pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0204811**
Facility Type	**Storm Water**	APS ID	**914972**
Major / Minor	**Minor**	Authorization ID	**1137051**

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Applicant and Facility Information

Applicant Name	**North American Profiles USA, Inc.**	Facility Name	**Energi Fenestration Solutions**
Applicant Address	One Contact Place	Facility Address	One Contact Place
	Delmont, PA 15626-1402		Delmont, PA 15626-1402
Applicant Contact	Kevin Soloman	Facility Contact	Kevin Soloman
Applicant Phone	724-468-4553	Facility Phone	724-468-4553
Client ID	328067	Site ID	242979
SIC Code	3089	Municipality	Salem Township
SIC Description	Plastics Products, Not Elsewhere Classified	County	Westmoreland
Date Application Received	June 25, 2015	EPA Waived?	No
Date Application Accepted	May 7, 2019	If No, Reason	TMDL

Purpose of Application: Renewal and ownership transfer of NPDES Permit

Summary of Review

Background

The Pennsylvania Department of Environmental Protection (Department) received a renewal application for the North American Profiles, Inc. facility in Salem Township of Westmoreland County on June 25, 2015. A subsequent permit transfer application was received on May 11, 2016 to change the permittee and site name from Royal Window and Door Profiles Plant 13, Inc. to permittee North American Profiles USA, Inc. and site name Energi Fenestration Solutions. The current permit was issued on December 17, 2010 and expired on December 31, 2015. The permit has been administratively extended since that date.

Facility Description

The facility manufactures PVC (plastic) extruded window and door frames (standard industrial classification (SIC) Code 3089 – Plastics Products). All of the operations are conducted under roof inside of the facility building. The only activities and operations occurring on the paved areas surrounding the building are employee parking, storage of empty racks used for inside product storage, municipal and scrap metal covered dumpsters, a cooling tower, a facility transformer (oil-filled) and two enclosed chiller units. A retention pond is located in the northeast corner. On December 17, 2014 the facility connected their sanitary and industrial wastewater discharges to the Franklin Township Municipal Sewer Authority (POTW) (approved Planning Module Approval Letter dated May 16, 2014). This eliminates internal monitoring points 101 (sewage) and 201 (industrial wastewater) from entering the pond. The facility now discharges stormwater only from its outfall.

Approve	Deny	Signatures	Date
X		Nicole H. Benoit, P.E. / Environmental Engineering Specialist	May 14, 2020
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	May 22, 2020

Summary of Review

In addition to the NPDES permit, the facility also has a Water Quality Management (WQM) Part II permit (6512200, Issued April 18, 2013) for operation of the sanitary treatment package plant. The treatment plant steps are chemical flocculation, gravity settling, filtration and granular activated carbon.

Outfall Description

The facility has one outfall, Outfall 001, that discharges stormwater to Beaver Run upstream of the Beaver Run Reservoir. The outfall is from a retention pond in the northeast corner of the property. The pond receives stormwater from the current internal monitoring point (IMP) 301 and 401, both of which contain stormwater only. The current permit designated these as separate sampling points since old IMP 101 (treated sewage) and 201 (treated industrial wastewater) also discharged through Outfall 001. With the reroute of IMP 101 and 201 though, sampling at IMPs 301 and 401 will be eliminated and sampling will only be required at final Outfall 001.

The current permit states the discharge is to a tributary of Beaver Run, however upon a review of the facility, outfall location and topographic map, it is confirmed that the discharge is to Beaver Run itself at RMI 15.223. The current permit's Pollution Report also states Beaver Run as the receiving water.

TMDL

Beaver Run is in the Kiskiminetas-Conemaugh River Watershed for which the EPA has developed a TMDL for impairments of metals, pH and sediment from Acid Mine Drainages. Internal Monitoring Point (IMP) 201 is assigned a Waste Load Allocation (WLA) to reduce these pollutants in the industrial wastewater discharge. No other outfall is assigned a WLA and is instead a part of the general load allocation (LA) for the waterbody segment. With the reroute of IMP 101 and 201 to the POTW, this source has been removed from Beaver Run and the WLA no longer applies. See the Effluent Limitations Development section for more detail.

The POTW is an advanced wastewater treatment facility currently permitted for 4.9 MGD of hydraulic capacity. The Meadowbrook Road Water Pollution Control Plant has aerobic biological treatment with grit removal, primary clarification, trickling filters, secondary clarification, nitration towers, shallow bed sand filtration, ultraviolet disinfection, sludge thickening, anaerobic biological sludge stabilization, sludge dewatering and methane gas utilization facilities. The discharge from the POTW is to Turtle Creek. Turtle Creek (main stem, source to Brush Creek) is designated as a Trout Stocking Fishery (TSF) and has a TMDL for abandoned coalmine drainage affected segments that became effective June 29, 2009. The TMDL addresses two primary metals associated with abandoned mine drainage (iron and aluminum) and pH. The TMDL is expressed as long-term, average loadings of LA for stream segments. There are no WLAs assigned to specific facilities, including the POTW.

The Turtle Creek TMDL notes that changes in TMDLs that may not require EPA approval including total load shift less than or equal to 1% of the total load. This negligible impact on Turtle Creek is not expected to have any impact on the receiving stream or cause any harm to the aquatic life. Regarding the Kiskiminetas-Conemaugh River Watershed TMDL, the TMDL states "The EPA does not require the establishment of a new TMDL to reflect these revised allocations as long as the total WLA as expressed in the TMDL remains the same or decreases and there is no reallocation between the total WLA and LA. Since the discharge is removed from the waterbody, there is no reallocation. The overall total LA for the stream decreases as a result of this removal and should not require any modification to the Kiskiminetas-Conemaugh TMDL.

High Quality Designation

The Beaver Run stream segment was designated as high-quality (HQ) on October 8, 1979 to protect the Westmoreland water supply in the Beaver Run Reservoir in § 93.9t. The stream is also designated for Cold Water Fishes (CWF) but is impaired for aquatic life. The source of the impairment is nutrients and siltation (grazing in riparian or shoreline zones). The Beaver Run HQ designation prohibits the facility from obtaining coverage under the PAG-03 General Permit for Stormwater Associated with Industrial Activities per § 92a.54(a)(8). Therefore, the facility is required to maintain an individual NPDES permit for authorization to discharge.

Pa Code Chapter 93.1 defines *High Quality Waters* as "Surface waters having quality which exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water by satisfying § 93.4b(a)". § 93.4b(a)

Summary of Review

states that a surface water is a High-Quality Water if it meets one or more conditions of the requirements for either (1) chemistry or (2) biology. Since the Commonwealth designated this segment of Beaver Run as a High-Quality Water, the § 93.4a., antidegradation requirements apply. Per § 93.4a(c) "The water quality of High-Quality Waters shall be maintained and protected, except as provided in § 93.4c(b)(1)(iii) (relating to implementation of antidegradation requirements). Implementation of antidegradation requirements are described in § 93.4c. Regarding existing use protection under (a)(1)(i): "Existing use protection shall be provided when the Department's evaluation of information (including data gathered at the Department's own initiative, data contained in a petition to change a designated use submitted to the EQB under § 93.4d(a) (relating to processing of petitions, evaluations and assessments to change a designated use), or data considered in the context of a Department permit or approval action) indicates that a surface water attains or has attained an existing use."

The reroute of the treated sewage and industrial wastewater significantly reduces both the total flow and total mass of pollutants discharged. Because of this reduction in pollutants, an anti-degradation analysis was not conducted for the stormwater only discharges that remain. There is no increase in stormwater flow, and with the reroute to the local POTW, stormwater quality may improve from the retention pond receiving less pollutant mass loading. The stormwater that contacts the pavement is allowed to return to ambient temperature by flowing over the vegetation and in the retention pond, so a thermal impacts analysis was not conducted and no antidegradation of the stream's temperature is expected.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Conclusion

It is recommended that a draft permit be issued for public comment for renewal and transfer of NPDES permit PA0204811.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	Variable
Latitude	40º 24' 38"	Longitude	-79º 33' 48"
Quad Name	1509	Quad Code	Slickville
Wastewater Description:	Stormwater		

Receiving Waters	Beaver Run (HQ-CWF)	Stream Code	74906
NHD Com ID	125291664	RMI	15.223
Drainage Area	9.1 sq. mi.	Yield (cfs/mi^2)	0.033
Q_{7-10} Flow (cfs)	0.298	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1100	Slope (ft/ft)	0.008
Watershed No.	18-B	Chapter 93 Class.	HQ-CWF
Existing Use	HQ-CWF	Existing Use Qualifier	§ 93.9t
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	Nutrients, Siltation		
Source(s) of Impairment	Grazing in riparian or shoreline zones		
TMDL Status	Final	Name	Kiskiminetas-Conemaugh River Watersheds TMDL

Background/Ambient Data		Data Source
pH (SU)	7.0	Default
Temperature (°F)	Ambient	Default
Hardness (mg/L)	100	Default
Other:	N/A	N/A

Nearest Downstream Public Water Supply Intake		Municipal Authority of Westmoreland County (MAWC) Sweeney Plant – Beaver Run Reservoir	
PWS Waters	No	Flow at Intake (cfs)	Pumps 34 MGD
PWS RMI	7.00	Distance from Outfall (mi)	8.2

Changes Since Last Permit Issuance: IMP 101 and 201 have been rerouted to the local POTW. Stormwater sampling at IMP 301 and 401 will be consolidated to sampling at Outfall 001 only.

Public Water Supply: There is a PWS intake approximately 8.2 river miles downstream of the outfall. Although Chapter 93 does not specifically designate the outfall's segment of Beaver Run as a Public Water Supply (PWS), the stream is designated as High-Quality (HQ) upstream of the Beaver Run Reservoir. An analysis of the discharge's pollutants of concern are expected to have a negligible impact on the receiving water body and constitute an extremely small flow in relation to the flow of Beaver Run. Part A of the permit requires notification to downstream users in the event of an unanticipated noncompliance or potential pollution reporting.

> III.C.4.(a) Immediate Reporting - The permittee shall immediately report any incident causing or threatening pollution in accordance with the requirements of 25 Pa. Code §§ 91.33 and 92a.41(b).
> (ii) If reasonably possible to do so, the permittee shall immediately notify downstream users of the waters of the Commonwealth to which the substance was discharged. Such notice shall include the location and nature of the danger.

Protection of the MAWC Sweeney Plant is sufficient.

Compliance History

DMR Data for Outfall 001 (from May 1, 2019 to April 30, 2020) – see effluent violations below

Parameter	APR-20	MAR-20	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19
Flow (MGD) Average Monthly	0.0230	0.0194	0.0216	0.0158	0.0194	0.0540	0.0720	0.0434	0.0630	0.0097	0.0220	0.0454
Flow (MGD) Daily Maximum	0.0288	0.0216	0.0216	0.0173	0.0216	0.0864	0.0864	0.0864	0.0792	0.0115	0.0360	0.0792
pH (S.U.) Minimum	8.4	7.49	7.34	7.44	7.74	8.36	7.33	7.50	7.70	7.8	7.89	8.31
pH (S.U.) Maximum	8.51	7.61	7.46	7.47	8.09	8.42	7.50	7.87	7.75	7.88	8.79	8.8
DO (mg/L) Minimum	9.52	8.54	8.49	9.36	8.79	11.56	8.40	8.34	7.13	7.26	7.87	9.42
CBOD5 (mg/L) Average Monthly	<3.00	<3.00	<3.0	< 3.00	< 3.00	3.10	< 3.0	< 3.00	< 3.0	< 3.00	< 3.0	< 3.00
CBOD5 (mg/L) Daily Maximum	<3.00	<3.0	<3.0	< 3.00	< 3.00	3.20	< 3.0	< 3.00	< 3.0	< 3.00	< 3.0	< 3.00
TSS (mg/L) Average Monthly	3.00	6.00	5.50	3.00	8.50	4.50	3.0	16.0	5.0	3.50	4.0	3.00
TSS (mg/L) Daily Maximum	3.00	6.00	6.0	3.00	9.00	6.00	3.0	29.0	7.0	4.00	5.0	3.00
Ammonia (mg/L) Average Monthly	<0.10	<0.10	<0.10	< 0.10	0.14	< 0.10	< 0.10	< 0.10	0.11	< 0.10	< 0.10	< 0.10
Ammonia (mg/L) Daily Maximum	<0.10	<0.10	<0.10	< 0.10	0.15	< 0.10	< 0.10	< 0.10	0.11	< 0.10	< 0.10	< 0.10
Total Aluminum (mg/L) Average Monthly	0.10	0.14	0.23	0.12	0.36	0.13	< 0.10	0.19	0.11	< 0.10	< 0.10	< 0.10
Total Aluminum (mg/L) Daily Maximum	0.10	0.17	0.29	0.13	0.48	0.14	< 0.10	0.28	0.12	< 0.10	< 0.10	< 0.10
Total Iron (mg/L) Average Monthly	0.27	0.23	0.32	0.28	0.54	0.33	0.18	0.40	0.24	0.62	0.55	0.24
Total Iron (mg/L) Daily Maximum	0.28	0.28	0.39	0.32	0.68	0.35	0.19	0.75	0.28	0.63	0.62	0.25
Total Manganese (mg/L) Average Monthly	0.03	0.04	0.04	0.06	0.1	0.04	0.02	0.07	0.02	0.15	0.16	0.065
Total Manganese (mg/L) Daily Maximum	0.03	0.04	0.04	0.08	0.10	0.04	0.02	0.12	0.02	0.21	0.23	0.07

DMR Data for Outfall 301 (from May 1, 2019 to April 30, 2020) – monitor and report for stormwater

Parameter	APR-20	MAR-20	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19
Flow (MGD) Average Monthly		0.00432			0.04320			0.15840			0.00936	
Flow (MGD) Daily Maximum		0.00432			0.04320			0.15840			0.00936	
TSS (mg/L) Average Monthly		3.00			34			11.00			8.0	
TSS (mg/L) Daily Maximum		3.00			34			11.00			8.0	
Oil and Grease (mg/L) Average Monthly		<5.00			< 5.00			< 5.0			< 5.00	
Oil and Grease (mg/L) Daily Maximum		<5.00			< 5.00			< 5.0			< 5.00	

DMR Data for Outfall 401 (from May 1, 2019 to April 30, 2020) – monitor and report for stormwater

Parameter	APR-20	MAR-20	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19
Flow (MGD) Average Monthly		0.00720			0.02880			0.1296			0.01152	
Flow (MGD) Daily Maximum		0.00720			0.02880			0.1296			0.01152	
TSS (mg/L) Average Monthly		5.00			8.00			12.0			< 3.00	
TSS (mg/L) Daily Maximum		5.00			8.00			12.0			< 3.00	
Oil and Grease (mg/L) Average Monthly		5.00			< 5.00			< 5.0			< 5.00	
Oil and Grease (mg/L) Daily Maximum		5.00			< 5.00			< 5.0			< 5.00	

Compliance History

Effluent Violations for Outfall 001, from: May 1, 2019 To: April 30, 2020

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Total Aluminum	02/29/20	Daily Max	0.29	mg/L	0.22	mg/L
Total Aluminum	12/31/19	Daily Max	0.48	mg/L	0.22	mg/L
Total Aluminum	09/30/19	Daily Max	0.28	mg/L	0.22	mg/L
Total Iron	04/30/20	Daily Max	0.28	mg/L	0.20	mg/L
Total Iron	03/31/20	Daily Max	0.28	mg/L	0.20	mg/L
Total Iron	02/29/20	Daily Max	0.39	mg/L	0.20	mg/L
Total Iron	01/31/20	Daily Max	0.32	mg/L	0.20	mg/L
Total Iron	12/31/19	Daily Max	0.68	mg/L	0.20	mg/L
Total Iron	11/30/19	Daily Max	0.35	mg/L	0.20	mg/L
Total Iron	09/30/19	Daily Max	0.75	mg/L	0.20	mg/L
Total Iron	08/31/19	Daily Max	0.28	mg/L	0.20	mg/L
Total Iron	07/31/19	Daily Max	0.63	mg/L	0.20	mg/L
Total Iron	06/30/19	Daily Max	0.62	mg/L	0.20	mg/L
Total Iron	05/31/19	Daily Max	0.25	mg/L	0.20	mg/L
Total Manganese	01/31/20	Daily Max	0.08	mg/L	0.06	mg/L
Total Manganese	12/31/19	Daily Max	0.10	mg/L	0.06	mg/L
Total Manganese	09/30/19	Daily Max	0.12	mg/L	0.06	mg/L
Total Manganese	07/31/19	Daily Max	0.21	mg/L	0.06	mg/L
Total Manganese	06/30/19	Daily Max	0.23	mg/L	0.06	mg/L
Total Manganese	05/31/19	Daily Max	0.07	mg/L	0.06	mg/L

Compliance Summary:

The Outfall 001 limits have a maximum daily value of 0.2 mg/L of total iron, 0.06 mg/L of total manganese, and 0.22 mg/L of total aluminum as a result of applying the TMDL WLA for IMP 201 at Outfall 001. These concentration levels reflected treatment of industrial wastewater. The average of the average monthly values submitted by the facility for May 2019 through April 2020 are 0.17 mg/L of total aluminum, 0.35 mg/L total iron and 0.07 mg/L total manganese. The maximum of the daily maximum values during that same time period were 0.48 mg/L total aluminum, 0.75 mg/L total iron and 0.23 mg/L total manganese. These values are not elevated for uncontaminated stormwater. In fact, the negligible non-mining WLA in the Kiskiminetas River Watershed is 0.75 mg/L aluminum, 1.50 mg/L iron and 1.0 mg/L manganese. The daily maximum values during this past year never exceeded this negligible allocation.

On March 9, 2017 a Consent Agreement of Civil Penalty (CACP) was sent to the permittee by the Department for failing to meet effluent limitations in the NPDES permit. A review of the recent facility changes as discussed above led the Department to withdraw the CACP.

New effluent limits/monitoring of Outfall 001 have been developed in this fact sheet in accordance with the Technology Based and Water Quality Based Effluent Limits sections below that reflect the removal of IMP 101 and 201 from the permit. The concentrations reported by the facility from May 2019 through April 2020 would have been in compliance with water quality criteria and would not necessitate the need for TBELs as described in the effluent limits development section below. Upon issuance of the renewed permit, the facility is not expected to have ongoing violations.

Summary of Inspections: A routine inspection was conducted on July 6, 2017. No violations were noted. An administrative file review was most recently conducted on February 14, 2018. One violation was noted for failing to pay the annual permit fee but was resolved that same month. The facility has no open violations that would conflict with issuance of a renewed permit.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** Variable
Latitude 40º 24' 38" **Longitude** -79º 33' 48"
Wastewater Description: Stormwater

Technology-Based Limitations

The Department's guidance recommends the use of Best Professional Judgment (BPJ) to consider application of technology-based effluent limitations on stormwater. Section 304(b)(2)(B), 304(b)(4)(B), and 402(a)(1) of the CWA allows establishment of effluent limitations on a case-by-case basis (BPJ). Effluent limitations and monitoring requirements for industrial stormwater discharges may be important for ensuring that Best Management Practices (BMPs) are adequately implemented. A consideration should be made to the applicable appendix of the PAG-03 General Permit as a minimum, as appropriate. Additional limits, benchmarks and monitoring requirements may be added as justified.

Based on the facility's SIC Code of 3089, the facility would be classified under Appendix S – Rubber, Miscellaneous Plastic Products and Miscellaneous Manufacturing Industries of the PAG-03 General Permit. This is per Table 1 of the NOI Instructions (3850-PM-BCW0083a). SIC Code 3089 is specifically named as part of Miscellaneous Plastics Products, and would be required to be covered under the PAG-03 permit, if eligible, per 40 CFR § 122.26(b)(14)(xi).

The PAG-03 Appendix S monitoring requirements are shown in Table 1.

Table 1. PAG-03 Appendix S – Rubber, Misc. Plastic Products and Misc. Manufacturing Industries

Discharge Parameter	Units	Sample Type	Measurement Frequency	Benchmark Values
pH	S.U.	Grab	1/6 months	XXX
Total Suspended Solids (TSS)	mg/L	Grab	1/6 months	100
Total Zinc	mg/L	Grab	1/6 months	XXX

Table 2 is a summary of the renewal stormwater sampling results included in the application, the average and maximum recent year's DMR data (Feb 2019 – Jan 2020) along with no exposure benchmark values for comparison:

Table 2. Renewal Sampling Results in Comparison to No Exposure Benchmark Values

Discharge Parameter	Units	Sample Type	Renewal Sample Results	Recent DMR Average	Recent DMR Maximum	No Exposure Benchmark Values
Oil and Grease	mg/L	Grab	1.1	XXX	XXX	≤ 5.0
BOD5	mg/L	Grab	< 3.0	<3.0	3.2	≤ 10
COD	mg/L	Grab	23.0	XXX	XXX	≤ 30
TSS	mg/L	Grab	< 3	5.7	29	≤ 30
Total Nitrogen	mg/L	Grab	1.33	XXX	XXX	≤ 2.0
Total Phosphorus	mg/L	Grab	< 0.10	XXX	XXX	≤ 1.0
pH	S.U.	Grab	8.04	7.33 (Min)	8.88 (Max)	6.0 to 9.0
Total Iron	mg/L	Grab	0.33	0.35	0.75	≤ 7.0
Total Aluminum	mg/L	Grab	0.11	<0.15	0.48	XXX
Total Manganese	mg/L	Grab	0.10	0.07	0.23	XXX

All of these pollutant levels are within the No Exposure Benchmark Values. For those parameters without No Exposure benchmark values, the results are not elevated and reflect background levels. The stormwater appears to be uncontaminated and no TBEL limits are required, however due to the potential from operations per PAG-03 Appendix S, pH, TSS and zinc will be monitored at a frequency of 1 / 6 months.

To ensure the stormwater remains uncontaminated and that the existing use of the High-Quality stream is maintained, the No Exposure Benchmark Values for TSS, pH and oil and grease will be imposed in the NPDES Permit's Part C conditions. If a parameter exceeds the applicable benchmark value for two or more consecutive monitoring periods, the permittee shall

develop a Corrective Action Plan (CAP) to reduce the concentration. This approach is consistent with the PAG-03 general stormwater permit.

The PAG-03 General Permit Appendix S has a site-specific BMP for plastic product manufacturers. That BMP will be added to Part C of this renewed permit, as well as the BMPs in Part C II of the General Permit as they are applicable to all permittees.

Water Quality-Based Limitations

Section 302(a) of the CWA allows establishment of water quality effluent limits. Section 303(a)(1) of the CWA allows states to adopt water quality standards. Section 303(d) of the CWQ requires states to designate water uses (e.g., Chapter 93 of PA Code). Section 303(c) of the CWA requires states to develop water quality criteria (e.g., Chapters 16 and 93 of PA Code).

The water quality analysis for storm water outfalls differs from the water quality analysis for other point source discharges because storm water discharges have a variable flow rate and—unless they are flow-controlled using valves or detention ponds—generally do not discharge at Q_{7-10} design conditions (stream flow is augmented above Q_{7-10} flow by the same rainfall that caused the storm water discharge).

Based on DEP guidance, effluent limits may be warranted when pollutant concentrations in storm water are significant, which may be quantified as "100 times the most stringent Chapter 93 criterion" or greater than "100 mg/L for pollutants without criteria (or a lessor amount for large industrial areas that drain to small streams)." The Department may impose effluent limits for applicable parameters and/or the implementation of BMPs with compliance schedules as necessary to achieve the limits or otherwise reduce stormwater concentrations. Based on the sample results in Table 2 above, the permittee's results are not elevated in comparison to criteria and do not warrant limitations or monitoring per this evaluation method.

Total Maximum Daily Load (TMDL) Allocation

This segment of Beaver Run upstream of the Beaver Run Reservoir is a part of the Kiskiminetas-Conemaugh River TMDL. The TMDL was established in accordance with Section 303(d)(1)(c) and (2) of the Clean Water Act to address impairments of water quality as identified on Pennsylvania's Section 303(d) lists. The TMDL was finalized on January 29, 2010 and determined the cause of the impairments to be metals (iron, manganese, aluminum), pH (low), and sediment (siltation, total suspended solids and turbidity).

The TMDL establishes the amount of a pollutant that a waterbody can assimilate without exceeding its water quality standard for that pollutant. TMDLs provide the scientific basis for a state to establish water quality-based controls to reduce pollution from both point and nonpoint sources to restore and maintain the quality of the state's water resources. A TMDL for a given pollutant and waterbody is composed of the sum of individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background levels. In addition, the TMDL must include an implicit or explicit Margin of Safety (MOS) to account for the uncertainty in the relationship between pollutant loads and the quality of the receiving waterbody.

The facility had been given a Waste Load Allocation (WLA) for the discharge from IMP 201, the industrial wastewater in Appendix G of the TMDL report (see Attachment A). In the most current permit, rather than apply the WLA to IMP 201 specifically, the allocation was reallocated to Outfall 001. The Department understands the other IMP contributions to Outfall 001 have been considered negligible under the TMDL development. With that, the IMP 201 allocation is no longer applicable to Outfall 001.

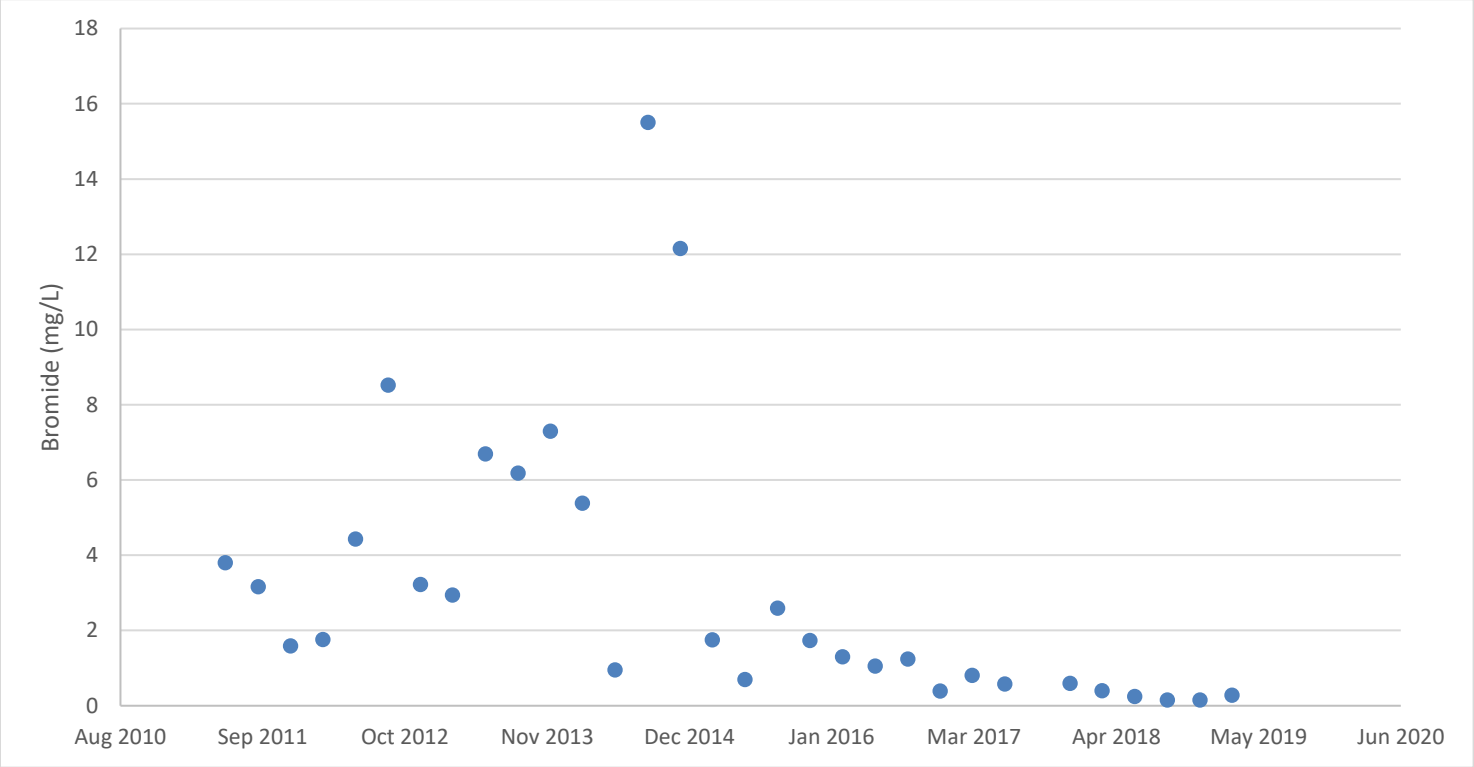
To ensure the facility remains a negligible contributor towards the load allocation, it is reasonable to impose monitoring of total iron, aluminum and manganese at a frequency of 1 / 6 months as a grab sample. The facility's discharges are well below the water quality criteria levels of 0.75 mg/L aluminum, 1.5 mg/L iron and 1.0 mg/L manganese as defined in Pa Code Chapter 93. To ensure the concentration of these parameters remain negligible, the water quality criteria levels of these three metals will be included as part of the Part C condition benchmark values and Corrective Action Plan.

Historic Bromide Levels

IUP faculty and students have been monitoring surface water quality and air quality in and around Beaver Run Reservoir, a drinking water source managed by the Municipal Authority of Westmoreland County (MAWC). The reservoir lies within a 43-square-mile drainage area and serves approximately 130,000 people throughout northern Westmoreland County and small portions of neighboring Armstrong and Indiana counties. The study was conducted in response to CONSOL Energy notifying MAWC in 2010 that they would begin unconventional (horizontal) drilling into the Marcellus Shale in 2011 at several sites adjacent to the reservoir. This announcement generated public concerns about the effect of gas drilling operations might have on water quality, and MAWC approached IUP about an expanded water monitoring project.

See Attachment B for more information about the project and a map that shows Outfall 001 being at approximately the same location as sampling point 02 in the study. Figure 1 shows the concentration of bromide at sample point 02. The concentration was elevated prior to December 2014, but since has been reduced to a concentration that appears to be unimpacted by the facility's operations. For reference, the average concentration of bromide at upstream site 23 is 0.159 mg/L and at downstream site 3C is 0.129 mg/L. Per discussion with the facility, XTRABROM® 111 Biocide was the apparent source of the bromide and was used in the non-contact cooling water system and discharged with the blowdown. Since the blowdown has been rerouted to the local POTW, it is no longer present in an outfall discharge. With this reroute and the recent IUP study results, it is reasonable not to require ongoing bromide sampling.

Figure 1. Bromide concentration at study sample point 02 near Outfall 001.



Anti-Backsliding and Prior Permit Monitoring

Section 402(o) of the CWA states "…a permit may not be renewed, reissued, or modified … subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit." Exceptions per 402(o)(2) include "(A) material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation;" The reroute of industrial and sanitary wastewater to the local POTW and therefore removal from Outfall 001 is a substantial alteration. Since the outfall now discharges only stormwater and the water quality is significantly different than that authorized by the previous permit, backsliding of the prior effluent limits is acceptable.

A summary of the current permit limits to consider in this renewal are as follows:

Outfall 301 and 401 have the following limits/monitoring (1/quarter as a grab for all parameters):

- Flow (MGD) measured
- Oil and grease (mg/L) monitored
- TSS (mg/L) monitored
- The fact sheet notes that "stormwater discharges from [the facility] meet the requirements for the TMDL via effluent limits imposed at Outfall 001."

Outfall 001 has the following limits/monitoring (2/month as a grab for all parameters):

- Flow (MGD) measured
- From Antibacksliding of IMP 101 and IMP 201 contribution
    - TSS limited to 30 mg/L average monthly and 60 mg/L daily maximum
    - CBOD5 limited to 10 mg/L average monthly and 20 mg/L daily maximum
    - Ammonia limited to 3.0 mg/L average monthly and 6.0 mg/L daily maximum in the summer months and 9.0 mg/L average monthly and 18.0 mg/L daily maximum in the winter months
    - Dissolved oxygen limited to a minimum 7.0 mg/L
- Reallocated from IMP 201 – TMDL WLA
    - Total Iron (mg/L) limited to 0.2 mg/L daily maximum
    - Total manganese (mg/L) limited to 0.06 mg/L daily maximum
    - Aluminum (mg/L) limited to 0.22 mg/L daily maximum
- From § 95.2(2) and Effluent Limitation Guideline 40 CFR § 463, Subpart A
    - pH limited to 6.0 to 9.0 S.U.

The current effluent monitoring for oil and grease and TSS at Outfall 301 and 401 will be retained and transferred to Outfall 001. In order to maintain the load allocation of the TMDL, monitoring of iron, manganese and aluminum will be applied at Outfall 001 however the limits no longer apply as stormwater runoff from this facility is shown to be a negligible pollutant source. A pH limit on stormwater will not be required, however monitoring will. The current pH limit from Chapter 95 applies to wastewater rather than uncontaminated stormwater.

Part C Conditions

The current NPDES permit contains several Part C conditions that are no longer applicable. Those conditions that will be removed from the renewal are No. 2, 5, 6, 8 and 9. The other remaining conditions will be updated with the Department's most current language.

Summary

The more stringent of the Technology-Based Limitations and Water Quality-Based Limitations in accordance with anti-backsliding will be the effluent limitations established for Outfall 001. See the Proposed Effluent Limitations and Monitoring Requirements section below.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001) and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Instant. Maximum		
Flow (MGD)	XXX	Report	XXX	XXX	XXX	XXX	1/ 6 months	Estimate
Total Suspended Solids	XXX	XXX	XXX	XXX	Report	XXX	1/ 6 months	Grab
Zinc, Total	XXX	XXX	XXX	XXX	Report	XXX	1/ 6 months	Grab
Iron, Total	XXX	XXX	XXX	XXX	Report	XXX	1/ 6 months	Grab
Aluminum, Total	XXX	XXX	XXX	XXX	Report	XXX	1/ 6 months	Grab
Manganese, Total	XXX	XXX	XXX	XXX	Report	XXX	1/ 6 months	Grab
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/ 6 months	Grab

Compliance Sampling Location: End of Outfall Pipe

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☐	PENTOXSD for Windows Model (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Toxics Screening Analysis Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☒	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP: New and Reissuance Industrial Waste and Industrial Stormwater, BPNPSM-PMT-001, 10/2013.
☒	SOP: Establishing Effluent Limitations for Individual Industrial Permits, BCW-PMT-032, 10/2019.
☒	Other: TMDLs for Streams Impaired by Acid Mine Drainage in the Kiskiminetas-Conemaugh River Watershed, Pennslyvania, *January 29, 2010.* (See Attachment A)
☒	Other: Beaver Run Project conducted by Indiana University of Pennsylvania and the Municipal Authority of Westmoreland County, *updated through March 2019.* (See Attachment B)

Attachment A

Kiskiminetas-Conemaugh River Watershed TMDL Report – Appendix G

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Mr. John T. Hines
Deputy Secretary for Water Management
Pennsylvania Department of Environmental Protection
Rachel Carson State Office Building
P.O. Box 2063
Harrisburg, Pennsylvania 17105

JAN 29 2010

Dear Mr. Hines:

The U.S. Environmental Protection Agency (EPA), Region III, is establishing Total Maximum Daily Loads (TMDLs) to address metals, pH, and sediment impairments associated with abandoned mine drainage or discharge in the Kiskiminetas-Conemaugh River Watershed in southwestern Pennsylvania. These TMDLs were established in accordance with Section 303(d)(1)(c) and (2) of the Clean Water Act to address impairments of water quality as identified on Pennsylvania's Section 303(d) lists. This TMDL covers all the streams covered by the 1996 Consent Decree in the Kiskiminetas River watershed. These segments were listed for their failure to attain the aquatic life use.

In accordance with Federal regulations at 40 CFR §130.7, a TMDL must comply with the following requirements: (1) be designed to attain and maintain the applicable water quality standards; (2) include a total allowable loading and as appropriate, wasteload allocations for point sources and load allocations for nonpoint sources; (3) consider the impacts of background pollutant contributions; (4) take critical stream conditions into account (the conditions when water quality is most likely to be violated); (5) consider seasonal variations; (6) include a margin of safety (which accounts for uncertainties in the relationship between pollutant loads and instream water quality); and (7) be subject to public participation. In addition, these TMDLs considered reasonable assurance that the TMDL allocations assigned to nonpoint sources can be reasonably met. The TMDLs for the Kiskiminetas-Conemaugh River Watershed satisfies each of these requirements. A copy of EPA's TMDL report is enclosed with this letter.

Following the establishment of these TMDLs, Pennsylvania is required to incorporate these TMDLs into Pennsylvania's Water Quality Management Plan pursuant to 40 CFR §130.7(d)(2). As you know, all new or revised National Pollutant Discharge Elimination System permits must be consistent with the TMDL WLA pursuant to 40 CFR §122.44 (d)(1)(vii)(B). Please submit all such permits to EPA for review as per EPA's letter dated October 1, 1998.

If you have any questions or comments concerning this letter, please do not hesitate to contact Ms. Helene Drago at 215-814-5796.

Sincerely,

Jon M. Capacasa, Director
Water Protection Division

Enclosures

Kiskiminetas River Watershed Major Non-Mining Wasteload Allocations

Region	SWS	PERMIT	PIPE	Metal	Baseline Load (lbs/yr)	Baseline Concentration (mg/L)	Allocated Load (lbs/yr)	Allocated Concentration (mg/L)	% Reduction	Comments
2	2014	PA0204811	201	Aluminum	5	0.75	1	0.22	71	
2	2014	PA0204811	201	Iron	10	1.50	1	0.20	87	
2	2014	PA0204811	201	Manganese	6	1.00	0	0.06	94	
1	1084	PA0205001	001	Aluminum	12	4.00	12	4.00	0	
1	1084	PA0205001	001	Iron	5	1.50	5	1.50	0	
1	1084	PA0205001	001	Manganese	3	1.00	3	1.00	0	
4	4002	PA0206075	001	Aluminum	1,097	0.75	1,097	0.75	0	
4	4002	PA0206075	001	Iron	5,118	3.50	2,193	1.50	57	
4	4002	PA0206075	001	Manganese	1,462	1.00	1,462	1.00	0	
4	4021	PA0215856	001	Aluminum	395	0.75	116	0.22	71	
4	4021	PA0215856	001	Iron	791	1.50	106	0.20	87	
4	4021	PA0215856	001	Manganese	527	1.00	32	0.06	94	
4	4021	PA0215856	002	Aluminum	2,108	4.00	116	0.22	95	
4	4021	PA0215856	002	Iron	1,054	2.00	106	0.20	90	
4	4021	PA0215856	002	Manganese	527	1.00	32	0.06	94	
6	4127	PA0216399	001	Aluminum	987	0.75	987	0.75	0	
6	4127	PA0216399	001	Iron	1,974	1.50	1,974	1.50	0	
6	4127	PA0216399	001	Manganese	1,316	1.00	1,316	1.00	0	
6	4127	PA0216399	002	Aluminum	762	2.50	228	0.75	70	
6	4127	PA0216399	002	Iron	609	2.00	609	2.00	0	
6	4127	PA0216399	002	Manganese	305	1.00	305	1.00	0	
5	4265	PA0217085	001	Aluminum	3	0.75	3	0.75	0	
5	4265	PA0217085	001	Iron	6	1.50	6	1.50	0	
5	4265	PA0217085	001	Manganese	4	1.00	4	1.00	0	
5	4265	PA0217085	002	Aluminum	3	0.75	3	0.75	0	
5	4265	PA0217085	002	Iron	6	1.50	6	1.50	0	
5	4265	PA0217085	002	Manganese	4	1.00	4	1.00	0	
5	4265	PA0217085	003	Aluminum	343	0.75	343	0.75	0	
5	4265	PA0217085	003	Iron	685	1.50	685	1.50	0	
5	4265	PA0217085	003	Manganese	457	1.00	457	1.00	0	
5	4265	PA0217085	004	Aluminum	251	0.75	251	0.75	0	
5	4265	PA0217085	004	Iron	503	1.50	503	1.50	0	
5	4265	PA0217085	004	Manganese	335	1.00	335	1.00	0	
5	4265	PA0217085	005	Aluminum	3	0.75	3	0.75	0	
5	4265	PA0217085	005	Iron	6	1.50	6	1.50	0	
5	4265	PA0217085	005	Manganese	4	1.00	4	1.00	0	
5	4265	PA0217085	006	Aluminum	3	0.75	3	0.75	0	
5	4265	PA0217085	006	Iron	6	1.50	6	1.50	0	
5	4265	PA0217085	006	Manganese	4	1.00	4	1.00	0	

Attachment B

Indiana University of Pennsylvania (IUP) and Municipal Authority of Westmoreland County (MAWC)
Beaver Run Project

Beaver Run Project

Contents

The **Beaver Run Project** is an ongoing water monitoring study of the Beaver Run Reservoir in Westmoreland County, located in western Pennsylvania. The project is a collaboration between **Indiana University of Pennsylvania (IUP) (https://www.iup.edu)** and the **Municipal Authority of Westmoreland County (MAWC) (https://www.mawc.org/)**.

As of March 2018, our project website has been completely reformatted/rebuilt for (we hope) better organization and dissemination of project results. All field and lab results are current unless otherwise noted. For more information, see Updates.

About the Project

In May 2011, IUP faculty **Dr. Brian Okey** (Geography & Regional Planning (https://www.iup.edu/georegionalplan/)) and **Dr. Nathan McElroy** (Chemistry (https://www.iup.edu/chemistry/)) began monitoring surface water quality in and around the Beaver Run Reservoir. The reservoir and adjacent property is owned and maintained by the Municipal Authority of Westmoreland County (MAWC) (https://www.mawc.org/). The ~1300-acre reservoir lies within a *"43-square-mile drainage area and serves approximately 130,000 people throughout northern Westmoreland County and small portions of neighboring Armstrong and Indiana counties."*[1]

Dr. Brian Okey gathers field data from a project tributary.

For decades, conventional (vertical) natural gas wells have been installed by various companies who lease the land adjacent to the reservoir, and **MAWC has been collecting water quality data parameters since 1978.** In 2010, CONSOL Energy (http://www.consolenergy.com/) notified MAWC that they would begin unconventional (horizontal) drilling into the Marcellus Shale in 2011 at several sites adjacent to the reservoir. This announcement generated public concerns about the effect of gas drilling operations might have on water quality, and MAWC approached IUP about an expanded water monitoring project. Hydraulic fracturing ('fracing' or 'fracking') of the **first Marcellus well began in March 2011**, and the first field measurements and **water sampling** for the Project occurred in May 2011. Water sampling points for field and lab analyses were established around drilling pad sites, on major tributaries to the reservoir, and within the reservoir itself. Since 2011, CONSOL Energy has established **47 Marcellus gas wells** on seven pad sites located on the northeastern, northwestern, and western edges of the reservoir. In 2015, the first **Utica Shale** gas well was installed on the Gaut Pad, and two more were installed in Fall 2017 at the Aikens Pad. In addition to Marcellus and Utica Shale gas wells, the reservoir and it tributaries are exposed to **abandoned mine drainage (AMD)**, **agricultural runoff**, and other forms of land disturbances that may contribute to **soil erosion**. The overall drainage area includes several municipalities and major roadways, which also contribute to possible degradation of water quality via septic systems, illegal dumping, accidental spills, and elevated salt concentrations from winter maintenance.

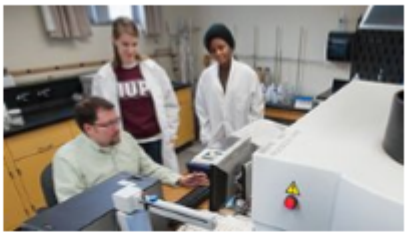
In June of 2014, IUP faculty and students led by Dr. John Bradshaw (Physics (https://www.iup.edu/physics/)) began **air quality measurements** in the vicinity of four fracking pads around Beaver Run Reservoir. Additionally, they monitor air quality near the natural gas compressor station. In Fall 2016, MAWC and IUP began working with Environmental Service Laboratories (http://www.environmentalservicelab.com/) (ESL) in Indiana,PA to collect and analyze samples for **volatile and semi-volatile organic compounds**. In Fall 2017, MAWC began working with ESL to collect and analyze samples for **radionuclides**, such as gross alpha and beta emitters, radium 226, and radium 228.

The Beaver Run Project is currently in its **ninth year (2019-20)**. On this website, we provide related project information and results of all field measurements and lab analyses. Currently, there are **310 sampling reports** for **167 different project site locations**. **Please note that all field and lab data represents water quality BEFORE treatment at the Sweeney Water Treatment Plant. None of these data represents the water quality provided to customers after treatment. For information about Beaver**

Run water quality AFTER treatment (i.e., what's coming out of your tap), see MAWC's Annual Water Quality Reports (https://www.mawc.org/consumer-confidence-reports). The latest report (2018) can be found here (https://www.mawc.org/sites/default/files/ccr_reports/westmoreland_county_water_report_sweeney_system_0.pdf).

Project Information

Every effort has been made to provide the most accurate and up-to-date information related to the Project. As an ever-changing wiki environment, however, one may occasionally find a page or link that is under-developed or still "under construction". Additionally, lab results of water analyses are not updated until they have been analyzed and reviewed by project personnel, which takes time. Below are descriptions of and links to the main sections of the project information, with further navigation/exploration opportunities.



Dr. Nathan McElroy, Amy Rydeen, and Pearl Kwantwi-Barima analyzing water samples for metals at IUP.[2]

- **Sampling Sites:** This page provides an overview of the locations where field measurements and water samples are gathered.
- **Quarterly Field and Lab Reports:** The main page linking to all quarterly field and lab reports for pad site locations and bottle collection sites.
- **Site Summary Reports:** The main page linking to all field and/or lab data associated with a particular sampling location.
- **Project Maps:** A small collection of project-related maps.
- **Project Methods & Protocols:** Descriptions of and links to further information about how project data is gathered and analyzed.
- **Project Media:** The main organization page for all project-related media, including photographs, press releases, and newspaper articles.

About this Website

This website uses MediaWiki (https://www.mediawiki.org/wiki/MediaWiki) (version 1.31.1), a free open source wiki package written in PHP and used on Wikipedia. The site was created and is maintained by Dr. Nathan McElroy in the Department of Chemistry (https://www.iup.edu/chemistry) at Indiana University of Pennsylvania (IUP) (https://www.iup.edu). All information herein is created and owned by the Beaver Run Project unless otherwise noted, and is presented as completely and accurately as possible. Any erroneous information is assumed to be accidental. For additional information, error reporting, or questions regarding the contents of this wiki, please contact Dr. McElroy (mailto:nate@iup.edu). See Updates for a list of major updates and changes to the site.

Notes

1. https://www.mawc.org/beaver-run-reservoir
2. Photo from Spring 2013 IUP Magazine (https://www.iup.edu/magazine/features/page.aspx?id=140475).

Home – IUP CHEM (https://www.iup.edu/chemistry/) – IUP GEOG/RP (https://www.iup.edu/georegionalplan/) – MAWC (https://www.mawc.org/)

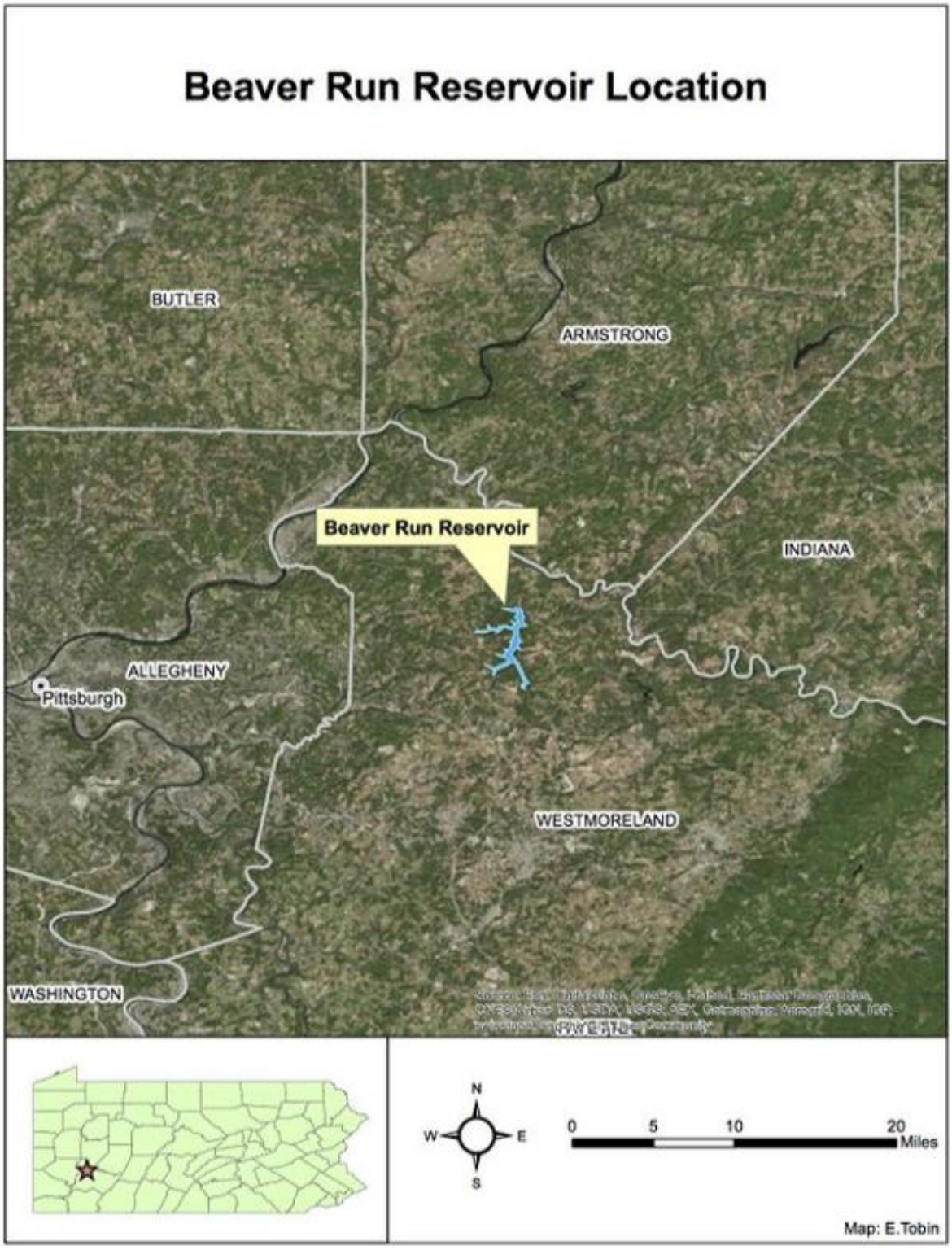


Figure 1. Location of Beaver Run in Westmoreland County.

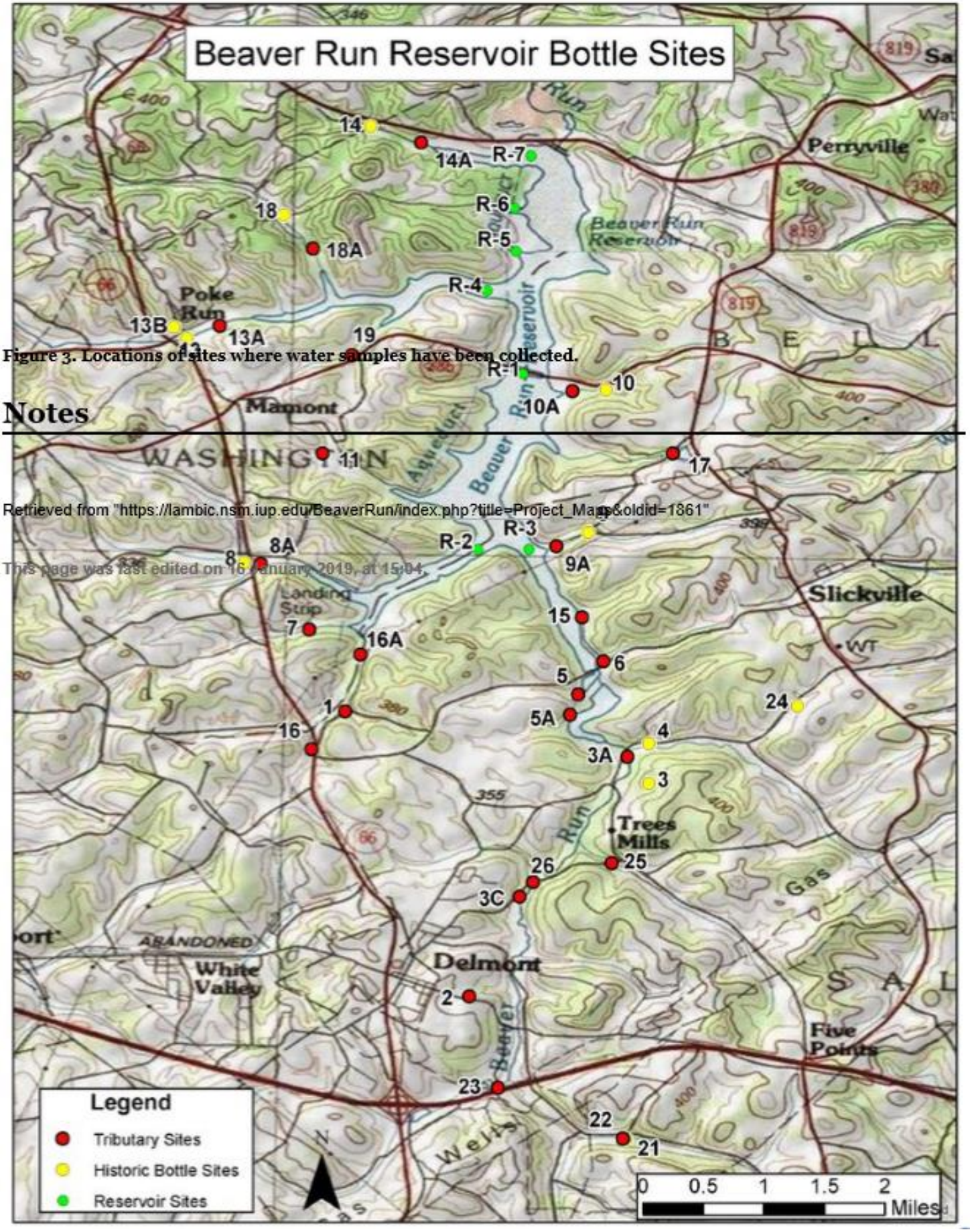


Figure 3. Locations of sites where water samples have been collected.

Notes

Retrieved from "https://lambic.nsm.iup.edu/BeaverRun/index.php?title=Project_Maps&oldid=1861"

This page was last edited on 16 January 2019, at 15:04.

Site 02

This is a summary report of all data for surface stream site 02.

See Interpreting field and lab reports for more detailed information about the data in these tables.

Contents

Field Data Summary

Below is a field data summary report for this site, including averages and standard deviations of all measureable parameters. Collector initials are explained here.

TDS, Alkalinity, and Salt Concentrations Summary

The following samples were analyzed for total dissolved solids (TDS), alkalinity, and various anionic salts. All results are reported in parts per million (ppm). Any result that below the instrument detection limit is designated by '<LD', and any result that was detectable but not quantifiable (e.g., lower than the instrument limit of quantitation) is designated by 'DNQ'.

Site ID	TDS	Alk.[2]	F^-	Cl^-	Br^-	NO_3^-	PO_4^{3-}	SO_4^{2-}
2011/06 (Q01)	223	68.69	0.14	60.35	3.801	4.18	0.4	19.62
2011/09 (Q02)	243	64.80	0.16	65.01	3.161	11.79	0.9	13.96
2011/12 (Q03)	222	56.45	0.16	39.53	1.591	5.27	0.4	24.72
2012/03 (Q04)	519	67.61	0.20	258.82	1.757	2.77	0.3	22.89
2012/06 (Q05)	255	90.02	0.11	92.02	4.430	2.29	0.3	14.38
2012/09 (Q06)	177	67.26	0.16	26.91	8.520	2.70	1.0	14.10
2012/12 (Q07)	177	50.01	0.30	44.31	3.220	9.29	1.2	30.51
2013/03 (Q08)	589	56.18	0.30	588.36	2.940	6.86	<LD	34.14
2013/06 (Q09)	345	78.70	0.32	208.82	6.690	2.89	1.1	26.39
2013/09 (Q10)	197	78.07	0.30	74.05	6.180	2.53	1.2	20.93
2013/12 (Q11)	323	55.28	0.31	246.59	7.294	5.23	1.3	33.48
2014/03 (Q12)	816	70.69	0.28	854.47	5.380	2.69	1.3	39.07
2014/06 (Q13)	257	52.75	0.26	156.17	0.951	3.34	1.1	31.39
2014/09 (Q14)	144	101.55	0.26	157.02	15.500	1.59	1.2	24.96
2014/12 (Q15)	356	76.96	0.26	238.03	12.150	7.57	1.4	38.56
2015/03 (Q16)	602	63.28	0.23	58.24	1.745	1.57	<LD	31.93
2015/06 (Q17)	76	72.72	0.31	75.30	0.695	0.03	1.3	13.19
2015/09 (Q18)	154	90.49	0.31	90.60	2.590	1.02	1.4	8.76
2015/12 (Q19)	223	79.21	0.39	73.73	1.728	2.10	1.2	23.00
2016/03 (Q20)	488	47.95	0.36	357.01	1.294	2.04	<LD	29.96
2016/06 (Q21)	280	83.11	0.32	123.59	1.054	1.24	1.5	12.11
2016/09 (Q22)	206	96.47	0.38	110.00	1.237	1.15	1.5	10.93
2016/12 (Q23)	146	44.29	0.18	99.01	0.384	7.05	<LD	18.67
2017/03 (Q24)	380	52.73	0.31	332.71	0.804	3.26	<LD	27.58
2017/06 (Q25)	116	66.80	0.51	40.57	0.574	1.42	<LD	12.36
2017/09 (Q26)								
2017/12 (Q27)	103	66.46	0.36	37.67	0.589	2.81	<LD	24.07
2018/03 (Q28)	484	47.63	DNQ	375.33	0.399	DNQ	<LD	25.43
2018/06 (Q29)	162	74.87	DNQ	51.40	0.247	DNQ	<LD	9.54
2018/09 (Q30)	100	53.12	<LD	19.99	0.153	DNQ	<LD	13.21
2018/12 (Q31)	139	59.69	DNQ	70.99	0.152	3.95	<LD	19.30
2019/03 (Q32)	495	49.20	DNQ	423.45	0.280	DNQ	<LD	21.64
Avg:	**290**	**67.19**	**0.28**	**175.81**	**3.145**	**3.65**	**1.05**	**22.28**
Std.Dev.:	**179**	**15.19**	**0.09**	**187.14**	**3.69**	**2.76**	**0.40**	**8.68**

Attachment C

Chapter 93 Stream Designation

Cross References

This section cited in 25 Pa. Code § 16.51 (relating to table); 25 Pa. Code § 93.1 (relating to definitions); 25 Pa. Code § 93.4 (relating to Statewide water uses); 25 Pa. Code § 93.7 (relating to specific water quality criteria); and 25 Pa. Code § 93.9 (relating to designated water uses and water quality criteria).

§ 93.9t. Drainage List T.

Ohio River Basin in Pennsylvania
Kiskiminetas River

Stream	Zone	County	Water Uses Protected	Exceptions To Specific Criteria
1—Ohio River				
2—Allegheny River				
3—Kiskiminetas River				
4—Conemaugh River				
5—Stony Creek	Basin, Source to Beaverdam Creek	Somerset	CWF	None
6—Beaverdam Creek	Basin	Somerset	HQ-CWF	None
5—Stony Creek	Main Stem, Beaverdam Creek to Quemahoning Creek	Somerset	TSF	None
6—Unnamed Tributaries to Stony Creek	Basins, Beaverdam Creek to Quemahoning Creek	Somerset	CWF	None
6—Oven Run	Basin	Somerset	CWF	None
6—Fallen Timber Run	Basin	Somerset	CWF	None
6—Quemahoning Creek	Main Stem	Somerset	CWF	None
7—Unnamed Tributaries to Quemahoning Creek	Basins	Somerset	CWF	None
7—North Branch Quemahoning Creek	Main Stem	Somerset	CWF	None
8—Unnamed Tributaries to North Branch Quemahoning Creek	Basins	Somerset	CWF	None
8—Horner Run	Basin	Somerset	CWF	None
8—Beams Run	Basin	Somerset	CWF	None
8—Spruce Run	Basin	Somerset	HQ-CWF	None
8—Beaverdam Run	Basin	Somerset	CWF	None
7—Beaverdam Creek	Basin	Somerset	HQ-CWF	None

Stream	Zone	County	Water Uses Protected	Exceptions To Specific Criteria
3—Kiskiminetas River	Main Stem, Confluence of Conemaugh River and Loyalhanna Creek to Mouth	Armstrong	WWF	None
4—Unnamed Tributaries to Kiskiminetas River	Basins, Confluence of Conemaugh River and Loyalhanna Creek to Mouth	Westmoreland-Indiana-Armstrong	WWF	None
4—Blacklegs Creek	Basin	Indiana	CWF	None
4—Sulphur Run	Basin	Indiana	CWF	None
4—Long Run	Basin	Armstrong	WWF	None
4—Wolford Run	Basin	Westmoreland	WWF	None
4—Flat Run	Basin	Armstrong	WWF	None
4—Roaring Run	Basin	Armstrong	CWF	None
4—Beaver Run	Basin, Source to Beaver Run Reservoir Dam	Westmoreland	HQ-CWF	None
4—Beaver Run	Basin, Beaver Run Reservoir Dam to Mouth	Westmoreland	TSF	None
4—Pine Run	Basin	Westmoreland	WWF	None
4—Carnahan Run	Basin	Armstrong	WWF	None
4—Guffy Run	Basin	Armstrong	WWF	None
4—Brady Run	Basin	Armstrong	WWF	None
4—Penn Run	Basin	Westmoreland	WWF	None
4—Elder Run	Basin	Armstrong	WWF	None

Authority

The provisions of this § 93.9t amended under sections 5(b)(1) and 402 of The Clean Streams Law (35 P. S. §§ 691.5(b)(1) and 691.402); and section 1920-A of The Administrative Code of 1929 (71 P. S. § 510-20).

Source

The provisions of this § 93.9t adopted March 6, 1992, effective March 7, 1992, 22 Pa.B. 1037; amended May 14, 1993, effective May 15, 1993, 23 Pa.B. 2325; amended June 27, 1997, effective June 28, 1997, 27 Pa.B. 3050; amended November 24, 1999, effective November 27, 1999, 29 Pa.B. 5999; amended June 16, 2000, effective June 17, 2000, 30 Pa.B. 3036; amended December 1, 2000, effective December 2, 2000, 30 Pa.B. 6191; amended September 27, 2002, effective September 28, 2002, 32 Pa.B. 4695; corrected June 12, 2015, effective February 3, 2001, 45 Pa.B. 2829; amended November 17, 2017, effective November 18, 2017, 47 Pa.B. 7029. Immediately preceding text appears at serial pages (367671) to (367672), (344141) to (344144), (377367) to (377368), (344147) to (344148) and (377369) to (377370).

Cross References

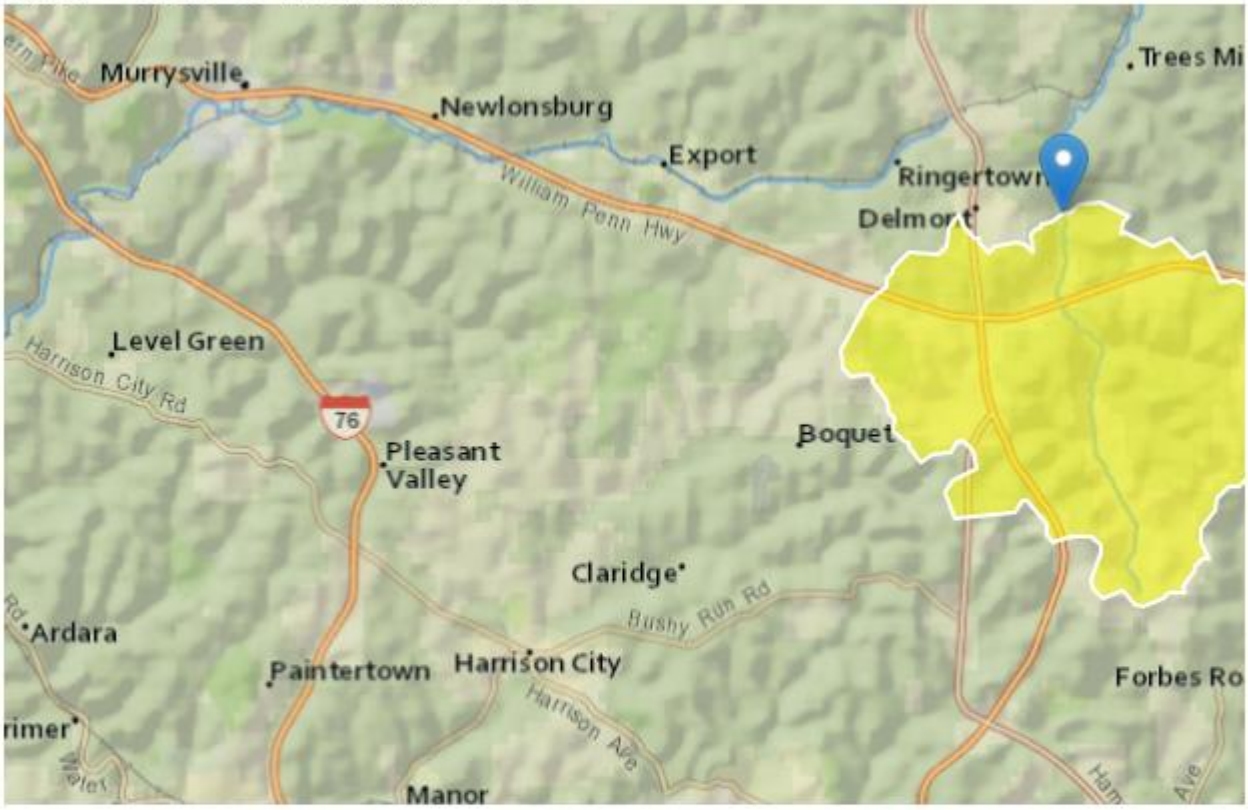
This section cited in 25 Pa. Code § 16.51 (relating to table); 25 Pa. Code § 93.1 (relating to definitions); 25 Pa. Code § 93.4 (relating to Statewide water uses); 25 Pa. Code § 93.7 (relating to specific water quality criteria); and 25 Pa. Code § 93.9 (relating to designated water uses and water quality criteria).

Attachment D

U.S.G.S. StreamStats Report

StreamStats Report

Region ID: PA
Workspace ID: PA20200312193659269000
Clicked Point (Latitude, Longitude): 40.41169, -79.55721
Time: 2020-03-12 15:37:19 -0400



PA0204811 North American Profiles USA, Inc.; Energi Fenestration Solutions

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	9.1	square miles
ELEV	Mean Basin Elevation	1276.8	feet
PRECIP	Mean Annual Precipitation	41	inches

Low-Flow Statistics Parameters[100 Percent (9.07 square miles) Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	9.1	square miles	2.33	1720
ELEV	Mean Basin Elevation	1276.8	feet	898	2700
PRECIP	Mean Annual Precipitation	41	inches	38.7	47.9

Low-Flow Statistics Flow Report[100 Percent (9.07 square miles) Low Flow Region 3]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	SEp
7 Day 2 Year Low Flow	0.736	ft^3/s	43	43
30 Day 2 Year Low Flow	1.05	ft^3/s	38	38
7 Day 10 Year Low Flow	0.298	ft^3/s	54	54
30 Day 10 Year Low Flow	0.437	ft^3/s	49	49
90 Day 10 Year Low Flow	0.653	ft^3/s	41	41

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

Application Version: 4.3.11

Attachment E

Planning Module Approval Letter
Approved May 16, 2014

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Greensburg District Mining Office

May 16, 2014

RECEIVED 5/22/14

Delmont Borough
Ms. Karen Ross Shola, Secretary
77 Greensburg Street
Delmont, PA 15627

Salem Township Supervisors
Ms. Lynn Cain, Secretary
244 Congruity Road
Greensburg, PA 15601

Re: Planning Module - New Land Development
Royal Building Products Sanitary Sewer Project
Component 3
27 EDUs /9,470 gpd
DEP Code No 65946 –14– 005
Delmont Borough
Salem Township
Westmoreland County

Dear Ms. Shola & Cain:

The Department of Environmental Protection (Department) has reviewed the proposed Official Plan revision consisting of a connection of an existing manufacturing facility's industrial and domestic wastewater to the public sanitary system. This connection will require the installation of a privately owned grinder pump station and force-main. The facility is located at One Contact Place in Salem Township, Westmoreland County.

This project will result in the abandonment of a private Sewage Treatment Plant (STP). The permittee will have to cancel all Department of Environmental Protection (DEP) Clean Water Permits for the STP. Attached is a listing of requirements and recommendations for the abandonment of a STP. In addition please contact David Roote, DEP system inspector at (724) 925- 5421 for additional instructions.

The project will be connected to Delmont Borough Sewer System and will generate 9,470 gallons of sewage per day to be treated at the Meadowbrook Road Water Pollution Control Plant.

The plan revision is approved with the following conditions:

1. The approved project qualifies for a CLS permit exemption in accordance with Act 40. However, this planning approval is given on the condition that all sewerage facilities qualifying for the permit exemption must be designed, constructed, and operated in accordance with the technical standards and practices contained in the Department's Sewerage Manual, and that the municipality and/or authority accepts full responsibility for continuing operation and maintenance.

Greensburg District Mining Office | Armbrust Professional Center | 8205 Route 819 | Greensburg, PA 15601
724.925.5500 | FAX 724.925.5557 www.depweb.state.pa.us

Delmont Borough
Salem Township Supervisors -2- May 16, 2014

2. All connections tributary to Meadowbrook Road STP must be in accordance with the connection control plan as approved by the Department in accordance with Chapter 94 of the Department's rules and regulations. The Franklin Township Municipal Sanitary Authority is ultimately responsible for enforcement of the approved connection control plan.

3. Please note, Twenty Seven (27) Equivalent Dwelling Units (an EDU is equal to 350 gallons per day of sewage flows) for the Royal Building Products has been deducted from The Franklin Township Municipal Sanitary Authority's service area's miscellaneous category of the 2014 Tap Allocation Plan. This Plan was approved by the Department on February 11, 2014.

4. This following condition applies to this planning approval for this development. The municipality of Delmont Borough accepts responsibility for any enforcement action necessary to abate any nuisance or public health hazard that may occur in the privately owned pressure line or grinder pump unit.

5. There is one property which is located along the path of the proposed force-main is presently being served by a septic holding tank. One Equivalent Dwelling Unit has been included as part of this planning approval. The developer has left a connection pipe for the installation of a future sewer lateral. It will be Salem's Township's responsibility to ensure that this property will be connect into the municipal sewers; when and if their Holding tank malfunctions or when the property owner desires to discontinue its use. At that time the owner will have to contact the Franklin Township Municipal Sanitary Authority to finalize the connection process.

If you have any questions concerning this matter, please call me at 724-925-5422.

Sincerely,

Judy L. Self
Sewage Planning Specialist II
Clean Water

cc: Royal Building Products
Axiall Corporation
Morris Knowles & Associates, Inc.
Delmont Borough Council
Franklin Township Municipal Sanitary Authority

Pennsylvania Department of Environmental Protection

400 Waterfront Drive
Pittsburgh, PA 15222-4745

412-442-4000
Fax: 412-442-4328

Southwest Regional Office

The following steps should be taken to properly abandon a sewage treatment plant:

1. All treatment tanks must be pumped out. Wastewater and sludge must then be disposed of at an approved disposal site (permitted by the Department), either a municipal sewage treatment plant, landfill, or sludge disposal site. For information on approved disposal sites, contact the Department's Waste Management Program.

2. The influent line to the STP must be permanently plugged with concrete or a similar material.

3. Remove and/or fill all treatment tanks to the original ground contour to prevent standing water and eliminate safety hazards.

The Department also recommends the following:

1. Remove all salvageable material from the site.

2. Restore original contour levels to the ground.

Attachment F

Franklin Township Municipal Sewer Authority

History

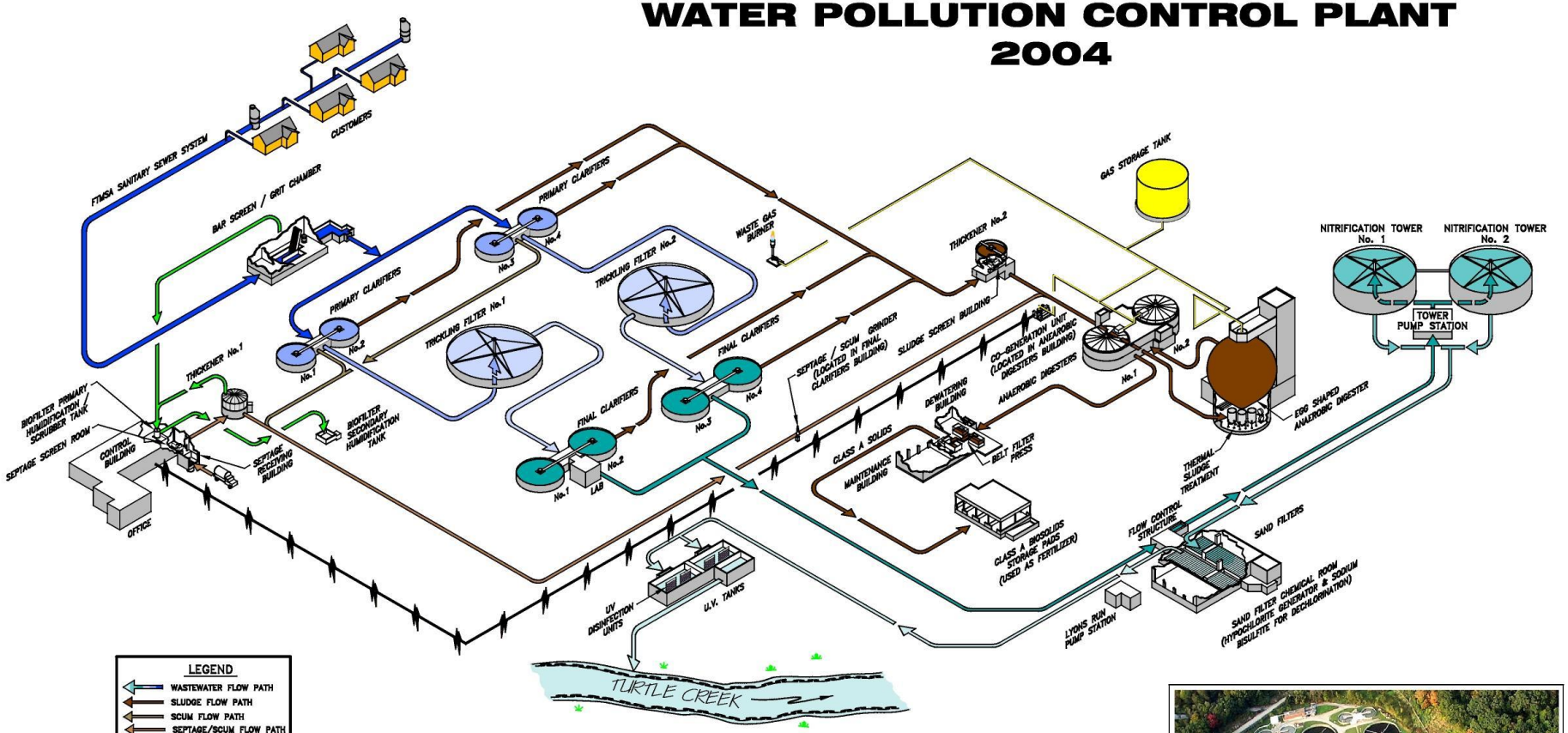
The F.T.M.S.A. was established in December 1967 as a Municipal Authority by the board of Supervisors of Franklin Township. The treatment plant was completed and went into operation in May of 1970. In 1985 the plant was doubled in capacity and in 1992, the plant was upgraded to advanced secondary treatment to meet all current laws. In 2004 a new egg-shaped digester, a pasteurization process for the sludge and a septage receiving station was added to the plant.

In 1978, Franklin Township became the Municipality of Murrysville. Municipal Authorities are different from regular boards and commissions in that they are independent state agencies with appointments to the board made by the incorporating local government. Each year, Murrysville Council appoints one member to the five member board. A term lasts for 5 years. Any vacancies to the board are also filled by Council.

The Meadowbrook Road Water Pollution Control Plant is located on Meadowbrook Road, Municipality of Murrysville, Westmoreland County and is operated by the Franklin Township Municipal Sanitary Authority.

The Treatment plant is an aerobic biological treatment facility with grit removal, primary clarification, trickling filters, secondary clarification, nitrification towers, shallow bed sand filtration units, ultraviolet disinfection, sludge thickening, anaerobic biological sludge stabilization, sludge dewatering, and methane gas utilization facilities. The current permitted hydraulic capacity of the facility is **4,900,000 gallons per day** and is an advanced wastewater treatment facility.

MEADOWBROOK ROAD
WATER POLLUTION CONTROL PLANT
2004



FRANKLIN TOWNSHIP
MUNICIPAL SANITARY AUTHORITY
WESTMORELAND COUNTY, PENNSYLVANIA

Hatch Mott MacDonald