pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0255173**
Facility Type	**Non-Municipal**	APS ID	**1045326**
Major / Minor	**Minor**	Authorization ID	**1365045**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Consol PA Coal Co. LLC**	Facility Name	**Enlow Fork Mine 8 N 1 Portal**
Applicant Address	1000 Consol Energy Drive Suite 100	Facility Address	Archer Road & Penn Hills Road
	Canonsburg, PA 15317-6506		Prosperity, PA 15329
Applicant Contact	Jaculyn Duke	Facility Contact	Brian Benson
Applicant Phone	(724) 416-8299	Facility Phone	(724)-416-8271
Client ID	259457	Site ID	818894
Ch 94 Load Status	Not Overloaded	Municipality	Morris Township
Connection Status	No Limitations	County	Washington
Date Application Received	July 27, 2021	EPA Waived?	Yes
Date Application Accepted	August 4, 2020	If No, Reason	

Purpose of Application: Applications for renewal of NPDES Permit for treated sewage effluent.

Summary of Review

The permittee has applied for a renewal of NPDES Permit No. PA0255173. NPDES Permit No. PA0255173 was previously issued by the PA Department of Environmental Protection (DEP) on January 11, 2017. The permit expires on January 31, 2022.

Sewage from this facility is treated with a comminutor and bar screen, extended aeration, final clarification and UV disinfection.

The applicant is currently enrolled in and will continue to use eDMR.

The Act-14 PL 834 Municipal Notification was provided by the June 22, 2021 letters from Jaculyn Duke at Consol Energy and no comments were received.

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.

Approve	Deny	Signatures	Date
X		Stephanie Conrad / Environmental Engineering Specialist	September 9, 2021
X		Christopher Kriley, P.E. / Environmental Program Manager	September 13, 2021

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.024
Latitude	40º 1' 22.10"	Longitude	-80º 16' 19.23"
Quad Name	Prosperity, PA	Quad Code	1803
Wastewater Description:	Sewage Effluent		

Receiving Waters	Unnamed Tributary to Tenmile Creek (TSF)	Stream Code	40906
NHD Com ID	99412912	RMI	1.04
Drainage Area	0.78	Yield (cfs/mi^2)	0.00785
Q_{7-10} Flow (cfs)	0.00612	Q_{7-10} Basis	USGS Stream Stats
Elevation (ft)	1140	Slope (ft/ft)	
Watershed No.	19-B	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Background/Ambient Data		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake	Tri County Joint Municipal Authority		
PWS Waters	Monongahela River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Treatment Facility Summary

Treatment Facility Name: Enlow Fork Mine 8 N 1 Portal

WQM Permit No.	Issuance Date
6317401	June 16, 2017

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Extended Aeration With Solids Removal	Ultraviolet Light	0.024

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.024	40	Not Overloaded	Aerobic Digestion	Other WWTP

Changes Since Last Permit Issuance:

Other Comments:

Compliance History	
Summary of DMRs:	**Between September 2016 and September 2021, the facility has generally complied with submittal of Discharge Monitoring Reports. During the review period, no violations were issued. Two effluent violations occurred in 2019. On was for Ammonia-Nitrogen in May and the other for Fecal Coliform in August.**
Summary of Inspections:	**No inspections of the facility were completed between September 2016 and September 2021.**

Other Comments: The client has numerous open violations with other programs. As these violations, however, are not with clean water and the individual programs do not oppose the permit, the department is proceeding with issuance.

Compliance History

DMR Data for Outfall 001 (from July 1, 2020 to June 30, 2021)

Parameter	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20
Flow (MGD) Average Monthly	0.004	0.008	0.0041	0.0016	0.00175	0.00256	0.00457	0.002	0.0017	0.00271	0.0026	0.00104
Flow (MGD) Weekly Average	0.009	0.011	0.0057	0.002	0.002	0.0052	0.008	0.0031	0.0031	0.0054	0.008	0.004
pH (S.U.) Instantaneous Minimum	7.0	6.8	7.0	7.0	7.0	7.0	6.5	7.0	7.0	7.0	6.5	7.0
pH (S.U.) Instantaneous Maximum	8.0	7.6	8.0	8.0	8.0	8.0	8.0	7.5	8.0	8.0	8.0	8.0
DO (mg/L) Minimum	8.1	7.1	8.3	8.2	8.6	8.9	8.2	8.0	8.3	8.0	8.0	8.2
TRC (mg/L) Average Monthly	< 0.01	0.01	0.01	< 0.01	< 0.01	0.01	0.01	0.01	0.01	0.006	0.01	< 0.01
TRC (mg/L) Instantaneous Maximum	0.01	0.03	0.03	0.01	0.01	0.02	0.03	0.03	0.01	0.03	0.02	0.02
CBOD5 (mg/L) Average Monthly	< 2.7	< 6.0	5.3	4.7	5.2	< 7.5	< 6.1	< 3.9	< 3.0	< 3.2	5.5	4.8
CBOD5 (mg/L) Instantaneous Maximum	< 3.0	< 6.0	8.2	5.6	7.4	< 12.0	9.2	< 4.8	< 3.0	3.3	7.0	5.3
TSS (mg/L) Average Monthly	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.5	< 5.0	< 5.0	< 5.0	< 5.0	< 9.0	< 5.0
TSS (mg/L) Instantaneous Maximum	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.0	< 5.0	< 5.0	< 5.0	< 5.0	13.0	< 5.0
Fecal Coliform (No./100 ml) Geometric Mean	11	2	< 33	< 1	< 1	< 1	< 2	< 6	< 1	5	< 1	4
Fecal Coliform (No./100 ml) Instantaneous Maximum	112	4	1120	< 1	< 1	< 1	2	36	2	13	< 1	16
Total Nitrogen (mg/L) Daily Maximum							31.7					

Ammonia (mg/L) Average Monthly	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 1.7	< 0.8	< 0.8
Ammonia (mg/L) Instantaneous Maximum	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	2.6	< 0.8	< 0.8
Total Phosphorus (mg/L) Daily Maximum							3.7					

Permit No. PA0255173

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.024
Latitude 40º 1' 22.10" **Longitude** -80º 16' 19.23"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)

Comments:

Water Quality-Based Limitations

The discharge was modeled using WQM 7.0 to evaluate the CBOD5, Ammonia Nitrogen and Dissolved Oxygen parameters. The modeling results show technology based effluent limitations for CBOD5 are appropriate. The modeling results also confirm that Ammonia-Nitrogen and Dissolved Oxygen limitations are necessary to meet in-stream water quality criterion.

The Winter limit for Ammonia-Nitrogen is becoming more stringent than previously enforced. Based on eDMR data, however, the facility will be able to comply with the new limits.

Parameter	Limit (mg/l)	SBC	Model
Ammonia-Nitrogen May-October	2.0	Average Monthly	WQM 7.0
Ammonia-Nitrogen November- April	5.0	Average Monthly	WQM 7.0
Dissolved Oxygen	6.0	Instantaneous Minimum	WQM 7.0

Comments:

Anti-Backsliding

Section 402(o) of the Clean Water Act (CWA), enacted in the Water Quality Act of 1987, establishes anti-backsliding rules governing two situations. The first situation occurs when a permittee seeks to revise a Technology-Based effluent limitation based on BPJ to reflect a subsequently promulgated effluent guideline which is less stringent. The second situation

addressed by Section 402(o) arises when a permittee seeks relaxation of an effluent limitation which is based upon a State treatment standard of water quality standard.

Previous limits can be used pursuant to EPA's anti-backsliding regulation 40 CFR 122.44 **(l) Reissued permits. (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued. Interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under §122.62). (2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) 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.**

The facility is not seeking to revise the previously permitted effluent limits.

Additional Considerations

The stream is not impaired for nutrients, therefore, annual sampling for phosphorus and nitrogen will again be imposed per 25 PA Code §92a.6.

Sewage discharges will include monitoring, at a minimum, for E. Coli, in new and reissued permits, with a monitoring frequency of 1/year for design flows >= 0.002 and < 0.05 MGD.

The previous permit imposed TRC limits as the facility intended to use chlorination disinfection at the time of issuance. The facility, however, actually uses UV disinfection, so the effluent limitations have been changed to reflect measurement of UV intensity.

For pH, Dissolved Oxygen (DO) and UV, a monitoring frequency 1/day has been imposed. In general, less frequent monitoring may be established only when the permittee demonstrates that there will be no discharge on days where monitoring is not required.

Monitoring frequency for the proposed effluent limits are based upon Table 6-3, Self-Monitoring Requirements for Sewage Dischargers, from the Departments Technical Guidance for the Development and Specification of Effluent Limitations. Please note that Monitoring Requirements were changed for Flow to 1/week Metered to be consistent with the guidance.

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. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	0.024	Report Wkly Avg	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	6.0 Inst Min	XXX	XXX	XXX	1/day	Grab
UV Intensity (mW/cm²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
CBOD5	XXX	XXX	XXX	25.0	XXX	50.0	2/month	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60.0	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	5.0	XXX	10.0	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	2.0	XXX	4.0	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab

Compliance Sampling Location: Outfall #001

Other Comments:

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
19B	40906	Trib 40906 to Tenmile Creek	1.040	1140.00	0.78	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.008	0.00	0.00	0.000	0.000	10.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Trib to Tenmile	PA0255173	0.0240	0.0000	0.0000	0.000	20.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	4.00	8.24	0.00	0.00
NH3-N	2.00	0.00	0.00	0.70

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Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
19B	40906	Trib 40906 to Tenmile Creek	0.010	1120.00	1.26	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.008	0.00	0.00	0.000	0.000	10.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

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WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
19B	40906	Trib 40906 to Tenmile Creek

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
1.040	0.01	0.00	0.01	.0371	0.00368	.311	3.73	11.97	0.04	1.689	20.71	7.00
Q1-10 Flow												
1.040	0.00	0.00	0.00	.0371	0.00368	NA	NA	NA	0.04	1.740	20.48	7.00
Q30-10 Flow												
1.040	0.01	0.00	0.01	.0371	0.00368	NA	NA	NA	0.04	1.643	20.92	7.00

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WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	6		

Permit No. PA0255173

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19B	40906	Trib 40906 to Tenmile Creek

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
1.040	Trib to Tenmile	9.34	4	9.34	4	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
1.040	Trib to Tenmile	1.79	2	1.79	2	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
1.04	Trib to Tenmile	25	25	2	2	6	6	0	0

Permit No. PA0255173

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19B	40906	Trib 40906 to Tenmile Creek

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
1.040	Trib to Tenmile	PA0255173	0.024	CBOD5	25		
				NH3-N	2	4	
				Dissolved Oxygen			6

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Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
19B	40906	Trib 40906 to Tenmile Creek	1.040	1140.00	0.78	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.016	0.00	0.00	0.000	0.000	10.0	0.00	0.00	5.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Trib to Tenmile	PA0255173	0.0240	0.0000	0.0000	0.000	15.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	4.00	12.51	0.00	0.00
NH3-N	5.00	0.00	0.00	0.70

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Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
19B	40906	Trib 40906 to Tenmile Creek	0.010	1120.00	1.26	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.016	0.00	0.00	0.000	0.000	10.0	0.00	0.00	5.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Permit No. PA0255173

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
19B	40906	Trib 40906 to Tenmile Creek

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
1.040	0.01	0.00	0.01	.0371	0.00368	.318	3.87	12.15	0.04	1.569	12.52	7.00
Q1-10 Flow												
1.040	0.01	0.00	0.01	.0371	0.00368	NA	NA	NA	0.04	1.653	13.26	7.00
Q30-10 Flow												
1.040	0.02	0.00	0.02	.0371	0.00368	NA	NA	NA	0.04	1.495	11.90	7.00

Permit No. PA0255173

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	6		

Permit No. PA0255173

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19B	40906	Trib 40906 to Tenmile Creek

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
1.040	Trib to Tenmile	16	10	16	10	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
1.040	Trib to Tenmile	3.52	5	3.52	5	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
1.04	Trib to Tenmile	25	25	5	5	4	4	0	0

Permit No. PA0255173

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19B	40906	Trib 40906 to Tenmile Creek

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
1.040	0.024	12.520	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
3.866	0.318	12.150	0.040
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
19.30	1.406	3.76	0.394
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.111	17.524	Owens	6
Reach Travel Time (days)			
1.569			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.157	16.50	3.53	8.63
0.314	14.11	3.32	9.01
0.471	12.07	3.12	9.23
0.627	10.32	2.94	9.41
0.784	8.83	2.76	9.56
0.941	7.55	2.60	9.58
1.098	6.46	2.44	9.58
1.255	5.52	2.29	9.58
1.412	4.72	2.16	9.58
1.569	4.04	2.03	9.58

Permit No. PA0255173

WQM 7.0 Effluent Limits

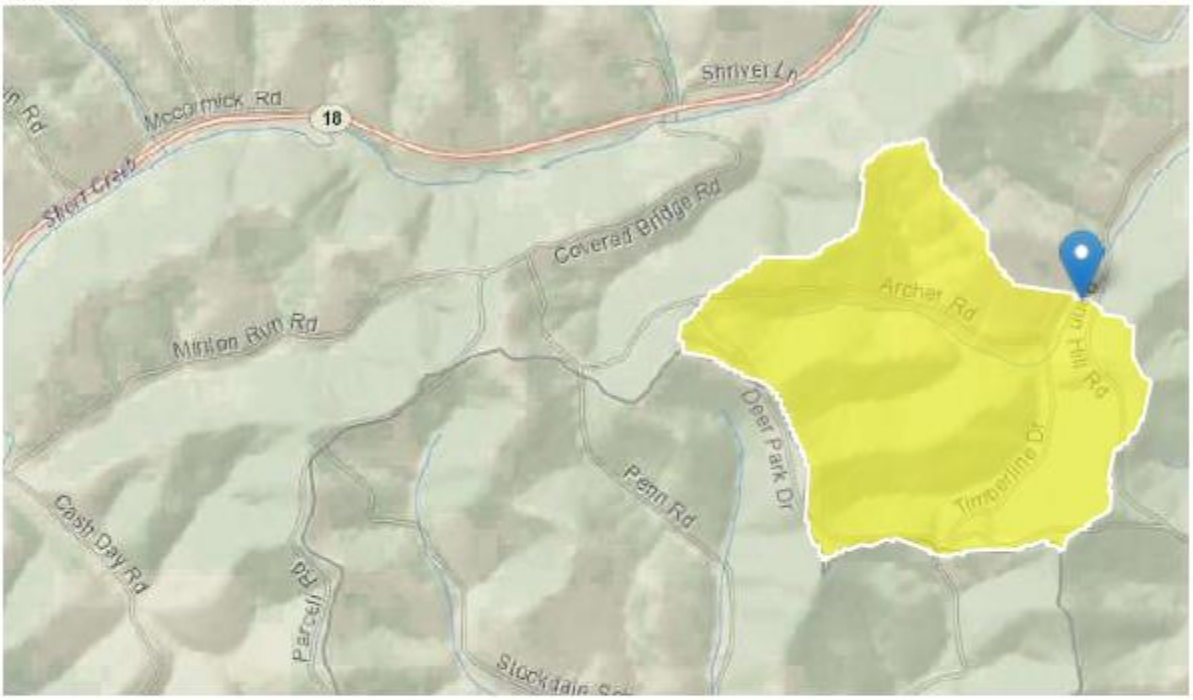
SWP Basin	Stream Code	Stream Name
19B	40906	Trib 40906 to Tenmile Creek

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
1.040	Trib to Tenmile	PA0255173	0.024	CBOD5	25		
				NH3-N	5	10	
				Dissolved Oxygen			4

Permit No. PA0255173

StreamStats Report

Region ID: PA
Workspace ID: PA20210830155657786000
Clicked Point (Latitude, Longitude): 40.02259, -80.27201
Time: 2021-08-30 11:57:18 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.78	square miles
ELEV	Mean Basin Elevation	1228	feet

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.78	square miles	2.26	1400

Permit No. PA0255173

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
ELEV	Mean Basin Elevation	1228	feet	1050	2580

Low-Flow Statistics Disclaimers [Low Flow Region 4]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report [Low Flow Region 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0216	ft^3/s
30 Day 2 Year Low Flow	0.0421	ft^3/s
7 Day 10 Year Low Flow	0.00612	ft^3/s
30 Day 10 Year Low Flow	0.0134	ft^3/s
90 Day 10 Year Low Flow	0.0279	ft^3/s

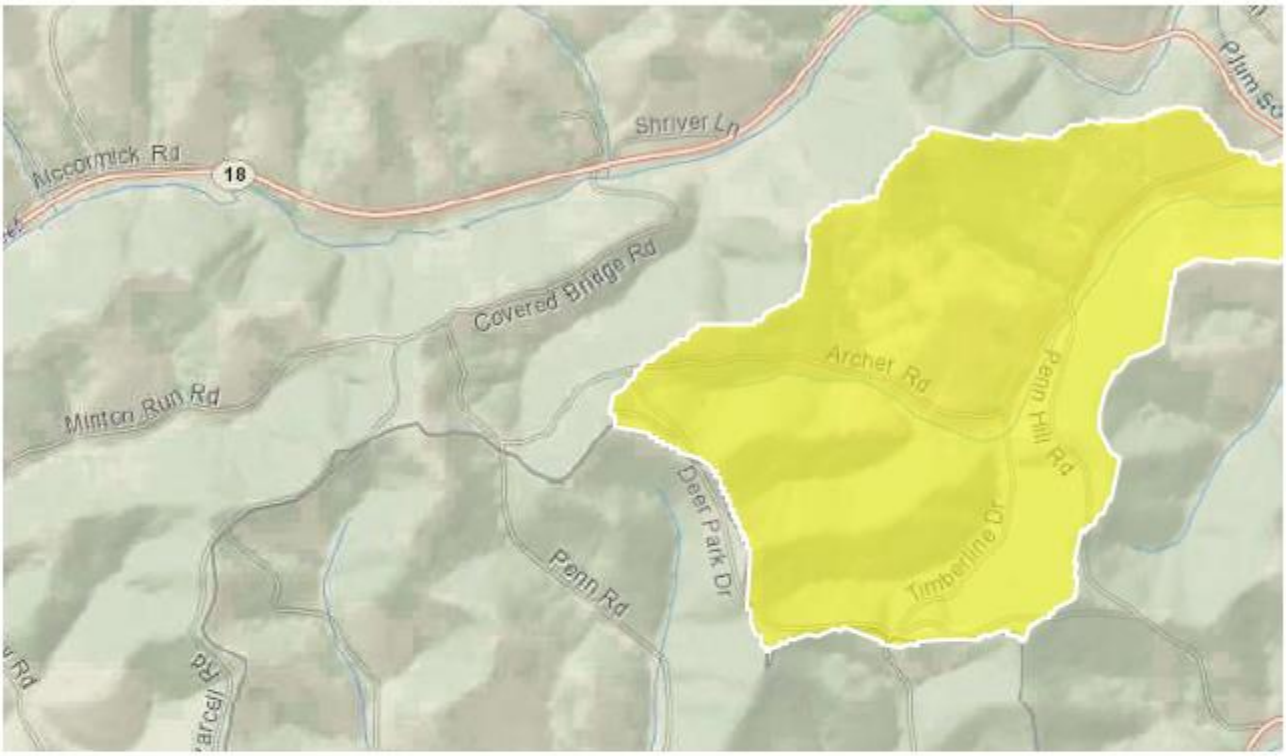
Low-Flow Statistics Citations

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/)

Permit No. PA0255173

StreamStats Report

Region ID: PA
Workspace ID: PA20210830163721496000
Clicked Point (Latitude, Longitude): 40.02918, -80.25713
Time: 2021-08-30 12:37:42 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	1.26	square miles
ELEV	Mean Basin Elevation	1192	feet

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.26	square miles	2.26	1400