



August 31, 2017

Maria Bebenek
Manager, Clean Water Program
DEP, SCRO
909 Elmerton Avenue
Harrisburg, Pa 17110

RE: **August 2017** Monthly Report, Site-Specific Study Plan

Dear Ms. Bebenek;

In accordance with Section 3.e of the August 21, 2015 Consent Order and Agreement, the following is the August 2017 monthly report for the Site-Specific Methylmercury Water Quality Criterion Stream Study Plan (the Plan).

Activities Accomplished:

- The NPDES-01 and NPDES-02 samples were collected on August 8, 2017 and sent to Geochemical Testing for analysis.
- Stream water quality samples were collected on August 8, 2017. Samples were collected at stream stations RR-01 (identified in figure 3-1 of the Plan), Rambo Down (located in the mixed zone below NPDES-01), EC-02 (identified in figure 3-2 of Plan) and Ebaughs Down (located in the mixed zone below NPDES-02). Stream samples RR-01, Rambo Down, EC-02 and Ebaughs Down were sent to Brooks Applied Laboratory for analysis.

Results:

- Attached are the analytical results as reported by Geochemical Testing from the August 8, 2017 samples for NPDES-01 and NPDES-02.
- Attached are the analytical results as reported by Brooks Applied Laboratory for stream samples collected on July 18, 2017. Included are results from RR-01, Rambo Down, EC-02 and Ebaughs Down.
- The July 18, 2017 equipment blank sample had a trace detection of 0.78 ng/l for total Hg which is above the Method Reporting Limit of 0.40 ng/l. Analysis performed by Brooks Applied Laboratory.

- Stream discharge measurements were taken on August 8, 2017 in the area where stream samples are collected at RR-01 and EC-02. The following are the results.

- RR-01:

- Measurement 1: 2.77 ft³/sec
 - Measurement 2: 2.36 ft³/sec
 - Measurement 3: 2.36 ft³/sec
 - Average: 2.50 ft³/sec

- EC-02:

- Measurement 1: 4.10 ft³/sec
 - Measurement 2: 3.92 ft³/sec
 - Average: 4.01 ft³/sec

Feel free to contact me if you have any questions or comments on the information provided in this monthly report.

Respectfully,



Richard A. Hazenstab, P.G.
Coordinator
Operations and Environmental Programs

cc: D. Vollero; D. Jasitt; J. Beuschlein; J. Collins

Attached: Brooks Applied Laboratory analysis for stream samples, July 18, 2017
Geochemical Testing analysis for NPDES-01, August 8, 2017
Geochemical Testing analysis for NPDES-02, August 8, 2017
Stream Discharge, August 8, 2017
Field Data, August 8, 2017



Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
RR-01	1729028-01	Water	Sample	07/18/2017	07/19/2017
RR-01	1729028-02	Water	Sample	07/18/2017	07/19/2017
Rambo Down	1729028-03	Water	Sample	07/18/2017	07/19/2017
Rambo Down	1729028-04	Water	Sample	07/18/2017	07/19/2017
EC-02	1729028-05	Water	Sample	07/18/2017	07/19/2017
EC-02	1729028-06	Water	Sample	07/18/2017	07/19/2017
Ebaughs Down	1729028-07	Water	Sample	07/18/2017	07/19/2017
Ebaughs Down	1729028-08	Water	Sample	07/18/2017	07/19/2017
Equipment Blank	1729028-09	Water	Equip. Blank	07/18/2017	07/19/2017
Equipment Blank	1729028-10	Water	Equip. Blank	07/18/2017	07/19/2017

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
Hg	Water	EPA 1631 E	07/24/2017	07/25/2017	B171781	1700882
MeHg	Water	EPA 1630	08/01/2017	08/02/2017	B171838	1700924



Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
Ebaughs Down										
1729028-07	Hg	Water	TR	169		0.10	0.40	ng/L	B171781	1700882
1729028-08	MeHg	Water	D	≤ 0.020	U	0.020	0.049	ng/L	B171838	1700924
EC-02										
1729028-05	Hg	Water	TR	1.08		0.10	0.40	ng/L	B171781	1700882
1729028-06	MeHg	Water	D	≤ 0.020	U	0.020	0.049	ng/L	B171838	1700924
Equipment Blank										
1729028-09	Hg	Water	TR	0.78		0.10	0.40	ng/L	B171781	1700882
1729028-10	MeHg	Water	D	≤ 0.020	U	0.020	0.050	ng/L	B171838	1700924
Rambo Down										
1729028-03	Hg	Water	TR	162		0.51	2.02	ng/L	B171781	1700882
1729028-04	MeHg	Water	D	0.498		0.020	0.050	ng/L	B171838	1700924
RR-01										
1729028-01	Hg	Water	TR	0.97		0.10	0.40	ng/L	B171781	1700882
1729028-02	MeHg	Water	D	≤ 0.020	U	0.020	0.050	ng/L	B171838	1700924

Laboratory Results

Geochemical Testing

Date: 17-Aug-17

CLIENT:	YORK COUNTY SWRA	Client Sample ID:	NPDES-1
Lab Order:	G1708578	Sampled By:	YCSWA
Project:	York 600 M	Collection Date:	8/8/2017 9:05:00 AM
Lab ID:	G1708578-001	Received Date:	8/9/2017 10:35:09 AM
Matrix:	SURFACE WATER		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
PH BY SM 4500 H+B		Analyst: AM					
Lab pH	7.90		H	S.U.	1		SM 4500-H+ B 08/09/17 2:50 PM
TOTAL METALS		Analyst: LNG					
Mercury	244	20.0		ng/L	10	08/10/17 11:00 AM	EPA 245.7 08/10/17 1:20 PM
INORGANIC METALS		Analyst: RLR					
Antimony	< 2.0	2.0		µg/L	1	08/10/17 10:35 AM	EPA 200.2 08/14/17 1:54 PM
Cadmium	< 0.2	0.2		µg/L	1	08/10/17 10:35 AM	EPA 200.8 08/14/17 1:54 PM
Copper	< 4.0	4.0		µg/L	1	08/10/17 10:35 AM	08/14/17 1:54 PM
Lead	< 1.0	1.0		µg/L	1	08/10/17 10:35 AM	08/14/17 1:54 PM
Silver	< 0.4	0.4		µg/L	1	08/10/17 10:35 AM	08/14/17 1:54 PM
VOLATILE ORGANIC COMPOUNDS		Analyst: SJM					
1,1,1-Trichloroethane	< 0.5	0.5		µg/L	1		EPA 624 08/09/17 6:18 PM
1,1-Dichloroethane	< 0.5	0.5		µg/L	1		08/09/17 6:18 PM
1,1-Dichloroethene	< 0.5	0.5		µg/L	1		08/09/17 6:18 PM
Chloroethane	< 0.5	0.5		µg/L	1		08/09/17 6:18 PM
cis-1,2-Dichloroethene	< 0.5	0.5		µg/L	1		08/09/17 6:18 PM
Dichlorodifluoromethane	< 0.5	0.5		µg/L	1		08/09/17 6:18 PM
Methylene Chloride	< 0.5	0.5		µg/L	1		08/09/17 6:18 PM
Tetrachloroethene	< 0.5	0.5		µg/L	1		08/09/17 6:18 PM
Tetrahydrofuran	< 1.0	1.0		µg/L	1		08/09/17 6:18 PM
Trichloroethene	< 0.5	0.5		µg/L	1		08/09/17 6:18 PM
Trichlorofluoromethane	< 0.5	0.5		µg/L	1		08/09/17 6:18 PM
Vinyl Chloride	< 0.5	0.5		µg/L	1		08/09/17 6:18 PM
Surr: 1,2-Dichloroethane-d4	97.9	80-120		%REC	1		08/09/17 6:18 PM
Surr: 4-Bromofluorobenzene	97.5	80-120		%REC	1		08/09/17 6:18 PM
Surr: Toluene-d8	98.8	80-120		%REC	1		08/09/17 6:18 PM



Laboratory Results

Geochemical Testing

Date: 17-Aug-17

CLIENT:	YORK COUNTY SWRA	Client Sample ID:	NPDES-2
Lab Order:	G1708580		
Project:	York 600 M	Sampled By:	YCSWA
Lab ID:	G1708580-001	Collection Date:	8/8/2017 10:15:00 AM
Matrix:	SURFACE WATER	Received Date:	8/9/2017 10:41:00 AM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
PH BY SM 4500 H+B						Analyst: AM	
Lab pH	7.60		H	S.U.	1		SM 4500-H+ B 08/09/17 2:52 PM
TOTAL METALS						Analyst: LNG	
Mercury	155	4.0		ng/L	2	08/10/17 11:00 AM	EPA 245.7 08/10/17 1:23 PM
INORGANIC METALS						Analyst: RLR	
Antimony	< 2.0	2.0		µg/L	1	08/10/17 10:35 AM	EPA 200.2 08/14/17 1:56 PM
Cadmium	< 0.2	0.2		µg/L	1	08/10/17 10:35 AM	EPA 200.8 08/14/17 1:56 PM
Copper	< 4.0	4.0		µg/L	1	08/10/17 10:35 AM	08/14/17 1:56 PM
Lead	< 1.0	1.0		µg/L	1	08/10/17 10:35 AM	08/14/17 1:56 PM
Silver	< 0.4	0.4		µg/L	1	08/10/17 10:35 AM	08/14/17 1:56 PM
VOLATILE ORGANIC COMPOUNDS						Analyst: SJM	
1,1,1-Trichloroethane	< 0.5	0.5		µg/L	1		EPA 624 08/09/17 7:06 PM
1,1-Dichloroethane	< 0.5	0.5		µg/L	1		08/09/17 7:06 PM
1,1-Dichloroethene	< 0.5	0.5		µg/L	1		08/09/17 7:06 PM
Chloroethane	< 0.5	0.5		µg/L	1		08/09/17 7:06 PM
cis-1,2-Dichloroethene	< 0.5	0.5		µg/L	1		08/09/17 7:06 PM
Dichlorodifluoromethane	< 0.5	0.5		µg/L	1		08/09/17 7:06 PM
Methylene Chloride	< 0.5	0.5		µg/L	1		08/09/17 7:06 PM
Tetrachloroethene	< 0.5	0.5		µg/L	1		08/09/17 7:06 PM
Tetrahydrofuran	< 1.0	1.0		µg/L	1		08/09/17 7:06 PM
Trichloroethene	< 0.5	0.5		µg/L	1		08/09/17 7:06 PM
Trichlorofluoromethane	< 0.5	0.5		µg/L	1		08/09/17 7:06 PM
Vinyl Chloride	< 0.5	0.5		µg/L	1		08/09/17 7:06 PM
Surr: 1,2-Dichloroethane-d4	97.8	80-120		%REC	1		08/09/17 7:06 PM
Surr: 4-Bromofluorobenzene	98.2	80-120		%REC	1		08/09/17 7:06 PM
Surr: Toluene-d8	99.1	80-120		%REC	1		08/09/17 7:06 PM





**STREAM DISCHARGE MEASUREMENT
YORK COUNTY SOLID WASTE AND REFUSE AUTHORITY**

Study Area: RR-01

Transect: _____

Date: 8/8/17

Operator: Bill Jones

Weather (Circle)

Air Temp (°F): _____

Current: Storm (heavy rain) Rain (steady rain) Showers (intermittent) Partly Cloudy Clear/Sunny

Past 24 Hours: Storm (heavy rain) Rain (steady rain) Showers (intermittent) Partly Cloudy Clear/Sunny

SITE DESCRIPTION

	Yes ✓	No ✓
Straight reach	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Streambed uniform	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Flow uniform	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Reduced flow near edges	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Large woody debris present	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Aquatic vegetation present	<input type="checkbox"/>	<input checked="" type="checkbox"/>

NOTES:

RR-Aug-1 - meter was set
incorrectly (units)
Had to adjust and redo

Approx. stream width

17'

*No subsection should contain >10% of total discharge, ideal <5%

Approx. number of verticals

18

*10-25 verticals recommended but adjust to conditions and objectives

OTT MF Pro

Measurement 1

Filename	<u>RR_AUG_1</u>
Start time	<u>0737</u>
End time	<u>0801</u>
Total stream discharge (Q)	<u>—</u>

IN CASE OF EMERGENCY:

- 1) Administer first aid if necessary
- 2) Call 911 and state your location in the following order of preference:
 - a) With a GPS-enabled phone if available
 - b) Use nearest road intersections as displayed on maps
 - c) Coordinates and coordinate system of nearest 'T' point as identified on the maps
 - d) With coordinates off of GPS

Measurement 2

Filename	<u>RR_AUG_2</u>
Start time	<u>0805</u>
End time	<u>2:77:47 0819</u>
Total stream discharge (Q)	<u>2.771 ft³/s</u>

Measurement 3

Filename	<u>RR_AUG_3</u>
Start time	<u>0822</u>
End time	<u>0831</u>
Total stream discharge (Q)	<u>2.365 ft³/s</u>

Notes:

Measurement 4

Filename - RR_AUG_4

Start - 0835

Stop - 0846

Total - 2.365 ft³/s



**STREAM DISCHARGE MEASUREMENT
YORK COUNTY SOLID WASTE AND REFUSE AUTHORITY**

Study Area: EC-02
Date: 8/8/17

Transect: _____
Operator: Bill Jones

Weather (Circle)

Air Temp (°F): _____

Current: Storm (heavy rain) Rain (steady rain) Showers (intermittent) Partly Cloudy Clear/Sunny

Past 24 Hours: Storm (heavy rain) Rain (steady rain) Showers (intermittent) Partly Cloudy Clear/Sunny

SITE DESCRIPTION

	Yes ✓	No ✓
Straight reach	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Streambed uniform	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Flow uniform	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Reduced flow near edges	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Large woody debris present	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Aquatic vegetation present	<input checked="" type="checkbox"/> & 5%	<input type="checkbox"/>

NOTES:

Approx. stream width

~~17~~
18

*No subsection should contain >10% of total discharge, ideal <5%

Approx. number of verticals

*10-25 verticals recommended but adjust to conditions and objectives

OTT MF Pro

Measurement 1

Filename	<u>EC-AUG-1</u>
Start time	<u>0919</u>
End time	<u>0933</u>
Total stream discharge (Q)	<u>4,104 ft³/s</u>

IN CASE OF EMERGENCY:

- 1) Administer first aid if necessary
- 2) Call 911 and state your location in the following order of preference:
 - a) With a GPS-enabled phone if available
 - b) Use nearest road intersections as displayed on maps
 - c) Coordinates and coordinate system of nearest 'T' point as identified on the maps
 - d) With coordinates off of GPS

Measurement 2

Filename	<u>EC-AUG-2</u>
Start time	<u>0937</u>
End time	<u>0951</u>
Total stream discharge (Q)	<u>3,920 ft³/s</u>

Measurement 3

Filename	_____
Start time	_____
End time	_____
Total stream discharge (Q)	_____

Notes:



**SURFACE WATER SAMPLE CHARACTERIZATION
YORK COUNTY SOLID WASTE AND REFUSE AUTHORITY**

SAMPLE IDENTIFICATION: <i>Rambo Down</i>	NORTHING:	EASTING:
INVESTIGATORS: <i>TG / FK / BJ</i>	DATE: <i>8/8/17</i> TIME: <i>0900</i>	WATER DEPTH: <i>6"</i>
FORM COMPLETED BY: <i>FK</i>		

WEATHER CONDITIONS	Now <input type="checkbox"/> Past 24 hours <input checked="" type="checkbox"/>	storm <input type="checkbox"/> rain <input checked="" type="checkbox"/> showers <input type="checkbox"/> partly cloudy <input checked="" type="checkbox"/> clear/sunny <input type="checkbox"/>	Has there been a heavy rain in the last 7 days? <input checked="" type="radio"/> Yes <input type="radio"/> No Air Temperature <i>68</i> °F Other:
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WATER QUALITY PARAMETERS

Parameter	Measurement	Surface Water Characteristics:
Temperature (°C):	<i>17.2</i>	
DO (mg/L):		Color: <i>clear</i>
DO (% Saturation):		
pH:	<i>7.01</i>	Odor: <i>NA</i>
Conductivity (µS/cm):	<i>224</i>	
ORP (mV):		Other:

SURFACE WATER ANALYSES

Parameter	Unfiltered	Filtered
Total Mercury (THg)	<input checked="" type="checkbox"/>	
Methylmercury (MeHg)		<input checked="" type="checkbox"/>
Sample Depth (feet):		

QA/QC:

Duplicate Sample Station? (Y / N)

MS/MSD Sample Station? (Y / N)

NOTES: *FK - Sampler*
