Pennsylvania Department of Environmental Protection

Southcentral Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0026638**
Facility Type	**Municipal**	APS ID	**36554**
Major / Minor	**Major**	Authorization ID	**1477023**

Applicant and Facility Information

Applicant Name	**Joint Municipal Authority of Wyomissing Valley -Berks County**	Facility Name	**Wyomissing Valley WWTP**
Applicant Address	701 Old Wyomissing Road	Facility Address	701 Old Wyomissing Road
	Reading, PA 19611-1513		Reading, PA 19611-1513
Applicant Contact	David Wisser, Authority Mgr.	Facility Contact	David Wisser
Applicant Phone	(610) 376-1756, dwisser@jmawv.com	Facility Phone	(610) 376-1756
Client ID	87469	Site ID	257997
Ch 94 Load Status		Municipality	Reading City
Connection Status		County	Berks
Date Application Received	March 15, 2024	EPA Waived?	No
Date Application Accepted	March 20, 2024	If No, Reason	Major Facility
Purpose of Application	Renewal of NPDES permit		

Summary of Review

The existing permit was issued September 25, 2019, with a minor amendment issued January 20, 2021 for an interim due date in a compliance schedule. The renewal application was received on March 15, 2024 using DEP's electronic Public Upload system, Reference ID #218955. The existing permit was administratively extended past its expiration date of September 30, 2024.

As the result of a Pre-Draft Survey sent to the permittee for proposed new Water Quality-Based Effluent Limits, additional effluent sample results were submitted to DEP February 18, 2025, via email.

This Sewage Treatment Plant (STP) serves Borough of Wyomissing, Borough of West Reading, Borough of Shillington, Borough of Mohnton, Township of Spring, and Cumru Township, all of whom own their separate collection systems. Borough of Wyomissing is the largest contributor. According to the application, they are not proposing a modification or addition of the existing facility.

Design Flow

The existing permit's limits were based on a design flow of 4.0 MGD. The draft renewal permit includes the same design flow of 4.0 MGD.

DMRs from the last 3 years (1/1/2022-11/30/2024) indicate an average flow of 2.3 MGD and a Maximum Monthly Average flow of 3.3 MGD. (See attached.)

Combined Sewers

Not Applicable.

Approve	Deny	Signatures	Date
x		*Bonnie Boylan* Bonnie Boylan / Environmental Engineering Specialist	February 23, 2025
x		*Maria D. Bebenek* for Daniel W. Martin, P.E. / Environmental Engineer Manager	March 7, 2025
x		*Maria D. Bebenek* Maria D. Bebenek, P.E. / Environmental Program Manager	March 7, 2025

Industrial/Commercial Users

The 2024 NPDES renewal application indicated there were no industrial users (IUs). Attachment E of the 2023 Chapter 94 Municipal Wasteload Report (the most recent Chapter 94 Report) included the following contributors:

JOINT MUNICIPAL AUTHORITY OF WYOMISSING VALLEY
INDUSTRIAL/COMMERCIAL WASTE INVENTORY

Industry	Product or Service	Waste Volume (gpd)
SFS Intec	Manufacturer or Metal Fasteners	850
DeMet's Candy Company	Candy Manufacturer	2,000
Reading Hospital and Medical Center	Hospital	275,000
R. M. Palmer Company	Candy Manufacturer (three locations)	
	Wyomissing Location	21,100
	West Reading Locations (2)	4,900
	Total	303,850

The same Chapter 94 Municipal Wasteload Report included the following users (from the Shillington collection system):

JMA Service Area - Chapter 94 Report			Non-Residential Flows in the Borough of Shillington			2023 Operating Year
Name	**Building Type**	**Nature of Business/Waste**	**Location**	**Mailing Address**	**2023 Average Flow (GPD)**	**2023 Equivalent EDUs***
MCP Group, LLC	Commercial	Cleaning Suppy Warehouse	330 Trout Lane	MCP Group, c/o Richard McPhillips 266 Morris Street Phoenixville, PA 19460	8.20	0.060
Arthur Turaj	Commercial	Apartment/ Business	401 Madison Street	Same	2168.18	15.83
Hahn FS, LLC	Commercial	Security Companies	50 S. Museum Road	Same	391.42	2.86
Anantrai K. Sutaria	Commercial	Apartments	10 S. Museum Road	82 Sycamore Road, Reading PA 19606	100.42	0.73
JRL Lofts	Commercial	Apartments	18 Catherine Street	Same	549.22	4.01
Berks Property Management	Commercial	Apartments/ Businesses	31 Catherine Street	Same	647.58	4.73
Todd Lengle, Inc.	Commercial	Businesses	50 South Brobst Street	Same	116.81	0.85
DMJ, LLC	Commercial	Moving Company	330 North Wyomissing Avenue	Same	118.86	0.87
Pair of Aces	Commercial	Vacant	105 North Wyomissing Avenue	711 Spring Street, Wyomissing, PA 19610	0.00	0.00
Ken & M Properties LLC (201 West)	Commercial	Restaurant	201 West Lancaster Avenue	Same	303.30	2.21
Ken & M Properties LLC (Apartment A)	Commercial	Apartment	201 West Lancaster Avenue	Same	22.54	0.16
Ken & M Properties LLC (Apartment B)	Commercial	Apartment	201 West Lancaster Avenue	Same	67.63	0.49
Riverfront Federal Credit Union	Commercial	Bank	2001 Museum Road	Same	20.49	0.15
WAWA	Commercial	Gas Station	2005 Museum Road	PO Box 1028, Mandan, ND 58554	1174.26	8.57
Buck Mason, Inc.	Industrial	Apparel Manufacturing	130 North Sterley Street	7175 Willoughby Ave. Los Angeles, CA 90046	36.89	0.27
Lasalle Academy	Public/Inst.	School	430 Holland Street	440 Holland Street	575.86	4.20
Governor Mifflin School District (Community / Athletic Building)	Public/Inst.	School	50 South Waverly Street	10 South Waverly Street	190.59	1.39
Governor Mifflin School District (Education Center)	Public/Inst.	Education Center	10 South Waverly Street	Same	190.59	1.39
Governor Mifflin School District (Middle School)	Public/Inst.	Middle School	130 East Lancaster Avenue	10 South Waverly Street	1403.78	10.25

EPA Pretreatment Program

Not required in existing permit or in draft renewal permit based on contributors of wastewater.

Hauled-in Wastes

None received in past three years per their application. Their application did not include a response to whether they anticipated accepting hauled-in waste over next 5 years.

Variances

There were no variances requested.

Sludge use and disposal

Sludge is dewatered using a centrifuge and dryer. Biosolids are land applied to several farms. The facility was issued the following biosolids general permits by PADEP: PAG073556 (Beneficial Use of Exceptional Quality Sewage Sludge by Land Application) and PAG083502 (Beneficial Use of Non-Exceptional Quality Sewage Sludge by Land Application). Screenings and grit have been disposed at a landfill.

Delaware River Basin Commission (DRBC)

The discharge is within the Delaware River watershed. A copy of the draft permit and Fact Sheet will therefore be sent to the DRBC for their review in accordance with State regulations and an interagency agreement. Any comments from the DRBC will be considered.
The most recent DRBC docket #D-1991-009 CP-6 was approved for this facility on March 11, 2020 and expires on September 30, 2024.

Outstanding Violations

As of the writing of this Fact Sheet, there is one outstanding violation for this client according to DEP's Compliance History Summary report by client: an unauthorized discharge of sewage to waters of the Commonwealth from December 18, 2023.

The draft permit can still be issued. DEP will work with the permittee and Clean Water Operations to resolve the violation before the final permit is issued.

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)	4.0
Latitude	40° 19' 42.52" (40.328478)	Longitude	-75° 56' 34.83" (75.943008)
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Wyomissing Creek (CWF)	Stream Code	01833
NHD Com ID	25992888	RMI	0.26
Drainage Area	15.6 sq.mi.	Yield (cfs/mi^2)	0.25
Q_{7-10} Flow (cfs)	3.9	Q_{7-10} Basis	USGS Stream Stats online (see attached)
Elevation (ft)	205', estimated (eMapPA)	Slope (ft/ft)	
Watershed No.	3-C	Chapter 93 Class.	CWF
Existing Use	None	Existing Use Qualifier	None
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Impaired for aquatic life - Assessment ID 22928		
Cause(s) of Impairment	Siltation, Habitat Alterations, Flow Regime Modification		
Source(s) of Impairment	Urban Runoff/Storm Sewers		
TMDL Status	Final (Final date: 12/9/2004)	Name	Wyomissing Creek

Secondary Waters: Wyomissing Creek empties into Schuylkill River at RMI 75.5, WWF. The River is impaired for fish consumption due to PCBs.

Background/Ambient Data		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)	184 mg/l	Permittee's application: average of 3 stream samples upstream of outfall 001

Nearest Downstream Public Water Supply Intake		Pottstown Borough Water Authority (12 MGD)*	
PWS Waters	Schuylkill River	Flow at Intake (cfs)	
PWS RMI	57, approx. *	Distance from Outfall (mi)	Approximately 19 miles*

*There is also a surface water withdrawal indicated on eMapPA approximately 10 miles downstream of outfall 001, on the Schuylkill River: PA American Water Glen Alsace Exeter Water System, a water purveyor. It appears the surface water withdrawal is inactive; not sure if permanently inactive.

Other Comments:

No Class A Wild Trout Fish classification for receiving water but it is considered 'Trout Natural Reproduction'

No Treatment Plants upstream, in proximity; closest sewage treatment plant is Reading Fritz Island WWTP (PA0026549) approximately 3 miles downstream on the Schuylkill River

Treatment Facility Summary

Treatment Facility Name: Wyomissing Valley STP

WQM Permit No.	Issuance Date
0690411 A-6	10/15/2021
0690411 A-5	5/28/2015
0690411 11-1	8/18/2011
0690411 Amend.	3/21/2007
0690411 Amend.	3/22/2002
0690411 Amend.	6/27/2000

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Activated Sludge	UV Disinfection	4.0

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
4.0	9674		Aerobic Digestion	Land Application

Per renewal application description:

1 Screenings Removal System, 1 Grit Removal System, 1 Pre-aeration tank, 2 Raw Sewage wetwells, 3 Raw Sewage Pumps, 1 Flow Division Box, 4 Primary Clarifiers, 3 Primary Effluent Pumps, 2 Trickling Filters, 1 Aeration Tank, 4 Final Clarifiers, 2 Ultraviolet Disinfection Channels, 2 Anaerobic Digesters, 1 Centrifuge, 1 Thermal Dryer

Polymers for sludge thickening
Master Cat 4244 and MasterMet for Copper removal

Continuous discharge

High Flow Management Plan: sluice gates and slide gates are opened by SCADA if plant flows are > 7.0 MGD or if the Auger Monster fails. 24-hr composite influent and effluent sampling will start.

EXISTING PERMIT LIMITS, OUTFALL 001:

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Daily Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.1	XXX	0.3	1/week	Grab
CBOD5	667	1000	XXX	20.0	30.0	40	2/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/week	24-Hr Composite
TSS	1000	1334	XXX	30.0	40.0	60	2/week	24-Hr Composite
Total Dissolved Solids	XXX	XXX	XXX	XXX	1000.0 Daily Max	XXX	1/quarter	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/week	Grab
UV Transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
Ammonia Nov 1 - Apr 30	300	XXX	XXX	9.0	XXX	18	2/week	24-Hr Composite
Ammonia May 1 - Oct 31	100	XXX	XXX	3.0	XXX	6	2/week	24-Hr Composite
Total Copper	0.7	0.8 Daily Max	XXX	0.021	0.024 Daily Max	XXX	1/week	24-Hr Composite
Toxicity, Chronic – Ceriodaphnia Survival (TUc)	XXX	XXX	XXX	XXX	1.7 Daily Max	XXX	See Permit	See Permit
Toxicity, Chronic - Ceriodaphnia Reproduction (TUc)	XXX	XXX	XXX	XXX	1.7 Daily Max	XXX	See Permit	See Permit

EXISTING PERMIT: No limits or monitoring requirements for Outfall 002.

Compliance History

DMR Data for Outfall 001 (from November 1, 2023 to October 31, 2024)

Parameter	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23
Flow (MGD) Average Monthly	1.840	1.964	2.267	2.081	1.991	2.216	3.066	3.050	2.44	3.263	2.904	2.078
Flow (MGD) Daily Maximum	1.949	2.186	3.620	2.646	2.533	2.636	6.985	4.885	2.942	6.735	6.557	3.098
pH (S.U.) Instantaneous Minimum	6.7	6.5	6.6	6.6	6.6	6.5	6.7	7.0	6.9	6.8	6.8	6.6
pH (S.U.) Instantaneous Maximum	7.1	7.1	7.3	7.3	7.2	7.1	7.5	7.4	7.3	7.3	7.3	7.3
DO (mg/L) Instantaneous Minimum	9.2	8.6	7.9	7.2	8.5	9.1	6.9	9.8	9.6	8.8	6.8	9.7
TRC (mg/L) Average Monthly	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TRC (mg/L) Instantaneous Maximum	0.05	0.06	< 0.05	< 0.05	0.05	0.08	0.06	0.06	< 0.05	< 0.1	< 0.05	< 0.1
CBOD5 (lbs/day) Average Monthly	29	37	43	41	47	94	91	85	84	109	< 109	56
CBOD5 (lbs/day) Weekly Average	32	41	72	51	53	129	126	141	101	247	< 178	100
CBOD5 (mg/L) Average Monthly	1.9	2.3	< 2.0	2.4	2.9	5.0	3.4	3.3	4.1	3.5	< 3.2	< 3.4
CBOD5 (mg/L) Weekly Average	2.0	2.5	2.5	3.0	3.0	6.5	4.5	4.5	5.0	5.0	3.9	6.1
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	5063	5212	5597	5823	5439	5352	5525	5850	6460	6854	6286	8105
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	5664	5694	7477	7102	5961	5873	7215	6535	6851	8959	7754	14667
BOD5 (mg/L) Raw Sewage Influent Average Monthly	350	339	290	340	332	295	217	240	322	260	243	511

TSS (lbs/day) Average Monthly	115	179	198	133	201	307	331	178	180	235	279	118
TSS (lbs/day) Raw Sewage Influent Average Monthly	5290	6359	6340	6295	348	5167	6254	7156	6766	5876	5876	5421
TSS (lbs/day) Raw Sewage Influent Daily Maximum	6382	7530	10160	9621	436	6117	8810	15349	10943	9043	8408	8408
TSS (lbs/day) Weekly Average	159	218	318	165	308	546	432	251	202	450	459	220
TSS (mg/L) Average Monthly	7.4	11.0	9.5	7.8	12.3	16.5	13.3	7.0	8.9	7.9	8.1	7.1
TSS (mg/L) Raw Sewage Influent Average Monthly	365	413	328	369	5695	284	244	281	338	228	233	338
TSS (mg/L) Weekly Average	10.0	13.5	11.0	10.0	17.5	28.5	22.0	9.0	10.0	9.0	11.5	13.5
Total Dissolved Solids (mg/L) Daily Maximum		882.0			782.0			639.0			730.0	
Fecal Coliform (No./100 ml) Geometric Mean	< 9	< 4	< 4	< 18	< 43	< 14	< 14	7	< 3	< 4	< 3	< 7
Fecal Coliform (No./100 ml) Instantaneous Maximum	109	62	44	1060	3300	200	48	15	10.0	18	70	98
UV Transmittance (%) Daily Minimum	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0
Ammonia (lbs/day) Average Monthly	1	1	9	2	6	8	14	21	40	56	24	9
Ammonia (mg/L) Average Monthly	0.1	0.1	0.32	0.14	0.3	0.4	0.34	0.7	2.0	1.8	0.6	0.55
Total Copper (lbs/day) Average Monthly	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.08
Total Copper (lbs/day) Daily Maximum	0.2	0.3	0.5	0.2	0.3	0.5	0.4	0.3	0.2	0.6	0.6	0.1
Total Copper (mg/L) Average Monthly	0.010	0.015	0.010	0.010	0.014	0.016	0.011	0.007	0.010	0.007	0.007	0.005
Total Copper (mg/L) Daily Maximum	0.012	0.017	0.016	0.011	0.016	0.029	0.019	0.009	0.012	0.010	0.011	0.006

Chronic WET - Ceriodaphnia Survival (TUc) Daily Maximum		GG			1.69			GG			GG	
Chronic WET - Ceriodaphnia Reproduction (TUc) Daily Maximum		GG			1.69			GG			GG	

Compliance History

Effluent Violations for Outfall 001, from January 1, 2021 to October 31, 2024:

Parameter	Date	Statistical Base Code (SBC)	DMR Value	Units	Limit Value	Units
Fecal Coliform	07/31/24	IMAX	1060	No./100 ml	1000	No./100 ml
Fecal Coliform	06/30/24	IMAX	3300	No./100 ml	1000	No./100 ml
Total Copper	05/31/24	Daily Max	0.029	mg/L	.024	mg/L
Fecal Coliform	8/31/2023	IMAX	3100	No./100 ml	1000	No./100 ml
Total Suspended Solids	2/28/2022	Wkly. Avg.	41	mg/L	40	mg/L

Unauthorized Discharges of Sewage from January 1, 2021 to October 31, 2024:

Nine, most of which were due to heavy rain. Non-operational pump was cited by the permittee 3 out of the 9 times. (See attached: Bypass information supplied in the permit renewal application.)

Summary of Recent DEP Inspections:

7/16/2024 – No biosolids distributed under the PAG-08 in 2024. All biosolids dried and land applied under the PAG-07. Pollutant samples are collected monthly and sent to PSU for analysis. Temperature and %TS of the dried biosolids is recorded each day the dryer is run.

8/4/2021 – No violations noted. 3 raw sewage pumps in total. Treatment units are online. Effluent samples are collected post UV channel. Centrifuge is offline for repair. Use ultrasonic flow meter and 7-day chart for flow recording. Has stand-by power: emergency generator which is exercised under load weekly. Alarm: Auto dialer SCADA. No hauled-in wastes are accepted. The receiving stream was clear, no scum, sheen, foam, or oil and grease.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 4.0
Latitude 40º 19' 42.52" **Longitude** -75º 56' 34.83"
Wastewater Description: Sewage Effluent

Permit limits can be Technology Based Effluent Limitations or Water Quality Based Effluent Limitations. Both are discussed in this Fact Sheet, in separate sections. Existing permit limits can also be carried forward in accordance with anti-backsliding provisions.

Technology-Based Effluent Limitations (TBELs)

Federal Effluent Limitation Guidelines (ELGs): not applicable

The following technology-based limitations apply to sewage dischargers, where applicable:

	Limit (mg/l)	Statistical Base Code	Federal Regulation	State Regulation	DRBC*
$CBOD_5$	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 (TSS)	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 (TRC)	0.5	Average Monthly	-	92a.48(b)(2)	
Total Phosphorus**	2.0	Avg. Monthly		96.5(c)	
Total Dissolved Solids (TDS)	2000 mg/l if increase TDS load by more than 5000 lbs/day from Aug 2010 baseline load, unless granted a waiver	Average Monthly		95.1	
Total Dissolved Solids (TDS)	1000 ***	"not to exceed"	-	-	based on 18 CFR Part 410
Ammonia as N	20	Average Monthly	-	-	18 CFR Part 410

*DEP has an interagency agreement with the Delaware River Basin Commission (DRBC) and incorporates their requirements (18 CFR Part 410 Water Quality Regulations and approved dockets) into our permits where appropriate.

**applicable to discharges to a receiving water that is known to be impaired for nutrients.

***or a concentration established by the Commission which is compatible with designated water uses and stream quality objectives and recognizes the need for reserve capacity to serve future dischargers (i.e. a limit based on a TDS

Determination submitted to DRBC proving that the discharge will not cause the TDS in the receiving water to exceed the lesser of 500 mg/l or 133% of background. The DRBC docket for this facility does not include such a TDS variance).

The existing permit limits for **$CBOD_5$ and TSS** are more stringent than the TBELs in the above table and have been carried forward into the draft renewal permit.

The **pH** and **Fecal Coliform** TBELs shown in the above table are included in the draft renewal permit. They are the same limits as in the existing permit.

Total Residual Chlorine (**TRC**):
Although the facility uses UV disinfection instead of chlorine disinfection, it utilizes sodium hypochlorite for the plant water system. For this reason, TRC limits are included in the draft renewal permit and were included in the existing permit. The draft renewal permit includes more stringent limits for TRC than the TBELs shown in the above table: see the Water Quality Based Effluent Limitations section of the Fact Sheet.

Total Phosphorus (**TP**):
Because the receiving water has not been assessed as impaired for nutrients, the TP limit shown in the above table has not been included in the draft renewal permit, nor was it included in the existing permit.

Total Dissolved Solids (**TDS**):
The TDS limit in the existing permit has been carried forward: 1000 mg/l as a Daily Maximum. The monitoring frequency of quarterly has been carried forward from the existing permit. The facility's DMRs from January 1, 2022 through November 30, 2024 show an average discharge concentration of 728.6 mg/l and a daily maximum concentration of 882 mg/l.

Ammonia:
The existing permit limits for **Ammonia** are more stringent than the TBELs in the above table and have been carried forward into the draft renewal permit.

Best Professional Judgment (BPJ) Limitations

None.

Water Quality-Based Limitations

Wyomissing Creek TMDL:

DEP developed a Total Maximum Daily Load (TMDL) in 2004 to address use impairments caused by siltation that were identified in the Wyomissing Creek watershed. The TMDL was approved by U.S. EPA on December 9, 2004. The TMDL attributes the impairment to siltation "related to urban runoff/storm sewers and small residential runoff." A total wasteload allocation (WLA) for the sediment was determined to be 3,747,238.13 lbs. per year. The TMDL does not include a specific WLA for this facility.

The same TSS limits, both concentration and mass load limits, in the existing permit are included in the draft renewal permit. Consistent with DEP's SOP for Establishing Effluent Limitations for Individual Sewage Permits, no increase in the loading of pollutants associated with the impairment is authorized in the draft renewal permit. The permit reopener clause included in Part C of the existing permit will also be carried forward:

> DEP developed a Total Maximum Daily Load (TMDL) in 2004 to address impairments identified in the Wyomissing Creek watershed. In case the TMDL is modified to include any permit requirements for this facility, DEP may reopen this permit during the permit term.

For documentation, the average TSS concentration and load according to the DMRs from November 1, 2022 through November 30, 2024 were 244.8 mg/l and 2977 lbs/day, respectively (see attached DMR summary).

WQBELs other than TMDLs:

DEP uses a model known as **WQM 7.0** to determine appropriate limits for CBOD5, Ammonia (NH3-N), and Dissolved Oxygen (DO). DEP's 'Implementation Guidance for Section 93.7 Ammonia Criteria', document #386-2000-022, provides the methods and calculations contained in the WQM 7.0 model for conducting wasteload allocation and for determining recommended NPDES effluent limits for point source discharges. For more explanation of the WQM 7.0 model, see 'Technical Reference Guide WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen', document #386-2000-016. Because there are no other nearby sewage treatment plants on Hay Creek, no other discharges were included in the model simulation.

The source of the River Mile Indices (RMI's) and elevations that were used in the WM 7.0 model (and TMS model discussed below) was DEP's eMapPA while the source of the Drainage Areas and stream design low-flows was the USGS PA Stream Stats online tool (see attached). Low Flow Yield (LFY) is calculated as stream low-flow Q7-10 divided by Drainage Area.

Because this is an existing discharger who is not expanding, the model was not re-run using a DO goal of 8 mg/l despite its discharge to a 'CWF with naturally reproducing salmonid in early life stages' designated stream, consistent with DEP's Standard Operating Procedure (SOP) Establishing Effluent Limitations in Individual Sewage NPDES Permits.

DEP's uses a **TRC model** (Excel spreadsheet) to determine WQBELs for TRC: the model utilizes the equations and calculations provided in DEP's 'Implementation Guidance Total Residual Chlorine (TRC) Regulation' for TRC, document #386-2000-011.

DEP uses a model called the **Toxics Management Spreadsheet** (TMS) for toxic pollutants. It is a macro-enabled Excel version of DEP's former PENTOX model. It evaluates the reasonable potential for discharges to cause in-stream exceedances of water quality criteria and recommends Water Quality-Based Effluent Limitations (WQBELs) be imposed as permit limits and may recommend monitoring be required (without limits) for some parameters to better evaluate 'reasonable potential' to cause an in-stream exceedance of a water quality criteria. The TMS is coded to recommend limits in the draft permit when the discharge concentration input value equals or exceeds 50% of the calculated WQBEL. The TMS is coded to recommend a monitoring requirement (without limits) in the draft permit when the discharge concentration is between 25% and 50% of the WQBEL in the case of non-conservative pollutants or between 10% and 50% of the WQBEL in the case of conservative pollutants. For more explanation of the TMS / PENTOX model, see Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, document #386-2000-015.

When there are less than 10 data points, the maximum effluent concentration of the available data (such as from the permit application and from DMRs) is used by DEP as the discharge concentration input value in the TMS, with the exception of discharge Hardness for which the average effluent concentration is typically used.

When there are more than 10 discrete data points (i.e. not statistically manipulated data which includes monthly average concentrations), DEP generally uses a statistical spreadsheet known as **TOXCONC** to derive the discharge concentration to use in the TMS model. The TOXCONC Spreadsheet incorporates EPA-approved statistical methodology to calculate the Long Term Average Monthly Effluent Concentration (LTAMEC) with 99% confidence and the daily Coefficient of Variability (CV) from data entered.

For this Fact Sheet, more than 10 discrete data points were available for Total Copper. The discrete data points used in the TOXCONC evaluation were from the facility's recent Daily Effluent Supplemental DMRs. See the attached TOXCONC input values and results.

Some default values were used in the models in the absence of reliable site-specific data including:

Stream Temperature = 20°C
Stream pH = 7 s.u.
Background $CBOD_5$ in stream = 2 mg/l
Background Ammonia in stream = 0 mg/l
Background DO in stream = 8.24 mg/l
Background stream concentrations for toxic parameters = 0 ug/l
Stream chlorine demand = 0.3

Discharge chlorine demand = 0
Discharge Temperature = 25°C
Discharge pH = 7 s.u.
Coefficient of Variability in data = 0.5 except for input values derived from TOXCONC

In addition the WQM 7.0 and TMS models estimated the stream width, depth, and velocity.

The following limitations and monitoring requirements were determined through water quality modeling (input values used and output files attached). See also the discussion below the tables:

Parameter	Limit (mg/l)	Statistical Base Code	Model
Total Residual Chlorine (TRC)	0.1 / 0.3	Avg.Monthly / IMAX	TRC Excel Spreadsheet
CBOD5	20 *	Average Monthly	WQM 7.0
Dissolved Oxygen (DO)	5.0 *	Minimum	WQM 7.0
Ammonia	3 / 6 *	Avg.Monthly / Max.	WQM 7.0

*the model defaulted to the existing permit limits meaning no more stringent limits are necessary to protect the receiving water

Parameter	units	Average Monthly	Daily Maximum	Instant. Maximum	Model
Total Aluminum	*ug/l*	*784*	*1223*	*1959*	Toxics Management Spreadsheet (TMS)
Total Copper	**mg/l**	0.026	0.034	0.034	Toxics Management Spreadsheet (TMS)
Free Cyanide	ug/l	Report	Report	Report	Toxics Management Spreadsheet (TMS)
Dissolved Iron	ug/l	Report	Report	Report	Toxics Management Spreadsheet (TMS)
Total Selenium	ug/l	Report	Report	Report	Toxics Management Spreadsheet (TMS)
Total Thallium	*ug/l*	*0.39*	*0.61*	*0.98*	Toxics Management Spreadsheet (TMS)
Total Zinc	**mg/l**	Report	Report	Report	Toxics Management Spreadsheet (TMS)

TRC:

DEP's model yielded the same WQBELs as in the existing permit: 0.1 mg/l as a monthly average and 0.3 mg/l as an instantaneous maximum. After reviewing the DMR data from January 1, 2022 through November 30, 2024, for TRC (see attached), the sampling frequency of once per week in the existing permit has not been changed.

$CBOD_5$, DO, Ammonia:

The WQM 7.0 model indicated that the existing permit limits for CBOD5, DO, and Ammonia are still protective of water quality and have been carried forward. Because Ammonia is less toxic in cold water, the existing permit and the draft renewal permit include Ammonia limits during cold months that are three times the limits for warm months.

Total Aluminum:

Because the WQBELs recommended by the TMS model for Total Aluminum would be new permit limits, a Pre-Draft Survey was sent to the permittee to obtain their input relevant to meeting the new limits. The permittee responded: a) they were not certain that they could immediately meet the above WQBELs for Total Aluminum or when they could meet the above WQBELs for Total Aluminum, b) they use Aluminum Hydroxy Chloride to remove Total Copper, and c) they forwarded 4 new effluent samples for Total Aluminum. The maximum concentration of the new effluent samples was 0.68 mg/l, higher than the effluent concentration in the application (0.61 mg/l) for Total Aluminum.

Re-running the TMS model with 0.68 mg/l as the influent variable did not change the model's calculated results (see attached). The WQBELs in the above table for Total Aluminum have been included in the draft permit but a compliance schedule has also been included, consistent with DEP's SOP Establishing Water-Quality Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants in NPDES Permits for Existing Dischargers. The draft permit also includes in Part C the option to gather site-specific data to replace default values used in DEP's model simulations thereby refining the accuracy of the WQBELs, a requirement for a Toxics Reduction Evaluation (TRE) for Total Aluminum given that the permit limits are new WQBELs, and interim due dates given that the compliance schedule exceeds one

year. A compliance schedule of three years was proposed to allow time for the site-specific data gathering if such option were chosen; time to conduct the TRE; time for a draft permit amendment to be prepared and published by DEP if warranted, with a mandatory 30-day comment period, then finalized and issued; time for the permittee to determine necessary changes in chemical treatment and dosages to achieve both the Total Copper and Total Aluminum permit limits.

Total Copper:

Total Copper permit limits were included in the existing permit and are more stringent than the WQBELs in the above table. In accordance with anti-backsliding provisions, the existing permit limits of 0.021 mg/l as a monthly average and 0.024 mg/l as a daily maximum are carried forward in the draft renewal permit. Since the facility's Total Copper limits went into effect October 1, 2022, the DMRs indicate that there have been no exceedances of the monthly average limit and only one exceedance of the daily maximum limit. Whereas an instantaneous maximum limit of 0.024 mg/ was not included in the existing permit, an instantaneous maximum limit for Total Copper has been added in the draft renewal permit (the previous model used by DEP, PENTOXSD, did not provide an Instantaneous Maximum whereas the TMS model does calculate a Daily Maximum and an Instantaneous Maximum).

Total Thallium:

Because the application sampling results were all 'non-detect' for Total Thallium but the Quantitation Level (also called a Reporting Level) reported in the application was greater than DEP's Target Quantitation Level (TQL) of 2 ug/l, the permittee was given the opportunity to re-sample the effluent for Total Thallium using a sufficiently sensitive analytical method. They chose to do so, with the additional four sample results attached to this Fact Sheet. The four new effluent samples were all non-detect with a Minimum Detection Level (MDL) of 0.3 ug/l. Therefore, no limit or monitoring requirement has been included in the draft renewal permit. The TMS simulation for the additional effluent samples is attached to this Fact Sheet.

Other Toxic Parameters:

The draft renewal includes a monitoring requirement for Free Cyanide, Dissolved Iron, Total Selenium, and Total Zinc, based on the TMS model's recommendations.

Anti-Backsliding

All permit limits proposed in this fact sheet are at least as stringent as permit limits specified in the existing permit renewal in accordance with 40 CFR §122.44(l)(1).

The Toxicity limits in the existing permit were eliminated because subsequent WET testing did not indicate a reasonable potential for toxicity. An anti-backsliding exception applies when information is available which was not available at the time of the previous permit's issuance and which demonstrates, as in this case, that there is not a reasonable potential to exceed water quality criteria. New discharge monitoring data constitutes such new information under the Clean Water Act 402(o)(2)(B)(i). The renewal permit requires continued WET testing, annually, and a Toxics Reduction Evaluation (TRE) and increased test frequency if there is failure of a re-test, but toxicity limits are not deemed necessary. See the WETT section of the Fact Sheet.

Mass Load vs. Concentration Limits

Consistent with the Technical Guidance for the Development and Specification of Effluent Limitations, document #386-0400-001, and the Standard Operating Procedure (SOP) for Establishing Effluent Limitations for Individual Sewage Permits, average monthly mass loading limits have been established for $CBOD_5$, TSS, and NH3, and average weekly mass loading limits have additionally been established for $CBOD_5$ and TSS.

Mass Loading Limitations

All effluent mass loading limits have been based on the formula: design flow x concentration limit x conversion factor of 8.34.

Sample Types and Frequencies

Sample Types and Frequencies are consistent with the Technical Guidance for the Development and Specification of Effluent Limitations, document #386-0400-001, and/or carried forward from the previous permit when deemed appropriate.

Flow Monitoring

The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii).

Influent BOD5 & TSS Monitoring

Influent monitoring for BOD5 and TSS are required by DEP in NPDES permits for major wastewater treatment facilities. The information is used for evaluating treatment performance and by DEP Sewage Planning (Act 537 Plans and Chapter 94 Municipal Loading Reports).

E. Coli Monitoring

Consistent with the SOP Establishing Effluent Limitations for Individual Sewage Permits and due to the regulatory change in the State Water Quality Standards, PA Code Chapter 93, E. Coli monitoring has been included in the draft renewal permit. The statutory basis for this requirement is provided at PA Code § 92a.61.

Total Nitrogen (TN) and Total Phosphorus (TP) Monitoring

In an effort to understand nutrient loading on PA streams, sewage dischargers with design flows greater than 2000 gpd are being required to at least monitor for TN and TP in new and reissued permits. The statutory basis for this requirement is provided at PA Code § 92a.61. Because Wyomissing Creek has not been identified as being a nutrient-impaired water, monitoring has been required on a monthly basis rather than more frequently.

TN and TP monitoring was not included in the existing permit. The permit renewal application indicated an average effluent TN concentration of 33.0 mg/l and an average TN load of 625 lbs/day, based on four samples. The permit renewal application indicated an average effluent TP concentration of 4.6 mg/l and an average TP load of 85.4 lbs/day, based on four samples.

Per- and Polyfluoroalkyl Substances (PFAS) Monitoring

The application did not include any sampling results for PFAS parameters. (DEP's previous application form was submitted, before the form was changed to include 4 PFAS parameters in the Pollutant Group tables.) DEP has initiated a policy to identify PFAS in discharges using 4 indicator parameters: Perfluorooctanoic acid (PFOA), Perfluorooctane sulfonic acid (PFOS), Perfluorobutane sulfonic acid (PFBS), and Hexafluoropropylene oxide dimer acid (HFPO-DA). A discharge monitoring requirement for these 4 indicator parameters is now included in newly-issued NPDES permits for many Major Sewage facilities, with a footnote allowing the monitoring to be discontinued if 4 consecutive monitoring periods indicate non-detect results at or below sufficiently sensitive Quantitation Levels. Consistent with instructions from DEP's Bureau of Clean Water Central Office, dated February 5, 2024, a yearly monitoring frequency for the 4 indicator PFAS compounds has been imposed in the draft renewal permit. Also, the general Pretreatment conditions in Part B.I.D.

have changed to require that facilities report to EPA industrial contributors to the treatment plant who fall within categories that are suspected of having PFAS in their wastewater.

Stormwater Requirements

Outfalls 001 and 002 discharge stormwater that requires coverage under a NPDES permit in accordance with 40 CFR §122.26(b)(14)(ix). DEP's standard conditions for stormwater discharges at major sewage treatment facilities has been included in the Part C Conditions, the same as in the existing permit: Best Management Practices (BMPs), a Pollution Prevention and Contingency (PPC) Plan, and routine inspections.

Other Permit Conditions

Conditions standard for Major Sewage facilities are included in Part C of the draft renewal permit, including restrictions of hauled-in wastes during periods of high flow, Solids Management requirements, and Whole Effluent Toxicity testing requirements.

TDS Baseline

In order to comply with Title 25 Pa Code § 95.10, which became effective in 2010, "maximum daily discharge loads of TDS authorized by the DEP prior to August 2010" from existing dischargers should be documented. These discharge levels will be considered existing mass loadings [§ 95.10(a)(1)]. Exempt from the 2000 mg/l TDS limit are TDS loadings "equal to or less than 5000 lbs/day measured as an average daily discharge over the course of a calendar year" [§95.10(a)(7)].

In 2010, this facility's NPDES permit recognized a design discharge flow of 4.0 MGD but did not require monitoring for TDS. The earliest eDMR data was for the last quarter of 2019 when 687 mg/l of TDS was reported. 687 mg/l x 4 MGD x 8.34 conversion factor results in 22,918 lbs/day of TDS. While 22,918 lbs/day is not an accurate baseline as of August 2010, it does suggest that the TDS load has not increased by more than 5000 lbs/day. The eDMRs from January 1, 2022 through December 31, 2024 yield an average TDS concentration of 729 mg/l and an average flow of 2.3 MGD, resulting in an average TDS load of 13,984 lbs/day.

Anti-degradation Requirements

All effluent limitations and monitoring requirements have been developed such that the designated stream uses and the level of water quality necessary to protect the designated uses are maintained and protected. No High Quality or Exceptional Value waters are impacted by this discharge.

303(d) Listed Streams – Impaired Waters

DEP's Integrated Water Quality Report is forwarded to the US EPA in compliance with Section 303(d) of the federal Clean Water Act for impaired waters. A portion of Wyomissing Creek was first assessed as an impaired water and appeared on the 303(d) list in 1996. More miles of stream since then have been identified as impaired due to siltation. See page 12 of the Fact Sheet for a discussion of the Wyomissing Creek TMDL. The draft renewal permit does not include any increased loading of TSS.

Whole Effluent Toxicity (WET)

For Outfall 001 ☐ **Acute** ☒ **Chronic** WET Testing was completed:

☐ For the permit renewal application (4 tests).
☐ Quarterly throughout the permit term.
☐ Quarterly throughout the permit term and a TIE/TRE was conducted.
☒ Other: **Annually**

The dilution series used for the tests was: 100%, 80%, 59%, 30% and 15%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 59%.

Summary of Four Most Recent Test Results

TST Data Analysis

Test Date	*Ceriodaphnia* Results (Pass/Fail)		*Pimephales* Results (Pass/Fail)	
	Survival	Reproduction	Survival	Growth
5/6/2024	Pass	Pass		
5/7/2024			Pass	Pass
4/25/2023	Pass	Pass	Pass	Pass
4/5/2022	Pass	Pass	Pass	Pass
4/20/2021	Pass	Pass	Pass	Pass

***** *A "passing" result is that in which the replicate data for the TIWC is not statistically significant from the control condition. This is exhibited when the calculated t value ("T-Test Result") is greater than the critical t value. A "failing" result is exhibited when the calculated t value ("T-Test Result") is less than the critical t value.*

Is there reasonable potential for an excursion above water quality standards based on the results of these tests?
(*NOTE – In general, reasonable potential is determined anytime there is at least one test failure in the previous four tests).*

☐ **YES** ☒ **NO**

Evaluation of Test Type, IWC and Dilution Series for Renewed Permit

Acute Partial Mix Factor (PMFa): 1 Chronic Partial Mix Factor (PMFc): 1 (PMFs from TMS model results)

1. Determine IWC – Acute (IWCa):

   $(Q_d \times 1.547) / ((Q_{7\text{-}10} \times PMFa) + (Q_d \times 1.547))$

   [(4.0 MGD x 1.547) / ((3.9 cfs x 1) + (4.0 MGD x 1.547))] x 100 = **IWCa%** = 61%

   Is IWCa < 1%? ☐ YES ☒ NO (YES - Acute Tests Required OR NO - Chronic Tests Required)

   Type of Test for Permit Renewal: **Chronic**

2b. Determine Target IWCc (If Chronic Tests Required)

   $(Q_d \times 1.547) / (Q_{7\text{-}10} \times PMFc) + (Q_d \times 1.547)$

   [(4.0 MGD x 1.547) / ((3.9 cfs x 1) + (4.0 MGD x 1.547))] x 100 = **TIWCc% = 61 %**

3. Determine Dilution Series

(NOTE – check Attachment C of WET SOP for dilution series based on TIWCa or TIWCc, whichever applies).

Dilution Series = 100%, 81%, 61%, 31%, and 15%.

WET Limits

Has reasonable potential been determined? ☐ YES ☒ NO

Will WET limits be established in the permit? ☐ YES ☒ NO

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 Effective Date + 3 Years.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.1	XXX	0.3	1/week	Grab
CBOD5	667	1000 Weekly Avg	XXX	20.0	30.0 Weekly Avg	40	2/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Suspended Solids	1000	1334 Weekly Average	XXX	30.0	40.0 Weekly Avg	60	2/week	24-Hr Composite
Total Dissolved Solids	XXX	XXX	XXX	XXX	1000.0	XXX	1/quarter	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/week	Grab
E. Coli (No./100 mL)	XXX	XXX	XXX	XXX	XXX	Report	1/month	Grab
UV Transmittance (%)	XXX	XXX	Report Daily Min.	XXX	XXX	XXX	1/day	Recorded
Ammonia Nov 1 - Apr 30	300	XXX	XXX	9.0	XXX	18	2/week	24-Hr Composite

Outfall 001, Effective Period: Permit Effective Date through Permit Effective Date + 3 Years.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Ammonia May 1 - Oct 31	100	XXX	XXX	3.0	XXX	6	2/week	24-Hr Composite
Nitrate-Nitrite	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Kjehldahl	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Nitrogen*	Report	XXX	XXX	Report	XXX	XXX	1/month	Calculation*
Total Phosphorus	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Aluminum	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Total Copper	0.7	0.8	XXX	0.021	0.024	0.024	1/week	24-Hr Composite
Free Cyanide	Report	XXX	XXX	Report	XXX	Report	1/month	Grab
Dissolved Iron	Report	Report	XXX	Report	Report	XXX	1/month	24-Hr Composite
Total Selenium	Report	Report	XXX	Report	Report	XXX	1/month	24-Hr Composite
Total Zinc	Report	Report	XXX	Report	Report	XXX	1/month	24-Hr Composite
PFOA (ng/l) **	XXX	XXX	XXX	XXX	XXX	Report **	1/year	Grab
PFOS (ng/l) **	XXX	XXX	XXX	XXX	XXX	Report **	1/year	Grab
PFBS (ng/l) **	XXX	XXX	XXX	XXX	XXX	Report **	1/year	Grab
HFPO-DA (ng/l) **	XXX	XXX	XXX	XXX	XXX	Report **	1/year	Grab

* Total Nitrogen is the sum of Total Kjeldahl Nitrogen (TKN) plus Nitrite-Nitrate as N (NO2+NO3-N), where TKN and NO2+NO3-N are measured in the same sample.

**The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive monitoring periods indicate non-detect results at or below Quantitation Limits of 4.0 ng/L for PFOA, 3.7 ng/L for PFOS, 3.5 ng/L for PFBS and 6.4 ng/L for HFPO-DA. When monitoring is discontinued, permittees must enter a No Discharge Indicator (NODI) Code of “GG” on DMRs

Compliance Sampling Location: Outfall 001

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 + 3 Years 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	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.1	XXX	0.3	1/week	Grab
CBOD5	667	1000 Weekly Avg	XXX	20.0	30.0 Weekly Avg	40	2/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
TSS	1000	1334 Weekly Avg	XXX	30.0	40.0 Weekly Avg	60	2/week	24-Hr Composite
Total Dissolved Solids	XXX	XXX	XXX	XXX	1000.0	XXX	1/quarter	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/week	Grab
E. Coli (No./100 mL)	XXX	XXX	XXX	XXX	XXX	Report	1/month	Grab
UV Transmittance (%)	XXX	XXX	Report Daily Min.	XXX	XXX	XXX	1/day	Recorded
Ammonia Nov 1 - Apr 30	300	XXX	XXX	9.0	XXX	18	2/week	24-Hr Composite

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Ammonia May 1 - Oct 31	100	XXX	XXX	3.0	XXX	6	2/week	24-Hr Composite
Nitrate-Nitrite	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Kjehldahl	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Nitrogen*	Report	XXX	XXX	Report	XXX	XXX	1/month	Calculation*
Total Phosphorus	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Aluminum	26.0	40.7	XXX	0.78	1.22	1.96	1/week	24-Hr Composite
Total Copper	0.7	0.8	XXX	0.021	0.024	0.024	1/week	24-Hr Composite
Free Cyanide	Report	XXX	XXX	Report	XXX	Report	1/month	Grab
Dissolved Iron	Report	Report	XXX	Report	Report	XXX	1/month	24-Hr Composite
Total Selenium	Report	Report	XXX	Report	Report	XXX	1/month	24-Hr Composite
Total Zinc	Report	Report	XXX	Report	Report	XXX	1/month	24-Hr Composite
PFOA (ng/l) **	XXX	XXX	XXX	XXX	XXX	Report **	1/year	Grab
PFOS (ng/l) **	XXX	XXX	XXX	XXX	XXX	Report **	1/year	Grab
PFBS (ng/l) **	XXX	XXX	XXX	XXX	XXX	Report **	1/year	Grab
HFPO-DA (ng/l) **	XXX	XXX	XXX	XXX	XXX	Report **	1/year	Grab

* Total Nitrogen is the sum of Total Kjeldahl Nitrogen (TKN) plus Nitrite-Nitrate as N (NO2+NO3-N), where TKN and NO2+NO3-N are measured in the same sample.

**The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive monitoring periods indicate non-detect results at or below Quantitation Limits of 4.0 ng/L for PFOA, 3.7 ng/L for PFOS, 3.5 ng/L for PFBS and 6.4 ng/L for HFPO-DA. When monitoring is discontinued, permittees must enter a No Discharge Indicator (NODI) Code of “GG” on DMRs.

Compliance Sampling Location: Outfall 001

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment)
☒	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☒	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☒	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☒	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☒	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☒	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☒	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☒	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 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, 386-2000-020, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 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, 386-2000-010, 3/1999.
☒	Design Stream Flows, 386-2000-003, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	EPA Technical Support Document for Water Quality-based Toxics Control (TSD), EPA/505/2-90-001, PB91-127415, March 1991.
☒	SOP: New and Reissuance Sewage Individual NPDES Permit Applications, Version 2.0, February 3, 2022
☒	SOP: Establishing Effluent Limitations in Individual Sewage NPDES Permits, Version 2.0, February 5, 2024
☒	SOP: Establishing Water-Quality Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants in NPDES Permits for Existing Dischargers. Version 1.5, May 20, 2021.
☒	SOP: Whole Effluent Toxicity (WET), No. BPNPSM-PMT-03, Revised, May 13, 2014.
☒	Other: DRBC docket D-1991-009 CP-6

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PADEP Chapter 94 Spreadsh
Sewage Treatment Plar

Reporting Year: 2023

Facility Name: Joint Municipal Authority of Wyomissing Valley

Permit No.: PA0026638

Persons/EDU: 3.5

Existing Hydraulic Design Capacity: 4 MGD
Upgrade Planned in Next 5 Years? NO **Year:**
Future Hydraulic Design Capacity: MGD

Existing Organic Design Capacity: 9,574 lbs BOD5/day
Upgrade Planned in Next 5 Years? NO **Year:**
Future Organic Design Capacity: lbs BOD5/day

Monthly Average Flows for Past Five Years (MGD)

Month	2019	2020	2021	2022	2023
January	3.04	2.459	2.177	2.062	2.327
February	2.913	2.435	2.442	2.355	2.099
March	3.17	2.334	2.571	2.164	2.14
April	2.656	2.498	2.194	2.704	2.082
May	2.983	2.219	1.986	2.392	2.118
June	3.196	2.118	1.98	2.095	1.963
July	2.75	2.287	2.151	2.075	2.313
August	2.373	2.424	2.301	1.911	2.069
September	2.193	2.014	2.971	1.964	2.293
October	2.35	2.044	2.12	2.055	2.05
November	2.364	2.076	2.074	1.91	1.997
December	2.542	2.278	1.98	2.315	2.904
Annual Avg	2.711	2.266	2.246	2.167	2.195
Max 3-Mo Avg	3.041	2.479	2.474	2.42	2.317
Max : Avg Ratio	1.12	1.09	1.10	1.12	1.06
Existing EDUs	8,462.0	8,475.0	8,479.0	8,498.0	8,506.0
Flow/EDU (GPD)	320.4	267.4	264.9	255.0	258.0
Flow/Capita (GPD)	91.5	76.4	75.7	72.9	73.7
Exist. Overload?	**NO**	**NO**	**NO**	**NO**	**NO**

Monthly Average BOD5 Loads for Past Five Years (lbs/day)

Month	2019	2020	2021	2022	2023
January	6,479	6,520	5,596	5,497	6,680
February	6,363	6,573	5,621	6,361	6,337
March	6,797	6,049	5,528	6,446	6,084
April	6,072	5,513	5,415	6,448	5,157
May	6,075	5,215	5,263	6,101	5,887
June	5,937	5,249	5,478	5,935	5,749
July	6,039	5,243	5,473	6,147	6,027
August	6,275	5,481	6,290	5,989	5,284
September	5,710	5,619	6,600	5,695	5,736
October	7,058	5,956	6,863	6,268	5,003
November	7,611	5,740	5,359	6,202	8,105
December	7,354	5,892	5,931	6,390	6,286
Annual Avg	6,481	5,754	5,785	6,123	6,028
Max Mo Avg	7,611	6,573	6,863	6,448	8,105
Max : Avg Ratio	1.17	1.14	1.19	1.05	1.34
Existing EDUs	8,462	8,475	8,479	8,498	8,506
Load/EDU	0.766	0.679	0.682	0.721	0.708
Load/Capita	0.219	0.194	0.195	0.206	0.202
Exist. Overload?	**NO**	**NO**	**NO**	**NO**	**NO**

Projected Flows for Next Five Years (MGD)

	2024	2025	2026	2027	2028
New EDUs	67.0	3.0	3.0	3.0	3.0
New EDU Flow	0.0183	0.0008	0.0008	0.0008	0.0008
Proj. Annual Avg	2.335	2.3358	2.3366	2.3374	2.3382
Proj. Max 3-Mo Avg	2.564	2.565	2.565	2.566	2.567
Proj. Overload?	**NO**	**NO**	**NO**	**NO**	**NO**

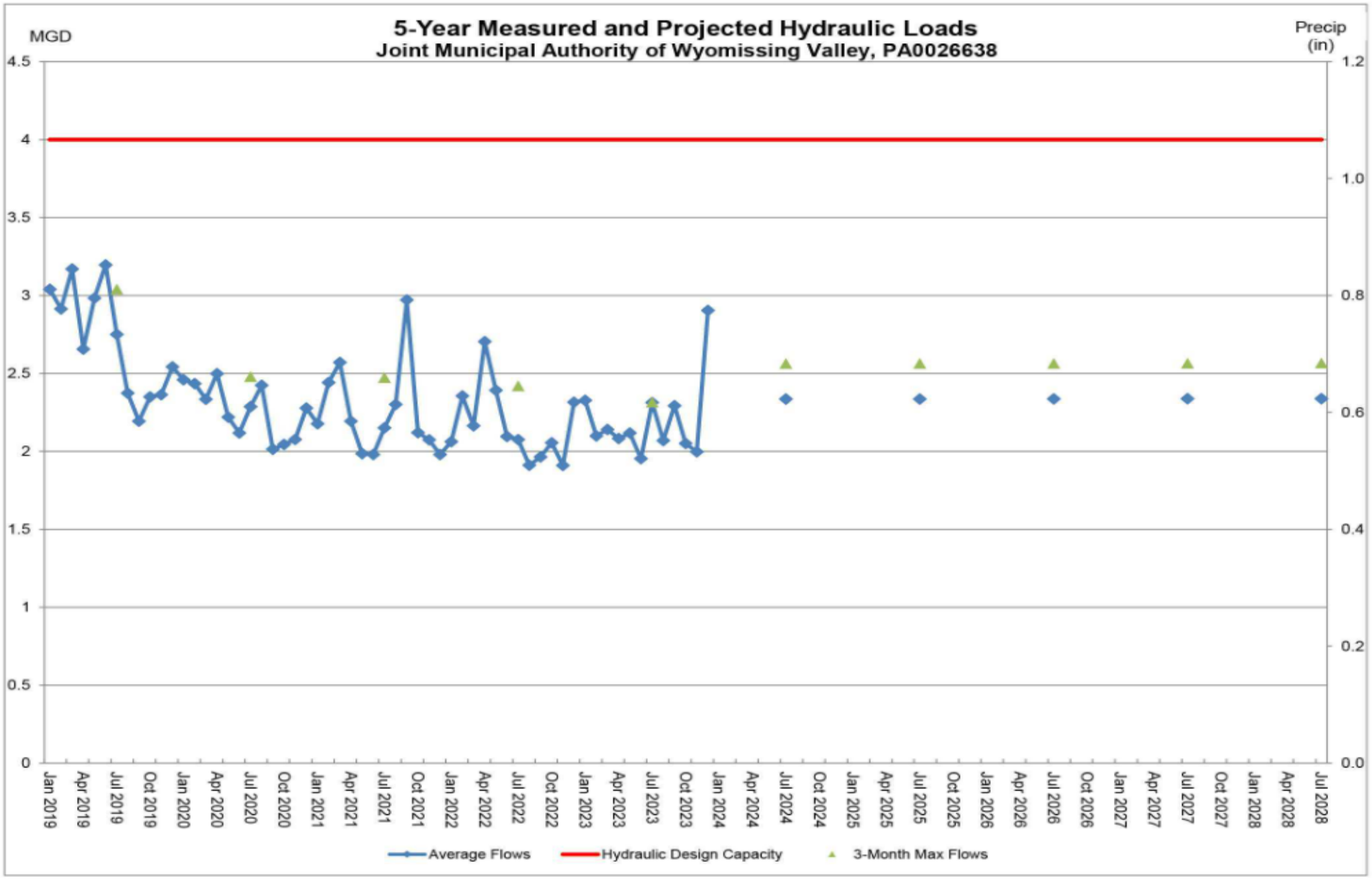
Projected BOD5 Loads for Next Five Years (lbs/day)

	2024	2025	2026	2027	2028
New EDUs	67	3	3	3	3
New EDU Load	47.652	2.134	2.134	2.134	2.134
Proj. Annual Avg	6,082	6,084	6,086	6,088	6,090
Proj. Max Avg	7,177	7,180	7,182	7,185	7,187
Proj. Overload?	**NO**	**NO**	**NO**	**NO**	**NO**

Show Precipitation Data on Hydraulic Graph?

Total Monthly Precipitation for Past Five Years (Inches)

Month	2019	2020	2021	2022	2023
January	2.13	2.92	2.01	3.0	3.29
February	2.8	2.83	4.82	3.68	1.42
March	5.08	7.57	5.92	2.94	3.39
April	4.56	12.14	4.21	8.77	6.84
May	10.34	5.39	5.22	8.19	2.6
June	10.56	6.12	5.48	6.48	5.63
July	6.7	10.82	11.56	8.48	12.6
August	4.99	12.37	1.98	1.18	6.65
September	3.06	5.09	3.28	6.74	10.42
October	8.38	4.74	5.41	6.84	3.69
November	1.7	3.58	1.97	3.24	2.58
December	2.91	4.07	1.03	4.91	8.06


5-Year Measured and Projected Hydraulic Loads
Joint Municipal Authority of Wyomissing Valley, PA0026638
MGD
Precip (in)
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Jan 2019
Apr 2019
Jul 2019
Oct 2019
Jan 2020
Apr 2020
Jul 2020
Oct 2020
Jan 2021
Apr 2021
Jul 2021
Oct 2021
Jan 2022
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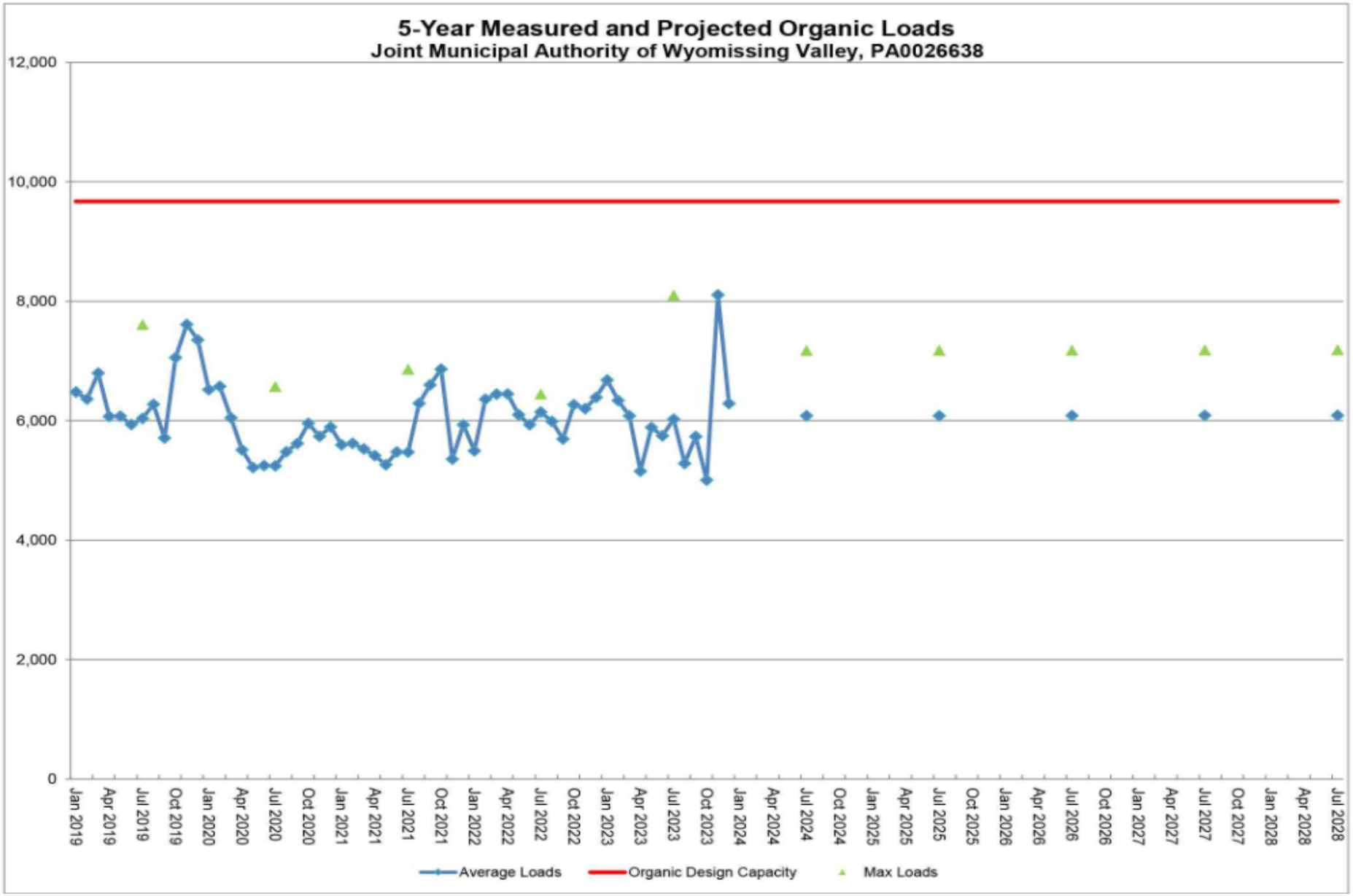
Oct 2027
Jan 2028
Apr 2028
Jul 2028
Average Flows
Hydraulic Design Capacity
3-Month Max Flows


5-Year Measured and Projected Organic Loads
Joint Municipal Authority of Wyomissing Valley, PA0026638
12,000
10,000
8,000
6,000
4,000
2,000
0
Jan 2019
Apr 2019
Jul 2019
Oct 2019
Jan 2020
Apr 2020
Jul 2020
Oct 2020
Jan 2021
Apr 2021
Jul 2021
Oct 2021
Jan 2022
Apr 2022
Jul 2022
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Jan 2026
Apr 2026
Jul 2026
Oct 2026
Jan 2027
Apr 2027
Jul 2027
Oct 2027
Jan 2028
Apr 2028
Jul 2028
Average Loads
Organic Design Capacity
Max Loads

PERMIT	MONITORING_	MONITORING_E	REPORT_F	OUTFALL	MONITOR	PARAMETE	LOAD_UNI	LOAD_1_VALU	LOAD_1_LIMIT	LOAD_1_SBC	LOAD_2_V	LOAD_2_L	LOAD_2_SBC
PA0026638	1/1/2022	1/31/2022	Monthly	001	Final Effl	Flow	MGD	2.086	Monitor and R	Average Mon	2.658	Monitor a	Daily Maximum
PA0026638	2/1/2022	2/28/2022	Monthly	001	Final Effl	Flow	MGD	2.2	Monitor and R	Average Mon	4.467	Monitor a	Daily Maximum
PA0026638	3/1/2022	3/31/2022	Monthly	001	Final Effl	Flow	MGD	2.068	Monitor and R	Average Mon	2.713	Monitor a	Daily Maximum
PA0026638	4/1/2022	4/30/2022	Monthly	001	Final Effl	Flow	MGD	2.67	Monitor and R	Average Mon	5.287	Monitor a	Daily Maximum
PA0026638	5/1/2022	5/31/2022	Monthly	001	Final Effl	Flow	MGD	2.399	Monitor and R	Average Mon	4.097	Monitor a	Daily Maximum
PA0026638	6/1/2022	6/30/2022	Monthly	001	Final Effl	Flow	MGD	2.116	Monitor and R	Average Mon	2.745	Monitor a	Daily Maximum
PA0026638	7/1/2022	7/31/2022	Monthly	001	Final Effl	Flow	MGD	2.112	Monitor and R	Average Mon	2.683	Monitor a	Daily Maximum
PA0026638	8/1/2022	8/31/2022	Monthly	001	Final Effl	Flow	MGD	2.028	Monitor and R	Average Mon	2.231	Monitor a	Daily Maximum
PA0026638	9/1/2022	9/30/2022	Monthly	001	Final Effl	Flow	MGD	2.067	Monitor and R	Average Mon	2.616	Monitor a	Daily Maximum
PA0026638	10/1/2022	10/31/2022	Monthly	001	Final Effl	Flow	MGD	2.152	Monitor and R	Average Mon	3.72	Monitor a	Daily Maximum
PA0026638	11/1/2022	11/30/2022	Monthly	001	Final Effl	Flow	MGD	2.027	Monitor and R	Average Mon	2.571	Monitor a	Daily Maximum
PA0026638	12/1/2022	12/31/2022	Monthly	001	Final Effl	Flow	MGD	2.349	Monitor and R	Average Mon	3.422	Monitor a	Daily Maximum
PA0026638	1/1/2023	1/31/2023	Monthly	001	Final Effl	Flow	MGD	2.341	Monitor and R	Average Mon	3.25	Monitor a	Daily Maximum
PA0026638	2/1/2023	2/28/2023	Monthly	001	Final Effl	Flow	MGD	2.14	Monitor and R	Average Mon	2.342	Monitor a	Daily Maximum
PA0026638	3/1/2023	3/31/2023	Monthly	001	Final Effl	Flow	MGD	2.218	Monitor and R	Average Mon	2.794	Monitor a	Daily Maximum
PA0026638	4/1/2023	4/30/2023	Monthly	001	Final Effl	Flow	MGD	2.144	Monitor and R	Average Mon	4.875	Monitor a	Daily Maximum
PA0026638	5/1/2023	5/31/2023	Monthly	001	Final Effl	Flow	MGD	2.118	Monitor and R	Average Mon	3.313	Monitor a	Daily Maximum
PA0026638	6/1/2023	6/30/2023	Monthly	001	Final Effl	Flow	MGD	1.999	Monitor and R	Average Mon	2.377	Monitor a	Daily Maximum
PA0026638	7/1/2023	7/31/2023	Monthly	001	Final Effl	Flow	MGD	2.396	Monitor and R	Average Mon	5.574	Monitor a	Daily Maximum
PA0026638	8/1/2023	8/31/2023	Monthly	001	Final Effl	Flow	MGD	2.164	Monitor and R	Average Mon	2.525	Monitor a	Daily Maximum
PA0026638	9/1/2023	9/30/2023	Monthly	001	Final Effl	Flow	MGD	2.385	Monitor and R	Average Mon	4.042	Monitor a	Daily Maximum
PA0026638	10/1/2023	10/31/2023	Monthly	001	Final Effl	Flow	MGD	2.156	Monitor and R	Average Mon	2.807	Monitor a	Daily Maximum
PA0026638	11/1/2023	11/30/2023	Monthly	001	Final Effl	Flow	MGD	2.078	Monitor and R	Average Mon	3.098	Monitor a	Daily Maximum
PA0026638	12/1/2023	12/31/2023	Monthly	001	Final Effl	Flow	MGD	2.904	Monitor and R	Average Mon	6.557	Monitor a	Daily Maximum
PA0026638	1/1/2024	1/31/2024	Monthly	001	Final Effl	Flow	MGD	3.263	Monitor and R	Average Mon	6.735	Monitor a	Daily Maximum
PA0026638	2/1/2024	2/29/2024	Monthly	001	Final Effl	Flow	MGD	2.44	Monitor and R	Average Mon	2.942	Monitor a	Daily Maximum
PA0026638	3/1/2024	3/31/2024	Monthly	001	Final Effl	Flow	MGD	3.05	Monitor and R	Average Mon	4.885	Monitor a	Daily Maximum
PA0026638	4/1/2024	4/30/2024	Monthly	001	Final Effl	Flow	MGD	3.066	Monitor and R	Average Mon	6.985	Monitor a	Daily Maximum
PA0026638	5/1/2024	5/31/2024	Monthly	001	Final Effl	Flow	MGD	2.216	Monitor and R	Average Mon	2.636	Monitor a	Daily Maximum
PA0026638	6/1/2024	6/30/2024	Monthly	001	Final Effl	Flow	MGD	1.991	Monitor and R	Average Mon	2.533	Monitor a	Daily Maximum
PA0026638	7/1/2024	7/31/2024	Monthly	001	Final Effl	Flow	MGD	2.081	Monitor and R	Average Mon	2.646	Monitor a	Daily Maximum
PA0026638	8/1/2024	8/31/2024	Monthly	001	Final Effl	Flow	MGD	2.267	Monitor and R	Average Mon	3.62	Monitor a	Daily Maximum
PA0026638	9/1/2024	9/30/2024	Monthly	001	Final Effl	Flow	MGD	1.964	Monitor and R	Average Mon	2.186	Monitor a	Daily Maximum
PA0026638	10/1/2024	10/31/2024	Monthly	001	Final Effl	Flow	MGD	1.84	Monitor and R	Average Mon	1.949	Monitor a	Daily Maximum
PA0026638	11/1/2024	11/30/2024	Monthly	001	Final Effl	Flow	MGD	1.839	Monitor and R	Average Mon	2.133	Monitor a	Daily Maximum
								2.27	Avg		3.486	Avg	
								3.26	Max		6.985	Max	
								2.810	90th Percentile		5.459	90th Percentile	

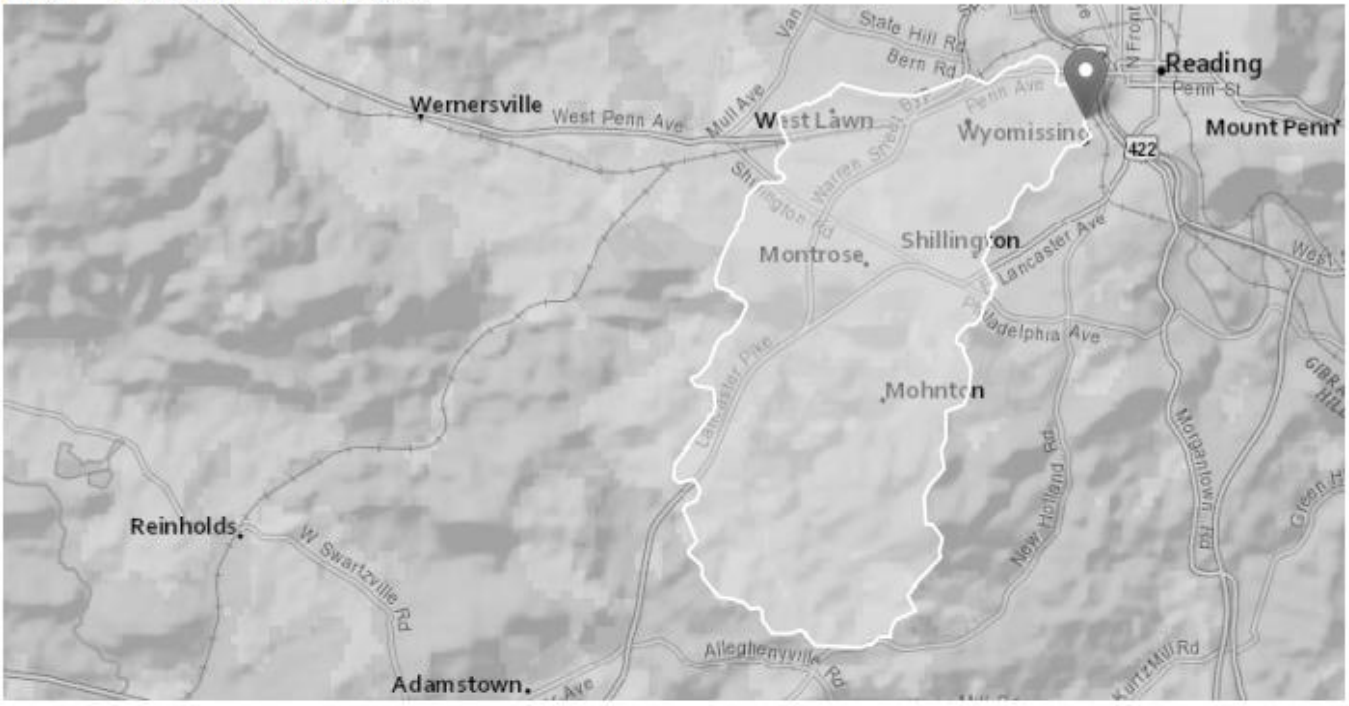
PERMIT	MONITORING	MONITORING_I	OUTFALL	MONITORING_	PARAMETE	UNITS	CONC	CONC_2_VALUE	CONC_2_LIMIT	CONC_2_SB	CONC_3_VAL	CONC_3_LIM	CONC_3_SBC	SAMPLE_F	SAMPLE_
PA0026638	1/1/2022	1/31/2022	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.06	0.3	IMAX	1/week	Grab
PA0026638	2/1/2022	2/28/2022	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.06	0.3	IMAX	1/week	Grab
PA0026638	3/1/2022	3/31/2022	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.06	0.3	IMAX	1/week	Grab
PA0026638	4/1/2022	4/30/2022	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.05	0.3	IMAX	2/week	Grab
PA0026638	5/1/2022	5/31/2022	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.08	0.3	IMAX	1/week	Grab
PA0026638	6/1/2022	6/30/2022	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.09	0.3	IMAX	1/week	Grab
PA0026638	7/1/2022	7/31/2022	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.06	0.3	IMAX	1/week	Grab
PA0026638	8/1/2022	8/31/2022	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.07	0.3	IMAX	1/week	Grab
PA0026638	9/1/2022	9/30/2022	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.07	0.3	IMAX	1/week	Grab
PA0026638	10/1/2022	10/31/2022	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.06	0.3	IMAX	1/week	Grab
PA0026638	11/1/2022	11/30/2022	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.06	0.3	IMAX	1/week	Grab
PA0026638	12/1/2022	12/31/2022	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.05	0.3	IMAX	1/week	Grab
PA0026638	1/1/2023	1/31/2023	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.05	0.3	IMAX	1/week	Grab
PA0026638	2/1/2023	2/28/2023	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.05	0.3	IMAX	1/week	Grab
PA0026638	3/1/2023	3/31/2023	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	< 0.1	0.3	IMAX	1/week	Grab
PA0026638	4/1/2023	4/30/2023	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.06	0.3	IMAX	1/week	Grab
PA0026638	5/1/2023	5/31/2023	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	< 0.05	0.3	IMAX	1/week	Grab
PA0026638	6/1/2023	6/30/2023	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.05	0.3	IMAX	1/week	Grab
PA0026638	7/1/2023	7/31/2023	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.05	0.3	IMAX	1/week	Grab
PA0026638	8/1/2023	8/31/2023	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.06	0.3	IMAX	1/week	Grab
PA0026638	9/1/2023	9/30/2023	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.09	0.3	IMAX	1/week	Grab
PA0026638	10/1/2023	10/31/2023	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.05	0.3	IMAX	1/week	Grab
PA0026638	11/1/2023	11/30/2023	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	< 0.1	0.3	IMAX	1/week	Grab
PA0026638	12/1/2023	12/31/2023	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	< 0.05	0.3	IMAX	1/week	Grab
PA0026638	1/1/2024	1/31/2024	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	< 0.1	0.3	IMAX	1/week	Grab
PA0026638	2/1/2024	2/29/2024	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	< 0.05	0.3	IMAX	1/week	Grab
PA0026638	3/1/2024	3/31/2024	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.06	0.3	IMAX	1/week	Grab
PA0026638	4/1/2024	4/30/2024	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.06	0.3	IMAX	1/week	Grab
PA0026638	5/1/2024	5/31/2024	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.08	0.3	IMAX	1/week	Grab
PA0026638	6/1/2024	6/30/2024	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.05	0.3	IMAX	1/week	Grab
PA0026638	7/1/2024	7/31/2024	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	< 0.05	0.3	IMAX	1/week	Grab
PA0026638	8/1/2024	8/31/2024	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	< 0.05	0.3	IMAX	1/week	Grab
PA0026638	9/1/2024	9/30/2024	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.06	0.3	IMAX	1/week	Grab
PA0026638	10/1/2024	10/31/2024	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.05	0.3	IMAX	1/week	Grab
PA0026638	11/1/2024	11/30/2024	001	Final Effluent	TRC	mg/L		< 0.1	0.1	Average Mc	0.05	0.3	IMAX	1/week	Grab
							Avg	<0.1		Avg	0.061				
							Max	<0.1		Max	0.09				

PA0026638	1/1/2022	1/31/2022	001	Final Efflu	TSS	lbs/day	471	1000	Average Mor	519	1334	Weekly Average	mg/L	27.4	30	Average Mo	31.5	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	2/1/2022	2/28/2022	001	Final Efflu	TSS	lbs/day	540	1000	Average Mor	704	1334	Weekly Average	mg/L	29	30	Average Mo	41	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	3/1/2022	3/31/2022	001	Final Efflu	TSS	lbs/day	504	1000	Average Mor	604	1334	Weekly Average	mg/L	28.4	30	Average Mo	33.5	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	4/1/2022	4/30/2022	001	Final Efflu	TSS	lbs/day	418	1000	Average Mor	654	1334	Weekly Average	mg/L	17.3	30	Average Mo	21	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	5/1/2022	5/31/2022	001	Final Efflu	TSS	lbs/day	280	1000	Average Mor	489	1334	Weekly Average	mg/L	14.8	30	Average Mo	24	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	6/1/2022	6/30/2022	001	Final Efflu	TSS	lbs/day	163	1000	Average Mor	232	1334	Weekly Average	mg/L	9.2	30	Average Mo	13.5	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	7/1/2022	7/31/2022	001	Final Efflu	TSS	lbs/day	101	1000	Average Mor	158	1334	Weekly Average	mg/L	5.8	30	Average Mo	9	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	8/1/2022	8/31/2022	001	Final Efflu	TSS	lbs/day	88	1000	Average Mor	119	1334	Weekly Average	mg/L	5.2	30	Average Mo	7	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	9/1/2022	9/30/2022	001	Final Efflu	TSS	lbs/day	109	1000	Average Mor	129	1334	Weekly Average	mg/L	6.3	30	Average Mo	7.5	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	10/1/2022	10/31/2022	001	Final Efflu	TSS	lbs/day	100	1000	Average Mor	134	1334	Weekly Average	mg/L	5	30	Average Mo	6	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	11/1/2022	11/30/2022	001	Final Efflu	TSS	lbs/day	76	1000	Average Mor	82	1334	Weekly Average	mg/L	4.4	30	Average Mo	5	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	12/1/2022	12/31/2022	001	Final Efflu	TSS	lbs/day	121	1000	Average Mor	168	1334	Weekly Average	mg/L	6.1	30	Average Mo	9	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	1/1/2023	1/31/2023	001	Final Efflu	TSS	lbs/day	139	1000	Average Mor	209	1334	Weekly Average	mg/L	6.9	30	Average Mo	9.5	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	2/1/2023	2/28/2023	001	Final Efflu	TSS	lbs/day	135	1000	Average Mor	167	1334	Weekly Average	mg/L	7.5	30	Average Mo	9.5	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	3/1/2023	3/31/2023	001	Final Efflu	TSS	lbs/day	152	1000	Average Mor	228	1334	Weekly Average	mg/L	8.5	30	Average Mo	13	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	4/1/2023	4/30/2023	001	Final Efflu	TSS	lbs/day	254	1000	Average Mor	297	1334	Weekly Average	mg/L	14.8	30	Average Mo	17.5	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	5/1/2023	5/31/2023	001	Final Efflu	TSS	lbs/day	125	1000	Average Mor	142	1334	Weekly Average	mg/L	7.2	30	Average Mo	9	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	6/1/2023	6/30/2023	001	Final Efflu	TSS	lbs/day	101	1000	Average Mor	130	1334	Weekly Average	mg/L	6	30	Average Mo	8	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	7/1/2023	7/31/2023	001	Final Efflu	TSS	lbs/day	140	1000	Average Mor	194	1334	Weekly Average	mg/L	7.3	30	Average Mo	10	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	8/1/2023	8/31/2023	001	Final Efflu	TSS	lbs/day	121	1000	Average Mor	165	1334	Weekly Average	mg/L	6.6	30	Average Mo	8.5	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	9/1/2023	9/30/2023	001	Final Efflu	TSS	lbs/day	106	1000	Average Mor	141	1334	Weekly Average	mg/L	5.5	30	Average Mo	7.5	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	10/1/2023	10/31/2023	001	Final Efflu	TSS	lbs/day	106	1000	Average Mor	176	1334	Weekly Average	mg/L	5.9	30	Average Mo	9.5	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	11/1/2023	11/30/2023	001	Final Efflu	TSS	lbs/day	118	1000	Average Mor	220	1334	Weekly Average	mg/L	7.1	30	Average Mo	13.5	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	12/1/2023	12/31/2023	001	Final Efflu	TSS	lbs/day	279	1000	Average Mor	459	1334	Weekly Average	mg/L	8.1	30	Average Mo	11.5	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	1/1/2024	1/31/2024	001	Final Efflu	TSS	lbs/day	235	1000	Average Mor	450	1334	Weekly Average	mg/L	7.9	30	Average Mo	9	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	2/1/2024	2/29/2024	001	Final Efflu	TSS	lbs/day	180	1000	Average Mor	202	1334	Weekly Average	mg/L	8.9	30	Average Mo	10	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	3/1/2024	3/31/2024	001	Final Efflu	TSS	lbs/day	178	1000	Average Mor	251	1334	Weekly Average	mg/L	7	30	Average Mo	9	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	4/1/2024	4/30/2024	001	Final Efflu	TSS	lbs/day	331	1000	Average Mor	432	1334	Weekly Average	mg/L	13.3	30	Average Mo	22	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	5/1/2024	5/31/2024	001	Final Efflu	TSS	lbs/day	307	1000	Average Mor	546	1334	Weekly Average	mg/L	16.5	30	Average Mo	28.5	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	6/1/2024	6/30/2024	001	Final Efflu	TSS	lbs/day	201	1000	Average Mor	308	1334	Weekly Average	mg/L	12.3	30	Average Mo	17.5	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	7/1/2024	7/31/2024	001	Final Efflu	TSS	lbs/day	133	1000	Average Mor	165	1334	Weekly Average	mg/L	7.8	30	Average Mo	10	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	8/1/2024	8/31/2024	001	Final Efflu	TSS	lbs/day	198	1000	Average Mor	318	1334	Weekly Average	mg/L	9.5	30	Average Mo	11	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	9/1/2024	9/30/2024	001	Final Efflu	TSS	lbs/day	179	1000	Average Mor	218	1334	Weekly Average	mg/L	11	30	Average Mo	13.5	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	10/1/2024	10/31/2024	001	Final Efflu	TSS	lbs/day	115	1000	Average Mor	159	1334	Weekly Average	mg/L	7.4	30	Average Mo	10	40	Weekly Aver	2/week	24-Hr Composite
PA0026638	11/1/2024	11/30/2024	001	Final Efflu	TSS	lbs/day	89	1000	Average Mor	100	1334	Weekly Average	mg/L	5.9	30	Average Mo	6.5	40	Weekly Aver	2/week	24-Hr Composite
							2977	Avg load						244.8	Avg conc						

USGS Stream Stats, online tool:

StreamStats Report

Region ID: PA
Workspace ID: PA20250106160303564000
Clicked Point (Latitude, Longitude): 40.32852, -75.94284
Time: 2025-01-06 11:03:26 -0500



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	6.5882	degrees
CARBON	Percentage of area of carbonate rock	38.87	percent
DRNAREA	Area that drains to a point on a stream	15.6	square miles
PRECIP	Mean Annual Precipitation	45	inches
ROCKDEP	Depth to rock	5	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	1.27	miles per square mile
URBAN	Percentage of basin with urban development	37.3458	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [1.0 Percent (0.228 square miles) Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLOPD	Mean Basin Slope degrees	6.5882	degrees	1.7	6.4
DRNAREA	Drainage Area	15.6	square miles	4.78	1150
ROCKDEP	Depth to Rock	5	feet	4.13	5.21
URBAN	Percent Urban	37.3458	percent	0	89

Low-Flow Statistics Parameters [99.0 Percent (15.4 square miles) Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	38.87	percent	0	99
DRNAREA	Drainage Area	15.6	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	45	inches	35	50.4
ROCKDEP	Depth to Rock	5	feet	3.32	5.65
STRDEN	Stream Density	1.27	miles per square mile	0.51	3.1

Low-Flow Statistics Disclaimers [1.0 Percent (0.228 square miles) Low Flow Region 1]

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

Low-Flow Statistics Flow Report [1.0 Percent (0.228 square miles) Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	11.3	ft^3/s
30 Day 2 Year Low Flow	13	ft^3/s
7 Day 10 Year Low Flow	7.49	ft^3/s
30 Day 10 Year Low Flow	8.59	ft^3/s
90 Day 10 Year Low Flow	10.3	ft^3/s

Low-Flow Statistics Flow Report [99.0 Percent (15.4 square miles) Low Flow Region 2]

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	6.27	ft^3/s	38	38
30 Day 2 Year Low Flow	7.26	ft^3/s	33	33
7 Day 10 Year Low Flow	3.91	ft^3/s	51	51
30 Day 10 Year Low Flow	4.46	ft^3/s	46	46
90 Day 10 Year Low Flow	5.35	ft^3/s	36	36

Low-Flow Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
7 Day 2 Year Low Flow	6.32	ft^3/s
30 Day 2 Year Low Flow	7.32	ft^3/s
7 Day 10 Year Low Flow	3.95	ft^3/s
30 Day 10 Year Low Flow	4.5	ft^3/s
90 Day 10 Year Low Flow	5.4	ft^3/s

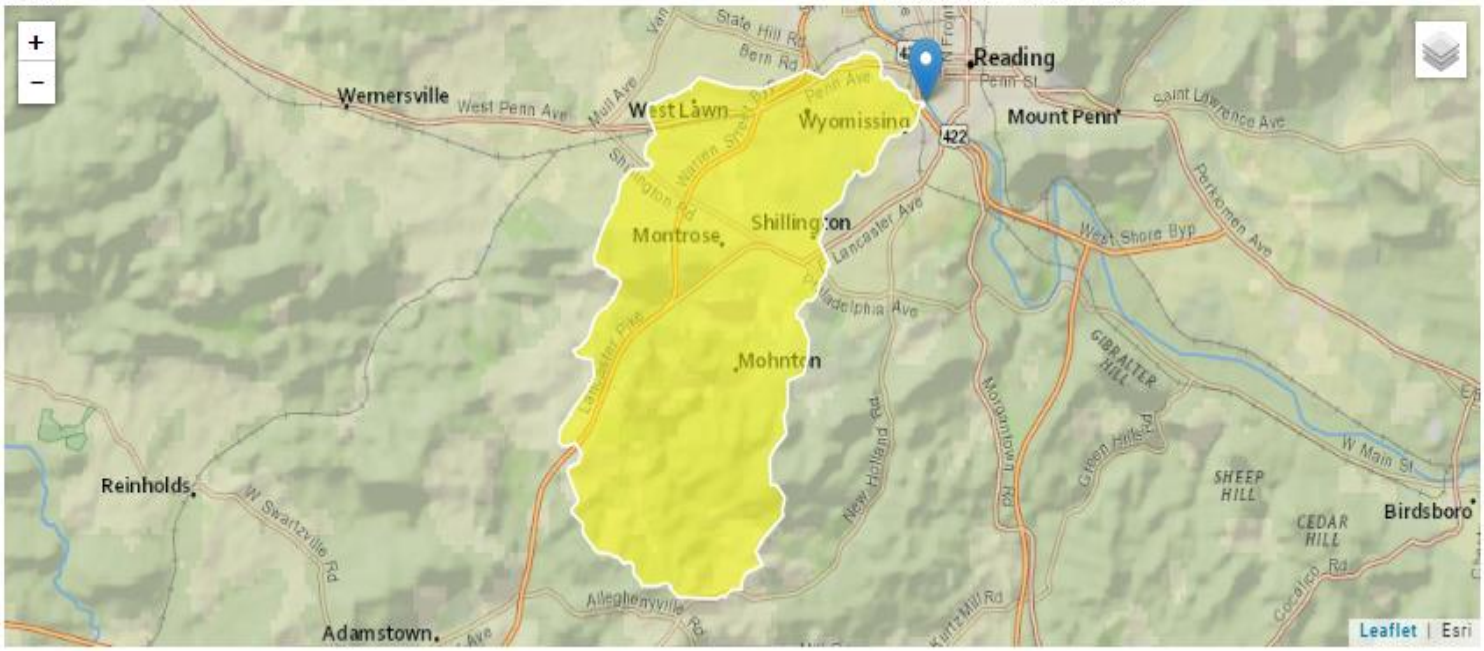
Low-Flow Statistics Citations

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/)

USGS Stream Stats, online – Wyomissing Creek just before confluence with Schuylkill River:

StreamStats Report

Region ID:	PA
Workspace ID:	PA20250106162248281000
Clicked Point (Latitude, Longitude):	40.32952, -75.93832
Time:	2025-01-06 11:23:11 -0500



Low-Flow Statistics

Low-Flow Statistics Parameters [1.0 Percent (0.233 square miles) Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLOPD	Mean Basin Slope degrees	6.5834	degrees	1.7	6.4
DRNAREA	Drainage Area	15.7	square miles	4.78	1150
ROCKDEP	Depth to Rock	5	feet	4.13	5.21
URBAN	Percent Urban	37.521	percent	0	89

Low-Flow Statistics Parameters [99.0 Percent (15.5 square miles) Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	39.11	percent	0	99
DRNAREA	Drainage Area	15.7	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	45	inches	35	50.4
ROCKDEP	Depth to Rock	5	feet	3.32	5.65
STRDEN	Stream Density	1.28	miles per square mile	0.51	3.1

Low-Flow Statistics Disclaimers [1.0 Percent (0.233 square miles) Low Flow Region 1]

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

Low-Flow Statistics Flow Report [1.0 Percent (0.233 square miles) Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	11.4	ft^3/s
30 Day 2 Year Low Flow	13.1	ft^3/s
7 Day 10 Year Low Flow	7.56	ft^3/s
30 Day 10 Year Low Flow	8.67	ft^3/s
90 Day 10 Year Low Flow	10.4	ft^3/s

Low-Flow Statistics Flow Report [99.0 Percent (15.5 square miles) Low Flow Region 2]

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	6.29	ft^3/s	38	38
30 Day 2 Year Low Flow	7.28	ft^3/s	33	33
7 Day 10 Year Low Flow	3.92	ft^3/s	51	51
30 Day 10 Year Low Flow	4.47	ft^3/s	46	46
90 Day 10 Year Low Flow	5.36	ft^3/s	36	36

Low-Flow Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
7 Day 2 Year Low Flow	6.34	ft^3/s
30 Day 2 Year Low Flow	7.34	ft^3/s
7 Day 10 Year Low Flow	3.96	ft^3/s
30 Day 10 Year Low Flow	4.51	ft^3/s
90 Day 10 Year Low Flow	5.41	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.

Application Version: 4.25.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

A	B	C	D	E	F	G
TRC EVALUATION						
Input appropriate values in A3:A9 and D3:D9						
3.9	= Q stream (cfs)		0.5	= CV Daily		
4	= 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 Discharg		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 = 0.220		1.3.2.iii	WLA cfc = 0.207	
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373		5.1c	LTAMULT cfc = 0.581	
PENTOXSD TRG	5.1b	LTA_afc= 0.082		5.1d	LTA_cfc = 0.120	
Source		Effluent Limit Calculations				
PENTOXSD TRG	5.1f	AML MULT = 1.231				
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.101		AFC		
		INST MAX LIMIT (mg/l) = 0.330				

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)**

(0.011/EXP(-K*CFC_tc/1440))+(((CFC_Yc*Qs*0.011)/(1.547*Qd)....
....*EXP(-K*CFC_tc/1440)))+Xd+(CFC_Yc*Qs*Xs/1.547*Qd))*(1-FOS/100)

DEP's TOXCONC evaluation:

A	B	C	D
		Reviewer/Permit Engineer:	B.Boylan
Facility:	Jt MUA Wyomissing Valley		
NPDES #:	PA0026638		
Outfall No:	001		
n (Samples/Month):	4		
Parameter	**Distribution Applied**	**Coefficient of Variation (daily)**	**Avg. Monthly**
T.Copper (mg/L)	Lognormal	0.3542250	0.0168685

	Facility:		Jt MUA Wyomissing Valley	
	NPDES #:		PA0026638	
	Outfall No:		001	
	n (Samples/Month):		4	
Parameter Name	T.Copper			
Number of Samples	51			
Samples Nondetected	0			
LOGNORMAL				
Log MEAN	-4.5347509			
Log VAR.	0.1182055			
(LTA) [E(x)]	0.0113828			
Variance [V(x)]	0.0000163			
CV (raw)	0.3542250			
CV (n)	0.1771125			
Monthly Avg. (99%, n-day)	0.0168685			
DELTA-LOGNORMAL				
Delta-Log MEAN	NA			

	Facility:	Jt MUA Wyomissing Valley				
	NPDES #:	PA0026638				
	Outfall No:	001				
	n (Samples/Month):	4				
	Reviewer/Permit Engineer:	B.Boylan				
Parameter Name	T.Copper					
Units	mg/L					
Detection Limit	1					
Sample Date	*When entering values below the detection limit, enter "ND" or use the < notation (eg. <0.02)*					
2024-Dec	0.012					
	0.009					
	0.009					
	0.009					
2024-Nov	0.011					
	0.011					
	0.013					
	0.014					
2024-Oct	0.011					
	0.012					
	0.01					
	0.012					
	0.009					
2024-Sept	0.014					
	0.013					
	0.015					
	0.017					
2024-Aug	0.016					
	0.01					
	0.011					
2024-July	0.009					
	0.011					
	0.011					
	0.007					
	0.01					
2024-June	0.016					
	0.015					
	0.015					
	0.015					
	0.01					
2024-May	0.016					
	0.029					
	0.013					
	0.009					
	0.015					
2024-April	0.01					
	0.007					
	0.009					
	0.019					
2024-March	0.009					
	0.005					
	0.006					
	0.008					
2024-Feb	0.005					
	0.012					
	0.009					
	0.012					
2024-Jan	0.006					
	0.01					
	0.006					
	0.008					

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Jt MUA WyValley -max conc or AMEC TOXCON** NPDES Permit No.: **PA0026638** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **domestic ww**

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
4	204	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		882									
	Chloride (PWS)	mg/L		261									
	Bromide	mg/L	<	0.2									
	Sulfate (PWS)	mg/L		41									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		610									
	Total Antimony	µg/L		0.6									
	Total Arsenic	µg/L	<	1									
	Total Barium	µg/L		40									
	Total Beryllium	µg/L	<	1									
	Total Boron	µg/L	<	200									
	Total Cadmium	µg/L	<	0.2									
	Total Chromium (III)	µg/L	<	1									
	Hexavalent Chromium	µg/L	<	0.25									
	Total Cobalt	µg/L		0.4									
	Total Copper	mg/L		0.0169			0.3542						
	Free Cyanide	µg/L		2									
	Total Cyanide	µg/L	<	6									
	Dissolved Iron	µg/L		50									
	Total Iron	µg/L		130									
	Total Lead	µg/L	<	1									
	Total Manganese	µg/L		23									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		2.5									
	Total Phenols (Phenolics) (PWS)	µg/L		3									
	Total Selenium	µg/L		2									
	Total Silver	µg/L	<	0.3									
	Total Thallium	µg/L	<	3									
	Total Zinc	mg/L		0.03									
	Total Molybdenum	µg/L		8									
	Acrolein	µg/L	<	2									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	2									
	Benzene	µg/L	<	0.5									
	Bromoform	µg/L	<	0.5									

Group 3	Carbon Tetrachloride	µg/L	<	0.5									
	Chlorobenzene	µg/L	<	0.5									
	Chlorodibromomethane	µg/L	<	0.5									
	Chloroethane	µg/L	<	0.5									
	2-Chloroethyl Vinyl Ether	µg/L	<	5									
	Chloroform	µg/L	<	0.5									
	Dichlorobromomethane	µg/L	<	0.5									
	1,1-Dichloroethane	µg/L	<	0.5									
	1,2-Dichloroethane	µg/L	<	0.5									
	1,1-Dichloroethylene	µg/L	<	0.5									
	1,2-Dichloropropane	µg/L	<	0.5									
	1,3-Dichloropropylene	µg/L	<	0.5									
	1,4-Dioxane	µg/L	<	5									
	Ethylbenzene	µg/L	<	0.5									
	Methyl Bromide	µg/L	<	0.5									
	Methyl Chloride	µg/L	<	0.5									
	Methylene Chloride	µg/L	<	0.5									
	1,1,2,2-Tetrachloroethane	µg/L	<	0.5									
	Tetrachloroethylene	µg/L	<	0.5									
	Toluene	µg/L	<	0.5									
	1,2-trans-Dichloroethylene	µg/L	<	0.5									
	1,1,1-Trichloroethane	µg/L	<	0.5									
	1,1,2-Trichloroethane	µg/L	<	0.5									
	Trichloroethylene	µg/L	<	0.5									
	Vinyl Chloride	µg/L	<	0.5									
Group 4	2-Chlorophenol	µg/L	<	5									
	2,4-Dichlorophenol	µg/L	<	5									
	2,4-Dimethylphenol	µg/L	<	5									
	4,6-Dinitro-o-Cresol	µg/L	<	10									
	2,4-Dinitrophenol	µg/L	<	10									
	2-Nitrophenol	µg/L	<	10									
	4-Nitrophenol	µg/L	<	10									
	p-Chloro-m-Cresol	µg/L	<	5									
	Pentachlorophenol	µg/L	<	10									
	Phenol	µg/L	<	2.5									
	2,4,6-Trichlorophenol	µg/L	<	5									
Group 5	Acenaphthene	µg/L	<	2.5									
	Acenaphthylene	µg/L	<	2.5									
	Anthracene	µg/L	<	2.5									
	Benzidine	µg/L	<	50									
	Benzo(a)Anthracene	µg/L	<	2.5									
	Benzo(a)Pyrene	µg/L	<	2.5									
	3,4-Benzofluoranthene	µg/L	<	2.5									
	Benzo(ghi)Perylene	µg/L	<	2.5									
	Benzo(k)Fluoranthene	µg/L	<	2.5									
	Bis(2-Chloroethoxy)Methane	µg/L	<	5									
	Bis(2-Chloroethyl)Ether	µg/L	<	5									
	Bis(2-Chloroisopropyl)Ether	µg/L	<	5									
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	5									
	4-Bromophenyl Phenyl Ether	µg/L	<	5									
	Butyl Benzyl Phthalate	µg/L	<	5									
	2-Chloronaphthalene	µg/L	<	5									
	4-Chlorophenyl Phenyl Ether	µg/L	<	5									
	Chrysene	µg/L	<	2.5									
	Dibenzo(a,h)Anthrancene	µg/L	<	2.5									
	1,2-Dichlorobenzene	µg/L	<	0.5									
	1,3-Dichlorobenzene	µg/L	<	0.5									
	1,4-Dichlorobenzene	µg/L	<	0.5									
	3,3-Dichlorobenzidine	µg/L	<	5									
	Diethyl Phthalate	µg/L	<	5									
	Dimethyl Phthalate	µg/L	<	2.5									
	Di-n-Butyl Phthalate	µg/L	<	5									
	2,4-Dinitrotoluene	µg/L	<	5									

	2,6-Dinitrotoluene	µg/L	<	5									
	Di-n-Octyl Phthalate	µg/L	<	5									
	1,2-Diphenylhydrazine	µg/L	<	5									
	Fluoranthene	µg/L	<	2.5									
	Fluorene	µg/L	<	2.5									
	Hexachlorobenzene	µg/L	<	5									
	Hexachlorobutadiene	µg/L	<	0.5									
	Hexachlorocyclopentadiene	µg/L	<	5									
	Hexachloroethane	µg/L	<	2.5									
	Indeno(1,2,3-cd)Pyrene	µg/L	<	2.5									
	Isophorone	µg/L	<	5									
	Naphthalene	µg/L	<	0.5									
	Nitrobenzene	µg/L	<	5									
	n-Nitrosodimethylamine	µg/L	<	5									
	n-Nitrosodi-n-Propylamine	µg/L	<	5									
	n-Nitrosodiphenylamine	µg/L	<	5									
	Phenanthrene	µg/L	<	2.5									
	Pyrene	µg/L	<	2.5									
	1,2,4-Trichlorobenzene	µg/L	<	0.5									
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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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Jt MUA WyValley -max conc or AMEC TOXCONC, NPDES Permit No. PA0026638, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Wyomissing Creek**

No. Reaches to Model: **1**

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	001833	0.26	205	15.6			Yes
End of Reach 1	001833	0	195	15.7			Yes

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

Location	RMI	LFY (cfs/mi²)*	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	0.26	0.25										184	7		
End of Reach 1	0	0.25													

Q_h

Location	RMI	LFY (cfs/mi²)	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	0.26														
End of Reach 1	0														

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Jt MUA WyValley -max conc or AMEC TOXCONC, NPDES Permit No. PA0026638, Outfall 001

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

☑ ***Hydrodynamics***

Q_{7-10}

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
0.26	3.90		3.90	6.188	0.007	0.706	33.072	46.853	0.432	0.037	4.427
0	3.93		3.925								

Q_h

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
0.26	24.41		24.41	6.188	0.007	1.15	33.072	28.754	0.804	0.02	9.063
0	24.547		24.55								

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 4.427 PMF: 1 Analysis Hardness (mg/l): 196.27 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	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	1,223	
Total Antimony	0	0		0	1,100	1,100	1,793	
Total Arsenic	0	0		0	340	340	554	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	34,235	
Total Boron	0	0		0	8,100	8,100	13,205	
Total Cadmium	0	0		0	3.877	4.23	6.9	Chem Translator of 0.916 applied
Total Chromium (III)	0	0		0	989.779	3,132	5,106	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	26.6	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	155	
Total Copper	0	0		0	25.368	26.4	43.1	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	35.9	

Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	133.445	193	314	Chem Translator of 0.693 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	2.69	Chem Translator of 0.85 applied
Total Nickel	0	0		0	828.353	830	1,353	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	10.259	12.1	19.7	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	106	
Total Zinc	0	0		0	207.485	212	346	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	4.89	
Acrylonitrile	0	0		0	650	650	1,060	
Benzene	0	0		0	640	640	1,043	
Bromoform	0	0		0	1,800	1,800	2,934	
Carbon Tetrachloride	0	0		0	2,800	2,800	4,565	
Chlorobenzene	0	0		0	1,200	1,200	1,956	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	29,345	
Chloroform	0	0		0	1,900	1,900	3,097	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	24,454	
1,1-Dichloroethylene	0	0		0	7,500	7,500	12,227	
1,2-Dichloropropane	0	0		0	11,000	11,000	17,933	
1,3-Dichloropropylene	0	0		0	310	310	505	
Ethylbenzene	0	0		0	2,900	2,900	4,728	
Methyl Bromide	0	0		0	550	550	897	
Methyl Chloride	0	0		0	28,000	28,000	45,647	
Methylene Chloride	0	0		0	12,000	12,000	19,563	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	1,630	
Tetrachloroethylene	0	0		0	700	700	1,141	
Toluene	0	0		0	1,700	1,700	2,771	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	11,086	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	4,891	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	5,543	
Trichloroethylene	0	0		0	2,300	2,300	3,750	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	913	
2,4-Dichlorophenol	0	0		0	1,700	1,700	2,771	
2,4-Dimethylphenol	0	0		0	660	660	1,076	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	130	
2,4-Dinitrophenol	0	0		0	660	660	1,076	
2-Nitrophenol	0	0		0	8,000	8,000	13,042	
4-Nitrophenol	0	0		0	2,300	2,300	3,750	
p-Chloro-m-Cresol	0	0		0	160	160	261	
Pentachlorophenol	0	0		0	8.723	8.72	14.2	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	750	

Acenaphthene	0	0		0	83	83.0	135	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	489	
Benzo(a)Anthracene	0	0		0	0.5	0.5	0.82	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	30,000	30,000	48,908	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	7,336	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	440	
Butyl Benzyl Phthalate	0	0		0	140	140	228	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	820	820	1,337	
1,3-Dichlorobenzene	0	0		0	350	350	571	
1,4-Dichlorobenzene	0	0		0	730	730	1,190	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	6,521	
Dimethyl Phthalate	0	0		0	2,500	2,500	4,076	
Di-n-Butyl Phthalate	0	0		0	110	110	179	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	2,608	
2,6-Dinitrotoluene	0	0		0	990	990	1,614	
1,2-Diphenylhydrazine	0	0		0	15	15.0	24.5	
Fluoranthene	0	0		0	200	200	326	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	10	10.0	16.3	
Hexachlorocyclopentadiene	0	0		0	5	5.0	8.15	
Hexachloroethane	0	0		0	60	60.0	97.8	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	16,303	
Naphthalene	0	0		0	140	140	228	
Nitrobenzene	0	0		0	4,000	4,000	6,521	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	27,714	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	489	
Phenanthrene	0	0		0	5	5.0	8.15	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	212	

☑ ***CFC*** CCT (min): 4.427 PMF: 1 Analysis Hardness (mg/l): 196.27 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	

Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	359	
Total Arsenic	0	0		0	150	150	245	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	6,684	
Total Boron	0	0		0	1,600	1,600	2,608	
Total Cadmium	0	0		0	0.393	0.45	0.73	Chem Translator of 0.881 applied
Total Chromium (III)	0	0		0	128.750	150	244	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	16.9	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	31.0	
Total Copper	0	0		0	15.935	16.6	27.1	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	5.2	5.2	8.48	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	2,445	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	5.200	7.51	12.2	Chem Translator of 0.693 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	1.48	Chem Translator of 0.85 applied
Total Nickel	0	0		0	92.004	92.3	150	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	8.13	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	21.2	
Total Zinc	0	0		0	209.182	212	346	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	4.89	
Acrylonitrile	0	0		0	130	130	212	
Benzene	0	0		0	130	130	212	
Bromoform	0	0		0	370	370	603	
Carbon Tetrachloride	0	0		0	560	560	913	
Chlorobenzene	0	0		0	240	240	391	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	5,706	
Chloroform	0	0		0	390	390	636	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	5,054	
1,1-Dichloroethylene	0	0		0	1,500	1,500	2,445	
1,2-Dichloropropane	0	0		0	2,200	2,200	3,587	
1,3-Dichloropropylene	0	0		0	61	61.0	99.4	
Ethylbenzene	0	0		0	580	580	946	
Methyl Bromide	0	0		0	110	110	179	
Methyl Chloride	0	0		0	5,500	5,500	8,966	
Methylene Chloride	0	0		0	2,400	2,400	3,913	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	342	
Tetrachloroethylene	0	0		0	140	140	228	
Toluene	0	0		0	330	330	538	

1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	2,282	
1,1,1-Trichloroethane	0	0		0	610	610	994	
1,1,2-Trichloroethane	0	0		0	680	680	1,109	
Trichloroethylene	0	0		0	450	450	734	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	179	
2,4-Dichlorophenol	0	0		0	340	340	554	
2,4-Dimethylphenol	0	0		0	130	130	212	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	26.1	
2,4-Dinitrophenol	0	0		0	130	130	212	
2-Nitrophenol	0	0		0	1,600	1,600	2,608	
4-Nitrophenol	0	0		0	470	470	766	
p-Chloro-m-Cresol	0	0		0	500	500	815	
Pentachlorophenol	0	0		0	6.693	6.69	10.9	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	148	
Acenaphthene	0	0		0	17	17.0	27.7	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	96.2	
Benzo(a)Anthracene	0	0		0	0.1	0.1	0.16	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	6,000	6,000	9,782	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	1,484	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	88.0	
Butyl Benzyl Phthalate	0	0		0	35	35.0	57.1	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	160	160	261	
1,3-Dichlorobenzene	0	0		0	69	69.0	112	
1,4-Dichlorobenzene	0	0		0	150	150	245	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	1,304	
Dimethyl Phthalate	0	0		0	500	500	815	
Di-n-Butyl Phthalate	0	0		0	21	21.0	34.2	
2,4-Dinitrotoluene	0	0		0	320	320	522	
2,6-Dinitrotoluene	0	0		0	200	200	326	
1,2-Diphenylhydrazine	0	0		0	3	3.0	4.89	
Fluoranthene	0	0		0	40	40.0	65.2	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	2	2.0	3.26	

Hexachlorocyclopentadiene	0	0		0	1	1.0	1.63	
Hexachloroethane	0	0		0	12	12.0	19.6	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	3,424	
Naphthalene	0	0		0	43	43.0	70.1	
Nitrobenzene	0	0		0	810	810	1,321	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	5,543	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	96.2	
Phenanthrene	0	0		0	1	1.0	1.63	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	42.4	

☑ ***THH*** CCT (min): 4.427 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	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	9.13	
Total Arsenic	0	0		0	10	10.0	16.3	
Total Barium	0	0		0	2,400	2,400	3,913	
Total Boron	0	0		0	3,100	3,100	5,054	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	4	4.0	6.52	
Dissolved Iron	0	0		0	300	300	489	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	1,630	
Total Mercury	0	0		0	0.050	0.05	0.082	
Total Nickel	0	0		0	610	610	994	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	0.39	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	4.89	
Acrylonitrile	0	0		0	N/A	N/A	N/A	
Benzene	0	0		0	N/A	N/A	N/A	

Bromoform	0	0		0	N/A	N/A	N/A	
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A	
Chlorobenzene	0	0		0	100	100.0	163	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	9.29	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	N/A	N/A	N/A	
1,1-Dichloroethylene	0	0		0	33	33.0	53.8	
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	
1,3-Dichloropropylene	0	0		0	N/A	N/A	N/A	
Ethylbenzene	0	0		0	68	68.0	111	
Methyl Bromide	0	0		0	100	100.0	163	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	N/A	N/A	N/A	
1,1,2,2-Tetrachloroethane	0	0		0	N/A	N/A	N/A	
Tetrachloroethylene	0	0		0	N/A	N/A	N/A	
Toluene	0	0		0	57	57.0	92.9	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	163	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	16,303	
1,1,2-Trichloroethane	0	0		0	N/A	N/A	N/A	
Trichloroethylene	0	0		0	N/A	N/A	N/A	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	30	30.0	48.9	
2,4-Dichlorophenol	0	0		0	10	10.0	16.3	
2,4-Dimethylphenol	0	0		0	100	100.0	163	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	3.26	
2,4-Dinitrophenol	0	0		0	10	10.0	16.3	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	N/A	N/A	N/A	
Phenol	0	0		0	4,000	4,000	6,521	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	114	
Anthracene	0	0		0	300	300	489	
Benzidine	0	0		0	N/A	N/A	N/A	
Benzo(a)Anthracene	0	0		0	N/A	N/A	N/A	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroisopropyl)Ether	0	0		0	200	200	326	
Bis(2-Ethylhexyl)Phthalate	0	0		0	N/A	N/A	N/A	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	

Butyl Benzyl Phthalate	0	0		0	0.1	0.1	0.16	
2-Chloronaphthalene	0	0		0	800	800	1,304	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	1,000	1,000	1,630	
1,3-Dichlorobenzene	0	0		0	7	7.0	11.4	
1,4-Dichlorobenzene	0	0		0	300	300	489	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	978	
Dimethyl Phthalate	0	0		0	2,000	2,000	3,261	
Di-n-Butyl Phthalate	0	0		0	20	20.0	32.6	
2,4-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
2,6-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
1,2-Diphenylhydrazine	0	0		0	N/A	N/A	N/A	
Fluoranthene	0	0		0	20	20.0	32.6	
Fluorene	0	0		0	50	50.0	81.5	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	N/A	N/A	N/A	
Hexachlorocyclopentadiene	0	0		0	4	4.0	6.52	
Hexachloroethane	0	0		0	N/A	N/A	N/A	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	34	34.0	55.4	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	16.3	
n-Nitrosodimethylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	N/A	N/A	N/A	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	20	20.0	32.6	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	0.11	

☑ ***CRL*** CCT (min): 9.063 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	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	

Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	0.06	0.06	0.3	
Benzene	0	0		0	0.58	0.58	2.87	
Bromoform	0	0		0	7	7.0	34.6	
Carbon Tetrachloride	0	0		0	0.4	0.4	1.98	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	3.96	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	N/A	N/A	N/A	
Dichlorobromomethane	0	0		0	0.95	0.95	4.7	
1,2-Dichloroethane	0	0		0	9.9	9.9	49.0	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	4.45	
1,3-Dichloropropylene	0	0		0	0.27	0.27	1.34	
Ethylbenzene	0	0		0	N/A	N/A	N/A	
Methyl Bromide	0	0		0	N/A	N/A	N/A	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	20	20.0	98.9	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	0.99	
Tetrachloroethylene	0	0		0	10	10.0	49.4	
Toluene	0	0		0	N/A	N/A	N/A	
1,2-trans-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,1,1-Trichloroethane	0	0		0	N/A	N/A	N/A	
1,1,2-Trichloroethane	0	0		0	0.55	0.55	2.72	
Trichloroethylene	0	0		0	0.6	0.6	2.97	
Vinyl Chloride	0	0		0	0.02	0.02	0.099	
2-Chlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dichlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dimethylphenol	0	0		0	N/A	N/A	N/A	
4,6-Dinitro-o-Cresol	0	0		0	N/A	N/A	N/A	

2,4-Dinitrophenol	0	0		0	N/A	N/A	N/A	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	0.030	0.03	0.15	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	7.42	
Acenaphthene	0	0		0	N/A	N/A	N/A	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	0.0001	0.0001	0.0005	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.005	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.0005	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.005	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.049	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	0.15	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	1.58	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	N/A	N/A	N/A	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	0.12	0.12	0.59	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.0005	
1,2-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,3-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,4-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
3,3-Dichlorobenzidine	0	0		0	0.05	0.05	0.25	
Diethyl Phthalate	0	0		0	N/A	N/A	N/A	
Dimethyl Phthalate	0	0		0	N/A	N/A	N/A	
Di-n-Butyl Phthalate	0	0		0	N/A	N/A	N/A	
2,4-Dinitrotoluene	0	0		0	0.05	0.05	0.25	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	0.25	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	0.15	
Fluoranthene	0	0		0	N/A	N/A	N/A	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	0.00008	0.00008	0.0004	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.049	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	0.49	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.005	
Isophorone	0	0		0	N/A	N/A	N/A	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	N/A	N/A	N/A	
n-Nitrosodimethylamine	0	0		0	0.0007	0.0007	0.003	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.025	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	16.3	

Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	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 Aluminum	26.1	40.8	784	1,223	1,959	µg/L	784	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Copper	0.88	1.12	0.026	0.034	0.034	mg/L	0.026	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Free Cyanide	Report	Report	Report	Report	Report	µg/L	6.52	THH	Discharge Conc > 25% WQBEL (no RP)
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	489	THH	Discharge Conc > 10% WQBEL (no RP)
Total Selenium	Report	Report	Report	Report	Report	µg/L	8.13	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Thallium	0.013	0.02	0.39	0.61	0.98	µg/L	0.39	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	Report	Report	Report	Report	Report	mg/L	0.22	AFC	Discharge Conc > 10% WQBEL (no RP)

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

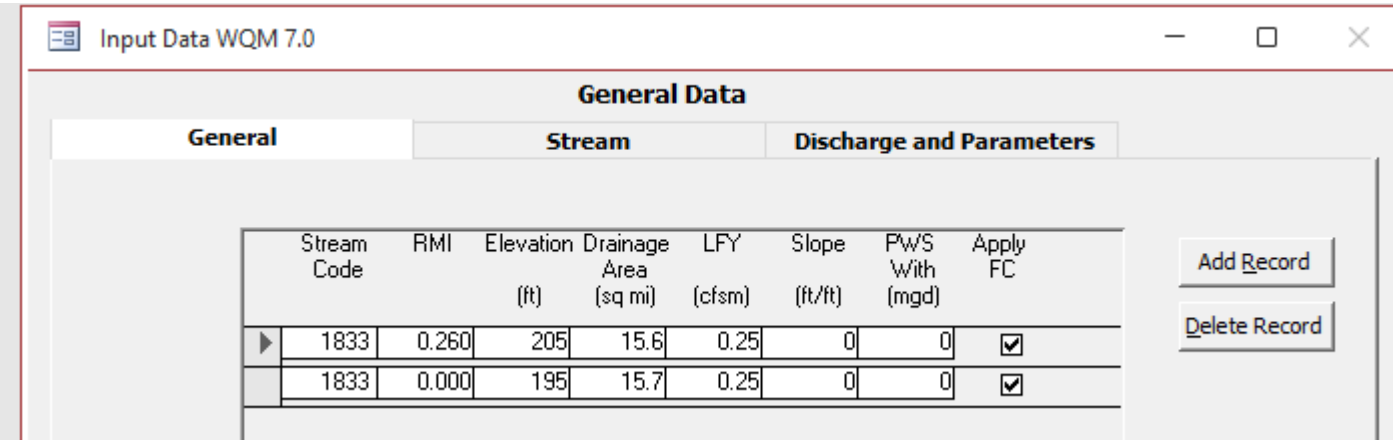
The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Antimony	9.13	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	3,913	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	2,608	µg/L	Discharge Conc < TQL
Total Cadmium	0.73	µg/L	Discharge Conc < TQL
Total Chromium (III)	244	µg/L	Discharge Conc < TQL
Hexavalent Chromium	16.9	µg/L	Discharge Conc < TQL
Total Cobalt	31.0	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Total Iron	2,445	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	12.2	µg/L	Discharge Conc < TQL
Total Manganese	1,630	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.082	µg/L	Discharge Conc < TQL
Total Nickel	150	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable

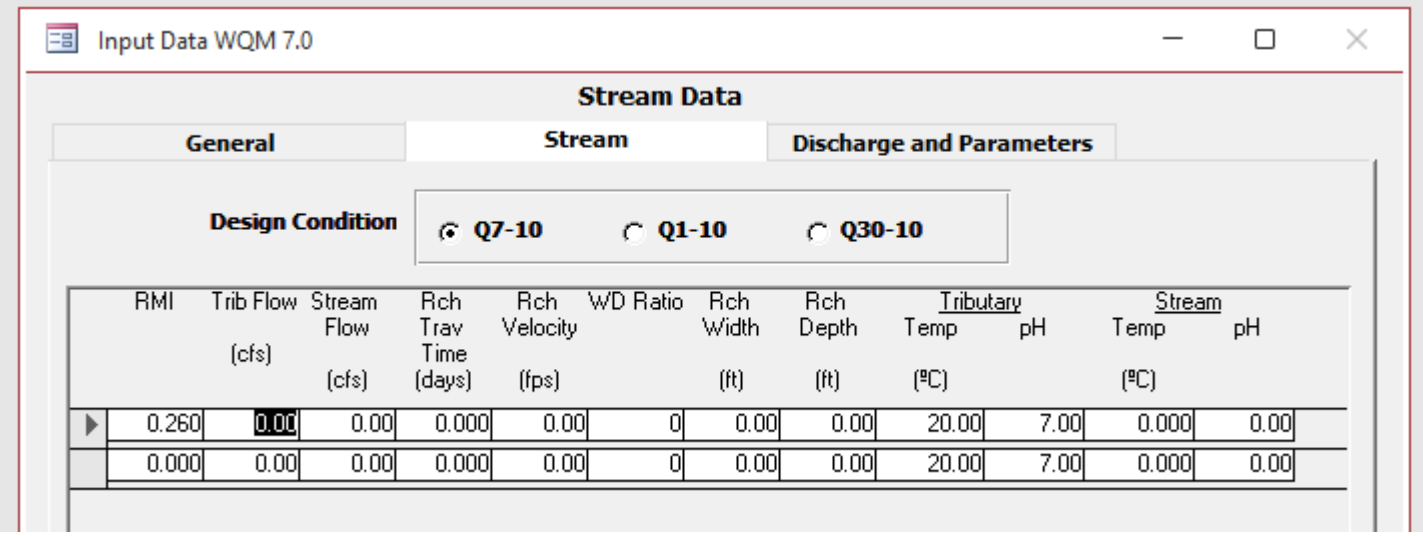
Total Silver	12.6	µg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	3.13	µg/L	Discharge Conc < TQL
Acrylonitrile	0.3	µg/L	Discharge Conc < TQL
Benzene	2.87	µg/L	Discharge Conc < TQL
Bromoform	34.6	µg/L	Discharge Conc < TQL
Carbon Tetrachloride	1.98	µg/L	Discharge Conc < TQL
Chlorobenzene	163	µg/L	Discharge Conc < TQL
Chlorodibromomethane	3.96	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	5,706	µg/L	Discharge Conc < TQL
Chloroform	9.29	µg/L	Discharge Conc < TQL
Dichlorobromomethane	4.7	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	49.0	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	53.8	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	4.45	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	1.34	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	111	µg/L	Discharge Conc < TQL
Methyl Bromide	163	µg/L	Discharge Conc < TQL
Methyl Chloride	8,966	µg/L	Discharge Conc < TQL
Methylene Chloride	98.9	µg/L	Discharge Conc < TQL
1,1,2,2-Tetrachloroethane	0.99	µg/L	Discharge Conc < TQL
Tetrachloroethylene	49.4	µg/L	Discharge Conc < TQL
Toluene	92.9	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	163	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	994	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	2.72	µg/L	Discharge Conc < TQL
Trichloroethylene	2.97	µg/L	Discharge Conc < TQL
Vinyl Chloride	0.099	µg/L	Discharge Conc < TQL
2-Chlorophenol	48.9	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	16.3	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	163	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	3.26	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	16.3	µg/L	Discharge Conc < TQL
2-Nitrophenol	2,608	µg/L	Discharge Conc < TQL
4-Nitrophenol	766	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	167	µg/L	Discharge Conc < TQL
Pentachlorophenol	0.15	µg/L	Discharge Conc < TQL
Phenol	6,521	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	7.42	µg/L	Discharge Conc < TQL
Acenaphthene	27.7	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	489	µg/L	Discharge Conc < TQL

Benzidine	0.0005	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.005	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.0005	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.005	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.049	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	0.15	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	326	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	1.58	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	88.0	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	0.16	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	1,304	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	0.59	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.0005	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	261	µg/L	Discharge Conc < TQL
1,3-Dichlorobenzene	11.4	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	245	µg/L	Discharge Conc < TQL
3,3-Dichlorobenzidine	0.25	µg/L	Discharge Conc < TQL
Diethyl Phthalate	978	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	815	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	32.6	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	0.25	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	0.25	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	0.15	µg/L	Discharge Conc < TQL
Fluoranthene	32.6	µg/L	Discharge Conc < TQL
Fluorene	81.5	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.0004	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.049	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	1.63	µg/L	Discharge Conc < TQL
Hexachloroethane	0.49	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.005	µg/L	Discharge Conc < TQL
Isophorone	55.4	µg/L	Discharge Conc < TQL
Naphthalene	70.1	µg/L	Discharge Conc < TQL
Nitrobenzene	16.3	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.003	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.025	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	16.3	µg/L	Discharge Conc < TQL
Phenanthrene	1.63	µg/L	Discharge Conc < TQL
Pyrene	32.6	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	0.11	µg/L	Discharge Conc < TQL

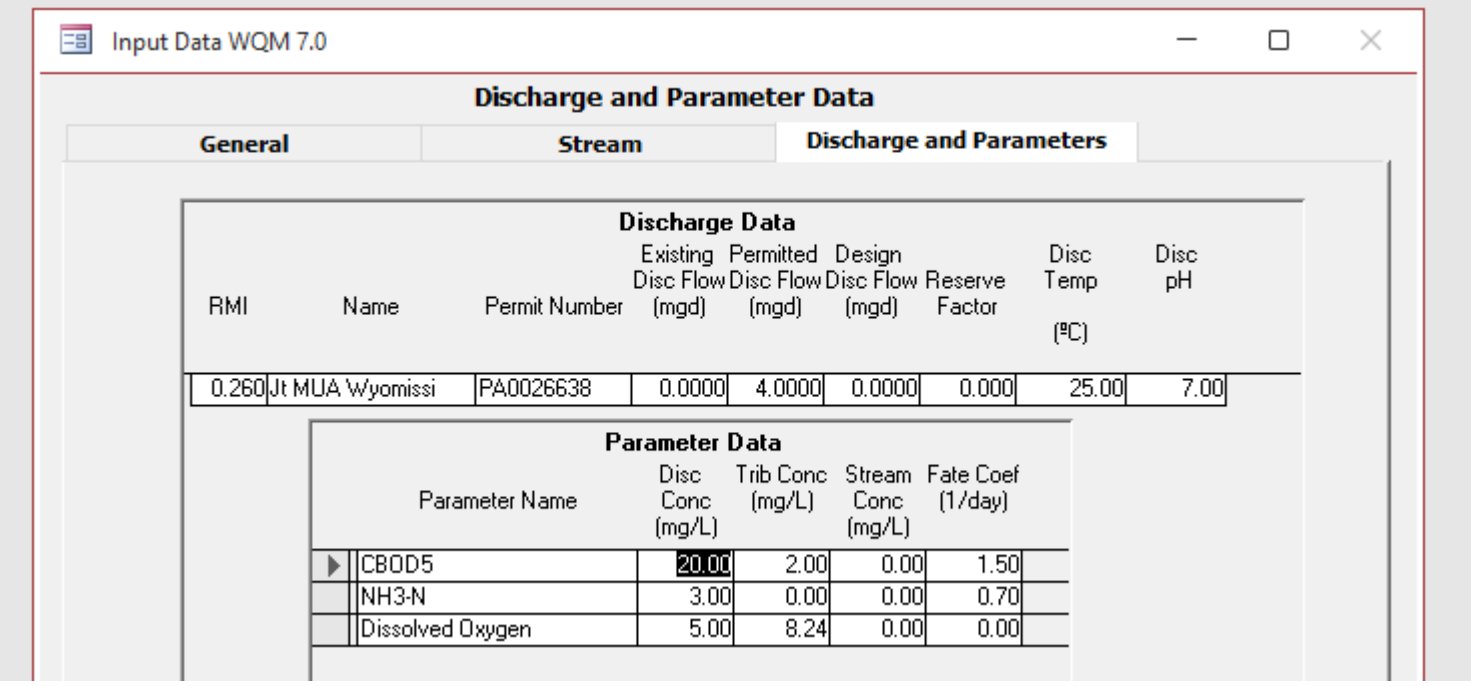
DEP's WQM 7.0 model, Version 1.1…..



Stream Code	RMI	Elevation (ft)	Drainage Area (sq mi)	LFY (cfsm)	Slope (ft/ft)	PWS With (mgd)	Apply FC
1833	0.260	205	15.6	0.25	0	0	☑
1833	0.000	195	15.7	0.25	0	0	☑



RMI	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
0.260	0.00	0.00	0.000	0.00	0	0.00	0.00	20.00	7.00	0.000	0.00
0.000	0.00	0.00	0.000	0.00	0	0.00	0.00	20.00	7.00	0.000	0.00



RMI	Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
0.260	Jt MUA Wyomissi	PA0026638	0.0000	4.0000	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/day)
CBOD5	20.00	2.00	0.00	1.50
NH3-N	3.00	0.00	0.00	0.70
Dissolved Oxygen	5.00	8.24	0.00	0.00

Input Data WQM 7.0

Discharge and Parameter Data

General | Stream | Discharge and Parameters

Discharge Data

RMI	Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (ºC)	Disc pH
0.000	conf Schuylkill		0.0000	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/day)
CBOD5	25.00	2.00	0.00	1.50
NH3-N	20.00	0.00	0.00	0.70
Dissolved Oxygen	5.00	8.24	0.00	0.00

Modeling Specifications WQM 7.0

Select Parameters

- ○ NH3-N
- ○ Dissolved Oxygen
- ◉ Both

Select WLA Method

- ○ Uniform Treatment
- ◉ EMPR
- ○ D.O. Simulation

Q1-10 and Q30-10 Data

☑ Use input Q1-10 and Q30-10 data

Q1-10/Q7-10 ratio: 0.64

Q30-10/Q7-10 ratio: 1.36

WQAM 6.3 Comparison

☐ Input reach W/D ratios * ☐ Input reach travel times *

☑ Temperature Adjust Kr**

* Check to duplicate WQAM 6.3 results
** Uncheck to duplicate WQAM 6.3 results

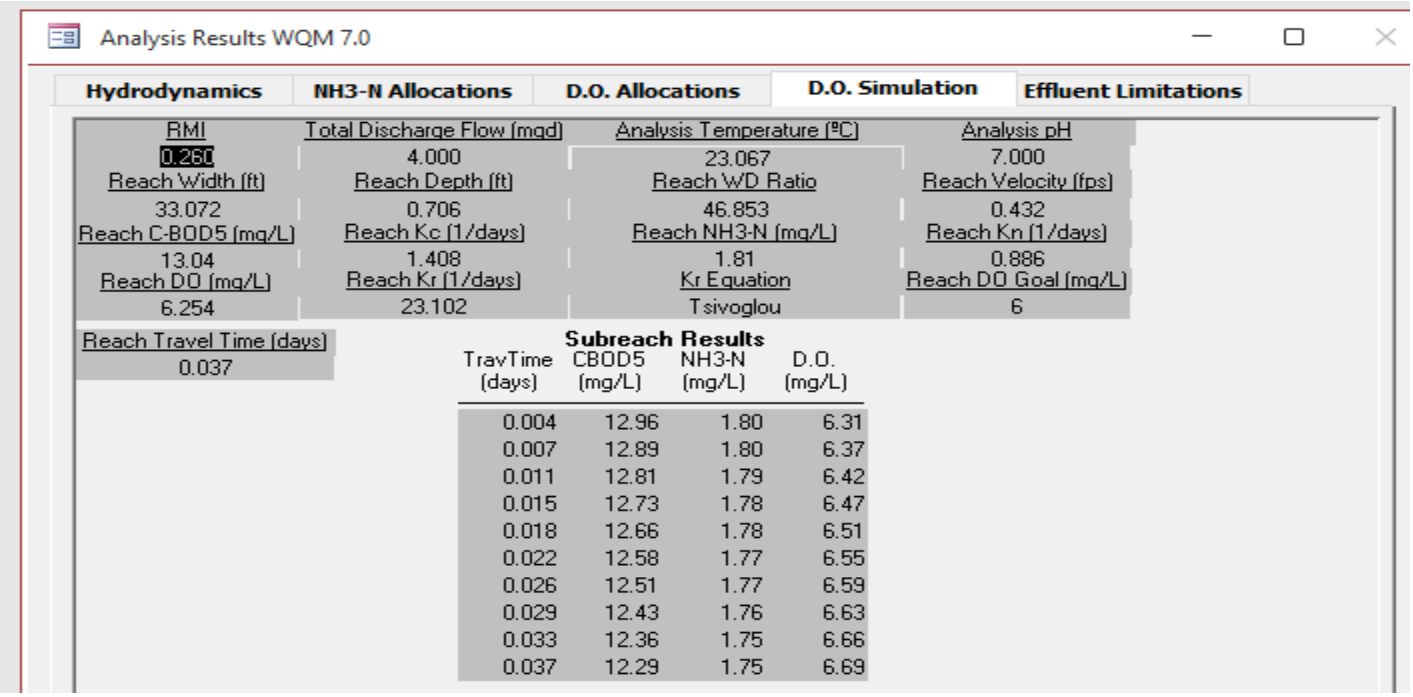
Dissolved Oxygen

DO Goal: 6.00

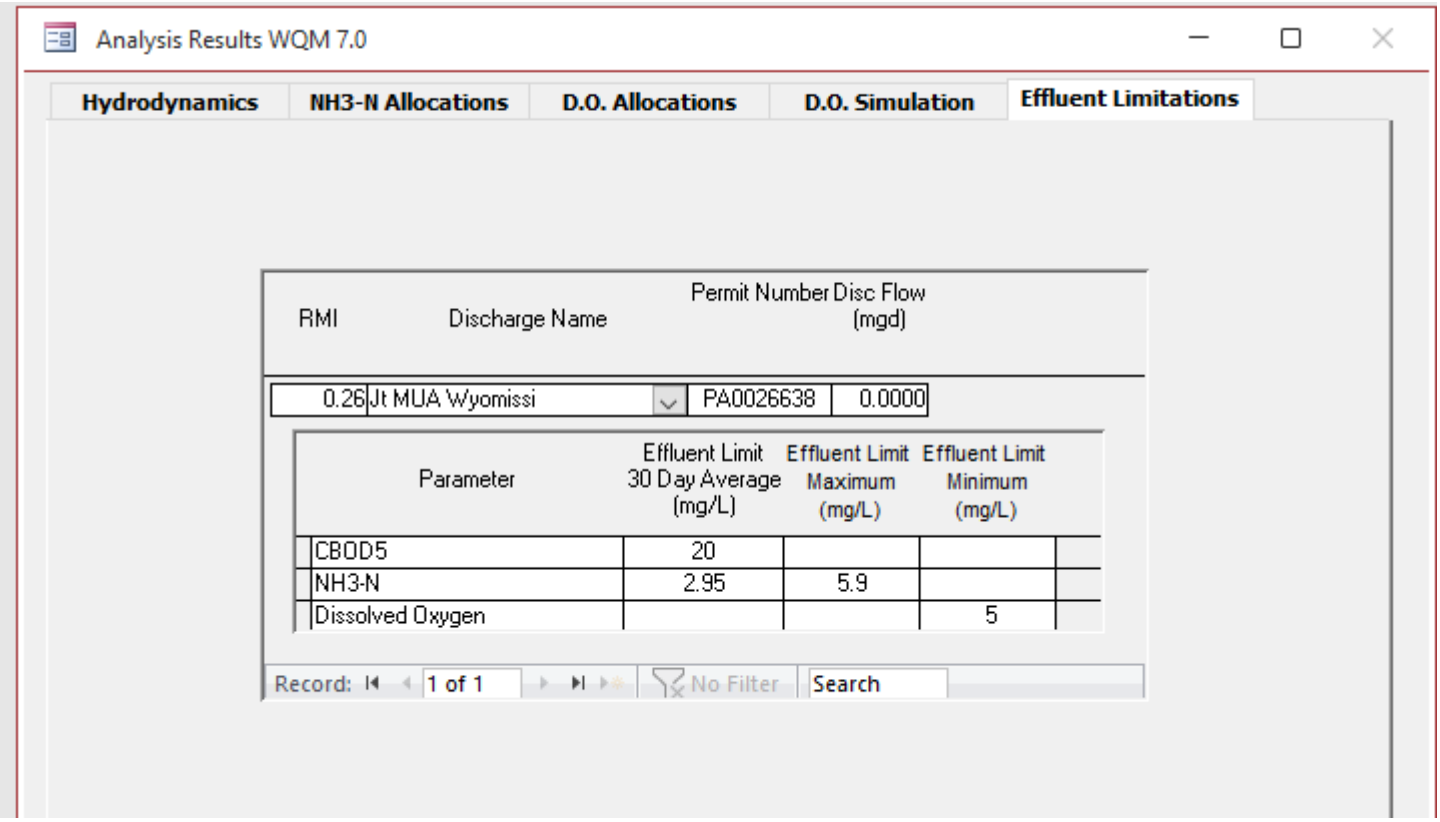
DO Saturation Percent: 90.0%

☑ Use Balanced Technology

Results:



DO Recovered



DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.59
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Wyomissing Valley

Permit No.: PA0026638

Replicate No.	Test Completion Date: 5/7/2024 Control	TIWC
1	10	9
2	10	10
3	9	9
4	10	9
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	9.750	9.250
Std Dev.	0.500	0.500
# Replicates	4	4

T-Test Result	5.1314
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	PASS

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

Test Completion Date | Test Completion Date

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	0.59
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Wyomissing Valley

Permit No.: PA0026638

Replicate No.	Test Completion Date: 5/7/2024 Control	TIWC
1	0.465	0.367
2	0.477	0.441
3	0.421	0.405
4	0.445	0.339
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.452	0.388
Std Dev.	0.025	0.044
# Replicates	4	4

T-Test Result	2.0354
Deg. of Freedom	4
Critical T Value	0.7407
Pass or Fail	PASS

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.59
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Wyomissing Valley

Permit No.: PA0026638

Replicate No.	Test Completion Date: 5/6/2024 Control	TIWC	Test Completion Date: Control	TIWC
1	1	1		
2	1	1		
3	1	1		
4	1	1		
5	1	1		
6	1	1		
7	1	1		
8	1	1		
9	1	1		
10	1	1		
11				
12				
13				
14				
15				
Mean	1.000	1.000	0.000	0.000
Std Dev.	0.000	0.000		
# Replicates	10	10		

T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail	PASS	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.59
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Wyomissing Valley

Permit No.: PA0026638

Replicate No.	Test Completion Date: 5/6/2024 Control	TIWC	Test Completion Date: Control	TIWC
1	19	39		
2	41	32		
3	35	21		
4	26	42		
5	28	34		
6	32	40		
7	26	40		
8	33	33		
9	27	37		
10	30	42		
11				
12				
13				
14				
15				
Mean	29.700	36.000	0.000	0.000
Std Dev.	6.001	6.394		
# Replicates	10	10		

T-Test Result	5.5505	
Deg. of Freedom	16	
Critical T Value	0.8647	
Pass or Fail	PASS	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.59
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Wyomissing Valley

Permit No.: PA0026638

Replicate No.	Test Completion Date: 4/25/2023 Control	TIWC
1	10	10
2	10	10
3	10	10
4	10	10
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	10.000	10.000
Std Dev.	0.000	0.000
# Replicates	4	4
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail	PASS	

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	0.59
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Wyomissing Valley

Permit No.: PA0026638

Replicate No.	Test Completion Date: 4/25/2023 Control	TIWC
1	0.46	0.55
2	0.498	0.49
3	0.461	0.468
4	0.455	0.5
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.469	0.502
Std Dev.	0.020	0.035
# Replicates	4	4
T-Test Result	7.9828	
Deg. of Freedom	4	
Critical T Value	0.7407	
Pass or Fail	PASS	

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.59
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Wyomissing Valley

Permit No.: PA0026638

Replicate No.	Test Completion Date: 4/25/2023 Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail	PASS	

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.59
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Wyomissing Valley

Permit No.: PA0026638

Replicate No.	Test Completion Date: 4/25/2023 Control	TIWC
1	42	47
2	40	38
3	36	42
4	36	48
5	37	36
6	43	42
7	22	39
8	37	42
9	34	40
10	37	48
11		
12		
13		
14		
15		
Mean	36.400	42.200
Std Dev.	5.797	4.237
# Replicates	10	10
T-Test Result	7.7613	
Deg. of Freedom	17	
Critical T Value	0.8633	
Pass or Fail	PASS	

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.59
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Wyomissing Valley

Permit No.: PA0026638

Replicate No.	Test Completion Date: 4/5/2022 Control	TIWC
1	10	10
2	10	10
3	10	10
4	10	9
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	10.000	9.750
Std Dev.	0.000	0.500
# Replicates	4	4

T-Test Result	7.6643
Deg. of Freedom	3
Critical T Value	0.7649
Pass or Fail	PASS

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	0.59
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Wyomissing Valley

Permit No.: PA0026638

Replicate No.	Test Completion Date: 4/5/2022 Control	TIWC
1	0.398	0.5
2	0.398	0.423
3	0.357	0.421
4	0.348	0.381
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.375	0.431
Std Dev.	0.027	0.050
# Replicates	4	4

T-Test Result	5.5922
Deg. of Freedom	4
Critical T Value	0.7407
Pass or Fail	PASS

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.59
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Wyomissing Valley

Permit No.: PA0026638

Replicate No.	Test Completion Date: 4/5/2022 Control	TIWC	Test Completion Date: Control	TIWC
1	1	1		
2	1	1		
3	1	1		
4	1	1		
5	1	1		
6	1	1		
7	1	1		
8	1	1		
9	1	1		
10	1	1		
11				
12				
13				
14				
15				
Mean	1.000	1.000	0.000	0.000
Std Dev.	0.000	0.000		
# Replicates	10	10		
T-Test Result				
Deg. of Freedom				
Critical T Value				
Pass or Fail	PASS			

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.59
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Wyomissing Valley

Permit No.: PA0026638

Replicate No.	Test Completion Date: 4/5/2022 Control	TIWC	Test Completion Date: Control	TIWC
1	40	46		
2	37	36		
3	34	41		
4	36	31		
5	31	41		
6	27	36		
7	39	38		
8	34	40		
9	37	40		
10	35	42		
11				
12				
13				
14				
15				
Mean	35.000	39.100	0.000	0.000
Std Dev.	3.830	4.095		
# Replicates	10	10		
T-Test Result	8.1243			
Deg. of Freedom	16			
Critical T Value	0.8647			
Pass or Fail	PASS			

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.59
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Wyomissing Valley

Permit No.: PA0026638

Replicate No.	Test Completion Date: 4/20/2021 Control	TIWC	Test Completion Date: Control	TIWC
1	10	10		
2	10	10		
3	10	10		
4	10	9		
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
Mean	10.000	9.750	0.000	0.000
Std Dev.	0.000	0.500		
# Replicates	4	4		

T-Test Result	7.6643	
Deg. of Freedom	3	
Critical T Value	0.7649	
Pass or Fail	PASS	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	0.59
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Wyomissing Valley

Permit No.: PA0026638

Replicate No.	Test Completion Date: 4/20/2021 Control	TIWC	Test Completion Date: Control	TIWC
1	0.329	0.36		
2	0.37	0.346		
3	0.315	0.386		
4	0.328	0.302		
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
Mean	0.336	0.349	0.000	0.000
Std Dev.	0.024	0.035		
# Replicates	4	4		

T-Test Result	4.9116	
Deg. of Freedom	4	
Critical T Value	0.7407	
Pass or Fail	PASS	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.59
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Wyomissing Valley

Permit No.: PA0026638

Replicate No.	Test Completion Date: 4/20/2021 Control	TIWC	Test Completion Date: Control	TIWC
1	1	1		
2	1	1		
3	1	1		
4	1	1		
5	1	1		
6	1	1		
7	1	1		
8	1	1		
9	1	1		
10	1	1		
11				
12				
13				
14				
15				
Mean	1.000	1.000	0.000	0.000
Std Dev.	0.000	0.000		
# Replicates	10	10		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail: PASS

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.59
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Wyomissing Valley

Permit No.: PA0026638

Replicate No.	Test Completion Date: 4/20/2021 Control	TIWC	Test Completion Date: Control	TIWC
1	33	36		
2	32	35		
3	24	34		
4	34	38		
5	31	33		
6	33	38		
7	12	12		
8	24	34		
9	32	36		
10	26	31		
11				
12				
13				
14				
15				
Mean	28.100	32.700	0.000	0.000
Std Dev.	6.822	7.587		
# Replicates	10	10		

T-Test Result: 4.0170
Deg. of Freedom: 16
Critical T Value: 0.8647
Pass or Fail: PASS

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

https://www.ahs.dep.pa.gov/TMDL/

PA.GOV OFFICIAL APP | Josh Shapiro, Governor | Jessica Shirley, Acting Secretary | DEP Home

Total Maximum Daily Loads and Alternative Restoration Strategies

Return to Main Page

Select by Watershed: Go

Search by County: Berks Go

Search by Cause: Go

Search by Category: Go

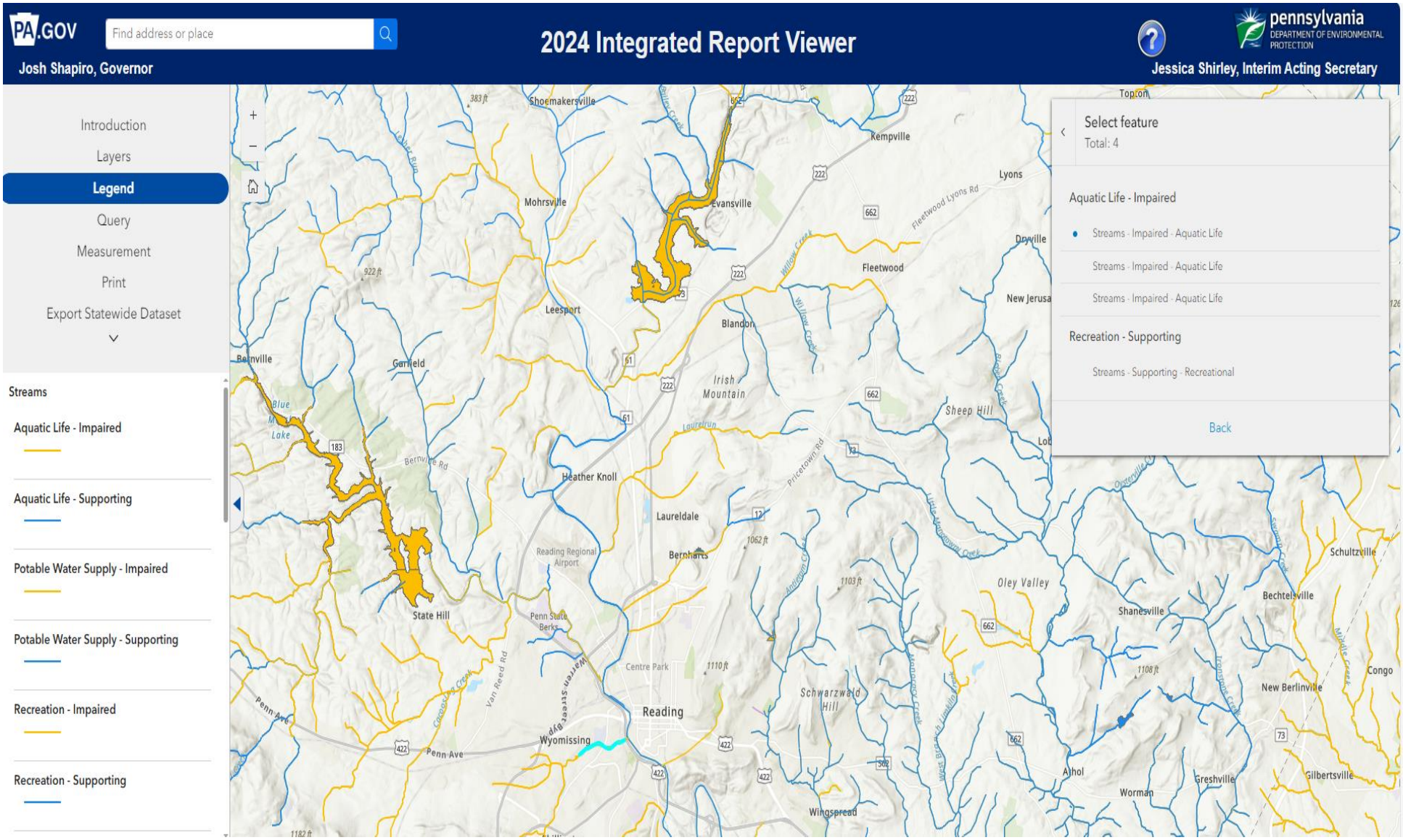
Search by Status: Go

Search by HUC: Go

Keyword Search: Wyomissing Go

TMDLs containing Keyword Wyomissing

Wyomissing Creek		
Information	**Status**	**Links**
County: Berks **Category:** NONPOINT SOURCE **Cause:** TURBIDITY, TOTAL SUSPENDED SOLIDS (TSS), SILTATION **HUC:** 2040203, 2050306	EPA Approved 12/9/2004	**TMDL:** Wyomissing Creek TMDL



(Bright blue in above screen shot is Wyomissing Creek)

February 19,2024

NPDES Permit Renewal Application

Bypass Information

a. Outfall 001 – Latitude 40 19 42.52 Longitude 75 56 34.83
b. Extreme Rainfall Events
c. 5 events
d. Addition of diesel powered bypass pump for use during extreme rainfall events to eliminate or minimize bypass events. Rebuilt Raw Sewage Pumps to maximize pumping efficiency.
e. Outfall 002 – Latitude 40 19 41 Longitude 75 56 34
f. Extreme Rainfall Events
g. 4 events
h. Rebuild Primary Effluent to maximize pumping efficiency.

Certificate of Analysis

M.J. Reider Associates, Inc.
ENVIRONMENTAL TESTING LABORATORY
U.S. EPA/PA DEP #06-00003

Laboratory No.: 2502249
Report: 01/24/25
Lab Contact: Jade S Eversole

Attention: David Wisser
Reported To: Joint Municipal Auth of Wyomissing
701 Old Wyomissing Road
Reading, PA 19611

Project: Resample - NPDES Municipal Permit Renewal

Lab ID: 2502249-01 **Collected By:** Client **Sampled:** 01/22/25 07:43 **Received:** 01/22/25 11:11
Sample Desc: Effluent **Sample Type:** Composite
Composite Begin: 1/21/25 7:38

	Result	Unit	MDL	Rep. Limit	Analysis Method	Analyzed	Notes	Analyst
Total Metals								
Aluminum	0.62	mg/L	0.009	0.02	EPA 200.7 Rev 4.4	01/23/25		HRG
Thallium	<0.3	ug/L	0.3	3	EPA 200.8 Rev 5.4	01/23/25	U	MPB

Preparation Methods

Specific Method	Preparation Method	Prep Batch	Prepared Date	Notes	Prepared By
2502249-01					
Total Metals					
EPA 200.7 Rev 4.4	EPA 200.2 Rev 2.8	B5A1516	01/23/2025		HRG
EPA 200.8 Rev 5.4	EPA 200.2 Rev 2.8	B5A1517	01/23/2025		HRG

Notes and Definitions

U Analyte was not detected above the indicated value.

Certificate of Analysis

M.J. Reider Associates, Inc.
ENVIRONMENTAL TESTING LABORATORY
U.S. EPA/PA DEP #06-00003

Laboratory No.: 2502250
Report: 02/10/25
Lab Contact: Jade S Eversole

Attention: David Wisser
Reported To: Joint Municipal Auth of Wyomissing
701 Old Wyomissing Road
Reading, PA 19611

Project: Resample - NPDES Municipal Permit Renewal

Lab ID: 2502250-01 **Collected By:** Client **Sampled:** 01/29/25 07:57 **Received:** 01/30/25 11:20
Sample Desc: Effluent **Sample Type:** Composite
Composite Begin: 1/28/25 7:43

	Result	Unit	MDL	Rep. Limit	Analysis Method	Analyzed	Notes	Analyst
Total Metals								
Aluminum	0.58	mg/L	0.009	0.02	EPA 200.7 Rev 4.4	01/31/25		HRG
Thallium	<0.3	ug/L	0.3	3	EPA 200.8 Rev 5.4	01/31/25	U	MPB

Preparation Methods

Specific Method	Preparation Method	Prep Batch	Prepared Date	Notes	Prepared By
2502250-01					
Total Metals					
EPA 200.7 Rev 4.4	EPA 200.2 Rev 2.8	B5A2073	01/31/2025		HRG
EPA 200.8 Rev 5.4	EPA 200.2 Rev 2.8	B5A2074	01/31/2025		HRG

Notes and Definitions

U Analyte was not detected above the indicated value.

Certificate of Analysis

M.J. Reider Associates, Inc.
ENVIRONMENTAL TESTING LABORATORY
U.S. EPA/PA DEP #06-00003

Laboratory No.: 2502251
Report: 02/11/25
Lab Contact: Jade S Eversole

Attention: David Wisser
Reported To: Joint Municipal Auth of Wyomissing
701 Old Wyomissing Road
Reading, PA 19611

Project: Resample - NPDES Municipal Permit Renewal

Lab ID: 2502251-01 **Collected By:** Client
Sample Desc: Effluent

Sampled: 02/05/25 07:57 **Received:** 02/06/25 11:31
Sample Type: Composite
Composite Begin: 2/4/25 7:45

	Result	Unit	MDL	Rep. Limit	Analysis Method	Analyzed	Notes	Analyst
Total Metals								
Aluminum	0.51	mg/L	0.009	0.02	EPA 200.7 Rev 4.4	02/07/25		HRG
Thallium	<0.3	ug/L	0.3	3	EPA 200.8 Rev 5.4	02/07/25	U	MPB

Preparation Methods

Specific Method	Preparation Method	Prep Batch	Prepared Date	Notes	Prepared By
2502251-01					
Total Metals					
EPA 200.7 Rev 4.4	EPA 200.2 Rev 2.8	B5B0389	02/07/2025		HRG
EPA 200.8 Rev 5.4	EPA 200.2 Rev 2.8	B5B0390	02/07/2025		HRG

Notes and Definitions

U Analyte was not detected above the indicated value.

Certificate of Analysis

M.J. Reider Associates, Inc.
ENVIRONMENTAL TESTING LABORATORY
U.S. EPA/PA DEP #06-00003

Laboratory No.: 2502252
Report: 02/17/25
Lab Contact: Jade S Eversole

Attention: David Wisser
Reported To: Joint Municipal Auth of Wyomissing
701 Old Wyomissing Road
Reading, PA 19611

Project: Resample - NPDES Municipal Permit Renewal

Lab ID: 2502252-01 **Collected By:** Client **Sampled:** 02/12/25 07:50 **Received:** 02/13/25 11:15
Sample Desc: Effluent **Sample Type:** Composite

	Result	Unit	MDL	Rep. Limit	Analysis Method	Analyzed	Notes	Analyst
Total Metals								
Aluminum	0.68	mg/L	0.009	0.02	EPA 200.7 Rev 4.4	02/14/25		HRG
Thallium	<0.3	ug/L	0.3	3	EPA 200.8 Rev 5.4	02/14/25	U	MPB

Preparation Methods

Specific Method	Preparation Method	Prep Batch	Prepared Date	Notes	Prepared By
2502252-01					
Total Metals					
EPA 200.7 Rev 4.4	EPA 200.2 Rev 2.8	B5B0920	02/14/2025		HRG
EPA 200.8 Rev 5.4	EPA 200.2 Rev 2.8	B5B0921	02/14/2025		HRG

Notes and Definitions

U Analyte was not detected above the indicated value.

107 Angelica Street ○ Reading, PA 19611 ○ www.mjreider.com ○ (610) 374-5129 ○ fax (610) 374-7234

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Jt MUA Wyomissing Valley-addtl effl samples** NPDES Permit No.: **PA0026638** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **domestic ww**

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
4	204	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											
	Chloride (PWS)	mg/L											
	Bromide	mg/L											
	Sulfate (PWS)	mg/L											
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		680									
	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	mg/L											
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L											
	Total Iron	µg/L											
	Total Lead	µg/L											
	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	<	0.3									
	Total Zinc	mg/L											
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Jt MUA Wyomissing Valley-addtl effl samples, NPDES Permit No. PA0026638, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Wyomissing Creek**

No. Reaches to Model: **1**

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	001833	0.26	205	15.6			Yes
End of Reach 1	001833	0	195	15.7			Yes

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

Location	RMI	LFY (cfs/mi²)*	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	0.26	0.25										184	7		
End of Reach 1	0	0.25													

Q_h

Location	RMI	LFY (cfs/mi²)	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	0.26														
End of Reach 1	0														

Model Results

Jt MUA Wyomissing Valley-addtl effl samples, NPDES Permit No. PA0026638, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 4.427 PMF: 1 Analysis Hardness (mg/l): 196.27 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 Aluminum	0	0		0	750	750	1,223	
Total Thallium	0	0		0	65	65.0	106	

☑ ***CFC*** CCT (min): 4.427 PMF: 1 Analysis Hardness (mg/l): 196.27 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 Aluminum	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	13	13.0	21.2	

☑ ***THH*** CCT (min): 4.427 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 Aluminum	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	0.39	

☑ ***CRL*** CCT (min): 9.063 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 Aluminum	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	

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

No. Samples/Month: 4

Pollutants	*Mass Limits* AML (lbs/day)	*Mass Limits* MDL (lbs/day)	*Concentration Limits* AML	*Concentration Limits* MDL	*Concentration Limits* IMAX	*Concentration Limits* Units	Governing WQBEL	WQBEL Basis	Comments
Total Aluminum	26.1	40.8	784	1,223	1,959	µg/L	784	AFC	Discharge Conc ≥ 50% WQBEL (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 Thallium	N/A	N/A	Discharge Conc < TQL