



January 31, 2017

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

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

Dear Ms. Bebenek;

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

Activities Accomplished:

- Water quality samples were collected on January 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). Samples were also collected from the discharges from the remediation systems at NPDES-01 and NPDES-02.
- The NPDES-01 and NPDES-02 samples were sent to Geochemical Testing.
- Stream samples RR-01, Rambo-Down, EC-02 and Ebaughs-Down were sent to Brooks Applied Laboratory.
- The November and December 2016 equipment blank samples had low concentrations of total mercury (1.85 ng/l and 2.01 ng/l respectively). The field procedure was modified for the January samples by using single use tubing for each water sample. The equipment blank also used new tubing through which spring water was used for purging. Laboratory grade distilled deionized water was then, as before, sampled through the sampling equipment.

Results Received:

- Attached are the analytical results as reported by Brooks Applied Laboratory for stream samples collected on December 8, 2016. Included are results from RR-01, Rambo-Down, EC-02 and Ebaughs-Down.
- Attached are the analytical results as reported by Geochemical Testing from the January 17, 2017 samples for NPDES-01 and NPDES-02.
- Stream discharge measurements were taken on January 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: 2.07 ft³/sec
 - Measurement 2: 2.10 ft³/sec
 - Average: 2.09 ft³/sec

- EC-02:
 - Measurement 1: 2.20 ft³/sec
 - Measurement 2: 2.31 ft³/sec
 - Average: 2.25 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
Geochemical Testing analysis for NPDES-01
Geochemical Testing analysis for NPDES-02



Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
RR-01	1650058-01	Water	Sample	12/08/2016	12/09/2016
Rambo Down	1650058-02	Water	Sample	12/08/2016	12/09/2016
RR-01	1650058-03	Water	Sample	12/08/2016	12/09/2016
Rambo Down	1650058-04	Water	Sample	12/08/2016	12/09/2016
EC-02	1650058-05	Water	Sample	12/08/2016	12/09/2016
Ebaughs Down	1650058-06	Water	Sample	12/08/2016	12/09/2016
EC-02	1650058-07	Water	Sample	12/08/2016	12/09/2016
Ebaughs Down	1650058-08	Water	Sample	12/08/2016	12/09/2016
EQB-01	1650058-09	Water	Equip. Blank	12/08/2016	12/09/2016
EQB-02	1650058-10	Water	Equip. Blank	12/08/2016	12/09/2016

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
Hg	Water	EPA 1631 E	12/23/2016	01/06/2017	B163298	1700023
MeHg	Water	EPA 1630	12/16/2016	12/17/2016	B163147	1601456



Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
Ebaughs Down										
1650058-06	Hg	Water	TR	164		0.51	2.02	ng/L	B163298	1700023
1650058-08	MeHg	Water	D	≤ 0.020	U	0.020	0.049	ng/L	B163147	1601456
EC-02										
1650058-05	Hg	Water	TR	1.05		0.10	0.40	ng/L	B163298	1700023
1650058-07	MeHg	Water	D	≤ 0.020	U	0.020	0.049	ng/L	B163147	1601456
EQB-01										
1650058-09	Hg	Water	TR	2.01		0.10	0.40	ng/L	B163298	1700023
EQB-02										
1650058-10	MeHg	Water	D	≤ 0.020	U	0.020	0.049	ng/L	B163147	1601456
Rambo Down										
1650058-02	Hg	Water	TR	100		2.53	10.1	ng/L	B163298	1700023
1650058-04	MeHg	Water	D	0.057		0.020	0.049	ng/L	B163147	1601456
RR-01										
1650058-01	Hg	Water	TR	0.96		0.10	0.40	ng/L	B163298	1700023
1650058-03	MeHg	Water	D	≤ 0.020	U	0.020	0.050	ng/L	B163147	1601456

Laboratory Results

Geochemical Testing

Date: 31-Jan-17

CLIENT:	YORK COUNTY SWRA	Client Sample ID:	NPDES-1
Lab Order:	G1701870	Sampled By:	Client
Project:	York County SWRA 600 Q	Collection Date:	1/17/2017 11:10:00 AM
Lab ID:	G1701870-001	Received Date:	1/18/2017 1:41:38 PM
Matrix:	AQUEOUS		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
PH BY SM 4500 H+B				Analyst: AM		SM 4500-H+ B	
Lab pH	7.84		H	S.U.	1		01/18/17 2:11 PM
INORGANIC NON-METALS				Analyst: BEH		ASTM D7511-09	
Cyanide, total	< 0.020	0.020		mg/L	1		01/23/17 10:42 AM
INORGANIC NON-METALS				Analyst: SAG		EPA 180.1	EPA 180.1
Turbidity	0.4	0.1		NTU	1	01/18/17 2:00 PM	01/18/17 2:10 PM
INORGANIC METALS				Analyst: LNG		EPA 200.2	EPA 200.7
Beryllium, dissolved	< 0.004	0.004		mg/L	1	01/19/17 11:05 AM	01/20/17 11:17 PM
Chromium, dissolved	< 0.01	0.01		mg/L	1	01/19/17 11:05 AM	01/20/17 11:17 PM
Nickel, dissolved	< 0.02	0.02		mg/L	1	01/19/17 11:05 AM	01/20/17 11:17 PM
Zinc, dissolved	0.01	0.01		mg/L	1	01/19/17 11:05 AM	01/20/17 11:17 PM
INORGANIC METALS				Analyst: RLR		EPA 200.2	EPA 200.8
Antimony, dissolved	< 2.0	2.0		µg/L	1	01/19/17 11:05 AM	01/23/17 2:47 PM
Arsenic, dissolved	< 5.0	5.0		µg/L	1	01/19/17 11:05 AM	01/23/17 2:47 PM
Cadmium, dissolved	< 0.2	0.2		µg/L	1	01/19/17 11:05 AM	01/23/17 2:47 PM
Copper, dissolved	< 4.0	4.0		µg/L	1	01/19/17 11:05 AM	01/23/17 2:47 PM
Lead, dissolved	< 1.0	1.0		µg/L	1	01/19/17 11:05 AM	01/23/17 2:47 PM
Selenium, dissolved	< 5.0	5.0		µg/L	1	01/19/17 11:05 AM	01/23/17 2:47 PM
Silver, dissolved	< 0.4	0.4		µg/L	1	01/19/17 11:05 AM	01/23/17 2:47 PM
TOTAL METALS				Analyst: RLR		EPA 245.7	EPA 245.7
Mercury	171	20.0		ng/L	10	01/24/17 2:00 PM	01/26/17 7:27 AM
INORGANIC METALS				Analyst: LNG		EPA 200.2	EPA 200.7
Beryllium	< 0.004	0.004		mg/L	1	01/19/17 11:05 AM	01/20/17 10:51 PM
Calcium	18.0	0.1		mg/L	1	01/19/17 11:05 AM	01/24/17 3:55 AM
Chromium	< 0.01	0.01		mg/L	1	01/19/17 11:05 AM	01/20/17 10:51 PM
Magnesium	11.2	0.1		mg/L	1	01/19/17 11:05 AM	01/20/17 10:51 PM
Nickel	< 0.02	0.02		mg/L	1	01/19/17 11:05 AM	01/20/17 10:51 PM
Zinc	0.01	0.01		mg/L	1	01/19/17 11:05 AM	01/20/17 10:51 PM
Hardness (SM 2340B)	97.8	1.0		mg/L CaCO3	1	01/19/17 11:05 AM	01/20/17 10:51 PM
INORGANIC METALS				Analyst: RLR		EPA 200.2	EPA 200.8
Antimony	< 2.0	2.0		µg/L	1	01/19/17 11:05 AM	01/23/17 2:45 PM
Arsenic	< 5.0	5.0		µg/L	1	01/19/17 11:05 AM	01/23/17 2:45 PM
Cadmium	< 0.2	0.2		µg/L	1	01/19/17 11:05 AM	01/23/17 2:45 PM
Copper	< 4.0	4.0		µg/L	1	01/19/17 11:05 AM	01/23/17 2:45 PM
Lead	< 1.0	1.0		µg/L	1	01/19/17 11:05 AM	01/23/17 2:45 PM
Selenium	< 5.0	5.0		µg/L	1	01/19/17 11:05 AM	01/23/17 2:45 PM



Laboratory Results

Geochemical Testing

Date: 31-Jan-17

CLIENT:	YORK COUNTY SWRA	Client Sample ID:	NPDES-1
Lab Order:	G1701870	Sampled By:	Client
Project:	York County SWRA 600 Q	Collection Date:	1/17/2017 11:10:00 AM
Lab ID:	G1701870-001	Received Date:	1/18/2017 1:41:38 PM
Matrix:	AQUEOUS		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
INORGANIC METALS		Analyst: RLR				EPA 200.2	EPA 200.8
Silver	< 0.4	0.4		µg/L	1	01/19/17 11:05 AM	01/23/17 2:45 PM
VOLATILE ORGANIC COMPOUNDS		Analyst: SJM					EPA 624
1,1,1-Trichloroethane	< 0.5	0.5		µg/L	1		01/18/17 7:11 PM
1,1-Dichloroethane	< 0.5	0.5		µg/L	1		01/18/17 7:11 PM
1,1-Dichloroethene	< 0.5	0.5		µg/L	1		01/18/17 7:11 PM
Chloroethane	< 0.5	0.5		µg/L	1		01/18/17 7:11 PM
cis-1,2-Dichloroethene	< 0.5	0.5		µg/L	1		01/18/17 7:11 PM
Dichlorodifluoromethane	< 0.5	0.5		µg/L	1		01/18/17 7:11 PM
Methylene Chloride	< 0.5	0.5		µg/L	1		01/18/17 7:11 PM
Tetrachloroethene	< 0.5	0.5		µg/L	1		01/18/17 7:11 PM
Tetrahydrofuran	< 1.0	1.0		µg/L	1		01/18/17 7:11 PM
Trichloroethene	< 0.5	0.5		µg/L	1		01/18/17 7:11 PM
Trichlorofluoromethane	< 0.5	0.5		µg/L	1		01/18/17 7:11 PM
Vinyl Chloride	< 0.5	0.5		µg/L	1		01/18/17 7:11 PM
Surr: 1,2-Dichloroethane-d4	105	80-120		%REC	1		01/18/17 7:11 PM
Surr: 4-Bromofluorobenzene	97.1	80-120		%REC	1		01/18/17 7:11 PM
Surr: Toluene-d8	99.5	80-120		%REC	1		01/18/17 7:11 PM



Laboratory Results

Geochemical Testing

Date: 31-Jan-17

CLIENT:	YORK COUNTY SWRA	Client Sample ID:	NPDES-2
Lab Order:	G1701869	Sampled By:	Client
Project:	York County SWRA 600 Q	Collection Date:	1/17/2017 12:30:00 PM
Lab ID:	G1701869-001	Received Date:	1/18/2017 1:36:27 PM
Matrix:	AQUEOUS		

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
PH BY SM 4500 H+B				Analyst: AM		SM 4500-H+ B	
Lab pH	7.54		H	S.U.	1		01/18/17 2:08 PM
INORGANIC NON-METALS				Analyst: BEH		ASTM D7511-09	
Cyanide, total	< 0.020	0.020		mg/L	1		01/23/17 10:40 AM
INORGANIC NON-METALS				Analyst: SAG		EPA 180.1	EPA 180.1
Turbidity	0.3	0.1		NTU	1	01/18/17 2:00 PM	01/18/17 2:10 PM
INORGANIC METALS				Analyst: LNG		EPA 200.2	EPA 200.7
Beryllium, dissolved	< 0.004	0.004		mg/L	1	01/19/17 11:05 AM	01/20/17 10:47 PM
Chromium, dissolved	< 0.01	0.01		mg/L	1	01/19/17 11:05 AM	01/20/17 10:47 PM
Nickel, dissolved	< 0.02	0.02		mg/L	1	01/19/17 11:05 AM	01/20/17 10:47 PM
Zinc, dissolved	0.01	0.01		mg/L	1	01/19/17 11:05 AM	01/20/17 10:47 PM
INORGANIC METALS				Analyst: RLR		EPA 200.2	EPA 200.8
Antimony, dissolved	< 2.0	2.0		µg/L	1	01/19/17 11:05 AM	01/20/17 9:30 AM
Arsenic, dissolved	< 5.0	5.0		µg/L	1	01/19/17 11:05 AM	01/20/17 9:30 AM
Cadmium, dissolved	< 0.2	0.2		µg/L	1	01/19/17 11:05 AM	01/20/17 9:30 AM
Copper, dissolved	< 4.0	4.0		µg/L	1	01/19/17 11:05 AM	01/20/17 9:30 AM
Lead, dissolved	< 1.0	1.0		µg/L	1	01/19/17 11:05 AM	01/20/17 9:30 AM
Selenium, dissolved	< 5.0	5.0		µg/L	1	01/19/17 11:05 AM	01/20/17 9:30 AM
Silver, dissolved	< 0.4	0.4		µg/L	1	01/19/17 11:05 AM	01/20/17 9:30 AM
TOTAL METALS				Analyst: RLR		EPA 245.7	EPA 245.7
Mercury	137	4.0		ng/L	2	01/24/17 2:00 PM	01/26/17 7:24 AM
INORGANIC METALS				Analyst: LNG		EPA 200.2	EPA 200.7
Beryllium	< 0.004	0.004		mg/L	1	01/19/17 11:05 AM	01/20/17 10:42 PM
Calcium	13.6	0.1		mg/L	1	01/19/17 11:05 AM	01/20/17 10:42 PM
Chromium	< 0.01	0.01		mg/L	1	01/19/17 11:05 AM	01/20/17 10:42 PM
Magnesium	6.6	0.1		mg/L	1	01/19/17 11:05 AM	01/20/17 10:42 PM
Nickel	< 0.02	0.02		mg/L	1	01/19/17 11:05 AM	01/20/17 10:42 PM
Zinc	0.01	0.01		mg/L	1	01/19/17 11:05 AM	01/20/17 10:42 PM
Hardness (SM 2340B)	61.2	1.0		mg/L CaCO3	1	01/19/17 11:05 AM	01/20/17 10:42 PM
INORGANIC METALS				Analyst: RLR		EPA 200.2	EPA 200.8
Antimony	< 2.0	2.0		µg/L	1	01/19/17 11:05 AM	01/20/17 9:28 AM
Arsenic	< 5.0	5.0		µg/L	1	01/19/17 11:05 AM	01/20/17 9:28 AM
Cadmium	< 0.2	0.2		µg/L	1	01/19/17 11:05 AM	01/20/17 9:28 AM
Copper	< 4.0	4.0		µg/L	1	01/19/17 11:05 AM	01/20/17 9:28 AM
Lead	< 1.0	1.0		µg/L	1	01/19/17 11:05 AM	01/20/17 9:28 AM
Selenium	< 5.0	5.0		µg/L	1	01/19/17 11:05 AM	01/20/17 9:28 AM



Laboratory Results

Geochemical Testing

Date: 31-Jan-17

CLIENT:	YORK COUNTY SWRA	Client Sample ID:	NPDES-2
Lab Order:	G1701869		
Project:	York County SWRA 600 Q	Sampled By:	Client
Lab ID:	G1701869-001	Collection Date:	1/17/2017 12:30:00 PM
Matrix:	AQUEOUS	Received Date:	1/18/2017 1:36:27 PM

Analyses	Result	QL	Q	Units	DF	Date Prepared	Date Analyzed
INORGANIC METALS		Analyst: RLR				EPA 200.2	EPA 200.8
Silver	< 0.4	0.4		µg/L	1	01/19/17 11:05 AM	01/20/17 9:28 AM
VOLATILE ORGANIC COMPOUNDS		Analyst: SJM					EPA 624
1,1,1-Trichloroethane	< 0.5	0.5		µg/L	1		01/18/17 6:48 PM
1,1-Dichloroethane	< 0.5	0.5		µg/L	1		01/18/17 6:48 PM
1,1-Dichloroethene	< 0.5	0.5		µg/L	1		01/18/17 6:48 PM
Chloroethane	< 0.5	0.5	R	µg/L	1		01/18/17 6:48 PM
cis-1,2-Dichloroethene	< 0.5	0.5		µg/L	1		01/18/17 6:48 PM
Dichlorodifluoromethane	< 0.5	0.5		µg/L	1		01/18/17 6:48 PM
Methylene Chloride	< 0.5	0.5		µg/L	1		01/18/17 6:48 PM
Tetrachloroethene	< 0.5	0.5		µg/L	1		01/18/17 6:48 PM
Tetrahydrofuran	< 1.0	1.0		µg/L	1		01/18/17 6:48 PM
Trichloroethene	< 0.5	0.5		µg/L	1		01/18/17 6:48 PM
Trichlorofluoromethane	< 0.5	0.5		µg/L	1		01/18/17 6:48 PM
Vinyl Chloride	< 0.5	0.5		µg/L	1		01/18/17 6:48 PM
Surr: 1,2-Dichloroethane-d4	104	80-120		%REC	1		01/18/17 6:48 PM
Surr: 4-Bromofluorobenzene	99.4	80-120		%REC	1		01/18/17 6:48 PM
Surr: Toluene-d8	98.2	80-120		%REC	1		01/18/17 6:48 PM

NOTES:

R - RPD above control limits between matrix spike and MS duplicates.

