June 19, 2020

Discharge Monitoring Report #200
(117-3005042.05)
Mr. Nader Rezaei, Ph.D., Pretreatment Coordinator
Madison Metropolitan Sewerage District
1610 Moorland Road
Madison, WI 53713-3398

RE: May 2020 Discharge Monitoring Report, Hydraulic Barrier System, Hydrite Chemical Co., Cottage Grove, Wisconsin

Dear Mr. Rezaei:

Tetra Tech, on behalf of Hydrite Chemical Co., has prepared this discharge monitoring report to comply with the reporting requirements listed in Part 3 of the reissued Wastewater Discharge Permit for the Hydrite Chemical Co. Cottage Grove facility Hydraulic Barrier System (Permit No. NTO-88.06). This report provides information on the operation history and discharge monitoring results for the Hydraulic Barrier System for the month of May 2020. The following information is being provided in accordance with Section 3.01 of Part 3 (Reporting) of the reissued Wastewater Discharge Permit:

- Sample Type: Groundwater

- Place sample collected: Sample tap on the hydraulic barrier system effluent line located in the manhole east of the 110 South Main Street lift station.

- Date and time the sample was collected: May 12, 2020 at 2:25 pm.

- The person that collected the sample: Todd Thomson, Senior Environmental Technician, Tetra Tech.

- The persons and laboratory performing the analyses: Pace Analytical Services Chemists, Pace Analytical Services, Inc., Green Bay, Wisconsin.

- Dates the analyses were performed and analytical techniques used:
  Analyses performed by Pace Analytical Services, Inc.:

Parameters Tested Monthly:	*Date Analyzed*
1. Volatile Organic Compounds (VOCs) by EPA Method 8260:	May 15, 2020
2. Chloride by EPA Method 300.0:	May 18, 2020

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175 N. Corporate Drive, Suite 100, Brookfield, WI 53045
Tel 262.792.1282 Fax 262.792.1310 www.tetratech.com

Analysis performed in the field by Tetra Tech personnel:

1. Field pH, May 12, 2020.
   The effluent sampling and analysis form containing the field pH result for the effluent sample and the equipment calibration form documenting the successful calibration of the instrument used to measure the effluent sample pH in the field are included in Attachment A.

- The laboratory analytical results for the monthly effluent sample collected from the hydraulic barrier system during this reporting period are included in Attachment A to this report and are summarized on Table 1.

- Total VOCs time series charts for the effluent samples collected from the hydraulic barrier system are provided as Chart 1 and Chart 2. Chart 1 displays the total VOCs concentrations and average pumping rates for the barrier system from 2003 to present, which is the year the barrier system was brought on-line. Chart 2 displays the total VOCs concentrations and average pumping rates for the barrier system from 2008 to present. A chart showing the total mass of VOCs and chlorinated VOCs discharged to the sanitary sewer is provided as Chart 3.

- The current month discharge and cumulative total discharge volumes are provided below:

Reporting Period	**Groundwater Discharge Volume (gallons)**
May 2020 Discharge Volume (April 30 to May 31, 2020)	5,337,428
Cumulative Total Discharge Volume (October 8, 2003 through May 31, 2020)	952,735,396

Hydraulic Barrier System Operation and Maintenance History for the Month of May 2020

Groundwater was pumped from extraction wells P-128, P-130 and P-164 during this reporting period. Total flow readings taken from the 3-inch Badger Magnetoflow® electromagnetic water meter (mag meter) indicate the hydraulic barrier system operated at an average pumping rate of 122 gallons per minute (gpm) in May.

Based on the meter readings collected from the water meters in the manholes at extraction wells P-128 and P-130 and the total barrier system flow readings from the mag meter, the extraction wells operated at the pumping rates listed below during this reporting period:

Extraction Wells Pumping Rates for May 2020

- P-128: 34.4 to 35.2 gpm
- P-130: 34.2 to 34.7 gpm
- P-164: 51.3 to 60.9 gpm

Tetra Tech personnel treated extraction well P-164 with muriatic acid solution May 5th to May 7th to maintain the sustainable pumping rate of the well at the target rate of 50 to 55 gpm. Approximately 4 gallons of muriatic acid was poured into P-164 with the pump off followed by about 2 gallons of tap water. The pump in P-164 was turned on for 20 seconds approximately 4.5 hours after the muriatic solution was poured into the well to distribute the muriatic acid solution into the discharge pipe. The pump was kept off for approximately 45 hours to allow the muriatic solution to break down the slime bacteria build-up in the well and pump components. Extraction wells P-128 and P-130 were operating while P-164 was shut down for the muriatic acid solution treatment.

Occasions when the barrier system was shut down and re-started are listed below:

- Village of Cottage Grove Public Works Department personnel performed tests of the backup generator in the 110 South Main Street lift station building on Tuesday, May 5th, Tuesday, May 12th, Tuesday, May 19th and Tuesday, May 26th. The hydraulic barrier system automatically shut down during the generator tests and was re-started the same day by Tetra Tech personnel after the generator tests were completed.

This report was prepared by,

Tetra Tech

Associate Hydrogeologist

encl.

cc: Mr. Chris Hampton – Town of Cottage Grove
Mr. Thomas J. Miazga - Hydrite Chemical Co.
Mr. Raymond R. Krueger - Michael, Best & Friedrich, LLP
Mr. JJ Larson - Village of Cottage Grove (Electronic copy via email.)
Mr. Michael R. Schmoller – Wisconsin Department of Natural Resources (Electronic copy via email.)

TABLE
AND CHARTS

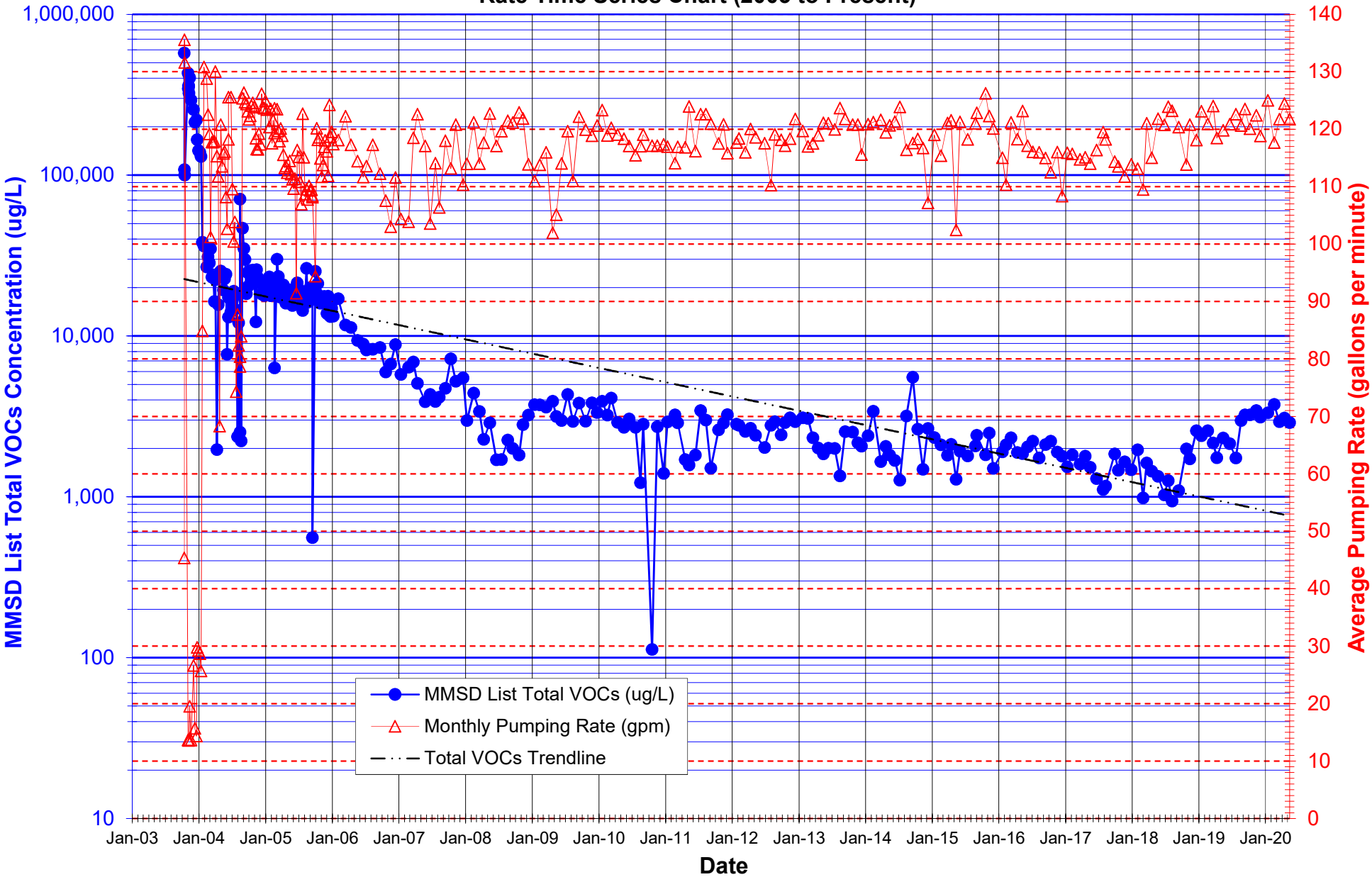
Table 1. Summary of Hydraulic Barrier System Effluent Monitoring VOCs and Chloride Analytical Results, Hydrite Chemical Co., Cottage Grove Facility

Sample Identification				EFFLUENT	
Lab Sample Identification				40207723001	
Date Sample Collected				05/12/20	
Dilution Factor for VOCs				10	
COMPOUND	Units	Target Detection Limits	NR140 ES		
1,1,1-Trichloroethane	ug/L	0.24	200	747	
2-Butanone (MEK)	ug/L	2.9	460		U
4-Methyl-2-Pentanone (MIBK)	ug/L	1.5	500		U
Acetone	ug/L	2.7	1000	31.1	J
cis-1,2-Dichloroethene	ug/L	0.27	70	1490	
Methylene chloride	ug/L	0.58	5.0	94.6	
Tetrachloroethene	ug/L	0.33	5.0	25.7	
Toluene	ug/L	0.17	1000	301	
Trichloroethene	ug/L	0.26	5.0	36.4	
Vinyl chloride	ug/L	0.17	0.2	36.7	
Xylenes (total)	ug/L	1.5	10000	133	
TOTAL VOCs	ug/L			2895.5	
Total Chlorinated VOCs	ug/L			2430.4	
Chloride	mg/L	2.5	250	40.8	

Notes:
VOCs - Volatile organic compounds.
Blank spaces indicate the compound was analyzed but not detected. The detection limits for the VOCs are equal to the target detection limits multiplied by the corresponding dilution factor for each sample.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
M0 - Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1 - Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
U - Indicates the compound was analyzed but not detected.
X - Analyte was above the QC limits for the continuing calibration check.
ug/L - micrograms per liter which is equivalent to parts per billion (ppb)
NR140 ES - The compound's Enforcement Standard as listed in Chapter NR140 of the Wisconsin Administrative Code.
NR140 PAL - The compound's Preventive Action Limit as listed in Chapter NR140 of the Wisconsin Administrative Code.
Madison Metropolitan Sewerage District Total VOCs discharge limit for hydraulic barrier system = 10,000 ug/L or 10 mg/L (as of 12/13/2016).
The Madison Metroplitan Sewerage District set no discharge limit for chloride, but it is a parameter of concern.
"Effluent" samples are collected from the sample spigot on the combined effluent discharge line for the barrier system located in the manhole by the Village of Cottage Grove lift station.

TETRA TECH

Chart 1. Hydrite Chemical Co. Hydraulic Barrier System MMSD List Total VOCs and Average Pumping Rate Time Series Chart (2003 to Present)



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TETRA TECH

Chart 2. Hydrite Chemical Co. Hydraulic Barrier System MMSD List Total VOCs and Average Pumping Rate Time Series Chart (2008 to Present)

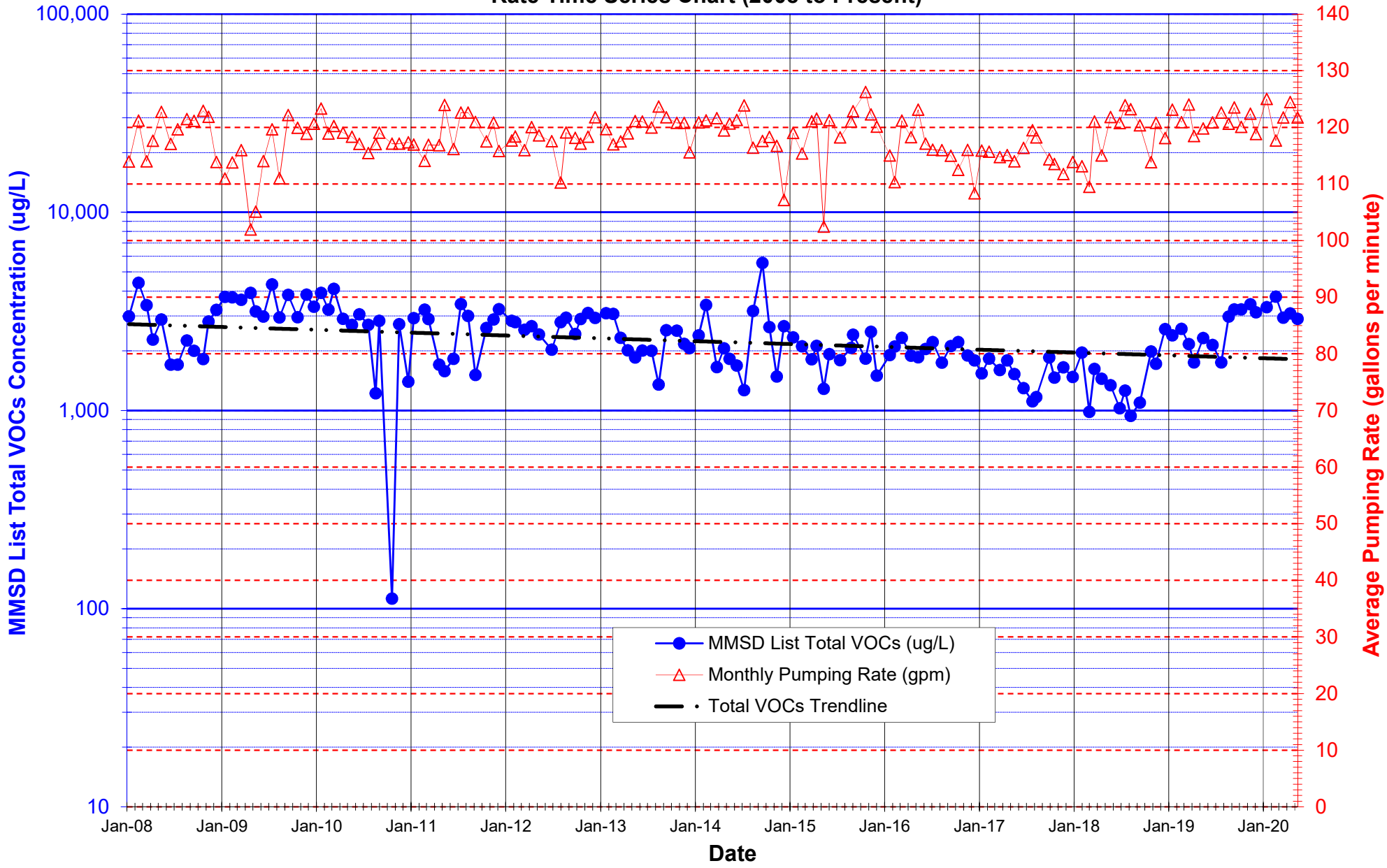

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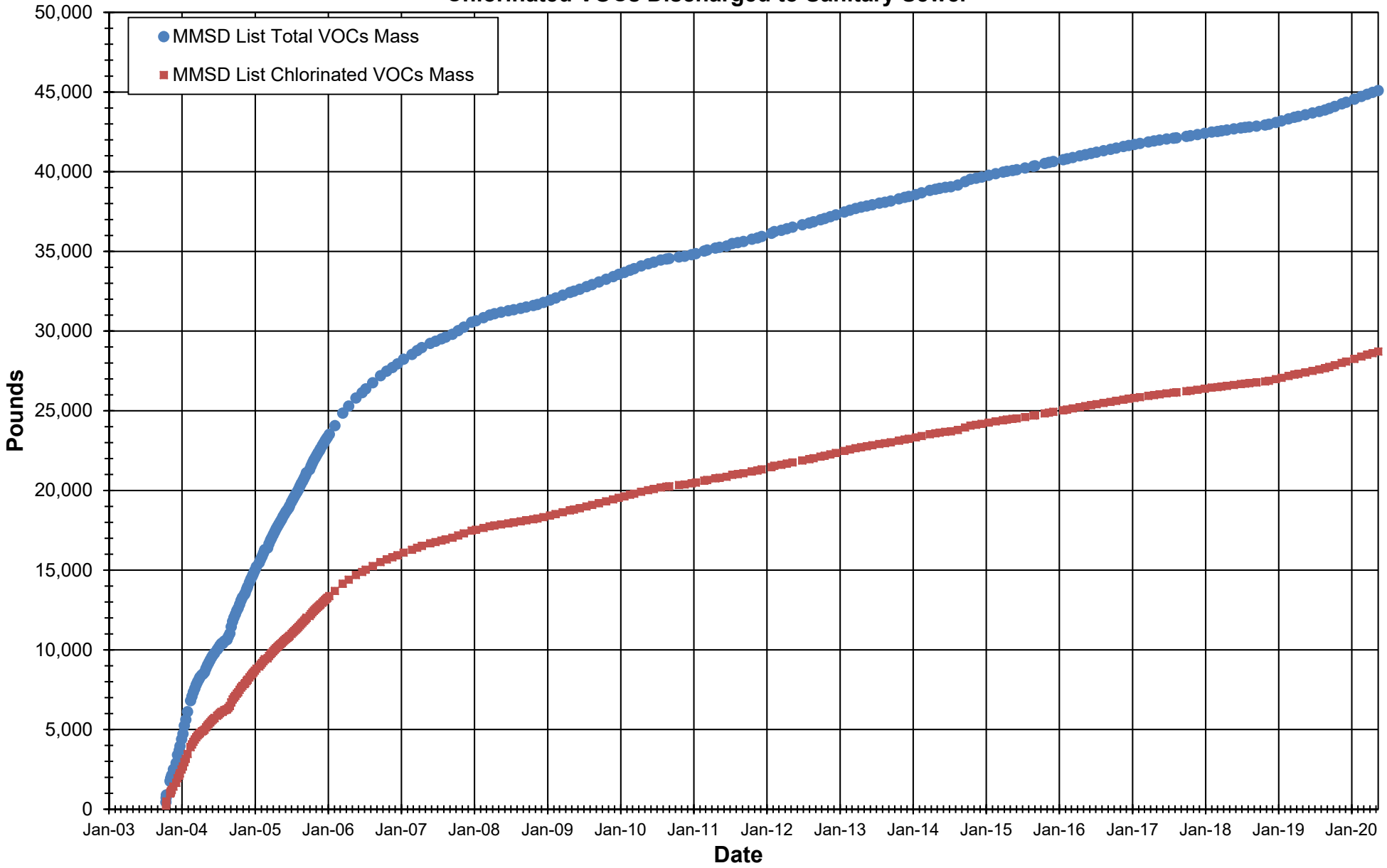
Chart 3. Hydrite Chemical Co. Hydraulic Barrier System Cumulative Mass of MMSD List Total Vocs and Chlorinated VOCs Discharged to Sanitary Sewer



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ATTACHMENT A
HYDRAULIC BARRIER SYSTEM
EFFLUENT SAMPLE FIELD FORM AND
LABORATORY ANALYTICAL REPORT

TETRA TECH REMEDIATION SYSTEM EFFLUENT WATER QUALITY SAMPLING AND ANALYSIS FORM

PROJECT INFORMATION		INSTRUMENTS	
PROJECT	Hydrite Chemical Co., Cottage Grove Facility Layer 5 Hydraulic Barrier System Monitoring	Temp. & pH	Hanna Combo
PROJECT NO.	117-3005039.05	Conductivity	Hanna Combo
LOCATION	Cottage Grove, WI	ORP	NA
PERSONNEL	Todd M. Thomson	DO	NA

SAMPLE ID	Effluent			
WATER TYPE	Groundwater			
DATE (month/day/year)	5-12-20			
CLOCK TIME (Military)	14:25			
FLOW METER READING (gallons)	19978654			
FLOW RATE (gpm)	123.0			
SAMPLING DEVICE	Sample Spigot on 6-inch discharge line			
FIELD TEMPERATURE (°C)	13.1			
pH	6.90			
ELECTRICAL CONDUCTIVITY at 25° C (µS/cm)	668			
ORP (mV)	NM			
DISSOLVED OXYGEN (ppm)	NM			
DISSOLVED OXYGEN (% Sat.)	NM			
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)			
TCL VOCs (Method SW846 8260B)	**3-40 ml; G; HCL-L; No**			
Chloride (Method 300.0)	**250-ml; P; None; No**			
NAME OF LABORATORY	Pace Analytical			
DATE SENT TO LAB	5-13-20			
SAMPLER'S NAME	TMT			

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Equipment Make	HANNA Instruments
Equipment Model	HI 98129 pH/EC/TDC/Temperature Meter
Tetra Tech GEO ID Number	1

DATE	TIME	CALIBRATION MEDIA	RESULTS	COMMENTS
5-12-20	14:10	pH 4.0 and pH 7.0 buffer solutions	Calibration successful	
5-12-20	14:10	1,413 µs conductivity calibration solution	Calibration successful	
		pH 4.0 and pH 7.0 buffer solutions	Calibration successful	
		1,413 µs conductivity calibration solution	Calibration successful	
		pH 4.0 and pH 7.0 buffer solutions	Calibration successful	
		1,413 µs conductivity calibration solution	Calibration successful	
		pH 4.0 and pH 7.0 buffer solutions	Calibration successful	
		1,413 µs conductivity calibration solution	Calibration successful	
		pH 4.0 and pH 7.0 buffer solutions	Calibration successful	
		1,413 µs conductivity calibration solution	Calibration successful	

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

May 21, 2020

Mark Manthey
Tetra Tech Geo
175 North Corporate Drive
Suite 100
Brookfield, WI 53045

RE: Project: 117-3005042-05 HYDRITE COTTAGE
Pace Project No.: 40207723

Dear Mark Manthey:

Enclosed are the analytical results for sample(s) received by the laboratory on May 14, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Green Bay

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Brian Basten
brian.basten@pacelabs.com
(920)469-2436
Project Manager

Enclosures

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CERTIFICATIONS

Project:	117-3005042-05 HYDRITE COTTAGE
Pace Project No.:	40207723

Pace Analytical Services Green Bay
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

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SAMPLE SUMMARY

Project: 117-3005042-05 HYDRITE COTTAGE
Pace Project No.: 40207723

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40207723001	**EFFLUENT**	Water	05/12/20 14:25	05/14/20 08:35

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SAMPLE ANALYTE COUNT

Project: 117-3005042-05 HYDRITE COTTAGE
Pace Project No.: 40207723

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40207723001	**EFFLUENT**	EPA 8260	LAP	38	PASI-G
		EPA 300.0	HMB	1	PASI-G

PASI-G = Pace Analytical Services - Green Bay

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PROJECT NARRATIVE

Project: 117-3005042-05 HYDRITE COTTAGE
Pace Project No.: 40207723

Method: **EPA 8260**
Description: 8260 MSV
Client: Tetra Tech GEO - Brookfield
Date: May 21, 2020

General Information:
1 sample was analyzed for EPA 8260 by Pace Analytical Services Green Bay. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 117-3005042-05 HYDRITE COTTAGE
Pace Project No.: 40207723

Method: **EPA 300.0**
Description: 300.0 IC Anions
Client: Tetra Tech GEO - Brookfield
Date: May 21, 2020

General Information:
1 sample was analyzed for EPA 300.0 by Pace Analytical Services Green Bay. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 117-3005042-05 HYDRITE COTTAGE
Pace Project No.: 40207723

Sample: EFFLUENT **Lab ID: 40207723001** Collected: 05/12/20 14:25 Received: 05/14/20 08:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
	Pace Analytical Services - Green Bay								
Acetone	**31.1J**	ug/L	200	27.4	10		05/15/20 19:40	67-64-1	
Benzene	**<2.5**	ug/L	10.0	2.5	10		05/15/20 19:40	71-43-2	
Bromodichloromethane	**<3.6**	ug/L	12.1	3.6	10		05/15/20 19:40	75-27-4	
Bromoform	**<39.7**	ug/L	132	39.7	10		05/15/20 19:40	75-25-2	
Bromomethane	**<9.7**	ug/L	50.0	9.7	10		05/15/20 19:40	74-83-9	
2-Butanone (MEK)	**<29.4**	ug/L	200	29.4	10		05/15/20 19:40	78-93-3	
Carbon disulfide	**<4.5**	ug/L	15.0	4.5	10		05/15/20 19:40	75-15-0	
Carbon tetrachloride	**<10.8**	ug/L	35.9	10.8	10		05/15/20 19:40	56-23-5	
Chlorobenzene	**<7.1**	ug/L	23.7	7.1	10		05/15/20 19:40	108-90-7	
Chloroethane	**173**	ug/L	50.0	13.4	10		05/15/20 19:40	75-00-3	
Chloroform	**<12.7**	ug/L	50.0	12.7	10		05/15/20 19:40	67-66-3	
Chloromethane	**<21.9**	ug/L	73.0	21.9	10		05/15/20 19:40	74-87-3	
Dibromochloromethane	**<26.0**	ug/L	86.7	26.0	10		05/15/20 19:40	124-48-1	
1,1-Dichloroethane	**597**	ug/L	10.0	2.7	10		05/15/20 19:40	75-34-3	
1,2-Dichloroethane	**3.6J**	ug/L	10.0	2.8	10		05/15/20 19:40	107-06-2	
1,1-Dichloroethene	**63.8**	ug/L	10.0	2.4	10		05/15/20 19:40	75-35-4	
cis-1,2-Dichloroethene	**1490**	ug/L	10.0	2.7	10		05/15/20 19:40	156-59-2	
trans-1,2-Dichloroethene	**41.7**	ug/L	15.5	4.6	10		05/15/20 19:40	156-60-5	
1,2-Dichloropropane	**<2.8**	ug/L	10.0	2.8	10		05/15/20 19:40	78-87-5	
cis-1,3-Dichloropropene	**<36.3**	ug/L	121	36.3	10		05/15/20 19:40	10061-01-5	
trans-1,3-Dichloropropene	**<43.7**	ug/L	146	43.7	10		05/15/20 19:40	10061-02-6	
Ethylbenzene	**35.8**	ug/L	10.6	3.2	10		05/15/20 19:40	100-41-4	
2-Hexanone	**<52.1**	ug/L	174	52.1	10		05/15/20 19:40	591-78-6	
Methylene Chloride	**94.6**	ug/L	50.0	5.8	10		05/15/20 19:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<46.4**	ug/L	155	46.4	10		05/15/20 19:40	108-10-1	
Styrene	**<30.1**	ug/L	100	30.1	10		05/15/20 19:40	100-42-5	
1,1,2,2-Tetrachloroethane	**<2.8**	ug/L	10.0	2.8	10		05/15/20 19:40	79-34-5	
Tetrachloroethene	**25.7**	ug/L	10.9	3.3	10		05/15/20 19:40	127-18-4	
Toluene	**301**	ug/L	9.0	2.7	10		05/15/20 19:40	108-88-3	
1,1,1-Trichloroethane	**747**	ug/L	10.0	2.4	10		05/15/20 19:40	71-55-6	
1,1,2-Trichloroethane	**<5.5**	ug/L	50.0	5.5	10		05/15/20 19:40	79-00-5	
Trichloroethene	**36.4**	ug/L	10.0	2.6	10		05/15/20 19:40	79-01-6	
Vinyl acetate	**<30.9**	ug/L	200	30.9	10		05/15/20 19:40	108-05-4	
Vinyl chloride	**36.7**	ug/L	10.0	1.7	10		05/15/20 19:40	75-01-4	
Xylene (Total)	**133**	ug/L	30.0	15.0	10		05/15/20 19:40	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		10		05/15/20 19:40	460-00-4	
Dibromofluoromethane (S)	105	%	70-130		10		05/15/20 19:40	1868-53-7	
Toluene-d8 (S)	96	%	70-130		10		05/15/20 19:40	2037-26-5	
300.0 IC Anions	Analytical Method: EPA 300.0								
	Pace Analytical Services - Green Bay								
Chloride	**40.8**	mg/L	10.0	2.2	5		05/18/20 17:42	16887-00-6	

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QUALITY CONTROL DATA

Project: 117-3005042-05 HYDRITE COTTAGE
Pace Project No.: 40207723

QC Batch: 355025
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40207723001

METHOD BLANK: 2054098
Matrix: Water
Associated Lab Samples: 40207723001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	<0.24	1.0	05/15/20 10:04	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	05/15/20 10:04	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	05/15/20 10:04	
1,1-Dichloroethane	ug/L	<0.27	1.0	05/15/20 10:04	
1,1-Dichloroethene	ug/L	<0.24	1.0	05/15/20 10:04	
1,2-Dichloroethane	ug/L	<0.28	1.0	05/15/20 10:04	
1,2-Dichloropropane	ug/L	<0.28	1.0	05/15/20 10:04	
2-Butanone (MEK)	ug/L	<2.9	20.0	05/15/20 10:04	
2-Hexanone	ug/L	<5.2	17.4	05/15/20 10:04	
4-Methyl-2-pentanone (MIBK)	ug/L	<4.6	15.5	05/15/20 10:04	
Acetone	ug/L	<2.7	20.0	05/15/20 10:04	
Benzene	ug/L	<0.25	1.0	05/15/20 10:04	
Bromodichloromethane	ug/L	<0.36	1.2	05/15/20 10:04	
Bromoform	ug/L	<4.0	13.2	05/15/20 10:04	
Bromomethane	ug/L	<0.97	5.0	05/15/20 10:04	
Carbon disulfide	ug/L	<0.45	1.5	05/15/20 10:04	
Carbon tetrachloride	ug/L	<1.1	3.6	05/15/20 10:04	
Chlorobenzene	ug/L	<0.71	2.4	05/15/20 10:04	
Chloroethane	ug/L	<1.3	5.0	05/15/20 10:04	
Chloroform	ug/L	<1.3	5.0	05/15/20 10:04	
Chloromethane	ug/L	<2.2	7.3	05/15/20 10:04	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	05/15/20 10:04	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	05/15/20 10:04	
Dibromochloromethane	ug/L	<2.6	8.7	05/15/20 10:04	
Ethylbenzene	ug/L	<0.32	1.1	05/15/20 10:04	
Methylene Chloride	ug/L	<0.58	5.0	05/15/20 10:04	
Styrene	ug/L	<3.0	10.0	05/15/20 10:04	
Tetrachloroethene	ug/L	<0.33	1.1	05/15/20 10:04	
Toluene	ug/L	<0.27	0.90	05/15/20 10:04	
trans-1,2-Dichloroethene	ug/L	<0.46	1.5	05/15/20 10:04	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	05/15/20 10:04	
Trichloroethene	ug/L	<0.26	1.0	05/15/20 10:04	
Vinyl acetate	ug/L	<3.1	20.0	05/15/20 10:04	
Vinyl chloride	ug/L	<0.17	1.0	05/15/20 10:04	
Xylene (Total)	ug/L	<1.5	3.0	05/15/20 10:04	
4-Bromofluorobenzene (S)	%	92	70-130	05/15/20 10:04	
Dibromofluoromethane (S)	%	102	70-130	05/15/20 10:04	
Toluene-d8 (S)	%	98	70-130	05/15/20 10:04	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 117-3005042-05 HYDRITE COTTAGE
Pace Project No.: 40207723

LABORATORY CONTROL SAMPLE: 2054099

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	46.2	92	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	54.4	109	64-131	
1,1,2-Trichloroethane	ug/L	50	53.7	107	70-130	
1,1-Dichloroethane	ug/L	50	51.8	104	69-163	
1,1-Dichloroethene	ug/L	50	42.0	84	77-123	
1,2-Dichloroethane	ug/L	50	53.4	107	78-142	
1,2-Dichloropropane	ug/L	50	54.6	109	86-134	
Benzene	ug/L	50	46.9	94	70-130	
Bromodichloromethane	ug/L	50	53.5	107	70-130	
Bromoform	ug/L	50	52.6	105	70-130	
Bromomethane	ug/L	50	19.7	39	39-129	
Carbon disulfide	ug/L	50	40.8	82	67-138	
Carbon tetrachloride	ug/L	50	51.3	103	70-132	
Chlorobenzene	ug/L	50	52.6	105	70-130	
Chloroethane	ug/L	50	39.2	78	66-140	
Chloroform	ug/L	50	48.6	97	75-132	
Chloromethane	ug/L	50	24.8	50	32-143	
cis-1,2-Dichloroethene	ug/L	50	46.0	92	70-130	
cis-1,3-Dichloropropene	ug/L	50	45.0	90	70-130	
Dibromochloromethane	ug/L	50	58.6	117	70-130	
Ethylbenzene	ug/L	50	50.8	102	80-120	
Methylene Chloride	ug/L	50	44.0	88	70-130	
Styrene	ug/L	50	52.0	104	70-130	
Tetrachloroethene	ug/L	50	53.2	106	70-130	
Toluene	ug/L	50	50.3	101	80-120	
trans-1,2-Dichloroethene	ug/L	50	44.9	90	70-130	
trans-1,3-Dichloropropene	ug/L	50	43.2	86	69-130	
Trichloroethene	ug/L	50	52.6	105	70-130	
Vinyl chloride	ug/L	50	29.6	59	51-140	
Xylene (Total)	ug/L	150	152	101	70-130	
4-Bromofluorobenzene (S)	%			97	70-130	
Dibromofluoromethane (S)	%			102	70-130	
Toluene-d8 (S)	%			98	70-130	

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(920)469-2436

QUALITY CONTROL DATA

Project: 117-3005042-05 HYDRITE COTTAGE
Pace Project No.: 40207723

QC Batch: 354969
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40207723001

METHOD BLANK: 2053786
Matrix: Water
Associated Lab Samples: 40207723001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.43	2.0	05/18/20 09:54	

LABORATORY CONTROL SAMPLE: 2053787

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	18.0	90	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2053788 2053789

Parameter	Units	40207738001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	146	100	100	245	243	99	98	90-110	1	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2053790 2053791

Parameter	Units	40207730002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	502	400	400	891	890	97	97	90-110	0	15	

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QUALIFIERS

Project: 117-3005042-05 HYDRITE COTTAGE
Pace Project No.: 40207723

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 117-3005042-05 HYDRITE COTTAGE
Pace Project No.: 40207723

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40207723001	**EFFLUENT**	EPA 8260	355025		
40207723001	**EFFLUENT**	EPA 300.0	354969		

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UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

Page 1 of 1

CHAIN OF CUSTODY

(Please Print Clearly)	
Company Name:	TETRA TECH
Branch/Location:	BROOKFIELD
Project Contact:	MARK MANTHEY
Phone:	(262) 792-1282
Project Number:	117-300542.05
Project Name:	HYDRATE COTTAGE GROVE
Project State:	WI.
Sampled By (Print):	TODD M. THOMPSON
Sampled By (Sign):	
PO #:	Regulatory Program:

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Quote #:	4200T123
Mail To Contact:	MARK MANTHEY
Mail To Company:	TETRA TECH
Mail To Address:	175N. CORPORATE DR. SUITE 100 BROOKFIELD, WI. 53045
Invoice To Contact:	SAME AS ABOVE
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
- ☐ EPA Level III
- ☐ EPA Level IV

MS/MSD
- ☐ On your sample (billable)
- ☐ NOT needed on your sample

Matrix Codes
A = Air, W = Water, B = Biota, DW = Drinking Water, C = Charcoal, GW = Ground Water, O = Oil, SW = Surface Water, S = Soil, WW = Waste Water, Sl = Sludge, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	Analyses Requested: TCL VOC 8260 (Y/N: N, Pick Letter: B)	CHLORIDE (Y/N: N, Pick Letter: A)	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	EFFLUENT	5-12	14:25	GW	3	1	*NOTE* SEE BRIAN BASTIAN FOR SPECIAL TCL VOC LIST.		

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed: STANDARD

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	5-13-20 0800	Mary Jannin	5/13/20 1255
Mary Jannin	5/13/20 1345		
CS Logistics	5/14/20 0835	Brandon Radtke	5/14/20 0835

PACE Project No. 4200T123

Receipt Temp = 1.0 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Sample Preservation Receipt Form

Client Name: Tetratech

Project # 40207723

Pace Analytical Services, LLC
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

All containers needing preservation have been checked and noted below: □Yes □No ☒N/A

Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

Initial when completed:

Date/ Time:

Pace Lab #	Glass								Plastic					Vials						Jars				General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	VG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN							
001																																	2.5 / 5 / 10
002																																	2.5 / 5 / 10
003																																	2.5 / 5 / 10
004																																	2.5 / 5 / 10
005																																	2.5 / 5 / 10
006																																	2.5 / 5 / 10
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018																																	2.5 / 5 / 10
019																																	2.5 / 5 / 10
020																																	2.5 / 5 / 10

5-14-20 [illegible]

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other:_____ Headspace in VOA Vials (>6mm) : □Yes □No ☒N/A *If yes look in headspace column

AG1U	1 liter amber glass
BG1U	1 liter clear glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG4U	120 mL amber glass unpres
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP3U	250 mL plastic unpres
BP3B	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4

VG9A	40 mL clear ascorbic
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI

JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN	

Pace Analytical® 1241 Bellevue Street, Green Bay, WI 54302	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: 26Mar2020
	Document No.: **ENV-FRM-GBAY-0014-Rev.00**	Author: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #: **WO#: 40207723**

40207723

Client Name: Tetratech

Courier: ☒ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☐ Client ☐ Pace Other: _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____

Thermometer Used SR - 98 **Type of Ice:** Wet Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 1.0 /Corr: 1.0

Temp Blank Present: ☐ yes ☒ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Person examining contents:
Date: 5/14/20 **/Initials:** BM
Labeled By Initials: EMW

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out: 5-14-20 BM	☒Yes ☒No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☒No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume: For Analysis: ☒Yes ☐No MS/MSD:	☐Yes ☒No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☒N/A	
Containers Intact:	☒Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☒Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
Trip Blank Present:	☐Yes ☐No ☒N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logir