January 12, 2018

Discharge Monitoring Report #171
(117-3005011.21)

Mr. Ralph Erickson, Pretreatment Coordinator
Madison Metropolitan Sewerage District
1610 Moorland Road
Madison, WI 53713-3398

RE: December 2017 Discharge Monitoring Report, Hydraulic Barrier System, Hydrite Chemical Co., Cottage Grove, Wisconsin

Dear Mr. Erickson:

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 December 2017. 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: December 27, 2017 at 12:20 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.:
  1. EPA Method 8260 for Volatile Organic Compounds (VOCs), January 2, 2018.
  2. EPA Method 300.0 for Chloride, January 4, 2018.

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

3. Method SM 2540D for Total Suspended Solids (TSS), December 28, 2017.
4. Method SM 5210B for Carbonaceous Biochemical Oxygen Demand, 5 day (cBOD), December 28, 2017.
5. EPA Method 351.2 for Total Kjeldahl Nitrogen, January 2, 2018.
6. EPA Method 365.4 for Total Phosphorus, January 8, 2016.
7. EPA Method 6010 for Cadmium, Chromium, Copper, Lead, Nickel, Selenium, Silver and Zinc, January 3, 2018.
8. EPA Method 7470 for Mercury, January 2, 2018.
9. EPA Method 335.4 for Total Cyanide, January 4, 2018.
10. Method SM 3500-CR B for Hexavalent Chromium, December 28, 2017.

Analysis performed in the field by Tetra Tech personnel:

1. Field pH, December 27, 2017.
   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, Table 2 and Table 3.

- 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)
December 2017 Discharge Volume (November 30 through December 31, 2017)	4,904,272
Cumulative Total Discharge Volume (October 8, 2003 through December 31, 2017)	806,932,580

<u>Hydraulic Barrier System Operation and Maintenance History for the Month of December 2017</u>

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 114 gallons per minute (gpm) in December.

Based on 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 December 2017

- P-128: 32.4 to 34.5 gpm.
- P-130: 25.4 to 26.3 gpm
- P-164: 55.4 to 59.3 gpm

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

- An area-wide power outage caused a shut-down of the hydraulic barrier system at 8:20 am on Sunday, December 3rd. The barrier system was re-started the same day at 11:15 am by Hydrite Chemical personnel.

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

- An automatic shut-down of the hydraulic barrier occurred at 1:30 pm on Wednesday, December 13th due to the failure of one of the lift station wet well pumps. Maintenance was performed on the pump by Village of Cottage Grove Public Works Department personnel. The barrier system was then re-started the same day at 4:55 pm by Hydrite chemical personnel.

- The failure of lift station pump #2 resulted in another automatic shut-down of the hydraulic barrier at approximately 4:50 pm on Thursday, December 14th. The barrier system was re-started the same day by Hydrite Chemical personnel at 6:55 pm after the pump was repaired by Village of Cottage Grove Public Works Department personnel.

- Lift station pump #2 failed again at 3:00 pm on Friday, December 15th. The barrier system was re-started the same day by Hydrite Chemical personnel at 3:55 pm after the pump was repaired by Village of Cottage Grove Public Works Department personnel.

- The hydraulic barrier system automatically shut down at 3:05 pm on Monday, December 18th due to a high lift station wet well water level alarm condition. The barrier system was re-started the same day at 4:43 pm by Hydrite Chemical personnel after the alarm condition was addressed by Village of Cottage Grove Public Works Department personnel.

- Another lift station wet well high water level alarm condition caused an automatic shut-down of the hydraulic barrier system at 6:45 am on Friday, December 22nd. The barrier system was re-started the same day by Hydrite Chemical personnel at 7:45 am after the alarm condition was addressed by Village of Cottage Grove Public Works Department personnel.

This report was prepared by,

Tetra Tech

Associate Hydrogeologist

encl.

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

TABLES
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					40162955002	
Date Sample Collected					12/27/17	
Dilution Factor for VOCs					10	
COMPOUND	Units	Detection Limits	NR140 ES	NR140 PAL		
1,1,1-Trichloroethane	ug/L	0.50	200	40	121	
2-Butanone (MEK)	ug/L	3.0	460	90		U
4-Methyl-2-Pentanone (MIBK)	ug/L	2.1	500	50		U
Acetone	ug/L	3.0	1000	200		U
cis-1,2-Dichloroethene	ug/L	0.26	70	7	1030	
Methylene chloride	ug/L	0.23	5.0	0.5	16.7	
Tetrachloroethene	ug/L	0.50	5.0	0.5	8.2	J
Toluene	ug/L	0.50	1000	200	155	
Trichloroethene	ug/L	0.33	5.0	0.5	31.7	
Vinyl chloride	ug/L	0.18	0.2	0.02	50.9	
Xylenes (total)	ug/L	2.6	10000	1000	59.8	
TOTAL VOCs	ug/L				1473.3	
Total Chlorinated VOCs	ug/L				1258.5	
Chloride	mg/L	2.5	250	125	40.6	

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.
MO - 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.

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Table 2. Summary of Hydraulic Barrier System Effluent Monitoring Inogranic Parameters Analytical Results, Hydrite Chemical Co., Cottage Grove Facility

Sample Identification		EFFLUENT
Lab Sample Identification		40162955002
Date Sample Collected		12/27/17
Parameter	Units	
Carbonaceous Biochemical Oxygen Demand (cBOD)	mg/L	<2.0
Nitrogen, Total Kjeldahl	mg/L	<0.22
Phosphorus	mg/L	<0.052
Total Suspended Solids	mg/L	<0.95

Notes: mg/L - milligrams per liter, which is equivalent to parts per million.
H1 - Analysis conducted outside the recognized method holding time.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
B - The compound was detected in an associated field blank, trip blank or method blank as well as in the sample at a similar concentration.
D3 - Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
N - Spiked sample recovery not within control lilmits
Q - Qualitative mass spectral evidence of analyte present; concentration is between the detection limit and limit of quantitation.
<2.0 - The compound was analyzed but not detected above its method detection limit of 2.0 ug/L.

Table 3. Summary of Hydraulic Barrier System Effluent Monitoring Metals and Cyanide Analytical Results, Hydrite Chemical Co., Cottage Grove Facility

Sample Identification						EFFLUENT	
Lab Sample Identification						40162955002	
Date Sample Collected						12/27/17	
COMPOUND	Units	NR140 ES	NR140 PAL	MMSD Effluent Limit	Target Detection Limits		
Cadmium	ug/L	5	0.5	250	1.3	<1.3	U
Chromium	ug/L	100	10	10000	2.5	<2.5	U
Chromium, Hexavalent	ug/L	NS	NS	500	0.0051	<0.0051	U1q
Copper	ug/L	1300	130	1500	6.3	<6.3	U
Lead	ug/L	15	1.5	5000	4.3	4.7	J
Mercury	ug/L	2	0.2	20	0.13	<0.13	U
Nickel	ug/L	100	20	2000	2.6	<2.6	U
Selenium	ug/L	50	10	300	16.6	<16.6	U
Silver	ug/L	50	10	3000	3.3	<3.3	U
Zinc	ug/L	5000	2500	8000	9.3	165	
Cyanide, Total	mg/L	0.2	0.04	100	0.0068	<0.0068	U

Notes:
MMSD - Madison Metropolitan Sewerage District.

B - Analyte was detected in the associated method blank.
C - Elevated detection limit due to matrix effect.
H3 - Sample was received outside recognized method holding time.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MO - Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
N - Spiked sample recovery not within control lilmits
R1 - RPD value was outside control limits.
U - Indicates the compound was analyzed but not detected.
1q - Anallyte was measured in the associated method blank at a concentration of 0.0061 mg/L.
ug/L - micrograms per liter which is equivalent to parts per billion (ppb)
mg/L - milligrams per litter which is equivalent to parts per million (ppm)

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.

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

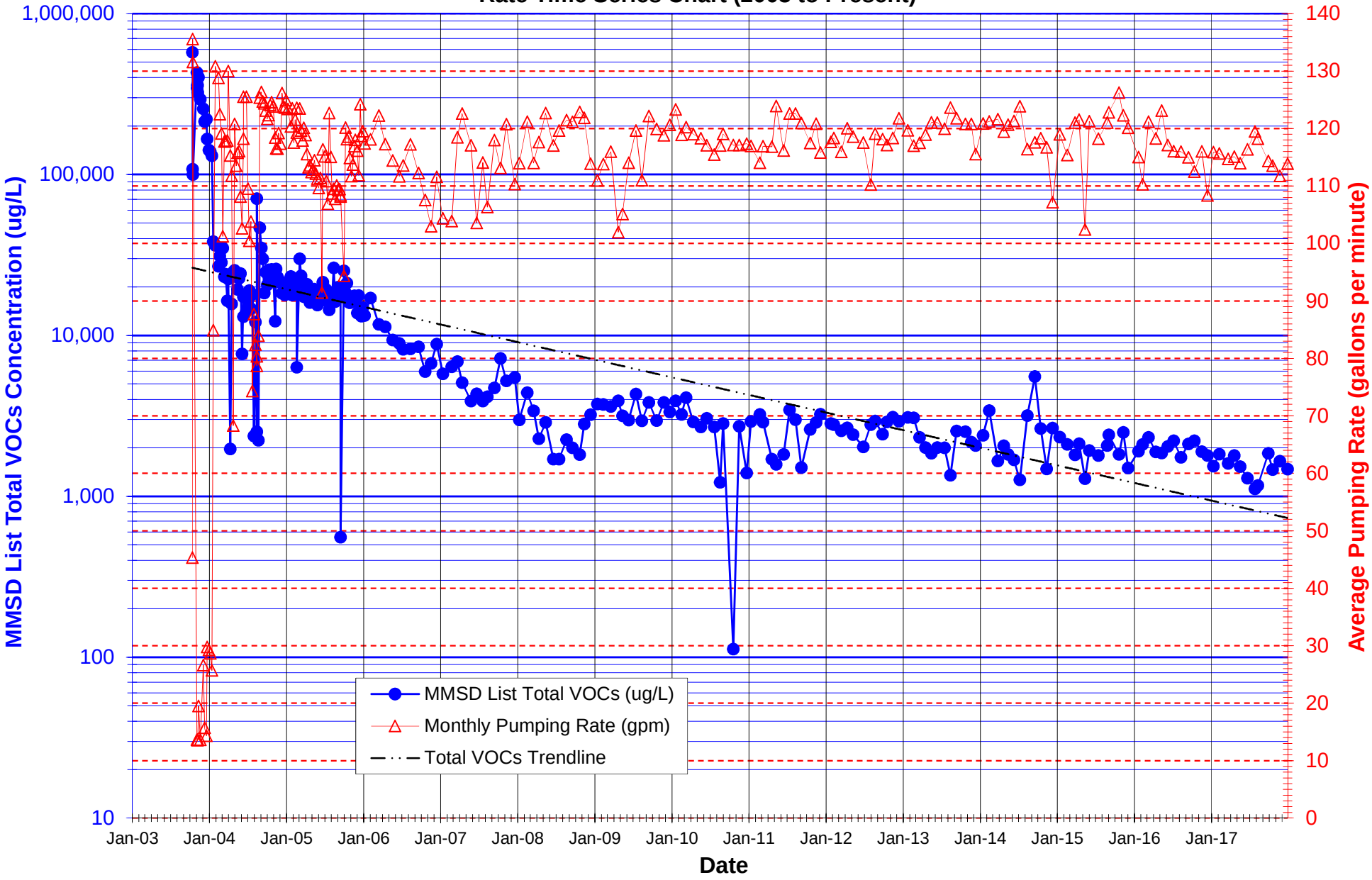

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Chart 2. Hydrite Chemical Co. Hydraulic Barrier System MMSD List Total VOCs and Average Pumping Rate Time Series Chart (2008 to Present)

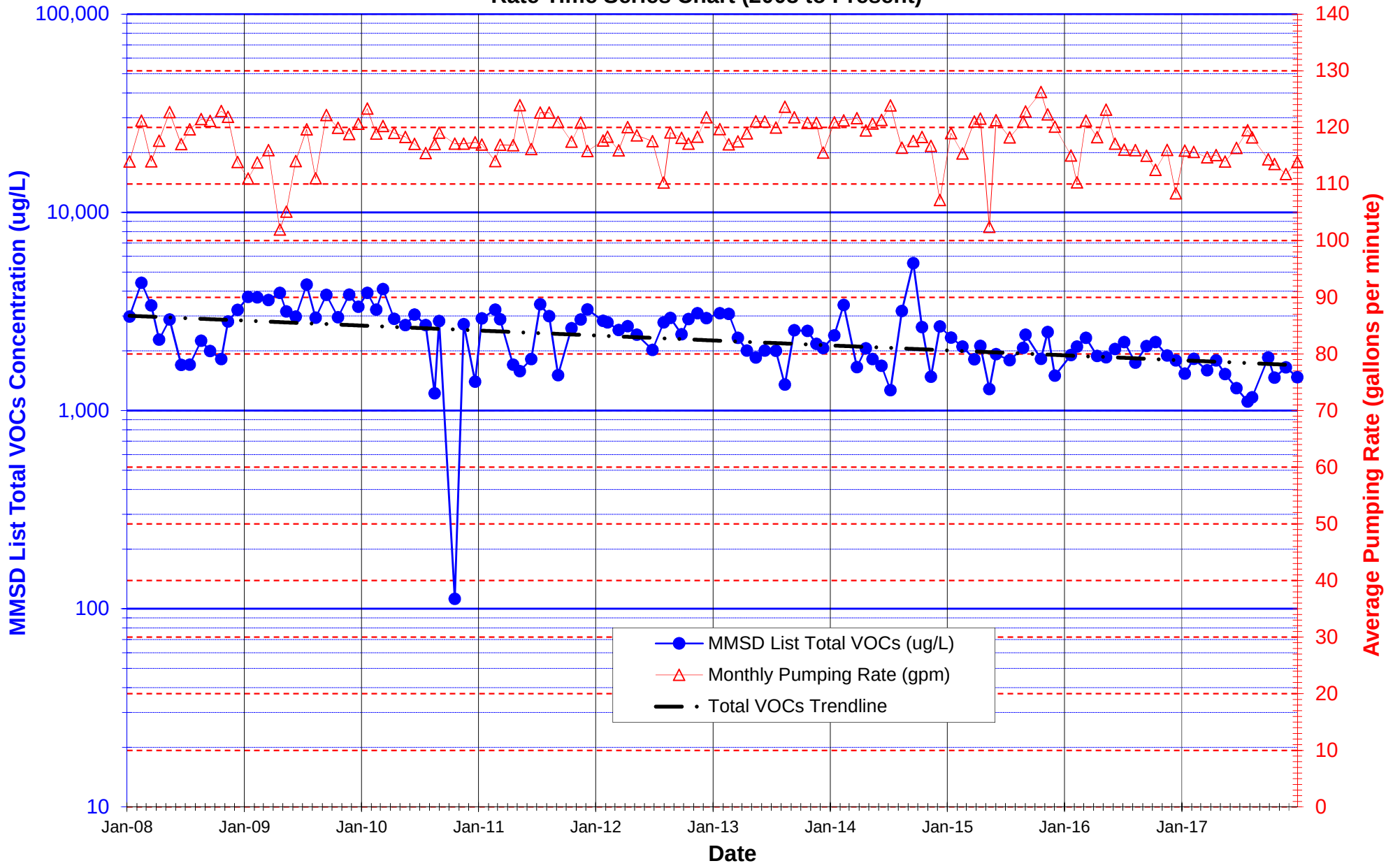

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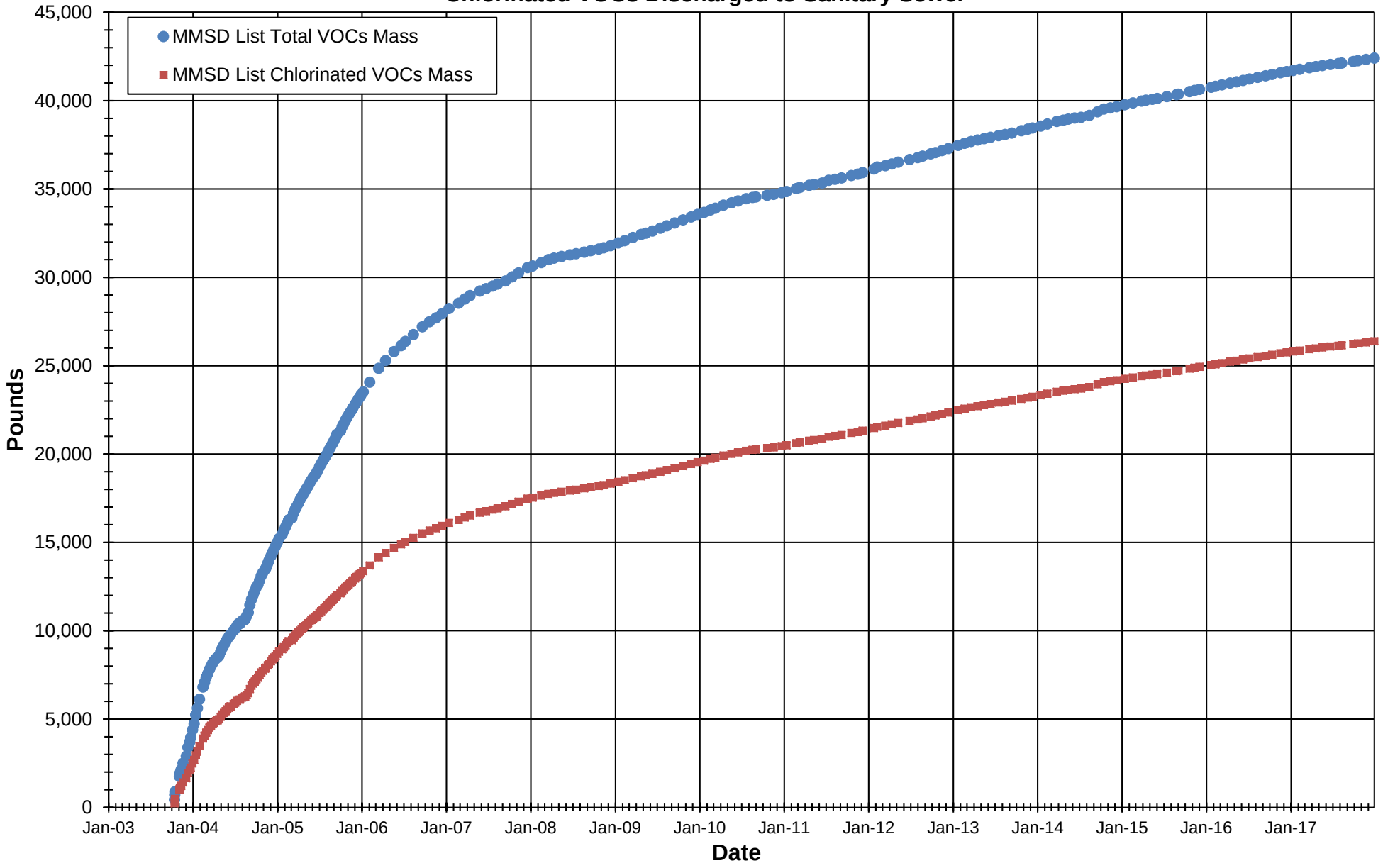
Chart 3. Hydrite Chemical Co. Hydraulic Barrier System Cumulative Mass of MMSD List Total Vocs and Chlorinated VOCs Discharged to Sanitary Sewer



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ATTACHMENT A
HYDRAULIC BARRIER SYSTEM
EFFLUENT SAMPLE FIELD FORMS 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
PROJECT NO.	117-3005011.21	Conductivity	HANNA
LOCATION	Cottage Grove, WI	ORP	NA
PERSONNEL	Tom Thomson	DO	NA

SAMPLE ID	Effluent		
WATER TYPE	Groundwater		
DATE (month/day/year)	12-27-17		
CLOCK TIME (Military)	12:20		
FLOW METER READING (gallons)	76882128		
FLOW RATE (gpm)	110.4		
SAMPLING DEVICE	Sample Spigot on 6-inch discharge line		
FIELD TEMPERATURE (°C)	10.9		
pH	7.41		
ELECRITCAL CONDUCTIVITY at 25° C (uS/cm)	771		
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		
Carbonaceous Biochemical Oxygen Demand (CBOD. 5 day) (Method SM 5210B)	1-liter; P; None; No	*48-hour hold time.	
Nitrogen, Total Kjeldahl (EPA Method 351.2), & Phosphorous (EPA Method 365.1)	1-500 ml; P; H_2SO_4-L; No		
Total Suspended Solids (EPA Method 160.2)	1-liter; P; None; No		
Metals (EPA Method 6010)*	1-liter; P; HNO_3-L; No	*Metals = cadmium, total chromium, copper, lead, mercury, nickel, selenium, silver and zinc.	
Cyanide (EPA Method 335.4)	1-500 ml; P; NaOH-L; No		
Hexavalent Chromium (EPA Method 7196)*	1-500 ml; P; HNO_3-L; No	*24-hour hold time.	
NAME OF LABORATORY	Pace Analytical		
DATE SENT TO LAB	12-27-17		
SAMPLER'S NAME	TmT		

TETRA TECH EQUIPMENT CALIBRATION FORM

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
12-27-17	10:20	pH 4.0 and pH 7.0 buffer solutions	Calibration successful	
12-27-17	10:20	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

January 11, 2018

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

RE: Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Dear Mark Manthey:
Enclosed are the analytical results for sample(s) received by the laboratory on December 28, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

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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Green Bay, WI 54302
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CERTIFICATIONS

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Green Bay Certification IDs

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: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40162955001	**VILLAGE WELL NO.2**	Water	12/27/17 09:10	12/28/17 10:02
40162955002	**EFFLUENT**	Water	12/27/17 12:20	12/28/17 10:02
40162955003	**P-128**	Water	12/27/17 11:15	12/28/17 10:02
40162955004	**P-164**	Water	12/27/17 11:40	12/28/17 10:02
40162955005	**P-164 DUP**	Water	12/27/17 11:45	12/28/17 10:02
40162955006	**TB-3**	Water	12/27/17 00:00	12/28/17 10:02

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SAMPLE ANALYTE COUNT

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40162955002	**EFFLUENT**	EPA 6010	JLD	8	PASI-G
		EPA 7470	AJT	1	PASI-G
		EPA 8260	MDS	38	PASI-G
		SM 2540D	JMN	1	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		SM 5210B	JMN	1	PASI-G
		EPA 300.0	JMN	1	PASI-G
		EPA 335.4	DAW	1	PASI-G
		EPA 351.2	TMK	1	PASI-G
		EPA 365.4	DAW	1	PASI-G
40162955003	**P-128**	EPA 8260	MDS	38	PASI-G
40162955004	**P-164**	EPA 8260	MDS	38	PASI-G
40162955005	**P-164 DUP**	EPA 8260	MDS	38	PASI-G
40162955006	**TB-3**	EPA 8260	MDS	38	PASI-G

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PROJECT NARRATIVE

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Tetra Tech GEO - Brookfield
Date: January 11, 2018

General Information:
1 sample was analyzed for EPA 6010. 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.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 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.

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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Green Bay, WI 54302
(920)469-2436

PROJECT NARRATIVE

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Method: **EPA 7470**
Description: 7470 Mercury
Client: Tetra Tech GEO - Brookfield
Date: January 11, 2018

General Information:
1 sample was analyzed for EPA 7470. 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.

Sample Preparation:
The samples were prepared in accordance with EPA 7470 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.

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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Green Bay, WI 54302
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PROJECT NARRATIVE

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Method: **EPA 8260**
Description: 8260 MSV
Client: Tetra Tech GEO - Brookfield
Date: January 11, 2018

General Information:
5 samples were analyzed for EPA 8260. 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.

QC Batch: 278176

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.

- LCS (Lab ID: 1634721)
  - Chloroethane

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

QC Batch: 278176

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 40162912002

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 1634836)
  - Chloroethane

Additional Comments:

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

PROJECT NARRATIVE

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Method: **EPA 8260**
Description: 8260 MSV
Client: Tetra Tech GEO - Brookfield
Date: January 11, 2018

Analyte Comments:

QC Batch: 278176

2q: Samples not stored at <4 degrees prior to analysis, results should be considered estimates.

- EFFLUENT (Lab ID: 40162955002)
  - 4-Bromofluorobenzene (S)
- P-128 (Lab ID: 40162955003)
  - 4-Bromofluorobenzene (S)
- P-164 (Lab ID: 40162955004)
  - 4-Bromofluorobenzene (S)
- P-164 DUP (Lab ID: 40162955005)
  - 4-Bromofluorobenzene (S)
- TB-3 (Lab ID: 40162955006)
  - 4-Bromofluorobenzene (S)

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PROJECT NARRATIVE

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Method: **SM 2540D**
Description: 2540D Total Suspended Solids
Client: Tetra Tech GEO - Brookfield
Date: January 11, 2018

General Information:
1 sample was analyzed for SM 2540D. 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.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Method: **SM 3500-Cr B (Online)**
Description: Chromium, Hexavalent
Client: Tetra Tech GEO - Brookfield
Date: January 11, 2018

General Information:
1 sample was analyzed for SM 3500-Cr B (Online). 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:

Analyte Comments:

QC Batch: 278160

1q: Analyte was measured in the associated method blank at a concentration of -0.0061mg/L.

- EFFLUENT (Lab ID: 40162955002)
  - Chromium, Hexavalent

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PROJECT NARRATIVE

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Method: **SM 5210B**
Description: 5210B cBOD, 5 day
Client: Tetra Tech GEO - Brookfield
Date: January 11, 2018

General Information:
1 sample was analyzed for SM 5210B. 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.

Sample Preparation:
The samples were prepared in accordance with SM 5210B 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.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Tetra Tech GEO - Brookfield
Date: January 11, 2018

General Information:
1 sample was analyzed for EPA 300.0. 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:

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PROJECT NARRATIVE

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Method: **EPA 335.4**
Description: 335.4 Cyanide, Total
Client: Tetra Tech GEO - Brookfield
Date: January 11, 2018

General Information:
1 sample was analyzed for EPA 335.4. 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.

Sample Preparation:
The samples were prepared in accordance with EPA 335.4 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.

QC Batch: 278456

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 40162992001

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 1635803)
  - Cyanide

Additional Comments:

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PROJECT NARRATIVE

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Method: **EPA 351.2**
Description: 351.2 Total Kjeldahl Nitrogen
Client: Tetra Tech GEO - Brookfield
Date: January 11, 2018

General Information:
1 sample was analyzed for EPA 351.2. 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.

Sample Preparation:
The samples were prepared in accordance with EPA 351.2 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: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Method: **EPA 365.4**
Description: 365.4 Total Phosphorus
Client: Tetra Tech GEO - Brookfield
Date: January 11, 2018

General Information:
1 sample was analyzed for EPA 365.4. 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.

Sample Preparation:
The samples were prepared in accordance with EPA 365.4 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: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Sample: EFFLUENT **Lab ID: 40162955002** Collected: 12/27/17 12:20 Received: 12/28/17 10:02 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Cadmium	**<1.3**	ug/L	5.0	1.3	1	01/03/18 10:01	01/04/18 13:10	7440-43-9	
Chromium	**<2.5**	ug/L	10.0	2.5	1	01/03/18 10:01	01/04/18 13:10	7440-47-3	
Copper	**<6.3**	ug/L	20.0	6.3	1	01/03/18 10:01	01/04/18 13:10	7440-50-8	
Lead	**4.7J**	ug/L	13.0	4.3	1	01/03/18 10:01	01/04/18 13:10	7439-92-1	
Nickel	**<2.6**	ug/L	10.0	2.6	1	01/03/18 10:01	01/04/18 13:10	7440-02-0	
Selenium	**<16.6**	ug/L	50.0	16.6	1	01/03/18 10:01	01/04/18 13:10	7782-49-2	
Silver	**<3.3**	ug/L	10.0	3.3	1	01/03/18 10:01	01/04/18 13:10	7440-22-4	
Zinc	**165**	ug/L	40.0	9.3	1	01/03/18 10:01	01/04/18 13:10	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**<0.13**	ug/L	0.42	0.13	1	01/02/18 10:50	01/03/18 08:25	7439-97-6	
8260 MSV	Analytical Method: EPA 8260								
Acetone	**<29.5**	ug/L	200	29.5	10		01/02/18 14:14	67-64-1	
Benzene	**<5.0**	ug/L	10.0	5.0	10		01/02/18 14:14	71-43-2	
Bromodichloromethane	**<5.0**	ug/L	10.0	5.0	10		01/02/18 14:14	75-27-4	
Bromoform	**<5.0**	ug/L	10.0	5.0	10		01/02/18 14:14	75-25-2	
Bromomethane	**<24.3**	ug/L	50.0	24.3	10		01/02/18 14:14	74-83-9	
2-Butanone (MEK)	**<29.8**	ug/L	200	29.8	10		01/02/18 14:14	78-93-3	
Carbon disulfide	**<6.1**	ug/L	50.0	6.1	10		01/02/18 14:14	75-15-0	
Carbon tetrachloride	**<5.0**	ug/L	10.0	5.0	10		01/02/18 14:14	56-23-5	
Chlorobenzene	**<5.0**	ug/L	10.0	5.0	10		01/02/18 14:14	108-90-7	
Chloroethane	**181**	ug/L	10.0	3.7	10		01/02/18 14:14	75-00-3	L1
Chloroform	**<25.0**	ug/L	50.0	25.0	10		01/02/18 14:14	67-66-3	
Chloromethane	**<5.0**	ug/L	10.0	5.0	10		01/02/18 14:14	74-87-3	
Dibromochloromethane	**<5.0**	ug/L	10.0	5.0	10		01/02/18 14:14	124-48-1	
1,1-Dichloroethane	**312**	ug/L	10.0	2.4	10		01/02/18 14:14	75-34-3	
1,2-Dichloroethane	**<1.7**	ug/L	10.0	1.7	10		01/02/18 14:14	107-06-2	
1,1-Dichloroethene	**57.4**	ug/L	10.0	4.1	10		01/02/18 14:14	75-35-4	
cis-1,2-Dichloroethene	**1030**	ug/L	10.0	2.6	10		01/02/18 14:14	156-59-2	
trans-1,2-Dichloroethene	**20.2**	ug/L	10.0	2.6	10		01/02/18 14:14	156-60-5	
1,2-Dichloropropane	**<2.3**	ug/L	10.0	2.3	10		01/02/18 14:14	78-87-5	
cis-1,3-Dichloropropene	**<5.0**	ug/L	10.0	5.0	10		01/02/18 14:14	10061-01-5	
trans-1,3-Dichloropropene	**<2.3**	ug/L	10.0	2.3	10		01/02/18 14:14	10061-02-6	
Ethylbenzene	**15.1**	ug/L	10.0	5.0	10		01/02/18 14:14	100-41-4	
2-Hexanone	**<11.1**	ug/L	50.0	11.1	10		01/02/18 14:14	591-78-6	
Methylene Chloride	**16.7**	ug/L	10.0	2.3	10		01/02/18 14:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<21.4**	ug/L	50.0	21.4	10		01/02/18 14:14	108-10-1	
Styrene	**<5.0**	ug/L	10.0	5.0	10		01/02/18 14:14	100-42-5	
1,1,2,2-Tetrachloroethane	**<2.5**	ug/L	10.0	2.5	10		01/02/18 14:14	79-34-5	
Tetrachloroethene	**8.2J**	ug/L	10.0	5.0	10		01/02/18 14:14	127-18-4	
Toluene	**155**	ug/L	10.0	5.0	10		01/02/18 14:14	108-88-3	
1,1,1-Trichloroethane	**121**	ug/L	10.0	5.0	10		01/02/18 14:14	71-55-6	
1,1,2-Trichloroethane	**<2.0**	ug/L	10.0	2.0	10		01/02/18 14:14	79-00-5	
Trichloroethene	**31.7**	ug/L	10.0	3.3	10		01/02/18 14:14	79-01-6	
Vinyl acetate	**<9.2**	ug/L	50.0	9.2	10		01/02/18 14:14	108-05-4	

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ANALYTICAL RESULTS

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Sample: EFFLUENT **Lab ID: 40162955002** Collected: 12/27/17 12:20 Received: 12/28/17 10:02 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Vinyl chloride	**50.9**	ug/L	10.0	1.8	10		01/02/18 14:14	75-01-4	
Xylene (Total)	**59.8**	ug/L	30.0	15.0	10		01/02/18 14:14	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	88	%	61-130		10		01/02/18 14:14	460-00-4	2q
Dibromofluoromethane (S)	108	%	67-130		10		01/02/18 14:14	1868-53-7	
Toluene-d8 (S)	96	%	70-130		10		01/02/18 14:14	2037-26-5	
2540D Total Suspended Solids	Analytical Method: SM 2540D								
Total Suspended Solids	**<0.95**	mg/L	2.0	0.95	1		12/28/17 16:04		
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.0051**	mg/L	0.017	0.0051	1		12/28/17 11:15		1q
5210B cBOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B								
Carbonaceous BOD, 5 day	**<2.0**	mg/L	2.0	2.0	1	12/28/17 11:25	01/02/18 12:05		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**40.6**	mg/L	2.0	0.50	1		01/04/18 19:11	16887-00-6	
335.4 Cyanide, Total	Analytical Method: EPA 335.4 Preparation Method: EPA 335.4								
Cyanide	**<0.0068**	mg/L	0.023	0.0068	1	01/04/18 10:25	01/04/18 12:10	57-12-5	
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2								
Nitrogen, Kjeldahl, Total	**<0.22**	mg/L	0.73	0.22	1	01/02/18 13:08	01/02/18 18:11	7727-37-9	
365.4 Total Phosphorus	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4								
Phosphorus	**<0.052**	mg/L	0.40	0.052	1	01/08/18 08:50	01/08/18 15:02	7723-14-0	

Sample: P-128 **Lab ID: 40162955003** Collected: 12/27/17 11:15 Received: 12/28/17 10:02 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	**<7.4**	ug/L	50.0	7.4	2.5		01/02/18 14:36	67-64-1	
Benzene	**<1.2**	ug/L	2.5	1.2	2.5		01/02/18 14:36	71-43-2	
Bromodichloromethane	**<1.2**	ug/L	2.5	1.2	2.5		01/02/18 14:36	75-27-4	
Bromoform	**<1.2**	ug/L	2.5	1.2	2.5		01/02/18 14:36	75-25-2	
Bromomethane	**<6.1**	ug/L	12.5	6.1	2.5		01/02/18 14:36	74-83-9	
2-Butanone (MEK)	**<7.4**	ug/L	50.0	7.4	2.5		01/02/18 14:36	78-93-3	
Carbon disulfide	**<1.5**	ug/L	12.5	1.5	2.5		01/02/18 14:36	75-15-0	
Carbon tetrachloride	**<1.2**	ug/L	2.5	1.2	2.5		01/02/18 14:36	56-23-5	
Chlorobenzene	**<1.2**	ug/L	2.5	1.2	2.5		01/02/18 14:36	108-90-7	
Chloroethane	**<0.94**	ug/L	2.5	0.94	2.5		01/02/18 14:36	75-00-3	L1

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ANALYTICAL RESULTS

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Sample: P-128 **Lab ID: 40162955003** Collected: 12/27/17 11:15 Received: 12/28/17 10:02 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Chloroform	**<6.2**	ug/L	12.5	6.2	2.5		01/02/18 14:36	67-66-3	
Chloromethane	**<1.2**	ug/L	2.5	1.2	2.5		01/02/18 14:36	74-87-3	
Dibromochloromethane	**<1.2**	ug/L	2.5	1.2	2.5		01/02/18 14:36	124-48-1	
1,1-Dichloroethane	**51.9**	ug/L	2.5	0.60	2.5		01/02/18 14:36	75-34-3	
1,2-Dichloroethane	**<0.42**	ug/L	2.5	0.42	2.5		01/02/18 14:36	107-06-2	
1,1-Dichloroethene	**22.6**	ug/L	2.5	1.0	2.5		01/02/18 14:36	75-35-4	
cis-1,2-Dichloroethene	**303**	ug/L	2.5	0.64	2.5		01/02/18 14:36	156-59-2	
trans-1,2-Dichloroethene	**11.8**	ug/L	2.5	0.64	2.5		01/02/18 14:36	156-60-5	
1,2-Dichloropropane	**<0.58**	ug/L	2.5	0.58	2.5		01/02/18 14:36	78-87-5	
cis-1,3-Dichloropropene	**<1.2**	ug/L	2.5	1.2	2.5		01/02/18 14:36	10061-01-5	
trans-1,3-Dichloropropene	**<0.57**	ug/L	2.5	0.57	2.5		01/02/18 14:36	10061-02-6	
Ethylbenzene	**<1.2**	ug/L	2.5	1.2	2.5		01/02/18 14:36	100-41-4	
2-Hexanone	**<2.8**	ug/L	12.5	2.8	2.5		01/02/18 14:36	591-78-6	
Methylene Chloride	**<0.58**	ug/L	2.5	0.58	2.5		01/02/18 14:36	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.4**	ug/L	12.5	5.4	2.5		01/02/18 14:36	108-10-1	
Styrene	**<1.2**	ug/L	2.5	1.2	2.5		01/02/18 14:36	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.62**	ug/L	2.5	0.62	2.5		01/02/18 14:36	79-34-5	
Tetrachloroethene	**4.8**	ug/L	2.5	1.2	2.5		01/02/18 14:36	127-18-4	
Toluene	**<1.2**	ug/L	2.5	1.2	2.5		01/02/18 14:36	108-88-3	
1,1,1-Trichloroethane	**111**	ug/L	2.5	1.2	2.5		01/02/18 14:36	71-55-6	
1,1,2-Trichloroethane	**<0.49**	ug/L	2.5	0.49	2.5		01/02/18 14:36	79-00-5	
Trichloroethene	**14.2**	ug/L	2.5	0.83	2.5		01/02/18 14:36	79-01-6	
Vinyl acetate	**<2.3**	ug/L	12.5	2.3	2.5		01/02/18 14:36	108-05-4	
Vinyl chloride	**<0.44**	ug/L	2.5	0.44	2.5		01/02/18 14:36	75-01-4	
Xylene (Total)	**<3.8**	ug/L	7.5	3.8	2.5		01/02/18 14:36	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	84	%	61-130		2.5		01/02/18 14:36	460-00-4	2q
Dibromofluoromethane (S)	105	%	67-130		2.5		01/02/18 14:36	1868-53-7	
Toluene-d8 (S)	94	%	70-130		2.5		01/02/18 14:36	2037-26-5	

Sample: P-164 **Lab ID: 40162955004** Collected: 12/27/17 11:40 Received: 12/28/17 10:02 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	**<29.5**	ug/L	200	29.5	10		01/02/18 14:59	67-64-1	
Benzene	**<5.0**	ug/L	10.0	5.0	10		01/02/18 14:59	71-43-2	
Bromodichloromethane	**<5.0**	ug/L	10.0	5.0	10		01/02/18 14:59	75-27-4	
Bromoform	**<5.0**	ug/L	10.0	5.0	10		01/02/18 14:59	75-25-2	
Bromomethane	**<24.3**	ug/L	50.0	24.3	10		01/02/18 14:59	74-83-9	
2-Butanone (MEK)	**<29.8**	ug/L	200	29.8	10		01/02/18 14:59	78-93-3	
Carbon disulfide	**<6.1**	ug/L	50.0	6.1	10		01/02/18 14:59	75-15-0	
Carbon tetrachloride	**<5.0**	ug/L	10.0	5.0	10		01/02/18 14:59	56-23-5	
Chlorobenzene	**<5.0**	ug/L	10.0	5.0	10		01/02/18 14:59	108-90-7	

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ANALYTICAL RESULTS

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Sample: P-164 **Lab ID: 40162955004** Collected: 12/27/17 11:40 Received: 12/28/17 10:02 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Chloroethane	**370**	ug/L	10.0	3.7	10		01/02/18 14:59	75-00-3	L1
Chloroform	**<25.0**	ug/L	50.0	25.0	10		01/02/18 14:59	67-66-3	
Chloromethane	**<5.0**	ug/L	10.0	5.0	10		01/02/18 14:59	74-87-3	
Dibromochloromethane	**<5.0**	ug/L	10.0	5.0	10		01/02/18 14:59	124-48-1	
1,1-Dichloroethane	**641**	ug/L	10.0	2.4	10		01/02/18 14:59	75-34-3	
1,2-Dichloroethane	**4.7J**	ug/L	10.0	1.7	10		01/02/18 14:59	107-06-2	
1,1-Dichloroethene	**108**	ug/L	10.0	4.1	10		01/02/18 14:59	75-35-4	
cis-1,2-Dichloroethene	**1960**	ug/L	10.0	2.6	10		01/02/18 14:59	156-59-2	
trans-1,2-Dichloroethene	**11.7**	ug/L	10.0	2.6	10		01/02/18 14:59	156-60-5	
1,2-Dichloropropane	**<2.3**	ug/L	10.0	2.3	10		01/02/18 14:59	78-87-5	
cis-1,3-Dichloropropene	**<5.0**	ug/L	10.0	5.0	10		01/02/18 14:59	10061-01-5	
trans-1,3-Dichloropropene	**<2.3**	ug/L	10.0	2.3	10		01/02/18 14:59	10061-02-6	
Ethylbenzene	**76.0**	ug/L	10.0	5.0	10		01/02/18 14:59	100-41-4	
2-Hexanone	**<11.1**	ug/L	50.0	11.1	10		01/02/18 14:59	591-78-6	
Methylene Chloride	**37.8**	ug/L	10.0	2.3	10		01/02/18 14:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<21.4**	ug/L	50.0	21.4	10		01/02/18 14:59	108-10-1	
Styrene	**<5.0**	ug/L	10.0	5.0	10		01/02/18 14:59	100-42-5	
1,1,2,2-Tetrachloroethane	**<2.5**	ug/L	10.0	2.5	10		01/02/18 14:59	79-34-5	
Tetrachloroethene	**7.5J**	ug/L	10.0	5.0	10		01/02/18 14:59	127-18-4	
Toluene	**571**	ug/L	10.0	5.0	10		01/02/18 14:59	108-88-3	
1,1,1-Trichloroethane	**137**	ug/L	10.0	5.0	10		01/02/18 14:59	71-55-6	
1,1,2-Trichloroethane	**<2.0**	ug/L	10.0	2.0	10		01/02/18 14:59	79-00-5	
Trichloroethene	**55.3**	ug/L	10.0	3.3	10		01/02/18 14:59	79-01-6	
Vinyl acetate	**<9.2**	ug/L	50.0	9.2	10		01/02/18 14:59	108-05-4	
Vinyl chloride	**123**	ug/L	10.0	1.8	10		01/02/18 14:59	75-01-4	
Xylene (Total)	**258**	ug/L	30.0	15.0	10		01/02/18 14:59	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	91	%	61-130		10		01/02/18 14:59	460-00-4	2q
Dibromofluoromethane (S)	105	%	67-130		10		01/02/18 14:59	1868-53-7	
Toluene-d8 (S)	100	%	70-130		10		01/02/18 14:59	2037-26-5	

Sample: P-164 DUP **Lab ID: 40162955005** Collected: 12/27/17 11:45 Received: 12/28/17 10:02 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	**<29.5**	ug/L	200	29.5	10		01/02/18 15:21	67-64-1	
Benzene	**<5.0**	ug/L	10.0	5.0	10		01/02/18 15:21	71-43-2	
Bromodichloromethane	**<5.0**	ug/L	10.0	5.0	10		01/02/18 15:21	75-27-4	
Bromoform	**<5.0**	ug/L	10.0	5.0	10		01/02/18 15:21	75-25-2	
Bromomethane	**<24.3**	ug/L	50.0	24.3	10		01/02/18 15:21	74-83-9	
2-Butanone (MEK)	**<29.8**	ug/L	200	29.8	10		01/02/18 15:21	78-93-3	
Carbon disulfide	**<6.1**	ug/L	50.0	6.1	10		01/02/18 15:21	75-15-0	
Carbon tetrachloride	**<5.0**	ug/L	10.0	5.0	10		01/02/18 15:21	56-23-5	

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ANALYTICAL RESULTS

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Sample: P-164 DUP **Lab ID: 40162955005** Collected: 12/27/17 11:45 Received: 12/28/17 10:02 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Chlorobenzene	**<5.0**	ug/L	10.0	5.0	10		01/02/18 15:21	108-90-7	
Chloroethane	**393**	ug/L	10.0	3.7	10		01/02/18 15:21	75-00-3	L1
Chloroform	**<25.0**	ug/L	50.0	25.0	10		01/02/18 15:21	67-66-3	
Chloromethane	**<5.0**	ug/L	10.0	5.0	10		01/02/18 15:21	74-87-3	
Dibromochloromethane	**<5.0**	ug/L	10.0	5.0	10		01/02/18 15:21	124-48-1	
1,1-Dichloroethane	**669**	ug/L	10.0	2.4	10		01/02/18 15:21	75-34-3	
1,2-Dichloroethane	**<1.7**	ug/L	10.0	1.7	10		01/02/18 15:21	107-06-2	
1,1-Dichloroethene	**107**	ug/L	10.0	4.1	10		01/02/18 15:21	75-35-4	
cis-1,2-Dichloroethene	**2020**	ug/L	10.0	2.6	10		01/02/18 15:21	156-59-2	
trans-1,2-Dichloroethene	**20.6**	ug/L	10.0	2.6	10		01/02/18 15:21	156-60-5	
1,2-Dichloropropane	**<2.3**	ug/L	10.0	2.3	10		01/02/18 15:21	78-87-5	
cis-1,3-Dichloropropene	**<5.0**	ug/L	10.0	5.0	10		01/02/18 15:21	10061-01-5	
trans-1,3-Dichloropropene	**<2.3**	ug/L	10.0	2.3	10		01/02/18 15:21	10061-02-6	
Ethylbenzene	**73.5**	ug/L	10.0	5.0	10		01/02/18 15:21	100-41-4	
2-Hexanone	**<11.1**	ug/L	50.0	11.1	10		01/02/18 15:21	591-78-6	
Methylene Chloride	**41.2**	ug/L	10.0	2.3	10		01/02/18 15:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<21.4**	ug/L	50.0	21.4	10		01/02/18 15:21	108-10-1	
Styrene	**<5.0**	ug/L	10.0	5.0	10		01/02/18 15:21	100-42-5	
1,1,2,2-Tetrachloroethane	**<2.5**	ug/L	10.0	2.5	10		01/02/18 15:21	79-34-5	
Tetrachloroethene	**11.4**	ug/L	10.0	5.0	10		01/02/18 15:21	127-18-4	
Toluene	**559**	ug/L	10.0	5.0	10		01/02/18 15:21	108-88-3	
1,1,1-Trichloroethane	**146**	ug/L	10.0	5.0	10		01/02/18 15:21	71-55-6	
1,1,2-Trichloroethane	**<2.0**	ug/L	10.0	2.0	10		01/02/18 15:21	79-00-5	
Trichloroethene	**58.3**	ug/L	10.0	3.3	10		01/02/18 15:21	79-01-6	
Vinyl acetate	**<9.2**	ug/L	50.0	9.2	10		01/02/18 15:21	108-05-4	
Vinyl chloride	**140**	ug/L	10.0	1.8	10		01/02/18 15:21	75-01-4	
Xylene (Total)	**227**	ug/L	30.0	15.0	10		01/02/18 15:21	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	92	%	61-130		10		01/02/18 15:21	460-00-4	2q
Dibromofluoromethane (S)	107	%	67-130		10		01/02/18 15:21	1868-53-7	
Toluene-d8 (S)	99	%	70-130		10		01/02/18 15:21	2037-26-5	

Sample: TB-3 **Lab ID: 40162955006** Collected: 12/27/17 00:00 Received: 12/28/17 10:02 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	**<3.0**	ug/L	20.0	3.0	1		12/29/17 13:33	67-64-1	
Benzene	**<0.50**	ug/L	1.0	0.50	1		12/29/17 13:33	71-43-2	
Bromodichloromethane	**<0.50**	ug/L	1.0	0.50	1		12/29/17 13:33	75-27-4	
Bromoform	**<0.50**	ug/L	1.0	0.50	1		12/29/17 13:33	75-25-2	
Bromomethane	**<2.4**	ug/L	5.0	2.4	1		12/29/17 13:33	74-83-9	
2-Butanone (MEK)	**<3.0**	ug/L	20.0	3.0	1		12/29/17 13:33	78-93-3	
Carbon disulfide	**<0.61**	ug/L	5.0	0.61	1		12/29/17 13:33	75-15-0	

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ANALYTICAL RESULTS

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Sample: TB-3 **Lab ID: 40162955006** Collected: 12/27/17 00:00 Received: 12/28/17 10:02 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Carbon tetrachloride	**<0.50**	ug/L	1.0	0.50	1		12/29/17 13:33	56-23-5	
Chlorobenzene	**<0.50**	ug/L	1.0	0.50	1		12/29/17 13:33	108-90-7	
Chloroethane	**<0.37**	ug/L	1.0	0.37	1		12/29/17 13:33	75-00-3	L1
Chloroform	**<2.5**	ug/L	5.0	2.5	1		12/29/17 13:33	67-66-3	
Chloromethane	**<0.50**	ug/L	1.0	0.50	1		12/29/17 13:33	74-87-3	
Dibromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/29/17 13:33	124-48-1	
1,1-Dichloroethane	**<0.24**	ug/L	1.0	0.24	1		12/29/17 13:33	75-34-3	
1,2-Dichloroethane	**<0.17**	ug/L	1.0	0.17	1		12/29/17 13:33	107-06-2	
1,1-Dichloroethene	**<0.41**	ug/L	1.0	0.41	1		12/29/17 13:33	75-35-4	
cis-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		12/29/17 13:33	156-59-2	
trans-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		12/29/17 13:33	156-60-5	
1,2-Dichloropropane	**<0.23**	ug/L	1.0	0.23	1		12/29/17 13:33	78-87-5	
cis-1,3-Dichloropropene	**<0.50**	ug/L	1.0	0.50	1		12/29/17 13:33	10061-01-5	
trans-1,3-Dichloropropene	**<0.23**	ug/L	1.0	0.23	1		12/29/17 13:33	10061-02-6	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		12/29/17 13:33	100-41-4	
2-Hexanone	**<1.1**	ug/L	5.0	1.1	1		12/29/17 13:33	591-78-6	
Methylene Chloride	**<0.23**	ug/L	1.0	0.23	1		12/29/17 13:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.1**	ug/L	5.0	2.1	1		12/29/17 13:33	108-10-1	
Styrene	**<0.50**	ug/L	1.0	0.50	1		12/29/17 13:33	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/29/17 13:33	79-34-5	
Tetrachloroethene	**<0.50**	ug/L	1.0	0.50	1		12/29/17 13:33	127-18-4	
Toluene	**<0.50**	ug/L	1.0	0.50	1		12/29/17 13:33	108-88-3	
1,1,1-Trichloroethane	**<0.50**	ug/L	1.0	0.50	1		12/29/17 13:33	71-55-6	
1,1,2-Trichloroethane	**<0.20**	ug/L	1.0	0.20	1		12/29/17 13:33	79-00-5	
Trichloroethene	**<0.33**	ug/L	1.0	0.33	1		12/29/17 13:33	79-01-6	
Vinyl acetate	**<0.92**	ug/L	5.0	0.92	1		12/29/17 13:33	108-05-4	
Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		12/29/17 13:33	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		12/29/17 13:33	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	86	%	61-130		1		12/29/17 13:33	460-00-4	2q
Dibromofluoromethane (S)	109	%	67-130		1		12/29/17 13:33	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		12/29/17 13:33	2037-26-5	

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QUALITY CONTROL DATA

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

QC Batch: 278289 | Analysis Method: EPA 7470
QC Batch Method: EPA 7470 | Analysis Description: 7470 Mercury
Associated Lab Samples: 40162955002

METHOD BLANK: 1635271 | Matrix: Water
Associated Lab Samples: 40162955002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	<0.13	0.42	01/03/18 08:15	

LABORATORY CONTROL SAMPLE: 1635272

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.7	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1635273 1635274

Parameter	Units	40162955002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.13	5	5	5.2	5.3	103	106	85-115	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

QC Batch: 278395 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET
Associated Lab Samples: 40162955002

METHOD BLANK: 1635557 | Matrix: Water
Associated Lab Samples: 40162955002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cadmium	ug/L	<1.3	5.0	01/04/18 12:27	
Chromium	ug/L	<2.5	10.0	01/04/18 12:27	
Copper	ug/L	<6.3	20.0	01/04/18 12:27	
Lead	ug/L	<4.3	13.0	01/04/18 12:27	
Nickel	ug/L	<2.6	10.0	01/04/18 12:27	
Selenium	ug/L	<16.6	50.0	01/04/18 12:27	
Silver	ug/L	<3.3	10.0	01/04/18 12:27	
Zinc	ug/L	<9.3	40.0	01/04/18 12:27	

LABORATORY CONTROL SAMPLE: 1635558

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	504	101	80-120	
Chromium	ug/L	500	528	106	80-120	
Copper	ug/L	500	507	101	80-120	
Lead	ug/L	500	518	104	80-120	
Nickel	ug/L	500	509	102	80-120	
Selenium	ug/L	500	486	97	80-120	
Silver	ug/L	250	260	104	80-120	
Zinc	ug/L	500	546	109	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1635559 1635560

Parameter	Units	40162746001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	<1.3	500	500	517	523	103	104	75-125	1	20	
Chromium	ug/L	2.7J	500	500	520	525	103	104	75-125	1	20	
Copper	ug/L	82.3	500	500	615	628	107	109	75-125	2	20	
Lead	ug/L	<4.3	500	500	501	503	100	100	75-125	0	20	
Nickel	ug/L	358	500	500	850	865	98	101	75-125	2	20	
Selenium	ug/L	<16.6	500	500	486	494	97	98	75-125	2	20	
Silver	ug/L	<3.3	250	250	272	275	108	109	75-125	1	20	
Zinc	ug/L	590	500	500	1120	1140	106	111	75-125	2	20	

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QUALITY CONTROL DATA

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

QC Batch: 278176 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40162955002, 40162955003, 40162955004, 40162955005, 40162955006

METHOD BLANK: 1634720 Matrix: Water
Associated Lab Samples: 40162955002, 40162955003, 40162955004, 40162955005, 40162955006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	<0.50	1.0	12/29/17 09:46	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	12/29/17 09:46	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	12/29/17 09:46	
1,1-Dichloroethane	ug/L	<0.24	1.0	12/29/17 09:46	
1,1-Dichloroethene	ug/L	<0.41	1.0	12/29/17 09:46	
1,2-Dichloroethane	ug/L	<0.17	1.0	12/29/17 09:46	
1,2-Dichloropropane	ug/L	<0.23	1.0	12/29/17 09:46	
2-Butanone (MEK)	ug/L	<3.0	20.0	12/29/17 09:46	
2-Hexanone	ug/L	<1.1	5.0	12/29/17 09:46	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.1	5.0	12/29/17 09:46	
Acetone	ug/L	<3.0	20.0	12/29/17 09:46	
Benzene	ug/L	<0.50	1.0	12/29/17 09:46	
Bromodichloromethane	ug/L	<0.50	1.0	12/29/17 09:46	
Bromoform	ug/L	<0.50	1.0	12/29/17 09:46	
Bromomethane	ug/L	<2.4	5.0	12/29/17 09:46	
Carbon disulfide	ug/L	<0.61	5.0	12/29/17 09:46	
Carbon tetrachloride	ug/L	<0.50	1.0	12/29/17 09:46	
Chlorobenzene	ug/L	<0.50	1.0	12/29/17 09:46	
Chloroethane	ug/L	<0.37	1.0	12/29/17 09:46	
Chloroform	ug/L	<2.5	5.0	12/29/17 09:46	
Chloromethane	ug/L	<0.50	1.0	12/29/17 09:46	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	12/29/17 09:46	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	12/29/17 09:46	
Dibromochloromethane	ug/L	<0.50	1.0	12/29/17 09:46	
Ethylbenzene	ug/L	<0.50	1.0	12/29/17 09:46	
Methylene Chloride	ug/L	<0.23	1.0	12/29/17 09:46	
Styrene	ug/L	<0.50	1.0	12/29/17 09:46	
Tetrachloroethene	ug/L	<0.50	1.0	12/29/17 09:46	
Toluene	ug/L	<0.50	1.0	12/29/17 09:46	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	12/29/17 09:46	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	12/29/17 09:46	
Trichloroethene	ug/L	<0.33	1.0	12/29/17 09:46	
Vinyl acetate	ug/L	<0.92	5.0	12/29/17 09:46	
Vinyl chloride	ug/L	<0.18	1.0	12/29/17 09:46	
Xylene (Total)	ug/L	<1.5	3.0	12/29/17 09:46	
4-Bromofluorobenzene (S)	%	89	61-130	12/29/17 09:46	
Dibromofluoromethane (S)	%	99	67-130	12/29/17 09:46	
Toluene-d8 (S)	%	96	70-130	12/29/17 09:46	

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QUALITY CONTROL DATA

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

LABORATORY CONTROL SAMPLE: 1634721

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	53.7	107	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	52.8	106	70-130	
1,1,2-Trichloroethane	ug/L	50	55.1	110	70-130	
1,1-Dichloroethane	ug/L	50	53.1	106	71-132	
1,1-Dichloroethene	ug/L	50	58.8	118	75-130	
1,2-Dichloroethane	ug/L	50	52.8	106	70-131	
1,2-Dichloropropane	ug/L	50	54.0	108	80-120	
Benzene	ug/L	50	55.7	111	73-145	
Bromodichloromethane	ug/L	50	53.5	107	70-130	
Bromoform	ug/L	50	55.8	112	67-130	
Bromomethane	ug/L	50	39.9	80	26-128	
Carbon disulfide	ug/L	50	61.0	122	72-156	
Carbon tetrachloride	ug/L	50	57.3	115	70-133	
Chlorobenzene	ug/L	50	54.7	109	70-130	
Chloroethane	ug/L	50	61.3	123	58-120	L1
Chloroform	ug/L	50	58.6	117	80-121	
Chloromethane	ug/L	50	50.9	102	40-127	
cis-1,2-Dichloroethene	ug/L	50	54.4	109	70-130	
cis-1,3-Dichloropropene	ug/L	50	49.6	99	70-130	
Dibromochloromethane	ug/L	50	58.3	117	70-130	
Ethylbenzene	ug/L	50	55.1	110	87-129	
Methylene Chloride	ug/L	50	53.5	107	70-130	
Styrene	ug/L	50	56.6	113	70-130	
Tetrachloroethene	ug/L	50	55.8	112	70-130	
Toluene	ug/L	50	54.2	108	82-130	
trans-1,2-Dichloroethene	ug/L	50	56.3	113	75-132	
trans-1,3-Dichloropropene	ug/L	50	48.5	97	70-130	
Trichloroethene	ug/L	50	55.9	112	70-130	
Vinyl chloride	ug/L	50	57.7	115	57-136	
Xylene (Total)	ug/L	150	169	113	70-130	
4-Bromofluorobenzene (S)	%			98	61-130	
Dibromofluoromethane (S)	%			103	67-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1634836 1634837

Parameter	Units	40162912002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<0.50	50	50	53.4	53.1	107	106	70-134	0	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	50	50	51.7	55.5	103	111	70-130	7	20	
1,1,2-Trichloroethane	ug/L	<0.20	50	50	54.9	57.4	110	115	70-130	5	20	
1,1-Dichloroethane	ug/L	<0.24	50	50	55.2	53.9	110	108	71-133	2	20	
1,1-Dichloroethene	ug/L	<0.41	50	50	59.0	57.6	118	115	75-136	2	20	
1,2-Dichloroethane	ug/L	<0.17	50	50	51.9	53.0	104	106	70-131	2	20	
1,2-Dichloropropane	ug/L	<0.23	50	50	56.3	55.5	113	111	80-120	1	20	

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REPORT OF LABORATORY ANALYSIS

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(920)469-2436

QUALITY CONTROL DATA

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1634836 1634837

Parameter	Units	40162912002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.50	50	50	53.5	53.6	107	107	73-145	0	20	
Bromodichloromethane	ug/L	<0.50	50	50	55.0	54.9	110	110	70-130	0	20	
Bromoform	ug/L	<0.50	50	50	54.3	57.2	109	114	67-130	5	20	
Bromomethane	ug/L	<2.4	50	50	45.9	41.8	92	84	26-129	9	20	
Carbon disulfide	ug/L	<0.61	50	50	59.1	58.4	118	117	72-156	1	30	
Carbon tetrachloride	ug/L	<0.50	50	50	55.3	53.0	111	106	70-134	4	20	
Chlorobenzene	ug/L	<0.50	50	50	56.0	55.5	112	111	70-130	1	20	
Chloroethane	ug/L	<0.37	50	50	61.1	57.9	122	116	58-120	5	20	M0
Chloroform	ug/L	<2.5	50	50	51.6	56.6	103	113	80-121	9	20	
Chloromethane	ug/L	<0.50	50	50	47.0	44.9	94	90	40-128	5	20	
cis-1,2-Dichloroethene	ug/L	<0.26	50	50	51.1	52.9	102	106	70-130	3	20	
cis-1,3-Dichloropropene	ug/L	<0.50	50	50	52.4	52.1	105	104	70-130	1	20	
Dibromochloromethane	ug/L	<0.50	50	50	58.7	58.0	117	116	70-130	1	20	
Ethylbenzene	ug/L	<0.50	50	50	56.8	55.5	114	111	87-129	2	20	
Methylene Chloride	ug/L	<0.23	50	50	52.6	51.3	105	103	70-130	3	20	
Styrene	ug/L	<0.50	50	50	58.1	57.6	116	115	70-130	1	20	
Tetrachloroethene	ug/L	<0.50	50	50	55.3	54.7	111	109	70-130	1	20	
Toluene	ug/L	<0.50	50	50	57.0	54.4	114	109	82-131	5	20	
trans-1,2-Dichloroethene	ug/L	<0.26	50	50	56.7	56.1	113	112	75-135	1	20	
trans-1,3-Dichloropropene	ug/L	<0.23	50	50	49.9	51.1	100	102	70-130	2	20	
Trichloroethene	ug/L	<0.33	50	50	57.3	57.1	115	114	70-130	0	20	
Vinyl chloride	ug/L	<0.18	50	50	55.4	54.4	111	109	56-143	2	20	
Xylene (Total)	ug/L	<1.5	150	150	172	171	114	113	70-130	1	20	
4-Bromofluorobenzene (S)	%						103	99	61-130			
Dibromofluoromethane (S)	%						103	102	67-130			
Toluene-d8 (S)	%						102	98	70-130			

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QUALITY CONTROL DATA

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

QC Batch: 278182 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 40162955002

METHOD BLANK: 1634732 | Matrix: Water
Associated Lab Samples: 40162955002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	<0.48	1.0	12/28/17 15:51	

LABORATORY CONTROL SAMPLE: 1634733

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	100	102	102	80-120	

SAMPLE DUPLICATE: 1634734

Parameter	Units	40162938001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	77.0	79.0	3	5	

SAMPLE DUPLICATE: 1634735

Parameter	Units	40162944001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	2710	2660	2	5	

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QUALITY CONTROL DATA

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

QC Batch: 278160 | Analysis Method: SM 3500-Cr B (Online)
QC Batch Method: SM 3500-Cr B (Online) | Analysis Description: Chromium, Hexavalent by 3500
Associated Lab Samples: 40162955002

METHOD BLANK: 1634657 | Matrix: Water
Associated Lab Samples: 40162955002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	<0.0051	0.017	12/28/17 11:15	

LABORATORY CONTROL SAMPLE: 1634658

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	.3	0.31	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1634659 1634660

Parameter	Units	40162955002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	mg/L	<0.0051	.3	.3	0.32	0.31	105	103	90-110	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

QC Batch: 278164 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B cBOD, 5 day
Associated Lab Samples: 40162955002

METHOD BLANK: 1634670 | Matrix: Water
Associated Lab Samples: 40162955002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Carbonaceous BOD, 5 day	mg/L	<2.0	2.0	01/02/18 11:59	

METHOD BLANK: 1634676 | Matrix: Water
Associated Lab Samples: 40162955002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Carbonaceous BOD, 5 day	mg/L	<2.0	2.0	01/02/18 12:23	

LABORATORY CONTROL SAMPLE & LCSD: 1634672 1634673

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Carbonaceous BOD, 5 day	mg/L	198	220	213	111	108	84.6-115	3	20	

LABORATORY CONTROL SAMPLE & LCSD: 1634672 1634675

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Carbonaceous BOD, 5 day	mg/L	198	220	223	111	112	84.6-115	1	20	

SAMPLE DUPLICATE: 1634674

Parameter	Units	40162951001 Result	Dup Result	RPD	Max RPD	Qualifiers
Carbonaceous BOD, 5 day	mg/L	<2.0	<2.0		20	

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QUALITY CONTROL DATA

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

QC Batch: 278469 | Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 | Analysis Description: 300.0 IC Anions
Associated Lab Samples: 40162955002

METHOD BLANK: 1635834 | Matrix: Water
Associated Lab Samples: 40162955002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.50	2.0	01/04/18 11:25	

LABORATORY CONTROL SAMPLE: 1635835

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	19.6	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1635836 1635837

Parameter	Units	40163084002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	53.9	400	400	471	486	104	108	90-110	3	15	

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QUALITY CONTROL DATA

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

QC Batch: 278456 | Analysis Method: EPA 335.4
QC Batch Method: EPA 335.4 | Analysis Description: 335.4 Cyanide, Total
Associated Lab Samples: 40162955002

METHOD BLANK: 1635801 | Matrix: Water
Associated Lab Samples: 40162955002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide	mg/L	<0.0068	0.023	01/04/18 11:56	

LABORATORY CONTROL SAMPLE: 1635802

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/L	.1	0.095	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1635803 1635804

Parameter	Units	40162992001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/L	0.80	.6	.6	1.5	1.5	114	108	90-110	2	20	M0

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QUALITY CONTROL DATA

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

QC Batch: 278320 | Analysis Method: EPA 351.2
QC Batch Method: EPA 351.2 | Analysis Description: 351.2 TKN
Associated Lab Samples: 40162955002

METHOD BLANK: 1635380 | Matrix: Water
Associated Lab Samples: 40162955002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	<0.22	0.73	01/02/18 17:45	

LABORATORY CONTROL SAMPLE: 1635381

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	5	4.8	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1635382 1635383

Parameter	Units	40162991001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Kjeldahl, Total	mg/L	2.1	5	5	6.8	6.7	95	92	90-110	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1635384 1635385

Parameter	Units	40162801001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Kjeldahl, Total	mg/L	0.52J	5	5	5.1	5.0	92	90	90-110	2	20	

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QUALITY CONTROL DATA

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

QC Batch: 278619 | Analysis Method: EPA 365.4
QC Batch Method: EPA 365.4 | Analysis Description: 365.4 Phosphorus
Associated Lab Samples: 40162955002

METHOD BLANK: 1636669 | Matrix: Water
Associated Lab Samples: 40162955002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphorus	mg/L	<0.052	0.40	01/08/18 14:56	

LABORATORY CONTROL SAMPLE: 1636670

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphorus	mg/L	5	4.7	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1636671 1636672

Parameter	Units	40162980001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphorus	mg/L	0.27J	5	5	5.0	5.0	94	95	90-110	1	20	

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QUALIFIERS

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

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 and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

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.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

WORKORDER QUALIFIERS

WO: 40162955

[1]	This report contains data that were produced by a subcontracted laboratory certified for the fields of testing performed.

ANALYTE QUALIFIERS

1q	Analyte was measured in the associated method blank at a concentration of -0.0061mg/L.
2q	Samples not stored at <4 degrees prior to analysis, results should be considered estimates.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 117-3005011.20 HYDRITE CHEMICA
Pace Project No.: 40162955

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40162955002	**EFFLUENT**	EPA 3010	278395	EPA 6010	278485
40162955002	**EFFLUENT**	EPA 7470	278289	EPA 7470	278358
40162955002	**EFFLUENT**	EPA 8260	278176		
40162955003	**P-128**	EPA 8260	278176		
40162955004	**P-164**	EPA 8260	278176		
40162955005	**P-164 DUP**	EPA 8260	278176		
40162955006	**TB-3**	EPA 8260	278176		
40162955002	**EFFLUENT**	SM 2540D	278182		
40162955002	**EFFLUENT**	SM 3500-Cr B (Online)	278160		
40162955002	**EFFLUENT**	SM 5210B	278164	SM 5210B	278327
40162955002	**EFFLUENT**	EPA 300.0	278469		
40162955002	**EFFLUENT**	EPA 335.4	278456	EPA 335.4	278498
40162955002	**EFFLUENT**	EPA 351.2	278320	EPA 351.2	278353
40162955002	**EFFLUENT**	EPA 365.4	278619	EPA 365.4	278655

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Sample Receipt Form

Pace Analytical Services, LLC
Green Bay

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Login Summary

Workorder:	40162662	Client Work ID:	HUDSON FISH 2016
Report Version:	C	Client:	Pace MN
Min Sample Due:	01/15/2018 17:00	Profile:	3171
Max Sample Due:	01/16/2018 17:00	Profile Desc:	Scott Unze

Lab ID	Sample ID	Collected	Received	Matrix	Report Properties	Location	Due Date
10414901001	**0930594**	04/28/16 00:00	12/14/17 09:50	TS	PTR	NY	01/15/18
Sample Comments:	*FOLLOW NYDEC PREP SOPs. The fish in this workorder are already filleted. Sample all goes to Pace MN*						
10414901002	**0930595**	04/28/16 00:00	12/14/17 09:50	TS	PTR	NY	01/15/18
10414901003	**0930596**	04/28/16 00:00	12/14/17 09:50	TS	PTR	NY	01/15/18
10414901004	**0930597**	04/28/16 00:00	12/14/17 09:50	TS	PTR	NY	01/15/18
10414901005	**0930598**	04/28/16 00:00	12/14/17 09:50	TS	PTR	NY	01/15/18
10414901006	**0930599**	05/24/16 00:00	12/14/17 09:50	TS	PTR	NY	01/15/18
10414901007	**0930600**	05/24/16 00:00	12/14/17 09:50	TS	PTR	NY	01/15/18
10414901008	**0930731**	04/18/16 00:00	12/14/17 09:50	TS	PTR	NY	01/15/18
10414901009	**0930732**	04/18/16 00:00	12/14/17 09:50	TS	PTR	NY	01/15/18
10414901010	**0930733**	04/18/16 00:00	12/14/17 09:50	TS	PTR	NY	01/15/18
10414901011	**0930734**	04/18/16 00:00	12/14/17 09:50	TS	PTR	NY	01/15/18
10414901012	**0930735**	04/18/16 00:00	12/14/17 09:50	TS	PTR	NY	01/15/18
10414901013	**0930736**	04/18/16 00:00	12/14/17 09:50	TS	PTR	NY	01/15/18
10414901014	**0930737**	04/18/16 00:00	12/14/17 09:50	TS	PTR	NY	01/15/18
10414901015	**1197111**	05/12/16 00:00	12/14/17 09:50	TS	PTR	NY	01/15/18
10414901016	**1197112**	05/12/16 00:00	12/14/17 09:50	TS	PTR	NY	01/15/18
10414901017	**1197113**	05/12/16 00:00	12/14/17 09:50	TS	PTR	NY	01/15/18
10414901018	**0930738**	04/18/16 00:00	01/04/18 09:40	TS	PTR	NY	01/16/18
10414901019	**0930739**	04/18/16 00:00	01/04/18 09:40	TS	PTR	AR	01/16/18
10414901020	**0930740**	04/18/16 00:00	01/04/18 09:40	TS	PTR	AR	01/16/18

Sample Receipt Form

Pace Analytical Services, LLC
Green Bay

Charge Summary

Workorder: 40162662
Client PO: CONTRACT CO10492
A/R Acct: 40-000590

Bill To: Client Services
Pace Analytical Minnesota
1700 Elm Street SE
Suite 200
Minneapolis, MN 55414

Text to appear on Invoice:

Quantity	Unit	Description	Method	Matrix	Price	Total
17	Ea	Fish Gender Typing	Pace Gender Typing	Tissue	$10.99	$186.83
20	Ea	Grinding		Tissue	$25.00	$500.00
20	Ea	Organic Prep Dept. Charge	Miscellaneous	Tissue	$0.01	$0.20
					Total:	$687.03

Sample Receipt Form

Pace Analytical Services, LLC
Green Bay

Sample Acknowledgement Recipients:
Pace Analytical Minnesota
Scott Unze
1700 Elm Street SE
Suite 200
Minneapolis, MN 55414
Phone: (612)607-1700
Email: scott.unze@pacelabs.com

NY DEC
Wayne Richter

,
Email: wayne.richter@dec.ny.gov

NY DEC
Kristen Dieterle

,
Email: kristen.dieterle@dec.ny.gov

Bill to:
Pace Analytical Minnesota
Client Services
1700 Elm Street SE
Suite 200
Minneapolis, MN 55414

Final Report Recipients:
Pace Analytical Minnesota
Scott Unze (Primary)
1700 Elm Street SE
Suite 200
Minneapolis, MN 55414
Phone: (612)607-1700
Email: scott.unze@pacelabs.com

Line Item Descriptions:
[2] TS - PREP, benzo(a)pyrene (8270)

Client P O No: CONTRACT CO10492
Phone: (920)469-2436
Project Manager: Tod Noltemeyer
Client Project ID: HUDSON FISH 2016

Lab Project No: 40162662
Project Deliverables Type: Standard Report
Project Report Due Date: 01/16/18
Profile: 3171

Automated EDD
EDD #: FR Only no EDD (0)
Publish or Review?: Publish (P)
Email Client?: Yes (Y)
Include FR?: Yes (Y)
Auto Invoice: Summary Level w/o Samp Info (SL)
Email Invoice?: No, do not auto email (N)
Print Final Invoice?: Yes, print invoice (Y)
Multiple EDD #2: FR Only no EDD (0)
Multiple EDD #3: FR Only no EDD (0)
Multiple EDD #4: FR Only no EDD (0)
Multiple EDD #5: FR Only no EDD (0)

Lab Smp ID: 10414901001 **Client Smp ID: 0930594** Collected Date: 04/28/16
Proj Smp No: 1 Matrix: Tissue Smp Type: PS Line Item: 2 Received Date: 12/14/17 09:50
Location: NY
Comments: [1] FOLLOW NYDEC PREP SOPs. The fish in this workorder are already filleted. Sample all goes to Pace MN

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GENDER - Fish Gender Typing **The above test is not scheduled ******	Pace Gender Typing		$10.99			
GRIND - Grinding			$25.00			
CHG32OEXT - Organic Prep Dept. Charge	Miscellaneous		$0.01			

Sub Total - Sample 1631970 $36.00

Lab Smp ID: 10414901002 **Client Smp ID: 0930595** Collected Date: 04/28/16
Proj Smp No: 2 Matrix: Tissue Smp Type: PS Line Item: 2 Received Date: 12/14/17 09:50
Location: NY

Sample Receipt Form

Pace Analytical Services, LLC
Green Bay

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GENDER - Fish Gender Typing *The above test is not scheduled ******	Pace Gender Typing		$10.99			
GRIND - Grinding			$25.00			
CHG32OEXT - Organic Prep Dept. Charge	Miscellaneous		$0.01			

Sub Total - Sample 1631971 $36.00

Lab Smp ID: 10414901003 **Client Smp ID: 0930596**
Proj Smp No: 3 Matrix: Tissue Smp Type: PS Line Item: 2
Location: NY
Collected Date: 04/28/16
Received Date: 12/14/17 09:50

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GENDER - Fish Gender Typing *The above test is not scheduled ******	Pace Gender Typing		$10.99			
GRIND - Grinding			$25.00			
CHG32OEXT - Organic Prep Dept. Charge	Miscellaneous		$0.01			

Sub Total - Sample 1631972 $36.00

Lab Smp ID: 10414901004 **Client Smp ID: 0930597**
Proj Smp No: 4 Matrix: Tissue Smp Type: PS Line Item: 2
Location: NY
Collected Date: 04/28/16
Received Date: 12/14/17 09:50

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GENDER - Fish Gender Typing *The above test is not scheduled ******	Pace Gender Typing		$10.99			
GRIND - Grinding			$25.00			
CHG32OEXT - Organic Prep Dept. Charge	Miscellaneous		$0.01			

Sub Total - Sample 1631973 $36.00

Lab Smp ID: 10414901005 **Client Smp ID: 0930598**
Proj Smp No: 5 Matrix: Tissue Smp Type: PS Line Item: 2
Location: NY
Collected Date: 04/28/16
Received Date: 12/14/17 09:50

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GENDER - Fish Gender Typing *The above test is not scheduled ******	Pace Gender Typing		$10.99			
GRIND - Grinding			$25.00			
CHG32OEXT - Organic Prep Dept. Charge	Miscellaneous		$0.01			

Sub Total - Sample 1631981 $36.00

Lab Smp ID: 10414901006 **Client Smp ID: 0930599**
Proj Smp No: 6 Matrix: Tissue Smp Type: PS Line Item: 2
Location: NY
Collected Date: 05/24/16
Received Date: 12/14/17 09:50

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GENDER - Fish Gender Typing *The above test is not scheduled ******	Pace Gender Typing		$10.99			
GRIND - Grinding			$25.00			
CHG32OEXT - Organic Prep Dept. Charge	Miscellaneous		$0.01			

Sample Receipt Form

Pace Analytical Services, LLC
Green Bay

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PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
Sub Total - Sample 1631982			$36.00			

Lab Smp ID: 10414901007 **Client Smp ID: 0930600**
Proj Smp No: 7 Matrix: Tissue Smp Type: PS Line Item: 2 Collected Date: 05/24/16
Location: NY Received Date: 12/14/17 09:50

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GENDER - Fish Gender Typing *The above test is not scheduled ******	Pace Gender Typing		$10.99			
GRIND - Grinding			$25.00			
CHG32OEXT - Organic Prep Dept. Charge	Miscellaneous		$0.01			
Sub Total - Sample 1631983			$36.00			

Lab Smp ID: 10414901008 **Client Smp ID: 0930731**
Proj Smp No: 8 Matrix: Tissue Smp Type: PS Line Item: 2 Collected Date: 04/18/16
Location: NY Received Date: 12/14/17 09:50

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GENDER - Fish Gender Typing *The above test is not scheduled ******	Pace Gender Typing		$10.99			
GRIND - Grinding			$25.00			
CHG32OEXT - Organic Prep Dept. Charge	Miscellaneous		$0.01			
Sub Total - Sample 1631984			$36.00			

Lab Smp ID: 10414901009 **Client Smp ID: 0930732**
Proj Smp No: 9 Matrix: Tissue Smp Type: PS Line Item: 2 Collected Date: 04/18/16
Location: NY Received Date: 12/14/17 09:50

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GENDER - Fish Gender Typing *The above test is not scheduled ******	Pace Gender Typing		$10.99			
GRIND - Grinding			$25.00			
CHG32OEXT - Organic Prep Dept. Charge	Miscellaneous		$0.01			
Sub Total - Sample 1631986			$36.00			

Lab Smp ID: 10414901010 **Client Smp ID: 0930733**
Proj Smp No: 10 Matrix: Tissue Smp Type: PS Line Item: 2 Collected Date: 04/18/16
Location: NY Received Date: 12/14/17 09:50

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GENDER - Fish Gender Typing *The above test is not scheduled ******	Pace Gender Typing		$10.99			
GRIND - Grinding			$25.00			
CHG32OEXT - Organic Prep Dept. Charge	Miscellaneous		$0.01			
Sub Total - Sample 1631987			$36.00			

Sample Receipt Form

Pace Analytical Services, LLC
Green Bay

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Lab Smp ID: 10414901011 **Client Smp ID: 0930734** Collected Date: 04/18/16
Proj Smp No: 11 Matrix: Tissue Smp Type: PS Line Item: 2 Received Date: 12/14/17 09:50
Location: NY

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GENDER - Fish Gender Typing **The above test is not scheduled ******	Pace Gender Typing		$10.99			
GRIND - Grinding			$25.00			
CHG32OEXT - Organic Prep Dept. Charge	Miscellaneous		$0.01			

Sub Total - Sample 1631988 $36.00

Lab Smp ID: 10414901012 **Client Smp ID: 0930735** Collected Date: 04/18/16
Proj Smp No: 12 Matrix: Tissue Smp Type: PS Line Item: 2 Received Date: 12/14/17 09:50
Location: NY

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GENDER - Fish Gender Typing **The above test is not scheduled ******	Pace Gender Typing		$10.99			
GRIND - Grinding			$25.00			
CHG32OEXT - Organic Prep Dept. Charge	Miscellaneous		$0.01			

Sub Total - Sample 1631989 $36.00

Lab Smp ID: 10414901013 **Client Smp ID: 0930736** Collected Date: 04/18/16
Proj Smp No: 13 Matrix: Tissue Smp Type: PS Line Item: 2 Received Date: 12/14/17 09:50
Location: NY

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GENDER - Fish Gender Typing **The above test is not scheduled ******	Pace Gender Typing		$10.99			
GRIND - Grinding			$25.00			
CHG32OEXT - Organic Prep Dept. Charge	Miscellaneous		$0.01			

Sub Total - Sample 1631990 $36.00

Lab Smp ID: 10414901014 **Client Smp ID: 0930737** Collected Date: 04/18/16
Proj Smp No: 14 Matrix: Tissue Smp Type: PS Line Item: 2 Received Date: 12/14/17 09:50
Location: NY

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GENDER - Fish Gender Typing **The above test is not scheduled ******	Pace Gender Typing		$10.99			
GRIND - Grinding			$25.00			
CHG32OEXT - Organic Prep Dept. Charge	Miscellaneous		$0.01			

Sub Total - Sample 1631991 $36.00

Lab Smp ID: 10414901015 **Client Smp ID: 1197111** Collected Date: 05/12/16
Proj Smp No: 15 Matrix: Tissue Smp Type: PS Line Item: 2 Received Date: 12/14/17 09:50
Location: NY

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GENDER - Fish Gender Typing **The above test is not scheduled ******	Pace Gender Typing		$10.99			

Sample Receipt Form

Pace Analytical Services, LLC
Green Bay

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GRIND - Grinding			$25.00			
CHG32OEXT - Organic Prep Dept. Charge	Miscellaneous		$0.01			

Sub Total - Sample 1631992 $36.00

Lab Smp ID: 10414901016 **Client Smp ID: 1197112** Collected Date: 05/12/16
Proj Smp No: 16 Matrix: Tissue Smp Type: PS Line Item: 2 Received Date: 12/14/17 09:50
Location: NY

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GENDER - Fish Gender Typing **The above test is not scheduled ******	Pace Gender Typing		$10.99			
GRIND - Grinding			$25.00			
CHG32OEXT - Organic Prep Dept. Charge	Miscellaneous		$0.01			

Sub Total - Sample 1631993 $36.00

Lab Smp ID: 10414901017 **Client Smp ID: 1197113** Collected Date: 05/12/16
Proj Smp No: 17 Matrix: Tissue Smp Type: PS Line Item: 2 Received Date: 12/14/17 09:50
Location: NY

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GENDER - Fish Gender Typing **The above test is not scheduled ******	Pace Gender Typing		$10.99			
GRIND - Grinding			$25.00			
CHG32OEXT - Organic Prep Dept. Charge	Miscellaneous		$0.01			

Sub Total - Sample 1631994 $36.00

Lab Smp ID: 10414901018 **Client Smp ID: 0930738** Collected Date: 04/18/16
Proj Smp No: 18 Matrix: Tissue Smp Type: PS Line Item: 2 Received Date: 01/04/18 09:40
Location: NY

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GENDER - Fish Gender Typing Compound Count: 1	Pace Gender Typing		$0.00			
GRIND - Grinding			$25.00			
CHG32OEXT - Organic Prep Dept. Charge	Miscellaneous		$0.01			

Sub Total - Sample 1636071 $25.01

Lab Smp ID: 10414901019 **Client Smp ID: 0930739** Collected Date: 04/18/16
Proj Smp No: 19 Matrix: Tissue Smp Type: PS Line Item: 2 Received Date: 01/04/18 09:40
Location: AR

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GENDER - Fish Gender Typing Compound Count: 1	Pace Gender Typing		$0.00			
GRIND - Grinding			$25.00			
CHG32OEXT - Organic Prep Dept. Charge	Miscellaneous		$0.01			

Sub Total - Sample 1636072 $25.01

Sample Receipt Form

Pace Analytical Services, LLC
Green Bay

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Lab Smp ID: 10414901020 **Client Smp ID: 0930740** Collected Date: 04/18/16
Proj Smp No: 20 Matrix: Tissue Smp Type: PS Line Item: 2 Received Date: 01/04/18 09:40
Location: AR

PARAMETER	METHOD	EARLIEST HOLD	UNIT PRICE	WR	SPL	%
GENDER - Fish Gender Typing	Pace Gender Typing		$0.00			
Compound Count: 1						
GRIND - Grinding			$25.00			
CHG32OEXT - Organic Prep Dept. Charge	Miscellaneous		$0.01			

Sub Total - Sample 1636073 $25.01

Grand Total - Project 40162662 $687.03

Unit Pricing above does not reflect associated shipping, bottle, sample disposal and other miscellaneous charges. Prices are subject to change without notice. Contact your Project Manager for further information.

Sample Receipt Form

Pace Analytical Services, LLC
Green Bay

Containers

Lab ID	Container ID	Type	Location	Utilization
10414901001	10414901001 ZPLC1/1	ZPLC		CHG32OEXT,GENDER,GRIND_P
10414901002	10414901002 ZPLC1/1	ZPLC		CHG32OEXT,GENDER,GRIND_P
10414901003	10414901003 ZPLC1/1	ZPLC		CHG32OEXT,GENDER,GRIND_P
10414901004	10414901004 ZPLC1/1	ZPLC		CHG32OEXT,GENDER,GRIND_P
10414901005	10414901005 GN1/1	GN		
	10414901006 ZPLC1/1	ZPLC		CHG32OEXT,GENDER,GRIND_P
10414901006	10414901006 ZPLC1/1	ZPLC		CHG32OEXT,GENDER,GRIND_P
10414901007	10414901007 ZPLC1/1	ZPLC		CHG32OEXT,GENDER,GRIND_P
10414901008	10414901008 ZPLC1/1	ZPLC		CHG32OEXT,GENDER,GRIND_P
10414901009	10414901009 ZPLC1/1	ZPLC		CHG32OEXT,GENDER,GRIND_P
10414901010	10414901010 ZPLC1/1	ZPLC		CHG32OEXT,GENDER,GRIND_P
10414901011	10414901011 ZPLC1/1	ZPLC		CHG32OEXT,GENDER,GRIND_P
10414901012	10414901012 ZPLC1/1	ZPLC		CHG32OEXT,GENDER,GRIND_P
10414901013	10414901013 ZPLC1/1	ZPLC		CHG32OEXT,GENDER,GRIND_P
10414901014	10414901014 ZPLC1/1	ZPLC		CHG32OEXT,GENDER,GRIND_P
10414901015	10414901015 ZPLC1/1	ZPLC		CHG32OEXT,GENDER,GRIND_P
10414901016	10414901016 ZPLC1/1	ZPLC		CHG32OEXT,GENDER,GRIND_P
10414901017	10414901017 ZPLC1/1	ZPLC		CHG32OEXT,GENDER,GRIND_P
10414901018	40162662018 ZPLC1/1	ZPLC		CHG32OEXT,GENDER,GRIND_P
10414901019	40162662019 ZPLC1/1	ZPLC		CHG32OEXT,GENDER,GRIND_P
10414901020	40162662020 ZPLC1/1	ZPLC		CHG32OEXT,GENDER,GRIND_P

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

Page 1 of 1

CHAIN OF CUSTODY

*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

(Please Print Clearly)	
Company Name:	TETRA TECH
Branch/Location:	BROOKFIELD
Project Contact:	MARK MANTHEY
Phone:	(262) 782-1282
Project Number:	117-30050/1.20
Project Name:	HYDRATE CHEMICAL
Project State:	WI
Sampled By (Print):	TODD MCTHOMSEN
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	40162955
Mail To Contact:	MARK MANTHEY
Mail To Company:	TETRA TECH
Mail To Address:	7504 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, B = Biota, C = Charcoal, O = Oil, S = Soil, Sl = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTED DATE	COLLECTED TIME	MATRIX	Vocs 524.2	VOCs TCL 8260	CBOD	TSS	TKN + Tot P	METALS	CYANIDE	HEXAVALENT CHROMIUM	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
Y/N					N	N	N	N	N	N	N	N			
Pick Letter					B+J	B	A	A	C	D	G	A			
001	VILLAGE WELL No. 2	12-27	09:10	GW	3									3-40ml agv[5]	
002	EFFLUENT	12-27	12:20	GW		3	1	1	1	1	1	1	3-40mlv[B] 2-1Lp[A] 4-250mlp[ADGC]	DS 12/28/17	
003	P-128	12-27	11:15	GW		3									
004	P-164	12-27	11:40	GW		3									
005	P-164 DUP	12-27	11:45	GW		3									
006	TB-3	—	—	DI		2							LAB PREPARED	2-40mlv[B]	

(1) Chloride Added to Effluent Sample for MM 1-4-18

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge) Date Needed: STANDARD	Relinquished By:	Date/Time:	Received By:	Date/Time:
		12-27-17 1700		
Transmit Prelim Rush Results by (complete what you want):	Relinquished By: CS Logistics	Date/Time: 12/28/17 1002	Received By: DSomspace	Date/Time: 12/28/17 1002
Email #1:	Relinquished By:	Date/Time:	Received By:	Date/Time:
Email #2:				
Telephone:	Relinquished By:	Date/Time:	Received By:	Date/Time:
Fax:				
Samples on HOLD are subject to special pricing and release of liability	Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No. 40162955
Receipt Temp = 3.9 °C
Sample Receipt pH OK / Adjusted
Cooler Custody Seal Present / Not Present Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Pace Analytical™

Sample Condition Upon Receipt

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

Project # **WO# : 40162955**

40162955

Client Name: Tetra Tech

Courier: ☐ Fed Ex ☐ UPS ☐ Client ☐ Pace Other: CSLogistics

Tracking #: 1635-122717

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-14 **Type of Ice:** (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 3 /Corr: 3.5 **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Person examining contents:
Date: 12/28/17
Initials: DS

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑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 ☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☑Yes ☐No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☐Yes ☑No ☐N/A	8. NO MS/MSD DS 12/28/17
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No ☐N/A	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		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☑Yes ☐No ☐N/A	13. ☑ HNO3 ☑ H2SO4 ☑ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☑Yes ☐No	Initial when completed DS / Lab Std #ID of preservative / Date/Time:
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	14.
Trip Blank Present:	☑Yes ☐No ☐N/A	15.
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): 388		

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 12-28-17