Pennsylvania Department of Environmental Protection

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0024481**
Facility Type	**Municipal**	APS ID	**611545**
Major / Minor	**Minor**	Authorization ID	**676411**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Meyersdale Municipal Authority**	Facility Name	**Meyersdale STP**
Applicant Address	215 Main Street Room 2B	Facility Address	7844 Mount Davis Road
	Meyersdale, PA 15552-0037		Meyersdale, PA 15552
Applicant Contact	Terry Baker	Facility Contact	Same as Applicant
Applicant Phone	(814) 634-8627	Facility Phone	Same as Applicant
Client ID	86403	Site ID	752516
Ch 94 Load Status		Municipality	Summit Township
Connection Status		County	Somerset
Date Application Received	March 26, 2007	EPA Waived?	Yes
Date Application Accepted	April 20, 2007	If No, Reason	

Purpose of Application: Application for the renewal of an NPDES permit for the discharge of treated Sewage.

Summary of Review

Introduction

The Authority has applied for the renewal and transfer of NPDES Permit No. PA0027626, which was previously issued on August 8, 2002, and expired on August 8, 2007. The previous permittee was Meyersdale Borough.

Facility Overview

WQM Permit No. 5672407 was issued on May 5, 1972, and later amended, authorizing the construction of an STP and sewer collection system. The STP has an annual average design flow of 0.71 MGD. The design hydraulic capacity (for Chapter 94 determinations) and design organic capacity of the STP are 2.0 MGD and 680 lbs/day.

Primary treatment is provided by grinder and a grit chamber, and Secondary treatment is then provided by two aerated facultative lagoons. The resulting effluent is disinfected via liquid chlorine and discharges (Outfall 001) to the Casselman River which is designated as a Warm Water Fishery (WWF) per 25 Pa. Chapter 93 Designated Use, located in State Watershed 19-F.

The previously issued NPDES Permit authorized the discharge of CSO Outfalls 002, 003, 004, 005, 006, and 007 to the Casselman River and Flaugherty Creek. In 2006 Meyersdale Borough separated its combined sewer system (CSS) into a sanitary sewer system (SSS) and separate stormwater system. The sewer separation did not eliminate all wet weather flow from the SSS, and discharges from these outfalls continue to occur.

These discharges are now defined as sanitary sewer overflows (SSOs). CSO Outfalls 002, 003, 004, 005, 006, and 007 will not be included in the NPDES Permit as SSO discharges from these outfalls are not authorized by law, regulation, or permit.

Approve	Deny	Signatures	Date
X		William C. Mitchell, E.I.T. / Project Manager	July 7, 2025
X		Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineering Manager	July 8, 2025

Summary of Review

The Authority entered into a Consent Order and Agreement (COA) with the Department on April 24, 2024. The COA requires the following:

- Completion of Task 3 – 7 of the 2019 CAP by December 31, 2023.
- Submission of a WQM Permit to construct and operate flow equalization facilities by June 30, 2031.
- Within 90 days of beginning operation of the flow equalization facilities the Authority shall permanently seal all SSO Outfalls.
- Submission of a WQM Permit to eliminate the existing treatment facility, construct a new STP, and construct a new force main to convey flows to the new STP by June 30, 2035.
- Within 2 years of completing construction and beginning operation of the new STP the Authority shall close the lagoons with sludge in place.

Sludge use and disposal description and location(s): Application data (2007) indicates that no sludge has been removed from the lagoons since their installation. If any sludge is removed it will be sent to an approved landfill.

In November 2009, a sludge removal project was completed in an attempt to restore capacity to the lagoons. The sludge was difficult to remove and less sludge was removed than planned. Capacity of the lagoons were not restored, and they are to be eliminated under the current COA.

Summary of Changes Since Last Permit Issuance

- *E. Coli* monitoring added
- Total Lead monitoring added, as sampling did not meet Department's TQL
- Monitoring for total aluminum, total iron, and total manganese were imposed due to TMDL
- Technology-Based Limitation of 0.5 mg/L imposed for TRC per 92a.48(b)(2)
- Raw sewage influent sampling for CBOD5 and TSS were imposed
- CSO Outfalls 002, 003, 004, 005, 006, and 007 removed from Part A of the permit
- Effluent limitations for BOD5 & TSS minimum % removal was removed, as this requirement is now covered under Part A – Effluent Limitations, Monitoring, Recordkeeping and Reporting Requirements, Additional Requirements 2.

The renewal application does not list any industrial contributors to the sewer system.

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.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.71
Latitude	39º 49' 44.0"	Longitude	-79º 02' 25.00"
Quad Name	Meyersdale	Quad Code	2013
Wastewater Description:	Sewage Effluent		
Receiving Waters	Casselman River (WWF)	Stream Code	38579
NHD Com ID	69921041	RMI	33.85
Drainage Area	191	Yield (cfs/mi^2)	0.04219
Q_{7-10} Flow (cfs)	8.06	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1929	Slope (ft/ft)	0.00086
Watershed No.	19-F	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use	NONE	Exceptions to Criteria	NONE
Assessment Status	Impaired		
Cause(s) of Impairment	METALS, PH		
Source(s) of Impairment	ACID MINE DRAINAGE, ACID MINE DRAINAGE		
TMDL Status	Final	Name	Casselman River

Background/Ambient Data		Data Source
pH (SU)	7.0	Model Default
Temperature (°F)	25	Model Default
Hardness (mg/L)	100	Model Default
Other:		

Nearest Downstream Public Water Supply Intake		Indian Creek Valley Water Authority on Saltlick	
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	
PWS RMI	62.7	Distance from Outfall (mi)	44.44

Changes Since Last Permit Issuance: None

Other Comments:

The discharge is to Casselman River, which has a Final TMDL and is impaired by metals and pH. This sewage discharge is not expected to contribute to the stream impairment for which abandoned mine drainage is source of such impairment.

No WLAs have been developed for this sewage discharge and they are not expected to contribute to the stream impairment for these pollutants. 1/year monitoring of these pollutants will be added to Part A of the permit per 25 Pa. Code § 92a.061. These pollutants will be evaluated during the next permit cycle to ensure the discharge is not contributing to stream impairment.

Treatment Facility Summary

Treatment Facility Name: Meyersdale STP

WQM Permit No.	Issuance Date
5672407	05/05/1972

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Aerated Lagoon	Chlorine	0.71

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
2.0	680		Lagoon	Landfill

Changes Since Last Permit Issuance: None

Other Comments: WQM Permit for new STP to be submitted by June 30, 2035

Compliance History

Operations Compliance Check Summary Report

Facility: MEYERSDALE STP

NPDES Permit No.: PA0024481

Compliance Review Period: 6/1/20-6/27/25

Inspection Summary:

INSPECTED DATE	INSP TYPE	INSPECTION RESULT DESC
06/24/2024	Chapter 94 Inspection	No Violations Noted
04/26/2024	Administrative/File Review	Violation(s) Noted
12/15/2023	Routine/Partial Inspection	No Violations Noted
04/26/2023	Administrative/File Review	No Violations Noted
04/26/2023	Compliance Evaluation	Violation(s) Noted
10/23/2020	Compliance Evaluation	Violation(s) Noted

Violation Summary:

VIOLATION DATE	VIOLATION TYPE	VIOLATION TYPE DESC	RESOLVED DATE
04/26/2024	CSL201	CSL - Unauthorized, unpermitted discharge of sewage to waters of the Commonwealth	04/26/2024
04/26/2023	92A.44	NPDES - Violation of effluent limits in Part A of permit	04/26/2023
10/23/2020	92A.44	NPDES - Violation of effluent limits in Part A of permit	11/16/2020

Open Violations by Client ID:

No open violations for Client ID 289983

Enforcement Summary:

ENF TYPE	ENF TYPE DESC	EXECUTED DATE	VIOLATIONS	AMOUNT RECEIVED	TOTAL AMOUNT DUE	ENF FINALSTATUS	ENF CLOSED DATE
COA	Consent Order and Agreement	04/24/2024	CSL201	$10,000.00	$0.00		
NOV	Notice of Violation	11/16/2020	92A.44			Administrative Close Out	07/06/2022

Effluent Violation Summary:

MON PD	PARAMETER	REPORTED VALUE	PERMIT LIMIT	UNIT	STAT_BASE_CODE	FACILITY COMMENTS
May-25	pH	5.4	6	S.U.	Instantaneous Minimum	ph probe was under water during the flooding the week of May 12, which might have affected the reading. it was replaced with a new ph probe.
May-25	Total Suspended Solids	196	178	lbs/day	Average Monthly	Due to excessive algae bloom. Severe flooding the week of May 12 may have affected lab results
May-25	Total Suspended Solids	410.7	266	lbs/day	Weekly Average	Due to excessive algae bloom. Severe flooding the week of May 12 may have affected the lab re
May-25	Total Suspended Solids Minimum % Removal	29	85	%	Minimum Monthly Average	Due to excessive algae bloom. Severe flooding the week of May 12 may have affected the lab results
Apr-25	Total Suspended Solids	48.1	30	mg/L	Average Monthly	due to excessive algae bloom
Apr-25	Total Suspended Solids	62	45	mg/L	Weekly Average	due to excessive algae bloom
Apr-25	Total Suspended Solids Minimum % Removal	22	85	%	Minimum Monthly Average	due to excessive algae bloom
Mar-25	Total Suspended Solids Minimum % Removal	64	85	%	Minimum Monthly Average	due to excessive algae bloom
Feb-25	Total Suspended Solids Minimum % Removal	52	85	%	Minimum Monthly Average	due to excessive algae bloom
Jan-25	Total Suspended Solids Minimum % Removal	65	85	%	Minimum Monthly Average	due to excessive algae bloom
Dec-24	Total Suspended Solids Minimum % Removal	40	85	%	Minimum Monthly Average	due to excessive algae bloom
Nov-24	Total Suspended Solids	49.9	30	mg/L	Average Monthly	due to excessive algae bloom
Nov-24	Total Suspended Solids	64	45	mg/L	Weekly Average	due to excessive algae bloom

Nov-24	Total Suspended Solids Minimum % Removal	31	85	%	Minimum Monthly Average	due to excessive algae bloom
Oct-24	Total Suspended Solids	46.4	30	mg/L	Average Monthly	due to excessive algae bloom
Oct-24	Total Suspended Solids	62	45	mg/L	Weekly Average	due to excessive algae bloom
Oct-24	Total Suspended Solids Minimum % Removal	15	85	%	Minimum Monthly Average	due to excessive algae bloom
Sep-24	Total Suspended Solids	40.9	30	mg/L	Average Monthly	Due to excessive algae growth
Sep-24	Total Suspended Solids	48	45	mg/L	Weekly Average	Due to excessive algae growth
Sep-24	Total Suspended Solids Minimum % Removal	41	85	%	Minimum Monthly Average	Due to excessive algae growth
Aug-24	Total Suspended Solids	101	45	mg/L	Weekly Average	due to excessive algae bloom
Aug-24	Total Suspended Solids	81.8	30	mg/L	Average Monthly	due to excessive algae bloom
Aug-24	Total Suspended Solids Minimum % Removal	0	85	%	Minimum Monthly Average	due to excessive algae bloom
Jul-24	Total Suspended Solids	119.3	45	mg/L	Weekly Average	
Jul-24	Total Suspended Solids	197.2	178	lbs/day	Average Monthly	due to excessive algae bloom
Jul-24	Total Suspended Solids	69.1	30	mg/L	Average Monthly	due to excessive algae bloom
Jul-24	Total Suspended Solids	772	266	lbs/day	Weekly Average	due to excessive algae bloom
Jul-24	Total Suspended Solids Minimum % Removal	13	85	%	Minimum Monthly Average	due to excessive algae bloom
Jun-24	Total Suspended Solids	37.7	30	mg/L	Average Monthly	Due to excesss algae bloom
Jun-24	Total Suspended Solids Minimum % Removal	69	85	%	Minimum Monthly Average	Due to excessive algae growth
May-24	Total Suspended Solids Minimum % Removal	65	85	%	Minimum Monthly Average	due to excessive algae bloom
Apr-24	BOD5 Minimum % Removal	84	85	%	Minimum Monthly Average	due to excessive algae bloom
Apr-24	Carbonaceous Biochemical Oxygen Demand (CBOD5)	148.9	148	lbs/day	Average Monthly	due to excessive algae bloom
Apr-24	Carbonaceous Biochemical Oxygen Demand (CBOD5)	350.6	225	lbs/day	Weekly Average	due to excessive algae bloom
Apr-24	Total Suspended Solids	283	178	lbs/day	Average Monthly	due to excessive algae bloom
Apr-24	Total Suspended Solids	32.7	30	mg/L	Average Monthly	due to excessive algae bloom
Apr-24	Total Suspended Solids	368.7	266	lbs/day	Weekly Average	due to excessive algae bloom
Apr-24	Total Suspended Solids	46	45	mg/L	Weekly Average	due to excessive algae bloom
Apr-24	Total Suspended Solids Minimum % Removal	55	85	%	Minimum Monthly Average	due to excessive algae bloom
Mar-24	BOD5 Minimum % Removal	78	85	%	Minimum Monthly Average	due to excessive algae bloom
Mar-24	Total Suspended Solids	186.6	178	lbs/day	Average Monthly	due to excessive algae bloom
Mar-24	Total Suspended Solids	274.3	266	lbs/day	Weekly Average	due to excessive algae bloom
Mar-24	Total Suspended Solids	30.8	30	mg/L	Average Monthly	due to excessive algae bloom

Mar-24	Total Suspended Solids	46	45	mg/L	Weekly Average	due to excessive algae bloom
Mar-24	Total Suspended Solids Minimum % Removal	36	85	%	Minimum Monthly Average	due to excessive algae bloom
Feb-24	BOD5 Minimum % Removal	73	85	%	Minimum Monthly Average	due to excessive algae bloom
Feb-24	Total Suspended Solids	234.2	178	lbs/day	Average Monthly	due to excessive algae bloom
Feb-24	Total Suspended Solids	278.1	266	lbs/day	Weekly Average	due to excessive algae bloom
Feb-24	Total Suspended Solids	39.2	30	mg/L	Average Monthly	due to excessive algae bloom
Feb-24	Total Suspended Solids Minimum % Removal	0	85	%	Minimum Monthly Average	Due excessive algae bloom
Jan-24	BOD5 Minimum % Removal	77	85	%	Minimum Monthly Average	due to excessive algae bloom
Jan-24	Total Suspended Solids	198.9	178	lbs/day	Average Monthly	due to excessive algae bloom
Jan-24	Total Suspended Solids	32.5	30	mg/L	Average Monthly	due to excessive algae bloom
Jan-24	Total Suspended Solids	398.4	266	lbs/day	Weekly Average	due to excessive algae bloom
Jan-24	Total Suspended Solids Minimum % Removal	0	85	%	Minimum Monthly Average	Due to excessive algae bloom and excessive rain and snow melt which increased influent flow.
Dec-23	BOD5 Minimum % Removal	83	85	%	Minimum Monthly Average	due to excessive algae bloom
Dec-23	Total Suspended Solids	30.9	30	mg/L	Average Monthly	due to excessive algae bloom
Dec-23	Total Suspended Solids Minimum % Removal	37	85	%	Minimum Monthly Average	due to excessive algae bloom
Nov-23	pH	9.1	9	S.U.	Instantaneous Maximum	due to excessive algae bloom
Nov-23	Total Suspended Solids	36.9	30	mg/L	Average Monthly	due to excessive algae bloom
Nov-23	Total Suspended Solids Minimum % Removal	52	85	%	Minimum Monthly Average	due to excessive algae bloom
Oct-23	Total Suspended Solids	42	30	mg/L	Average Monthly	due to excessive algae bloom
Oct-23	Total Suspended Solids	55.3	45	mg/L	Weekly Average	due to excessive algae bloom
Oct-23	Total Suspended Solids Minimum % Removal	30	85	%	Minimum Monthly Average	due to excessive algae bloom
Sep-23	Total Suspended Solids	41.7	30	mg/L	Average Monthly	due to excessive algae bloom
Sep-23	Total Suspended Solids	50	45	mg/L	Weekly Average	due to excessive algae bloom
Sep-23	Total Suspended Solids Minimum % Removal	44	85	%	Minimum Monthly Average	due to excessive algae bloom
Aug-23	Total Suspended Solids	55.7	30	mg/L	Average Monthly	due to excessive algae bloom
Aug-23	Total Suspended Solids	86	45	mg/L	Weekly Average	due to excessive algae bloom
Aug-23	Total Suspended Solids Minimum % Removal	20	85	%	Minimum Monthly Average	due to excessive algae bloom
Jul-23	Total Suspended Solids	61	45	mg/L	Weekly Average	due to excessive algae bloom
Jul-23	Total Suspended Solids Minimum % Removal	58	85	%	Minimum Monthly Average	due to excessive algae bloom
Jun-23	pH	9.5	9	S.U.	Instantaneous Maximum	due to excessive algae bloom

May-23	pH	9.7	9	S.U.	Instantaneous Maximum	due to excessive algae bloom
May-23	Total Suspended Solids	45.2	30	mg/L	Average Monthly	due to excessive algae bloom
May-23	Total Suspended Solids	54	45	mg/L	Weekly Average	due to excessive algae bloom
May-23	Total Suspended Solids Minimum % Removal	31	85	%	Minimum Monthly Average	due to excessive algae bloom
Apr-23	pH	9.4	9	S.U.	Instantaneous Maximum	due to excessive algae bloom
Apr-23	Total Suspended Solids Minimum % Removal	67	85	%	Minimum Monthly Average	due to excessive algae bloom
Mar-23	BOD5 Minimum % Removal	65	85	%	Minimum Monthly Average	due to excessive algae bloom
Mar-23	Carbonaceous Biochemical Oxygen Demand (CBOD5)	26.7	25	mg/L	Average Monthly	due to excessive algae bloom
Mar-23	Carbonaceous Biochemical Oxygen Demand (CBOD5)	38.6	38	mg/L	Weekly Average	due to excessive algae bloom
Mar-23	Total Suspended Solids Minimum % Removal	33	85	%	Minimum Monthly Average	due to excessive algae bloom
Feb-23	BOD5 Minimum % Removal	74	85	%	Minimum Monthly Average	due to excessive algae bloom
Feb-23	Total Suspended Solids Minimum % Removal	84	85	%	Minimum Monthly Average	due to excessive algae bloom
Jan-23	BOD5 Minimum % Removal	77	85	%	Minimum Monthly Average	Staying within the permit flow limits, effluent flow was increased to allow the lagoons to accept the additional flow from the rainfall and snow melt. The suspended solids and effluent CBOD5 resulted from the increased discharge.
Jan-23	Carbonaceous Biochemical Oxygen Demand (CBOD5)	274.7	225	lbs/day	Weekly Average	Staying within the permit flow limits, effluent flow was increased to allow the lagoons to accept the additional flow from the rainfall and snow melt. The suspended solids and effluent CBOD5 resulted from the increased discharge. .
Jan-23	Total Suspended Solids	254.2	178	lbs/day	Average Monthly	Staying within the permit flow limits, effluent flow was increased to allow the lagoons to accept the additional flow from the rainfall and snow melt. The suspended solids and effluent CBOD5 resulted from the increased discharge.
Jan-23	Total Suspended Solids	58	45	mg/L	Weekly Average	Staying within the permit flow limits, effluent flow was increased to allow the lagoons to accept the additional flow from the rainfall and snow melt. The suspended solids and effluent CBOD5 resulted from the increased discharge.

Jan-23	Total Suspended Solids	843.1	266	lbs/day	Weekly Average	Staying within the permit flow limits, effluent flow was increased to allow the lagoons to accept the additional flow from the rainfall and snow melt. The suspended solids and effluent CBOD5 resulted from the increased discharge.
Jan-23	Total Suspended Solids Minimum % Removal	39	85	%	Minimum Monthly Average	Staying within the permit flow limits, effluent flow was increased to allow the lagoons to accept the additional flow from the rainfall and snow melt. The suspended solids and effluent CBOD5 resulted from the increased discharge.
Dec-22	BOD5 Minimum % Removal	83	85	%	Minimum Monthly Average	due to excessive algae bloom
Dec-22	Total Suspended Solids Minimum % Removal	70	85	%	Minimum Monthly Average	due to excessive algae bloom
Nov-22	Total Suspended Solids Minimum % Removal	71	85	%	Minimum Monthly Average	due to excessive algae bloom
Oct-22	Total Suspended Solids	31	30	mg/L	Average Monthly	due to excessive algae bloom
Oct-22	Total Suspended Solids Minimum % Removal	75	85	%	Minimum Monthly Average	due to excessive algae bloom
Sep-22	Total Suspended Solids	33.7	30	mg/L	Average Monthly	Due to excessive algae bloom.
Sep-22	Total Suspended Solids	48	45	mg/L	Weekly Average	Due to excessive algae bloom.
Sep-22	Total Suspended Solids Minimum % Removal	22	85	%	Minimum Monthly Average	Due to excessive algae bloom.
Aug-22	BOD5 Minimum % Removal	63	85	%	Minimum Monthly Average	due to excessive algae bloom
Aug-22	Total Suspended Solids Minimum % Removal	55	85	%	Minimum Monthly Average	due to excessive algae bloom
Jul-22	BOD5 Minimum % Removal	68	85	%	Minimum Monthly Average	due to excessive algae bloom
Jul-22	pH	9.3	9	S.U.	Instantaneous Maximum	due to excessive algae bloom
Jul-22	Total Suspended Solids	30.8	30	mg/L	Average Monthly	due to excessive algae bloom
Jul-22	Total Suspended Solids Minimum % Removal	68	85	%	Minimum Monthly Average	due to excessive algae bloom
Jun-22	pH	9.4	9	S.U.	Instantaneous Maximum	due to excessive algae blooms
Jun-22	Total Suspended Solids	40.8	30	mg/L	Average Monthly	due to excessive algae blooms
Jun-22	Total Suspended Solids	49	45	mg/L	Weekly Average	due to excessive algae blooms
Jun-22	Total Suspended Solids Minimum % Removal	44	85	%	Minimum Monthly Average	due to excessive algae blooms
May-22	BOD5 Minimum % Removal	69	85	%	Minimum Monthly Average	due to excessive algae bloom
May-22	pH	9.5	9	S.U.	Instantaneous Maximum	due to excessive algae bloom
May-22	Total Suspended Solids	204.2	178	lbs/day	Average Monthly	due to excessive algae bloom
May-22	Total Suspended Solids	50.2	30	mg/L	Average Monthly	due to excessive algae bloom
May-22	Total Suspended Solids	62	45	mg/L	Weekly Average	due to excessive algae bloom

May-22	Total Suspended Solids Minimum % Removal	61	85	%	Minimum Monthly Average	due to excessive algae bloom
Apr-22	BOD5 Minimum % Removal	81	85	%	Minimum Monthly Average	due to excessive algae bloom
Apr-22	Total Suspended Solids Minimum % Removal	42	85	%	Minimum Monthly Average	due to excessive algae
Mar-22	BOD5 Minimum % Removal	75	85	%	Minimum Monthly Average	due to excessive algae bloom
Mar-22	Carbonaceous Biochemical Oxygen Demand (CBOD5)	43.3	38	mg/L	Weekly Average	due to excessive algae bloom
Mar-22	Total Suspended Solids	30.2	30	mg/L	Average Monthly	due to excessive algae bloom
Mar-22	Total Suspended Solids Minimum % Removal	37	85	%	Minimum Monthly Average	due to excessive algae bloom
Feb-22	BOD5 Minimum % Removal	81	85	%	Minimum Monthly Average	Due to algae bloom
Feb-22	Total Suspended Solids Minimum % Removal	46	85	%	Minimum Monthly Average	Due to high algae bloom
Jan-22	Total Suspended Solids Minimum % Removal	30	85	%	Minimum Monthly Average	Due to high algae bloom
Dec-21	Total Suspended Solids Minimum % Removal	71	85	%	Minimum Monthly Average	
Nov-21	Total Suspended Solids Minimum % Removal	67	85	%	Minimum Monthly Average	due to excessive algae bloom
Oct-21	Total Suspended Solids	36.4	30	mg/L	Average Monthly	Non-compliance is due to algae bloom.
Oct-21	Total Suspended Solids Minimum % Removal	49	85	%	Minimum Monthly Average	Non-compliance is due to algae bloom.
Sep-21	BOD5 Minimum % Removal	83	85	%	Minimum Monthly Average	
Sep-21	Total Suspended Solids	328.3	266	lbs/day	Weekly Average	
Sep-21	Total Suspended Solids	54	45	mg/L	Weekly Average	
Sep-21	Total Suspended Solids Minimum % Removal	56	85	%	Minimum Monthly Average	
Aug-21	Total Suspended Solids	52.2	30	mg/L	Average Monthly	
Aug-21	Total Suspended Solids	71	45	mg/L	Weekly Average	
Aug-21	Total Suspended Solids Minimum % Removal	55	85	%	Minimum Monthly Average	
Jul-21	Total Suspended Solids	43.8	30	mg/L	Average Monthly	
Jul-21	Total Suspended Solids	67	45	mg/L	Weekly Average	
Jul-21	Total Suspended Solids Minimum % Removal	49	85	%	Minimum Monthly Average	
Jun-21	Total Suspended Solids	43.6	30	mg/L	Average Monthly	
Jun-21	Total Suspended Solids	71.1	45	mg/L	Weekly Average	
Jun-21	Total Suspended Solids Minimum % Removal	23	85	%	Minimum Monthly Average	
May-21	BOD5 Minimum % Removal	77	85	%	Minimum Monthly Average	
May-21	Total Suspended Solids Minimum % Removal	57	85	%	Minimum Monthly Average	
Mar-21	Total Suspended Solids	55	45	mg/L	Weekly Average	

Mar-21	Total Suspended Solids Minimum % Removal	60	85	%	Minimum Monthly Average
Jan-21	Total Suspended Solids Minimum % Removal	78	85	%	Minimum Monthly Average
Dec-20	Total Suspended Solids Minimum % Removal	59	85	%	Minimum Monthly Average
Nov-20	Total Suspended Solids Minimum % Removal	64	85	%	Minimum Monthly Average
Oct-20	BOD5 Minimum % Removal	78	85	%	Minimum Monthly Average
Oct-20	Total Suspended Solids	49.1	30	mg/L	Average Monthly
Oct-20	Total Suspended Solids	91	45	mg/L	Weekly Average
Oct-20	Total Suspended Solids Minimum % Removal	58	85	%	Minimum Monthly Average
Sep-20	BOD5 Minimum % Removal	75	85	%	Minimum Monthly Average
Sep-20	Total Suspended Solids	43.5	30	mg/L	Average Monthly
Sep-20	Total Suspended Solids	62	45	mg/L	Weekly Average
Sep-20	Total Suspended Solids Minimum % Removal	49	85	%	Minimum Monthly Average
Aug-20	Total Suspended Solids	57.1	30	mg/L	Average Monthly
Aug-20	Total Suspended Solids	62.5	45	mg/L	Weekly Average
Aug-20	Total Suspended Solids Minimum % Removal	17	85	%	Minimum Monthly Average
Jul-20	Total Suspended Solids	43	30	mg/L	Average Monthly
Jul-20	Total Suspended Solids	50.7	45	mg/L	Weekly Average
Jun-20	BOD5 Minimum % Removal	81	85	%	Minimum Monthly Average
Jun-20	Total Suspended Solids	41.8	30	mg/L	Average Monthly
Jun-20	Total Suspended Solids	60	45	mg/L	Weekly Average
Jun-20	Total Suspended Solids Minimum % Removal	58	85	%	Minimum Monthly Average

Unauthorized Discharges:

No unauthorized discharges reported in eDMR during review period

Compliance Status:

The facility is currently under a COA to upgrade the force main and facility. They are currently seeking loan monies to start doing work in the community. No open violations or additional pending enforcement at this time.

Completed by: Amanda Illar **Completed date:** 6/27/25

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.71
Latitude 39º 49' 44.00" **Longitude** -79º 02' 25.00"
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)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Comments: The discharge was evaluated using WQM 7.0 Version 1.1 (Attachments 2 & 3) and TRC_CALC (Attachment 4) to evaluate $CBOD_5$, Ammonia-Nitrogen, Dissolved Oxygen, and TRC. The above technology based effluent limitations are appropriate for $CBOD_5$, TSS, pH, Fecal Coliform, and TRC.

Water Quality-Based Limitations

A "Reasonable Potential Analysis" (Attachment 5 – TMS Version 1.4) determined the following parameters were candidates for limitations: Total Copper, Total Lead, and Total Zinc.

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
Ammonia-Nitrogen May 1 – Oct 31	1.9	Average Monthly	WQM 7.0 Version 1.1

Comments: Due to anti-backsliding, the previously permitted seasonal ammonia-nitrogen limitations of 11 mg/L (summer) and 25.0 mg/L (winter) will be re-imposed. These limits were based upon models that were valid at the time of permit issuance.

The TMS Model recommended Monitoring be established for Total Lead, as the discharge concentration of this pollutant was greater than 10% of the governing WQBEL (no RP). Please note that monitoring was recommended for Total Lead, as application sampling did not meet the Department's TQL of 1.0 ug/L.

Best Professional Judgment (BPJ) Limitations

Comments: A minimum Dissolved Oxygen (DO) limit of 4.0 mg/L will be established based on BPJ to ensure adequate operation and maintenance (Section I.A, Note 6, SOP No. BCW-PMT-033, Establishing Effluent Limitations for Individual Sewage Permits).

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.

Due to anti-backsliding, the previously permitted limits seasonal ammonia-nitrogen limitations of 11 mg/L (summer) and 25.0 mg/L (winter) will be re-imposed. These limits were based upon regulations, guidance, and models that were valid at the time of permit issuance.

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

Additional Considerations

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 and Other Permit Conditions in NPDES Permits (Document No. 386-0400-001).

For POTWs, mass loading limits will be established for $CBOD_5$, TSS, NH_3-N, and where necessary Total P and Total N. In general, average monthly mass loading limits will be established for $CBOD_5$, TSS, NH_3-N, and where necessary Total P and Total N, and average weekly mass loading limits will be established for $CBOD_5$ and TSS.

For POTWs with design flows greater than 2,000 GPD and for non-municipal sewage facilities that service municipalities or portions thereof, the application manager will establish influent BOD_5 and TSS monitoring in the permit using the same frequency and sample type as is used for other effluent parameters (Section IV.E.8, SOP No BCW-PWT-002, New and Reissuance Sewage Individual NPDES Permit Applications).

Sewage discharges will include monitoring, at a minimum, for *E. Coli*, in new and reissued permits, with a monitoring frequency of 1/quarter for design flows >= 0.05 and < 1 MGD per 25 Pa. Code § 92a.061 and Section I.A, Note 12, SOP No. BCW-PMT-033, Establishing Effluent Limitations for Individual Sewage Permits.

Nutrient monitoring is required to establish the nutrient load from the wastewater treatment facility and the impacts that load may have on the quality of the receiving stream(s). The discharge is to waters not impaired for nutrients. A 1/year monitoring requirement for Total N & Total P has been added to the permit per 25 Pa. Code § 92a.61 and Section I.A, Note 7 & 8, SOP No. BCW-PMT-033, Establishing Effluent Limitations for Individual Sewage Permits.

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" (386-0400-001), 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	Average Weekly	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	145.0	235.0 Wkly Avg	XXX	25.0	40.0 Wkly Avg	50	1/week	8-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Wkly Avg	XXX	Report	Report Wkly Avg	XXX	1/week	8-Hr Composite
TSS	175.0	265.0 Wkly Avg	XXX	30.0	45.0 Wkly Avg	60	1/week	8-Hr Composite
TSS Raw Sewage Influent	Report	Report Wkly Avg	XXX	Report	Report Wkly Avg	XXX	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	145.0	XXX	XXX	25.0	XXX	50	1/week	8-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	65.0	XXX	XXX	11.0	XXX	22	1/week	8-Hr Composite

Outfall 001, Continued (from 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	Average Weekly	Instant. Maximum		
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	8-Hr Composite
Total Aluminum	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	8-Hr Composite
Total Iron	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	8-Hr Composite
Total Lead (ug/L)	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/month	8-Hr Composite
Total Manganese	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	8-Hr Composite

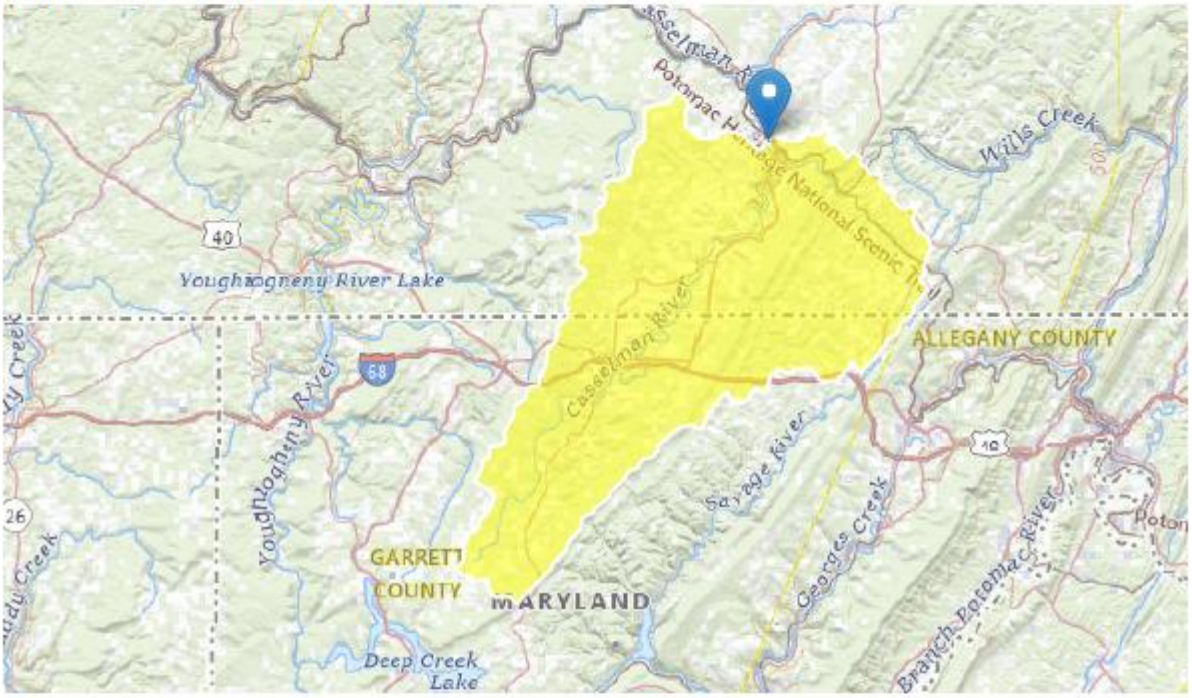
Compliance Sampling Location: Outfall 001

Other Comments:

Attachment 1 – USGS StreamStats Report

PA0024481 - StreamStats Report

Region ID: PA
Workspace ID: PA20250703121752728000
Clicked Point (Latitude, Longitude): 39.82810, -79.04024
Time: 2025-07-03 08:18:15 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	191	square miles
ELEV	Mean Basin Elevation	2491	feet

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	191	square miles	2.26	1400
ELEV	Mean Basin Elevation	2491	feet	1050	2580

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

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	20.5	ft^3/s	43	43
30 Day 2 Year Low Flow	32.3	ft^3/s	38	38
7 Day 10 Year Low Flow	8.06	ft^3/s	66	66
30 Day 10 Year Low Flow	12.4	ft^3/s	54	54
90 Day 10 Year Low Flow	23.2	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/)

Attachment 2 – WQM 7.0 Version 1.1 – Summer Period

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
19F	38579	CASSELMAN RIVER	33.850	1929.00	191.00	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	0.042	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
Meyersdale Boro	PA 0024481	0.7100	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	3.00	8.38	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

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
19F	38579	CASSELMAN RIVER	30.550	1914.00	214.00	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	0.042	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

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
19F	38579	CASSELMAN RIVER

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												
33.850	8.06	0.00	8.06	1.0984	0.00086	.826	56.13	67.99	0.20	1.021	24.40	7.00
Q1-10 Flow												
33.850	5.16	0.00	5.16	1.0984	0.00086	NA	NA	NA	0.16	1.263	24.12	7.00
Q30-10 Flow												
33.850	10.96	0.00	10.96	1.0984	0.00086	NA	NA	NA	0.23	0.875	24.54	7.00

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	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19F	38579	CASSELMAN RIVER

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
33.850	Meyersdale Boro	11.91	50	11.91	50	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
33.850	Meyersdale Boro	1.41	15.45	1.41	15.45	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)		
33.85	Meyersdale Boro	25	25	11.07	11.07	3	3	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19F	38579	CASSELMAN RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
33.850	0.710	24.400	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
56.133	0.826	67.990	0.198
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
4.76	0.610	1.33	0.982
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.735	1.794	Tsivoglou	5
Reach Travel Time (days)			
1.021			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.102	4.41	1.20	6.85
0.204	4.09	1.09	6.20
0.306	3.79	0.98	5.74
0.408	3.51	0.89	5.42
0.510	3.25	0.80	5.22
0.612	3.01	0.73	5.12
0.714	2.79	0.66	5.09
0.817	2.59	0.60	5.11
0.919	2.40	0.54	5.17
1.021	2.22	0.49	5.27

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19F	38579	CASSELMAN RIVER

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)
33.850	Meyersdale Boro	PA 0024481	0.710	CBOD5	25		
				NH3-N	11.07	22.14	
				Dissolved Oxygen			3

Attachment 3 – WQM 7.0 Version 1.1 – Winter Period

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
19F	38579	CASSELMAN RIVER	33.850	1929.00	191.00	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	0.084	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
Meyersdale Boro	PA 0024481	0.7100	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	3.00	12.80	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

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
19F	38579	CASSELMAN RIVER	30.550	1914.00	214.00	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	0.084	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

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
19F	38579	CASSELMAN RIVER

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												
33.850	16.12	0.00	16.12	1.0984	0.00086	.874	69.99	80.06	0.28	0.717	5.64	7.00
Q1-10 Flow												
33.850	10.31	0.00	10.31	1.0984	0.00086	NA	NA	NA	0.22	0.902	5.96	7.00
Q30-10 Flow												
33.850	21.92	0.00	21.92	1.0984	0.00086	NA	NA	NA	0.33	0.609	5.48	7.00

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	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19F	38579	CASSELMAN RIVER

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
33.850	Meyersdale Boro	24.1	50	24.1	50	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
33.850	Meyersdale Boro	4.36	25	4.36	25	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)		
33.85	Meyersdale Boro	25	25	25	25	3	3	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19F	38579	CASSELMAN RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
33.850	0.710	5.638	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
69.988	0.874	80.062	0.281
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
3.47	0.589	1.60	0.232
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
12.175	1.176	Tsivoglou	5
Reach Travel Time (days)			
0.717			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.072	3.39	1.57	11.27
0.143	3.32	1.54	11.27
0.215	3.25	1.52	11.27
0.287	3.18	1.49	11.27
0.358	3.11	1.47	11.27
0.430	3.04	1.44	11.27
0.502	2.98	1.42	11.17
0.573	2.91	1.40	11.09
0.645	2.85	1.37	11.01
0.717	2.79	1.35	10.95

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19F	38579	CASSELMAN RIVER

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)
33.850	Meyersdale Boro	PA 0024481	0.710	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			3

Attachment 4 – TRC_CALC

PA0024481_TRC_CALC

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

8.06	= Q stream (cfs)	0.5	= CV Daily
0.71	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	1.3.2.iii	WLA afc =	2.360	1.3.2.iii	WLA cfc =	2.293
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	0.879	5.1d	LTA_cfc =	1.333

Source		Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML MULT =	1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) =	1.635	

WLA afc	(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...
	...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...
	...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)

Attachment 5 – TMS Version 1.4

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Meyersdale Borough STP** NPDES Permit No.: **PA0024481** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Treated Sewage**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.71	134	7						

					0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		298									
	Chloride (PWS)	mg/L											
	Bromide	mg/L											
	Sulfate (PWS)	mg/L											
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L											
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L											
	Total Beryllium	µg/L											
	Total Boron	µg/L											
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L											
	Hexavalent Chromium	µg/L											
	Total Cobalt	µg/L											
	Total Copper	µg/L		5									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L											
	Total Iron	µg/L											
	Total Lead	µg/L	<	5									
	Total Manganese	µg/L											
	Total Mercury	µg/L											
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L											
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	µg/L		15									
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

Group 3	Carbon Tetrachloride	µg/L	<										
	Chlorobenzene	µg/L											
	Chlorodibromomethane	µg/L	<										
	Chloroethane	µg/L	<										
	2-Chloroethyl Vinyl Ether	µg/L	<										
	Chloroform	µg/L	<										
	Dichlorobromomethane	µg/L	<										
	1,1-Dichloroethane	µg/L	<										
	1,2-Dichloroethane	µg/L	<										
	1,1-Dichloroethylene	µg/L	<										
	1,2-Dichloropropane	µg/L	<										
	1,3-Dichloropropylene	µg/L	<										
	1,4-Dioxane	µg/L	<										
	Ethylbenzene	µg/L	<										
	Methyl Bromide	µg/L	<										
	Methyl Chloride	µg/L	<										
	Methylene Chloride	µg/L	<										
	1,1,2,2-Tetrachloroethane	µg/L	<										
	Tetrachloroethylene	µg/L	<										
	Toluene	µg/L	<										
	1,2-trans-Dichloroethylene	µg/L	<										
	1,1,1-Trichloroethane	µg/L	<										
	1,1,2-Trichloroethane	µg/L	<										
	Trichloroethylene	µg/L	<										
	Vinyl Chloride	µg/L	<										
Group 4	2-Chlorophenol	µg/L	<										
	2,4-Dichlorophenol	µg/L	<										
	2,4-Dimethylphenol	µg/L	<										
	4,6-Dinitro-o-Cresol	µg/L	<										
	2,4-Dinitrophenol	µg/L	<										
	2-Nitrophenol	µg/L	<										
	4-Nitrophenol	µg/L	<										
	p-Chloro-m-Cresol	µg/L	<										
	Pentachlorophenol	µg/L	<										
	Phenol	µg/L	<										
	2,4,6-Trichlorophenol	µg/L	<										
Group 5	Acenaphthene	µg/L	<										
	Acenaphthylene	µg/L	<										
	Anthracene	µg/L	<										
	Benzidine	µg/L	<										
	Benzo(a)Anthracene	µg/L	<										
	Benzo(a)Pyrene	µg/L	<										
	3,4-Benzofluoranthene	µg/L	<										
	Benzo(ghi)Perylene	µg/L	<										
	Benzo(k)Fluoranthene	µg/L	<										
	Bis(2-Chloroethoxy)Methane	µg/L	<										
	Bis(2-Chloroethyl)Ether	µg/L	<										
	Bis(2-Chloroisopropyl)Ether	µg/L	<										
	Bis(2-Ethylhexyl)Phthalate	µg/L	<										
	4-Bromophenyl Phenyl Ether	µg/L	<										
	Butyl Benzyl Phthalate	µg/L	<										
	2-Chloronaphthalene	µg/L	<										
	4-Chlorophenyl Phenyl Ether	µg/L	<										
	Chrysene	µg/L	<										
	Dibenzo(a,h)Anthrancene	µg/L	<										
	1,2-Dichlorobenzene	µg/L	<										
	1,3-Dichlorobenzene	µg/L	<										
	1,4-Dichlorobenzene	µg/L	<										
	3,3-Dichlorobenzidine	µg/L	<										
	Diethyl Phthalate	µg/L	<										
	Dimethyl Phthalate	µg/L	<										
	Di-n-Butyl Phthalate	µg/L	<										
	2,4-Dinitrotoluene	µg/L	<										

	2,6-Dinitrotoluene	µg/L	<											
	Di-n-Octyl Phthalate	µg/L	<											
	1,2-Diphenylhydrazine	µg/L	<											
	Fluoranthene	µg/L	<											
	Fluorene	µg/L	<											
	Hexachlorobenzene	µg/L	<											
	Hexachlorobutadiene	µg/L	<											
	Hexachlorocyclopentadiene	µg/L	<											
	Hexachloroethane	µg/L	<											
	Indeno(1,2,3-cd)Pyrene	µg/L	<											
	Isophorone	µg/L	<											
	Naphthalene	µg/L	<											
	Nitrobenzene	µg/L	<											
	n-Nitrosodimethylamine	µg/L	<											
	n-Nitrosodi-n-Propylamine	µg/L	<											
	n-Nitrosodiphenylamine	µg/L	<											
	Phenanthrene	µg/L	<											
	Pyrene	µg/L	<											
	1,2,4-Trichlorobenzene	µg/L	<											
Group 6	Aldrin	µg/L	<											
	alpha-BHC	µg/L	<											
	beta-BHC	µg/L	<											
	gamma-BHC	µg/L	<											
	delta BHC	µg/L	<											
	Chlordane	µg/L	<											
	4,4-DDT	µg/L	<											
	4,4-DDE	µg/L	<											
	4,4-DDD	µg/L	<											
	Dieldrin	µg/L	<											
	alpha-Endosulfan	µg/L	<											
	beta-Endosulfan	µg/L	<											
	Endosulfan Sulfate	µg/L	<											
	Endrin	µg/L	<											
	Endrin Aldehyde	µg/L	<											
	Heptachlor	µg/L	<											
	Heptachlor Epoxide	µg/L	<											
	PCB-1016	µg/L	<											
	PCB-1221	µg/L	<											
	PCB-1232	µg/L	<											
	PCB-1242	µg/L	<											
	PCB-1248	µg/L	<											
	PCB-1254	µg/L	<											
	PCB-1260	µg/L	<											
	PCBs, Total	µg/L	<											
	Toxaphene	µg/L	<											
	2,3,7,8-TCDD	ng/L	<											
Group 7	Gross Alpha	pCi/L												
	Total Beta	pCi/L	<											
	Radium 226/228	pCi/L	<											
	Total Strontium	µg/L	<											
	Total Uranium	µg/L	<											
	Osmotic Pressure	mOs/kg												

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Meyersdale Borough STP, NPDES Permit No. PA0024481, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Casselman River**

No. Reaches to Model: **1**

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	038579	33.85	1929	191			Yes
End of Reach 1	038579	30.55	1914	214			Yes

$Q_{7\text{-}10}$

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	33.85	0.04219			10							100	7		
End of Reach 1	30.55	0.04219			10										

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	33.85														
End of Reach 1	30.55														

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Toxics Management Spreadsheet
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Model Results

Meyersdale Borough STP, NPDES Permit No. PA0024481, Outfall 001

Instructions | *Results* | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All | ○ Inputs | ○ Results | ○ Limits

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 3.287 PMF: 1 Analysis Hardness (mg/l): 104.08 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	13.955	14.5	121	Chem Translator of 0.96 applied
Total Lead	0	0		0	67.452	85.9	716	Chem Translator of 0.785 applied
Total Zinc	0	0		0	121.217	124	1,033	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 3.287 PMF: 1 Analysis Hardness (mg/l): 104.08 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	9.267	9.65	80.5	Chem Translator of 0.96 applied
Total Lead	0	0		0	2.629	3.35	27.9	Chem Translator of 0.785 applied
Total Zinc	0	0		0	122.209	124	1,033	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 3.287 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 1.373 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Lead	Report	Report	Report	Report	Report	µg/L	27.9	CFC	Discharge Conc > 10% WQBEL (no RP)

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Total Copper	77.7	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	662	µg/L	Discharge Conc ≤ 10% WQBEL