TETRA TECH

June 9, 2017
(117-7469002.02)

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

RE: Second Quarter 2017 Progress Report, Source Area Remedial Action, Pentair Flow Technologies, LLC Facility, 293 S. Wright Street, Delavan, Wisconsin
BRRTS# 02-65-529579, FID# 265091640

SITE NAME/ACTIVITY:
Contract No. SF-90-02
Delavan Municipal Well #4
Delavan, Wisconsin
Source Area Remediation

DATE: June 9, 2017

PERIOD: April 1 through June 30, 2017

Dear Mr. Wentland:

As requested by the Wisconsin Department of Natural Resources (WNDR) in its February 8, 2017 letter, Pentair Flow Technologies began collecting groundwater samples from monitor well TW-4 on a quarterly schedule during the first quarter of 2017 (January – March). The increase in sampling frequency of TW-4 from annual to quarterly was requested because the trichloroethene (TCE) concentration in the annual groundwater samples collected from TW-4 increased from 20 ug/L for the 2014 sample to 36 ug/L for the 2015 sample. The reported concentration of 36 ug/L for TCE in the 2015 sample exceeds the U.S. EPA Removal Management Level (RML) of 22 ug/L for TCE used to protect against commercial/industrial exposure via vapor inhalation. The annual groundwater sample collected from TW-4 in May 2016 had a reported TCE concentration of 15 ug/L, which is less than the RML of 22 ug/L. The sampling of TW-4 on a quarterly schedule is to continue until directed otherwise in writing by the WDNR.

The second quarter 2017 sample was collected from TW-4 by Tetra Tech personnel on May 17, 2017. The groundwater sample was submitted to the TestAmerica laboratory in University Park, Illinois for laboratory analysis of volatile organic compounds (VOCs) by EPA Method 8260B. Copies of the field water quality sampling and analysis form and the laboratory analytical report are provided in Appendix A. Historical VOCs results and the current VOCs results for the groundwater samples collected from TW-4 are summarized on Table 1. A chart showing the trends in trichloroethene (TCE) and total VOCs concentrations in TW-4 is included as Figure 1 and a site layout figure showing the location of TW-4 is included as Figure 2. As shown on Table 1 and Figure 1, the reported TCE concentration in the groundwater sample collected from TW-4 on May 17th was 11 ug/L, which is a little higher than the reported TCE concentration of 8.0 ug/L for the

previous groundwater sample collected from TW-4 on March 1, 2017, but still below the RML of 22 ug/L. The May 2016, March 1, 2017 and May 17, 2017 analytical results indicate there is not a vapor inhalation exposure risk at the Delavan facility at this time. The 2016 and 2017 TCE results also confirms the overall decreasing trend in TCE impacts at TW-4 (see Figure 1).

The next quarterly groundwater sample is scheduled to be collected from TW-4 by Tetra Tech personnel during the month of July, which is the month that the annual groundwater sampling round is usually performed. Please contact me if you require additional information or have any questions regarding these matters.

Sincerely,

Tetra Tech

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

Encs.

cc: Nicholas Dade, Pentair Flow Technologies, LLC (Electronic copy via email.)
Robert Thiboldeaux, PhD, Senior Toxicologist, Wisconsin Department of Health Services
Michelle Heger, U.S. Environmental Protection Agency (Electronic copy via email)

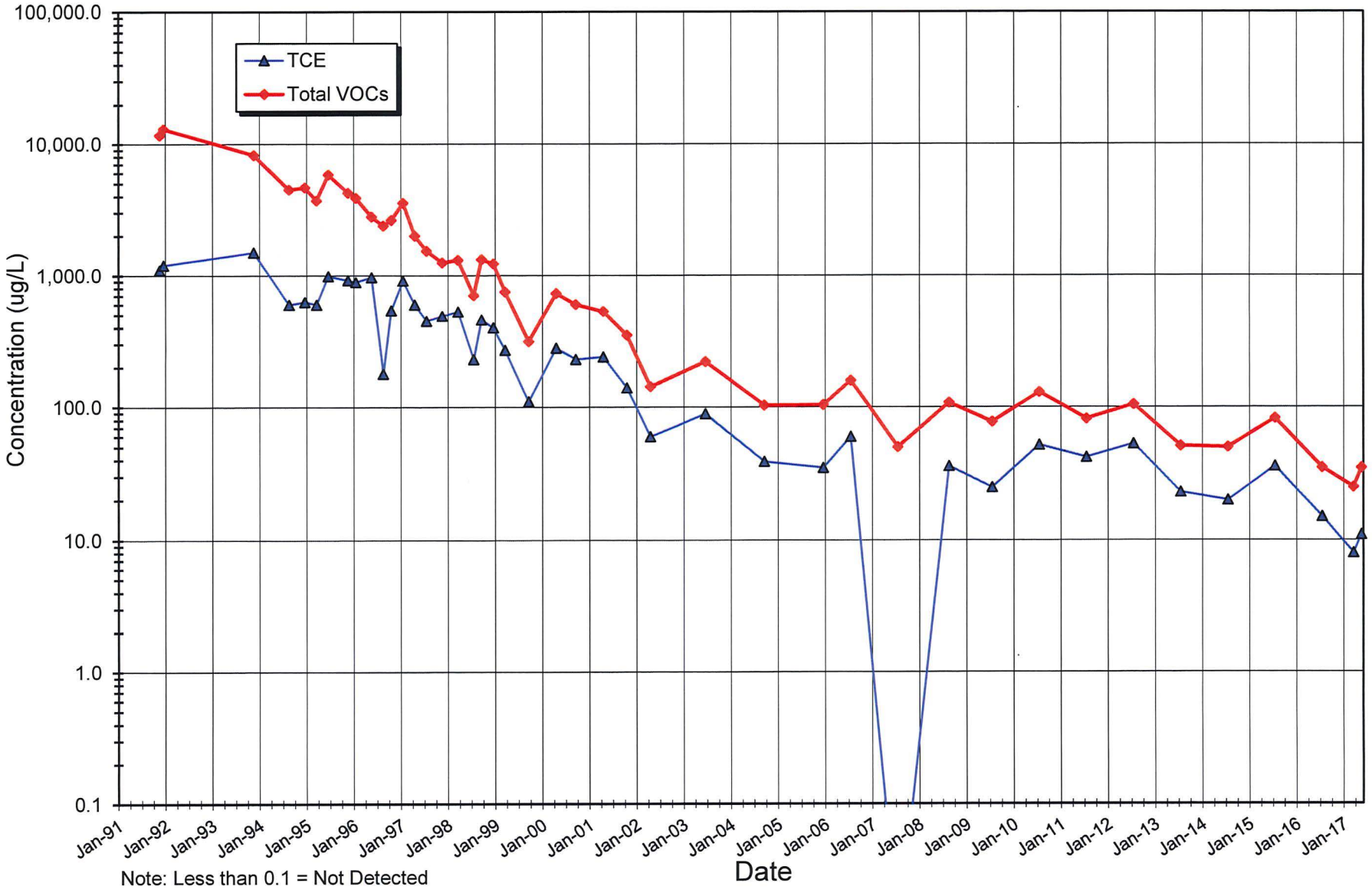
FIGURES

TABLES

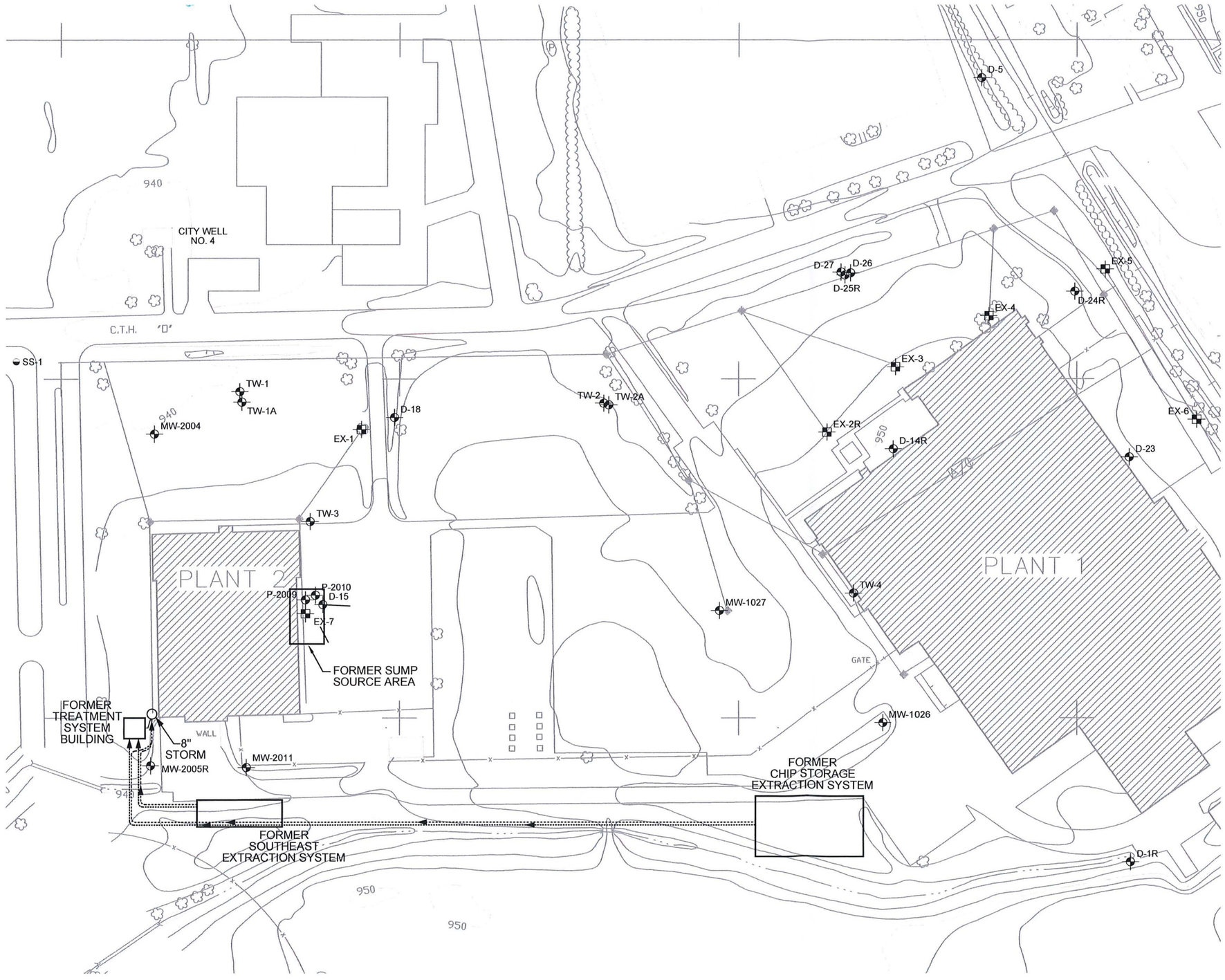
APPENDIX

FIGURES

Figure 1. Monitor Well TW-4 Trichloroethene (TCE) and Total VOCs
Time Series Chart



Note: Less than 0.1 = Not Detected



EXPLANATION

- MW-2004 — MONITOR WELL LOCATION AND DESIGNATION
- E-3 — EXTRACTION WELL LOCATION AND DESIGNATION
- SS-1 — STORM SEWER SAMPLE LOCATION AND DESIGNATION
- P-2009 — PIEZOMETER LOCATION AND DESIGNATION

N

SCALE

0 300

Feet

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

S:\CAD\STA-RITE\DELAVAN\1-9-17\7469002FIG2.DWG

STA-RITE INDUSTRIES, INC. DELAVAN, WISCONSIN	DATE: 3/22/17 DESIGNED: HJW CHECKED: MAM APPROVED: MAM DRAWN: HJW PROJ.: 117-7469002
SITE LAYOUT	
TETRA TECH	Figure 2

TABLE

Table 1. 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
TW-4	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

Table 1. 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	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
	04/16/02	<0.25	**76**	**60**	**1.5**	<0.25	NA	<0.10	<0.25	**1.4**	<0.25	**2.5**	**0.76**	<0.25	**0.47**	<0.25	<0.25	142.63
	06/24/03	<1.0	**120**	**89**	**1.4**	<1.0	NA	<0.50	<0.50	**2.1**	<1.0	**4.7**	**3.7**	<1.0	<2.0	<1.0	<1.0	220.9
	09/21/04	<0.50	**64**	**39**	NA	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	103
	12/14/05	<0.50	**65**	**35**	**0.92**	<0.20	<2.0	<0.20	<0.20	**0.76**	<0.50	**1.6**	**0.55**	<0.50	<1.0	<0.50	<0.50	103.83
	07/31/06	<0.50	**92**	**60**	**1.3**	<0.20	<2.0	<0.20	<0.20	**1.3**	<0.50	**2.9**	**1.4**	<0.50	<1.0	<0.50	<0.50	158.9
	07/31/07	<0.50	**50**	<0.20	<0.25	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50
	08/20/08	<0.50	**71**	**36**	**0.73**	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	107.73
	07/28/09	<0.50	**52**	**25**	**0.34**	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	77.34
	07/14/10	<0.50	**75**	**52**	**0.28**	<0.20	NA	<0.20	<0.20	<0.50	<0.50	**2.1**	<0.50	<0.50	<1.0	<0.50	<0.50	129.38
	07/21/11	<0.50	**38**	**42**	**0.28**	<0.20	NA	<0.20	<0.20	**0.52**	<0.50	**0.78**	<0.50	<0.50	<1.0	<0.50	<0.50	81.58
	07/10/12	<0.17	**48**	**53**	<0.28	<0.10	NA	<0.074	<0.20	**1.8**	<0.28	**1.8**	<0.12	<0.25	<0.68	<0.50	<0.068	104.6
	07/24/13	<0.17	**26**	**23**	<0.28	<0.10	NA	<0.074	<0.20	**0.54**	<0.28	**1.1**	<0.12	<0.25	<0.68	**0.13**	**0.20**	50.97
	07/29/14	<0.17	**29**	**20**	<0.28	<0.10	NA	<0.074	<0.20	<0.19	<0.28	**0.9**	<0.12	<0.25	<0.68	<0.13	<0.068	49.9
	07/14/15	<0.17	**30**	**36**	<0.28	<0.10	NA	<0.074	<0.20	**4.9**	<0.28	**1.4**	**1.7**	<0.25	**8.2 B**	<0.10	<0.068	82.2
TW-4	07/29/16	<0.37	**20**	**15**	<0.35	<0.20	NA	<0.15	<0.37	<0.41	<0.39	<0.39	<0.41	<0.35	<1.6	<0.18	<0.22	35
	03/01/17	<0.37	**17**	**8.0**	<0.35	<0.20	NA	<0.15	<0.37	<0.41	<0.39	<0.39	<0.41	<0.35	<1.6	<0.18	<0.22	25
	05/17/17	<0.37	**22**	**11**	<0.35	<0.20	NA	<0.15	<0.37	0.96	<0.39	**0.90**	<0.41	<0.35	<1.6	<0.18	<0.22	34.86

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.

ATTACHMENT A
FIELD FORM AND
LABORATORY ANALYTICAL REPORT

TETRA TECH FIELD WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION		INSTRUMENTS	
PROJECT	Delavan Facility Remedial Action	Temp. & pH	Hanna
PROJECT NO.	117-7469002.02	Conductivity	Hanna
LOCATION	Delavan, Wi.	ORP	NA
PERSONNEL	Todd M Thomson	DO	NA

SAMPLE POINT ID		TW-4				
WATER TYPE		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
DATE (month/day/year)		5-17-17				
CLOCK TIME (Military)		08:30				
DEPTH TO WATER (ft)*		35.33				
MEASURED WELL DEPTH (ft)*		50.52				
CASING VOLUME (gallons)		2.5				
PURGE VOLUME (gallons)		10				
DEPTH SAMPLE TAKEN (ft)*		45				
SAMPLING DEVICE		HANGING BAILER				
FIELD TEMPERATURE (°C)		17.2				
pH		7.12				
ELEC. COND. (uS/cm)	Measured	NA				
	at 25° C	2130				
ORP (mV)		NA				
DISSOLVED OXYGEN (ppm)		NA				
DISSOLVED OXYGEN (% Sat.)		NA				
COLOR		CLEAR				
ODOR		NONE				
CLARITY		CLEAR				

SAMPLING PARAMETERS	# OF CONTAINERS & VOLUME; CONTAINER TYPE (A = AMBER GLASS; G = GLASS; P = PLASTIC); PRESERVATIVE TYPE (L = LAB ADDED; F = FIELD ADDED) OR NEUTRAL; FILTERED (YES or NO)				
VOCs (EPA Method 8260 B)	3 – 40 ml; G; L; HCL; No				
NAME OF LABORATORY	Test America				
DATE SENT TO LAB	5-19-17				
SAMPLER-S NAME	TMT				

*Measured from top of well casing.

TETRA TECH

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: 500-128477-1
Client Project/Site: Pentair Delavan - 117-7469002.02

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

Attn: Mr. Mark Manthey

Sandie Fredrick

Authorized for release by:
5/31/2017 12:53:18 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 - 117-7469002.02

TestAmerica Job ID: 500-128477-1

Job ID: 500-128477-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-128477-1

Comments
No additional comments.

Receipt
The samples were received on 5/20/2017 11:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.3° C.

GC/MS VOA
Method(s) 8260B: The laboratory control sample (LCS) for 387220 recovered outside control limits for the following analytes: Trichlorofluoromethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

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

Detection Summary

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

TestAmerica Job ID: 500-128477-1

Client Sample ID: TW-4 — Lab Sample ID: 500-128477-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.96	J	1.0	0.41	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	0.90	J	1.0	0.39	ug/L	1		8260B	Total/NA
1,1,1-Trichloroethane	22		1.0	0.38	ug/L	1		8260B	Total/NA
Trichloroethene	11		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: Trip Blank — Lab Sample ID: 500-128477-2

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

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

TestAmerica Job ID: 500-128477-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI

Protocol References:

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

Laboratory References:

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

Sample Summary

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

TestAmerica Job ID: 500-128477-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-128477-1	TW-4	Ground Water	05/17/17 08:30	05/20/17 11:30
500-128477-2	Trip Blank	Water	05/17/17 00:00	05/20/17 11:30

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

TestAmerica Job ID: 500-128477-1

Client Sample ID: TW-4
Date Collected: 05/17/17 08:30
Date Received: 05/20/17 11:30

Lab Sample ID: 500-128477-1
Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			05/28/17 15:58	1
Bromobenzene	<0.36		1.0	0.36	ug/L			05/28/17 15:58	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			05/28/17 15:58	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			05/28/17 15:58	1
Bromoform	<0.48		1.0	0.48	ug/L			05/28/17 15:58	1
Bromomethane	<0.80		2.0	0.80	ug/L			05/28/17 15:58	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			05/28/17 15:58	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			05/28/17 15:58	1
Chloroethane	<0.51		1.0	0.51	ug/L			05/28/17 15:58	1
Chloroform	<0.37		2.0	0.37	ug/L			05/28/17 15:58	1
Chloromethane	<0.32		1.0	0.32	ug/L			05/28/17 15:58	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			05/28/17 15:58	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			05/28/17 15:58	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			05/28/17 15:58	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			05/28/17 15:58	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			05/28/17 15:58	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			05/28/17 15:58	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			05/28/17 15:58	1
Dibromomethane	<0.27		1.0	0.27	ug/L			05/28/17 15:58	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			05/28/17 15:58	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			05/28/17 15:58	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			05/28/17 15:58	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			05/28/17 15:58	1
1,1-Dichloroethane	0.96	J	1.0	0.41	ug/L			05/28/17 15:58	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			05/28/17 15:58	1
1,1-Dichloroethene	0.90	J	1.0	0.39	ug/L			05/28/17 15:58	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			05/28/17 15:58	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			05/28/17 15:58	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			05/28/17 15:58	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			05/28/17 15:58	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			05/28/17 15:58	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			05/28/17 15:58	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			05/28/17 15:58	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			05/28/17 15:58	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			05/28/17 15:58	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			05/28/17 15:58	1
Naphthalene	<0.34		1.0	0.34	ug/L			05/28/17 15:58	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			05/28/17 15:58	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			05/28/17 15:58	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			05/28/17 15:58	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			05/28/17 15:58	1
Styrene	<0.39		1.0	0.39	ug/L			05/28/17 15:58	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			05/28/17 15:58	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			05/28/17 15:58	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			05/28/17 15:58	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			05/28/17 15:58	1
Toluene	<0.15		0.50	0.15	ug/L			05/28/17 15:58	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			05/28/17 15:58	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			05/28/17 15:58	1

Client Sample ID: TW-4

Date Collected: 05/17/17 08:30
Date Received: 05/20/17 11:30

Lab Sample ID: 500-128477-1
Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			05/28/17 15:58	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			05/28/17 15:58	1
1,1,1-Trichloroethane	22		1.0	0.38	ug/L			05/28/17 15:58	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			05/28/17 15:58	1
Trichloroethene	11		0.50	0.16	ug/L			05/28/17 15:58	1
Trichlorofluoromethane	<0.43	*	1.0	0.43	ug/L			05/28/17 15:58	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			05/28/17 15:58	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			05/28/17 15:58	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			05/28/17 15:58	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			05/28/17 15:58	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			05/28/17 15:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*72 - 124*		*05/28/17 15:58*	*1*
Dibromofluoromethane	*95*		*75 - 120*		*05/28/17 15:58*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 126*		*05/28/17 15:58*	*1*
Toluene-d8 (Surr)	*100*		*75 - 120*		*05/28/17 15:58*	*1*

Client Sample ID: Trip Blank

Date Collected: 05/17/17 00:00
Date Received: 05/20/17 11:30

Lab Sample ID: 500-128477-2
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			05/28/17 16:25	1
Bromobenzene	<0.36		1.0	0.36	ug/L			05/28/17 16:25	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			05/28/17 16:25	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			05/28/17 16:25	1
Bromoform	<0.48		1.0	0.48	ug/L			05/28/17 16:25	1
Bromomethane	<0.80		2.0	0.80	ug/L			05/28/17 16:25	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			05/28/17 16:25	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			05/28/17 16:25	1
Chloroethane	<0.51		1.0	0.51	ug/L			05/28/17 16:25	1
Chloroform	<0.37		2.0	0.37	ug/L			05/28/17 16:25	1
Chloromethane	<0.32		1.0	0.32	ug/L			05/28/17 16:25	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			05/28/17 16:25	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			05/28/17 16:25	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			05/28/17 16:25	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			05/28/17 16:25	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			05/28/17 16:25	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			05/28/17 16:25	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			05/28/17 16:25	1
Dibromomethane	<0.27		1.0	0.27	ug/L			05/28/17 16:25	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			05/28/17 16:25	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			05/28/17 16:25	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			05/28/17 16:25	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			05/28/17 16:25	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			05/28/17 16:25	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			05/28/17 16:25	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			05/28/17 16:25	1

Client Sample ID: Trip Blank

Date Collected: 05/17/17 00:00
Date Received: 05/20/17 11:30

Lab Sample ID: 500-128477-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			05/28/17 16:25	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			05/28/17 16:25	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			05/28/17 16:25	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			05/28/17 16:25	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			05/28/17 16:25	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			05/28/17 16:25	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			05/28/17 16:25	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			05/28/17 16:25	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			05/28/17 16:25	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			05/28/17 16:25	1
Naphthalene	<0.34		1.0	0.34	ug/L			05/28/17 16:25	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			05/28/17 16:25	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			05/28/17 16:25	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			05/28/17 16:25	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			05/28/17 16:25	1
Styrene	<0.39		1.0	0.39	ug/L			05/28/17 16:25	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			05/28/17 16:25	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			05/28/17 16:25	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			05/28/17 16:25	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			05/28/17 16:25	1
Toluene	<0.15		0.50	0.15	ug/L			05/28/17 16:25	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			05/28/17 16:25	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			05/28/17 16:25	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			05/28/17 16:25	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			05/28/17 16:25	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			05/28/17 16:25	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			05/28/17 16:25	1
Trichloroethene	<0.16		0.50	0.16	ug/L			05/28/17 16:25	1
Trichlorofluoromethane	<0.43	*	1.0	0.43	ug/L			05/28/17 16:25	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			05/28/17 16:25	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			05/28/17 16:25	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			05/28/17 16:25	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			05/28/17 16:25	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			05/28/17 16:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*72 - 124*		*05/28/17 16:25*	*1*
Dibromofluoromethane	*94*		*75 - 120*		*05/28/17 16:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 126*		*05/28/17 16:25*	*1*
Toluene-d8 (Surr)	*101*		*75 - 120*		*05/28/17 16:25*	*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.
*	LCS or LCSD is outside acceptance limits.

Glossary

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

QC Association Summary

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

TestAmerica Job ID: 500-128477-1

GC/MS VOA

Analysis Batch: 387220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128477-1	TW-4	Total/NA	Ground Water	8260B	
500-128477-2	Trip Blank	Total/NA	Water	8260B	
MB 500-387220/5	Method Blank	Total/NA	Water	8260B	
LCS 500-387220/4	Lab Control Sample	Total/NA	Water	8260B	

Surrogate Summary

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

TestAmerica Job ID: 500-128477-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	Client Sample ID	(72-124)	(75-120)	(75-126)	(75-120)
500-128477-1	TW-4	112	95	104	100

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	Client Sample ID	(72-124)	(75-120)	(75-126)	(75-120)
500-128477-2	Trip Blank	110	94	106	101
LCS 500-387220/4	Lab Control Sample	104	93	101	102
MB 500-387220/5	Method Blank	112	93	105	101

Surrogate Legend

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

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

Lab Sample ID: MB 500-387220/5
Matrix: Water
Analysis Batch: 387220

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			05/28/17 07:49	1
Bromobenzene	<0.36		1.0	0.36	ug/L			05/28/17 07:49	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			05/28/17 07:49	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			05/28/17 07:49	1
Bromoform	<0.48		1.0	0.48	ug/L			05/28/17 07:49	1
Bromomethane	<0.80		2.0	0.80	ug/L			05/28/17 07:49	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			05/28/17 07:49	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			05/28/17 07:49	1
Chloroethane	<0.51		1.0	0.51	ug/L			05/28/17 07:49	1
Chloroform	<0.37		2.0	0.37	ug/L			05/28/17 07:49	1
Chloromethane	<0.32		1.0	0.32	ug/L			05/28/17 07:49	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			05/28/17 07:49	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			05/28/17 07:49	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			05/28/17 07:49	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			05/28/17 07:49	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			05/28/17 07:49	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			05/28/17 07:49	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			05/28/17 07:49	1
Dibromomethane	<0.27		1.0	0.27	ug/L			05/28/17 07:49	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			05/28/17 07:49	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			05/28/17 07:49	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			05/28/17 07:49	1
Dichlorodifluoromethane	<0.67		2.0	0.67	ug/L			05/28/17 07:49	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			05/28/17 07:49	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			05/28/17 07:49	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			05/28/17 07:49	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			05/28/17 07:49	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			05/28/17 07:49	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			05/28/17 07:49	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			05/28/17 07:49	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			05/28/17 07:49	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			05/28/17 07:49	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			05/28/17 07:49	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			05/28/17 07:49	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			05/28/17 07:49	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			05/28/17 07:49	1
Naphthalene	<0.34		1.0	0.34	ug/L			05/28/17 07:49	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			05/28/17 07:49	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			05/28/17 07:49	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			05/28/17 07:49	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			05/28/17 07:49	1
Styrene	<0.39		1.0	0.39	ug/L			05/28/17 07:49	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			05/28/17 07:49	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			05/28/17 07:49	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			05/28/17 07:49	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			05/28/17 07:49	1
Toluene	<0.15		0.50	0.15	ug/L			05/28/17 07:49	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			05/28/17 07:49	1

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

Lab Sample ID: MB 500-387220/5
Matrix: Water
Analysis Batch: 387220

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			05/28/17 07:49	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			05/28/17 07:49	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			05/28/17 07:49	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			05/28/17 07:49	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			05/28/17 07:49	1
Trichloroethene	<0.16		0.50	0.16	ug/L			05/28/17 07:49	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			05/28/17 07:49	1
1,2,3-Trichloropropane	<0.41		1.0	0.41	ug/L			05/28/17 07:49	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			05/28/17 07:49	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			05/28/17 07:49	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			05/28/17 07:49	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			05/28/17 07:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*72 - 124*		*05/28/17 07:49*	*1*
Dibromofluoromethane	*93*		*75 - 120*		*05/28/17 07:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*75 - 126*		*05/28/17 07:49*	*1*
Toluene-d8 (Surr)	*101*		*75 - 120*		*05/28/17 07:49*	*1*

Lab Sample ID: LCS 500-387220/4
Matrix: Water
Analysis Batch: 387220

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	46.5		ug/L		93	70 - 120
Bromobenzene	50.0	47.7		ug/L		95	70 - 122
Bromochloromethane	50.0	42.5		ug/L		85	65 - 122
Bromodichloromethane	50.0	44.3		ug/L		89	69 - 120
Bromoform	50.0	37.3		ug/L		75	56 - 132
Bromomethane	50.0	46.5		ug/L		93	40 - 130
Carbon tetrachloride	50.0	46.7		ug/L		93	65 - 122
Chlorobenzene	50.0	48.1		ug/L		96	70 - 120
Chloroethane	50.0	49.4		ug/L		99	45 - 127
Chloroform	50.0	48.9		ug/L		98	70 - 120
Chloromethane	50.0	44.4		ug/L		89	54 - 147
2-Chlorotoluene	50.0	54.4		ug/L		109	70 - 125
4-Chlorotoluene	50.0	53.7		ug/L		107	68 - 124
cis-1,2-Dichloroethene	50.0	46.2		ug/L		92	70 - 125
cis-1,3-Dichloropropene	50.0	48.4		ug/L		97	64 - 127
Dibromochloromethane	50.0	39.9		ug/L		80	68 - 125
1,2-Dibromo-3-Chloropropane	50.0	45.2		ug/L		90	56 - 123
1,2-Dibromoethane	50.0	45.3		ug/L		91	70 - 125
Dibromomethane	50.0	44.5		ug/L		89	70 - 120
1,2-Dichlorobenzene	50.0	47.7		ug/L		95	70 - 125
1,3-Dichlorobenzene	50.0	48.5		ug/L		97	70 - 125
1,4-Dichlorobenzene	50.0	48.0		ug/L		96	70 - 120
Dichlorodifluoromethane	50.0	46.1		ug/L		92	40 - 150
1,1-Dichloroethane	50.0	48.5		ug/L		97	70 - 125

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

Lab Sample ID: LCS 500-387220/4
Matrix: Water
Analysis Batch: 387220

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	50.0	47.7		ug/L		95	68 - 127
1,1-Dichloroethene	50.0	46.8		ug/L		94	67 - 122
1,2-Dichloropropane	50.0	45.2		ug/L		90	67 - 130
1,3-Dichloropropane	50.0	48.1		ug/L		96	62 - 136
2,2-Dichloropropane	50.0	57.1		ug/L		114	58 - 129
1,1-Dichloropropene	50.0	51.3		ug/L		103	70 - 121
Ethylbenzene	50.0	51.0		ug/L		102	70 - 120
Hexachlorobutadiene	50.0	50.4		ug/L		101	51 - 150
Isopropylbenzene	50.0	53.5		ug/L		107	70 - 126
Methylene Chloride	50.0	47.1		ug/L		94	69 - 125
Methyl tert-butyl ether	50.0	44.9		ug/L		90	70 - 120
Naphthalene	50.0	43.5		ug/L		87	59 - 130
n-Butylbenzene	50.0	57.0		ug/L		114	68 - 125
N-Propylbenzene	50.0	55.8		ug/L		112	69 - 127
p-Isopropyltoluene	50.0	53.3		ug/L		107	70 - 125
sec-Butylbenzene	50.0	55.6		ug/L		111	70 - 123
Styrene	50.0	49.0		ug/L		98	70 - 120
tert-Butylbenzene	50.0	53.6		ug/L		107	70 - 121
1,1,1,2-Tetrachloroethane	50.0	43.7		ug/L		87	70 - 125
1,1,2,2-Tetrachloroethane	50.0	47.8		ug/L		96	67 - 127
Tetrachloroethene	50.0	45.0		ug/L		90	70 - 128
Toluene	50.0	51.2		ug/L		102	70 - 125
trans-1,2-Dichloroethene	50.0	47.9		ug/L		96	70 - 125
trans-1,3-Dichloropropene	50.0	44.3		ug/L		89	62 - 128
1,2,3-Trichlorobenzene	50.0	49.6		ug/L		99	55 - 140
1,2,4-Trichlorobenzene	50.0	45.4		ug/L		91	66 - 127
1,1,1-Trichloroethane	50.0	49.7		ug/L		99	70 - 125
1,1,2-Trichloroethane	50.0	45.2		ug/L		90	70 - 122
Trichloroethene	50.0	43.3		ug/L		87	70 - 125
Trichlorofluoromethane	50.0	66.6	*	ug/L		133	70 - 126
1,2,3-Trichloropropane	50.0	46.3		ug/L		93	50 - 133
1,2,4-Trimethylbenzene	50.0	53.0		ug/L		106	70 - 123
1,3,5-Trimethylbenzene	50.0	54.0		ug/L		108	70 - 123
Vinyl chloride	50.0	49.1		ug/L		98	64 - 126
Xylenes, Total	100	102		ug/L		102	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*72 - 124*
Dibromofluoromethane	*93*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 126*
Toluene-d8 (Surr)	*102*		*75 - 120*

Lab Chronicle

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

TestAmerica Job ID: 500-128477-1

Client Sample ID: TW-4

Date Collected: 05/17/17 08:30
Date Received: 05/20/17 11:30

Lab Sample ID: 500-128477-1
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	387220	05/28/17 15:58	JMP	TAL CHI

Client Sample ID: Trip Blank

Date Collected: 05/17/17 00:00
Date Received: 05/20/17 11:30

Lab Sample ID: 500-128477-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	387220	05/28/17 16:25	JMP	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 500-128477-1

Laboratory: TestAmerica Chicago

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	999580010	08-31-17

TestAmerica

THE LEADER IN ENVIRONMENTAL

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

500-128477 COC

(optional)
Report To
Contact: MARK MANTHEY
Company: TETRA TECH
Address: 475 N CORPORATE DR SUITE 200
Address: BROOKFIELD, WI 53045
Phone: (262) 792-1282
Fax:
E-Mail:

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

Chain of Custody Record

Lab Job #: 500-128477
Chain of Custody Number:
Page 1 of 1
Temperature °C of Cooler: 4.3

Client: TETRA TECH
Client Project #: 117-7469002.02
Project Name: PENTAIR DELAVAN
Project Location/State: DELAVAN, WI.
Lab Project #:
Sampler: Jared M. Thomson
Lab PM: SANDIE FREDRICK

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	Parameter: VOCs 8260	Comments
1		TW-4	5-17	08:30	3	GW	1	✓	
2		TRIP BLANK	—	—	1	DI	1	✓	LAB PREPARED

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

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]	TETRA TECH	5-19-17	17:00	[signature]	TA-CHI	5/20/17	1130
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier:
Shipped: FEDEX
Hand Delivered:

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

Client Comments:

Lab Comments:

Login Sample Receipt Checklist

Client: Tetra Tech GEO

Job Number: 500-128477-1

Login Number: 128477
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	4.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	