YORK COUNTY
SOLID WASTE and REFUSE AUTHORITY

2700 Blackbridge Road, York, PA 17406-7901 Phone (717) 845-1066 Fax (717) 843-1544

June 1, 2017

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

RE: **May 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 May 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 May 18, 2017 and sent to Geochemical Testing for analysis.
- Stream water quality samples were collected on May 17, 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 May 18, 2017 samples for NPDES-01 and NPDES-02.
- Attached are the analytical results as reported by Brooks Applied Laboratory for stream samples collected on April 18, 2017. Included are results from RR-01, Rambo-Down, EC-02 and Ebaughs-Down.
- The April 18, 2017 equipment blank sample had a trace detection of 0.44 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 May 17, 2017 in the area where stream samples are collected at RR-01 and EC-02. The following are the results.

    - RR-01:
        Measurement 1: 3.0 ft^3/sec
        Measurement 2: 2.8 ft^3/sec
        Average: 2.9 ft^3/sec

    - EC-02:
        Measurement 1: 5.8 ft3/sec
        Measurement 2: 5.2 ft3/sec
        Measurement 3: 5.4 ft3/sec

        Average: 5.5 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, April 18, 2017
Geochemical Testing analysis for NPDES-01, May 18, 2017
Geochemical Testing analysis for NPDES-02, May 18, 2017
Stream Discharge, May 17, 2017
Field Data, May 17, 2017

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
RR-01	1716012-01	Water	Sample	04/18/2017	04/19/2017
RR-01	1716012-02	Water	Sample	04/18/2017	04/19/2017
Rambo Down	1716012-03	Water	Sample	04/18/2017	04/19/2017
Rambo Down	1716012-04	Water	Sample	04/18/2017	04/19/2017
EC-02	1716012-05	Water	Sample	04/18/2017	04/19/2017
EC-02	1716012-06	Water	Sample	04/18/2017	04/19/2017
Ebaugh's Down	1716012-07	Water	Sample	04/18/2017	04/19/2017
Ebaugh's Down	1716012-08	Water	Sample	04/18/2017	04/19/2017
Equipment Blank	1716012-09	DIW	Equip. Blank	04/18/2017	04/19/2017
Equipment Blank	1716012-10	DIW	Equip. Blank	04/18/2017	04/19/2017

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
Hg	Water	EPA 1631 E	04/24/2017	04/25/2017	B170983	1700490
MeHg	Water	EPA 1630	04/24/2017	04/25/2017	B170982	1700488

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
Ebaugh's Down										
1716012-07	Hg	Water	TR	224		0.10	0.40	ng/L	B170983	1700490
1716012-08	MeHg	Water	D	0.028	J	0.019	0.049	ng/L	B170982	1700488
EC-02										
1716012-05	Hg	Water	TR	2.22		0.10	0.40	ng/L	B170983	1700490
1716012-06	MeHg	Water	D	≤ 0.020	U	0.020	0.049	ng/L	B170982	1700488
Equipment Blank										
1716012-09	Hg	DIW	TR	0.44		0.10	0.40	ng/L	B170983	1700490
1716012-10	MeHg	DIW	D	≤ 0.020	U	0.020	0.049	ng/L	B170982	1700488
Rambo Down										
1716012-03	Hg	Water	TR	195		0.51	2.02	ng/L	B170983	1700490
1716012-04	MeHg	Water	D	0.107		0.020	0.049	ng/L	B170982	1700488
RR-01										
1716012-01	Hg	Water	TR	1.00		0.10	0.40	ng/L	B170983	1700490
1716012-02	MeHg	Water	D	0.023	J	0.020	0.049	ng/L	B170982	1700488

Laboratory Results

GEOCHEMICAL TESTING
Environmental and Energy Analysis

2005 N. Center Ave.
Somerset PA 15501

814-443-1671
814-445-6666
FAX:814-445-6729

Client:	YORK COUNTY SWA	**Client Sample ID:**	NPDES-1
Lab Order:	G1705B85		
Project:	York 600 M	**Sampled By:**	YCSWA
Lab ID:	G1705B85-001	**Collection Date:**	05/18/2017 12:35
Matrix:	Aqueous	**Received Date:**	05/19/2017 11:18

Analyses	Result	QL	Q	Units	DF	Date Analyzed
Total Metals		**EPA 245.7**				**Analyst: LNG**
Mercury	356	20.0		ng/L	10	05/26/2017 09:44
Inorganic Metals		**EPA 200.8**				**Analyst: RLR**
Antimony	< 2.0	2.0		µg/L	1	05/25/2017 10:12
Cadmium	< 0.2	0.2		µg/L	1	05/24/2017 10:31
Copper	< 4.0	4.0		µg/L	1	05/24/2017 10:31
Lead	< 1.0	1.0		µg/L	1	05/24/2017 10:31
Silver	< 0.4	0.4		µg/L	1	05/24/2017 10:31
Volatile Organic Compounds		**EPA 624**				**Analyst: SJM**
1,1,1-Trichloroethane	< 0.5	0.5		µg/L	1	05/20/2017 04:13
1,1-Dichloroethane	< 0.5	0.5		µg/L	1	05/20/2017 04:13
1,1-Dichloroethene	< 0.5	0.5		µg/L	1	05/20/2017 04:13
Chloroethane	< 0.5	0.5		µg/L	1	05/20/2017 04:13
cis-1,2-Dichloroethene	< 0.5	0.5		µg/L	1	05/20/2017 04:13
Dichlorodifluoromethane	< 0.5	0.5		µg/L	1	05/20/2017 04:13
Methylene Chloride	< 0.5	0.5		µg/L	1	05/20/2017 04:13
Tetrachloroethene	< 0.5	0.5		µg/L	1	05/20/2017 04:13
Tetrahydrofuran	< 1.0	1.0		µg/L	1	05/20/2017 04:13
Trichloroethene	< 0.5	0.5		µg/L	1	05/20/2017 04:13
Trichlorofluoromethane	< 0.5	0.5		µg/L	1	05/20/2017 04:13
Vinyl Chloride	< 0.5	0.5		µg/L	1	05/20/2017 04:13
Surr: Surr: 1,2-Dichloroethane-d4	98.8	80-120		%REC	1	05/20/2017 04:13
Surr: Surr: 4-Bromofluorobenzene	95.4	80-120		%REC	1	05/20/2017 04:13
Surr: Surr: Toluene-d8	99.9	80-120		%REC	1	05/20/2017 04:13
pH by SM 4500 H+B		**SM 4500-H+ B**				**Analyst: AM**
Lab pH	7.95		H	S.U.	1	05/22/2017 09:07

Laboratory Results

GEOCHEMICAL TESTING
Environmental and Energy Analysis

2005 N. Center Ave.
Somerset PA 15501

814-443-1671
814-445-6666
FAX:814-445-6729

Client:	YORK COUNTY SWA	**Client Sample ID:**	NPDES-2
Lab Order:	G1705B86		
Project:	York 600 M	**Sampled By:**	YCSWA
Lab ID:	G1705B86-001	**Collection Date:**	05/18/2017 12:45
Matrix:	Aqueous	**Received Date:**	05/19/2017 11:23

Analyses	Result	QL	Q	Units	DF	Date Analyzed
Total Metals		**EPA 245.7**				**Analyst: LNG**
Mercury	158	4.0		ng/L	2	05/26/2017 09:47
Inorganic Metals		**EPA 200.8**				**Analyst: RLR**
Antimony	< 2.0	2.0		µg/L	1	05/25/2017 10:14
Cadmium	< 0.2	0.2		µg/L	1	05/24/2017 10:34
Copper	< 4.0	4.0		µg/L	1	05/24/2017 10:34
Lead	< 1.0	1.0		µg/L	1	05/24/2017 10:34
Silver	< 0.4	0.4		µg/L	1	05/24/2017 10:34
Volatile Organic Compounds		**EPA 624**				**Analyst: SJM**
1,1,1-Trichloroethane	< 0.5	0.5		µg/L	1	05/20/2017 04:38
1,1-Dichloroethane	< 0.5	0.5		µg/L	1	05/20/2017 04:38
1,1-Dichloroethene	< 0.5	0.5		µg/L	1	05/20/2017 04:38
Chloroethane	< 0.5	0.5		µg/L	1	05/20/2017 04:38
cis-1,2-Dichloroethene	< 0.5	0.5		µg/L	1	05/20/2017 04:38
Dichlorodifluoromethane	< 0.5	0.5		µg/L	1	05/20/2017 04:38
Methylene Chloride	< 0.5	0.5		µg/L	1	05/20/2017 04:38
Tetrachloroethene	< 0.5	0.5		µg/L	1	05/20/2017 04:38
Tetrahydrofuran	< 1.0	1.0		µg/L	1	05/20/2017 04:38
Trichloroethene	< 0.5	0.5		µg/L	1	05/20/2017 04:38
Trichlorofluoromethane	< 0.5	0.5		µg/L	1	05/20/2017 04:38
Vinyl Chloride	< 0.5	0.5		µg/L	1	05/20/2017 04:38
Surr: Surr: 1,2-Dichloroethane-d4	99.5	80-120		%REC	1	05/20/2017 04:38
Surr: Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	05/20/2017 04:38
Surr: Surr: Toluene-d8	97.2	80-120		%REC	1	05/20/2017 04:38
pH by SM 4500 H+B		**SM 4500-H+ B**				**Analyst: AM**
Lab pH	7.68		H	S.U.	1	05/22/2017 09:10

AECOM

STREAM DISCHARGE MEASUREMENT
YORK COUNTY SOLID WASTE AND REFUSE AUTHORITY

Study Area: _____ **Transect:** EC-2

Date: 5/17/17 **Operator:** Bill Jones

Weather (Circle) **Air Temp (°F):** 74

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	✓	
Streambed uniform	✓	
Flow uniform	✓	
Reduced flow near edges	✓	
Large woody debris present		✓
Aquatic vegetation present	✓ & <5%	

NOTES: Clear Flow minimal sediment

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	EC-May-1
Start time	1130
End time	1145
Total stream discharge (Q)	5.85

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 diaplyed 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	EC-MAY-2
Start time	1145
End time	1200
Total stream discharge (Q)	5.219

Measurement 3

Filename	EC-MAY-3
Start time	1200
End time	1215
Total stream discharge (Q)	5.356

Notes:

AECOM

STREAM DISCHARGE MEASUREMENT
YORK COUNTY SOLID WASTE AND REFUSE AUTHORITY

Study Area: _____ **Transect:** RR-1

Date: 5/17/17 **Operator:** B. Kloss Rich Hazen YS

Weather (Circle) **Air Temp (°F):** 72

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	✓	
Streambed uniform	✓	
Flow uniform	✓	
Reduced flow near edges	✓	
Large woody debris present		✓
Aquatic vegetation present	✓ & <5%	

NOTES: Clear Flow
min sed on substrate

Approx. stream width	18	*No subsection should contain >10% of total discharge, ideal <5%
Approx. number of verticals	19	*10-25 verticals recommended but adjust to conditions and objectives

OTT MF Pro

Measurement 1

Filename	RR-MAY-1
Start time	1030
End time	1045
Total stream discharge (Q)	3.002 ft³/sec

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 diaplyed 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	RR-MAY-2
Start time	1050
End time	1105
Total stream discharge (Q)	2.84

Measurement 3

Filename	
Start time	
End time	
Total stream discharge (Q)	

Notes:

AECOM

SURFACE WATER SAMPLE CHARACTERIZATION
YORK COUNTY SOLID WASTE AND REFUSE AUTHORITY

SAMPLE IDENTIFICATION:	NORTHING:	EASTING:
RR-01		
INVESTIGATORS: IG / FK	**DATE:** 5/17/17 **TIME:** 0935	**WATER DEPTH:** 5"
FORM COMPLETED BY: FK		

WEATHER CONDITIONS

Now	Past 24 hours		Has there been a heavy rain in the last 7 days?
☐	☐	storm	(Yes) No
☐	☐	rain	
☐	☐	showers	Air Temperature 75 °F
☐	☐	partly cloudy	
☑	☑	clear/sunny	Other:

WATER QUALITY PARAMETERS

Parameter	Measurement	Surface Water Characteristics:
Temperature (°C):	13.1°	
DO (mg/L):		Color: Clear
DO (% Saturation):		
pH:	7.02	Odor: None
Conductivity (µS/cm):	169	
ORP (mV):		Other: Na

SURFACE WATER ANALYSES

Parameter	Unfiltered	Filtered
Total Mercury (THg)	☑	
Methylmercury (MeHg)		☑

Sample Depth (feet):

QA/QC:

Duplicate Sample Station? (Y / (N))

MS/MSD Sample Station? (Y / (N))

NOTES: Sampler - FK

AECOM

SURFACE WATER SAMPLE CHARACTERIZATION
YORK COUNTY SOLID WASTE AND REFUSE AUTHORITY

SAMPLE IDENTIFICATION:	NORTHING:	EASTING:
Rambo Down		
INVESTIGATORS: IG/FK	**DATE:** 5/17/17 **TIME:** 1000	**WATER DEPTH:** 8'11
FORM COMPLETED BY: FK		

WEATHER CONDITIONS

Now	Past 24 hours	
☐	☐	storm
☐	☐	rain
☐	☐	showers
☐	☐	partly cloudy
☑	☑	clear/sunny

Has there been a heavy rain in the last 7 days? Yes / (No)

Air Temperature 75 °F

Other:

WATER QUALITY PARAMETERS

Parameter	Measurement	Surface Water Characteristics:
Temperature (°C):	16.6	
DO (mg/L):		Color: clear
DO (% Saturation):		
pH:	7.06	Odor: NA
Conductivity (µS/cm):	239	
ORP (mV):		Other:

SURFACE WATER ANALYSES

Parameter	Unfiltered	Filtered
Total Mercury (THg)	☑	
Methylmercury (MeHg)		☑

Sample Depth (feet):

QA/QC:

Duplicate Sample Station? (Y / (N))

MS/MSD Sample Station? (Y / (N))

NOTES: Sampler FK

AECOM

SURFACE WATER SAMPLE CHARACTERIZATION
YORK COUNTY SOLID WASTE AND REFUSE AUTHORITY

SAMPLE IDENTIFICATION:	NORTHING:	EASTING:
EC-02		
INVESTIGATORS: TG FK	**DATE:** 5/17/17 **TIME:** 1020	**WATER DEPTH:** 4' 3"
FORM COMPLETED BY: FK		

WEATHER CONDITIONS

Now	Past 24 hours		
☐	☐	storm	Has there been a heavy rain in the last 7 days? (Yes) No
☐	☐	rain	
☐	☐	showers	Air Temperature 75 °F
☐	☐	partly cloudy	
☑	☑	clear/sunny	Other:

WATER QUALITY PARAMETERS

Parameter	Measurement	Surface Water Characteristics:
Temperature (°C):	13.9°	
DO (mg/L):		Color: Clear
DO (% Saturation):		
pH:	7.33	Odor: NONE
Conductivity (µS/cm):	217	
ORP (mV):		Other: N A

SURFACE WATER ANALYSES

Parameter	Unfiltered	Filtered
Total Mercury (THg)	☑	
Methylmercury (MeHg)		☑

Sample Depth (feet):

QA/QC:

Duplicate Sample Station? (Y (N))

MS/MSD Sample Station? (Y (N))

NOTES: Sampler - FK

AECOM

SURFACE WATER SAMPLE CHARACTERIZATION
YORK COUNTY SOLID WASTE AND REFUSE AUTHORITY

SAMPLE IDENTIFICATION:	NORTHING:	EASTING:
Ebaugh's Down		
INVESTIGATORS: TG/FK	**DATE:** 5/17/17 **TIME:** 1040	**WATER DEPTH:** 8"
FORM COMPLETED BY: FK		

WEATHER CONDITIONS	Now	Past 24 hours		Has there been a heavy rain in the last 7 days?
	☐	☐	storm	(Yes) / No
	☐	☐	rain	
	☐	☐	showers	Air Temperature 78 °F
	☐	☐	partly cloudy	
	☑	☑	clear/sunny	Other:

WATER QUALITY PARAMETERS

Parameter	Measurement	Surface Water Characteristics:
Temperature (°C):	14.4°	
DO (mg/L):		Color: Clear
DO (% Saturation):		
pH:	7.28	Odor: NA
Conductivity (µS/cm):	211	
ORP (mV):		Other: NA

SURFACE WATER ANALYSES

Parameter	Unfiltered	Filtered
Total Mercury (THg)	☑	
Methylmercury (MeHg)		☑

Sample Depth (feet):

QA/QC:

Duplicate Sample Station? (Y / (N))

MS/MSD Sample Station? (Y / (N))

NOTES: Sampler - FK