

OBG | There's a way

January 22, 2018

Mr. Tom Hutchings
City of Flint Water Pollution
Water Pollution Control Facilities
G4652 Beecher Rd.
Flint, MI, 48532

RE: **Discharge Permit Submittal- October 2017 through December 2017**
Permit No.: 6-08-04-04-GML1

FILE: 15388/64737/Docs

Dear **Mr. Hutchings**:

In accordance with requirements of the above referenced discharge permit, we are providing you with the following discharge information for the period October 1, 2017 to December 31, 2017 for the Coldwater Road Landfill facility, located at 6220 Horton Avenue, Flint, Michigan.

- Periodic Report on Continued Compliance, certification
- Periodic Report on Continued Compliance (Table 1)
- Daily Discharge Summary Table (Table 2)
- Analytical Reports provided by Merit Laboratories, Inc. for samples from the on-site, above ground collection tank collected on December 8, 2017
- Copy of Chain-of-Custody forms.

The laboratory analytical results indicate concentrations were below the Sewer Use Permit limits for the parameters analyzed for the water discharged to the POTW during the discharge period.

Please call me at 313-333-0211 if you have any questions.

Very truly yours,

O'BRIEN & GERE ENGINEERS, INC.

Clifford S. Yantz
Scientist-3

cc: Mr. Kevin Forbes – Beecher Metropolitan District, Flint, MI
Mr. Grant Trigger – RACER Trust
Mr. David Favero – RACER Trust
Mr. Kevin Schneider – O'Brien & Gere



City of Flint Industrial Pretreatment Program

Periodic Report on Continued Compliance

Company Name: RACER Trust, Coldwater Road
Street Address: 6220 Horton Avenue, Flint, Michigan
Permit Number: 6-08-04-04-GML1
Outfall Number: 001

Reporting Period: October 1, 2017 through December 31, 2017

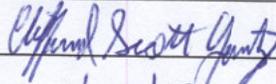
Average Volume of Daily Discharge (during reporting period): 1,385 gallons
(One Day)

Complete the following:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name of Authorized Representative: Clifford Yantz

Title of Authorized Representative: Scientist-3, O'Brien & Gere Engineers, Inc.
As agent for the RACER Trust

Signature of Authorized Representative: 

Date Signed by Authorized Representative: 1/22/18

If required to implement a Toxic Organics Management Plan (TOMP), complete the following:

"Based on my inquiry of the person or persons directly responsible for managing compliance with the pretreatment standard for total toxic organics (TTO), I certify that, to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing of the last Periodic Report on Continued Compliance. I further certify that, this facility is implementing the toxic organic management plan submitted to the control authority."

Name of Authorized Representative: _____ N/A

Title of Authorized Representative: _____ N/A

Signature of Authorized Representative: _____ N/A

Date Signed by Authorized Representative: _____ N/A

Table 1
Periodic Report on Continued Compliance
City of Flint Sewer User Self-Monitoring Report
Fourth Quarter - 2017

RACER Trust - Coldwater Road Landfill Facility						
Permit Number 6-08-04-04-GML1						
6220 Horton Avenue						
Analytical Parameter	Ammonia-N	BOD5	HEM	pH @ 25°C	Phosphorus	TSS
Units	mg/L	mg/L	mg/L	SU	mg/L	mg/L
Sampling Frequency	Per Batch	Per Batch	Per Batch	Per Batch	Per Batch	Per Batch
Sampling Procedure	Grab sample	Grab sample	Grab sample	Grab sample	Grab sample	Grab sample
Daily Maximum Limit	110	1196	100	NA	14	570
Maximum Limit	NA	NA	NA	10.5	NA	NA
Minimum Limit	NA	NA	NA	6	NA	NA
Test Result	3.59	10	3	7.26	0.12	52
Test Method	4500-NH3 D	10360	1664A	4500-H+ B	4500-PE	2540 D
Test Date	12/13/2017	12/13/2017	12/12/2017	12/8/2017	12/13/2017	12/12/2017
Sample Date	12/8/2017	12/8/2017	12/8/2017	12/8/2017	12/8/2017	12/8/2017
Sample Type	wastewater	wastewater	wastewater	wastewater	wastewater	wastewater
Test Result						
Test Method						
Test Date						
Sample Date						
Sample Type						
Test Result						
Test Method						
Test Date						
Sample Date						
Sample Type						
Average Daily Conc.						
No. of Samples						
Number of Limit Exceedances						

Table 1
Periodic Report on Continued Compliance
City of Flint Sewer User Self-Monitoring Report
Fourth Quarter - 2017

RACER Trust - Coldwater Road Landfill Facility							
Permit Number 6-08-04-04-GML1							
6220 Horton Avenue							
Analytical Parameter	Arsenic	Chromium	Copper	Mercury	Nickel	Zinc	Cyanide, available
Units	mg/L						
Sampling Frequency	Per Batch						
Sampling Procedure	Grab sample						
Daily Maximum Limit	0.051	1.273	1.797	0.000012	0.543	2.626	0.165
Maximum Limit	NA						
Minimum Limit	NA						
Test Result	0.019	0.088	1.24	0.0000	0.285	0.051	0.000
Test Method	200.8	200.8	200.8	245.1	200.8	200.8	1677
Test Date	12/12/2017	12/12/2017	12/12/2017	12/18/2017	12/12/2017	12/12/2017	12/15/2017
Sample Date	12/8/2017	12/8/2017	12/8/2017	12/8/2017	12/8/2017	12/8/2017	12/8/2017
Sample Type	wastewater						
Test Result							
Test Method							
Test Date							
Sample Date							
Sample Type							
Test Result							
Test Method							
Test Date							
Sample Date							
Sample Type							
Average Daily Conc.							
No. of Samples							
Number of Limit Exceedances							

**Table 2
Coldwater Road Landfill
Daily Discharge Summary Table
Fourth Quarter - 2017
6-08-04-04-GML1**

Date	Beginning Flow Meter Reading	End Flow Meter Reading	Gallons Discharged	Begin Time of Discharge	End Time of Discharge	Average Flow (gal/min)	Temperature at Discharge		pH
							(C)	(F)	
12/21/2017	545,149	546,534	1,385	9:20	10:30	19.8	10.0	50.0	7.10

Total Discharge Volume (1 Day): 1,385

NOTES :



Analytical Laboratory Report

Report ID: S86073.01(01)
Generated on 12/18/2017

Report to

Attention: Clifford Yantz
O'Brien & Gere Engineers, Inc.
1203 Mallow St
Wolverine Lake, MI 48390

Phone: 248-477-5701 FAX:
Email: Clifford.Yantz@obg.com

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S86073.01
Project: RACER Coldwater Rd Landfill PRCC
Collected Date: 12/08/2017
Submitted Date/Time: 12/08/2017 14:20
Sampled by: Kevin Schneider
P.O. #: PO

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Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods



Analytical Laboratory Report

Method Summary

Method	Version
E1664A	EPA Method 1664 Revision A February 1999
E200.8	EPA Method 200.8 Revision 5.4
E245.1	EPA Method 245.1 Revision 3.0
HACH 10360	HACH 10360
OIA-1677	EPA Method OIA-1677
SM2540D	Standard Method 2540 D 20th Edition
SM2550B	Standard Method 2550 B 20th Edition
SM4500-H+ B	Standard Method 4500 H + B 20th Edition
SM4500-NH3 D	Standard Method 4500 NH3 D 20th Edition
SM4500-PE	Standard Method 4500 P E 20th Edition
SW3015A	SW 846 Method 3015A Revision 1 February 2007



Analytical Laboratory Report

Sample Summary (1 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S86073.01	04-PRCC-17	Wastewater	12/08/17 12:00



Analytical Laboratory Report

Lab Sample ID: S86073.01

Sample Tag: 04-PRCC-17

Collected Date/Time: 12/08/2017 12:00

Matrix: Wastewater

COC Reference: 105678

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	5.5	IR
1	250ml Plastic	H2SO4	Yes	5.5	IR
1	125ml Amber	PbCO3/NaOH	Yes	5.5	IR
1	1L Plastic	None	Yes	5.5	IR
1	32oz Glass	HCL	Yes	5.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Mercury Digestion	Completed			E245.1	12/18/17 10:30	JRH		
Metal Digestion	Completed			SW3015A	12/12/17 09:40	JRH		
Inorganics								
Ammonia-N (Undistilled)	3.59	mg/L	0.02	SM4500-NH3 D	12/13/17 18:40	MJC	7664-41-7	
Field pH*	7.26	STD Units	0.01	SM4500-H+ B	12/08/17 12:00	KS		
Field Temperature*	52	oF	1	SM2550B	12/08/17 12:00	KS		
Oil & Grease n-Hexane Extract.	3	mg/L	2	E1664A	12/12/17 11:30	PLB		
TBOD5 - Set*	Completed	mg/L		HACH 10360	12/08/17 19:15	ASB		
TBOD5*	10	mg/L	3	HACH 10360	12/13/17 18:45	ASB		
Total Phosphorus	0.12	mg/L	0.05	SM4500-PE	12/13/17 17:42	MJC	7723-14-0	
Total Suspended Solids	52	mg/L	3	SM2540D	12/12/17 17:15	ASB		
Metals								
Arsenic	0.019	mg/L	0.002	E200.8	12/12/17 12:25	JRH	7440-38-2	
Chromium	0.088	mg/L	0.005	E200.8	12/12/17 12:25	JRH	7440-47-3	
Copper	1.24	mg/L	0.005	E200.8	12/12/17 12:25	JRH	7440-50-8	
Mercury	Not detected	mg/L	0.0002	E245.1	12/18/17 14:28	JRH	7439-97-6	
Nickel	0.285	mg/L	0.005	E200.8	12/12/17 12:25	JRH	7440-02-0	
Zinc	0.051	mg/L	0.005	E200.8	12/12/17 12:25	JRH	7440-66-6	
Other / Misc.								
Available Cyanide	Not detected	mg/L	0.002	OIA-1677	12/15/17 13:11	JDP	57-12-5	



Quality Control Report

Report ID: QC-S86073-01
Generated on 12/18/2017

Report to

Attention: Clifford Yantz
O'Brien & Gere Engineers, Inc.
1203 Mallow St
Wolverine Lake, MI 48390

Phone: 248-477-5701 FAX:

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S86073.01
Project: RACER Coldwater Rd Landfill PRCC
Submitted Date/Time: 12/08/2017 14:20
Sampled by: Kevin Schneider
P.O. #: PO

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Page 2)
Prep Batch Summary (Page 3)
Batch QC Results (Pages 4-11)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S86073.01

Sample Tag: 04-PRCC-17

Collected Date/Time: 12/08/2017 12:00

Matrix: Wastewater

COC Reference: 105678

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Ammonia-N (Undistilled)	SM4500-NH3 D	12/13/17 18:40	AMN171213QC	AMN171213QC	No	BLK/LCS/MS/DUP
Oil & Grease n-Hexane Extract.	E1664A	12/12/17 11:30	OGHEX171212W01	OGHEX171212W01	No	BLK/LCS
Total Phosphorus	SM4500-PE	12/13/17 17:42	PHS171213QC	PHS171213QC	No	BLK/LCS/MS/DUP
Total Suspended Solids	SM2540D	12/12/17 17:15	TSS171212B	TSS171212B	No	BLK/LCS/DUP
<i>Metals</i>						
Arsenic	E200.8	12/12/17 12:25	MT2-17-1212A	MTD-121217-2	No	LCS/BLK/MS/MSD
Chromium	E200.8	12/12/17 12:25	MT2-17-1212A	MTD-121217-2	No	LCS/BLK/MS/MSD
Copper	E200.8	12/12/17 12:25	MT2-17-1212A	MTD-121217-2	No	LCS/BLK/MS/MSD
Mercury	E245.1	12/18/17 14:28	HG2-17-1218A	HGD-121817-2	No	LCS/BLK/MS/MSD
Nickel	E200.8	12/12/17 12:25	MT2-17-1212A	MTD-121217-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	12/12/17 12:25	MT2-17-1212A	MTD-121217-2	No	LCS/BLK/MS/MSD
<i>Other / Misc.</i>						
Available Cyanide	OIA-1677	12/15/17 13:11	ACN171215-W1	ACN171215-W1	No	BLK/LCS/MS/MSD/DUP

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: AMN171213QC

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S86073.01	Ammonia-N (Undistilled)	SM4500-NH3 D	12/13/17 18:40	AMN171213QC

Inorganics, Prep Batch ID: OGHEX171212W01

Surrogates: No, QC Types: BLK/LCS

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S86073.01	Oil & Grease n-Hexane Extract.	E1664A	12/12/17 11:30	OGHEX171212W01

Inorganics, Prep Batch ID: PHS171213QC

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S86073.01	Total Phosphorus	SM4500-PE	12/13/17 17:42	PHS171213QC

Inorganics, Prep Batch ID: TSS171212B

Surrogates: No, QC Types: BLK/LCS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S86073.01	Total Suspended Solids	SM2540D	12/12/17 17:15	TSS171212B

Metals, Prep Batch ID: HGD-121817-2

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S86073.01	Mercury	E245.1	12/18/17 14:28	HG2-17-1218A

Metals, Prep Batch ID: MTD-121217-2

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S86073.01	Arsenic	E200.8	12/12/17 12:25	MT2-17-1212A
S86073.01	Chromium	E200.8	12/12/17 12:25	MT2-17-1212A
S86073.01	Copper	E200.8	12/12/17 12:25	MT2-17-1212A
S86073.01	Nickel	E200.8	12/12/17 12:25	MT2-17-1212A
S86073.01	Zinc	E200.8	12/12/17 12:25	MT2-17-1212A

Other / Misc., Prep Batch ID: ACN171215-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S86073.01	Available Cyanide	OIA-1677	12/15/17 13:11	ACN171215-W1

QC Report - Batch QC Results

Inorganics, Prep Batch ID: AMN171213QC

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: AMN171213QC.LRB1

Run in Batch: AMN171213QC, Run Date: 12/13/2017 12:38, Prep Date: 12/13/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Ammonia-N (Undistilled)		ND	0.02	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: AMN171213QC.LCS1

Run in Batch: AMN171213QC, Run Date: 12/13/2017 13:26, Prep Date: 12/13/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ammonia-N (Undistilled)		104	90	110

Matrix Spike (MS)

Lab Sample ID: AMN171213QC.MS1, Parent Sample ID: S86115.02

Run in Batch: AMN171213QC, Run Date: 12/13/2017 14:05, Prep Date: 12/13/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ammonia-N (Undistilled)		105	80	120

Duplicate (DUP)

Lab Sample ID: AMN171213QC.DP1, Parent Sample ID: S86115.01

Run in Batch: AMN171213QC, Run Date: 12/13/2017 13:55, Prep Date: 12/13/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Ammonia-N (Undistilled)		0.8	20

QC Report - Batch QC Results

Inorganics, Prep Batch ID: OGHEX171212W01

Surrogates: No, QC Types: BLK/LCS

Blank (BLK)

Lab Sample ID: OGHEX171212W01.LRB1

Run in Batch: OGHEX171212W01, Run Date: 12/12/2017 11:30, Prep Date: 12/12/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Oil & Grease n-Hexane Extract.		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: OGHEX171212W01.LCS1

Run in Batch: OGHEX171212W01, Run Date: 12/12/2017 11:30, Prep Date: 12/12/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Oil & Grease n-Hexane Extract.		87	78	114

Laboratory Control Sample (LCS)

Lab Sample ID: OGHEX171212W01.LCS2

Run in Batch: OGHEX171212W01, Run Date: 12/12/2017 11:30, Prep Date: 12/12/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Oil & Grease n-Hexane Extract.		99	78	114

QC Report - Batch QC Results

Inorganics, Prep Batch ID: PHS171213QC

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: PHS171213QC.LRB1

Run in Batch: PHS171213QC, Run Date: 12/13/2017 16:25, Prep Date: 12/13/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Total Phosphorus		ND	0.01	mg/L

Blank (BLK)

Lab Sample ID: PHS171213QC.LRB2

Run in Batch: PHS171213QC, Run Date: 12/13/2017 16:32, Prep Date: 12/13/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Total Phosphorus		ND	0.01	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: PHS171213QC.LCS1

Run in Batch: PHS171213QC, Run Date: 12/13/2017 16:38, Prep Date: 12/13/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Total Phosphorus		95	90	110

Matrix Spike (MS)

Lab Sample ID: PHS171213QC.MS1, Parent Sample ID: S86173.01

Run in Batch: PHS171213QC, Run Date: 12/13/2017 22:56, Prep Date: 12/13/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Total Phosphorus		103	80	120

Duplicate (DUP)

Lab Sample ID: PHS171213QC.DP1, Parent Sample ID: S86071.01

Run in Batch: PHS171213QC, Run Date: 12/13/2017 22:52, Prep Date: 12/13/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Total Phosphorus		0.8	20

QC Report - Batch QC Results

Inorganics, Prep Batch ID: TSS171212B

Surrogates: No, QC Types: BLK/LCS/DUP

Blank (BLK)

Lab Sample ID: TSS171212B.LRB1

Run in Batch: TSS171212B, Run Date: 12/12/2017 17:15, Prep Date: 12/12/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Total Suspended Solids		ND	3	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: TSS171212B.LCS1

Run in Batch: TSS171212B, Run Date: 12/12/2017 17:15, Prep Date: 12/12/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Total Suspended Solids		94	80.2	113

Duplicate (DUP)

Lab Sample ID: TSS171212B.DP1, Parent Sample ID: S86073.01

Run in Batch: TSS171212B, Run Date: 12/12/2017 17:15, Prep Date: 12/12/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Total Suspended Solids	*	17	5

QC Report - Batch QC Results

Metals, Prep Batch ID: HGD-121817-2

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: HG2-17-1218A.046.LCS

Run in Batch: HG2-17-1218A, Run Date: 12/18/2017 14:14, Prep Date: 12/18/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Mercury		93	85	115

Blank (BLK)

Lab Sample ID: HG2-17-1218A.047.LRB

Run in Batch: HG2-17-1218A, Run Date: 12/18/2017 14:15, Prep Date: 12/18/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Mercury		ND	0.03	ug/L

Matrix Spike (MS)

Lab Sample ID: HG2-17-1218A.058.MS, Parent Sample ID: S86030.01

Run in Batch: HG2-17-1218A, Run Date: 12/18/2017 14:35, Prep Date: 12/18/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Mercury		86	80	120

Matrix Spike (MS)

Lab Sample ID: HG2-17-1218A.072.MS, Parent Sample ID: S86087.01

Run in Batch: HG2-17-1218A, Run Date: 12/18/2017 15:01, Prep Date: 12/18/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Mercury		87	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: HG2-17-1218A.059.MSD, Parent Sample ID: HG2-17-1218A.058.MS

Run in Batch: HG2-17-1218A, Run Date: 12/18/2017 14:37, Prep Date: 12/18/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Mercury		87	80	120	2	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: HG2-17-1218A.073.MSD, Parent Sample ID: HG2-17-1218A.072.MS

Run in Batch: HG2-17-1218A, Run Date: 12/18/2017 15:03, Prep Date: 12/18/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Mercury		85	80	120	2	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-121217-2

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-17-1212A.018.LCS

Run in Batch: MT2-17-1212A, Run Date: 12/12/2017 11:27, Prep Date: 12/12/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		98	85	115
Chromium		95	85	115
Copper		96	85	115
Nickel		96	85	115
Zinc		93	85	115

Blank (BLK)

Lab Sample ID: MT2-17-1212A.020.LRB

Run in Batch: MT2-17-1212A, Run Date: 12/12/2017 11:31, Prep Date: 12/12/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Arsenic		ND	0.0004	mg/L
Chromium		ND	0.001	mg/L
Copper		ND	0.001	mg/L
Nickel		ND	0.001	mg/L
Zinc		ND	0.001	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-17-1212A.032.MS, Parent Sample ID: S86128.01

Run in Batch: MT2-17-1212A, Run Date: 12/12/2017 12:05, Prep Date: 12/12/2017, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		114	80	120
Chromium		102	80	120
Copper		112	80	120
Nickel		100	80	120
Zinc		108	80	120

Matrix Spike (MS)

Lab Sample ID: MT2-17-1212A.047.MS, Parent Sample ID: S86064.01

Run in Batch: MT2-17-1212A, Run Date: 12/12/2017 12:32, Prep Date: 12/12/2017, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		112	80	120
Chromium		100	80	120
Copper		108	80	120
Nickel		98	80	120
Zinc		112	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-17-1212A.033.MSD, Parent Sample ID: MT2-17-1212A.032.MS

Run in Batch: MT2-17-1212A, Run Date: 12/12/2017 12:07, Prep Date: 12/12/2017, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		115	80	120	1	20
Chromium		104	80	120	2	20
Copper		112	80	120	0	20
Nickel		97	80	120	2	20
Zinc		108	80	120	0	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-121217-2 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-17-1212A.048.MSD, Parent Sample ID: MT2-17-1212A.047.MS

Run in Batch: MT2-17-1212A, Run Date: 12/12/2017 12:34, Prep Date: 12/12/2017, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		111	80	120	0	20
Chromium		102	80	120	2	20
Copper		110	80	120	2	20
Nickel		98	80	120	0	20
Zinc		111	80	120	1	20

QC Report - Batch QC Results

Other / Misc., Prep Batch ID: ACN171215-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: ACN171215-W1.LRB1

Run in Batch: ACN171215-W1, Run Date: 12/15/2017 13:03, Prep Date: 12/15/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Available Cyanide		ND	0.002	mg/L

Blank (BLK)

Lab Sample ID: ACN171215-W1.LRB2

Run in Batch: ACN171215-W1, Run Date: 12/15/2017 13:35, Prep Date: 12/15/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Available Cyanide		ND	0.002	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: ACN171215-W1.LCS1

Run in Batch: ACN171215-W1, Run Date: 12/15/2017 13:07, Prep Date: 12/15/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Available Cyanide		98	88	109

Matrix Spike (MS)

Lab Sample ID: ACN171215-W1.MS1, Parent Sample ID: S86073.01

Run in Batch: ACN171215-W1, Run Date: 12/15/2017 13:15, Prep Date: 12/15/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Available Cyanide		100	82	130

Matrix Spike Duplicate (MSD)

Lab Sample ID: ACN171215-W1.MSD1, Parent Sample ID: ACN171215-W1.MS1

Run in Batch: ACN171215-W1, Run Date: 12/15/2017 13:17, Prep Date: 12/15/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Available Cyanide		102	82	130	2	15

Duplicate (DUP)

Lab Sample ID: ACN171215-W1.DP1, Parent Sample ID: S86073.01

Run in Batch: ACN171215-W1, Run Date: 12/15/2017 13:13, Prep Date: 12/15/2017, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Available Cyanide		<1	15

