analysis was done and the data has been reported.

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

Detection Summary

Client: Tetra Tech GEO
Project/Site: Pentair Delavan - 117-7469004.01

Job ID: 500-167032-1

Client Sample ID: TW-1 — Lab Sample ID: 500-167032-1

No Detections.

Client Sample ID: D-18 — Lab Sample ID: 500-167032-2

No Detections.

Client Sample ID: D-25R — Lab Sample ID: 500-167032-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	0.55	J	1.0	0.38	ug/L	1		8260B	Total/NA
Trichloroethene	0.54		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: MW-1027 — Lab Sample ID: 500-167032-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	4.9		1.0	0.38	ug/L	1		8260B	Total/NA
Trichloroethene	41		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: MW-2005R — Lab Sample ID: 500-167032-5

No Detections.

Client Sample ID: MW-2011 — Lab Sample ID: 500-167032-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	2.2		1.0	0.38	ug/L	1		8260B	Total/NA
Trichloroethene	13		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: D-15 — Lab Sample ID: 500-167032-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	8.3		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	8.4		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: TW-3 — Lab Sample ID: 500-167032-8

No Detections.

Client Sample ID: MW-2004 — Lab Sample ID: 500-167032-9

No Detections.

Client Sample ID: TW-4 — Lab Sample ID: 500-167032-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.87	J	1.0	0.41	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	3.6		1.0	0.41	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	1.1		1.0	0.39	ug/L	1		8260B	Total/NA
1,1,1-Trichloroethane	26		1.0	0.38	ug/L	1		8260B	Total/NA
Trichloroethene	18		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: MW-1026 — Lab Sample ID: 500-167032-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	2.8		1.0	0.38	ug/L	1		8260B	Total/NA
Trichloroethene	0.98		0.50	0.16	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech GEO
Job ID: 500-167032-1
Project/Site: Pentair Delavan - 117-7469004.01

Client Sample ID: EX-1 — Lab Sample ID: 500-167032-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	0.53	J	1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	0.30	J	0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: EX-2R — Lab Sample ID: 500-167032-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	1.0		1.0	0.38	ug/L	1		8260B	Total/NA
Trichloroethene	2.8		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: EX-3R — Lab Sample ID: 500-167032-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	4.5		1.0	0.38	ug/L	1		8260B	Total/NA
Trichloroethene	5.2		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: EX-7R — Lab Sample ID: 500-167032-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	5.4		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	2.4		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: EX-4R — Lab Sample ID: 500-167032-16

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

Client Sample ID: EX-5R — Lab Sample ID: 500-167032-17

No Detections.

Client Sample ID: EX-6 — Lab Sample ID: 500-167032-18

No Detections.

Client Sample ID: Trip Blank — Lab Sample ID: 500-167032-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloromethane	0.64	J	1.0	0.32	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Tetra Tech GEO
Project/Site: Pentair Delavan - 117-7469004.01

Job ID: 500-167032-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
5030B	Purge and Trap	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 = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: Tetra Tech GEO
Job ID: 500-167032-1
Project/Site: Pentair Delavan - 117-7469004.01

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-167032-1	TW-1	Water	07/17/19 10:50	07/20/19 09:15	
500-167032-2	D-18	Water	07/17/19 11:40	07/20/19 09:15	
500-167032-3	D-25R	Water	07/17/19 13:30	07/20/19 09:15	
500-167032-4	MW-1027	Water	07/17/19 16:20	07/20/19 09:15	
500-167032-5	MW-2005R	Water	07/17/19 08:40	07/20/19 09:15	
500-167032-6	MW-2011	Water	07/17/19 14:10	07/20/19 09:15	
500-167032-7	D-15	Water	07/17/19 15:00	07/20/19 09:15	
500-167032-8	TW-3	Water	07/17/19 12:20	07/20/19 09:15	
500-167032-9	MW-2004	Water	07/17/19 10:00	07/20/19 09:15	
500-167032-10	TW-4	Water	07/18/19 14:30	07/20/19 09:15	
500-167032-11	MW-1026	Water	07/18/19 13:30	07/20/19 09:15	
500-167032-12	EX-1	Water	07/18/19 11:00	07/20/19 09:15	
500-167032-13	EX-2R	Water	07/18/19 11:40	07/20/19 09:15	
500-167032-14	EX-3R	Water	07/18/19 12:00	07/20/19 09:15	
500-167032-15	EX-7R	Water	07/18/19 11:20	07/20/19 09:15	
500-167032-16	EX-4R	Water	07/18/19 12:20	07/20/19 09:15	
500-167032-17	EX-5R	Water	07/18/19 10:20	07/20/19 09:15	
500-167032-18	EX-6	Water	07/18/19 10:40	07/20/19 09:15	
500-167032-19	Trip Blank	Water	07/17/19 00:00	07/20/19 09:15	

Client Sample ID: TW-1
Lab Sample ID: 500-167032-1
Date Collected: 07/17/19 10:50
Matrix: Water
Date Received: 07/20/19 09:15

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			07/25/19 12:32	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/25/19 12:32	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 12:32	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/25/19 12:32	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 12:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*72 - 124*		*07/25/19 12:32*	*1*
Dibromofluoromethane	*104*		*75 - 120*		*07/25/19 12:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*75 - 126*		*07/25/19 12:32*	*1*
Toluene-d8 (Surr)	*94*		*75 - 120*		*07/25/19 12:32*	*1*

Client Sample ID: D-18
Lab Sample ID: 500-167032-2
Date Collected: 07/17/19 11:40
Matrix: Water
Date Received: 07/20/19 09:15

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			07/25/19 13:00	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/25/19 13:00	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 13:00	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/25/19 13:00	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 13:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*72 - 124*		*07/25/19 13:00*	*1*
Dibromofluoromethane	*104*		*75 - 120*		*07/25/19 13:00*	*1*
1,2-Dichloroethane-d4 (Surr)	*117*		*75 - 126*		*07/25/19 13:00*	*1*
Toluene-d8 (Surr)	*96*		*75 - 120*		*07/25/19 13:00*	*1*

Client Sample ID: D-25R
Lab Sample ID: 500-167032-3
Date Collected: 07/17/19 13:30
Matrix: Water
Date Received: 07/20/19 09:15

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			07/25/19 13:28	1
1,1,1-Trichloroethane	**0.55**	**J**	1.0	0.38	ug/L			07/25/19 13:28	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 13:28	1
Trichloroethene	**0.54**		0.50	0.16	ug/L			07/25/19 13:28	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 13:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*72 - 124*		*07/25/19 13:28*	*1*
Dibromofluoromethane	*104*		*75 - 120*		*07/25/19 13:28*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*75 - 126*		*07/25/19 13:28*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*07/25/19 13:28*	*1*

Client Sample ID: MW-1027
Lab Sample ID: 500-167032-4
Date Collected: 07/17/19 16:20
Matrix: Water
Date Received: 07/20/19 09:15

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			07/25/19 13:56	1
1,1,1-Trichloroethane	**4.9**		1.0	0.38	ug/L			07/25/19 13:56	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 13:56	1
Trichloroethene	**41**		0.50	0.16	ug/L			07/25/19 13:56	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 13:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*72 - 124*		*07/25/19 13:56*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*07/25/19 13:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*75 - 126*		*07/25/19 13:56*	*1*
Toluene-d8 (Surr)	*94*		*75 - 120*		*07/25/19 13:56*	*1*

Client Sample ID: MW-2005R
Lab Sample ID: 500-167032-5
Date Collected: 07/17/19 08:40
Matrix: Water
Date Received: 07/20/19 09:15

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			07/25/19 14:24	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/25/19 14:24	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 14:24	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/25/19 14:24	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 14:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*72 - 124*		*07/25/19 14:24*	*1*
Dibromofluoromethane	*106*		*75 - 120*		*07/25/19 14:24*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*75 - 126*		*07/25/19 14:24*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*07/25/19 14:24*	*1*

Client Sample ID: MW-2011
Lab Sample ID: 500-167032-6
Date Collected: 07/17/19 14:10
Matrix: Water
Date Received: 07/20/19 09:15

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			07/25/19 14:52	1
1,1,1-Trichloroethane	**2.2**		1.0	0.38	ug/L			07/25/19 14:52	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 14:52	1
Trichloroethene	**13**		0.50	0.16	ug/L			07/25/19 14:52	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 14:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*72 - 124*		*07/25/19 14:52*	*1*
Dibromofluoromethane	*106*		*75 - 120*		*07/25/19 14:52*	*1*
1,2-Dichloroethane-d4 (Surr)	*117*		*75 - 126*		*07/25/19 14:52*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*07/25/19 14:52*	*1*

Client Sample ID: D-15
Lab Sample ID: 500-167032-7

Date Collected: 07/17/19 15:00
Matrix: Water
Date Received: 07/20/19 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**8.3**		1.0	0.37	ug/L			07/25/19 15:19	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/25/19 15:19	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 15:19	1
Trichloroethene	**8.4**		0.50	0.16	ug/L			07/25/19 15:19	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 15:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*72 - 124*		*07/25/19 15:19*	*1*
Dibromofluoromethane	*106*		*75 - 120*		*07/25/19 15:19*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*75 - 126*		*07/25/19 15:19*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*07/25/19 15:19*	*1*

Client Sample ID: TW-3
Lab Sample ID: 500-167032-8

Date Collected: 07/17/19 12:20
Matrix: Water
Date Received: 07/20/19 09:15

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			07/25/19 15:47	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/25/19 15:47	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 15:47	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/25/19 15:47	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 15:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*72 - 124*		*07/25/19 15:47*	*1*
Dibromofluoromethane	*107*		*75 - 120*		*07/25/19 15:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*75 - 126*		*07/25/19 15:47*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*07/25/19 15:47*	*1*

Client Sample ID: MW-2004
Lab Sample ID: 500-167032-9

Date Collected: 07/17/19 10:00
Matrix: Water
Date Received: 07/20/19 09:15

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			07/25/19 16:15	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/25/19 16:15	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 16:15	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/25/19 16:15	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 16:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*72 - 124*		*07/25/19 16:15*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*07/25/19 16:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*75 - 126*		*07/25/19 16:15*	*1*
Toluene-d8 (Surr)	*94*		*75 - 120*		*07/25/19 16:15*	*1*

Client: Tetra Tech GEO
Project/Site: Pentair Delavan - 117-7469004.01

Job ID: 500-167032-1

Client Sample ID: TW-4

Date Collected: 07/18/19 14:30
Date Received: 07/20/19 09:15

Lab Sample ID: 500-167032-10

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			07/25/19 16:43	1
Bromobenzene	<0.36		1.0	0.36	ug/L			07/25/19 16:43	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/25/19 16:43	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/25/19 16:43	1
Bromoform	<0.48		1.0	0.48	ug/L			07/25/19 16:43	1
Bromomethane	<0.80		3.0	0.80	ug/L			07/25/19 16:43	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/25/19 16:43	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			07/25/19 16:43	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/25/19 16:43	1
Chloroform	<0.37		2.0	0.37	ug/L			07/25/19 16:43	1
Chloromethane	<0.32		1.0	0.32	ug/L			07/25/19 16:43	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			07/25/19 16:43	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			07/25/19 16:43	1
cis-1,2-Dichloroethene	**0.87**	**J**	1.0	0.41	ug/L			07/25/19 16:43	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			07/25/19 16:43	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			07/25/19 16:43	1
1,2-Dibromo-3-Chloropropane	<2.0	*	5.0	2.0	ug/L			07/25/19 16:43	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			07/25/19 16:43	1
Dibromomethane	<0.27		1.0	0.27	ug/L			07/25/19 16:43	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/25/19 16:43	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/25/19 16:43	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/25/19 16:43	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			07/25/19 16:43	1
1,1-Dichloroethane	**3.6**		1.0	0.41	ug/L			07/25/19 16:43	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/25/19 16:43	1
1,1-Dichloroethene	**1.1**		1.0	0.39	ug/L			07/25/19 16:43	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/25/19 16:43	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/25/19 16:43	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/25/19 16:43	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/25/19 16:43	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/25/19 16:43	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/25/19 16:43	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/25/19 16:43	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			07/25/19 16:43	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			07/25/19 16:43	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			07/25/19 16:43	1
Naphthalene	<0.34		1.0	0.34	ug/L			07/25/19 16:43	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			07/25/19 16:43	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			07/25/19 16:43	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			07/25/19 16:43	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			07/25/19 16:43	1
Styrene	<0.39		1.0	0.39	ug/L			07/25/19 16:43	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			07/25/19 16:43	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			07/25/19 16:43	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			07/25/19 16:43	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/25/19 16:43	1
Toluene	<0.15		0.50	0.15	ug/L			07/25/19 16:43	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			07/25/19 16:43	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			07/25/19 16:43	1

Client Sample ID: TW-4
Lab Sample ID: 500-167032-10
Date Collected: 07/18/19 14:30
Matrix: Water
Date Received: 07/20/19 09:15

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			07/25/19 16:43	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/25/19 16:43	1
1,1,1-Trichloroethane	**26**		1.0	0.38	ug/L			07/25/19 16:43	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 16:43	1
Trichloroethene	**18**		0.50	0.16	ug/L			07/25/19 16:43	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/25/19 16:43	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/25/19 16:43	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/25/19 16:43	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/25/19 16:43	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 16:43	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/25/19 16:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*72 - 124*		*07/25/19 16:43*	*1*
Dibromofluoromethane	*108*		*75 - 120*		*07/25/19 16:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*120*		*75 - 126*		*07/25/19 16:43*	*1*
Toluene-d8 (Surr)	*95*		*75 - 120*		*07/25/19 16:43*	*1*

Client Sample ID: MW-1026
Lab Sample ID: 500-167032-11
Date Collected: 07/18/19 13:30
Matrix: Water
Date Received: 07/20/19 09:15

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			07/25/19 17:11	1
1,1,1-Trichloroethane	**2.8**		1.0	0.38	ug/L			07/25/19 17:11	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 17:11	1
Trichloroethene	**0.98**		0.50	0.16	ug/L			07/25/19 17:11	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 17:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*72 - 124*		*07/25/19 17:11*	*1*
Dibromofluoromethane	*106*		*75 - 120*		*07/25/19 17:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*118*		*75 - 126*		*07/25/19 17:11*	*1*
Toluene-d8 (Surr)	*94*		*75 - 120*		*07/25/19 17:11*	*1*

Client Sample ID: EX-1
Lab Sample ID: 500-167032-12
Date Collected: 07/18/19 11:00
Matrix: Water
Date Received: 07/20/19 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**0.53**	**J**	1.0	0.37	ug/L			07/25/19 17:39	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/25/19 17:39	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 17:39	1
Trichloroethene	**0.30**	**J**	0.50	0.16	ug/L			07/25/19 17:39	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 17:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*72 - 124*		*07/25/19 17:39*	*1*
Dibromofluoromethane	*106*		*75 - 120*		*07/25/19 17:39*	*1*

Client Sample ID: EX-1
Lab Sample ID: 500-167032-12
Date Collected: 07/18/19 11:00
Matrix: Water
Date Received: 07/20/19 09:15

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*116*		*75 - 126*		*07/25/19 17:39*	*1*
Toluene-d8 (Surr)	*94*		*75 - 120*		*07/25/19 17:39*	*1*

Client Sample ID: EX-2R
Lab Sample ID: 500-167032-13
Date Collected: 07/18/19 11:40
Matrix: Water
Date Received: 07/20/19 09:15

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			07/25/19 18:06	1
1,1,1-Trichloroethane	**1.0**		1.0	0.38	ug/L			07/25/19 18:06	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 18:06	1
Trichloroethene	**2.8**		0.50	0.16	ug/L			07/25/19 18:06	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 18:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*72 - 124*		*07/25/19 18:06*	*1*
Dibromofluoromethane	*106*		*75 - 120*		*07/25/19 18:06*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*75 - 126*		*07/25/19 18:06*	*1*
Toluene-d8 (Surr)	*94*		*75 - 120*		*07/25/19 18:06*	*1*

Client Sample ID: EX-3R
Lab Sample ID: 500-167032-14
Date Collected: 07/18/19 12:00
Matrix: Water
Date Received: 07/20/19 09:15

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			07/25/19 18:34	1
1,1,1-Trichloroethane	**4.5**		1.0	0.38	ug/L			07/25/19 18:34	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 18:34	1
Trichloroethene	**5.2**		0.50	0.16	ug/L			07/25/19 18:34	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 18:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*72 - 124*		*07/25/19 18:34*	*1*
Dibromofluoromethane	*107*		*75 - 120*		*07/25/19 18:34*	*1*
1,2-Dichloroethane-d4 (Surr)	*117*		*75 - 126*		*07/25/19 18:34*	*1*
Toluene-d8 (Surr)	*94*		*75 - 120*		*07/25/19 18:34*	*1*

Client Sample ID: EX-7R
Lab Sample ID: 500-167032-15
Date Collected: 07/18/19 11:20
Matrix: Water
Date Received: 07/20/19 09:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**5.4**		1.0	0.37	ug/L			07/25/19 19:02	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/25/19 19:02	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 19:02	1
Trichloroethene	**2.4**		0.50	0.16	ug/L			07/25/19 19:02	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 19:02	1

Client Sample ID: EX-7R

Lab Sample ID: 500-167032-15

Date Collected: 07/18/19 11:20

Matrix: Water

Date Received: 07/20/19 09:15

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*72 - 124*		*07/25/19 19:02*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*07/25/19 19:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*75 - 126*		*07/25/19 19:02*	*1*
Toluene-d8 (Surr)	*95*		*75 - 120*		*07/25/19 19:02*	*1*

Client Sample ID: EX-4R

Lab Sample ID: 500-167032-16

Date Collected: 07/18/19 12:20

Matrix: Water

Date Received: 07/20/19 09:15

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			07/25/19 06:46	1
1,1,1-Trichloroethane	**1.0**		1.0	0.38	ug/L			07/25/19 06:46	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 06:46	1
Trichloroethene	**1.0**		0.50	0.16	ug/L			07/25/19 06:46	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 06:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*72 - 124*		*07/25/19 06:46*	*1*
Dibromofluoromethane	*103*		*75 - 120*		*07/25/19 06:46*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 126*		*07/25/19 06:46*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*07/25/19 06:46*	*1*

Client Sample ID: EX-5R

Lab Sample ID: 500-167032-17

Date Collected: 07/18/19 10:20

Matrix: Water

Date Received: 07/20/19 09:15

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			07/25/19 07:12	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/25/19 07:12	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 07:12	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/25/19 07:12	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 07:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*72 - 124*		*07/25/19 07:12*	*1*
Dibromofluoromethane	*100*		*75 - 120*		*07/25/19 07:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 126*		*07/25/19 07:12*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*07/25/19 07:12*	*1*

Client Sample ID: EX-6

Lab Sample ID: 500-167032-18

Date Collected: 07/18/19 10:40

Matrix: Water

Date Received: 07/20/19 09:15

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			07/25/19 07:37	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/25/19 07:37	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 07:37	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/25/19 07:37	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 07:37	1

Client Sample ID: EX-6
Lab Sample ID: 500-167032-18

Date Collected: 07/18/19 10:40
Matrix: Water
Date Received: 07/20/19 09:15

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*72 - 124*		*07/25/19 07:37*	*1*
Dibromofluoromethane	*102*		*75 - 120*		*07/25/19 07:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 126*		*07/25/19 07:37*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*07/25/19 07:37*	*1*

Client Sample ID: Trip Blank
Lab Sample ID: 500-167032-19

Date Collected: 07/17/19 00:00
Matrix: Water
Date Received: 07/20/19 09:15

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			07/25/19 08:03	1
Bromobenzene	<0.36		1.0	0.36	ug/L			07/25/19 08:03	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/25/19 08:03	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/25/19 08:03	1
Bromoform	<0.48		1.0	0.48	ug/L			07/25/19 08:03	1
Bromomethane	<0.80		3.0	0.80	ug/L			07/25/19 08:03	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/25/19 08:03	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			07/25/19 08:03	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/25/19 08:03	1
Chloroform	<0.37		2.0	0.37	ug/L			07/25/19 08:03	1
Chloromethane	**0.64**	**J**	1.0	0.32	ug/L			07/25/19 08:03	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			07/25/19 08:03	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			07/25/19 08:03	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			07/25/19 08:03	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			07/25/19 08:03	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			07/25/19 08:03	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			07/25/19 08:03	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			07/25/19 08:03	1
Dibromomethane	<0.27		1.0	0.27	ug/L			07/25/19 08:03	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/25/19 08:03	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/25/19 08:03	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/25/19 08:03	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			07/25/19 08:03	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			07/25/19 08:03	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/25/19 08:03	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			07/25/19 08:03	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/25/19 08:03	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/25/19 08:03	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/25/19 08:03	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/25/19 08:03	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/25/19 08:03	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/25/19 08:03	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/25/19 08:03	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			07/25/19 08:03	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			07/25/19 08:03	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			07/25/19 08:03	1
Naphthalene	<0.34		1.0	0.34	ug/L			07/25/19 08:03	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			07/25/19 08:03	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			07/25/19 08:03	1

Client: Tetra Tech GEO
Project/Site: Pentair Delavan - 117-7469004.01

Job ID: 500-167032-1

Client Sample ID: Trip Blank
Date Collected: 07/17/19 00:00
Date Received: 07/20/19 09:15

Lab Sample ID: 500-167032-19
Matrix: Water

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			07/25/19 08:03	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			07/25/19 08:03	1
Styrene	<0.39		1.0	0.39	ug/L			07/25/19 08:03	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			07/25/19 08:03	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			07/25/19 08:03	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			07/25/19 08:03	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/25/19 08:03	1
Toluene	<0.15		0.50	0.15	ug/L			07/25/19 08:03	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			07/25/19 08:03	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			07/25/19 08:03	1
1,2,3-Trichlorobenzene	<0.46	*	1.0	0.46	ug/L			07/25/19 08:03	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/25/19 08:03	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/25/19 08:03	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 08:03	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/25/19 08:03	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/25/19 08:03	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/25/19 08:03	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/25/19 08:03	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/25/19 08:03	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 08:03	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/25/19 08:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*72 - 124*		*07/25/19 08:03*	*1*
Dibromofluoromethane	*102*		*75 - 120*		*07/25/19 08:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 126*		*07/25/19 08:03*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*07/25/19 08:03*	*1*

Definitions/Glossary

Client: Tetra Tech GEO
Job ID: 500-167032-1
Project/Site: Pentair Delavan - 117-7469004.01

Qualifiers

GC/MS VOA

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

Glossary

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

QC Association Summary

Client: Tetra Tech GEO
Job ID: 500-167032-1
Project/Site: Pentair Delavan - 117-7469004.01

GC/MS VOA

Analysis Batch: 496470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167032-16	EX-4R	Total/NA	Water	8260B	
500-167032-17	EX-5R	Total/NA	Water	8260B	
500-167032-18	EX-6	Total/NA	Water	8260B	
500-167032-19	Trip Blank	Total/NA	Water	8260B	
MB 500-496470/7	Method Blank	Total/NA	Water	8260B	
LCS 500-496470/4	Lab Control Sample	Total/NA	Water	8260B	
500-167032-18 MS	EX-6	Total/NA	Water	8260B	
500-167032-18 MSD	EX-6	Total/NA	Water	8260B	

Analysis Batch: 496536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167032-1	TW-1	Total/NA	Water	8260B	
500-167032-2	D-18	Total/NA	Water	8260B	
500-167032-3	D-25R	Total/NA	Water	8260B	
500-167032-4	MW-1027	Total/NA	Water	8260B	
500-167032-5	MW-2005R	Total/NA	Water	8260B	
500-167032-6	MW-2011	Total/NA	Water	8260B	
500-167032-7	D-15	Total/NA	Water	8260B	
500-167032-8	TW-3	Total/NA	Water	8260B	
500-167032-9	MW-2004	Total/NA	Water	8260B	
500-167032-10	TW-4	Total/NA	Water	8260B	
500-167032-11	MW-1026	Total/NA	Water	8260B	
500-167032-12	EX-1	Total/NA	Water	8260B	
500-167032-13	EX-2R	Total/NA	Water	8260B	
500-167032-14	EX-3R	Total/NA	Water	8260B	
500-167032-15	EX-7R	Total/NA	Water	8260B	
MB 500-496536/6	Method Blank	Total/NA	Water	8260B	
LCS 500-496536/4	Lab Control Sample	Total/NA	Water	8260B	
500-167032-15 MS	EX-7R	Total/NA	Water	8260B	
500-167032-15 MSD	EX-7R	Total/NA	Water	8260B	

Surrogate Summary

Client: Tetra Tech GEO
Project/Site: Pentair Delavan - 117-7469004.01

Job ID: 500-167032-1

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	BFB (72-124)	DBFM (75-120)	DCA (75-126)	TOL (75-120)
500-167032-1	TW-1	113	104	113	94
500-167032-2	D-18	115	104	117	96
500-167032-3	D-25R	113	104	116	93
500-167032-4	MW-1027	114	105	116	94
500-167032-5	MW-2005R	112	106	116	93
500-167032-6	MW-2011	113	106	117	93
500-167032-7	D-15	115	106	116	93
500-167032-8	TW-3	114	107	116	93
500-167032-9	MW-2004	114	105	115	94
500-167032-10	TW-4	119	108	120	95
500-167032-11	MW-1026	116	106	118	94
500-167032-12	EX-1	115	106	116	94
500-167032-13	EX-2R	116	106	113	94
500-167032-14	EX-3R	116	107	117	94
500-167032-15	EX-7R	115	105	115	95
500-167032-15 MS	EX-7R	112	98	110	96
500-167032-15 MSD	EX-7R	110	96	106	97
500-167032-16	EX-4R	97	103	97	93
500-167032-17	EX-5R	99	100	96	92
500-167032-18	EX-6	101	102	96	93
500-167032-18 MS	EX-6	103	101	94	93
500-167032-18 MSD	EX-6	101	102	94	94
500-167032-19	Trip Blank	100	102	95	93
LCS 500-496470/4	Lab Control Sample	100	103	95	95
LCS 500-496536/4	Lab Control Sample	111	96	106	96
MB 500-496470/7	Method Blank	101	102	95	97
MB 500-496536/6	Method Blank	114	103	113	94

Surrogate Legend

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

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

Lab Sample ID: MB 500-496470/7
Matrix: Water
Analysis Batch: 496470

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	<0.36		1.0	0.36	ug/L			07/25/19 01:08	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/25/19 01:08	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/25/19 01:08	1
Benzene	<0.15		0.50	0.15	ug/L			07/25/19 01:08	1
Bromoform	<0.48		1.0	0.48	ug/L			07/25/19 01:08	1
Bromomethane	<0.80		3.0	0.80	ug/L			07/25/19 01:08	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/25/19 01:08	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			07/25/19 01:08	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/25/19 01:08	1
Chloroform	<0.37		2.0	0.37	ug/L			07/25/19 01:08	1
Chloromethane	<0.32		1.0	0.32	ug/L			07/25/19 01:08	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			07/25/19 01:08	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			07/25/19 01:08	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			07/25/19 01:08	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			07/25/19 01:08	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			07/25/19 01:08	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			07/25/19 01:08	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			07/25/19 01:08	1
Dibromomethane	<0.27		1.0	0.27	ug/L			07/25/19 01:08	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/25/19 01:08	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/25/19 01:08	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/25/19 01:08	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			07/25/19 01:08	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			07/25/19 01:08	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/25/19 01:08	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			07/25/19 01:08	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/25/19 01:08	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/25/19 01:08	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/25/19 01:08	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/25/19 01:08	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/25/19 01:08	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/25/19 01:08	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/25/19 01:08	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			07/25/19 01:08	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			07/25/19 01:08	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			07/25/19 01:08	1
Naphthalene	<0.34		1.0	0.34	ug/L			07/25/19 01:08	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			07/25/19 01:08	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			07/25/19 01:08	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			07/25/19 01:08	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			07/25/19 01:08	1
Styrene	<0.39		1.0	0.39	ug/L			07/25/19 01:08	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			07/25/19 01:08	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			07/25/19 01:08	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			07/25/19 01:08	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/25/19 01:08	1
Toluene	<0.15		0.50	0.15	ug/L			07/25/19 01:08	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			07/25/19 01:08	1

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

Lab Sample ID: MB 500-496470/7
Matrix: Water
Analysis Batch: 496470

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			07/25/19 01:08	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/25/19 01:08	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/25/19 01:08	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/25/19 01:08	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 01:08	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/25/19 01:08	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/25/19 01:08	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/25/19 01:08	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/25/19 01:08	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/25/19 01:08	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 01:08	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/25/19 01:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*72 - 124*		*07/25/19 01:08*	*1*
Dibromofluoromethane	*102*		*75 - 120*		*07/25/19 01:08*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 126*		*07/25/19 01:08*	*1*
Toluene-d8 (Surr)	*97*		*75 - 120*		*07/25/19 01:08*	*1*

Lab Sample ID: LCS 500-496470/4
Matrix: Water
Analysis Batch: 496470

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromobenzene	50.0	59.9		ug/L		120	70 - 122
Bromochloromethane	50.0	58.3		ug/L		117	65 - 122
Bromodichloromethane	50.0	52.2		ug/L		104	69 - 120
Benzene	50.0	53.1		ug/L		106	70 - 120
Bromoform	50.0	53.3		ug/L		107	56 - 132
Bromomethane	50.0	52.5		ug/L		105	40 - 152
m&p-Xylene	50.0	47.7		ug/L		95	70 - 125
Carbon tetrachloride	50.0	53.5		ug/L		107	59 - 133
o-Xylene	50.0	48.8		ug/L		98	70 - 120
Chlorobenzene	50.0	51.7		ug/L		103	70 - 120
Chloroethane	50.0	49.4		ug/L		99	48 - 136
Chloroform	50.0	52.0		ug/L		104	70 - 120
Chloromethane	50.0	43.0		ug/L		86	56 - 152
2-Chlorotoluene	50.0	55.4		ug/L		111	70 - 125
4-Chlorotoluene	50.0	54.3		ug/L		109	68 - 124
cis-1,2-Dichloroethene	50.0	55.7		ug/L		111	70 - 125
cis-1,3-Dichloropropene	50.0	49.1		ug/L		98	64 - 127
Dibromochloromethane	50.0	54.0		ug/L		108	68 - 125
1,2-Dibromo-3-Chloropropane	50.0	47.9		ug/L		96	56 - 123
1,2-Dibromoethane	50.0	55.0		ug/L		110	70 - 125
Dibromomethane	50.0	54.3		ug/L		109	70 - 120
1,2-Dichlorobenzene	50.0	58.2		ug/L		116	70 - 125
1,3-Dichlorobenzene	50.0	56.6		ug/L		113	70 - 125
1,4-Dichlorobenzene	50.0	56.5		ug/L		113	70 - 120

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

Lab Sample ID: LCS 500-496470/4
Matrix: Water
Analysis Batch: 496470

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	50.0	39.8		ug/L		80	40 - 159
1,1-Dichloroethane	50.0	55.0		ug/L		110	70 - 125
1,2-Dichloroethane	50.0	51.4		ug/L		103	68 - 127
1,1-Dichloroethene	50.0	53.3		ug/L		107	67 - 122
1,2-Dichloropropane	50.0	56.3		ug/L		113	67 - 130
1,3-Dichloropropane	50.0	52.0		ug/L		104	62 - 136
2,2-Dichloropropane	50.0	49.1		ug/L		98	58 - 139
1,1-Dichloropropene	50.0	52.3		ug/L		105	70 - 121
Ethylbenzene	50.0	52.1		ug/L		104	70 - 123
Hexachlorobutadiene	50.0	61.4		ug/L		123	51 - 150
Isopropylbenzene	50.0	58.6		ug/L		117	70 - 126
Methylene Chloride	50.0	51.7		ug/L		103	69 - 125
Methyl tert-butyl ether	50.0	50.9		ug/L		102	55 - 123
Naphthalene	50.0	63.3		ug/L		127	53 - 144
n-Butylbenzene	50.0	55.0		ug/L		110	68 - 125
N-Propylbenzene	50.0	57.0		ug/L		114	69 - 127
p-Isopropyltoluene	50.0	57.2		ug/L		114	70 - 125
sec-Butylbenzene	50.0	58.6		ug/L		117	70 - 123
Styrene	50.0	52.1		ug/L		104	70 - 120
tert-Butylbenzene	50.0	58.0		ug/L		116	70 - 121
1,1,1,2-Tetrachloroethane	50.0	53.2		ug/L		106	70 - 125
1,1,2,2-Tetrachloroethane	50.0	56.7		ug/L		113	62 - 140
Tetrachloroethene	50.0	53.7		ug/L		107	70 - 128
Toluene	50.0	49.7		ug/L		99	70 - 125
trans-1,2-Dichloroethene	50.0	55.6		ug/L		111	70 - 125
trans-1,3-Dichloropropene	50.0	47.7		ug/L		95	62 - 128
1,2,3-Trichlorobenzene	50.0	73.8	*	ug/L		148	51 - 145
1,2,4-Trichlorobenzene	50.0	57.8		ug/L		116	57 - 137
1,1,1-Trichloroethane	50.0	51.1		ug/L		102	70 - 125
1,1,2-Trichloroethane	50.0	52.0		ug/L		104	71 - 130
Trichloroethene	50.0	56.0		ug/L		112	70 - 125
Trichlorofluoromethane	50.0	46.1		ug/L		92	55 - 128
1,2,3-Trichloropropane	50.0	59.3		ug/L		119	50 - 133
1,2,4-Trimethylbenzene	50.0	57.0		ug/L		114	70 - 123
1,3,5-Trimethylbenzene	50.0	57.2		ug/L		114	70 - 123
Vinyl chloride	50.0	44.9		ug/L		90	64 - 126
Xylenes, Total	100	96.5		ug/L		97	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*72 - 124*
Dibromofluoromethane	*103*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 126*
Toluene-d8 (Surr)	*95*		*75 - 120*

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

Lab Sample ID: 500-167032-18 MS
Matrix: Water
Analysis Batch: 496470

Client Sample ID: EX-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.15		50.0	47.7		ug/L		95	70 - 120
m&p-Xylene	<0.18		50.0	43.1		ug/L		86	70 - 125
o-Xylene	<0.22		50.0	43.7		ug/L		87	70 - 120
Ethylbenzene	<0.18		50.0	47.3		ug/L		95	70 - 123
Tetrachloroethene	<0.37		50.0	48.3		ug/L		97	70 - 128
Toluene	<0.15		50.0	43.2		ug/L		86	70 - 125
1,1,1-Trichloroethane	<0.38		50.0	46.4		ug/L		93	70 - 125
1,1,2-Trichloroethane	<0.35		50.0	46.1		ug/L		92	71 - 130
Trichloroethene	<0.16		50.0	50.5		ug/L		101	70 - 125
Vinyl chloride	<0.20		50.0	46.1		ug/L		92	64 - 126
Xylenes, Total	<0.22		100	86.8		ug/L		87	70 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*72 - 124*
Dibromofluoromethane	*101*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 126*
Toluene-d8 (Surr)	*93*		*75 - 120*

Lab Sample ID: 500-167032-18 MSD
Matrix: Water
Analysis Batch: 496470

Client Sample ID: EX-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.15		50.0	44.7		ug/L		89	70 - 120	6	20
m&p-Xylene	<0.18		50.0	41.0		ug/L		82	70 - 125	5	20
o-Xylene	<0.22		50.0	41.8		ug/L		84	70 - 120	4	20
Ethylbenzene	<0.18		50.0	44.5		ug/L		89	70 - 123	6	20
Tetrachloroethene	<0.37		50.0	45.3		ug/L		91	70 - 128	6	20
Toluene	<0.15		50.0	40.8		ug/L		82	70 - 125	6	20
1,1,1-Trichloroethane	<0.38		50.0	44.1		ug/L		88	70 - 125	5	20
1,1,2-Trichloroethane	<0.35		50.0	43.0		ug/L		86	71 - 130	7	20
Trichloroethene	<0.16		50.0	47.9		ug/L		96	70 - 125	5	20
Vinyl chloride	<0.20		50.0	45.0		ug/L		90	64 - 126	3	20
Xylenes, Total	<0.22		100	82.9		ug/L		83	70 - 125	5	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*72 - 124*
Dibromofluoromethane	*102*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 126*
Toluene-d8 (Surr)	*94*		*75 - 120*

Lab Sample ID: MB 500-496536/6
Matrix: Water
Analysis Batch: 496536

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	<0.36		1.0	0.36	ug/L			07/25/19 12:05	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/25/19 12:05	1

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

Lab Sample ID: MB 500-496536/6
Matrix: Water
Analysis Batch: 496536

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/25/19 12:05	1
Benzene	<0.15		0.50	0.15	ug/L			07/25/19 12:05	1
Bromoform	<0.48		1.0	0.48	ug/L			07/25/19 12:05	1
Bromomethane	<0.80		3.0	0.80	ug/L			07/25/19 12:05	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/25/19 12:05	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			07/25/19 12:05	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/25/19 12:05	1
Chloroform	<0.37		2.0	0.37	ug/L			07/25/19 12:05	1
Chloromethane	<0.32		1.0	0.32	ug/L			07/25/19 12:05	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			07/25/19 12:05	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			07/25/19 12:05	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			07/25/19 12:05	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			07/25/19 12:05	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			07/25/19 12:05	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			07/25/19 12:05	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			07/25/19 12:05	1
Dibromomethane	<0.27		1.0	0.27	ug/L			07/25/19 12:05	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/25/19 12:05	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/25/19 12:05	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/25/19 12:05	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			07/25/19 12:05	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			07/25/19 12:05	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/25/19 12:05	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			07/25/19 12:05	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/25/19 12:05	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/25/19 12:05	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/25/19 12:05	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/25/19 12:05	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/25/19 12:05	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/25/19 12:05	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/25/19 12:05	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			07/25/19 12:05	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			07/25/19 12:05	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			07/25/19 12:05	1
Naphthalene	0.806	J	1.0	0.34	ug/L			07/25/19 12:05	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			07/25/19 12:05	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			07/25/19 12:05	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			07/25/19 12:05	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			07/25/19 12:05	1
Styrene	<0.39		1.0	0.39	ug/L			07/25/19 12:05	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			07/25/19 12:05	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			07/25/19 12:05	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			07/25/19 12:05	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/25/19 12:05	1
Toluene	<0.15		0.50	0.15	ug/L			07/25/19 12:05	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			07/25/19 12:05	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			07/25/19 12:05	1
1,2,3-Trichlorobenzene	0.593	J	1.0	0.46	ug/L			07/25/19 12:05	1
1,2,4-Trichlorobenzene	0.483	J	1.0	0.34	ug/L			07/25/19 12:05	1

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

Lab Sample ID: MB 500-496536/6
Matrix: Water
Analysis Batch: 496536

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/25/19 12:05	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/25/19 12:05	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/25/19 12:05	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/25/19 12:05	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/25/19 12:05	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/25/19 12:05	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/25/19 12:05	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/25/19 12:05	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/25/19 12:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*72 - 124*		*07/25/19 12:05*	*1*
Dibromofluoromethane	*103*		*75 - 120*		*07/25/19 12:05*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*75 - 126*		*07/25/19 12:05*	*1*
Toluene-d8 (Surr)	*94*		*75 - 120*		*07/25/19 12:05*	*1*

Lab Sample ID: LCS 500-496536/4
Matrix: Water
Analysis Batch: 496536

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromobenzene	50.0	51.7		ug/L		103	70 - 122
Bromochloromethane	50.0	51.4		ug/L		103	65 - 122
Bromodichloromethane	50.0	51.4		ug/L		103	69 - 120
Benzene	50.0	48.5		ug/L		97	70 - 120
Bromoform	50.0	54.5		ug/L		109	56 - 132
Bromomethane	50.0	30.3		ug/L		61	40 - 152
m&p-Xylene	50.0	51.4		ug/L		103	70 - 125
Carbon tetrachloride	50.0	46.4		ug/L		93	59 - 133
o-Xylene	50.0	51.5		ug/L		103	70 - 120
Chlorobenzene	50.0	50.6		ug/L		101	70 - 120
Chloroethane	50.0	48.0		ug/L		96	48 - 136
Chloroform	50.0	48.9		ug/L		98	70 - 120
Chloromethane	50.0	48.3		ug/L		97	56 - 152
2-Chlorotoluene	50.0	53.9		ug/L		108	70 - 125
4-Chlorotoluene	50.0	52.5		ug/L		105	68 - 124
cis-1,2-Dichloroethene	50.0	50.8		ug/L		102	70 - 125
cis-1,3-Dichloropropene	50.0	53.3		ug/L		107	64 - 127
Dibromochloromethane	50.0	52.8		ug/L		106	68 - 125
1,2-Dibromo-3-Chloropropane	50.0	61.8	*	ug/L		124	56 - 123
1,2-Dibromoethane	50.0	56.0		ug/L		112	70 - 125
Dibromomethane	50.0	50.6		ug/L		101	70 - 120
1,2-Dichlorobenzene	50.0	49.7		ug/L		99	70 - 125
1,3-Dichlorobenzene	50.0	50.6		ug/L		101	70 - 125
1,4-Dichlorobenzene	50.0	47.9		ug/L		96	70 - 120
Dichlorodifluoromethane	50.0	52.7		ug/L		105	40 - 159
1,1-Dichloroethane	50.0	50.4		ug/L		101	70 - 125
1,2-Dichloroethane	50.0	55.1		ug/L		110	68 - 127

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

Lab Sample ID: LCS 500-496536/4
Matrix: Water
Analysis Batch: 496536

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	50.0	50.0		ug/L		100	67 - 122
1,2-Dichloropropane	50.0	53.5		ug/L		107	67 - 130
1,3-Dichloropropane	50.0	56.5		ug/L		113	62 - 136
2,2-Dichloropropane	50.0	42.9		ug/L		86	58 - 139
1,1-Dichloropropene	50.0	49.8		ug/L		100	70 - 121
Ethylbenzene	50.0	51.8		ug/L		104	70 - 123
Hexachlorobutadiene	50.0	62.8		ug/L		126	51 - 150
Isopropylbenzene	50.0	51.4		ug/L		103	70 - 126
Methylene Chloride	50.0	51.8		ug/L		104	69 - 125
Methyl tert-butyl ether	50.0	47.1		ug/L		94	55 - 123
Naphthalene	50.0	58.8		ug/L		118	53 - 144
n-Butylbenzene	50.0	51.8		ug/L		104	68 - 125
N-Propylbenzene	50.0	52.9		ug/L		106	69 - 127
p-Isopropyltoluene	50.0	50.3		ug/L		101	70 - 125
sec-Butylbenzene	50.0	51.3		ug/L		103	70 - 123
Styrene	50.0	48.8		ug/L		98	70 - 120
tert-Butylbenzene	50.0	51.3		ug/L		103	70 - 121
1,1,1,2-Tetrachloroethane	50.0	49.7		ug/L		99	70 - 125
1,1,2,2-Tetrachloroethane	50.0	55.7		ug/L		111	62 - 140
Tetrachloroethene	50.0	51.9		ug/L		104	70 - 128
Toluene	50.0	49.4		ug/L		99	70 - 125
trans-1,2-Dichloroethene	50.0	50.4		ug/L		101	70 - 125
trans-1,3-Dichloropropene	50.0	53.1		ug/L		106	62 - 128
1,2,3-Trichlorobenzene	50.0	59.0		ug/L		118	51 - 145
1,2,4-Trichlorobenzene	50.0	56.5		ug/L		113	57 - 137
1,1,1-Trichloroethane	50.0	47.7		ug/L		95	70 - 125
1,1,2-Trichloroethane	50.0	55.3		ug/L		111	71 - 130
Trichloroethene	50.0	47.3		ug/L		95	70 - 125
Trichlorofluoromethane	50.0	48.2		ug/L		96	55 - 128
1,2,3-Trichloropropane	50.0	61.7		ug/L		123	50 - 133
1,2,4-Trimethylbenzene	50.0	51.1		ug/L		102	70 - 123
1,3,5-Trimethylbenzene	50.0	50.5		ug/L		101	70 - 123
Vinyl chloride	50.0	46.4		ug/L		93	64 - 126
Xylenes, Total	100	103		ug/L		103	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*72 - 124*
Dibromofluoromethane	*96*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 126*
Toluene-d8 (Surr)	*96*		*75 - 120*

Lab Sample ID: 500-167032-15 MS
Matrix: Water
Analysis Batch: 496536

Client Sample ID: EX-7R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.15		50.0	50.0		ug/L		100	70 - 120
m&p-Xylene	<0.18		50.0	51.2		ug/L		102	70 - 125

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

Lab Sample ID: 500-167032-15 MS
Matrix: Water
Analysis Batch: 496536

Client Sample ID: EX-7R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
o-Xylene	<0.22		50.0	52.4		ug/L		105	70 - 120
Ethylbenzene	<0.18		50.0	52.7		ug/L		105	70 - 123
Tetrachloroethene	5.4		50.0	56.3		ug/L		102	70 - 128
Toluene	<0.15		50.0	50.7		ug/L		101	70 - 125
1,1,1-Trichloroethane	<0.38		50.0	47.7		ug/L		95	70 - 125
1,1,2-Trichloroethane	<0.35		50.0	59.2		ug/L		118	71 - 130
Trichloroethene	2.4		50.0	50.1		ug/L		95	70 - 125
Vinyl chloride	<0.20		50.0	45.2		ug/L		90	64 - 126
Xylenes, Total	<0.22		100	104		ug/L		104	70 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*72 - 124*
Dibromofluoromethane	*98*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*110*		*75 - 126*
Toluene-d8 (Surr)	*96*		*75 - 120*

Lab Sample ID: 500-167032-15 MSD
Matrix: Water
Analysis Batch: 496536

Client Sample ID: EX-7R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.15		50.0	54.3		ug/L		109	70 - 120	8	20
m&p-Xylene	<0.18		50.0	57.7		ug/L		115	70 - 125	12	20
o-Xylene	<0.22		50.0	58.2		ug/L		116	70 - 120	10	20
Ethylbenzene	<0.18		50.0	58.7		ug/L		117	70 - 123	11	20
Tetrachloroethene	5.4		50.0	63.4		ug/L		116	70 - 128	12	20
Toluene	<0.15		50.0	56.3		ug/L		113	70 - 125	11	20
1,1,1-Trichloroethane	<0.38		50.0	52.7		ug/L		105	70 - 125	10	20
1,1,2-Trichloroethane	<0.35		50.0	62.4		ug/L		125	71 - 130	5	20
Trichloroethene	2.4		50.0	55.0		ug/L		105	70 - 125	9	20
Vinyl chloride	<0.20		50.0	50.7		ug/L		101	64 - 126	11	20
Xylenes, Total	<0.22		100	116		ug/L		116	70 - 125	11	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*72 - 124*
Dibromofluoromethane	*96*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 126*
Toluene-d8 (Surr)	*97*		*75 - 120*

Lab Chronicle

Client: Tetra Tech GEO
Job ID: 500-167032-1
Project/Site: Pentair Delavan - 117-7469004.01

Client Sample ID: TW-1
Lab Sample ID: 500-167032-1
Date Collected: 07/17/19 10:50
Matrix: Water
Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496536	07/25/19 12:32	JDD	TAL CHI

Client Sample ID: D-18
Lab Sample ID: 500-167032-2
Date Collected: 07/17/19 11:40
Matrix: Water
Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496536	07/25/19 13:00	JDD	TAL CHI

Client Sample ID: D-25R
Lab Sample ID: 500-167032-3
Date Collected: 07/17/19 13:30
Matrix: Water
Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496536	07/25/19 13:28	JDD	TAL CHI

Client Sample ID: MW-1027
Lab Sample ID: 500-167032-4
Date Collected: 07/17/19 16:20
Matrix: Water
Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496536	07/25/19 13:56	JDD	TAL CHI

Client Sample ID: MW-2005R
Lab Sample ID: 500-167032-5
Date Collected: 07/17/19 08:40
Matrix: Water
Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496536	07/25/19 14:24	JDD	TAL CHI

Client Sample ID: MW-2011
Lab Sample ID: 500-167032-6
Date Collected: 07/17/19 14:10
Matrix: Water
Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496536	07/25/19 14:52	JDD	TAL CHI

Client Sample ID: D-15
Lab Sample ID: 500-167032-7
Date Collected: 07/17/19 15:00
Matrix: Water
Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496536	07/25/19 15:19	JDD	TAL CHI

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Pentair Delavan - 117-7469004.01

Job ID: 500-167032-1

Client Sample ID: TW-3
Lab Sample ID: 500-167032-8
Date Collected: 07/17/19 12:20
Matrix: Water
Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496536	07/25/19 15:47	JDD	TAL CHI

Client Sample ID: MW-2004
Lab Sample ID: 500-167032-9
Date Collected: 07/17/19 10:00
Matrix: Water
Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496536	07/25/19 16:15	JDD	TAL CHI

Client Sample ID: TW-4
Lab Sample ID: 500-167032-10
Date Collected: 07/18/19 14:30
Matrix: Water
Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496536	07/25/19 16:43	JDD	TAL CHI

Client Sample ID: MW-1026
Lab Sample ID: 500-167032-11
Date Collected: 07/18/19 13:30
Matrix: Water
Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496536	07/25/19 17:11	JDD	TAL CHI

Client Sample ID: EX-1
Lab Sample ID: 500-167032-12
Date Collected: 07/18/19 11:00
Matrix: Water
Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496536	07/25/19 17:39	JDD	TAL CHI

Client Sample ID: EX-2R
Lab Sample ID: 500-167032-13
Date Collected: 07/18/19 11:40
Matrix: Water
Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496536	07/25/19 18:06	JDD	TAL CHI

Client Sample ID: EX-3R
Lab Sample ID: 500-167032-14
Date Collected: 07/18/19 12:00
Matrix: Water
Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496536	07/25/19 18:34	JDD	TAL CHI

Lab Chronicle

Client: Tetra Tech GEO
Job ID: 500-167032-1
Project/Site: Pentair Delavan - 117-7469004.01

Client Sample ID: EX-7R
Lab Sample ID: 500-167032-15
Date Collected: 07/18/19 11:20
Matrix: Water
Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496536	07/25/19 19:02	JDD	TAL CHI

Client Sample ID: EX-4R
Lab Sample ID: 500-167032-16
Date Collected: 07/18/19 12:20
Matrix: Water
Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496470	07/25/19 06:46	JDD	TAL CHI

Client Sample ID: EX-5R
Lab Sample ID: 500-167032-17
Date Collected: 07/18/19 10:20
Matrix: Water
Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496470	07/25/19 07:12	JDD	TAL CHI

Client Sample ID: EX-6
Lab Sample ID: 500-167032-18
Date Collected: 07/18/19 10:40
Matrix: Water
Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496470	07/25/19 07:37	JDD	TAL CHI

Client Sample ID: Trip Blank
Lab Sample ID: 500-167032-19
Date Collected: 07/17/19 00:00
Matrix: Water
Date Received: 07/20/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496470	07/25/19 08:03	JDD	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

Client: Tetra Tech GEO
Job ID: 500-167032-1
Project/Site: Pentair Delavan - 117-7469004.01

Laboratory: Eurofins TestAmerica, Chicago

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

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

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

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: Todd M. Thompson	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 500-73756-27960.1
Client Contact: Mr. Mark Manthey	Phone: (262) 792-1282	E-Mail: sandie.fredrick@testamericainc.com		Page: Page 1 of 2 580-16703
Company: Tetra Tech GEO				Job #: 117-7469004.01

Address: 175 N Corporate Drive Suite 100
City: Brookfield
State, Zip: WI, 53045
Phone: 262-792-1282(Tel)
Email: mark.manthey@tetratech.com
Project Name: Pentair Delavan
Site: 117-7469004.01

500-167032 COC

Due Date Requested: STANDARD
TAT Requested (days):
PO #:
WO #:
Project #: 50006640
SSOW#:

Analysis Requested

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

	Sample Identification	2019 Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - VOCs - Wisconsin	PCE	TCA	TCE	VINYL CHLORIDE	Total Number of containers	Special Instructions/Note:
				Preservation Code:				A						
1	TW-1	7-17	10:50	GRAB	Water				3			V		
2	D-18	7-17	11:40		Water				3			V		
3	D-25R	7-17	13:30		Water				3			V		
4	MW-1027	7-17	16:20		Water				3			V		
5	MW-2005R	7-17	08:40		Water				3			V		
6	MW-2011	7-17	14:10		Water				3			V		
7	D-15	7-17	15:00		Water				3			V		
8	TW-3	7-17	12:20		Water				3			V		
9	MW-2004	7-17	10:00		Water				3			V		
10	TW-4	7-18	14:30		Water			3						
11	MW-1026	7-18	13:30	V	Water				3			V		

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		7-19-19 08:00	TetraTech		7-19-19 11:00	TA
2	Relinquished by:	Date/Time: 7-19-19 1700	Company TA	Received by:	Date/Time: 7/20/19 0915	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 3.9

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: Todd M. Thomson	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 500-73756-27960.2
Client Contact: Mr. Mark Manthey	Phone: (262) 792-1282	E-Mail: sandie.fredrick@testamericainc.com		Page: Page 2 of 2 500-167032
Company: Tetra Tech GEO				Job #: 117-7469.004.01
Address: 175 N Corporate Drive Suite 100	Due Date Requested: STANDARD			
City: Brookfield	TAT Requested (days):			
State, Zip: WI, 53045				
Phone: 262-792-1282(Tel)	PO #:			
Email: mark.manthey@tetratech.com	WO #:			
Project Name: Pentair Delavan	Project #: 50006640			
Site: 117-7469.004.01	SSOW#:			

Analysis Requested

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

Sample Identification	2019 Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - VOCs - Wisconsin	PCE	TCE	VINYL CHLORIDE	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A					
12 EX-1	7-18	11:00	GRAB	Water			3	3	3	3		
13 EX-2R	7-18	11:40		Water			3	3	3	3		
14 EX-3R	7-18	12:00		Water			3	3	3	3		
15 EX-7R	7-18	11:20		Water			3	3	3	3		
16 EX-4R	7-18	12:20		Water			3	3	3	3		
17 EX-5R	7-18	10:20		Water			3	3	3	3		
18 EX-6	7-18	10:40		Water			3	3	3	3		
19 TRIP BLANK	—	—	V DI	Water			1					
				Water								
				Water								

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		7-19-19 08:00	TETRA TECH		7-19-19 11:00	TA
2		7-19-19 1700	TA		7/20/19 0915	TA-CHI
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Login Sample Receipt Checklist

Client: Tetra Tech GEO

Job Number: 500-167032-1

Login Number: 167032
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

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	3.9
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 <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX D
WASTEWATER DISCHARGE MONITORING REPORTS AND STORM SEWER OUTFALL SS-1 ANALYTICAL RESULTS

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: 01/01/2019 - 01/31/2019
Form Due Date: 02/21/2019
Permit Number: 0055816

Date Received:	
DOC:	416999
FIN:	7072
FID:	265010900
Region:	Southeast Region
Permit Drafter:	Lisa J Creegan
Reviewer:	Nicholas M Lent
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	0.436796				
	2	0.432382				
	3	0.370398				
	4	0.370625				
	5	0.375289				
	6	0.372411				
	7	0.370088				
	8	0.374496				
	9	0.381369				
	10	0.377603				
	11	0.378256				
	12	0.373712				
	13	0.372690				
	14	0.371236				
	15	0.370904	52.88	3.0	0.040	0.128
	16	0.373690				
	17	0.376287				
	18	0.376629				
	19	0.369902				
	20	0.377311				
	21	0.381344				
	22	0.372262				
	23	0.377865				
	24	0.389814				
	25	0.391305				
	26	0.379463				
	27	0.387464				
	28	0.380105				
	29	0.394523				
	30	0.398571				
	31	0.401347				

	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
Summary Values	**Monthly Avg**	0.382456032	52.88	3	0.04	0.128
	Daily Max	0.436796	52.88	3	0.04	0.128
	Daily Min	0.369902	52.88	3	0.04	0.128
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	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	<0.37	0.48	<0.38	<0.20
	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		0.48		0		0	
	Daily Max	<0.37		0.48		<0.38		<0.2	
	Daily Min	<0.37		0.48		<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		1	
	QC Exceedance	N		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 rates were calculated from daily flow readings recorded by the Badger U500w ultrasonic meters installed on the discharge lines of the Delavan facility extraction wells.

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	Dennis	DO	

SAMPLE POINT	SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	1-15-19				
CLOCK TIME (Military)	1015				
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)	11.6				
pH	7.66				
ELEC. COND. (uS/cm) Measured	1308				
ELEC. COND. (uS/cm) 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	1-15-19				
SAMPLER'S NAME	Dennis				

*Measured from top of well casing.

GeoTrans

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: 500-157562-1
Client Project/Site: Delavan Well #4 WPDES

For:
Pentair Water
293 Wright Street
Delavan, Wisconsin 53115

Attn: Dennis Schwind

Sandie Fredrick

Authorized for release by:
1/28/2019 4:54:27 PM

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

Table of Contents

Definitions/Glossary

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

TestAmerica Job ID: 500-157562-1

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.
¤	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: 500-157562-1

Job ID: 500-157562-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-157562-1

Comments
No additional comments.

Receipt
The samples were received on 1/16/2019 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.4° 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 ID: SS1

Lab Sample ID: 500-157562-1
Date Collected: 01/15/19 10:15
Matrix: Water
Date Received: 01/16/19 09:30

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			01/18/19 18:55	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			01/18/19 18:55	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			01/18/19 18:55	1
Trichloroethene	**0.48**	**J**	0.50	0.16	ug/L			01/18/19 18:55	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			01/18/19 18:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*75 - 126*		*01/18/19 18:55*	*1*
4-Bromofluorobenzene (Surr)	*116*		*72 - 124*		*01/18/19 18:55*	*1*
Dibromofluoromethane	*93*		*75 - 120*		*01/18/19 18:55*	*1*
Toluene-d8 (Surr)	*91*		*75 - 120*		*01/18/19 18:55*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**3.0**	**J**	5.0	1.9	mg/L			01/22/19 10:48	1
Chloride	**210**		10	5.0	mg/L			01/17/19 15:11	5
Phosphorus as P	**0.040**	**J**	0.050	0.024	mg/L		01/23/19 10:35	01/25/19 17:59	1

Client Sample ID: Trip Blank

Lab Sample ID: 500-157562-2
Date Collected: 01/15/19 00:00
Matrix: Water
Date Received: 01/16/19 09:30

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			01/18/19 12:09	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			01/18/19 12:09	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			01/18/19 12:09	1
Trichloroethene	<0.16		0.50	0.16	ug/L			01/18/19 12:09	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			01/18/19 12:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*75 - 126*		*01/18/19 12:09*	*1*
4-Bromofluorobenzene (Surr)	*115*		*72 - 124*		*01/18/19 12:09*	*1*
Dibromofluoromethane	*93*		*75 - 120*		*01/18/19 12:09*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*01/18/19 12:09*	*1*

Lab Chronicle

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

TestAmerica Job ID: 500-157562-1

Client Sample ID: SS1

Lab Sample ID: 500-157562-1

Date Collected: 01/15/19 10:15

Matrix: Water

Date Received: 01/16/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	469328	01/18/19 18:55	PMF	TAL CHI
Total/NA	Analysis	SM 2540D		1	469743		SMO	TAL CHI
					(Start)	01/22/19 10:48		
					(End)	01/22/19 10:49		
Total/NA	Analysis	SM 4500 Cl- E		5	469269	01/17/19 15:11	EAT	TAL CHI
Total/NA	Prep	SM 4500 P B			469918	01/23/19 10:35	BRS	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	470393		BRS	TAL CHI
					(Start)	01/25/19 17:59		
					(End)	01/25/19 17:59		

Client Sample ID: Trip Blank

Lab Sample ID: 500-157562-2

Date Collected: 01/15/19 00:00

Matrix: Water

Date Received: 01/16/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	469328	01/18/19 12:09	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: 500-157562-1

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	08-31-19

Method Summary

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

TestAmerica Job ID: 500-157562-1

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
5030B	Purge and Trap	SW846	TAL CHI
SM 4500 P B	Phosphorous, Total and Ortho	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: 500-157562-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-157562-1	SS1	Water	01/15/19 10:15	01/16/19 09:30
500-157562-2	Trip Blank	Water	01/15/19 00:00	01/16/19 09:30

TestAmerica

THE LEADER IN ENVIRONMENTA'

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

500-157562 COC

Chain of Custody Record

Report To (optional)	Max Geyer Mark Manthey	Bill To (optional)	
Contact:	Dennis Schwind	Contact:	
Company:	Pentair Flow Technologies LLC	Company:	
Address:	293 Wright St.	Address:	
Address:	Delavan WI 53115	Address:	
Phone:	262-728-5551	Phone:	
Fax:		Fax:	
E-Mail:		PO#/Reference#	

Lab Job #: 500-157562

Chain of Custody Number:

Page ____ of ____

Temperature °C of Cooler: 2.4

Client: PENTAIR FLOW TECHNOLOGIES LLC

Client Project #:

Project Name: Delavan Well #4 WPDES

Project Location/State: Delavan WI

Lab Project #:

Sampler: Dennis

Lab PM:

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	TCE (HCl)	TCA (HCl)	PCE (HCl)	Vinyl Chloride (HCl)	Phosphorus (H_2SO_4)	TSS	Chloride			Comments
1		SS1	1-15-19	1015	5	W	X	X	X	X	X	X	X			
2		Trip Blank			1											

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)

___ 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	Company	Date	Time	Received By	Company	Date	Time
[signature]	Pentair	1-15-19	1040	[signature]	TA-CHI	1/16/19	0930

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:

TAL-4124-500 (1209)

Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-157562-1

Login Number: 157562
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

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	2.4
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: 02/01/2019 - 02/28/2019
Form Due Date: 03/21/2019
Permit Number: 0055816

Date Received:	
DOC:	417000
FIN:	7072
FID:	265010900
Region:	Southeast Region
Permit Drafter:	Lisa J Creegan
Reviewer:	Nicholas M Lent
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	0.394643				
	2	0.393294				
	3	0.396385				
	4	0.400535				
	5	0.411004				
	6	0.396513				
	7	0.392527				
	8	0.405185				
	9	0.369684				
	10	0.365926				
	11	0.371999				
	12	0.365295				
	13	0.378230				
	14	0.367219				
	15	0.378437				
	16	0.364829				
	17	0.366689				
	18	0.376570				
	19	0.376881				
	20	0.366327				
	21	0.373789				
	22	0.374981	53.78	<1.9	0.029	0.093
	23	0.374549				
	24	0.397531				
	25	0.407746				
	26	0.394914				
	27	0.384142				
	28	0.372456				
	29					
	30					
	31					

	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
Summary Values	**Monthly Avg**	0.382795714	53.78	0	0.029	0.093
	Daily Max	0.411004	53.78	<1.9	0.029	0.093
	Daily Min	0.364829	53.78	<1.9	0.029	0.093
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	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	<0.37	0.56	<0.38	<0.20
	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		0.56		0		0	
	Daily Max	<0.37		0.56		<0.38		<0.2	
	Daily Min	<0.37		0.56		<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		1	
	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 rates were calculated from daily flow readings recorded by the Badger U500w ultrasonic meters installed on the discharge lines of the Delavan facility extraction wells.

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	
LOCATION	Delavan, WI	ORP	
PERSONNEL	Dennis	DO	

SAMPLE POINT	SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	2/22/19				
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	HI98129				
FIELD TEMPERATURE (°C)	12.1				
pH	7.61				
ELEC. COND. (uS/cm) Measured	1308				
ELEC. COND. (uS/cm) 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	2/22/19				
SAMPLER'S NAME	Dennis				

*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: 500-159152-1
Client Project/Site: Delavan Well #4 WPDES

For:
Pentair Water
293 Wright Street
Delavan, Wisconsin 53115

Attn: Dennis Schwind

Authorized for release by:
3/6/2019 12:51:58 PM

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

Table of Contents

Definitions/Glossary

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

TestAmerica Job ID: 500-159152-1

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: 500-159152-1

Job ID: 500-159152-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-159152-1

Comments
No additional comments.

Receipt
The samples were received on 2/23/2019 11:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 6.8º 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: 500-159152-1

Client Sample ID: SS-1

Lab Sample ID: 500-159152-1
Date Collected: 02/22/19 10:45
Matrix: Water
Date Received: 02/23/19 11:10

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			02/28/19 05:52	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			02/28/19 05:52	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			02/28/19 05:52	1
Trichloroethene	**0.56**		0.50	0.16	ug/L			02/28/19 05:52	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/28/19 05:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*117*		*75 - 126*		*02/28/19 05:52*	*1*
4-Bromofluorobenzene (Surr)	*115*		*72 - 124*		*02/28/19 05:52*	*1*
Dibromofluoromethane	*94*		*75 - 120*		*02/28/19 05:52*	*1*
Toluene-d8 (Surr)	*94*		*75 - 120*		*02/28/19 05:52*	*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			02/28/19 13:00	1
Chloride	**200**		10	5.0	mg/L			03/02/19 16:23	5
Phosphorus as P	**0.029**	**J**	0.050	0.024	mg/L		02/25/19 08:45	02/27/19 10:26	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 500-159152-2
Date Collected: 02/22/19 00:00
Matrix: Water
Date Received: 02/23/19 11:10

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			02/27/19 21:51	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			02/27/19 21:51	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			02/27/19 21:51	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/27/19 21:51	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/27/19 21:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*75 - 126*		*02/27/19 21:51*	*1*
4-Bromofluorobenzene (Surr)	*116*		*72 - 124*		*02/27/19 21:51*	*1*
Dibromofluoromethane	*92*		*75 - 120*		*02/27/19 21:51*	*1*
Toluene-d8 (Surr)	*94*		*75 - 120*		*02/27/19 21:51*	*1*

Lab Chronicle

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

TestAmerica Job ID: 500-159152-1

Client Sample ID: SS-1

Lab Sample ID: 500-159152-1

Date Collected: 02/22/19 10:45

Matrix: Water

Date Received: 02/23/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	474061	02/28/19 05:52	PMF	TAL CHI
Total/NA	Analysis	SM 2540D		1	474251		SMO	TAL CHI
					(Start)	02/28/19 13:00		
					(End)	02/28/19 13:01		
Total/NA	Analysis	SM 4500 Cl- E		5	474498	03/02/19 16:23	EAT	TAL CHI
Total/NA	Prep	SM 4500 P B			473662	02/25/19 08:45	JLC	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	474050		BSW	TAL CHI
					(Start)	02/27/19 10:26		
					(End)	02/27/19 10:27		

Client Sample ID: TRIP BLANK

Lab Sample ID: 500-159152-2

Date Collected: 02/22/19 00:00

Matrix: Water

Date Received: 02/23/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	474061	02/27/19 21:51	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: 500-159152-1

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	08-31-19

Method Summary

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

TestAmerica Job ID: 500-159152-1

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
5030B	Purge and Trap	SW846	TAL CHI
SM 4500 P B	Phosphorous, Total and Ortho	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: 500-159152-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-159152-1	SS-1	Water	02/22/19 10:45	02/23/19 11:10
500-159152-2	TRIP BLANK	Water	02/22/19 00:00	02/23/19 11:10

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Report To: Max Geyer (optional) Mark Gunther
Contact: Dennis Schwind
Company: Pentair Flow Technologies LLC
Address: 293 Wright St.
Address: Delavan WI 53115
Phone: 262-728-5551
Fax:
E-Mail:

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

500-159152 COC

Chain of Custody Record

Lab Job #: 500-159152
Chain of Custody Number:
Page ____ of ____
Temperature °C of Cooler: 6.8

Client:
Client Project #:
Project Name: Delavan Well #4 WHDES
Project Location/State: Delavan WI
Lab Project #:
Sampler: Dennis
Lab PM:

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 Date	Sampling Time	# of Containers	Matrix	Preservative	HCl	HCl	HCl	HCl	H_2SO_4					Comments
							Parameter	TCE	TCA	PCE	Vinyl Chloride	Phosphorus	TSS	Chloride			
		SS1	10/22/18	1045	6	W		X	X	X	X	X	X	X			
		Trip Blank															

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	Company	Date	Time	Received By	Company	Date	Time
[signature]	Pentair	2/22/19	1110	[signature]	TA	2/23/19	1110
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
Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments:

Lab Comments:

TAL-4124-530 (1209)

Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-159152-1

Login Number: 159152
List Number: 1
Creator: James, Jeff A

List Source: TestAmerica Chicago

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	6.8
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 <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: 03/01/2019 - 03/31/2019
Form Due Date: 04/21/2019
Permit Number: 0055816

Date Received:	
DOC:	417001
FIN:	7072
FID:	265010900
Region:	Southeast Region
Permit Drafter:	Lisa J Creegan
Reviewer:	Nicholas M Lent
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	0.368197				
	2	0.362388				
	3	0.360962				
	4	0.365063				
	5	0.374993				
	6	0.379979				
	7	0.374961				
	8	0.363907				
	9	0.359074				
	10	0.353046				
	11	0.365064				
	12	0.362669				
	13	0.358931				
	14	0.358605				
	15	0.355282				
	16	0.353505				
	17	0.352509				
	18	0.353034	41.54	11	0.095	0.294
	19	0.352343				
	20	0.353180				
	21	0.351892				
	22	0.352515				
	23	0.351641				
	24	0.351649				
	25	0.351421				
	26	0.363757				
	27	0.364063				
	28	0.407524				
	29	0.455221				
	30	0.455345				
	31	0.455372				

	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
Summary Values	**Monthly Avg**	0.370583613	41.54	11	0.095	0.294
	Daily Max	0.455372	41.54	11	0.095	0.294
	Daily Min	0.351421	41.54	11	0.095	0.294
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	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		1	
	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

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 WPDES	Conductivity	
LOCATION	Delavan, WI	ORP	
PERSONNEL	Dennis	DO	

SAMPLE POINT	SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	03/18/19				
CLOCK TIME (Military)	0919				
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)	5.3				
pH	7.73				
ELEC. COND. (uS/cm) Measured	1018				
ELEC. COND. (uS/cm) 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	3/18/19				
SAMPLER'S NAME	Dennis				

*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: 500-160175-1
Client Project/Site: Delavan Well #4 WPDES

For:
Pentair Water
293 Wright Street
Delavan, Wisconsin 53115

Attn: Dennis Schwind

Sandie Fredrick

Authorized for release by:
4/1/2019 4:37:25 PM

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

Table of Contents

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

TestAmerica Job ID: 500-160175-1

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: 500-160175-1

Job ID: 500-160175-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-160175-1

Comments
No additional comments.

Receipt
The samples were received on 3/19/2019 8:55 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.8º 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 ID: Test Blank

Lab Sample ID: 500-160175-1
Date Collected: 03/18/19 00:00
Matrix: Water
Date Received: 03/19/19 08:55

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			03/21/19 00:30	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			03/21/19 00:30	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			03/21/19 00:30	1
Trichloroethene	<0.16		0.50	0.16	ug/L			03/21/19 00:30	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			03/21/19 00:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 126*		*03/21/19 00:30*	*1*
4-Bromofluorobenzene (Surr)	*117*		*72 - 124*		*03/21/19 00:30*	*1*
Dibromofluoromethane	*94*		*75 - 120*		*03/21/19 00:30*	*1*
Toluene-d8 (Surr)	*94*		*75 - 120*		*03/21/19 00:30*	*1*

Client Sample ID: SS1

Lab Sample ID: 500-160175-2
Date Collected: 03/18/19 09:19
Matrix: Water
Date Received: 03/19/19 08:55

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			03/21/19 00:55	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			03/21/19 00:55	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			03/21/19 00:55	1
Trichloroethene	<0.16		0.50	0.16	ug/L			03/21/19 00:55	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			03/21/19 00:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 126*		*03/21/19 00:55*	*1*
4-Bromofluorobenzene (Surr)	*118*		*72 - 124*		*03/21/19 00:55*	*1*
Dibromofluoromethane	*94*		*75 - 120*		*03/21/19 00:55*	*1*
Toluene-d8 (Surr)	*94*		*75 - 120*		*03/21/19 00:55*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**11**		5.0	1.9	mg/L			03/22/19 12:56	1
Chloride	**230**		10	5.0	mg/L			03/21/19 14:05	5
Phosphorus as P	**0.095**		0.050	0.024	mg/L		03/29/19 08:51	04/01/19 11:24	1

Lab Chronicle

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

TestAmerica Job ID: 500-160175-1

Client Sample ID: Test Blank

Lab Sample ID: 500-160175-1

Date Collected: 03/18/19 00:00

Matrix: Water

Date Received: 03/19/19 08:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	477021	03/21/19 00:30	JLC	TAL CHI

Client Sample ID: SS1

Lab Sample ID: 500-160175-2

Date Collected: 03/18/19 09:19

Matrix: Water

Date Received: 03/19/19 08:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	477021	03/21/19 00:55	JLC	TAL CHI
Total/NA	Analysis	SM 2540D		1	477342		SMO	TAL CHI
					(Start)	03/22/19 12:56		
					(End)	03/22/19 12:57		
Total/NA	Analysis	SM 4500 Cl- E		5	477171	03/21/19 14:05	EAT	TAL CHI
Total/NA	Prep	SM 4500 P B			478312	03/29/19 08:51	BSW	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	478582		BSW	TAL CHI
					(Start)	04/01/19 11:24		
					(End)	04/01/19 11:24		

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: 500-160175-1

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	08-31-19

Method Summary

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

TestAmerica Job ID: 500-160175-1

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
5030B	Purge and Trap	SW846	TAL CHI
SM 4500 P B	Phosphorous, Total and Ortho	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: 500-160175-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-160175-1	Test Blank	Water	03/18/19 00:00	03/19/19 08:55
500-160175-2	SS1	Water	03/18/19 09:19	03/19/19 08:55

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Chain of Custody Record

Lab Job #: 500-160175

Chain of Custody Number:

Page _____ of _____

Temperature °C of Cooler: 3.8

Report To (optional)	Bill To (optional)
Contact: Max Geyer Mark Manthey Dennis Schwind	Contact:
Company: Pentair Flow Technologies LLC	Company:
Address: 293 Wright St	Address:
Address: Delavan WI 53115	Address:
Phone: 262-728-5551	Phone:
Fax:	Fax:
E-Mail:	PO#/Reference#

Client	Client Project #
Project Name: Delavan Well #4 WPDES	
Project Location/State: Delavan WI	Lab Project #
Sampler: Dennis	Lab PM

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 Date	Sampling Time	# of Containers	Matrix	Preservative	HCl	HCl	HCl	HCl	H_2SO_4				Comments
							Parameter	TCE	TCA	PCE	Vinyl chloride	Phosphorus	TSS	Chloride		
1		Test Blank			1			X	X	X	X	X	X	X		
2		SS1	03/18/19	0919	5	W										

500-160175 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	Company	Date	Time	Received By	Company	Date	Time
Dennis Schwind	Pentair	3-18-19	0940	[illegible]	TALHE	03/19/19	0855

Lab Courier
Shipped: FXSTD
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: 500-160175-1

Login Number: 160175
List Number: 1
Creator: Sanchez, Ariel M

List Source: TestAmerica Chicago

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	3.8
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 <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: 04/01/2019 - 04/30/2019
Form Due Date: 05/21/2019
Permit Number: 0055816

Date Received:	
DOC:	422710
FIN:	7072
FID:	265010900
Region:	Southeast Region
Permit Drafter:	Lisa J Creegan
Reviewer:	Nicholas M Lent
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	0.455397				
	2	0.455372				
	3	0.455150				
	4	0.455090				
	5	0.455019				
	6	0.454904				
	7	0.454799				
	8	0.454463				
	9	0.454154				
	10	0.454138				
	11	0.453951				
	12	0.453711				
	13	0.453553				
	14	0.453609				
	15	0.451751				
	16	0.451604				
	17	0.451462	53.60	<1.9	0.031	0.117
	18	0.451262				
	19	0.451266				
	20	0.451031				
	21	0.450851				
	22	0.451628				
	23	0.451565				
	24	0.451338				
	25	0.451246				
	26	0.451126				
	27	0.451109				
	28	0.450799				
	29	0.450483				
	30	0.450270				
	31					

	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
Summary Values	**Monthly Avg**	0.4527367	53.6	0	0.031	0.117
	Daily Max	0.455397	53.6	<1.9	0.031	0.117
	Daily Min	0.45027	53.6	<1.9	0.031	0.117
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	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	<0.37	0.50	<0.38	<0.20
	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		0.5		0		0	
	Daily Max	<0.37		0.5		<0.38		<0.2	
	Daily Min	<0.37		0.5		<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		1	
	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 rates were calculated from daily flow readings recorded by the Badger U500w ultrasonic meters installed on the discharge lines of the Delavan facility extraction wells.

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	HI98129
PROJECT NO.	Delavan Well #4 WPDES	Conductivity	HI 98129
LOCATION	Delavan, WI	ORP	
PERSONNEL	Dennis	DO	

SAMPLE POINT	SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	04/17/19				
CLOCK TIME (Military)	0905				
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)	12.0				
pH	7.57				
ELEC. COND. (uS/cm) Measured					
ELEC. COND. (uS/cm) at 25° C	1509				
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	4-17-19				
SAMPLER'S NAME	Dennis				

*Measured from top of well casing.

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

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

Laboratory Job ID: 500-161817-1
Client Project/Site: Delavan Well #4 WPDES

For:
Pentair Water
293 Wright Street
Delavan, Wisconsin 53115

Attn: Dennis Schwind

Sandie Fredrick

Authorized for release by:
4/30/2019 5:25:25 PM

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

Table of Contents

Definitions/Glossary

Client: Pentair Water
Job ID: 500-161817-1
Project/Site: Delavan Well #4 WPDES

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

Job ID: 500-161817-1

Job ID: 500-161817-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-161817-1

Comments
No additional comments.

Receipt
The samples were received on 4/18/2019 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.5º 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 ID: Trip Blank
Lab Sample ID: 500-161817-1
Date Collected: 04/17/19 09:05
Matrix: Water
Date Received: 04/18/19 09:00

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			04/23/19 23:41	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			04/23/19 23:41	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			04/23/19 23:41	1
Trichloroethene	<0.16		0.50	0.16	ug/L			04/23/19 23:41	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			04/23/19 23:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 126*		*04/23/19 23:41*	*1*
4-Bromofluorobenzene (Surr)	*115*		*72 - 124*		*04/23/19 23:41*	*1*
Dibromofluoromethane	*92*		*75 - 120*		*04/23/19 23:41*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*04/23/19 23:41*	*1*

Client Sample ID: SS1
Lab Sample ID: 500-161817-2
Date Collected: 04/17/19 00:00
Matrix: Water
Date Received: 04/18/19 09:00

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			04/24/19 00:56	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			04/24/19 00:56	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			04/24/19 00:56	1
Trichloroethene	**0.50**		0.50	0.16	ug/L			04/24/19 00:56	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			04/24/19 00:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 126*		*04/24/19 00:56*	*1*
4-Bromofluorobenzene (Surr)	*114*		*72 - 124*		*04/24/19 00:56*	*1*
Dibromofluoromethane	*93*		*75 - 120*		*04/24/19 00:56*	*1*
Toluene-d8 (Surr)	*95*		*75 - 120*		*04/24/19 00:56*	*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			04/23/19 11:56	1
Chloride	**300**		50	25	mg/L			04/23/19 15:00	25
Phosphorus as P	**0.031**	**J**	0.050	0.024	mg/L		04/29/19 18:50	04/30/19 16:31	1

Lab Chronicle

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

Job ID: 500-161817-1

Client Sample ID: Trip Blank

Lab Sample ID: 500-161817-1

Date Collected: 04/17/19 09:05

Matrix: Water

Date Received: 04/18/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	481842	04/23/19 23:41	JDD	TAL CHI

Client Sample ID: SS1

Lab Sample ID: 500-161817-2

Date Collected: 04/17/19 00:00

Matrix: Water

Date Received: 04/18/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	481842	04/24/19 00:56	JDD	TAL CHI
Total/NA	Analysis	SM 2540D		1	481743		SMO	TAL CHI
					(Start)	04/23/19 11:56		
					(End)	04/23/19 11:57		
Total/NA	Analysis	SM 4500 Cl- E		25	481827	04/23/19 15:00	EAT	TAL CHI
Total/NA	Prep	SM 4500 P B			482747	04/29/19 18:50	PFK	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	482924		PFK	TAL CHI
					(Start)	04/30/19 16:31		
					(End)	04/30/19 16:31		

Laboratory References:

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

Accreditation/Certification Summary

Client: Pentair Water
Job ID: 500-161817-1
Project/Site: Delavan Well #4 WPDES

Laboratory: Eurofins TestAmerica, Chicago

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

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

Method Summary

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

Job ID: 500-161817-1

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
5030B	Purge and Trap	SW846	TAL CHI
SM 4500 P B	Phosphorous, Total and Ortho	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 = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

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

Job ID: 500-161817-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-161817-1	Trip Blank	Water	04/17/19 09:05	04/18/19 09:00
500-161817-2	SS1	Water	04/17/19 00:00	04/18/19 09:00

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Chain of Custody Record

Lab Job #: 500-161817

Chain of Custody Number:

Page _____ of _____

Temperature °C of Cooler: 5.5

	(optional)		(optional)
Report To	Mark Manthey Max Geyer	Bill To	
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#	

Client	Client Project #	Preservative	HCl	HCl	HCl	HCl	H_2SO_4				
Pentair Flow Technologies LLC		Parameter	TCE	TCA	PCE	Vinyl Chloride	Phosphorus	TSS	Chloride		
Project Name: Delavan Well #4 WPDES											
Project Location/State: Delavan WI	Lab Project #										
Sampler: Dennis	Lab PM										

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix										Comments
1	⊕	Trip Blank	4-17-19	0905	1											
2	⊕	SS1			5	W	X	X	X	X	X	X	X			

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

500-161817 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	Company	Date	Time	Received By	Company	Date	Time
Dennis Schwind	Pentair	Apr. 17, 2019	0922	Erin Sauer	TALHS	04/18/19	0900
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:

TAL-4124-500 (1209)

4/30/2019


ORIGIN ID:JVLA (888) 472-0884
CUSTOMER SERVICE
PENTAIR FLOW TECHNOLOGIES
293 SOUTH WRIGHT STREET
DELAVAN, WI 53115
UNITED STATES US
SHIP DATE: 17APR19
ACTWGT: 28.95 LB MAN
CAD: 583065/CAFE3211
BILL SENDER
TO
TEST AMERICA
2417 BOND ST.
UNIVERSITY PARK IL 60484
REF: 2975-631100
FedEx
Express
THU - 18 APR 10:30A
PRIORITY OVERNIGHT
TRK# 0201 4929 3089 1510
79 JOTA
60484
IL-US ORD

16 qt.

Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-161817-1

Login Number: 161817
List Number: 1
Creator: Sanchez, Ariel M

List Source: Eurofins TestAmerica, Chicago

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	5.5
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 <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: 05/01/2019 - 05/31/2019
Form Due Date: 06/21/2019
Permit Number: 0055816

Date Received:	
DOC:	422711
FIN:	7072
FID:	265010900
Region:	Southeast Region
Permit Drafter:	Lisa J Creegan
Reviewer:	Nicholas M Lent
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	0.450223				
	2	0.449842				
	3	0.449531				
	4	0.449422				
	5	0.449249				
	6	0.448833				
	7	0.448692				
	8	0.448424				
	9	0.448183				
	10	0.448028				
	11	0.448141				
	12	0.448098				
	13	0.447863				
	14	0.447814				
	15	0.447710				
	16	0.447548				
	17	0.447278				
	18	0.447236				
	19	0.447204				
	20	0.446819				
	21	0.446719	54.5	<1.9	0.028	0.105
	22	0.446654				
	23	0.447694				
	24	0.447515				
	25	0.447442				
	26	0.447304				
	27	0.447284				
	28	0.447047				
	29	0.447016				
	30	0.446968				
	31	0.446972				

	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
Summary Values	**Monthly Avg**	0.447895258	54.5	0	0.028	0.105
	Daily Max	0.450223	54.5	<1.9	0.028	0.105
	Daily Min	0.446654	54.5	<1.9	0.028	0.105
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	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	0.48	0.49	<0.38	<0.20
	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**	0.48		0.49		0		0	
	Daily Max	0.48		0.49		<0.38		<0.2	
	Daily Min	0.48		0.49		<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		1	
	QC Exceedance	Y		Y		Y		Y	
	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 rates were calculated from daily flow readings recorded by the Badger U500w ultrasonic meters installed on the discharge lines of the Delavan facility extraction wells. The cellular communication with the meter on the discharge line of extraction well EX-1 was lost on May 24, 2019. The daily total system flow results from May 24 to May 31 use the average daily flow for EX-1 calculated from the May 1 through May 23 daily flow data from the EX-1 meter.

Laboratory Quality Control Comments

Phosphorus Result: J = Result is less than the LOQ but greater than the LOD and the concentration is an approximate value.
All VOCs Results: H = Sample was analyzed beyond the specified holding time because the analyst inadvertently spiked the original sample.
Tetrachloroethylene Result: J (see explanation above). B = Compound was found in the blank and sample.
Trichloroethylene Result: J (see explanation above).

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 WPDES	Conductivity	HI98129
LOCATION	Delavan, WI	ORP	
PERSONNEL	Dennis	DO	

SAMPLE POINT		SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)		05/21/19				
CLOCK TIME (Military)		1014				
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)		12.5				
pH		7.55				
ELEC. COND. (uS/cm)	Measured	1303				
	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	5/21/19				
SAMPLER'S NAME	Dennis				

*Measured from top of well casing.

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

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

Laboratory Job ID: 500-163822-1
Client Project/Site: Delavan Well #4 WPDES
Revision: 1

For:
Pentair Water
293 Wright Street
Delavan, Wisconsin 53115

Attn: Dennis Schwind

Sandie Fredrick

Authorized for release by:
6/13/2019 7:51:47 AM

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

Table of Contents

Definitions/Glossary

Client: Pentair Water
Job ID: 500-163822-1
Project/Site: Delavan Well #4 WPDES

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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

Job ID: 500-163822-1

Job ID: 500-163822-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-163822-1

Comments
No additional comments.

Receipt
The samples were received on 5/22/2019 10:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 9.7º C.

Receipt Exceptions
The following samples were received at the laboratory outside the required temperature criteria: Trip Blank (500-163822-1) and SS1 (500-163822-2).

REVISION: Sample was inadvertantly spiked. Updated VOC results in revision.

GC/MS VOA
Reanalysis of the following sample was performed outside of the analytical holding time due to the inital analysis reported to the client was spike with MegaMix standard. The sample was re-analyzed past Hold Time and an "H" flag added..

The method blank for 489807 contained Tetrachloroethene above the method detection limit and above the Reporting limit (RL). This target analyte concentration was less than the reporting limit (RL) in the associated sample; therefore, re-analysis of samples was not performed. Tetrachloroethene results have been flagged in the associated samples with a "B" flag denote the presence in the blank and possible lab contamination.

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

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

Client: Pentair Water
Job ID: 500-163822-1
Project/Site: Delavan Well #4 WPDES

Client Sample ID: Trip Blank
Lab Sample ID: 500-163822-1
Date Collected: 05/21/19 00:00
Matrix: Water
Date Received: 05/22/19 10:10

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			06/04/19 14:41	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/04/19 14:41	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/04/19 14:41	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/04/19 14:41	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			06/04/19 14:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*75 - 126*		*06/04/19 14:41*	*1*
4-Bromofluorobenzene (Surr)	*103*		*72 - 124*		*06/04/19 14:41*	*1*
Dibromofluoromethane	*93*		*75 - 120*		*06/04/19 14:41*	*1*
Toluene-d8 (Surr)	*86*		*75 - 120*		*06/04/19 14:41*	*1*

Client Sample ID: SS1
Lab Sample ID: 500-163822-2
Date Collected: 05/21/19 10:10
Matrix: Water
Date Received: 05/22/19 10:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38	H	1.0	0.38	ug/L			06/12/19 19:34	1
1,1,2-Trichloroethane	<0.35	H	1.0	0.35	ug/L			06/12/19 19:34	1
Tetrachloroethene	**0.48**	**J H B**	1.0	0.37	ug/L			06/12/19 19:34	1
Trichloroethene	**0.49**	**J H**	0.50	0.16	ug/L			06/12/19 19:34	1
Vinyl chloride	<0.20	H	1.0	0.20	ug/L			06/12/19 19:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 126*		*06/12/19 19:34*	*1*
4-Bromofluorobenzene (Surr)	*106*		*72 - 124*		*06/12/19 19:34*	*1*
Dibromofluoromethane	*107*		*75 - 120*		*06/12/19 19:34*	*1*
Toluene-d8 (Surr)	*90*		*75 - 120*		*06/12/19 19:34*	*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			05/28/19 13:57	1
Chloride	**210**		10	5.0	mg/L			06/04/19 12:03	5
Phosphorus as P	**0.028**	**J**	0.050	0.024	mg/L		06/04/19 08:50	06/04/19 14:21	1

Lab Chronicle

Client: Pentair Water
Job ID: 500-163822-1
Project/Site: Delavan Well #4 WPDES

Client Sample ID: Trip Blank
Lab Sample ID: 500-163822-1
Date Collected: 05/21/19 00:00
Matrix: Water
Date Received: 05/22/19 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	488478	06/04/19 14:41	JLC	TAL CHI

Client Sample ID: SS1
Lab Sample ID: 500-163822-2
Date Collected: 05/21/19 10:10
Matrix: Water
Date Received: 05/22/19 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	489807	06/12/19 19:34	PMF	TAL CHI
Total/NA	Analysis	SM 2540D		1	487455		SMO	TAL CHI
					(Start)	05/28/19 13:57		
					(End)	05/28/19 13:58		
Total/NA	Analysis	SM 4500 Cl- E		5	488597	06/04/19 12:03	EAT	TAL CHI
Total/NA	Prep	SM 4500 P B			488527	06/04/19 08:50	BSW	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	488650		BSW	TAL CHI
					(Start)	06/04/19 14:21		
					(End)	06/04/19 14:21		

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

Accreditation/Certification Summary

Client: Pentair Water
Job ID: 500-163822-1
Project/Site: Delavan Well #4 WPDES

Laboratory: Eurofins TestAmerica, Chicago

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

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

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

Method Summary

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

Job ID: 500-163822-1

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
5030B	Purge and Trap	SW846	TAL CHI
SM 4500 P B	Phosphorous, Total and Ortho	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 = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

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

Job ID: 500-163822-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-163822-1	Trip Blank	Water	05/21/19 00:00	05/22/19 10:10	
500-163822-2	SS1	Water	05/21/19 10:10	05/22/19 10:10	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Chain of Custody Record

Lab Job #: 500 163822

Chain of Custody Number:

Page _____ of _____

Temperature °C of Cooler: 9.7

(optional)		(optional)	
Report To	Mark Manthey Max Beyer Dennis Schwind	Bill To	
Contact:		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#	

Client: Pentair Flow Technologies LLC
Client Project #:
Project Name: Delavan Well #4 WPDES
Project Location/State: Delavan WI
Lab Project #:
Sampler: Dennis
Lab PM:

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Preservative	HCl	HCl	HCl	HCl	H_2SO_4				
							Parameter	TCE	TCA	PCE	Vinyl Chloride	Phosphorus	TSS	Chloride		
1		Trip Blank	5-21-19	1010	1			X	X	X	X	X	X	X		
2		391			5	W										

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

Comments

500-163822 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	Company	Date	Time	Received By	Company	Date	Time
Dennis Schwind	Pentair	5-21-19	1025	Mike Fiorentino	TAALE	05/22/19	1010
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:

TAL-4124-500 (1209)

Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-163822-1

Login Number: 163822
List Number: 1
Creator: Fioravanti, Ariel M

List Source: Eurofins TestAmerica, Chicago

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	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	9.7
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: 06/01/2019 - 06/30/2019
Form Due Date: 07/21/2019
Permit Number: 0055816

Date Received:	
DOC:	422712
FIN:	7072
FID:	265010900
Region:	Southeast Region
Permit Drafter:	Lisa J Creegan
Reviewer:	Nicholas M Lent
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	0.446776				
	2	0.446673				
	3	0.446635				
	4	0.446447				
	5	0.446356				
	6	0.446120				
	7	0.446095	68.54	6.5	0.044	0.161
	8	0.446037				
	9	0.446006				
	10	0.445901				
	11	0.441165				
	12	0.434072				
	13	0.433679				
	14	0.433535				
	15	0.433943				
	16	0.432793				
	17	0.433451				
	18	0.433398				
	19	0.433744				
	20	0.433063				
	21	0.432102				
	22	0.431665				
	23	0.431761				
	24	0.432364				
	25	0.431904				
	26	0.431977				
	27	0.432245				
	28	0.433114				
	29	0.432982				
	30	0.432780				
	31					

	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
Summary Values	**Monthly Avg**	0.4376261	68.54	6.5	0.044	0.161
	Daily Max	0.446776	68.54	6.5	0.044	0.161
	Daily Min	0.431665	68.54	6.5	0.044	0.161
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	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	<0.37	<0.16	<0.38	<0.20
	8				
	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		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		1	
	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 cellular communication with meter on the discharge line of extraction well EX-1 was lost on May 24, 2019. The daily total system flow results for June use the average daily flow for EX-1 calculated from the May 1 through May 23 daily flow data from the EX-1 meter plus the daily flow readings from the meters installed on the discharge lines of the six other site extraction wells (EX-2R, EX-3R, EX-4R, EX-5R, EX-6 and EX-7R). The City of Delavan was discharging water from a storm water retention pond to the storm sewer from which the Sample Point 001 sample is collected, which is the likely cause for the higher than normal total suspended solids concentration in the June 7 sample.

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	HI98129
PROJECT NO.	Delavan Well #4 WADES	Conductivity	
LOCATION	Delavan, WI	ORP	
PERSONNEL	Dennis	DO	

SAMPLE POINT	SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	06/07/19				
CLOCK TIME (Military)	1000				
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)	20.3				
pH	7.63				
ELEC. COND. (uS/cm) Measured	850				
ELEC. COND. (uS/cm) 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	6-7-19				
SAMPLER'S NAME	Dennis				

*Measured from top of well casing.

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

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

Laboratory Job ID: 500-164774-1
Client Project/Site: Delavan Well #4 WPDES

For:
Pentair Water
293 Wright Street
Delavan, Wisconsin 53115

Attn: Dennis Schwind

Authorized for release by:
6/24/2019 5:03:15 PM

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

Table of Contents

Definitions/Glossary

Client: Pentair Water
Job ID: 500-164774-1
Project/Site: Delavan Well #4 WPDES

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

Job ID: 500-164774-1

Job ID: 500-164774-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-164774-1

Comments
No additional comments.

Receipt
The samples were received on 6/10/2019 10:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 20.4º C.

Receipt Exceptions
The following samples were received at the laboratory outside the required temperature criteria: SS1 (500-164774-1) and Test Blank (500-164774-2).

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 ID: SS1

Lab Sample ID: 500-164774-1
Date Collected: 06/07/19 10:00
Matrix: Water
Date Received: 06/10/19 10:15

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			06/20/19 18:40	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/20/19 18:40	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/20/19 18:40	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/20/19 18:40	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			06/20/19 18:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 126*		*06/20/19 18:40*	*1*
4-Bromofluorobenzene (Surr)	*103*		*72 - 124*		*06/20/19 18:40*	*1*
Dibromofluoromethane	*98*		*75 - 120*		*06/20/19 18:40*	*1*
Toluene-d8 (Surr)	*102*		*75 - 120*		*06/20/19 18:40*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**6.5**		5.0	1.9	mg/L			06/13/19 06:11	1
Chloride	**170**		10	5.0	mg/L			06/17/19 20:53	5
Phosphorus as P	**0.044**	**J**	0.050	0.024	mg/L		06/17/19 08:16	06/19/19 14:31	1

Client Sample ID: Test Blank

Lab Sample ID: 500-164774-2
Date Collected: 06/07/19 00:00
Matrix: Water
Date Received: 06/10/19 10:15

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			06/20/19 19:05	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/20/19 19:05	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/20/19 19:05	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/20/19 19:05	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			06/20/19 19:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 126*		*06/20/19 19:05*	*1*
4-Bromofluorobenzene (Surr)	*103*		*72 - 124*		*06/20/19 19:05*	*1*
Dibromofluoromethane	*97*		*75 - 120*		*06/20/19 19:05*	*1*
Toluene-d8 (Surr)	*101*		*75 - 120*		*06/20/19 19:05*	*1*

Lab Chronicle

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

Job ID: 500-164774-1

Client Sample ID: SS1

Lab Sample ID: 500-164774-1

Date Collected: 06/07/19 10:00

Matrix: Water

Date Received: 06/10/19 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	491112	06/20/19 18:40	EMA	TAL CHI
Total/NA	Analysis	SM 2540D		1	489994		CLB	TAL CHI
					(Start)	06/13/19 06:11		
					(End)	06/13/19 06:14		
Total/NA	Analysis	SM 4500 Cl- E		5	490689	06/17/19 20:53	EAT	TAL CHI
Total/NA	Prep	SM 4500 P B			490559	06/17/19 08:16	BSW	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	491046		BSW	TAL CHI
					(Start)	06/19/19 14:31		
					(End)	06/19/19 14:32		

Client Sample ID: Test Blank

Lab Sample ID: 500-164774-2

Date Collected: 06/07/19 00:00

Matrix: Water

Date Received: 06/10/19 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	491112	06/20/19 19:05	EMA	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

Client: Pentair Water
Job ID: 500-164774-1
Project/Site: Delavan Well #4 WPDES

Laboratory: Eurofins TestAmerica, Chicago

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

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

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

Method Summary

Client: Pentair Water
Job ID: 500-164774-1
Project/Site: Delavan Well #4 WPDES

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
5030B	Purge and Trap	SW846	TAL CHI
SM 4500 P B	Phosphorous, Total and Ortho	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 = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

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

Job ID: 500-164774-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-164774-1	SS1	Water	06/07/19 10:00	06/10/19 10:15	
500-164774-2	Test Blank	Water	06/07/19 00:00	06/10/19 10:15	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 604
Phone: 708.534.5200 Fax: 708.534.

500-164774 COC

	(optional)		(optional)
Report To	Mark Manthey Dennis Schwoich	Bill To	
Contact:	May Beyer	Contact:	
Company:	Pentair Flow Technologies LLC	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 #: 500-164774

Chain of Custody Number:

Page ____ of ____

Temperature °C of Cooler: 20.4

Client: Pentair Flow Technologies LLC
Client Project #:
Project Name: Delavan Well #4 WPDES
Project Location/State: Delavan WI
Lab Project #:
Sampler: Dennis
Lab PM:

Preservative	HCl	HCl	HCl	HCl	H2SO4	X	X		
Parameter	TCE	TCA	PCE	Vinyl Chloride	Phosphorus	TSS	Chloride		

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	TCE	TCA	PCE	Vinyl Chloride	Phosphorus	TSS	Chloride			Comments
1		SS1	6/7/19	1000	5	W	X	X	X	X	X	X	X			
2		Test Blank			1											

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)
___ 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	Company	Date	Time	Received By	Company	Date	Time
Dennis [signature]	Pentair	6/7/19	1008	[signature]	TA-Chi	6/10/19	1015

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:

TAL-4124-500 (1209)

500-164774 Waybill

Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-164774-1

Login Number: 164774
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

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.	False	Water present in cooler; indicates evidence of melted ice.
Cooler Temperature is acceptable.	False	
Cooler Temperature is recorded.	True	20.4
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: 07/01/2019 - 07/31/2019
Form Due Date: 08/21/2019
Permit Number: 0055816

Date Received:	
DOC:	429596
FIN:	7072
FID:	265010900
Region:	Southeast Region
Permit Drafter:	Lisa J Creegan
Reviewer:	Nicholas M Lent
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	0.432797				
	2	0.432884				
	3	0.432646				
	4	0.432510				
	5	0.432445				
	6	0.432129				
	7	0.431523				
	8	0.431884				
	9	0.431754				
	10	0.431680				
	11	0.431508				
	12	0.431254				
	13	0.431247				
	14	0.431053				
	15	0.430752				
	16	0.430686				
	17	0.430511				
	18	0.430357				
	19	0.430647				
	20	0.430607				
	21	0.430524				
	22	0.430136				
	23	0.429684	56.59	<1.9	0.054	0.194
	24	0.429606				
	25	0.429548				
	26	0.429362				
	27	0.429209				
	28	0.429060				
	29	0.428815				
	30	0.428505				
	31	0.427956				

	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
Summary Values	**Monthly Avg**	0.430750935	56.59	0	0.054	0.194
	Daily Max	0.432884	56.59	<1.9	0.054	0.194
	Daily Min	0.427956	56.59	<1.9	0.054	0.194
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	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	<0.37	0.51	<0.38	<0.20
	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		0.51		0		0	
	Daily Max	<0.37		0.51		<0.38		<0.2	
	Daily Min	<0.37		0.51		<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		1	
	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 rates were calculated from daily flow readings recorded by the Badger U500w ultrasonic meters installed on the discharge lines of the Delavan facility extraction wells.

The cellular communication with the meter on the discharge line of extraction well EX-1 was lost on May 24, 2019. The daily total system flow results for July use the average daily flow for EX-1 calculated from the May 1 through May 23 daily flow data from the EX-1 meter plus the daily flow readings from the meters installed on the discharge lines of the six other site extraction wells (EX-2R, EX-3R, EX-4R, EX-5R and EX-6).

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 WPDES	Conductivity	
LOCATION	Delavan, WI	ORP	
PERSONNEL	Dennis	DO	

SAMPLE POINT	SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	7/23/19				
CLOCK TIME (Military)	1120				
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)	16.1				
pH	7.47				
ELEC. COND. (uS/cm) Measured at 25° C	1366				
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	7/23/19				
SAMPLER'S NAME	Dennis				

*Measured from top of well casing.

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

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

Laboratory Job ID: 500-167150-1
Client Project/Site: Delavan Well #4 WPDES

For:
Pentair Water
293 Wright Street
Delavan, Wisconsin 53115

Attn: Dennis Schwind

Sandie Fredrick

Authorized for release by:
8/6/2019 1:21:11 PM

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

Table of Contents

Definitions/Glossary

Client: Pentair Water
Job ID: 500-167150-1
Project/Site: Delavan Well #4 WPDES

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

Job ID: 500-167150-1

Job ID: 500-167150-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-167150-1

Comments
No additional comments.

Receipt
The samples were received on 7/24/2019 8:07 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.6º 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: Pentair Water
Job ID: 500-167150-1
Project/Site: Delavan Well #4 WPDES

Client Sample ID: SS1
Lab Sample ID: 500-167150-1
Date Collected: 07/23/19 11:20
Matrix: Water
Date Received: 07/24/19 08:07

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			07/27/19 18:59	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/27/19 18:59	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/27/19 18:59	1
Trichloroethene	**0.51**		0.50	0.16	ug/L			07/27/19 18:59	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/27/19 18:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 126*		*07/27/19 18:59*	*1*
4-Bromofluorobenzene (Surr)	*114*		*72 - 124*		*07/27/19 18:59*	*1*
Dibromofluoromethane	*100*		*75 - 120*		*07/27/19 18:59*	*1*
Toluene-d8 (Surr)	*95*		*75 - 120*		*07/27/19 18:59*	*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			07/25/19 12:12	1
Chloride	**240**		10	5.0	mg/L			07/26/19 14:39	5
Phosphorus as P	**0.054**		0.050	0.024	mg/L		08/01/19 14:45	08/05/19 13:58	1

Client Sample ID: Test Blank
Lab Sample ID: 500-167150-2
Date Collected: 07/23/19 00:00
Matrix: Water
Date Received: 07/24/19 08:07

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			07/27/19 17:43	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/27/19 17:43	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/27/19 17:43	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/27/19 17:43	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/27/19 17:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 126*		*07/27/19 17:43*	*1*
4-Bromofluorobenzene (Surr)	*115*		*72 - 124*		*07/27/19 17:43*	*1*
Dibromofluoromethane	*101*		*75 - 120*		*07/27/19 17:43*	*1*
Toluene-d8 (Surr)	*95*		*75 - 120*		*07/27/19 17:43*	*1*

Lab Chronicle

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

Job ID: 500-167150-1

Client Sample ID: SS1

Lab Sample ID: 500-167150-1

Date Collected: 07/23/19 11:20

Matrix: Water

Date Received: 07/24/19 08:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496983	07/27/19 18:59	PMF	TAL CHI
Total/NA	Analysis	SM 2540D		1	496624		SMO	TAL CHI
					(Start)	07/25/19 12:12		
					(End)	07/25/19 12:13		
Total/NA	Analysis	SM 4500 Cl- E		5	496903	07/26/19 14:39	EAT	TAL CHI
Total/NA	Prep	SM 4500 P B			497926	08/01/19 14:45	AS	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	498237		PFK	TAL CHI
					(Start)	08/05/19 13:58		
					(End)	08/05/19 13:59		

Client Sample ID: Test Blank

Lab Sample ID: 500-167150-2

Date Collected: 07/23/19 00:00

Matrix: Water

Date Received: 07/24/19 08:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496983	07/27/19 17:43	PMF	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

Client: Pentair Water
Job ID: 500-167150-1
Project/Site: Delavan Well #4 WPDES

Laboratory: Eurofins TestAmerica, Chicago

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

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

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

Method Summary

Client: Pentair Water
Job ID: 500-167150-1
Project/Site: Delavan Well #4 WPDES

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
5030B	Purge and Trap	SW846	TAL CHI
SM 4500 P B	Phosphorous, Total and Ortho	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 = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: Pentair Water
Job ID: 500-167150-1
Project/Site: Delavan Well #4 WPDES

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-167150-1	SS1	Water	07/23/19 11:20	07/24/19 08:07	
500-167150-2	Test Blank	Water	07/23/19 00:00	07/24/19 08:07	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Chain of Custody Record

Lab Job #: 500-167150

Chain of Custody Number:

Page _____ of _____

Temperature °C of Cooler: 4.6

(optional)		(optional)	
Report To	Mark Manthey Dennis Schwind	Bill To	
Contact:	Mary Geyer	Contact:	
Company:	Pentair Flow Technologies, LLC	Company:	
Address:	293 Wright St	Address:	
Address:	Delavan WI 53115	Address:	
Phone:	262-728-5551	Phone:	
Fax:		Fax:	
E-Mail:		PO#/Reference#	

Client	Pentair Flow Technologies LLC
Client Project #	
Project Name	Delavan Well #4 WPDES
Project Location/State	Delavan WI
Lab Project #	
Sampler	Dennis
Lab PM	

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

500-167150 COC

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Preservative	HCl	HCl	HCl	HCl	H_2SO_4				Comments
							Parameter	TCE	TCA	PCE	Vinyl Chloride	Phosphorus	TSS	Chloride		
1		SS1	7/23/19	1120	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	Company	Date	Time	Received By	Company	Date	Time
	Pentair	7-23-19	1130	Paula Buckley	TACH	7/24/19	0807

Lab Courier ☐

Shipped 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:

TAL-4124-500 (1209)

8/6/2019

Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-167150-1

Login Number: 167150
List Number: 1
Creator: Buckley, Paula M

List Source: Eurofins TestAmerica, Chicago

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	4.6
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: 08/01/2019 - 08/31/2019
Form Due Date: 09/21/2019
Permit Number: 0055816

Date Received:	
DOC:	429597
FIN:	7072
FID:	265010900
Region:	Southeast Region
Permit Drafter:	Lisa J Creegan
Reviewer:	Nicholas M Lent
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	0.427803				
	2	0.427466				
	3	0.427583				
	4	0.427207				
	5	0.427346				
	6	0.426579				
	7	0.425882				
	8	0.425645				
	9	0.425469				
	10	0.425404				
	11	0.425681				
	12	0.425542	60.98	<1.9	0.038	0.135
	13	0.425418				
	14	0.425195				
	15	0.425006				
	16	0.424834				
	17	0.424533				
	18	0.424484				
	19	0.424162				
	20	0.424152				
	21	0.424147				
	22	0.423867				
	23	0.423583				
	24	0.423271				
	25	0.423146				
	26	0.422992				
	27	0.422896				
	28	0.414829				
	29	0.422697				
	30	0.422570				
	31	0.422416				

	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
Summary Values	**Monthly Avg**	0.424574355	60.98	0	0.038	0.135
	Daily Max	0.427803	60.98	<1.9	0.038	0.135
	Daily Min	0.414829	60.98	<1.9	0.038	0.135
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	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	<0.37	0.66	<0.38	<0.20
	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		0.66		0		0	
	Daily Max	<0.37		0.66		<0.38		<0.2	
	Daily Min	<0.37		0.66		<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		1	
	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 rates were calculated from daily flow readings recorded by the Badger U500w ultrasonic meters installed on the discharge lines of the Delavan facility extraction wells. The cellular communication with the meter on the discharge line of extraction well EX-1 was lost on May 24, 2019. The daily total system flow results use the average daily flow for EX-1 calculated from the May 1 through May 23 daily flow data from the EX-1 meter.

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	Dennis	DO	

SAMPLE POINT		SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)		08/12/64				
CLOCK TIME (Military)		1035				
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)		16.1				
pH		7.47				
ELEC. COND. (uS/cm)	Measured	1495				
	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	8/12/19				
SAMPLER'S NAME	Dennis				

*Measured from top of well casing.

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

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

Laboratory Job ID: 500-168197-1
Client Project/Site: Delavan Well #4 WPDES

For:
Pentair Water
293 Wright Street
Delavan, Wisconsin 53115

Attn: Dennis Schwind

Sandie Fredrick

Authorized for release by:
8/26/2019 5:10:29 PM

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

Table of Contents

Definitions/Glossary

Client: Pentair Water
Job ID: 500-168197-1
Project/Site: Delavan Well #4 WPDES

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)

Job ID: 500-168197-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-168197-1

Comments
No additional comments.

Receipt
The samples were received on 8/13/2019 8:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.5º C.

GC/MS VOA
The MSD (matrix spike duplicate) in batch 499990 was analyzed 10 minutes outside the method specified 12 hour tune time. SS1 (500-168197-1) and Trip Blank (500-168197-2)

No additional analytical or quality issues were noted, other than those described above or 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 ID: SS1
Lab Sample ID: 500-168197-1
Date Collected: 08/12/19 10:35
Matrix: Water
Date Received: 08/13/19 08:50

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			08/16/19 03:28	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			08/16/19 03:28	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			08/16/19 03:28	1
Trichloroethene	**0.66**		0.50	0.16	ug/L			08/16/19 03:28	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			08/16/19 03:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*113*		*75 - 126*		*08/16/19 03:28*	*1*
4-Bromofluorobenzene (Surr)	*111*		*72 - 124*		*08/16/19 03:28*	*1*
Dibromofluoromethane	*101*		*75 - 120*		*08/16/19 03:28*	*1*
Toluene-d8 (Surr)	*101*		*75 - 120*		*08/16/19 03:28*	*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			08/16/19 10:06	1
Chloride	**270**		10	5.0	mg/L			08/20/19 18:42	5
Phosphorus as P	**0.038**	**J**	0.050	0.024	mg/L		08/25/19 12:05	08/26/19 14:33	1

Client Sample ID: Trip Blank
Lab Sample ID: 500-168197-2
Date Collected: 08/12/19 00:00
Matrix: Water
Date Received: 08/13/19 08:50

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			08/15/19 23:20	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			08/15/19 23:20	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			08/15/19 23:20	1
Trichloroethene	<0.16		0.50	0.16	ug/L			08/15/19 23:20	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			08/15/19 23:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 126*		*08/15/19 23:20*	*1*
4-Bromofluorobenzene (Surr)	*109*		*72 - 124*		*08/15/19 23:20*	*1*
Dibromofluoromethane	*100*		*75 - 120*		*08/15/19 23:20*	*1*
Toluene-d8 (Surr)	*103*		*75 - 120*		*08/15/19 23:20*	*1*

Lab Chronicle

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

Job ID: 500-168197-1

Client Sample ID: SS1

Lab Sample ID: 500-168197-1

Date Collected: 08/12/19 10:35

Matrix: Water

Date Received: 08/13/19 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	499990	08/16/19 03:28	JDD	TAL CHI
Total/NA	Analysis	SM 2540D		1	500083		SMO	TAL CHI
					(Start)	08/16/19 10:06		
					(End)	08/16/19 10:07		
Total/NA	Analysis	SM 4500 Cl- E		5	500739	08/20/19 18:42	EAT	TAL CHI
Total/NA	Prep	SM 4500 P B			501530	08/25/19 12:05	JMP	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	501712		JMP	TAL CHI
					(Start)	08/26/19 14:33		
					(End)	08/26/19 14:33		

Client Sample ID: Trip Blank

Lab Sample ID: 500-168197-2

Date Collected: 08/12/19 00:00

Matrix: Water

Date Received: 08/13/19 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	499990	08/15/19 23:20	JDD	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

Client: Pentair Water
Job ID: 500-168197-1
Project/Site: Delavan Well #4 WPDES

Laboratory: Eurofins TestAmerica, Chicago

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

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

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

Method Summary

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

Job ID: 500-168197-1

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
5030B	Purge and Trap	SW846	TAL CHI
SM 4500 P B	Phosphorous, Total and Ortho	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 = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

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

Job ID: 500-168197-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-168197-1	SS1	Water	08/12/19 10:35	08/13/19 08:50	
500-168197-2	Trip Blank	Water	08/12/19 00:00	08/13/19 08:50	

TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 60
Phone: 708.534.5200 Fax: 708.534

500-168197 COC

(optional)

Report To: Mark Manthey Dennis Schwind
Contact: Mark Geyer
Company: Pentair Flow Technologies LLC
Address: 293 Wright St.
Address: Delavan WI 53115
Phone: 262-728-5551
Fax:
E-Mail:

(optional)

Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-168197

Chain of Custody Number:

Page ____ of ____

Temperature °C of Cooler: 3.5

Client: Pentair Flow Technologies LLC
Client Project #:
Project Name: Delavan Well #4 WPDES
Project Location/State: Delavan WI
Lab Project #:
Sampler: Dennis
Lab PM:

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 Date	Sampling Time	# of Containers	Matrix	Preservative	HCl	HCl	HCl	HCl	H_2SO_4				Comments
							Parameter	TCE	TCA	PCE	Vinyl Chloride	Phosphorus	TSS	Chloride		
1		SS1	8/12/19	1035	5	W		X	X	X	X	X	X	X		
2		Trip Blank			1	W										

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	Company	Date	Time	Received By	Company	Date	Time
[signature]	Pentair	8/12/19	1100	[signature]	TA-CHI	8/13/19	0850
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:

TAL-4124-500 (1209)

8/26/2019

Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-168197-1

Login Number: 168197
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

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	3.5
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 <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: 09/01/2019 - 09/30/2019
Form Due Date: 10/21/2019
Permit Number: 0055816

Date Received:	
DOC:	429598
FIN:	7072
FID:	265010900
Region:	Southeast Region
Permit Drafter:	Lisa J Creegan
Reviewer:	Nicholas M Lent
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	0.422080				
	2	0.421923				
	3	0.421922				
	4	0.421688				
	5	0.421272				
	6	0.421252				
	7	0.420938				
	8	0.420754				
	9	0.420746				
	10	0.420709				
	11	0.420708				
	12	0.420663				
	13	0.420663				
	14	0.420742				
	15	0.420908				
	16	0.420900				
	17	0.420814				
	18	0.420803				
	19	0.420830				
	20	0.420744				
	21	0.420952				
	22	0.420948				
	23	0.420378				
	24	0.420271	62.06	48	0.61	2.141
	25	0.420398				
	26	0.420277				
	27	0.420137				
	28	0.420070				
	29	0.420172				
	30	0.420577				
	31					

	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
Summary Values	**Monthly Avg**	0.4208413	62.06	48	0.61	2.141
	Daily Max	0.42208	62.06	48	0.61	2.141
	Daily Min	0.42007	62.06	48	0.61	2.141
Limit(s) in Effect	**Monthly Avg**				0.24 1	
QA/QC Information	**LOD**			1.9	0.024	
	LOQ			5	0.05	
	QC Exceedance	N	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				
	19				
	20				
	21				
	22				
	23				
	24	<0.37	<0.16	<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		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		1	
	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 rates were calculated from daily flow readings recorded by the Badger U500w ultrasonic meters installed on the discharge lines of the Delavan facility extraction wells.
The cellular communication with the meter on the discharge line of extraction well EX-1 was lost on May 24, 2019. A new cellular endpoint was installed on the EX-1 meter on September 17. The daily total system flow results from September 1 to September 17 use the average daily flow for EX-1 calculated from the September 18 through September 30 daily flow data from the EX-1 meter.

Laboratory Quality Control Comments

Exceedence Comments

The total phosphorus concentration in the September 24 001 storm sewer outfall sample exceeded its discharge limit. This is the first time the total phosphorus discharge limit has been exceeded in a 001 storm sewer outfall sample. The cause for the noncompliance is due to the discharge of surface water from a retention pond located south of the Pentair Delavan facility via a 24-inch overflow pipe that gravity feeds to the storm sewer from which the 001 storm sewer outfall sample is collected. The overflow from the retention pond was caused by the large precipitation events that occurred over several days in mid-September. The duration of the noncompliance is therefore estimated to be from September 12, when approximately 4 inches of rain fell over the area, through September 30. The October effluent sample will be collected at a time when no surface water is observed being discharged from the retention pond overflow pipe to the storm sewer to document the total phosphorus concentration in the effluent from the Delavan facility groundwater extraction wells with no contribution from the retention pond discharge.

Submitted by Mark Manthey(mmanthey) on 10/18/2019 3:24:27 PM

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	Dennis	DO	

SAMPLE POINT		SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)		9/24/19				
CLOCK TIME (Military)		0855				
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)		16.7				
pH		7.64				
ELEC. COND. (uS/cm)	Measured	864				
	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		Cloudy				
ODOR		None				
CLARITY		Cloudy				

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	9/24/19				
SAMPLER'S NAME	Dennis				

*Measured from top of well casing.

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

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

Laboratory Job ID: 500-170638-1
Client Project/Site: Delavan Well #4 WPDES

For:
Pentair Water
293 Wright Street
Delavan, Wisconsin 53115

Attn: Dennis Schwind

Sandie Fredrick

Authorized for release by:
10/14/2019 5:07:07 PM

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

Table of Contents

Definitions/Glossary

Client: Pentair Water
Job ID: 500-170638-1
Project/Site: Delavan Well #4 WPDES

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

Job ID: 500-170638-1

Job ID: 500-170638-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-170638-1

Comments
No additional comments.

Receipt
The samples were received on 9/25/2019 9:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 7.6º 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
Job ID: 500-170638-1
Project/Site: Delavan Well #4 WPDES

Client Sample ID: SS1
Lab Sample ID: 500-170638-1
Date Collected: 09/24/19 08:55
Matrix: Water
Date Received: 09/25/19 09:10

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			10/07/19 13:19	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			10/07/19 13:19	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			10/07/19 13:19	1
Trichloroethene	<0.16		0.50	0.16	ug/L			10/07/19 13:19	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			10/07/19 13:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*75 - 126*		*10/07/19 13:19*	*1*
4-Bromofluorobenzene (Surr)	*93*		*72 - 124*		*10/07/19 13:19*	*1*
Dibromofluoromethane	*98*		*75 - 120*		*10/07/19 13:19*	*1*
Toluene-d8 (Surr)	*99*		*75 - 120*		*10/07/19 13:19*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**48**		5.0	1.9	mg/L			10/01/19 12:09	1
Chloride	**90**		10	5.0	mg/L			10/05/19 15:32	5
Phosphorus as P	**0.61**		0.050	0.024	mg/L		10/10/19 14:00	10/14/19 16:23	1

Client Sample ID: Trip Blank
Lab Sample ID: 500-170638-2
Date Collected: 09/24/19 00:00
Matrix: Water
Date Received: 09/25/19 09:10

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			10/07/19 12:31	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			10/07/19 12:31	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			10/07/19 12:31	1
Trichloroethene	<0.16		0.50	0.16	ug/L			10/07/19 12:31	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			10/07/19 12:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*75 - 126*		*10/07/19 12:31*	*1*
4-Bromofluorobenzene (Surr)	*92*		*72 - 124*		*10/07/19 12:31*	*1*
Dibromofluoromethane	*97*		*75 - 120*		*10/07/19 12:31*	*1*
Toluene-d8 (Surr)	*99*		*75 - 120*		*10/07/19 12:31*	*1*

Lab Chronicle

Client: Pentair Water
Job ID: 500-170638-1
Project/Site: Delavan Well #4 WPDES

Client Sample ID: SS1
Lab Sample ID: 500-170638-1
Date Collected: 09/24/19 08:55
Matrix: Water
Date Received: 09/25/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	508643	10/07/19 13:19	JLC	TAL CHI
Total/NA	Analysis	SM 2540D		1	507745		SMO	TAL CHI
					(Start)	10/01/19 12:09		
					(End)	10/01/19 12:10		
Total/NA	Analysis	SM 4500 Cl- E		5	508567	10/05/19 15:32	EAT	TAL CHI
Total/NA	Prep	SM 4500 P B			509478	10/10/19 14:00	TT	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	509973	10/14/19 16:23	PFK	TAL CHI

Client Sample ID: Trip Blank
Lab Sample ID: 500-170638-2
Date Collected: 09/24/19 00:00
Matrix: Water
Date Received: 09/25/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	508643	10/07/19 12:31	JLC	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

Client: Pentair Water
Job ID: 500-170638-1
Project/Site: Delavan Well #4 WPDES

Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State Program	999580010	08-31-20

Method Summary

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

Job ID: 500-170638-1

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
5030B	Purge and Trap	SW846	TAL CHI
SM 4500 P B	Phosphorous, Total and Ortho	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 = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

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

Job ID: 500-170638-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-170638-1	SS1	Water	09/24/19 08:55	09/25/19 09:10	
500-170638-2	Trip Blank	Water	09/24/19 00:00	09/25/19 09:10	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

Chain of Custody Record

Lab Job #: 500-170638

Chain of Custody Number:

Page _____ of _____

Temperature °C of Cooler: 7.6

	(optional)		(optional)
Report To	Mark Matthey	Bill To	
Contact:	Max Geyer Dennis Schwind	Contact:	
Company:	Pentair Flow Technologies LLC	Company:	
Address:	293 Wright St.	Address:	
Address:	Delavan WI 53115	Address:	
Phone:	262-728-5551	Phone:	500-170638 COC
Fax:		Fax:	
E-Mail:		PO#/Reference#	

Client	Client Project #	Preservative	HCl	HCl	HCl	HCl	H_2SO_4				
Pentair Flow Technologies LLC		Parameter	TCE	TCA	PCE	Vinyl Chloride	Phosphorus	TSS	Chloride		
Project Name: Delavan Well #4/WPDES											
Project Location/State: Delavan WI	Lab Project #: Delavan Well #4/WPDES										
Sampler: Dennis	Lab PM										

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix										Comments
1		SS1	9-24-19	0855	5	W	X	X	X	X	X	X	X			
2		Trip Blank			1	W										

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)

___ 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	Company	Date	Time	Received By	Company	Date	Time
Dennis Schwind	Pentair	9-24-19	0910		TA	9-25-19	0910
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:

TAL-4124-500 (1209)

10/14/2019

Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-170638-1

Login Number: 170638
List Number: 1
Creator: James, Jeff A

List Source: Eurofins TestAmerica, Chicago

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	7.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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: 10/01/2019 - 10/31/2019
Form Due Date: 11/21/2019
Permit Number: 0055816

Date Received:	
DOC:	435790
FIN:	7072
FID:	265010900
Region:	Southeast Region
Permit Drafter:	Lisa J Creegan
Reviewer:	Nicholas M Lent
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	0.420703				
	2	0.420476				
	3	0.420384				
	4	0.420277				
	5	0.420484				
	6	0.420677				
	7	0.422385				
	8	0.424390				
	9	0.424445				
	10	0.424345				
	11	0.424373				
	12	0.424568				
	13	0.424549				
	14	0.424328				
	15	0.424377				
	16	0.424393				
	17	0.424299				
	18	0.424408				
	19	0.424428				
	20	0.424393				
	21	0.424281	55.22	2.0	0.049	0.173
	22	0.424307				
	23	0.424259				
	24	0.424194				
	25	0.424233				
	26	0.424429				
	27	0.424274				
	28	0.424265				
	29	0.424239				
	30	0.424121				
	31	0.382417				

	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
Summary Values	**Monthly Avg**	0.422183903	55.22	2	0.049	0.173
	Daily Max	0.424568	55.22	2	0.049	0.173
	Daily Min	0.382417	55.22	2	0.049	0.173
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	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	<0.37	0.45	<0.38	<0.20
	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		0.45		0		0	
	Daily Max	<0.37		0.45		<0.38		<0.2	
	Daily Min	<0.37		0.45		<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		1	
	QC Exceedance	N		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 rates were calculated from daily flow readings recorded by the Badger U500w ultrasonic meters installed on the discharge lines of the Delavan facility extraction wells.

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	HI98129
PROJECT NO.	Delavan Well #4 WPIES	Conductivity	
LOCATION	Delavan, WI	ORP	
PERSONNEL	Dennis	DO	

SAMPLE POINT		SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)		10-21-19				
CLOCK TIME (Military)		0805				
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		7.54				
ELEC. COND. (uS/cm)	Measured	1378				
	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	10-21-19				
SAMPLER'S NAME	Dennis				

*Measured from top of well casing.

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

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

Laboratory Job ID: 500-172105-1
Client Project/Site: Delavan Well #4 WPDES

For:
Pentair Water
293 Wright Street
Delavan, Wisconsin 53115

Attn: Dennis Schwind

Authorized for release by:
11/5/2019 5:31:11 PM

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

Table of Contents

Definitions/Glossary

Client: Pentair Water
Job ID: 500-172105-1
Project/Site: Delavan Well #4 WPDES

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.
¤	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

Job ID: 500-172105-1

Job ID: 500-172105-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-172105-1

Comments
No additional comments.

Receipt
The samples were received on 10/22/2019 7:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.8º 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 ID: SS1

Lab Sample ID: 500-172105-1

Date Collected: 10/21/19 08:05

Matrix: Water

Date Received: 10/22/19 07:45

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			11/03/19 11:13	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/03/19 11:13	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/03/19 11:13	1
Trichloroethene	**0.45**	**J**	0.50	0.16	ug/L			11/03/19 11:13	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			11/03/19 11:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*75 - 126*		*11/03/19 11:13*	*1*
4-Bromofluorobenzene (Surr)	*109*		*72 - 124*		*11/03/19 11:13*	*1*
Dibromofluoromethane	*91*		*75 - 120*		*11/03/19 11:13*	*1*
Toluene-d8 (Surr)	*98*		*75 - 120*		*11/03/19 11:13*	*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			10/25/19 14:17	1
Chloride	**230**		10	5.0	mg/L			11/02/19 14:47	5
Phosphorus as P	**0.049**	**J**	0.050	0.024	mg/L		11/04/19 12:39	11/05/19 12:38	1

Client Sample ID: Test Blank

Lab Sample ID: 500-172105-2

Date Collected: 10/21/19 00:00

Matrix: Water

Date Received: 10/22/19 07:45

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			11/03/19 10:24	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			11/03/19 10:24	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			11/03/19 10:24	1
Trichloroethene	<0.16		0.50	0.16	ug/L			11/03/19 10:24	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			11/03/19 10:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*75 - 126*		*11/03/19 10:24*	*1*
4-Bromofluorobenzene (Surr)	*110*		*72 - 124*		*11/03/19 10:24*	*1*
Dibromofluoromethane	*89*		*75 - 120*		*11/03/19 10:24*	*1*
Toluene-d8 (Surr)	*97*		*75 - 120*		*11/03/19 10:24*	*1*

Lab Chronicle

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

Job ID: 500-172105-1

Client Sample ID: SS1

Lab Sample ID: 500-172105-1

Date Collected: 10/21/19 08:05

Matrix: Water

Date Received: 10/22/19 07:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	513274	11/03/19 11:13	JDD	TAL CHI
Total/NA	Analysis	SM 2540D		1	511992		SMO	TAL CHI
					(Start)	10/25/19 14:17		
					(End)	10/25/19 14:18		
Total/NA	Analysis	SM 4500 Cl- E		5	513241	11/02/19 14:47	EAT	TAL CHI
Total/NA	Prep	SM 4500 P B			513455	11/04/19 12:39	PFK	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	513678		PFK	TAL CHI
					(Start)	11/05/19 12:38		
					(End)	11/05/19 12:38		

Client Sample ID: Test Blank

Lab Sample ID: 500-172105-2

Date Collected: 10/21/19 00:00

Matrix: Water

Date Received: 10/22/19 07:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	513274	11/03/19 10:24	JDD	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

Client: Pentair Water
Job ID: 500-172105-1
Project/Site: Delavan Well #4 WPDES

Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State Program	999580010	08-31-20

Method Summary

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

Job ID: 500-172105-1

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
5030B	Purge and Trap	SW846	TAL CHI
SM 4500 P B	Phosphorous, Total and Ortho	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 = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

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

Job ID: 500-172105-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-172105-1	SS1	Water	10/21/19 08:05	10/22/19 07:45	
500-172105-2	Test Blank	Water	10/21/19 00:00	10/22/19 07:45	

Chain of Custody Record

388662

eurofins | Environment Testing TestAmerica

Address: _____

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

TAL-8210

Client Contact	Project Manager: Max Geyer	Site Contact: Dennis Schwind	Date: 10-21-19	COC No:
Company Name: Pentair Flow Technologies LLC	Tel/Email:	Lab Contact:	Carrier:	_____ of _____ COCs
Address: 293 Wright Street	Analysis Turnaround Time			Sampler:
City/State/Zip: Delavan, WI, 53115	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 262 728-5551	TAT if different from Below _____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Delavan Well #4 WPDES	☐ 1 week			
Site: Delavan WI	☐ 2 days			Job / SDG No.:
PO#	☐ 1 day			500-172105

	Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	TAL	TCA	PCE	Vinyl Chloride	Phosphorus	TSS	Chloride	500-172105 COC	Sample Specific Notes:
1	SSI	10-21-19	0805	G	W	5	N	N									
2	Test Blank					1											

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

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

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

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

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☒ Yes ☐ No | Custody Seal No.: 949548 | Cooler Temp. (°C): Obs'd: 5.8 Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Dennis Schwind	Pentair	10-21-19 0915			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
			Shirley Scott	TA-CHT	10/22/19 0745

Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-172105-1

Login Number: 172105
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

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	5.8
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 <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: 11/01/2019 - 11/30/2019
Form Due Date: 12/21/2019
Permit Number: 0055816

Date Received:	
DOC:	435791
FIN:	7072
FID:	265010900
Region:	Southeast Region
Permit Drafter:	Lisa J Creegan
Reviewer:	Nicholas M Lent
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	0.362101				
	2	0.361972				
	3	0.377178				
	4	0.362074				
	5	0.361966				
	6	0.361919				
	7	0.362118				
	8	0.362370				
	9	0.362458				
	10	0.362363				
	11	0.362241				
	12	0.362226				
	13	0.362226				
	14	0.362093				
	15	0.362105				
	16	0.362132				
	17	0.362103				
	18	0.361974				
	19	0.361882				
	20	0.361834				
	21	0.361847				
	22	0.361707				
	23	0.361825				
	24	0.361741				
	25	0.361553				
	26	0.361578				
	27	0.361514				
	28	0.361478				
	29	0.361452				
	30	0.361517				
	31					

	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
Summary Values	**Monthly Avg**	0.362451567				
	Daily Max	0.377178				
	Daily Min	0.361452				
Limit(s) in Effect	**Monthly Avg**				0.24	
QA/QC Information	**LOD**					
	LOQ					
	QC Exceedance	N	N	N	N	N
	Lab Certification					

	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				
	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**				
	Daily Max				
	Daily Min				
Limit(s) in Effect	**Monthly Avg**	50	50	50	10
QA/QC Information	**LOD**				
	LOQ				
	QC Exceedance				
	Lab Certification				

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

General Remarks

The Pentair person who normally collects the monthly storm sewer manhole sample (Sample Point 001)was out on medical leave during the month of November and as a result a sample was inadvertently not collected in November. The oversight was reported to Mr. Nicholas Lent of the WDNR on December 10, 2019.

The total flow rates were calculated from daily flow readings recorded by the Badger U500w ultrasonic meters installed on the discharge lines of the Delavan facility extraction wells. The pump in extraction well EX-1 failed on October 31, 2019 and there was no pumping from EX-1 during this reporting period. Pentair intends to install a new submersible pump in EX-1 at a later date.

Laboratory Quality Control Comments

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: 12/01/2019 - 12/31/2019
Form Due Date: 01/21/2020
Permit Number: 0055816

Date Received:	
DOC:	435792
FIN:	7072
FID:	265010900
Region:	Southeast Region
Permit Drafter:	Lisa J Creegan
Reviewer:	Nicholas M Lent
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	0.361512				
	2	0.361308				
	3	0.361257				
	4	0.361263				
	5	0.361139				
	6	0.361031	52.52	<1.9	0.043	0.129
	7	0.361133				
	8	0.361125				
	9	0.360997				
	10	0.360899				
	11	0.360877				
	12	0.360880				
	13	0.360836				
	14	0.360750				
	15	0.360725				
	16	0.360714				
	17	0.360546				
	18	0.360524				
	19	0.360422				
	20	0.360289				
	21	0.360301				
	22	0.360203				
	23	0.360206				
	24	0.360102				
	25	0.360125				
	26	0.360023				
	27	0.359860				
	28	0.359868				
	29	0.359840				
	30	0.359624				
	31	0.359739				

	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
Summary Values	**Monthly Avg**	0.360584452	52.52	0	0.043	0.129
	Daily Max	0.361512	52.52	<1.9	0.043	0.129
	Daily Min	0.359624	52.52	<1.9	0.043	0.129
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	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	<0.37	0.58	<0.38	<0.20
	7				
	8				
	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		0.58		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		1	
	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 rates were calculated from daily flow readings recorded by the Badger U500w ultrasonic meters installed on the discharge lines of the Delavan facility extraction wells.The pump in extraction well EX-1 failed on October 31, 2019 and there was no pumping from EX-1 during this reporting period. Pentair intends to install a new submersible pump in EX-1 at a later date.

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	HI98129
PROJECT NO.	Delavan Well #4 WPDES	Conductivity	
LOCATION	Delavan, WI	ORP	
PERSONNEL	Dennis	DO	

SAMPLE POINT	SS-1	SS-1	SS-1	SS-1	SS-1
WATER TYPE	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)	12-6-19				
CLOCK TIME (Military)	0952				
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)	11.4				
pH	7.58				
ELEC. COND. (uS/cm) Measured	1371				
ELEC. COND. (uS/cm) 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	12-6-19				
SAMPLER'S NAME	Dennis				

*Measured from top of well casing.

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

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

Laboratory Job ID: 500-174722-1
Client Project/Site: Delavan Well #4 WPDES

For:
Pentair Water
293 Wright Street
Delavan, Wisconsin 53115

Attn: Dennis Schwind

Authorized for release by:
12/23/2019 7:51:44 AM

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

Table of Contents

Definitions/Glossary

Client: Pentair Water
Job ID: 500-174722-1
Project/Site: Delavan Well #4 WPDES

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

Job ID: 500-174722-1

Job ID: 500-174722-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-174722-1

Comments
No additional comments.

Receipt
The samples were received on 12/7/2019 12:11 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.1° 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: Pentair Water
Job ID: 500-174722-1
Project/Site: Delavan Well #4 WPDES

Client Sample ID: SS1
Lab Sample ID: 500-174722-1
Date Collected: 12/06/19 09:52
Matrix: Water
Date Received: 12/07/19 12:11

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			12/16/19 17:02	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			12/16/19 17:02	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			12/16/19 17:02	1
Trichloroethene	**0.58**		0.50	0.16	ug/L			12/16/19 17:02	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			12/16/19 17:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 126*		*12/16/19 17:02*	*1*
4-Bromofluorobenzene (Surr)	*98*		*72 - 124*		*12/16/19 17:02*	*1*
Dibromofluoromethane	*106*		*75 - 120*		*12/16/19 17:02*	*1*
Toluene-d8 (Surr)	*98*		*75 - 120*		*12/16/19 17:02*	*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			12/10/19 15:59	1
Chloride	**220**		10	5.0	mg/L			12/17/19 17:05	5
Phosphorus as P	**0.043**	**J**	0.050	0.024	mg/L		12/16/19 10:45	12/19/19 18:23	1

Client Sample ID: Test Blank
Lab Sample ID: 500-174722-2
Date Collected: 12/06/19 00:00
Matrix: Water
Date Received: 12/07/19 12:11

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			12/16/19 16:35	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			12/16/19 16:35	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			12/16/19 16:35	1
Trichloroethene	<0.16		0.50	0.16	ug/L			12/16/19 16:35	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			12/16/19 16:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*75 - 126*		*12/16/19 16:35*	*1*
4-Bromofluorobenzene (Surr)	*100*		*72 - 124*		*12/16/19 16:35*	*1*
Dibromofluoromethane	*106*		*75 - 120*		*12/16/19 16:35*	*1*
Toluene-d8 (Surr)	*99*		*75 - 120*		*12/16/19 16:35*	*1*

Lab Chronicle

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

Job ID: 500-174722-1

Client Sample ID: SS1

Lab Sample ID: 500-174722-1

Date Collected: 12/06/19 09:52

Matrix: Water

Date Received: 12/07/19 12:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	520705	12/16/19 17:02	STW	TAL CHI
Total/NA	Analysis	SM 2540D		1	519847		SMO	TAL CHI
					(Start)	12/10/19 15:59		
					(End)	12/10/19 16:00		
Total/NA	Analysis	SM 4500 Cl- E		5	521133	12/17/19 17:05	EAT	TAL CHI
Total/NA	Prep	SM 4500 P B			520521	12/16/19 10:45	TT	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	521619	12/19/19 18:23	PFK	TAL CHI

Client Sample ID: Test Blank

Lab Sample ID: 500-174722-2

Date Collected: 12/06/19 00:00

Matrix: Water

Date Received: 12/07/19 12:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	520705	12/16/19 16:35	STW	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

Client: Pentair Water
Job ID: 500-174722-1
Project/Site: Delavan Well #4 WPDES

Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State Program	999580010	08-31-20

Method Summary

Client: Pentair Water
Job ID: 500-174722-1
Project/Site: Delavan Well #4 WPDES

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
5030B	Purge and Trap	SW846	TAL CHI
SM 4500 P B	Phosphorous, Total and Ortho	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 = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

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

Job ID: 500-174722-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-174722-1	SS1	Water	12/06/19 09:52	12/07/19 12:11	
500-174722-2	Test Blank	Water	12/06/19 00:00	12/07/19 12:11	

Chain of Custody Record

387566

eurofins | Environment Testing TestAmerica

TAL-8210

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

Project Manager: Max Beyer	Site Contact: Dennis Schuiling	Date: 12-6-19	COC No:
Tel/Email:	Lab Contact:	Carrier:	____ of ____ COCs
			Sampler:
			For Lab Use Only:
			Walk-in Client:
			Lab Sampling:
			Job / SDG No.:

Analysis Turnaround Time

☐ CALENDAR DAYS ☐ WORKING DAYS

TAT if different from Below ____

☐ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

500-174722 COC

500-174722

Sample Specific Notes:

Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	TCE	TCA	PCE	Vinyl Chloride	Phosphorus	TSS	Chloride
12-6-19	0952	G	W	5	N	N	2	2	2	2	2	2	2
				1									

H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

ious Waste? Please List any EPA Waste Codes for the sample in the of the sample.

☐ Skin Irritant ☐ Poison B ☐ Unknown

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

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ____ Months

& Comments:

☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 3.1 Corr'd: ____ Therm ID No.: ____

Company: Pentair	Date/Time: 1014	Received by:	Company:	Date/Time:	
Company:	Date/Time:	Received by:	Company:	Date/Time:	
Company:	Date/Time:	Received in Laboratory by: Paula Bielby	Company: TA	Date/Time: 12/7/19 1010	

Chain of Custody Record

387566

eurofins | Environment Testing TestAmerica

Address: _____

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

TAL-8210

Client Contact	Project Manager: Max Beyer	Site Contact: Dennis Schmidt	Date: 12-6-19	COC No:
Company Name: Pentair Flow Technologies LLC	Tel/Email:	Lab Contact:	Carrier:	_____ of _____ COCs
Address: 293 Wright Street	Analysis Turnaround Time			Sampler:
City/State/Zip: Delavan WI 53115	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 262-728-5551	TAT if different from Below _____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Delavan Well #4 WPDES	☐ 1 week			
Site: Delavan WI	☐ 2 days			Job / SDG No.:
PO #	☐ 1 day			

500-174722 COC

500-174722

Sample Specific Notes:

	Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	TCE	TCA	PCE	Vinyl Chloride	Phosphorus	TSS	Chloride	
1	SS1	12-6-19	0952	G	W	5	N	N	2	2	2	2	2	2	2	
2	Test Blank					1										

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

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

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

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

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☑ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 3.1 Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Dennis Schmidt	Pentair	10/4			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
			Paula Blakely	TA	12/7/19 1010

500-174722 Waybill

Login Sample Receipt Checklist

Client: Pentair Water

Job Number: 500-174722-1

Login Number: 174722
List Number: 1
Creator: Buckley, Paula M

List Source: Eurofins TestAmerica, Chicago

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	3.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	