Pennsylvania Department of Environmental Protection

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0086754**
Facility Type	**Industrial**	APS ID	**46077**
Major / Minor	**Minor**	Authorization ID	**1479501**

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

Applicant and Facility Information

Applicant Name	**East Penn Manufacturing Co.**	Facility Name	East Penn-Battery and Battery Accessory Manufacturing Plant, Lyons Borough
Applicant Address	PO Box 147 Lyon Station, PA 19536-0147	Facility Address	Deka Road Lyon Station, PA 19536-19435
Applicant Contact	Heather McLaughlin, Water Quality Specialist	Facility Contact	Heather Mclaughlin
Applicant Phone	(610) 682-6361 ext. 2980 hmclaughlin@dekabatteries.com	Facility Phone	(610) 682-6361
Client ID	77370	Site ID	444337 (PF 547722)
SIC Code	3691, 3341, 3089, 2873 (per appl.)	Municipality	Richmond Twp, Lyons Borough, and Maxatawny Twp.
SIC Description	Mfrg–Batteries & Secondary Smelting & Refining of Nonferrous Metals	County	Berks
Date Application Received	April 4, 2024 (per date stamp)	EPA Waived?	Yes
Date Application Accepted	April 18, 2024	If No, Reason	
Purpose of Application	Renewal of NPDES permit for process wastewater and stormwater		

Summary of Review

The last NPDES permit for this facility was issued September 16, 2019, with an expiration date of September 30, 2024. The existing permit was administratively extended by DEP past its expiration date. The NPDES permit renewal application was submitted by mail and received by DEP on April 4, 2024. Amendments to the application were received as an email attachment on May 8, 2025.

This facility is a battery and battery accessory manufacturing plant located within Richmond Township and Lyons Borough. Outfall 001 is located in Maxatawny Township. The facility manufactures lead acid batteries and accessories that can be used in the automotive industry, marine industry, railroad industry, electric vehicles, small engines, motive power sources, trucks, back-up power, interruptible power systems, and telecommunications. The facility includes (6) battery-manufacturing plants, a smelter, two (2) injection-molding plants, an acid reclamation plant, a battery tear-down plant, a machine shop, a smelter shop, a laundry, and a fleet maintenance building.

The permittee provided the following information in their application:

SIC Code	Description
3691	Storage Batteries
3341	Secondary Smelting and Refining of Nonferrous Metals
3089	Plastic Products (not elsewhere classified)
2873	Nitrogenous Fertilizer*

On the site is a process wastewater treatment facility (IWTP) and a sanitary wastewater pre-treatment facility. Pre-treated sanitary waste water is conveyed to the Lyons Borough Wastewater Treatment Plant (WWTP)(NPDES Permit no.

Approve	Deny	Signatures	Date
x		*Bonnie Boylan* Bonnie Boylan / Environmental Engineering Specialist	August 19, 2025
x		*Daniel W. Martin* Daniel W. Martin, P.E. / Environmental Engineer Manager	August 20, 2025

PA0085171). The effluent from the IWTP is recycled and reused on-site for plant operations although it could be discharged to outfall 001 or conveyed to the Lyons Borough WWTP. Reverse Osmosis (RO) reject water and other non-recyclable wastewater from the IWTP is directed to the smelter afterburner for evaporative cooling although it could be discharged to outfall 001 or conveyed to the Lyons Borough STP. (See the attached flow diagram from the application.)

According to the existing permit's associated Fact Sheet, the facility has not had stream discharges at outfall 001 since the late 1990's. The facility's eDMR records start in 2016. The eDMRs indicate that no discharge has occurred at outfall 001 since January 1, 2016. The application designates the discharge at outfall 001 as "emergency only". For the sake of the application, the effluent results were collected after treatment and inclusive of the RO reject water, according to the April 10, 2025 phone conversation with the facility contact.

Acid concentration equipment within the battery manufacturing plants allows for recovery of acid from specific acidic waste streams for reuse in the manufacturing processes. EPMC utilizes a chemical precipitation process as well as thermal de-salting process within the existing IWTP to generate salt and distilled water. Salt is used for sale and distilled water is sent back to the manufacturing plant through a reverse osmosis filtration process. As a result, this IWTP is a 'zero liquid discharge facility'.

The 2009 Protection Report for Lyons Borough STP's NPDES permit stated:
"The Borough's facility shares a common outfall with East Penn Manufacturing. East Penn can discharge treated industrial waste through this line. The East Penn flow can be metered and sampled before it enters the common outfall."

There are 5 stormwater-only outfalls: 002, 004, 005, 006, and 007. (A previous fact sheet explained that there had been an outfall 003 but in November 2005 the stormwater from outfall 003 was piped to the collection system ending at outfall 002.)

Design Flow

The design flow used as the basis for effluent limitations in the existing NPDES permit is 0.005 MGD (for outfall 001). The application reported the same 0.005 MGD design flow. A design flow of 0.005 MGD has been used to develop effluent limitations for this renewal permit.

Variances

There were no variances requested.

Cooling Water Intake Structures

Not applicable.

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 and any comments will be considered. The facility does not have a wastewater discharge docket with DRBC and is under DRBC's reviewable threshold of 0.050 MGD for discharges.

Outstanding Violations

There are no outstanding violations for this client according to DEP's Compliance History Summary report..

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	0.005 MGD
Latitude	40º 29' 10.8" (per application including USGS topo quad: Fleetwood & Manatawny) (=40.486333)	Longitude	-75º 44' 45.7" (per application including USGS topo quad: Fleetwood & Manatawny) (= -75.746028)
Quad Name		Quad Code	
Wastewater Description:	IW Process Effluent with ELG		
Receiving Waters	Sacony Creek (CWF)	Stream Code	02008
NHD Com ID	25981108	RMI	12
Drainage Area	7.45 sq.mi.	Yield (cfs/mi^2)	0.19
Q_{7-10} Flow (cfs)	1.4	Q_{7-10} Basis	USGS Stream Stats*
Elevation (ft)	430	Slope (ft/ft)	
Watershed No.	03B	Chapter 93 Class.	CWF, MF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	-		
Source(s) of Impairment	-		
TMDL Status	Downstream lake is impaired for nutrients & TSS	Name	Lake Ontelaunee TMDL (8/9/2004)

Secondary Waters: discharges into Maiden Creek at RMI 11.01 (TSF, impaired for Recreational uses) which Discharges into Lake Ontelaunee at RMI 9.3 (WWF, impaired due to TSS and nutrients)

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

Nearest Downstream Public Water Supply Intake		Reading Area Water Authority	
PWS Waters	Maiden Creek	Flow at Intake (cfs)	
PWS RMI	Approx. 3	Distance from Outfall (mi)	Approx.. 20 miles

*USGS StreamStats available at https://streamstats.usgs.gov/ss/. Downloads are attached to this Fact Sheet.

Changes since last permit:

The 2019 permit represented the latitude and longitude for outfall 001 as 40º 29’ 15” / -75º 44’ 46” and the RMI as 11.55. This location would be north of the railroad tracks and does not match the data in the renewal application or the location of Lyons Borough SPT’s outfall 001 with which they share a discharge pipe. The modeling for the 2019 permit used a slightly larger Q_{7-10} flow and a slightly larger Drainage Area and did not include any other dischargers in proximity.

Other Comments: See next page.

Other comments

Sacony Creek is designated as **Trout Natural Reproduction** for RMI between 4.66 and 17.09

Sacony Creek at outfall and downstream is NOT designated as Class A Trout Stream

There is a surface water withdrawal for agricultural use at RMI 9.9 on Maiden Creek, some 14 miles downstream.

There are no upstream or downstream USGS gages for which $Q_{7\text{-}10}$ flows are still being compiled from data collection.

Other dischargers in proximity:

There are no upstream point source dischargers to include in modeling.

Downstream is Kutztown STP (PA0031135) at RMI 7.4 (per their last Fact Sheet) and Maxatawny Twp STP (PA0260151) at RMI 6.8. Both of these point source discharges should be included in WQM 7 modeling as well as Lyons Boro STP (PA0085171) at RMI 12.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0
Latitude	40º 28' 28" per appl (=40.474444)	Longitude	--75º 46' 27" per appl (= -75.774167)
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	UNT to Moselem Creek (see attached map) *	Stream Code	UNT to 02003 per eMapPA & appl lat &long & USGS/PA StreamStats, In Richmond Twp
NHD Com ID		RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	03B	Chapter 93 Class.	HQ-CWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status			
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Background/Ambient Data - none Data Source – N/A

Secondary Waters:
The UNT flows into Moslem Creek (Com.ID 133228688 or 133228686 or 133228694)(at approximately 3.9 RMI) with a designated use of HQ-CWF, MF, watershed 3B, not impaired, and which is considered Trout Natl Reproduction

Moslem Creek flows into Maiden Creek, WWF, MF which flows into Lake Ontelaunee

Nearest Downstream Public Water Supply Intake	Reading Area Water Authority		
PWS Waters	Maiden Creek	Flow at Intake (cfs)	
PWS RMI	Approx.. 3	Distance from Outfall (mi)	Over 13 miles

Changes Since Last Permit Issuance:

According to the 2019 Fact Sheet Addendum, the permittee commented that they were uncertain of the discharge point for the stormwater outfalls. The DEP permit writer assumed the ultimate receiving water for the stormwater outfalls was an unnamed tributary of Willow Creek to the south of the facility, perhaps via a Richmond Twp MS4 to the west of the facility which discharges into UNT 01989 to Willow Creek. USGS Stream Stats and topo lines indicate otherwise.

In an April 10, 2025 with Heather McLaughlin of E. Penn Mfrg, the applicant told this permit writer that their stormwater does not enter municipal storm sewers but discharges to the north into a field where it is likely to soak into the ground before ever reaching any stream.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	004	Design Flow (MGD)	0
Latitude	40º 28' 32" per appl (=40.475556)	Longitude	75º 46' 19" per appl (= -75.771944)
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	UNT to Moselem Creek if use lat.long in appl & PA StrmStats (see attached map)	Stream Code	UNT to 02003 per eMapPA & appl lat &long & USGS/PA StreamStats, In Richmond Twp
NHD Com ID		RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	03B	Chapter 93 Class.	HQ-CWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status			
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Secondary Waters:
The UNT flows into Moslem Creek (Com.ID 133228688 or 133228686 or 133228694)(at approximately 3.9 RMI) with a designated use of HQ-CWF, MF, watershed 3B, not impaired, and which is considered Trout Natl Reproduction

Moslem Creek flows into Maiden Creek, WWF, MF which flows into Lake Ontelaunee

Nearest Downstream Public Water Supply Intake	Reading Area Water Authority		
PWS Waters	Maiden Creek	Flow at Intake (cfs)	
PWS RMI	Approx.. 3	Distance from Outfall (mi)	Over 13 miles

Changes Since Last Permit Issuance:

According to the 2019 Fact Sheet Addendum, the permittee commented that they were uncertain of the discharge point for the stormwater outfalls. The DEP permit writer assumed the ultimate receiving water for the stormwater outfalls was an unnamed tributary of Willow Creek to the south of the facility, perhaps via a Richmond Twp MS4 to the west of the facility which discharges into UNT 01989 to Willow Creek. USGS Stream Stats and topo lines indicate otherwise.

In an April 10, 2025 with Heather McLaughlin of E. Penn Mfrg, the applicant told this permit writer that their stormwater does not enter municipal storm sewers but discharges to the north into a field where it is likely to soak into the ground before ever reaching any stream.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	005	Design Flow (MGD)	0
Latitude	40º 28' 48" per appl (=40.48)	Longitude	-75º 46' 7" per appl (= -75.768611)
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	UNT to Moselem Creek (see attached map) *	Stream Code	UNT to 02003 per eMapPA & appl lat &long & USGS/PA StreamStats, In Richmond Twp
NHD Com ID		RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	03B	Chapter 93 Class.	HQ-CWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status			
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Secondary Waters:
The UNT flows into Moslem Creek (Com.ID 133228688 or 133228686 or 133228694)(at approximately 3.9 RMI) with a designated use of HQ-CWF, MF, watershed 3B, not impaired, and which is considered Trout Natl Reproduction

Moslem Creek flows into Maiden Creek, WWF, MF which flows into Lake Ontelaunee

Nearest Downstream Public Water Supply Intake	Reading Area Water Authority		
PWS Waters	Maiden Creek	Flow at Intake (cfs)	
PWS RMI	Approx.. 3	Distance from Outfall (mi)	Over 13 miles

Changes Since Last Permit Issuance:

According to the 2019 Fact Sheet Addendum, the permittee commented that they were uncertain of the discharge point for the stormwater outfalls. The DEP permit writer assumed the ultimate receiving water for the stormwater outfalls was an unnamed tributary of Willow Creek to the south of the facility, perhaps via a Richmond Twp MS4 to the west of the facility which discharges into UNT 01989 to Willow Creek. USGS Stream Stats and topo lines indicate otherwise.

In an April 10, 2025 with Heather McLaughlin of E. Penn Mfrg, the applicant told this permit writer that their stormwater does not enter municipal storm sewers but discharges to the north into a field where it is likely to soak into the ground before ever reaching any stream.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	006	Design Flow (MGD)	0
Latitude	40º 28' 46" per appl (=40.479444)	Longitude	-75º 45' 50"per appl (= -75.763889)
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	UNT to Moselem Creek (see attached map) *	Stream Code	UNT to 02003 per eMapPA & appl lat &long & USGS/PA StreamStats, In Richmond Twp
NHD Com ID		RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	03 B	Chapter 93 Class.	HQ-CWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status			
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Secondary Waters:
The UNT flows into Moslem Creek (Com.ID 133228688 or 133228686 or 133228694)(at approximately 3.9 RMI) with a designated use of HQ-CWF, MF, watershed 3B, not impaired, and which is considered Trout Natl Reproduction

Moslem Creek flows into Maiden Creek, WWF, MF which flows into Lake Ontelaunee

Nearest Downstream Public Water Supply Intake	Reading Area Water Authority		
PWS Waters	Maiden Creek	Flow at Intake (cfs)	
PWS RMI	Approx.. 3	Distance from Outfall (mi)	Over 13 miles

Changes Since Last Permit Issuance:

According to the 2019 Fact Sheet Addendum, the permittee commented that they were uncertain of the discharge point for the stormwater outfalls. The DEP permit writer assumed the ultimate receiving water for the stormwater outfalls was an unnamed tributary of Willow Creek to the south of the facility, perhaps via a Richmond Twp MS4 to the west of the facility which discharges into UNT 01989 to Willow Creek. USGS Stream Stats and topo lines indicate otherwise.

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Discharge, Receiving Waters and Water Supply Information

Outfall No.	007	Design Flow (MGD)	0
Latitude	40º 28' 29" per appl (=40.474722)	Longitude	-75º 46' 17" per appl (= -75.771389)
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	UNT to Moselem Creek (see attached map) *	Stream Code	UNT to 02003 per eMapPA & appl lat &long & USGS/PA StreamStats, In Richmond Twp
NHD Com ID		RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	03 B	Chapter 93 Class.	HQ-CWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status			
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Secondary Waters:
The UNT flows into Moslem Creek (Com.ID 133228688 or 133228686 or 133228694)(at approximately 3.9 RMI) with a designated use of HQ-CWF, MF, watershed 3B, not impaired, and which is considered Trout Natl Reproduction

Moslem Creek flows into Maiden Creek, WWF, MF which flows into Lake Ontelaunee

Nearest Downstream Public Water Supply Intake	Reading Area Water Authority		
PWS Waters	Maiden Creek	Flow at Intake (cfs)	
PWS RMI	Approx.. 3	Distance from Outfall (mi)	Over 13 miles

Changes Since Last Permit Issuance:

According to the 2019 Fact Sheet Addendum, the permittee commented that they were uncertain of the discharge point for the stormwater outfalls. The DEP permit writer assumed the ultimate receiving water for the stormwater outfalls was an unnamed tributary of Willow Creek to the south of the facility, perhaps via a Richmond Twp MS4 to the west of the facility which discharges into UNT 01989 to Willow Creek. USGS Stream Stats and topo lines indicate otherwise.

In an April 10, 2025 with Heather McLaughlin of E. Penn Mfrg, the applicant told this permit writer that their stormwater does not enter municipal storm sewers but discharges to the north into a field where it is likely to soak into the ground before ever reaching any stream.

Treatment Facility Summary				
Treatment Facility Name: East Penn Manufacturing - IWTP				
WQM Permit No.	**Issuance Date**			
0694201*	9/19/1995*			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial	See below	See below	none	
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**

*per the 2024 NPDES renewal application but not shown in DEP's eFacts database (which is typical for older WQM permits).

According to the renewal application:

The treatment consists of Screening, Equalization, Iron Addition/Neutralization, Sedimentation, Filtration and pH adjustment, and Thermal De-Salting

Sodium hydroxide is used for neutralization; ferric sulfate and ferrous sulfate are used for as precipitants; and polymer is used for coagulation. No 'chemical additives' are reported in the application, such as chemicals not used in the production of goods or in the treatment of wastewater.

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DEP's 5/5/2022 inspection:

Water Quality Management Permit No.				All treatment units are as noted in permit: ☐ Yes ☐ No
Treatment Units	**Total**	**On-Line**	**Inoperable**	**Comments**
Rotary Screen	1	1		
Oil Water Seperator	1	1		
EQ Tanks	2	2		
3 Stage Neutralization	3	3		
Flocculation Tanks	2	2		
Inclined Plate Clarifiers	2	2		
Bag Filters	2	2		
Evaporator Feed Tanks	2	2		
Crystallizers	2	2		
Evaporators	2	2		
Fine Screen	2	2		
EQ/Aeration Tanks	2	2		
Settling Tanks	1	1		
Ultrafiltration Tanks	2	2		
Sludge Thickener Tanks	1	1		
Plate Filter Press	3	3		

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	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	7.5	XXX	XXX	9.0	1/day	Grab
Total Suspended Solids	Report	Report	XXX	30	60	75	2/month	24-Hr Composite
Total Suspended Solids (Total Load, lbs) (lbs)	XXX *	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Suspended Solids (Total Load, lbs) (lbs)	XXX	462 Total Annual	XXX	XXX	XXX	XXX	1/year	Calculation
Total Dissolved Solids	Report	Report	XXX	1000	2000	2500	2/month	24-Hr Composite
Oil and Grease	Report	Report	XXX	15.0	30.0	XXX	1/day	Grab
Ammonia-Nitrogen	Report	Report	XXX	5.0	10.0	12	2/month	24-Hr Composite
Antimony, Total	Report	Report	XXX	0.025	0.05	0.0625	2/month	24-Hr Composite
Arsenic, Total	Report	Report	XXX	0.045	0.09	0.11	2/month	24-Hr Composite
Copper, Total	Report	Report	XXX	0.058	0.116	0.145	2/month	24-Hr Composite
Iron, Total	5.01	6.37	XXX	Report	Report	XXX	2/month	24-Hr Composite
Lead, Total	Report	Report	XXX	0.027	0.054	0.0675	2/month	24-Hr Composite
Zinc, Total	Report	Report	XXX	0.41	0.82	1.03	2/month	24-Hr Composite
Bis(2-Ethylhexyl)Phthalate	Report	Report	XXX	0.03	0.06	0.075	2/month	24-Hr Composite

*apparently an error since pounds per month of TSS is needed to calculate the annual load as pounds per year. The WMS database sampling limits were coded as ‘Report Total Month’ for TSS in lbs.

EXISTING PERMIT LIMITS, OUTFALLS 002, 004, 005, 006, 007:

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Total Suspended Solids	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Total Dissolved Solids	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Antimony, Total	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Arsenic, Total	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Copper, Total	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Iron, Total	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Lead, Total	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Sulfate, Total	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Zinc, Total	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab

Compliance History

DMR Data for Outfall 002 (from July 1, 2024 to June 30, 2025)

Parameter	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24
pH (S.U.) Daily Maximum	GG	7.45	7.49	7.32	GG	GG	7.39	8.81	GG	7.75	7.67	7.33
CBOD5 (mg/L) Daily Maximum	GG	7.5	6.5	6.5	GG	GG	3.2	< 2.0	GG	8.2	6.3	5.0
TSS (mg/L) Daily Maximum	GG	8.0	< 4.0	8.8	GG	GG	4.0	< 4.0	GG	4.5	< 4.0	5.0
Total Dissolved Solids (mg/L) Daily Maximum	GG	342	748	1580	GG	GG	248	188	GG	159	118	134
Oil and Grease (mg/L) Daily Maximum	GG	< 5.2	< 5.2	< 5.1	GG	GG	< 5.0	< 5.3	GG	< 5.2	< 5.2	< 5.5
Total Nitrogen (mg/L) Daily Maximum	GG	< 1.78	< 1.70	< 2.62	GG	GG	< 2.91	< 1.7	GG	< 2.17	< 1.80	< 1.50
Total Antimony (mg/L) Daily Maximum	GG	0.0052	0.0110	0.0077	GG	GG	0.0100	0.0150	GG	0.0049	0.0068	0.0062
Total Arsenic (mg/L) Daily Maximum	GG	0.002	0.002	0.001	GG	GG	0.001	0.001	GG	0.002	0.003	0.004
Total Copper (mg/L) Daily Maximum	GG	0.008	0.005	0.011	GG	GG	0.006	< 0.002	GG	0.004	0.006	0.003
Total Iron (mg/L) Daily Maximum	GG	1.51	0.638	0.790	GG	GG	0.455	0.181	GG	0.533	0.349	1.12
Total Lead (mg/L) Daily Maximum	GG	0.086	0.043	0.107	GG	GG	0.064	0.019	GG	0.020	0.018	0.106
Sulfate (mg/L) Daily Maximum	GG	5.19	13.8	19.0	GG	GG	15.9	16.4	GG	7.00	7.37	6.88
Total Zinc (mg/L) Daily Maximum	GG	0.010	< 0.010	0.040	GG	GG	0.027	< 0.010	GG	0.011	< 0.010	0.012

DMR Data for Outfall 004 (from July 1, 2024 to June 30, 2025)

Parameter	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24
pH (S.U.) Daily Maximum	GG	7.54	7.52	7.89	GG	GG	7.84	7.37	GG	GG	7.30	7.49
CBOD5 (mg/L) Daily Maximum	GG	4.5	7.4	7.9	GG	GG	5.4	< 2.0	GG	GG	4.9	5.2
TSS (mg/L) Daily Maximum	GG	22.7	25.0	350	GG	GG	67.0	8.0	GG	GG	58.0	41.0
Total Dissolved Solids (mg/L) Daily Maximum	GG	196	250	1200	GG	GG	102	62.0	GG	GG	66.0	174
Oil and Grease (mg/L) Daily Maximum	GG	< 5.6	< 5.3	< 5.3	GG	GG	< 5.2	< 5.1	GG	GG	< 5.0	< 5.2
Total Nitrogen (mg/L) Daily Maximum	GG	3.65	4.32	< 3.16	GG	GG	1.87	< 1.70	GG	GG	< 1.80	< 3.24
Total Antimony (mg/L) Daily Maximum	GG	0.0039	0.0042	0.0072	GG	GG	0.0035	0.0016	GG	GG	0.0019	0.0026
Total Arsenic (mg/L) Daily Maximum	GG	< 0.001	< 0.002	< 0.005	GG	GG	< 0.002	< 0.001	GG	GG	< 0.001	0.002
Total Copper (mg/L) Daily Maximum	GG	0.007	0.025	0.024	GG	GG	0.007	< 0.002	GG	GG	0.009	0.011
Total Iron (mg/L) Daily Maximum	GG	0.906	0.429	5.51	GG	GG	1.35	0.171	GG	GG	0.421	1.58
Total Lead (mg/L) Daily Maximum	GG	0.096	0.112	1.12	GG	GG	0.224	0.045	GG	GG	0.215	0.127
Sulfate (mg/L) Daily Maximum	GG	9.65	21.3	23.0	GG	GG	10.9	16.6	GG	GG	< 5.00	9.16
Total Zinc (mg/L) Daily Maximum	GG	0.055	0.086	0.621	GG	GG	0.130	0.067	GG	GG	0.120	0.065

DMR Data for Outfall 005 (from July 1, 2024 to June 30, 2025)

Parameter	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24
pH (S.U.) Daily Maximum	GG	GG	GG	7.29	GG	GG	GG	GG	GG	GG	7.15	6.98
CBOD5 (mg/L) Daily Maximum	GG	GG	GG	5.8	GG	GG	GG	GG	GG	GG	3.0	3.6
TSS (mg/L) Daily Maximum	GG	GG	GG	47.0	GG	GG	GG	GG	GG	GG	6.5	4.8
Total Dissolved Solids (mg/L) Daily Maximum	GG	GG	GG	358	GG	GG	GG	GG	GG	GG	50.0	54.0
Oil and Grease (mg/L) Daily Maximum	GG	GG	GG	< 5.0	GG	GG	GG	GG	GG	GG	< 5.3	< 5.2
Total Nitrogen (mg/L) Daily Maximum	GG	GG	GG	< 2.19	GG	GG	GG	GG	GG	GG	< 1.80	< 1.50
Total Antimony (mg/L) Daily Maximum	GG	GG	GG	0.0107	GG	GG	GG	GG	GG	GG	0.0064	0.0074
Total Arsenic (mg/L) Daily Maximum	GG	GG	GG	< 0.002	GG	GG	GG	GG	GG	GG	0.001	< 0.001
Total Copper (mg/L) Daily Maximum	GG	GG	GG	0.009	GG	GG	GG	GG	GG	GG	0.006	0.008
Total Iron (mg/L) Daily Maximum	GG	GG	GG	1.45	GG	GG	GG	GG	GG	GG	0.163	0.214
Total Lead (mg/L) Daily Maximum	GG	GG	GG	0.305	GG	GG	GG	GG	GG	GG	0.043	0.064
Sulfate (mg/L) Daily Maximum	GG	GG	GG	13.4	GG	GG	GG	GG	GG	GG	5.83	8.44
Total Zinc (mg/L) Daily Maximum	GG	GG	GG	0.059	GG	GG	GG	GG	GG	GG	0.020	0.024

DMR Data for Outfall 006 (from July 1, 2024 to June 30, 2025)

Parameter	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24
pH (S.U.) Daily Maximum	GG	GG	GG	7.54	GG	GG	GG	GG	GG	GG	7.68	GG
CBOD5 (mg/L) Daily Maximum	GG	GG	GG	4.5	GG	GG	GG	GG	GG	GG	3.4	GG
TSS (mg/L) Daily Maximum	GG	GG	GG	15.3	GG	GG	GG	GG	GG	GG	8.5	GG
Total Dissolved Solids (mg/L) Daily Maximum	GG	GG	GG	1540	GG	GG	GG	GG	GG	GG	82.0	GG
Oil and Grease (mg/L) Daily Maximum	GG	GG	GG	< 5.3	GG	GG	GG	GG	GG	GG	< 5.2	GG
Total Nitrogen (mg/L) Daily Maximum	GG	GG	GG	< 1.90	GG	GG	GG	GG	GG	GG	< 1.84	GG
Total Antimony (mg/L) Daily Maximum	GG	GG	GG	0.0066	GG	GG	GG	GG	GG	GG	0.0046	GG
Total Arsenic (mg/L) Daily Maximum	GG	GG	GG	< 0.001	GG	GG	GG	GG	GG	GG	< 0.001	GG
Total Copper (mg/L) Daily Maximum	GG	GG	GG	0.009	GG	GG	GG	GG	GG	GG	0.006	GG
Total Iron (mg/L) Daily Maximum	GG	GG	GG	0.971	GG	GG	GG	GG	GG	GG	0.109	GG
Total Lead (mg/L) Daily Maximum	GG	GG	GG	0.069	GG	GG	GG	GG	GG	GG	0.012	GG
Sulfate (mg/L) Daily Maximum	GG	GG	GG	19.1	GG	GG	GG	GG	GG	GG	6.52	GG
Total Zinc (mg/L) Daily Maximum	GG	GG	GG	0.039	GG	GG	GG	GG	GG	GG	0.010	GG

DMR Data for Outfall 007 (from July 1, 2024 to June 30, 2025)

Parameter	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24
pH (S.U.) Daily Maximum	GG	7.85	GG	7.82	GG	GG	8.01	GG	GG	GG	8.21	GG
CBOD5 (mg/L) Daily Maximum	GG	11.4	GG	3.1	GG	GG	2.2	GG	GG	GG	4.1	GG
TSS (mg/L) Daily Maximum	GG	388	GG	67.3	GG	GG	212	GG	GG	GG	2270	GG
Total Dissolved Solids (mg/L) Daily Maximum	GG	700	GG	276	GG	GG	325	GG	GG	GG	1300	GG
Oil and Grease (mg/L) Daily Maximum	GG	< 5.6	GG	< 5.2	GG	GG	< 5.2	GG	GG	GG	< 4.9	GG
Total Nitrogen (mg/L) Daily Maximum	GG	4.72	GG	< 2.30	GG	GG	< 4.50	GG	GG	GG	8.32	GG
Total Antimony (mg/L) Daily Maximum	GG	< 0.0040	GG	< 0.0008	GG	GG	< 0.0020	GG	GG	GG	< 0.0016	GG
Total Arsenic (mg/L) Daily Maximum	GG	< 0.010	GG	< 0.002	GG	GG	0.007	GG	GG	GG	0.016	GG
Total Copper (mg/L) Daily Maximum	GG	0.027	GG	0.008	GG	GG	0.021	GG	GG	GG	0.066	GG
Total Iron (mg/L) Daily Maximum	GG	29.4	GG	2.54	GG	GG	21.1	GG	GG	GG	84.5	GG
Total Lead (mg/L) Daily Maximum	GG	0.068	GG	0.015	GG	GG	0.046	GG	GG	GG	0.204	GG
Sulfate (mg/L) Daily Maximum	GG	38.1	GG	9.20	GG	GG	12.5	GG	GG	GG	20.4	GG
Total Zinc (mg/L) Daily Maximum	GG	< 0.100	GG	< 0.020	GG	GG	0.068	GG	GG	GG	0.191	GG

DMR Data for Outfall 002 (from March 1, 2024 to February 28, 2025)

Parameter	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24
pH (S.U.) Daily Maximum	GG	GG	7.39	8.81	GG	7.75	7.67	7.33	7.68	7.64	7.51	GG
CBOD5 (mg/L) Daily Maximum	GG	GG	3.2	< 2.0	GG	8.2	6.3	5.0	2.7	2.1	6.4	GG
TSS (mg/L) Daily Maximum	GG	GG	4.0	< 4.0	GG	4.5	< 4.0	5.0	< 4.0	4.5	5.2	GG
Total Dissolved Solids (mg/L) Daily Maximum	GG	GG	248	188	GG	159	118	134	266	289	242	GG
Oil and Grease (mg/L) Daily Maximum	GG	GG	< 5.0	< 5.3	GG	< 5.2	< 5.2	< 5.5	< 5.1	< 5.1	< 5.2	GG
Total Nitrogen (mg/L) Daily Maximum	GG	GG	< 2.91	< 1.7	GG	< 2.17	< 1.80	< 1.50	< 1.97	< 1.70	< 1.84	GG
Total Antimony (mg/L) Daily Maximum	GG	GG	0.0100	0.0150	GG	0.0049	0.0068	0.0062	0.0056	0.0072	0.0099	GG
Total Arsenic (mg/L) Daily Maximum	GG	GG	0.001	0.001	GG	0.002	0.003	0.004	0.002	0.002	0.002	GG
Total Copper (mg/L) Daily Maximum	GG	GG	0.006	< 0.002	GG	0.004	0.006	0.003	0.005	0.008	0.006	GG
Total Iron (mg/L) Daily Maximum	GG	GG	0.455	0.181	GG	0.533	0.349	1.12	0.492	0.603	0.333	GG
Total Lead (mg/L) Daily Maximum	GG	GG	0.064	0.019	GG	0.020	0.018	0.106	0.008	0.021	0.057	GG
Sulfate (mg/L) Daily Maximum	GG	GG	15.9	16.4	GG	7.00	7.37	6.88	5.51	7.34	10.1	GG
Total Zinc (mg/L) Daily Maximum	GG	GG	0.027	< 0.010	GG	0.011	< 0.010	0.012	< 0.010	0.017	< 0.010	GG

DMR Data for Outfall 004 (from March 1, 2024 to February 28, 2025)

Parameter	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24
pH (S.U.) Daily Maximum	GG	GG	7.84	7.37	GG	GG	7.30	7.49	7.52	7.29	7.16	7.06
CBOD5 (mg/L) Daily Maximum	GG	GG	5.4	< 2.0	GG	GG	4.9	5.2	7.6	5.9	19.6	3.1
TSS (mg/L) Daily Maximum	GG	GG	67.0	8.0	GG	GG	58.0	41.0	54.5	107	68.0	41.5
Total Dissolved Solids (mg/L) Daily Maximum	GG	GG	102	62.0	GG	GG	66.0	174	180	< 50.0	1850	187
Oil and Grease (mg/L) Daily Maximum	GG	GG	< 5.2	< 5.1	GG	GG	< 5.0	< 5.2	< 5.1	< 5.0	< 5.4	< 5.2
Total Nitrogen (mg/L) Daily Maximum	GG	GG	1.87	< 1.70	GG	GG	< 1.80	< 3.24	4.39	< 2.36	6.63	< 1.82
Total Antimony (mg/L) Daily Maximum	GG	GG	0.0035	0.0016	GG	GG	0.0019	0.0026	0.0043	0.0043	0.0032	0.0024
Total Arsenic (mg/L) Daily Maximum	GG	GG	< 0.002	< 0.001	GG	GG	< 0.001	0.002	< 0.001	< 0.002	0.001	< 0.001
Total Copper (mg/L) Daily Maximum	GG	GG	0.007	< 0.002	GG	GG	0.009	0.011	0.015	0.012	0.010	0.012
Total Iron (mg/L) Daily Maximum	GG	GG	1.35	0.171	GG	GG	0.421	1.58	0.751	1.25	3.59	0.746
Total Lead (mg/L) Daily Maximum	GG	GG	0.224	0.045	GG	GG	0.215	0.127	0.192	0.471	0.210	0.118
Sulfate (mg/L) Daily Maximum	GG	GG	10.9	16.6	GG	GG	< 5.00	9.16	15.0	5.77	15.2	10.5
Total Zinc (mg/L) Daily Maximum	GG	GG	0.130	0.067	GG	GG	0.120	0.065	0.131	0.245	0.155	0.124

DMR Data for Outfall 005 (from March 1, 2024 to February 28, 2025)

Parameter	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24
pH (S.U.) Daily Maximum	GG	GG	GG	GG	GG	GG	7.15	6.98	GG	GG	GG	7.22
CBOD5 (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	3.0	3.6	GG	GG	GG	< 2.0
TSS (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	6.5	4.8	GG	GG	GG	31.0
Total Dissolved Solids (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	50.0	54.0	GG	GG	GG	117
Oil and Grease (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	< 5.3	< 5.2	GG	GG	GG	< 4.8
Total Nitrogen (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	< 1.80	< 1.50	GG	GG	GG	< 1.70
Total Antimony (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	0.0064	0.0074	GG	GG	GG	0.0066
Total Arsenic (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	0.001	< 0.001	GG	GG	GG	< 0.002
Total Copper (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	0.006	0.008	GG	GG	GG	0.006
Total Iron (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	0.163	0.214	GG	GG	GG	0.830
Total Lead (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	0.043	0.064	GG	GG	GG	0.102
Sulfate (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	5.83	8.44	GG	GG	GG	8.99
Total Zinc (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	0.020	0.024	GG	GG	GG	0.036

DMR Data for Outfall 006 (from March 1, 2024 to February 28, 2025)

Parameter	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24
pH (S.U.) Daily Maximum	GG	GG	GG	GG	GG	GG	7.68	GG	GG	GG	GG	7.40
CBOD5 (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	3.4	GG	GG	GG	GG	2.7
TSS (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	8.5	GG	GG	GG	GG	32.0
Total Dissolved Solids (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	82.0	GG	GG	GG	GG	157
Oil and Grease (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	< 5.2	GG	GG	GG	GG	< 5.1
Total Nitrogen (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	< 1.84	GG	GG	GG	GG	< 1.87
Total Antimony (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	0.0046	GG	GG	GG	GG	0.0039
Total Arsenic (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	< 0.001	GG	GG	GG	GG	< 0.001
Total Copper (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	0.006	GG	GG	GG	GG	0.010
Total Iron (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	0.109	GG	GG	GG	GG	1.02
Total Lead (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	0.012	GG	GG	GG	GG	0.035
Sulfate (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	6.52	GG	GG	GG	GG	6.86
Total Zinc (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	0.010	GG	GG	GG	GG	0.029

DMR Data for Outfall 007 (from March 1, 2024 to February 28, 2025)

Parameter	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24
pH (S.U.) Daily Maximum	GG	GG	8.01	GG	GG	GG	8.21	GG	7.86	GG	8.33	7.95
CBOD5 (mg/L) Daily Maximum	GG	GG	2.2	GG	GG	GG	4.1	GG	11.0	GG	10.4	4.5
TSS (mg/L) Daily Maximum	GG	GG	212	GG	GG	GG	2270	GG	12200	GG	2100	740
Total Dissolved Solids (mg/L) Daily Maximum	GG	GG	325	GG	GG	GG	1300	GG	272	GG	140	320
Oil and Grease (mg/L) Daily Maximum	GG	GG	< 5.2	GG	GG	GG	< 4.9	GG	< 5.3	GG	< 5.2	< 5.3
Total Nitrogen (mg/L) Daily Maximum	GG	GG	< 4.50	GG	GG	GG	8.32	GG	20.69	GG	< 2.50	4.13
Total Antimony (mg/L) Daily Maximum	GG	GG	< 0.0020	GG	GG	GG	< 0.0016	GG	< 0.0040	GG	< 0.0020	< 0.0040
Total Arsenic (mg/L) Daily Maximum	GG	GG	0.007	GG	GG	GG	0.016	GG	0.034	GG	0.016	0.011
Total Copper (mg/L) Daily Maximum	GG	GG	0.021	GG	GG	GG	0.066	GG	0.256	GG	0.080	0.047
Total Iron (mg/L) Daily Maximum	GG	GG	21.1	GG	GG	GG	84.5	GG	275	GG	84.8	55.1
Total Lead (mg/L) Daily Maximum	GG	GG	0.046	GG	GG	GG	0.204	GG	0.806	GG	0.194	0.109
Sulfate (mg/L) Daily Maximum	GG	GG	12.5	GG	GG	GG	20.4	GG	14.9	GG	8.61	13.1
Total Zinc (mg/L) Daily Maximum	GG	GG	0.068	GG	GG	GG	0.191	GG	0.608	GG	0.214	0.152

Compliance History

DEP's WMS database:

Primary Facility ID	Primary Facility Other ID	Primary Facility Name	
547722	PA0086754	EAST PENN MFG - IWTP	
Primary Facility Status	**Primary Facility Type**	**Primary Facility Kind**	**Primary Facility Fee Category**
ACTIV - Active	WPCF - Water Pollution Control Facility	IW - Industrial Waste	Minor IW Facility with ELG

General | Addresses | Documents | Upload File | Monitoring Reports | Non-Compliance | Sampling Points | Permit History

Effluent Non-Compliance (Non-Compliant: 0 ; Compliant: 0) | Unauthorized Discharges (Non-Compliant: 0 ; Compliant: 0) |

Other Permit Non-Compliance (Non-Compliant: 637 ; Compliant: 1)

Compliance History

5/5/2022 Site Inspection:

No violations.
-2021 Stormwater Annual Report documented that stormwater contacted raw material. Facility records indicated lead in the area of loading dock 116 was the source. No apparent issues observed at loading dock 116 during inspection. ISCO composite samplers are set up at each stormwater outfall.
-Retention basins and Heffner Pond (outfall 002) contain clear water with no malodor.
-PPC Plan on-hand and reviewed. Facility has secondary containment for all chemicals stored and sump pumps in the event of a spill.
-The industrial wastewater treatment plant (IWTP) does not produce discharge. Water is recycled in closed loop system. Plant evaporates water and produces salt. IWTP units were operating normally. Influent flow is measured with magnetic meter.
-Sanitary wastewater is conveyed to Lyons Borough STP.
-24/7 monitoring via SCADA. Alarms. Emergency Generator.
-24/7 staffing schedule.

11/1/2021 Administrative File Review:

No violations.
Permittee described trouble they have had sampling at stormwater outfalls: sampler and/or sensor malfunctions. Have missed sampling during rainfall events. Have coded DMRs as NODI code E.

4/19/2017 Site Inspection:

No Violations.
no discharge from the facility; IWTP is operated as a zero liquid discharge facility. Facility produces a dry salt as a final product. Treated wastewater is supplemented with reverse osmosis (RO) purified well water to meet plant demand. All treatment units are online and records are well maintained. Reverse Osmosis reject is sent to Lyons SSCS ~ .085 mgd. No issues noted with secondary containment around chemical storage tanks or treatment units.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .005
Latitude 40º 29' 15.00" **Longitude** -75º 44' 46.00"
Wastewater Description: IW Process Effluent with ELG

Permit limits can be Technology Based Effluent Limitations (TBELs) or Water Quality Based Effluent Limitations (WQBELs). Both are discussed in this Fact Sheet, in separate sections. Existing permit limits can also be carried forward in accordance with anti-backsliding provisions found in federal regulations [40 CFR §122.44(l)(1)]. Typically the limits imposed in the new permit are the more stringent of the Technology Based Effluent Limitations, Water Quality Based Effluent Limitations as needed, or the existing permit limits.

Technology-Based Effluent Limitations (TBELs)

The following technology-based effluent limitations are provided in regulations and are imposed where applicable unless a more stringent limit is indicated from water quality analysis or Best Professional Judgement):

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation	DRBC * Regulation
TSS	100	Average Monthly			18 CFR Part 410, 3.10.4
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2	
Oil and Grease	15	Average Monthly		95.2	18 CFR Part 410, 3.10.4
Oil and Grease	30	Maximum		95.2	18 CFR Part 410, 3.10.4
Ammonia	20	Average Monthly	-	-	18 CFR Part 410
Total Dissolved Solids	1000**	Average Monthly	-	-	18 CFR Part 410, 3.10.4 and 3.10.3.B

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

**Or a concentration which will not cause the TDS in the receiving water to exceed the lesser of 500 mg/l or 133% of background. There is no DRBC docket for this facility documenting a TDS variance.

Federal Effluent Limitation Guidelines (a type of TBEL):

Their industrial wastewater, if discharged instead of recycled, is subject to the ELGs for Battery Manufacturing (40 CFR Part 461) and for Nonferrous Metals Manufacturing (40 CFR 421). According to 2019 Fact sheet, the facility existed since the early 1980's and is considered subject to the existing discharger requirements of 40 CFR 461 and 40 CFR 421, not the New Source Performance Standards. The ELGs identify the parameters of concern for these types of industries as follows: Copper, Lead, Iron, Oil and Grease, TSS, Antimony, Arsenic, Zinc, Ammonia, and pH.

Because wastewater generated from all current manufacturing operations is mingled in the on-site wastewater treatment facility with only one outfall and no internal monitoring points, the calculated TBELs for each parameter and for each ELG were tallied. The anticipated average annual production rate for the next five years as supplied in the application was used instead of the maximum average annual production rates from the past five years. The detail calculations are attached to this fact sheet.

Note: while the ELG 40 CFR 421 requires zero (0) discharge load for Ammonia, a greater effluent limit can be included in the permit as there are other wastestreams besides those listed in §421.

The resulting concentration limits (TBELs) are as follows:

Pollutants	30-day Average (lbs/day)	30-day Average (mg/l) *
Copper	3.5	85.1
Lead	1.5	35.6
Iron	2.2	51.8
Oil and Grease	136.4	3270
Total Suspended Solids	256.9	6161
Antimony	1.5	35.1
Arsenic	1.0	23.3
Zinc	0.7	17.1
Ammonia	0	0
pH	7.5 to 10.0 S.U.at all times	

* The mass-based TBELs have been converted into concentration-based TBELs using the design flow of 0.005 MGD in order to be able to compare them to WQBELs which are concentration-based.

The final TBEL for each parameter is the more stringent one between the table on the previous page and the table above. However, for Total Suspended Solids, see the Best Professional Judgement (BPJ) section of this fact sheet.

If the WQBEL for each parameter is more stringent than the TBEL, then the WQBEL is imposed as the permit limit instead of the TBEL. **The existing permit limits, WQBELs, are more stringent than the TBELs and have been carried forward into the draft renewal permit for the following parameters**:

Copper
Lead
Antimony
Arsenic
Zinc
Ammonia

For Total Iron, the above TBEL is more stringent than the WQBEL and the mass load limit has been imposed in the draft renewal permit. The above TBEL for Total Iron is also more stringent than the existing permit limit. Because the ELG limits are in terms of lbs/lbs of product, no concentration limits have been imposed in the draft renewal permit for Total Iron, consistent with DEP's Technical Guidance for the Development and Specification of Effluent Limitations [386-0400-001] and with the existing permit.

For pH, the existing permit limits have been carried forward. They are the more stringent combination of regulatory limits [Title 25 Pa Code § 95.2] of 6-9 s.u. and the pH limits of 7.5-10 s.u. from the applicable federal ELGs.

Best Professional Judgement (BPJ) Effluent Limitations

The basis of the existing effluent limits of 30 mg/L (30-day average), 60 mg/L (daily maximum), and 75 mg/L (Instantaneous maximum) for TSS was not provided in the previous two Fact Sheets. It is presumed they were imposed as Best Professional Judgement in recognition of the treatment system in place and the secondary treatment standard of 30 mg/L TSS as a 30-day average, achievable by such treatment, in accordance with 40 CFR §133.102.

Water Quality-Based Limitations

Total Maximum Daily Load (TMDL) for Impaired Water:

Lake Ontelaunee's watershed, including contributing streams to the lake such as Sacony Creek, are subject to the Lake Ontelaunee TMDL which was developed to protect the Lake from nutrient and TSS loads. The point source discharges and their Waste Load Allocations (WLAs) from the TMDL are attached to this Fact Sheet.

The TMDL includes a TSS WLA for East Penn Manufacturing of 0.21 metric tons per year. The existing permit included a TSS limit of 462 lbs/year which has been carried forward into the draft renewal permit.

The TMDL did not include a WLA for East Penn Manufacturing for Total Phosphorus (TP). The effluent maximum concentration in the renewal permit application for TP was 0.15 mg/l and the maximum load reported in the application for TP was 0.006 lbs/day. The draft renewal permit includes a monitoring requirement for TP concentration and load to be sure the facility does not add to the nutrient impairment of Lake Ontelaunee and to inform any TMDL updates.

WQBELs other than TMDL:

DEP uses a model known as WQM 7.0 to determine appropriate limits for CBOD5, Ammonia (NH3-N), and Dissolved Oxygen (DO). DEP's Guidance 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.

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) are DEP's eMapPA while the source of the Drainage Areas and stream design low-flows (Q7-10) are 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 of the stream at the outfall location.

The WQM 7.0 model indicated that the existing permit limits for **Ammonia and DO (WQBELs)** are protective of water quality. Other point source dischargers were included in the WQM model to be sure DO recovered: Lyons Boro STP, Kutztown Boro STP, and Maxatawny Twp STP. The input values for these dischargers were taken from their last permit Fact Sheets.

The receiving water is considered 'Trout Natural Reproduction'. Because this is an existing discharger who is not expanding, however, the model was not re-run using a DO goal of 8 mg/l for the early life stages of salmonids consistent with DEP's Standard Operating Procedure (SOP) Establishing Effluent Limitations for Individual Sewage Permits. At the time of the original NPDES permit issuance, Pa Code § 93.7 did not include special protection for early life stages of salmonids; the regulations were amended in 2013.

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) as permit limits as needed or recommends monitoring requirements to better evaluate 'reasonable potential' for some parameters. 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 sample results, the maximum effluent concentration of the available data 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.

Default values used in the TMS model in the absence of site-specific data include:

Stream pH = 7 s.u.
Discharge pH = 7.5 s.u. (the minimum permit limit)
Stream Hardness = 100 mg/l (application did not include a stream hardness sample)
Coefficient of Variability in data = 0.5
Chemical translators for metals
Background concentration of toxics = 0 mg/l

In addition, the TMS model estimates the stream width, depth, slope, velocity, and partial mix factors.

The existing permit included WQBELs for the following toxic parameters:

Total Antimony
Total Arsenic

Total Copper
Total Lead
Total Zinc

The TMS run for this renewal indicated that the existing permit limits are adequately protective. They have been carried forward into the draft renewal permit. (The existing permit limits date back to the 2010 NPDES permit which modeled E. Penn Mfrg. and Lyons Boro STP together since their discharges enter Sacony Creek at one location and used a smaller estimated Low Flow Yield in the model.)

The existing permit also included WQBELs for **Bis(2-Ethylhexyl)Phthalate**. These WQBELs were added to the NPDES permit in 2010 when the application for the 2010 NPDES permit included a detected concentration in the 3 effluent samples. The 2015 permit application and the 2024 permit application did not report any 'detects' for this parameter in the six effluent sample results, all of which achieved a lab Quantitation Limit (QL) lower than DEP's Target QL of 5 ug/l for Bis(2-Ethylhexyl)Phthalate (and a QL $\leq$ 10% of the existing permit's average monthly limit of 30 ug/l). The maximum concentrations reported in the past two applications are also well below the calculated WQBEL from the current TMS simulation. This parameter has therefore been eliminated from the permit.

Anti-Backsliding

As provided in 40 CFR 122.44(l)(1), no limits in the renewal permit are less stringent than the previous permit.

The limit for Bis(2-Ethylhexyl)Phthalate was dropped from the previous permit because a Reasonable Potential to cause an exceedance of surface water quality criteria was not demonstrated, as discussed above.

Mass Load vs. Concentration Limits

The applicable federal ELGs are expressed as mass load limits. ELGs are imposed in the draft renewal permit for Total Iron and are therefore expressed as mass load limits.

The annual mass load limit for TSS was carried forward from the previous permit in accordance with the Lake Ontelaunee TMDL.

The other permit limits are expressed as concentration limits only, the same as the existing permit.

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 as appropriate.

Chemical Additives

The application and the DEP inspection reports document that the facility uses some chemicals for wastewater treatment but none of which meet DEP's definition of 'Chemical Additives' (which is included in the definition section of the draft permit). Most DEP NPDES permits for industrial facilities include language in Part C which restricts usage of 'Chemical Additives' and requires notification, DEP approval, and reporting. This Part C condition has been included in the draft renewal permit since operations at the facility could change during the permit term. If the facility were to plan to use 'chemical additives' as defined in the permit, the Part C requirements are intended to control their use to safe levels.

Flow Monitoring

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

Nutrient Monitoring

The client contact was asked by the permit writer during a phone conversation on April 10, 2025, if the effluent samples reported in the renewal application included the fertilizer manufacturing wastestream. The answer was 'yes'. A monitoring requirement for Total Nitrogen (TN) has been added to the renewal permit for this reason.

Because of the downstream Lake Ontelaunee TMDL, a monitoring requirement for Total Phosphorus (TP) has been added to the renewal permit. (The Lake TMDL identified TP and TSS impairment.)

Per- and Polyfluoroalkyl Substances (PFAS) Monitoring

The application did not include any sampling results for PFAS parameters because the application was received during a grace period after the NPDES permit application forms for industrial discharges were changed to include four PFAS parameters in the Pollutant Group tables (in recognition of the fact that many facilities would have already collected their samples for their renewal applications ahead of the application submittal date). DEP forms were changed due to concerns over the potential for PFAS in waterways.

While there are many PFAS compounds, DEP has initiated a policy to identify PFAS in discharges using four indicator parameters: Perfluorooctanoic acid (PFOA), Perfluorooctane sulfonic acid (PFOS), Perfluorobutane sulfonic acid (PFBS), and Hexafluoropropylene oxide dimer acid (HFPO-DA). For facilities in industry categories recognized by EPA as expected or suspected of having PFAS in their discharges, DEP now includes quarterly monitoring for the four PFAS indicator parameters with the condition that monitoring can be suspended if four consecutive effluent samples are non-detect at sufficiently sensitive detection levels. Metal finishing, plastics, plastics molding and forming are included in the industry categories suspected of PFAS discharges.

Antidegradation

The permit limits and conditions are intended to protect the designated and existing uses of the receiving stream. No High Quality or Exceptional Value waters are impacted by this discharge.

303(d) Listed Streams – Impaired Waters

The downstream Lake Ontelaunee was "listed" as an impaired water . DEP forwards lists of impaired waters to the US EPA in compliance with Section 303(d) of the federal Clean Water Act.

The facility has been meeting their TSS limits in accordance with the Wasteload Allocation in the EPA-approved TMDL. The facility is not proposing an expansion or any increase to their TSS load.

Class A Trout Waters

The receiving stream and the downstream waters are not considered Class A Trout by the Fish and Boat Commission.

Trout Natural Reproduction Waters

The receiving stream is considered Trout Natural Reproduction Waters but no change to the design flow or type of wastewater is being proposed in this permit renewal.

STORMWATER

The facility has 5 stormwater-only outfalls, all of which were included in the existing permit. Consistent with DEP's SOP 'Establishing Effluent Limitations for Individual Industrial Permits', the minimum standards for monitoring and benchmarks provided in the applicable appendices of DEP's PAG-03 General Permit have been included in the draft renewal permit, as shown in the below table. The PAG-03 was drafted, public noticed, and effective March 24, 2023. The applicable PAG-03 appendices are B (Primary Metals), F (Chemicals and Allied Products), and S (Plastics) according to the permittee's SICs.

Pollutant	Units	Sample Type	Benchmark Value
Total Nitrogen *	mg/l	Calculation	XXX
Total Phosphorus **	mg/l	Grab	XXX
pH	s.u.	Grab	9.0
Chemical Oxygen Demand (COD) **	mg/l	Grab	120
Total Suspended Solids (TSS)	mg/l	Grab	100
Nitrate+Nitrite - Nitrogen **	mg/l	Grab	XXX
Oil and Grease	mg/l	Grab	30
Total Aluminum **	mg/l	Grab	XXX
Total Copper	mg/l	Grab	XXX
Total Iron	mg/l	Grab	XXX
Total Lead	mg/l	Grab	XXX
Total Zinc	mg/l	Grab	XXX

* Total Nitrogen is the sum of Nitrate + Nitrite-Nitrogen and Total Kjeldahl Nitrogen

In addition, monitoring requirements are imposed in the draft renewal permit for pollutants included in the ELGs that were discussed in the TBEL section of this Fact Sheet:

Pollutant	Units	Sample Type	Benchmark Value
Ammonia **	mg/l	Grab	XXX
Total Antimony	mg/l	Grab	XXX
Total Arsenic	mg/l	Grab	XXX

**not in existing permit

Note: the existing permit also required monitoring for $CBOD_5$, Total Dissolved Solids, and Sulfate. These parameters were not identified as pollutants of concern in the ELGs applicable to manufacturing operations at the site nor in DEP's PAG-03 for the facility's SICs. Monitoring for these three parameters are not included in the draft renewal permit.

The stormwater monitoring requirements are included in Part A of the draft renewal permit. The latitude and longitudes, drainage areas, and drainage descriptions were taken from the renewal application. Part C of the draft renewal permit includes implementing Best Management Practices (BMPs) consistent with the PAG-03 to prevent exposure of stormwater to pollutants, maintaining a Preparedness, Prevention and Contingency (PPC) Plan, routine inspections, sampling and reporting instructions, benchmark values, and requirements if the benchmark values are exceeded. These are standard requirements for stormwater-only outfalls at industrial facilities. However, the **monitoring frequency** for the site's stormwater is more stringent than required in the PAG-03. The minimum monitoring frequency of once per month has been retained because past sampling results have shown some high concentrations of Total Lead and TSS in the stormwater. Before deciding on the monitoring frequency for the draft renewal permit, the **stormwater sampling results, attached,** were compared to DEP stormwater benchmarks, surface water quality criteria, and DEP's Medium-Specific Concentrations (MSCs) for Inorganic Regulated Substances in Groundwater since the stormwater is discharged over the ground according to the client contact and potentially soaks into a field before reaching streams.

As with the existing permit, the draft renewal permit (in Part C Conditions) requires DMRs and a Stormwater Annual Report be submitted to DEP.

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 as needed and BPJ. Instantaneous Maximum (IMAX) limits are generally determined from models or using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		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	7.5	XXX	XXX	9.0	1/day	Grab
TSS	Report	Report	XXX	30	60	75	2/month	24-Hr Composite
Total Suspended Solids (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Suspended Solids (lbs)	XXX	462 Total Annual	XXX	XXX	XXX	XXX	1/year	Calculation
Total Dissolved Solids	Report	Report	XXX	1000	2000	2500	2/month	24-Hr Composite
Oil and Grease	Report	Report	XXX	15.0	30.0	XXX	1/day	Grab
Ammonia	Report	Report	XXX	5.0	10.0	12	2/month	24-Hr Composite
Total Antimony	Report	Report	XXX	0.025	0.05	0.0625	2/month	24-Hr Composite
Total Arsenic	Report	Report	XXX	0.045	0.09	0.11	2/month	24-Hr Composite
Total Copper	Report	Report	XXX	0.058	0.116	0.145	2/month	24-Hr Composite
Total Iron	*2.2*	*4.3*	XXX	Report	Report	XXX	2/month	24-Hr Composite
Total Lead	Report	Report	XXX	0.027	0.054	0.0675	2/month	24-Hr Composite
Total Zinc	Report	Report	XXX	0.41	0.82	1.03	2/month	24-Hr Composite

Outfall 001, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Nitrogen	*Report*	*XXX*	*XXX*	*Report*	*XXX*	*XXX*	*2/month*	*24-Hr Composite*
Total Phosphorus	*Report*	*XXX*	*XXX*	*Report*	*XXX*	*XXX*	*2/month*	*24-Hr Composite*
*PFOA (ng/L) **	*XXX*	*XXX*	*XXX*	*XXX*	*XXX*	*Report*	*1/quarter **	*Grab*
*PFOS (ng/L) **	*XXX*	*XXX*	*XXX*	*XXX*	*XXX*	*Report*	*1/quarter **	*Grab*
*PFBS (ng/L) **	*XXX*	*XXX*	*XXX*	*XXX*	*XXX*	*Report*	*1/quarter **	*Grab*
*HFPO-DA (ng/L) **	*XXX*	*XXX*	*XXX*	*XXX*	*XXX*	*Report*	*1/quarter **	*Grab*

**The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 12 consecutive quarters 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: after all treatment

Proposed Effluent Limitations and Monitoring Requirements

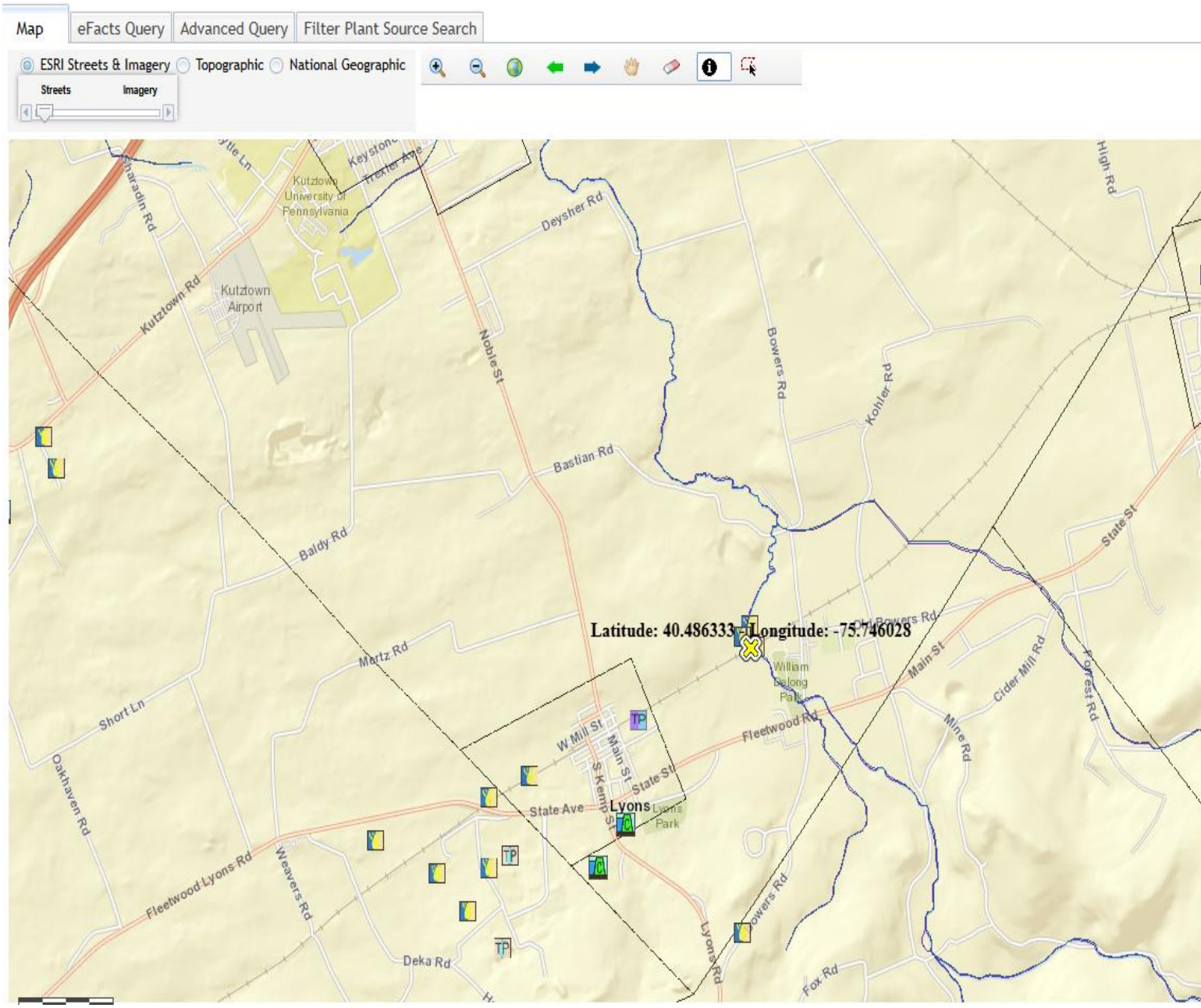
The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality as needed and BPJ. Instantaneous Maximum (IMAX) limits are generally determined from models or using multipliers of 2 (conventional 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.

Outfalls 002, 004, 005, 006, 007, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Chemical Oxygen Demand (COD)	*XXX*	*XXX*	*XXX*	*XXX*	*Report*	*XXX*	*1/month*	*Grab*
Total Suspended Solids	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Nitrate-Nitrite as N	*XXX*	*XXX*	*XXX*	*XXX*	*Report*	*XXX*	*1/month*	*Grab*
Total Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Ammonia-Nitrogen	*XXX*	*XXX*	*XXX*	*XXX*	*Report*	*XXX*	*1/month*	*Grab*
Total Phosphorus	*XXX*	*XXX*	*XXX*	*XXX*	*Report*	*XXX*	*1/month*	*Grab*
Aluminum, Total	*XXX*	*XXX*	*XXX*	*XXX*	*Report*	*XXX*	*1/month*	*Grab*
Antimony, Total	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Arsenic, Total	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Copper, Total	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Iron, Total	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Lead, Total	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Zinc, Total	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): 002, 004, 005, 006, 007

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.
☒	SOP: New and Reissuance Industrial Waste and Industrial Stormwater Individual NPDES Permit Applications, Version 1.7, Revised August 12, 2025.
☒	SOP: Establishing Effluent Limitations for Individual Industrial Permits,version 1.7,Revised 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.
☒	DEP's general permit PAG-03 Stormwater Associated With Industrial Activity, effective March 24, 2023.


Map
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ESRI Streets & Imagery
Topographic
National Geographic
Streets
Imagery
Kutztown University of Pennsylvania
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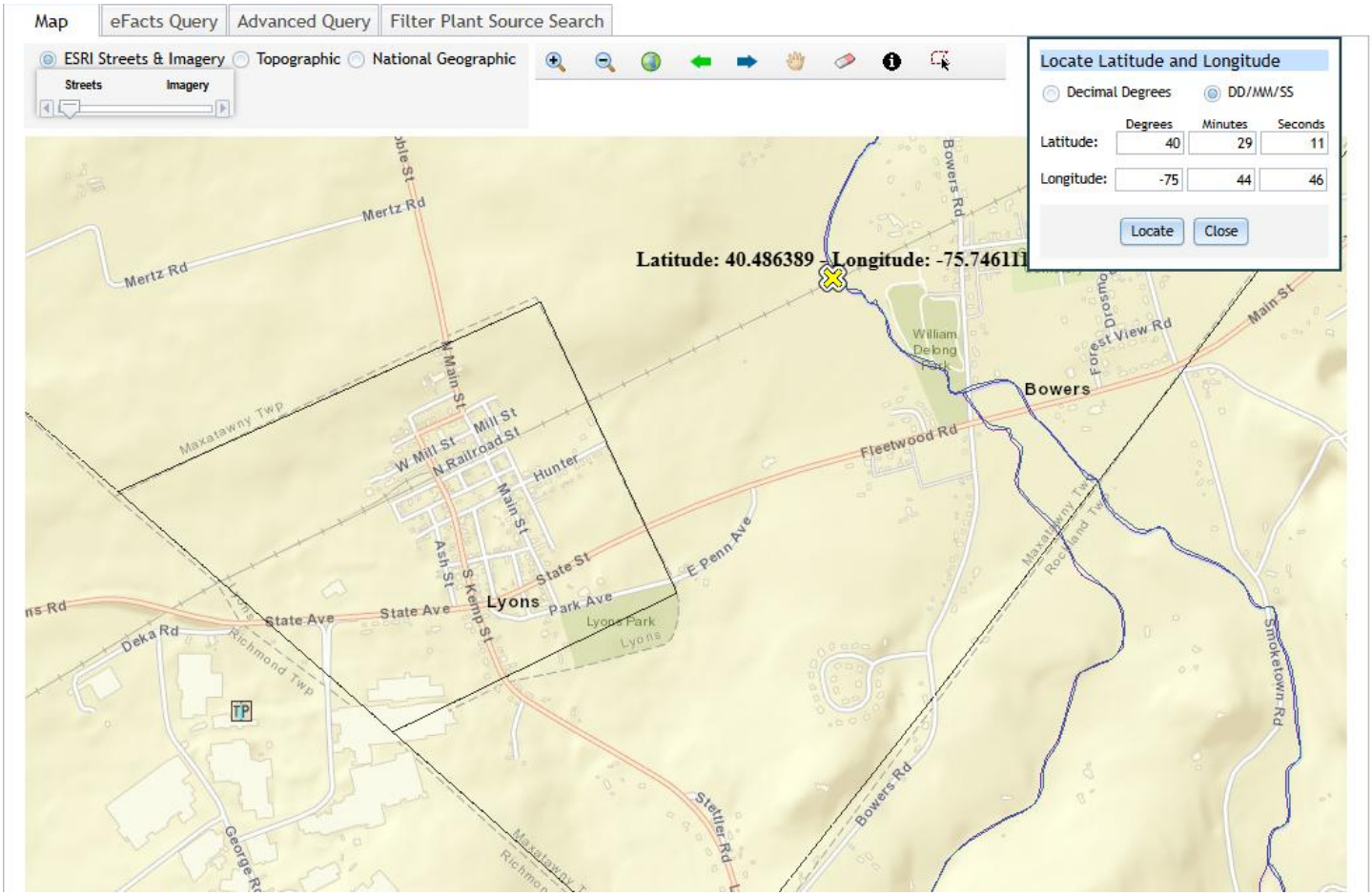
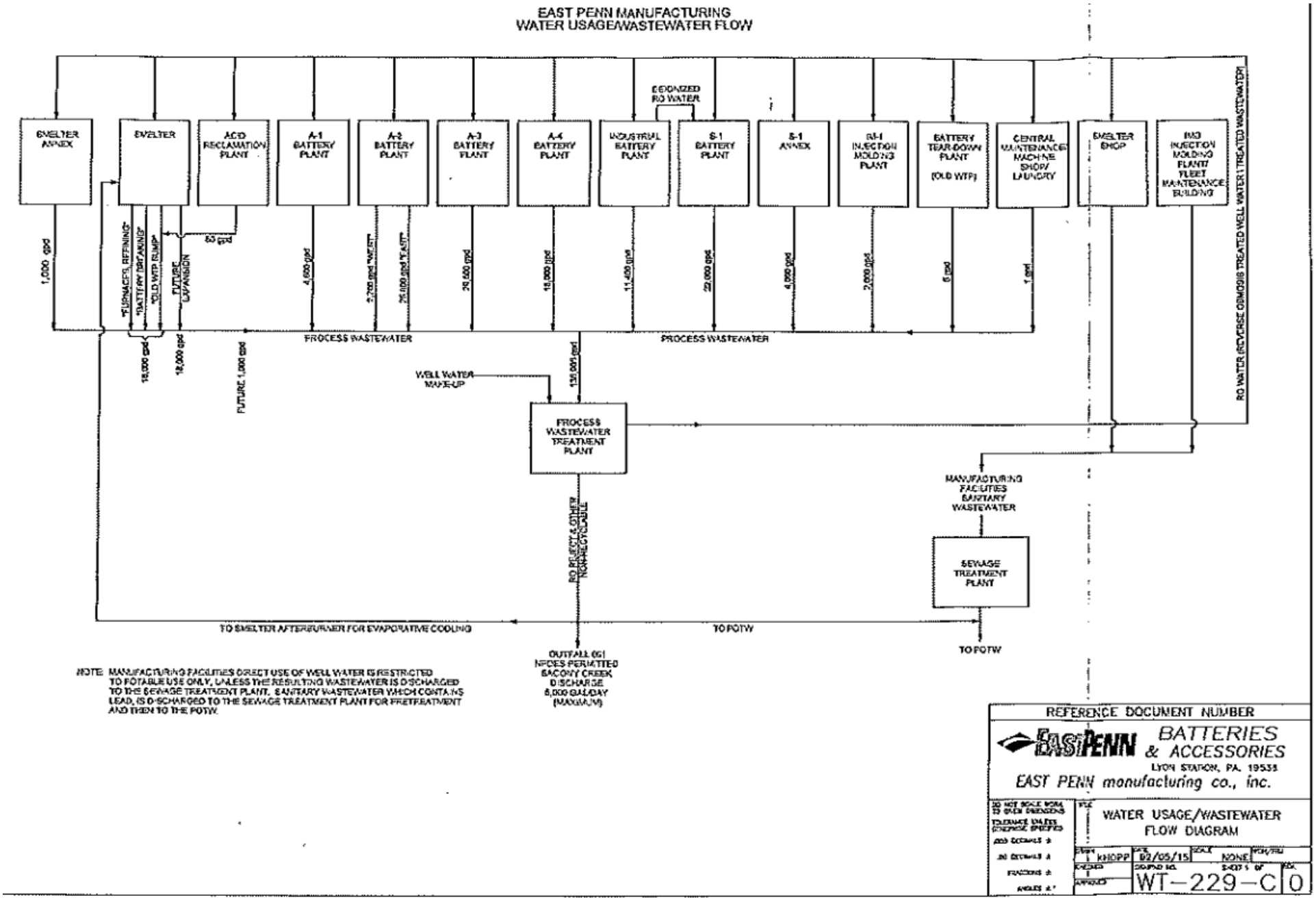
Kutztown Rd
Noble St
Bowers Rd
Kohler Rd
High Rd
Bastian Rd
Baldy Rd
Martz Rd
Short Ln
Oakhaven Rd
Fleetwood Lyons Rd
Weavers Rd
Deka Rd
Latitude: 40.486333 Longitude: -75.746028
Old Bowers Rd
William Belong Park
Main St
Cider Mill Rd
Forest Rd
State St
Fleetwood Rd
Mine Rd
W Mill St
S Kemp St
State Ave
Lyons
Lyons Park
Lyons Rd
Fox Rd

To show township and borough boundaries:



Flow diagram in renewal application:



Mfrg Operation	Production (million lbs/day of lead)[a]	Copper					Lead					Iron				
		BPT		BAT		Most Stringent	BPT		BAT		Most Stringent	BPT		BAT		Most Stringent
		Avg.Mo Multiplier	TBEL (lbs/day)	Avg.Mo Multiplier	TBEL (lbs/day)		Avg.Mo Multiplier	TBEL (lbs/day)	Avg.Mo Multiplier	TBEL (lbs/day)		Avg.Mo Multiplier	TBEL (lbs/day)	Avg.Mo Multiplier	TBEL (lbs/day)	
40 CFR 461 Subpart C (461.31 and 461.32, existing direct dischargers):																
Open Formation (Dehydrated)	0.833213	11.05	9.20700365	1.68	1.39979784	1.39980	2.21	1.84140073	0.34	0.28329242	0.28329	6.74	5.61585562	1.02	0.84987726	0.84988
Direct Chill Lead Casting	0.906068	0.0002	0.000181214	0.0002	0.000181214	0.00018	0.00004	3.62427E-05	0.00004	3.62427E-05	3.62E-05	0.0001	9.06068E-05	0.0001	9.0607E-05	9.06E-05
Mold Release Formation	0.906068	0.006	0.005436408	0.006	0.005436408	0.00544	0.001	0.000906068	0.001	0.000906068	0.000906	0.004	0.003624272	0.003	0.0027182	0.002718
Battery Washing[b]	3.037446	0.59	1.79209314	none	0	1.79209	0.12	0.36449352	none	0	0.36449	0.36	1.09348056	none	0	1.09348
Open Formation (Wet)	3.037446	0.05	0.1518723	0.053	0.160984638	0.15187	0.01	0.03037446	0.01	0.03037446	0.30374	0.03	0.09112338	0.03	0.09112338	0.091123
Plate Soak	0.526657	0.020	0.01053314	0.021	0.011059797	0.01053	0.004	0.002106628	0.004	0.002106628	0.00211	0.01	0.00526657	0.01	0.00526657	0.005267
~~Misc. wastewater streams (per appl)~~[c]	~~3.037446~~	~~0.43~~	~~1.30610170~~	~~0.31~~	~~0.94160026~~		~~0.09~~	~~0.27337014~~	~~0.06~~	~~0.10224676~~		~~0.26~~	~~0.78973596~~	~~0.19~~	~~0.57711474~~	
Laundry[c]	1.518723	0.11	0.16705953	0.11	0.16705953	0.16706	0.02	0.03037446	0.02	0.03037446	0.30374	0.07	0.10631061	0.07	0.10631061	0.10631
Truck Wash[c]	1.518723	0.014	0.021262122	0.014	0.021262122	0.02126	0.002	0.003037446	0.002	0.003037446	0.003037	0.008	0.012149784	0.008	0.01214978	0.01215
40 CFR 421 Subpart M (421.132 and 421.133, existing direct dischargers):																
Battery Cracking	0.252256	none	0	none	0	0	0.135	0.03405456	0.087	0.021946272	0.021946	none	0	none	0	0
Blast and Reverbatory Air Poll. Control	0.550396	none	0	none	0	0	0.522	0.287306712	0.339	0.186584244	0.186584	none	0	none	0	0
Casting Contact Cooling	0.558027	none	0	none	0	0	0.044	0.024553188	0.003	0.001674081	0.001674	none	0	none	0	0
Truck Wash	0.558027	none	0	none	0	0	0.004	0.002232108	0.003	0.001674081	0.001674	none	0	none	0	0
Facility Washdown	0.550396	none	0	none	0	0	0[f]	0	0[f]	0	0[f]	none	0	none	0	0
Battery Case Classification	0.252256	none	0	none	0	0	0[f]	0	0[f]	0	0[f]	none	0	none	0	0
								0		0						
Employee Handwash - goes to Pre-treat and POTW[d]	0															
Employee Respirator Wash - goes to Pre-treat and POTW[d]	0															
Laundering of Uniforms[e]	0.550396	none	0	none	0	0	0.026	0.014310296	0.017	0.009356732	0.009357	none	0	none	0	0

Total load per pollutant (lbs/day), all mfrg ops	Copper	3.54823	lb/day	Lead	1.482584	Iron	2.161019
Mass Loads divided by (design flow of 0.005 MGD x 8.34 c.f). to arrive at concentrations in mg/l	Copper	85.0893	mg/l	Lead	35.55358	Iron	51.82299

Mfrg Operation	Production (million lbs/day of lead)[a]	Oil and Grease					TSS					Antimony				
		BPT		BAT		Most Stringent	BPT		BAT		Most Stringent	BPT		BAT		Most Stringent
		Avg.Mo Multiplier	TBEL (lbs/day)	Avg.Mo Multiplier	TBEL (lbs/day)		Avg.Mo Multiplier	TBEL (lbs/day)	Avg.Mo Multiplier	TBEL (lbs/day)		Avg.Mo Multiplier	TBEL (lbs/day)	Avg.Mo Multiplier	TBEL (lbs/day)	
40 CFR 461 Subpart C (461.31 and 461.32, existing direct dischargers):																
Open Formation (Dehydrated)	0.833213	132.6	110.4840438	none	0	110.484	215.47	179.5324051	none	0	179.532	none	0	none	0	0
Direct Chill Lead Casting	0.906068	0.002	0.001812136	none	0	0.00181	0.003	0.002718204	none	0	0.00272	none	0	none	0	0
Mold Release Formation	0.906068	0.072	0.065236896	none	0	0.06524	0.117	0.106009956	none	0	0.10601	none	0	none	0	0
Battery Washing[b]	3.037446	7.08	21.50511768	none	0	21.5051	11.51	34.96100346	none	0	34.961	none	0	none	0	0
Open Formation (Wet)	3.037446	0.64	1.94396544	none	0	1.94397	1.03	3.12856938	none	0	3.12857	none	0	none	0	0
Plate Soak	0.526657	0.25	0.13166425	none	0	0.13166	0.41	0.21592937	none	0	0.21593	none	0	none	0	0
~~Misc. wastewater streams (per appl)c~~	~~3.037446~~	~~5.12~~	~~15.55172352~~	~~none~~	~~0~~		~~0.33~~	~~25.30192510~~	~~none~~	~~0~~		~~none~~	~~0~~	~~none~~	~~0~~	
Laundry[c]	1.518723	1.31	1.98952713	none	0	1.98953	2.13	3.23487999	none	0	3.23488	none	0	none	0	0
Truck Wash[c]	1.518723	0.168	0.255145464	none	0	0.25515	0.273	0.414611379	none	0	0.41461	none	0	none	0	0
40 CFR 421 Subpart M (421.132 and 421.133, existing direct dischargers):																
Battery Cracking	0.252256	none	0	none	0	0	13.13	3.31212128	none	0	3.31212	0.862	0.217444672	0.579	0.146056224	0.14606
Blast and Reverbatory Air Poll. Control	0.550396	none	0	none	0	0	50.9	28.0151564	none	0	28.0152	3.341	1.838873036	2.245	1.23563902	1.23564
Casting Contact Cooling	0.558027	none	0	none	0	0	4.31	2.40509637	none	0	2.4051	0.283	0.157921641	0.019	0.010602513	0.0106
Truck Wash**	0.558027	none	0	none	0	0	0.41	0.22879107	none	0	0.22879	0.027	0.015066729	0.018	0.010044486	0.01004
Facility Washdown	0.550396	none	0	none	0	0	0[f]	0	none	0		0[f]	0	0[f]	0	0
Battery Case Classification	0.252256	none	0	none	0	0	0[f]	0	none	0		0[f]	0	0[f]	0	0
Employee Handwash - goes to Pre-treat and POTW[d]	0															
Employee Respirator Wash - goes to Pre-treat and POTW[d]	0															
Laundering of Uniforms[e]	0.550396	none	0	none	0	0	2.496	1.373788416	none	none	1.37379	0.164	0.090264944	0.11	0.06054356	0.06054
					O&G	136.376				TSS	256.931				Antimony	1.46289
					O&G	3270.42				TSS	6161.42				Antimony	35.0813

Mfrg Operation	Production (million lbs/day of lead)[a]	Arsenic					Zinc					Ammonia					pH	
		BPT		BAT			BPT		BAT			BPT		BAT				
		Avg.Mo Multiplier	TBEL (lbs/day)	Avg.Mo Multiplier	TBEL (lbs/day)	Most Stringent	Avg.Mo Multiplier	TBEL (lbs/day)	Avg.Mo Multiplier	TBEL (lbs/day)	Most Stringent	Avg.Mo Multiplier	TBEL (lbs/day)	Avg.Mo Multiplier	TBEL (lbs/day)	Most Stringent	BPT	BAT
40 CFR 461 Subpart C (461.31 and 461.32, existing direct dischargers):																		
Open Formation (Dehydrated)	0.833213	none	0	none	0	0	none	0	none	0	0	none	0	none	0	0	7.5-10	none
Direct Chill Lead Casting	0.906068	none	0	none	0	0	none	0	none	0	0	none	0	none	0	0	7.5-10	none
Mold Release Formation	0.906068	none	0	none	0	0	none	0	none	0	0	none	0	none	0	0	7.5-10	none
Battery Washing[b]	3.037446	none	0	none	0	0	none	0	none	0	0	none	0	none	0	0	7.5-10	none
Open Formation (Wet)	3.037446	none	0	none	0	0	none	0	none	0	0	none	0	none	0	0	7.5-10	none
Plate Soak	0.526657	none	0	none	0	0	none	0	none	0	0	none	0	none	0	0	7.5-10	none
~~Misc. wastewater streams (per appl)c~~	~~3.037446~~	~~none~~	~~0~~	~~none~~	~~0~~		~~none~~	~~0~~	~~none~~	~~0~~		~~none~~	~~0~~	~~none~~	~~0~~		~~7.5-10~~	~~none~~
Laundry[c]	1.518723	none	0	none	0	0	none	0	none	0	0	none	0	none	0	0	7.5-10	none
Truck Wash[c]	1.518723	none	0	none	0	0	none	0	none	0	0	none	0	none	0	0	7.5-10	none
40 CFR 421 Subpart M (421.132 and 421.133, existing direct dischargers):																		
Battery Cracking	0.252256	0.579	0.146056224	0.384	0.0968663	0.09687	0.411	0.103677216	0.283	0.071388448	0.07139	0[f]	0	0[f]	0	0	7.5-10	none
Blast and Reverbatory Air Poll. Control	0.550396	2.245	1.23563902	1.488	0.81898925	0.81899	1.592	0.876230432	1.096	0.603234016	0.60323	0[f]	0	0[f]	0	0	7.5-10	none
Casting Contact Cooling	0.558027	0.19	0.10602513	0.013	0.00725435	0.00725	0.135	0.075333645	0.009	0.005022243	0.00502	0[f]	0	0[f]	0	0	7.5-10	none
Truck Wash	0.558027	0.018	0.010044486	0.012	0.00669632	0.0067	0.013	0.007254351	0.009	0.005022243	0.00502	0[f]	0	0[f]	0	0	7.5-10	none
Facility Washdown	0.550396	0[f]	0	0[f]	0	0	0[f]	0	0[f]	0	0	0[f]	0	0[f]	0	0	7.5-10	none
Battery Case Classification	0.252256	0[f]	0	0[f]	0	0	0[f]	0	0[f]	0	0	0[f]	0	0[f]	0	0	7.5-10	none
Employee Handwash - goes to Pre-treat and POTW[d]	0																	
Employee Respirator Wash - goes to Pre-treat and POTW[d]	0																	
Laundering of Uniforms[e]	0.550396	0.11	0.06054356	0.073	0.04017891	0.04018	0.078	0.042930888	0.054	0.029721384	0.02972	0[f]	0	0[f]	0	0	7.5-10	none
					Arsenic	0.96999				Zinc	0.71438			Ammonia	0			
					Arsenic	23.261				Zinc	17.1315			Ammonia	0			

Footnotes to table:

[a] based on average annual production for next 5 years as predicted by permittee in application

[b] application did not specify if detergent used; these calcs. used the more stringent ELGs which are non-detergent to be conservative

[c] facility contact during 4/10/2025 phone conversation was uncertain if laundry to STP or IWTP. Flow diagram in appl shows Laundry ww to IWTP. When asked, facility contact thought misc ww streams included some truck wash and possibly laundry but no break-out given in appl or provided afterward. Because ELGs are more stringent for laundry and truck wash than for misc ww, assumed 50% of misc was truck wash and 50% was laundry to calculate final TBELs per parameter.
Misc www streams in 40 CFR 461 are defined as:
Lead subcategory. Floor wash, wet air pollution control, battery repair, laboratory, hand wash, and respirator wash.

[d] not in prev. Fact Sheet either

[e] facility contact during 4/10/2025 phone conversation was uncertain if laundry to STP or IWTP. Flow diagram in appl shows Laundry ww to IWTP. Therefore included an estimated 0.550396 million lbs/day for deriving TBELs. (Note: does not affect Iron TBEL and Iron is the only parameter for which the TBEL is imposed as permit limit.)

[f] ELG includes '0' instead of not listing the parameter at all, Other wstestreams are allowed load and are mingled.

For Daily Maximum TBEL, only Iron needed since WQBELs more stringent than TBELs for other parameters……..

Mfrg Operation	Production (million lbs/day of lead)[a]	Iron				
		BPT		BAT		Most Stringent
		Daily Max Multiplier	TBEL (lbs/day)	Daily Max Multiplier	TBEL (lbs/day)	
40 CFR 461 Subpart C (461.31 and 461.32, existing direct dischargers):						
Open Formation (Dehydrated)	0.833213	16.13	13.43972569	2.02	1.68309026	1.68309
Direct Chill Lead Casting	0.906068	0.0002	0.000181214	0.0002	0.000181214	0.000181
Mold Release Formation	0.906068	0.007	0.006342476	0.007	0.006342476	0.006342
Battery Washing[b]	3.037446	0.71	2.15658666	none	0	2.15659
Open Formation (Wet)	3.037446	0.06	0.18224676	0.06	0.18224676	0.182247
Plate Soak	0.526657	0.03	0.01579971	0.03	0.01579971	0.0158
~~Misc. wastewater streams (per appl) c~~	~~3.037446~~	~~0.51~~	~~1.54909746~~	~~0.37~~	~~1.12385502~~	
Laundry[c]	1.518723	0.13	0.19743399	0.13	0.19743399	0.197434
Truck Wash[c]	1.518723	0.016	0.024299568	0.016	0.024299568	0.0243
40 CFR 421 Subpart M (421.132 and 421.133, existing direct dischargers):						
Battery Cracking	0.252256	none	0	none	0	0
Blast and Reverbatory Air Poll. Control	0.550396	none	0	none	0	0
Casting Contact Cooling	0.558027	none	0	none	0	0
Truck Wash	0.558027	none	0	none	0	0
Facility Washdown	0.550396	none	0	none	0	0
Battery Case Classification	0.252256	none	0	none	0	0
Employee Handwash - goes to Pre-treat and POTW[d]	0					
Employee Respirator Wash - goes to Pre-treat and POTW[d]	0					
Laundering of Uniforms[e]	0.550396	none	0	none	0	0
Total load per pollutant (lbs/day), all mfrg ops					Iron	4.265984
Mass Loads divided by (design flow of 0.005 MGD x 8.34 c.f). to arrive at concentrations in mg/l					Iron	102.3018

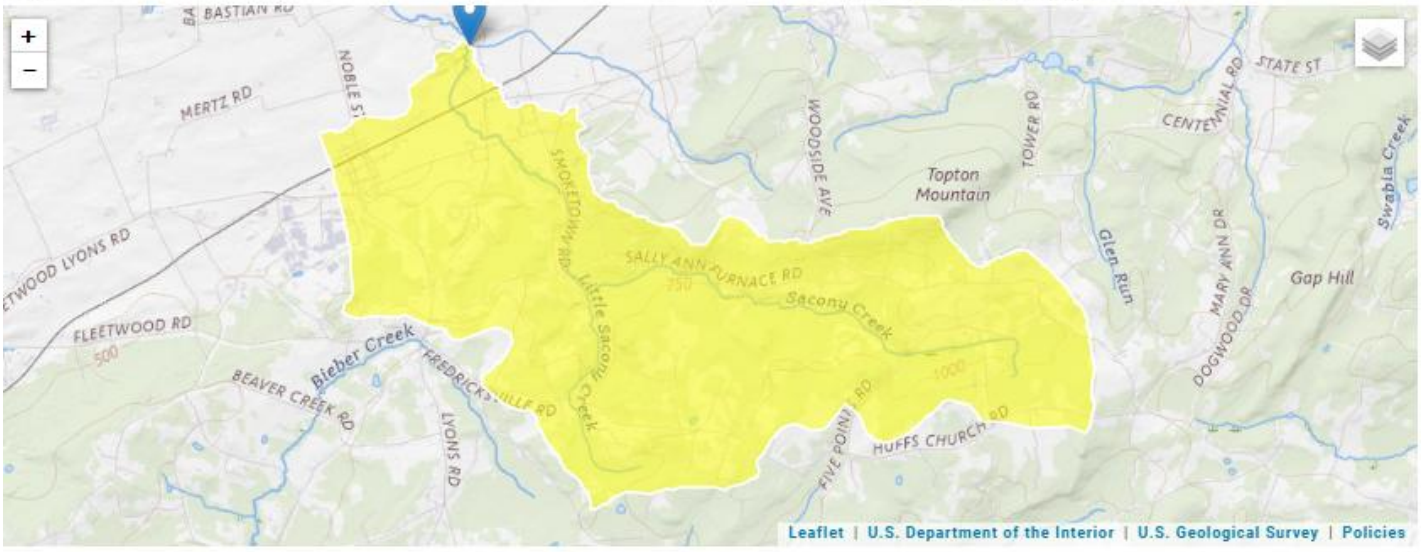
StreamStats Output Report						
State/Region ID	PA					
Workspace ID	PA20250414035745029000					
Latitude	40.48655					
Longitude	-75.7461					
Time	4/13/2025					
Low-Flow Statistics Paramet	2.0 Percent Low Flow Region 1					
Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit	
BSLOPD	Mean Basin Slope degre	6.1917	degrees	1.7	6.4	
DRNAREA	Drainage Area	7.45	square m	4.78	1150	
ROCKDEP	Depth to Rock	5.1	feet	4.13	5.21	
URBAN	Percent Urban	2.246	percent	0	89	
Low-Flow Statistics Paramet	98.0 Percent Low Flow Region 2					
Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit	
CARBON	Percent Carbonate	12.74	percent	0	99	
DRNAREA	Drainage Area	7.45	square m	4.93	1280	
PRECIP	Mean Annual Precipitatic	47	inches	35	50.4	
ROCKDEP	Depth to Rock	5.1	feet	3.32	5.65	
STRDEN	Stream Density	1.31	miles per	0.51	3.1	
Low-Flow Statistics Flow Rep	2.0 Percent Low Flow Region 1					
Statistic	Value	Unit	SE	ASEp		
7 Day 2 Year Low Flow	3	ft^3/s	46	46		
30 Day 2 Year Low Flow	3.49	ft^3/s	38	38		
7 Day 10 Year Low Flow	1.64	ft^3/s	51	51		
30 Day 10 Year Low Flow	1.95	ft^3/s	46	46		
90 Day 10 Year Low Flow	2.5	ft^3/s	41	41		
Low-Flow Statistics Flow Rep	98.0 Percent Low Flow Region 2					
Statistic	Value	Unit	SE	ASEp		
7 Day 2 Year Low Flow	2.45	ft^3/s	38	38		
30 Day 2 Year Low Flow	2.97	ft^3/s	33	33		
7 Day 10 Year Low Flow	1.41	ft^3/s	51	51		
30 Day 10 Year Low Flow	1.66	ft^3/s	46	46		
90 Day 10 Year Low Flow	2.17	ft^3/s	36	36		
Low-Flow Statistics Flow Rep	Area-Averaged					
Statistic	Value	Unit				
7 Day 2 Year Low Flow	2.46	ft^3/s				
30 Day 2 Year Low Flow	2.98	ft^3/s				
7 Day 10 Year Low Flow	1.41	ft^3/s				
30 Day 10 Year Low Flow	1.67	ft^3/s				
90 Day 10 Year Low Flow	2.18	ft^3/s				
USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quali						
USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although t						
USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imp						
Application Version: 4.28.1						
StreamStats Services Version: 1.2.22						
NSS Services Version: 2.2.1						

Q7-10 = 1.41 cfs, Region 1 and Region 2 averaged

Downstream node (to use for TMS model, single segment of waterway, single discharger):

StreamStats Report

Region ID:	PA
Workspace ID:	PA20250414173201709000
Clicked Point (Latitude, Longitude):	40.49257, -75.74408
Time:	2025-04-14 13:32:37 -0400



Low-Flow Statistics Parameters [1.0 Percent (0.114 square miles) Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLOPD	Mean Basin Slope degrees	6.1082	degrees	1.7	6.4
DRNAREA	Drainage Area	7.71	square miles	4.78	1150
ROCKDEP	Depth to Rock	5.1	feet	4.13	5.21
URBAN	Percent Urban	2.4502	percent	0	89

Low-Flow Statistics Parameters [99.0 Percent (7.59 square miles) Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	15.65	percent	0	99
DRNAREA	Drainage Area	7.71	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	47	inches	35	50.4
ROCKDEP	Depth to Rock	5.1	feet	3.32	5.65
STRDEN	Stream Density	1.34	miles per square mile	0.51	3.1

Low-Flow Statistics Flow Report [1.0 Percent (0.114 square miles) Low Flow Region 1]

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	3.06	ft^3/s	46	46
30 Day 2 Year Low Flow	3.58	ft^3/s	38	38
7 Day 10 Year Low Flow	1.67	ft^3/s	51	51
30 Day 10 Year Low Flow	1.99	ft^3/s	46	46
90 Day 10 Year Low Flow	2.57	ft^3/s	41	41

Low-Flow Statistics Flow Report [99.0 Percent (7.59 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	2.58	ft^3/s	38	38
30 Day 2 Year Low Flow	3.12	ft^3/s	33	33
7 Day 10 Year Low Flow	1.5	ft^3/s	51	51
30 Day 10 Year Low Flow	1.76	ft^3/s	46	46
90 Day 10 Year Low Flow	2.27	ft^3/s	36	36

Low-Flow Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
7 Day 2 Year Low Flow	2.58	ft^3/s
30 Day 2 Year Low Flow	3.12	ft^3/s
7 Day 10 Year Low Flow	1.5	ft^3/s
30 Day 10 Year Low Flow	1.76	ft^3/s
90 Day 10 Year Low Flow	2.27	ft^3/s

Low-Flow Statistics Citations

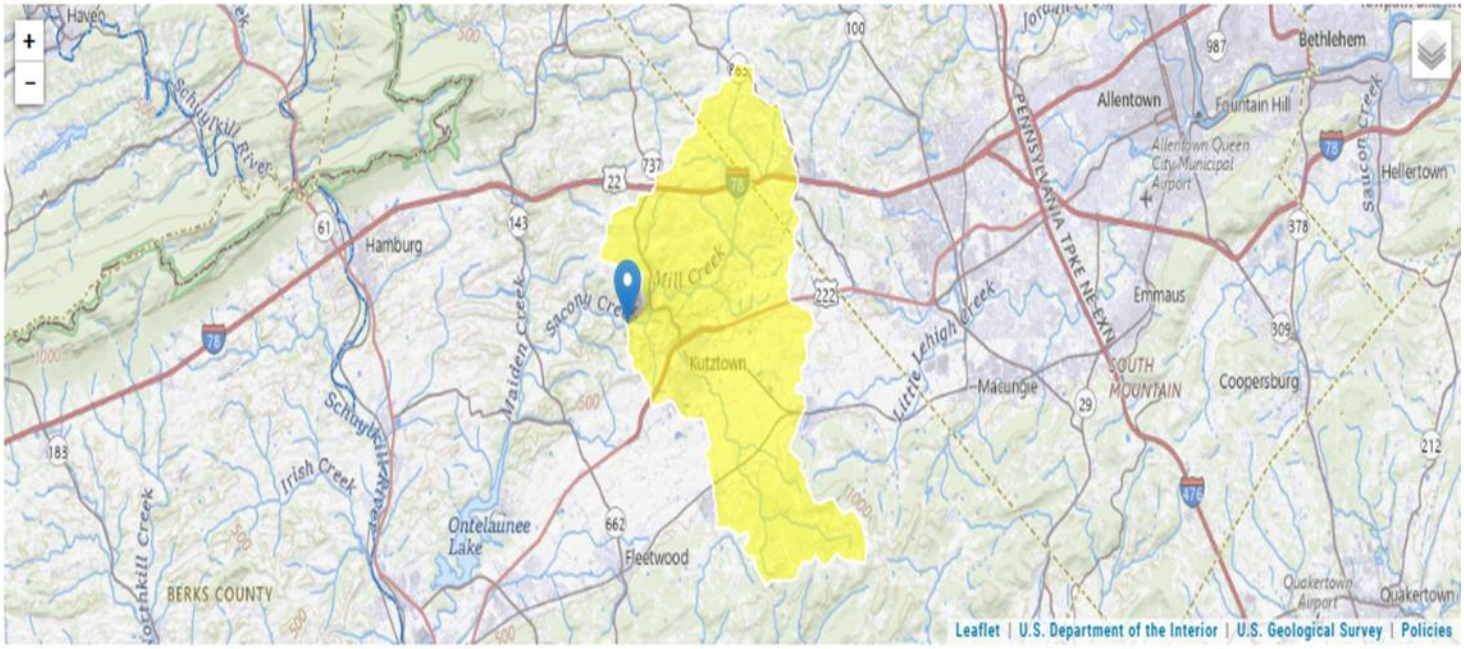
Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p.

Application Version: 4.28.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Downstream node to use for WQM 7.0 model, below downstream dischargers,
At confluence of Sacony Creek and UNT 02014:

StreamStats Report

Region ID:	PA
Workspace ID:	PA20250804160424160000
Clicked Point (Latitude, Longitude):	40.53311, -75.81577
Time:	2025-08-04 12:04:46 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	35.03	percent
DRNAREA	Area that drains to a point on a stream	48.6	square miles
PRECIP	Mean Annual Precipitation	46	inches
ROCKDEP	Depth to rock	4.2	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	1.52	miles per square mile

› Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	35.03	percent	0	99
DRNAREA	Drainage Area	48.6	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	46	inches	35	50.4
ROCKDEP	Depth to Rock	4.2	feet	3.32	5.65
STRDEN	Stream Density	1.52	miles per square mile	0.51	3.1

Low-Flow Statistics Flow Report [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	14.1	ft^3/s	38	38
30 Day 2 Year Low Flow	17.4	ft^3/s	33	33
7 Day 10 Year Low Flow	7.34	ft^3/s	51	51
30 Day 10 Year Low Flow	9.26	ft^3/s	46	46
90 Day 10 Year Low Flow	12.1	ft^3/s	36	36

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: 4.29.2
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

LFY = 7.34 cfs / 48.6 sq.mi. = 0.15 cfs/sq.mi.

Input Data WQM 7.0

General Data

General | Stream | Discharge and Parameters

Stream Code	RMI	Elevation (ft)	Drainage Area (sq mi)	LFY (cfsm)	Slope (ft/ft)	PWS With (mgd)	Apply FC
2008	12.000	431	7.4	0.19	0	0	☑
2008	11.950	430	7.45	0.19	0	0	☑
2008	7.400	395	21.8	0.21	0	0	☑
2008	6.800	385	23	0.2	0	0	☑
2008	4.700	355	48.6	0.15	0	0	☑

Add Record | Delete Record

Record: 1 of 5 | No Filter | Search

Input Data WQM 7.0

Stream Data

General | Stream | Discharge and Parameters

Design Condition ◉ Q7-10 ○ Q1-10 ○ Q30-10

RMI	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (ºC)	Tributary pH	Stream Temp (ºC)	Stream pH
12.000	0.00	0.00	0.000	0.00	0	0.00	0.00	20.00	7.00	0.000	0.00
11.950	0.00	0.00	0.000	0.00	0	0.00	0.00	20.00	7.00	0.000	0.00
7.400	0.00	0.00	0.000	0.00	0	0.00	0.00	20.00	7.00	0.000	0.00
6.800	0.00	0.00	0.000	0.00	0	0.00	0.00	20.00	7.00	0.000	0.00
4.700	0.00	0.00	0.000	0.00	0	0.00	0.00	20.00	7.00	0.000	0.00

Input Data WQM 7.0

Discharge and Parameter Data

General | Stream | Discharge and Parameters

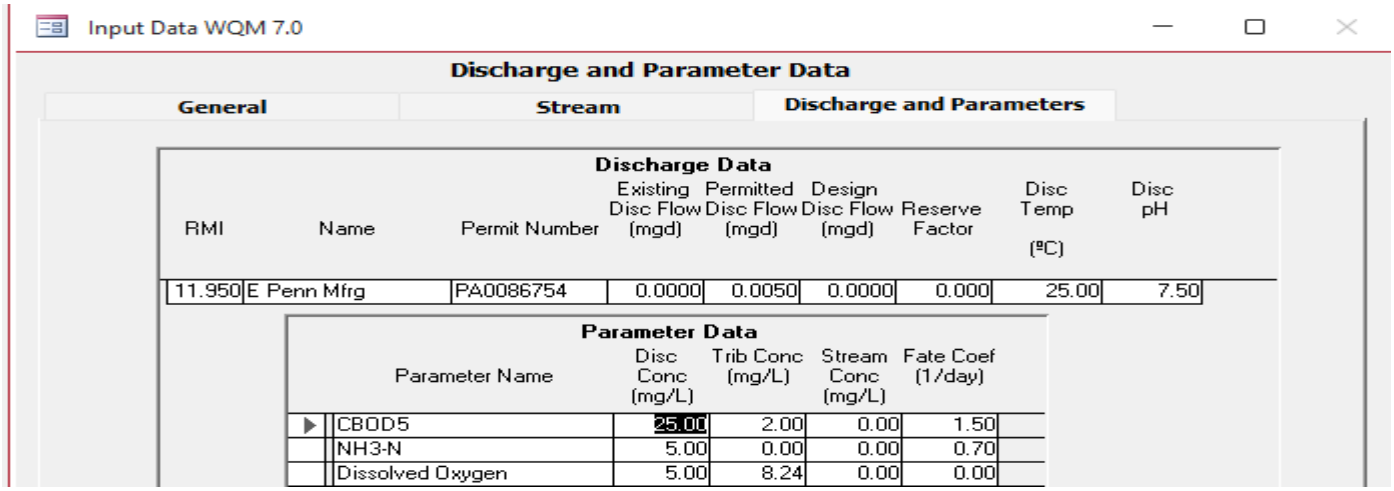
Discharge Data

RMI	Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (ºC)	Disc pH
12.000	LyonsSTP	PA0085171	0.0000	0.3000	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	16.00	2.00	0.00	1.50
NH3-N	5.00	0.00	0.00	0.70
Dissolved Oxygen	5.00	8.24	0.00	0.00

Record: 1 of 5 | No Filter | Search



Input Data WQM 7.0

Discharge and Parameter Data

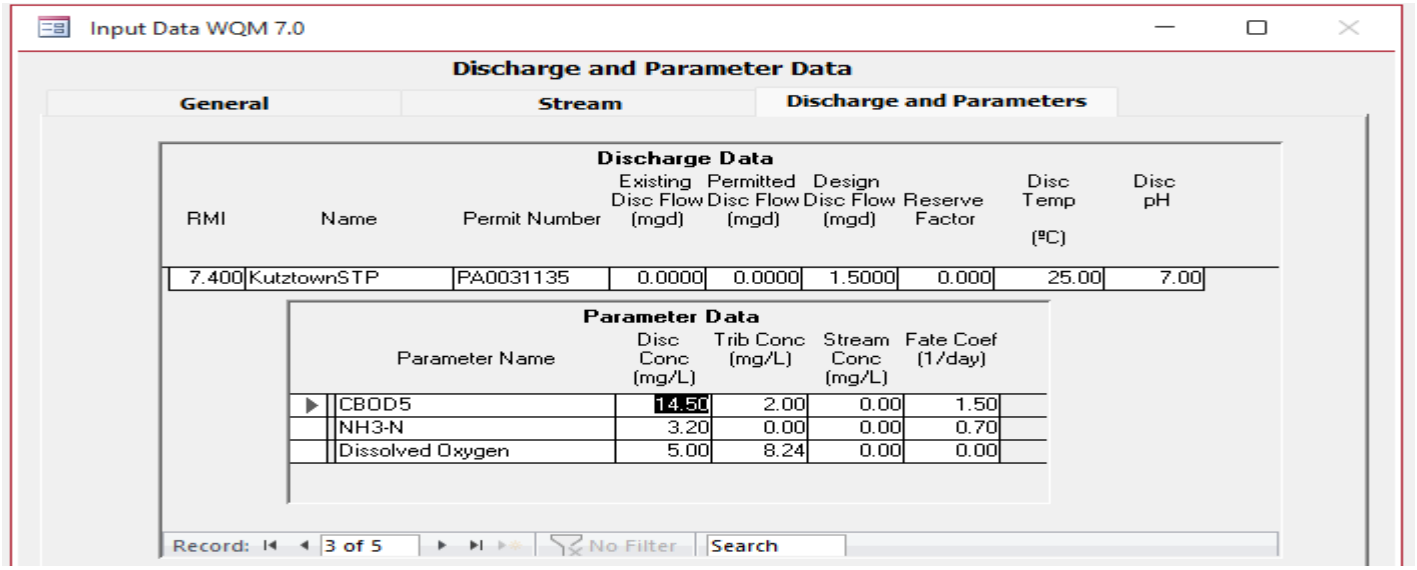
General | Stream | Discharge and Parameters

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
11.950	E Penn Mfrg	PA0086754	0.0000	0.0050	0.0000	0.000	25.00	7.50

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	5.00	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

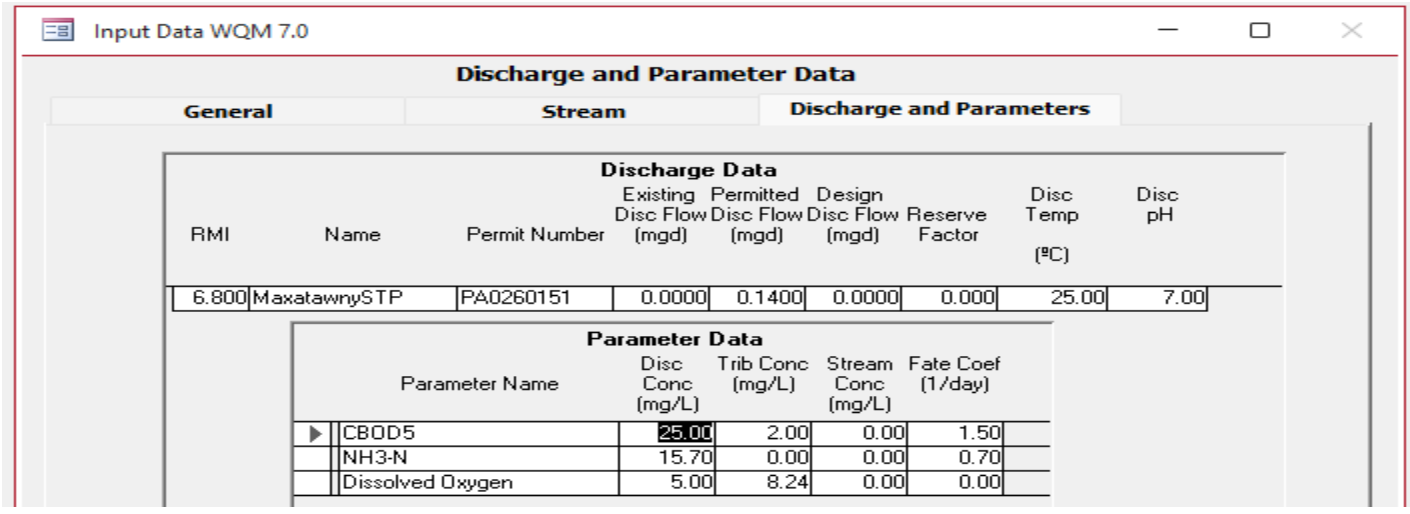
Discharge Data

RMI	Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (ºC)	Disc pH
7.400	KutztownSTP	PA0031135	0.0000	0.0000	1.5000	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	14.50	2.00	0.00	1.50
NH3-N	3.20	0.00	0.00	0.70
Dissolved Oxygen	5.00	8.24	0.00	0.00

Record: 3 of 5 | No Filter | Search



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
6.800	MaxatawnySTP	PA0260151	0.0000	0.1400	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	25.00	2.00	0.00	1.50
NH3-N	15.70	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
4.700	confl UNT02014		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

Record: 5 of 5 | No Filter | Search

Analysis Results WQM 7.0

Hydrodynamics | NH3-N Allocations | D.O. Allocations | D.O. Simulation | Effluent Limitations

RMI	Total Discharge Flow (mgd)	Analysis Temperature (ºC)	Analysis pH
12.000	0.300	21.241	7.000
Reach Width (ft)	Reach Depth (ft)	Reach WD Ratio	Reach Velocity (fps)
17.851	0.558	31.980	0.188
Reach C-BOD5 (mg/L)	Reach Kc (1/days)	Reach NH3-N (mg/L)	Reach Kn (1/days)
5.47	1.084	1.24	0.770
Reach DO (mg/L)	Reach Kr (1/days)	Kr Equation	Reach DO Goal (mg/L)
7.438	6.957	Tsivoglou	6

Reach Travel Time (days): 0.016

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.002	5.46	1.24	7.43
0.003	5.45	1.24	7.43
0.005	5.44	1.24	7.42
0.007	5.43	1.23	7.42
0.008	5.42	1.23	7.41
0.010	5.41	1.23	7.41
0.011	5.40	1.23	7.40
0.013	5.39	1.23	7.40
0.015	5.38	1.23	7.39
0.016	5.37	1.23	7.39

Record: 1 of 4 | No Filter | Search

Analysis Results WQM 7.0

Hydrodynamics | NH3-N Allocations | D.O. Allocations | D.O. Simulation | Effluent Limitations

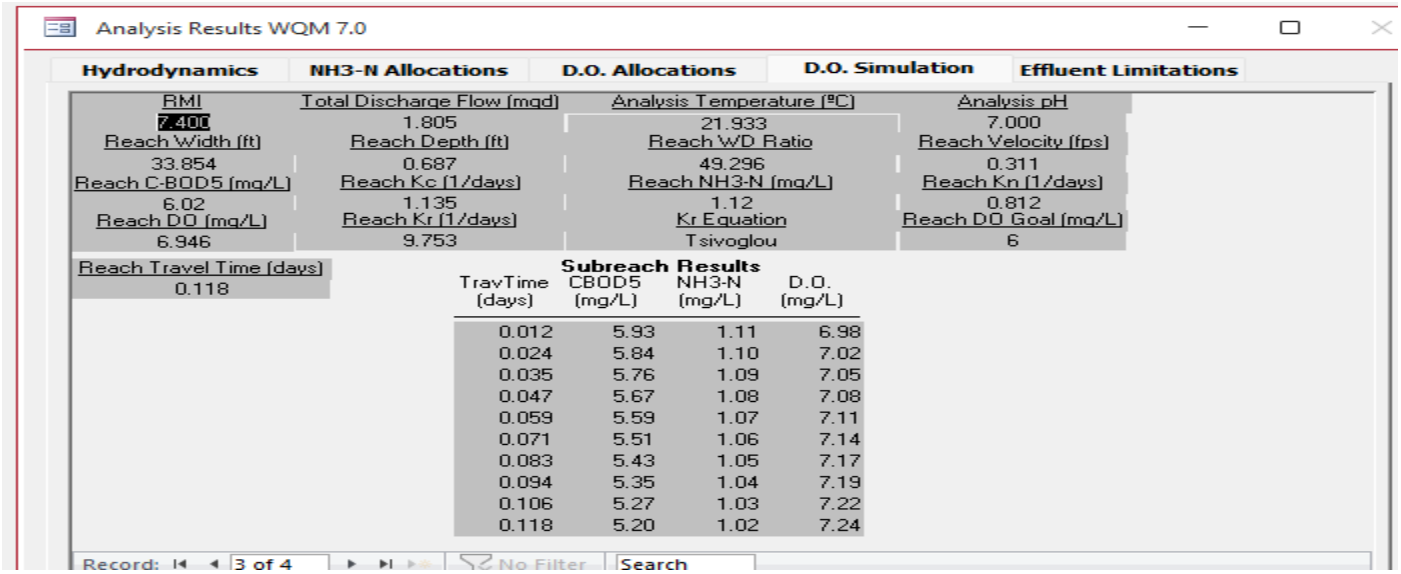
RMI	Total Discharge Flow (mgd)	Analysis Temperature (ºC)	Analysis pH
11.950	0.305	21.250	7.001
Reach Width (ft)	Reach Depth (ft)	Reach WD Ratio	Reach Velocity (fps)
18.896	0.574	32.920	0.174
Reach C-BOD5 (mg/L)	Reach Kc (1/days)	Reach NH3-N (mg/L)	Reach Kn (1/days)
5.44	0.591	1.23	0.771
Reach DO (mg/L)	Reach Kr (1/days)	Kr Equation	Reach DO Goal (mg/L)
7.384	2.481	Tsivoglou	6

Reach Travel Time (days): 1.598

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.160	4.92	1.09	6.72
0.320	4.45	0.97	6.40
0.479	4.03	0.85	6.29
0.639	3.64	0.75	6.32
0.799	3.30	0.67	6.42
0.959	2.98	0.59	6.57
1.119	2.70	0.52	6.74
1.278	2.44	0.46	6.92
1.438	2.21	0.41	7.10
1.598	2.00	0.36	7.27

Record: 2 of 4 | No Filter | Search



Analysis Results WQM 7.0

Hydrodynamics | NH3-N Allocations | D.O. Allocations | D.O. Simulation | Effluent Limitations

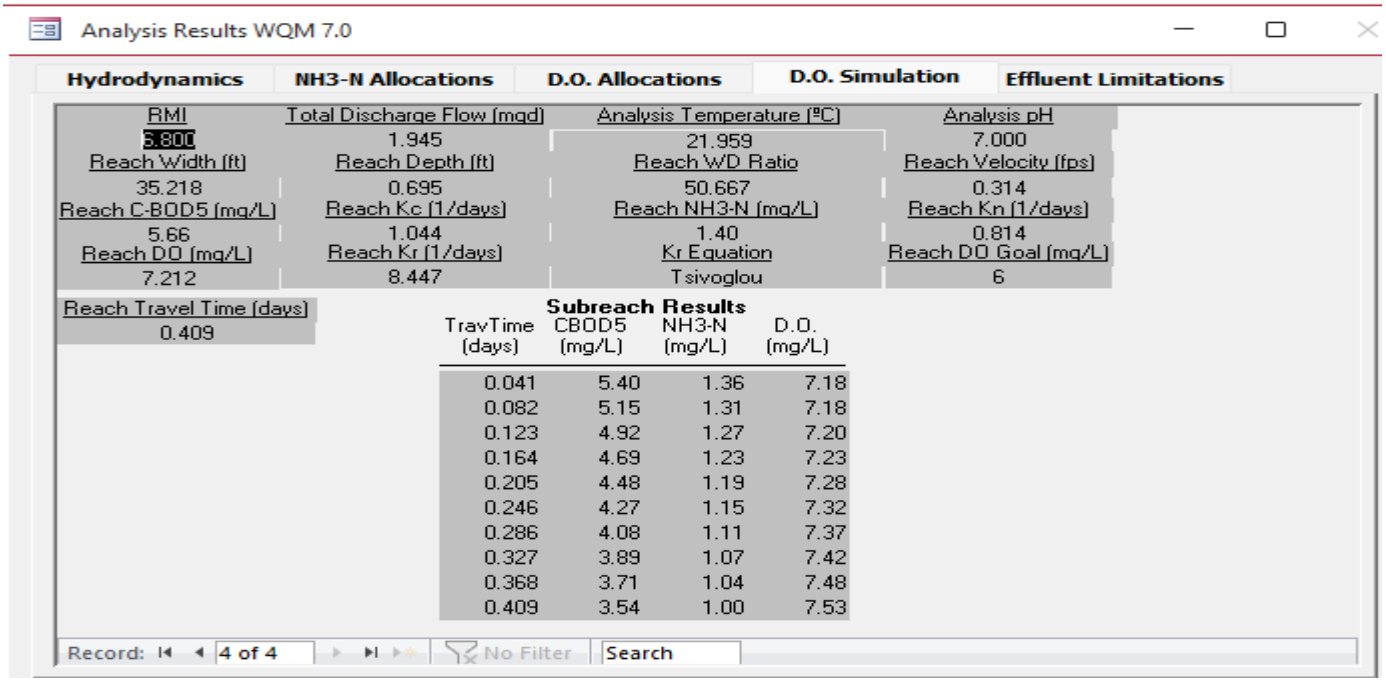
RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
7.400	1.805	21.933	7.000
Reach Width (ft)	Reach Depth (ft)	Reach WD Ratio	Reach Velocity (fps)
33.854	0.687	49.296	0.311
Reach C-BOD5 (mg/L)	Reach Kc (1/days)	Reach NH3-N (mg/L)	Reach Kn (1/days)
6.02	1.135	1.12	0.812
Reach DO (mg/L)	Reach Kr (1/days)	Kr Equation	Reach DO Goal (mg/L)
6.946	9.753	Tsivoglou	6

Reach Travel Time (days): 0.118

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.012	5.93	1.11	6.98
0.024	5.84	1.10	7.02
0.035	5.76	1.09	7.05
0.047	5.67	1.08	7.08
0.059	5.59	1.07	7.11
0.071	5.51	1.06	7.14
0.083	5.43	1.05	7.17
0.094	5.35	1.04	7.19
0.106	5.27	1.03	7.22
0.118	5.20	1.02	7.24

Record: 3 of 4 | No Filter | Search



Analysis Results WQM 7.0

Hydrodynamics | NH3-N Allocations | D.O. Allocations | D.O. Simulation | Effluent Limitations

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
6.800	1.945	21.959	7.000
Reach Width (ft)	Reach Depth (ft)	Reach WD Ratio	Reach Velocity (fps)
35.218	0.695	50.667	0.314
Reach C-BOD5 (mg/L)	Reach Kc (1/days)	Reach NH3-N (mg/L)	Reach Kn (1/days)
5.66	1.044	1.40	0.814
Reach DO (mg/L)	Reach Kr (1/days)	Kr Equation	Reach DO Goal (mg/L)
7.212	8.447	Tsivoglou	6

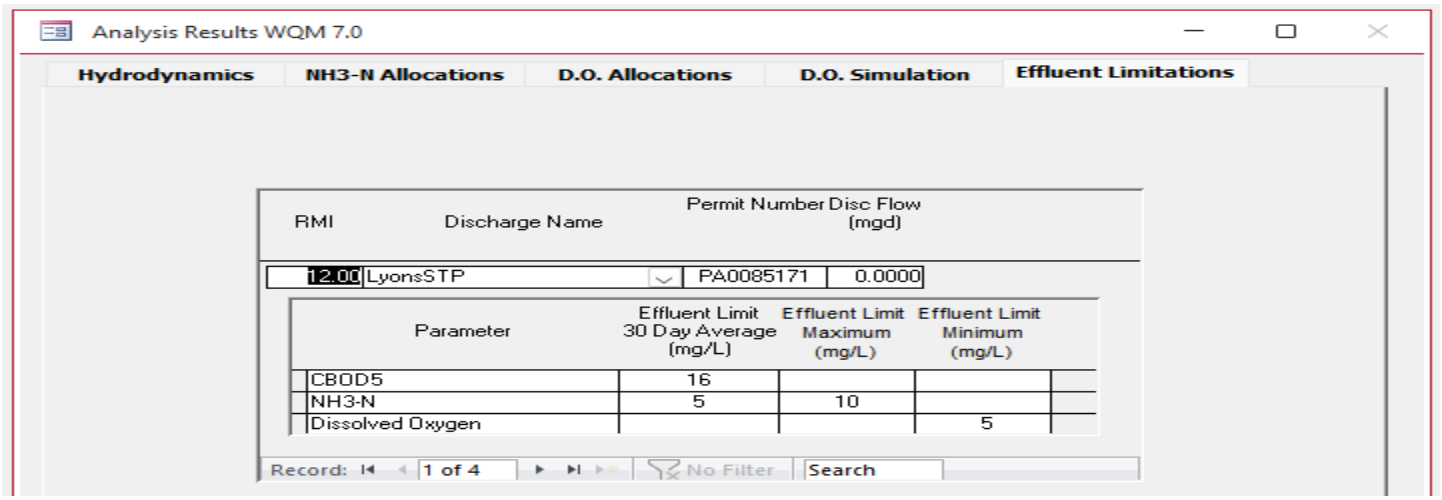
Reach Travel Time (days): 0.409

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.041	5.40	1.36	7.18
0.082	5.15	1.31	7.18
0.123	4.92	1.27	7.20
0.164	4.69	1.23	7.23
0.205	4.48	1.19	7.28
0.246	4.27	1.15	7.32
0.286	4.08	1.11	7.37
0.327	3.89	1.07	7.42
0.368	3.71	1.04	7.48
0.409	3.54	1.00	7.53

Record: 4 of 4 | No Filter | Search

DO recovered



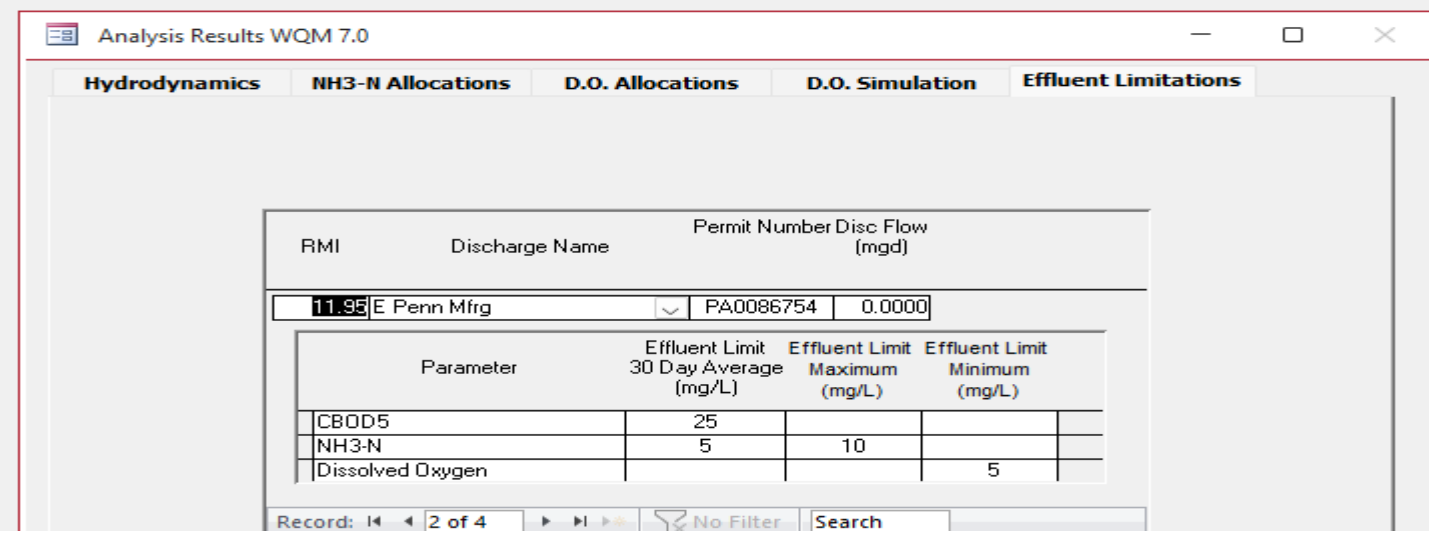
Analysis Results WQM 7.0

Hydrodynamics | NH3-N Allocations | D.O. Allocations | D.O. Simulation | Effluent Limitations

RMI	Discharge Name	Permit Number	Disc Flow (mgd)
12.00	LyonsSTP	PA0085171	0.0000

Parameter	Effluent Limit 30 Day Average (mg/L)	Effluent Limit Maximum (mg/L)	Effluent Limit Minimum (mg/L)
CBOD5	16		
NH3-N	5	10	
Dissolved Oxygen			5

Record: 1 of 4 | No Filter | Search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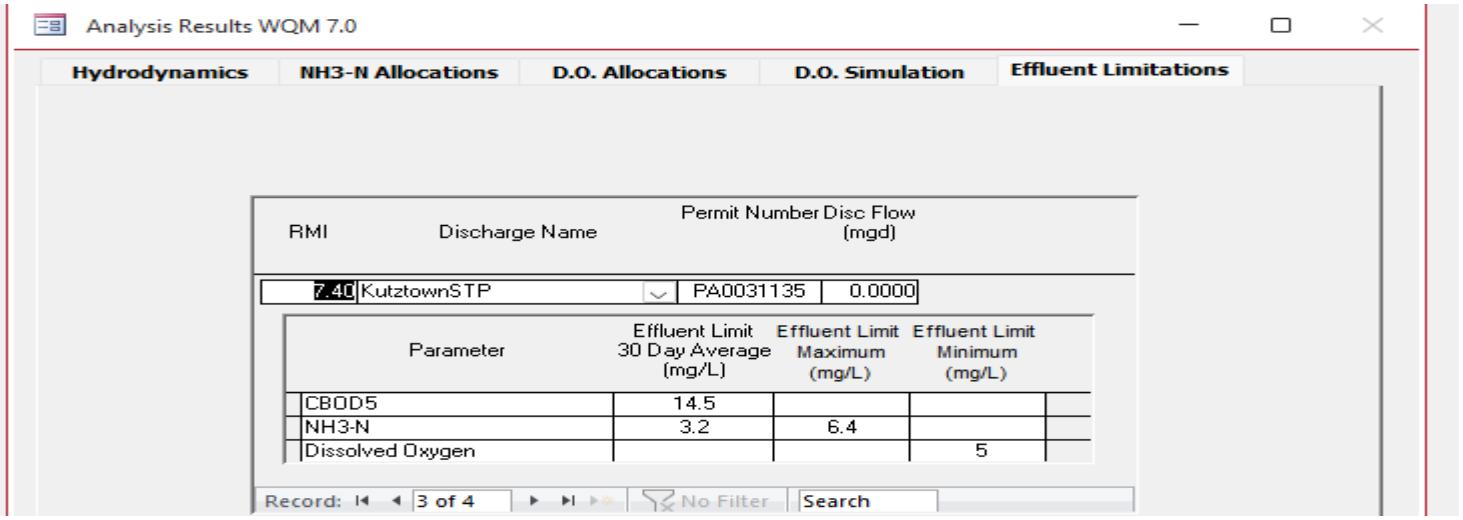
NH3-N Allocations
D.O. Allocations
D.O. Simulation
Effluent Limitations
RMI
Discharge Name
Permit Number
Disc Flow (mgd)
11.95
E Penn Mfrg
PA0086754
0.0000
Parameter
Effluent Limit 30 Day Average (mg/L)
Effluent Limit Maximum (mg/L)
Effluent Limit Minimum (mg/L)
CBOD5
25
NH3-N
5
10
Dissolved Oxygen
5
Record: 2 of 4
No Filter
Search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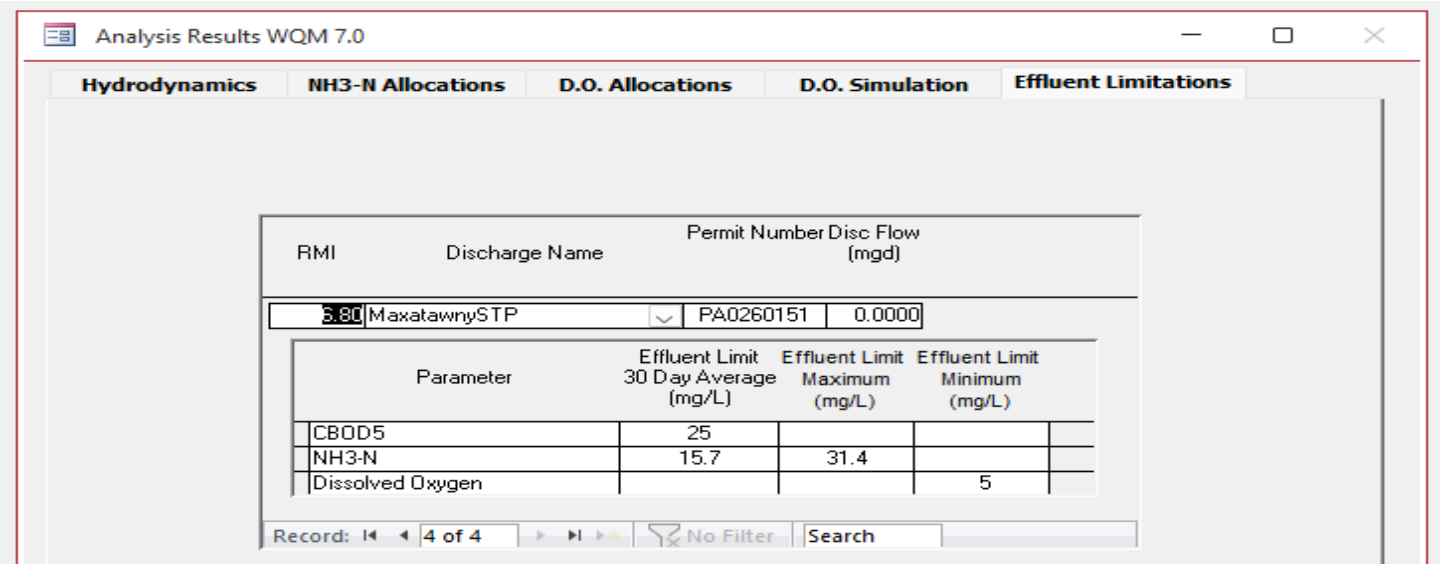
Hydrodynamics
NH3-N Allocations
D.O. Allocations
D.O. Simulation
Effluent Limitations
RMI
Discharge Name
Permit Number
Disc Flow (mgd)
7.40
KutztownSTP
PA0031135
0.0000
Parameter
Effluent Limit 30 Day Average (mg/L)
Effluent Limit Maximum (mg/L)
Effluent Limit Minimum (mg/L)
CBOD5
14.5
NH3-N
3.2
6.4
Dissolved Oxygen
5
Record: 3 of 4
No Filter
Search


Analysis Results WQM 7.0
Hydrodynamics
NH3-N Allocations
D.O. Allocations
D.O. Simulation
Effluent Limitations
RMI
Discharge Name
Permit Number
Disc Flow (mgd)
3.80
MaxatawnySTP
PA0260151
0.0000
Parameter
Effluent Limit 30 Day Average (mg/L)
Effluent Limit Maximum (mg/L)
Effluent Limit Minimum (mg/L)
CBOD5
25
NH3-N
15.7
31.4
Dissolved Oxygen
5
Record: 4 of 4
No Filter
Search

Using maximum concentrations from application (no DMR data since no discharges at outfall 001)……

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **E Penn Mfr'ing** NPDES Permit No.: **PA0086754** Outfall No.: **001**

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

Discharge Characteristics									
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.005	1263	7.5						

					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	Strea m CV	Fate Coeff	FOS	Criteri a Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		1690									
	Chloride (PWS)	mg/L		289									
	Bromide	mg/L	<	0.2									
	Sulfate (PWS)	mg/L		247									
	Fluoride (PWS)	mg/L		1									
Group 2	Total Aluminum	µg/L	<	9									
	Total Antimony	µg/L	<	0.4									
	Total Arsenic	µg/L	<	1									
	Total Barium	µg/L		513									
	Total Beryllium	µg/L	<	0.4									
	Total Boron	µg/L	<	50									
	Total Cadmium	µg/L	<	0.1									
	Total Chromium (III)	µg/L		2									
	Hexavalent Chromium	µg/L		1.47									
	Total Cobalt	µg/L	<	1									
	Total Copper	mg/L	<	0.002									
	Free Cyanide	µg/L		48									
	Total Cyanide	µg/L		48									
	Dissolved Iron	µg/L	<	10									
	Total Iron	µg/L	<	14									
	Total Lead	µg/L		4									
	Total Manganese	µg/L		6									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		1									
	Total Phenols (Phenolics) (PWS)	µg/L	<	0.204									
	Total Selenium	µg/L		5									
	Total Silver	µg/L	<	1									
	Total Thallium	µg/L	<	0.4									
	Total Zinc	mg/L		0.018									
	Total Molybdenum	µg/L		6									
	Acrolein	µg/L	<	1									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	0.5									
	Benzene	µg/L	<	0.5									
	Bromoform	µg/L	<	0.5									

Discharge Information 4/14/2025 Page 1

Notes:

-The application provided Total Cyanide results, not Free Cyanide. Used T. Cyanide conc. as Free Cyanide discharge concentration in TMS to be sure WQBEL not needed for either.

-The application indicated a maximum concentration in effluent samples of 0.018 **ug/l** for Total Zinc. No lab results pages were attached. The permit writer purposely entered 0.018 mg/l as the maximum discharge concentration in the TMS model to be sure no WQBEL would be recommended if the permittee had made an error with units when filling in the application. If the maximum effluent concentration for Total Zinc was truly 0.018 ug/l, no WQBEL would be recommended either.

Group 3	Carbon Tetrachloride	µg/L	<	0.5									
	Chlorobenzene	µg/L		0.5									
	Chlorodibromomethane	µg/L	<	0.5									
	Chloroethane	µg/L	<	1									
	2-Chloroethyl Vinyl Ether	µg/L	<	0.5									
	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		0.139									
	Ethylbenzene	µg/L	<	0.5									
	Methyl Bromide	µg/L	<	1									
	Methyl Chloride	µg/L	<	0.5									
	Methylene Chloride	µg/L	<	0.5									
	1,1,2,2-Tetrachloroethane	µg/L	<	0.5									
	Tetrachloroethylene	µg/L		5.8									
	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		6.7									
	Vinyl Chloride	µg/L	<	0.5									
Group 4	2-Chlorophenol	µg/L	<	0.183									
	2,4-Dichlorophenol	µg/L	<	0.228									
	2,4-Dimethylphenol	µg/L	<	0.384									
	4,6-Dinitro-o-Cresol	µg/L	<	1.24									
	2,4-Dinitrophenol	µg/L	<	1.92									
	2-Nitrophenol	µg/L	<	0.234									
	4-Nitrophenol	µg/L	<	1.44									
	p-Chloro-m-Cresol	µg/L	<	0.251									
	Pentachlorophenol	µg/L	<	0.51									
	Phenol	µg/L	<	0.204									
	2,4,6-Trichlorophenol	µg/L	<	0.232									
Group 5	Acenaphthene	µg/L	<	0.359									
	Acenaphthylene	µg/L	<	0.356									
	Anthracene	µg/L	<	0.334									
	Benzidine	µg/L	<	0.623									
	Benzo(a)Anthracene	µg/L	<	0.277									
	Benzo(a)Pyrene	µg/L	<	0.254									
	3,4-Benzofluoranthene	µg/L	<	0.277									
	Benzo(ghi)Perylene	µg/L	<	0.42									
	Benzo(k)Fluoranthene	µg/L	<	0.341									
	Bis(2-Chloroethoxy)Methane	µg/L	<	0.239									
	Bis(2-Chloroethyl)Ether	µg/L	<	0.276									
	Bis(2-Chloroisopropyl)Ether	µg/L	<	0.276									
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	1.62									
	4-Bromophenyl Phenyl Ether	µg/L	<	0.403									
	Butyl Benzyl Phthalate	µg/L	<	1.01									
	2-Chloronaphthalene	µg/L	<	0.36									
	4-Chlorophenyl Phenyl Ether	µg/L	<	0.348									
	Chrysene	µg/L	<	0.521									
	Dibenzo(a,h)Anthrancene	µg/L	<	0.422									
	1,2-Dichlorobenzene	µg/L	<	0.199									
	1,3-Dichlorobenzene	µg/L	<	0.436									
	1,4-Dichlorobenzene	µg/L	<	0.477									
	3,3-Dichlorobenzidine	µg/L	<	0.761									
	Diethyl Phthalate	µg/L	<	0.868									
	Dimethyl Phthalate	µg/L	<	0.522									
	Di-n-Butyl Phthalate	µg/L	<	2.76									
	2,4-Dinitrotoluene	µg/L	<	0.474									

	2,6-Dinitrotoluene	µg/L	<	0.457									
	Di-n-Octyl Phthalate	µg/L	<	0.376									
	1,2-Diphenylhydrazine	µg/L	<	0.538									
	Fluoranthene	µg/L	<	0.64									
	Fluorene	µg/L	<	0.317									
	Hexachlorobenzene	µg/L	<	0.427									
	Hexachlorobutadiene	µg/L	<	0.271									
	Hexachlorocyclopentadiene	µg/L	<	0.412									
	Hexachloroethane	µg/L	<	0.484									
	Indeno(1,2,3-cd)Pyrene	µg/L	<	0.4									
	Isophorone	µg/L	<	0.262									
	Naphthalene	µg/L	<	0.5									
	Nitrobenzene	µg/L	<	0.248									
	n-Nitrosodimethylamine	µg/L	<	0.245									
	n-Nitrosodi-n-Propylamine	µg/L	<	0.431									
	n-Nitrosodiphenylamine	µg/L	<	0.378									
	Phenanthrene	µg/L	<	0.43									
	Pyrene	µg/L	<	0.602									
	1,2,4-Trichlorobenzene	µg/L	<	0.279									
Group 6	Aldrin	µg/L	<	0.005									
	alpha-BHC	µg/L	<	0.005									
	beta-BHC	µg/L	<	0.005									
	gamma-BHC	µg/L	<										
	delta BHC	µg/L	<	0.02									
	Chlordane	µg/L	<	0.53									
	4,4-DDT	µg/L	<	0.02									
	4,4-DDE	µg/L	<	0.005									
	4,4-DDD	µg/L	<	0.02									
	Dieldrin	µg/L	<	0.02									
	alpha-Endosulfan	µg/L	<	0.02									
	beta-Endosulfan	µg/L	<	0.005									
	Endosulfan Sulfate	µg/L	<	0.02									
	Endrin	µg/L	<	0.005									
	Endrin Aldehyde	µg/L	<	0.02									
	Heptachlor	µg/L	<	0.0005									
	Heptachlor Epoxide	µg/L	<	0.02									
	PCB-1016	µg/L	<	0.1									
	PCB-1221	µg/L	<	0.1									
	PCB-1232	µg/L	<	0.1									
	PCB-1242	µg/L	<	0.1									
	PCB-1248	µg/L	<	0.1									
	PCB-1254	µg/L	<	0.1									
	PCB-1260	µg/L	<	0.1									
	PCBs, Total	µg/L	<										
	Toxaphene	µg/L	<	0.5									
	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

E Penn Mfr'ing, NPDES Permit No. PA0086754, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Sacony Crk**

No. Reaches to Model: **1**

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	002008	12	430	7.5			Yes
End of Reach 1	002008	11.6	415	7.7			Yes

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

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	12	0.19										100	7		
End of Reach 1	11.6	0.19													

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	12														
End of Reach 1	11.6														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

E Penn Mfr'ing, NPDES Permit No. PA0086754, Outfall 001

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

☑ ***Hydrodynamics***

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

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)
12	1.43		1.43	0.008	0.007	0.534	15.786	29.539	0.17	0.144	10.263
11.6	1.46		1.463								

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)
12	10.13		10.13	0.008	0.007	1.264	15.786	12.49	0.508	0.048	2.848
11.6	10.361		10.36								

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 10.263 PMF: 1 Analysis Hardness (mg/l): 106.28 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	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	138,921	
Total Antimony	0	0		0	1,100	1,100	203,750	
Total Arsenic	0	0		0	340	340	62,977	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	3,889,778	
Total Boron	0	0		0	8,100	8,100	1,500,343	
Total Cadmium	0	0		0	2.137	2.27	420	Chem Translator of 0.941 applied
Total Chromium (III)	0	0		0	598.900	1,895	351,053	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	3,018	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	17,597	
Total Copper	0	0		0	14.233	14.8	2,746	Chem Translator of 0.96 applied

Free Cyanide	0	0		0	22	22.0	4,075	
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	69.004	88.2	16,342	Chem Translator of 0.782 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	305	Chem Translator of 0.85 applied
Total Nickel	0	0		0	492.990	494	91,498	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	3.572	4.2	778	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	12,040	
Total Zinc	0	0		0	123.385	126	23,368	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	556	
Acrylonitrile	0	0		0	650	650	120,398	
Benzene	0	0		0	640	640	118,546	
Bromoform	0	0		0	1,800	1,800	333,410	
Carbon Tetrachloride	0	0		0	2,800	2,800	518,637	
Chlorobenzene	0	0		0	1,200	1,200	222,273	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	3,334,096	
Chloroform	0	0		0	1,900	1,900	351,932	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	2,778,413	
1,1-Dichloroethylene	0	0		0	7,500	7,500	1,389,207	
1,2-Dichloropropane	0	0		0	11,000	11,000	2,037,503	
1,3-Dichloropropylene	0	0		0	310	310	57,421	
Ethylbenzene	0	0		0	2,900	2,900	537,160	
Methyl Bromide	0	0		0	550	550	101,875	
Methyl Chloride	0	0		0	28,000	28,000	5,186,371	
Methylene Chloride	0	0		0	12,000	12,000	2,222,730	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	185,228	
Tetrachloroethylene	0	0		0	700	700	129,659	
Toluene	0	0		0	1,700	1,700	314,887	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	1,259,547	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	555,683	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	629,774	
Trichloroethylene	0	0		0	2,300	2,300	426,023	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	103,727	
2,4-Dichlorophenol	0	0		0	1,700	1,700	314,887	
2,4-Dimethylphenol	0	0		0	660	660	122,250	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	14,818	
2,4-Dinitrophenol	0	0		0	660	660	122,250	
2-Nitrophenol	0	0		0	8,000	8,000	1,481,820	
4-Nitrophenol	0	0		0	2,300	2,300	426,023	
p-Chloro-m-Cresol	0	0		0	160	160	29,636	
Pentachlorophenol	0	0		0	8.737	8.74	1,618	
Phenol	0	0		0	N/A	N/A	N/A	

2,4,6-Trichlorophenol	0	0		0	460	460	85,205	
Acenaphthene	0	0		0	83	83.0	15,374	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	55,568	
Benzo(a)Anthracene	0	0		0	0.5	0.5	92.6	
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	5,556,826	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	833,524	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	50,011	
Butyl Benzyl Phthalate	0	0		0	140	140	25,932	
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	151,887	
1,3-Dichlorobenzene	0	0		0	350	350	64,830	
1,4-Dichlorobenzene	0	0		0	730	730	135,216	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	740,910	
Dimethyl Phthalate	0	0		0	2,500	2,500	463,069	
Di-n-Butyl Phthalate	0	0		0	110	110	20,375	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	296,364	
2,6-Dinitrotoluene	0	0		0	990	990	183,375	
1,2-Diphenylhydrazine	0	0		0	15	15.0	2,778	
Fluoranthene	0	0		0	200	200	37,046	
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	1,852	
Hexachlorocyclopentadiene	0	0		0	5	5.0	926	
Hexachloroethane	0	0		0	60	60.0	11,114	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	1,852,275	
Naphthalene	0	0		0	140	140	25,932	
Nitrobenzene	0	0		0	4,000	4,000	740,910	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	3,148,868	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	55,568	
Phenanthrene	0	0		0	5	5.0	926	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	24,080	
Aldrin	0	0		0	3	3.0	556	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	2.4	2.4	445	
4,4-DDT	0	0		0	1.1	1.1	204	
4,4-DDE	0	0		0	1.1	1.1	204	

4,4-DDD	0	0		0	1.1	1.1	204	
Dieldrin	0	0		0	0.24	0.24	44.5	
alpha-Endosulfan	0	0		0	0.22	0.22	40.8	
beta-Endosulfan	0	0		0	0.22	0.22	40.8	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.086	0.086	15.9	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.52	0.52	96.3	
Heptachlor Epoxide	0	0		0	0.5	0.5	92.6	
Toxaphene	0	0		0	0.73	0.73	135	

☑ ***CFC*** CCT (min): 10.263 PMF: 1 Analysis Hardness (mg/l): 106.28 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	
Fluoride (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	40,750	
Total Arsenic	0	0		0	150	150	27,784	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	759,433	
Total Boron	0	0		0	1,600	1,600	296,364	
Total Cadmium	0	0		0	0.257	0.28	52.4	Chem Translator of 0.906 applied
Total Chromium (III)	0	0		0	77.905	90.6	16,779	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	1,925	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	3,519	
Total Copper	0	0		0	9.434	9.83	1,820	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	5.2	5.2	963	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	277,841	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.689	3.44	637	Chem Translator of 0.782 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	168	Chem Translator of 0.85 applied
Total Nickel	0	0		0	54.756	54.9	10,173	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	924	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	2,408	
Total Zinc	0	0		0	124.395	126	23,368	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	556	
Acrylonitrile	0	0		0	130	130	24,080	
Benzene	0	0		0	130	130	24,080	
Bromoform	0	0		0	370	370	68,534	

Carbon Tetrachloride	0	0		0	560	560	103,727	
Chlorobenzene	0	0		0	240	240	44,455	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	648,296	
Chloroform	0	0		0	390	390	72,239	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	574,205	
1,1-Dichloroethylene	0	0		0	1,500	1,500	277,841	
1,2-Dichloropropane	0	0		0	2,200	2,200	407,501	
1,3-Dichloropropylene	0	0		0	61	61.0	11,299	
Ethylbenzene	0	0		0	580	580	107,432	
Methyl Bromide	0	0		0	110	110	20,375	
Methyl Chloride	0	0		0	5,500	5,500	1,018,751	
Methylene Chloride	0	0		0	2,400	2,400	444,546	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	38,898	
Tetrachloroethylene	0	0		0	140	140	25,932	
Toluene	0	0		0	330	330	61,125	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	259,319	
1,1,1-Trichloroethane	0	0		0	610	610	112,989	
1,1,2-Trichloroethane	0	0		0	680	680	125,955	
Trichloroethylene	0	0		0	450	450	83,352	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	20,375	
2,4-Dichlorophenol	0	0		0	340	340	62,977	
2,4-Dimethylphenol	0	0		0	130	130	24,080	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	2,964	
2,4-Dinitrophenol	0	0		0	130	130	24,080	
2-Nitrophenol	0	0		0	1,600	1,600	296,364	
4-Nitrophenol	0	0		0	470	470	87,057	
p-Chloro-m-Cresol	0	0		0	500	500	92,614	
Pentachlorophenol	0	0		0	6.703	6.7	1,242	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	16,856	
Acenaphthene	0	0		0	17	17.0	3,149	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	10,928	
Benzo(a)Anthracene	0	0		0	0.1	0.1	18.5	
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	1,111,365	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	168,557	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	10,002	
Butyl Benzyl Phthalate	0	0		0	35	35.0	6,483	

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	29,636	
1,3-Dichlorobenzene	0	0		0	69	69.0	12,781	
1,4-Dichlorobenzene	0	0		0	150	150	27,784	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	148,182	
Dimethyl Phthalate	0	0		0	500	500	92,614	
Di-n-Butyl Phthalate	0	0		0	21	21.0	3,890	
2,4-Dinitrotoluene	0	0		0	320	320	59,273	
2,6-Dinitrotoluene	0	0		0	200	200	37,046	
1,2-Diphenylhydrazine	0	0		0	3	3.0	556	
Fluoranthene	0	0		0	40	40.0	7,409	
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	370	
Hexachlorocyclopentadiene	0	0		0	1	1.0	185	
Hexachloroethane	0	0		0	12	12.0	2,223	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	388,978	
Naphthalene	0	0		0	43	43.0	7,965	
Nitrobenzene	0	0		0	810	810	150,034	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	629,774	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	10,928	
Phenanthrene	0	0		0	1	1.0	185	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	4,816	
Aldrin	0	0		0	0.1	0.1	18.5	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	0.0043	0.004	0.8	
4,4-DDT	0	0		0	0.001	0.001	0.19	
4,4-DDE	0	0		0	0.001	0.001	0.19	
4,4-DDD	0	0		0	0.001	0.001	0.19	
Dieldrin	0	0		0	0.056	0.056	10.4	
alpha-Endosulfan	0	0		0	0.056	0.056	10.4	
beta-Endosulfan	0	0		0	0.056	0.056	10.4	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.036	0.036	6.67	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.0038	0.004	0.7	
Heptachlor Epoxide	0	0		0	0.0038	0.004	0.7	
Toxaphene	0	0		0	0.0002	0.0002	0.037	

☑ ***THH*** CCT (min): 10.263 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	
Fluoride (PWS)	0	0		0	2,000	2,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	1,037	
Total Arsenic	0	0		0	10	10.0	1,852	
Total Barium	0	0		0	2,400	2,400	444,546	
Total Boron	0	0		0	3,100	3,100	574,205	
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	741	
Dissolved Iron	0	0		0	300	300	55,568	
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	185,228	
Total Mercury	0	0		0	0.050	0.05	9.26	
Total Nickel	0	0		0	610	610	112,989	
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	44.5	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	556	
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	18,523	
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	1,056	
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	6,113	
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	12,595	
Methyl Bromide	0	0		0	100	100.0	18,523	
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	10,558	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	18,523	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	1,852,275	
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	5,557	
2,4-Dichlorophenol	0	0		0	10	10.0	1,852	
2,4-Dimethylphenol	0	0		0	100	100.0	18,523	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	370	
2,4-Dinitrophenol	0	0		0	10	10.0	1,852	
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	740,910	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	12,966	
Anthracene	0	0		0	300	300	55,568	
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	37,046	
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	18.5	
2-Chloronaphthalene	0	0		0	800	800	148,182	
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	185,228	
1,3-Dichlorobenzene	0	0		0	7	7.0	1,297	
1,4-Dichlorobenzene	0	0		0	300	300	55,568	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	111,137	
Dimethyl Phthalate	0	0		0	2,000	2,000	370,455	

Di-n-Butyl Phthalate	0	0		0	20	20.0	3,705	
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	3,705	
Fluorene	0	0		0	50	50.0	9,261	
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	741	
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	6,298	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	1,852	
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	3,705	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	13.0	
Aldrin	0	0		0	N/A	N/A	N/A	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	N/A	N/A	N/A	
4,4-DDT	0	0		0	N/A	N/A	N/A	
4,4-DDE	0	0		0	N/A	N/A	N/A	
4,4-DDD	0	0		0	N/A	N/A	N/A	
Dieldrin	0	0		0	N/A	N/A	N/A	
alpha-Endosulfan	0	0		0	20	20.0	3,705	
beta-Endosulfan	0	0		0	20	20.0	3,705	
Endosulfan Sulfate	0	0		0	20	20.0	3,705	
Endrin	0	0		0	0.03	0.03	5.56	
Endrin Aldehyde	0	0		0	1	1.0	185	
Heptachlor	0	0		0	N/A	N/A	N/A	
Heptachlor Epoxide	0	0		0	N/A	N/A	N/A	
Toxaphene	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 2.848 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	

Fluoride (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	78.6	
Benzene	0	0		0	0.58	0.58	760	
Bromoform	0	0		0	7	7.0	9,170	
Carbon Tetrachloride	0	0		0	0.4	0.4	524	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	1,048	
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	1,245	
1,2-Dichloroethane	0	0		0	9.9	9.9	12,970	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	1,179	
1,3-Dichloropropylene	0	0		0	0.27	0.27	354	
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	26,201	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	262	
Tetrachloroethylene	0	0		0	10	10.0	13,101	
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	721	
Trichloroethylene	0	0		0	0.6	0.6	786	
Vinyl Chloride	0	0		0	0.02	0.02	26.2	
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	39.3	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	1,965	
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	0.13	
Benzo(a)Anthracene	0	0		0	0.001	0.001	1.31	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.13	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	1.31	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	13.1	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	39.3	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	419	
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	157	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.13	
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	65.5	
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	65.5	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	65.5	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	39.3	
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	0.1	
Hexachlorobutadiene	0	0		0	0.01	0.01	13.1	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	

Hexachloroethane	0	0		0	0.1	0.1	131	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	1.31	
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	0.92	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	6.55	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	4,323	
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	
Aldrin	0	0		0	0.0000008	8.00E-07	0.001	
alpha-BHC	0	0		0	0.0004	0.0004	0.52	
beta-BHC	0	0		0	0.008	0.008	10.5	
Chlordane	0	0		0	0.0003	0.0003	0.39	
4,4-DDT	0	0		0	0.00003	0.00003	0.039	
4,4-DDE	0	0		0	0.00002	0.00002	0.026	
4,4-DDD	0	0		0	0.0001	0.0001	0.13	
Dieldrin	0	0		0	0.000001	0.000001	0.001	
alpha-Endosulfan	0	0		0	N/A	N/A	N/A	
beta-Endosulfan	0	0		0	N/A	N/A	N/A	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	N/A	N/A	N/A	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.000006	0.000006	0.008	
Heptachlor Epoxide	0	0		0	0.00003	0.00003	0.039	
Toxaphene	0	0		0	0.0007	0.0007	0.92	

☑ ***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

☑ ***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
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	N/A	N/A	Discharge Conc < TQL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	444,546	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	296,364	µg/L	Discharge Conc < TQL
Total Cadmium	52.4	µg/L	Discharge Conc < TQL
Total Chromium (III)	16,779	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	1,925	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	3,519	µg/L	Discharge Conc < TQL
Total Copper	1.76	mg/L	Discharge Conc < TQL
Free Cyanide	741	µg/L	Discharge Conc ≤ 25% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	55,568	µg/L	Discharge Conc < TQL
Total Iron	277,841	µg/L	Discharge Conc < TQL
Total Lead	637	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	185,228	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	9.26	µg/L	Discharge Conc < TQL
Total Nickel	10,173	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Selenium	924	µg/L	Discharge Conc ≤ 10% WQBEL
Total Silver	499	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	44.5	µg/L	Discharge Conc < TQL
Total Zinc	15.0	mg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	356	µg/L	Discharge Conc < TQL
Acrylonitrile	78.6	µg/L	Discharge Conc < TQL
Benzene	760	µg/L	Discharge Conc < TQL
Bromoform	9,170	µg/L	Discharge Conc < TQL
Carbon Tetrachloride	524	µg/L	Discharge Conc < TQL
Chlorobenzene	18,523	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorodibromomethane	1,048	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	648,296	µg/L	Discharge Conc < TQL
Chloroform	1,056	µg/L	Discharge Conc < TQL
Dichlorobromomethane	1,245	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	12,970	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	6,113	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	1,179	µg/L	Discharge Conc < TQL

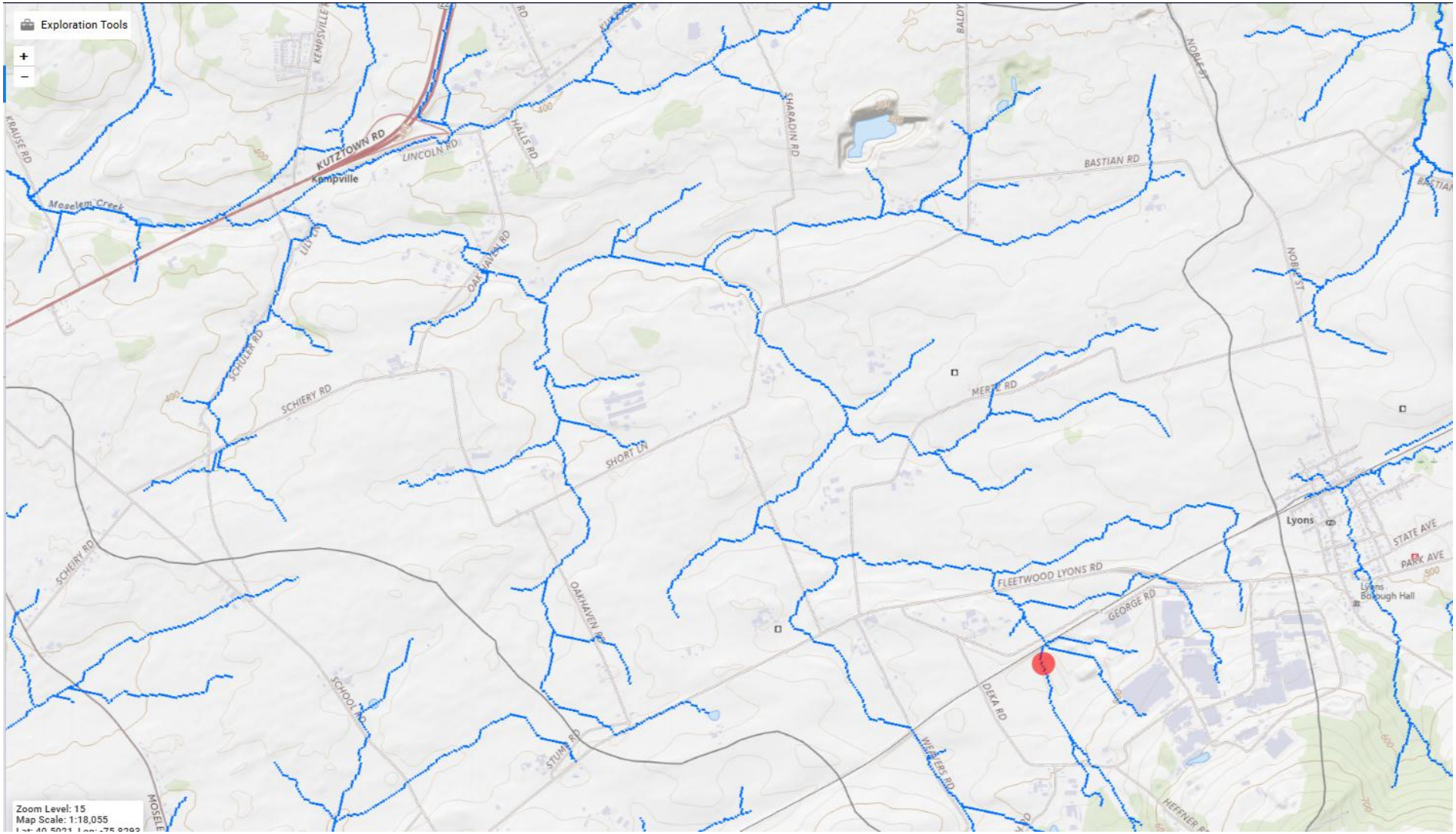
1,3-Dichloropropylene	354	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	12,595	µg/L	Discharge Conc < TQL
Methyl Bromide	18,523	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Chloride	1,018,751	µg/L	Discharge Conc < TQL
Methylene Chloride	26,201	µg/L	Discharge Conc < TQL
1,1,2,2-Tetrachloroethane	262	µg/L	Discharge Conc < TQL
Tetrachloroethylene	13,101	µg/L	Discharge Conc ≤ 25% WQBEL
Toluene	10,558	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	18,523	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	112,989	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	721	µg/L	Discharge Conc < TQL
Trichloroethylene	786	µg/L	Discharge Conc ≤ 25% WQBEL
Vinyl Chloride	26.2	µg/L	Discharge Conc < TQL
2-Chlorophenol	5,557	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	1,852	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	18,523	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	370	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	1,852	µg/L	Discharge Conc < TQL
2-Nitrophenol	296,364	µg/L	Discharge Conc < TQL
4-Nitrophenol	87,057	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	18,996	µg/L	Discharge Conc < TQL
Pentachlorophenol	39.3	µg/L	Discharge Conc < TQL
Phenol	740,910	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	1,965	µg/L	Discharge Conc < TQL
Acenaphthene	3,149	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	55,568	µg/L	Discharge Conc < TQL
Benzidine	0.13	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	1.31	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.13	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	1.31	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	13.1	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	39.3	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	37,046	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	419	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	10,002	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	18.5	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	148,182	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	157	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.13	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	29,636	µg/L	Discharge Conc < TQL

1,3-Dichlorobenzene	1,297	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	27,784	µg/L	Discharge Conc < TQL
3,3-Dichlorobenzidine	65.5	µg/L	Discharge Conc < TQL
Diethyl Phthalate	111,137	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	92,614	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	3,705	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	65.5	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	65.5	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	39.3	µg/L	Discharge Conc < TQL
Fluoranthene	3,705	µg/L	Discharge Conc < TQL
Fluorene	9,261	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.1	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	13.1	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	185	µg/L	Discharge Conc < TQL
Hexachloroethane	131	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	1.31	µg/L	Discharge Conc < TQL
Isophorone	6,298	µg/L	Discharge Conc < TQL
Naphthalene	7,965	µg/L	Discharge Conc < TQL
Nitrobenzene	1,852	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.92	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	6.55	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	4,323	µg/L	Discharge Conc < TQL
Phenanthrene	185	µg/L	Discharge Conc < TQL
Pyrene	3,705	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	13.0	µg/L	Discharge Conc < TQL
Aldrin	0.001	µg/L	Discharge Conc < TQL
alpha-BHC	0.52	µg/L	Discharge Conc < TQL
beta-BHC	10.5	µg/L	Discharge Conc < TQL
delta BHC	N/A	N/A	No WQS
Chlordane	0.39	µg/L	Discharge Conc < TQL
4,4-DDT	0.039	µg/L	Discharge Conc < TQL
4,4-DDE	0.026	µg/L	Discharge Conc < TQL
4,4-DDD	0.13	µg/L	Discharge Conc < TQL
Dieldrin	0.001	µg/L	Discharge Conc < TQL
alpha-Endosulfan	10.4	µg/L	Discharge Conc < TQL
beta-Endosulfan	10.4	µg/L	Discharge Conc < TQL
Endosulfan Sulfate	3,705	µg/L	Discharge Conc < TQL
Endrin	5.56	µg/L	Discharge Conc < TQL
Endrin Aldehyde	185	µg/L	Discharge Conc < TQL
Heptachlor	0.008	µg/L	Discharge Conc < TQL
Heptachlor Epoxide	0.039	µg/L	Discharge Conc < TQL
PCB-1016	N/A	N/A	No WQS
PCB-1221	N/A	N/A	No WQS
PCB-1232	N/A	N/A	No WQS

PCB-1242	N/A	N/A	No WQS
PCB-1248	N/A	N/A	No WQS
PCB-1254	N/A	N/A	No WQS
PCB-1260	N/A	N/A	No WQS
Toxaphene	0.037	µg/L	Discharge Conc < TQL

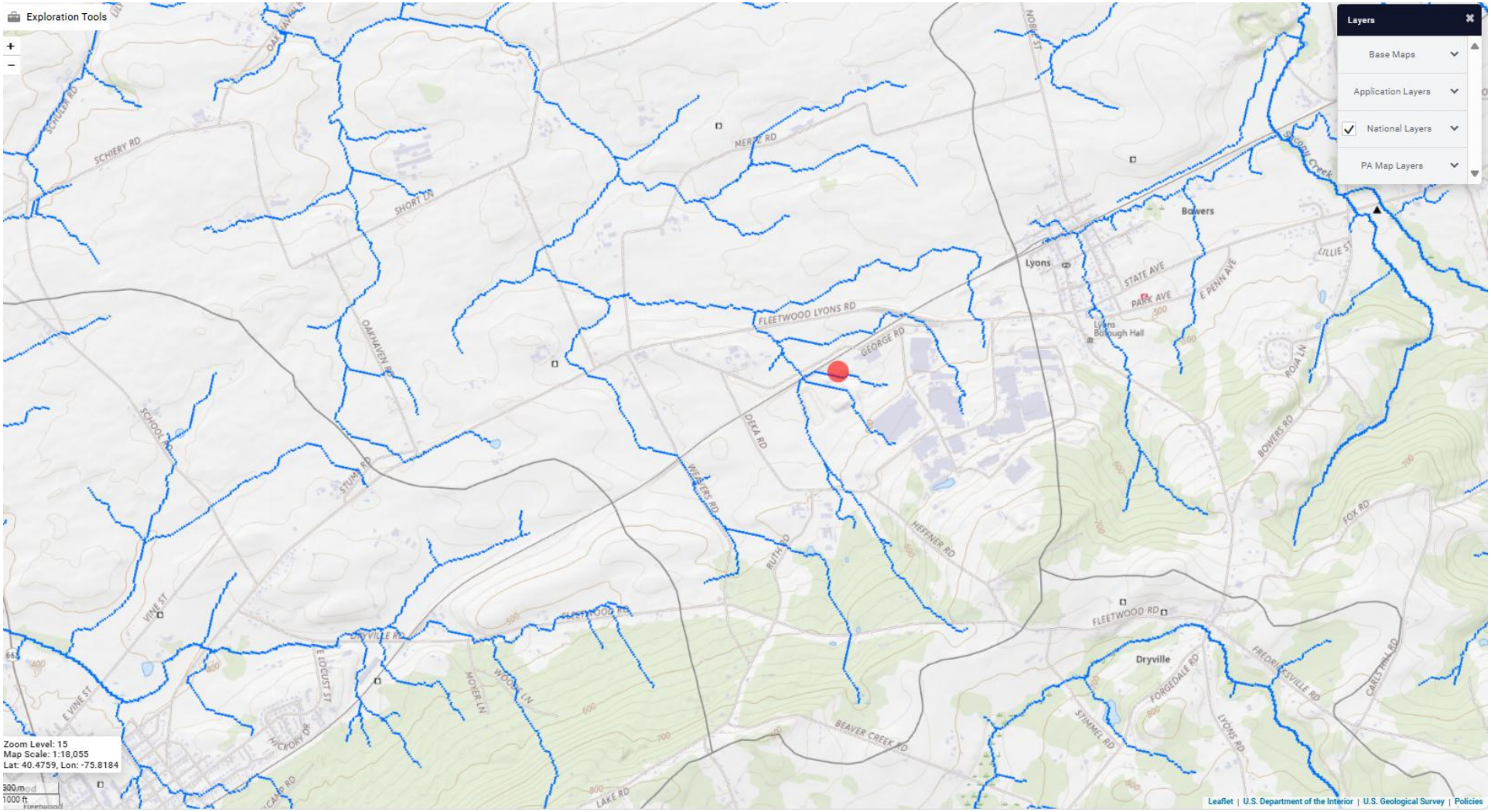
Note: the renewal application reported 3 out of 3 effluent samples were ‘Non-detect’ for Acrylamide.

Stormwater outfall 002 using lat/long in application (significantly differs from DEP computer records and last permit's Part A) and USGS Stream Stats map:



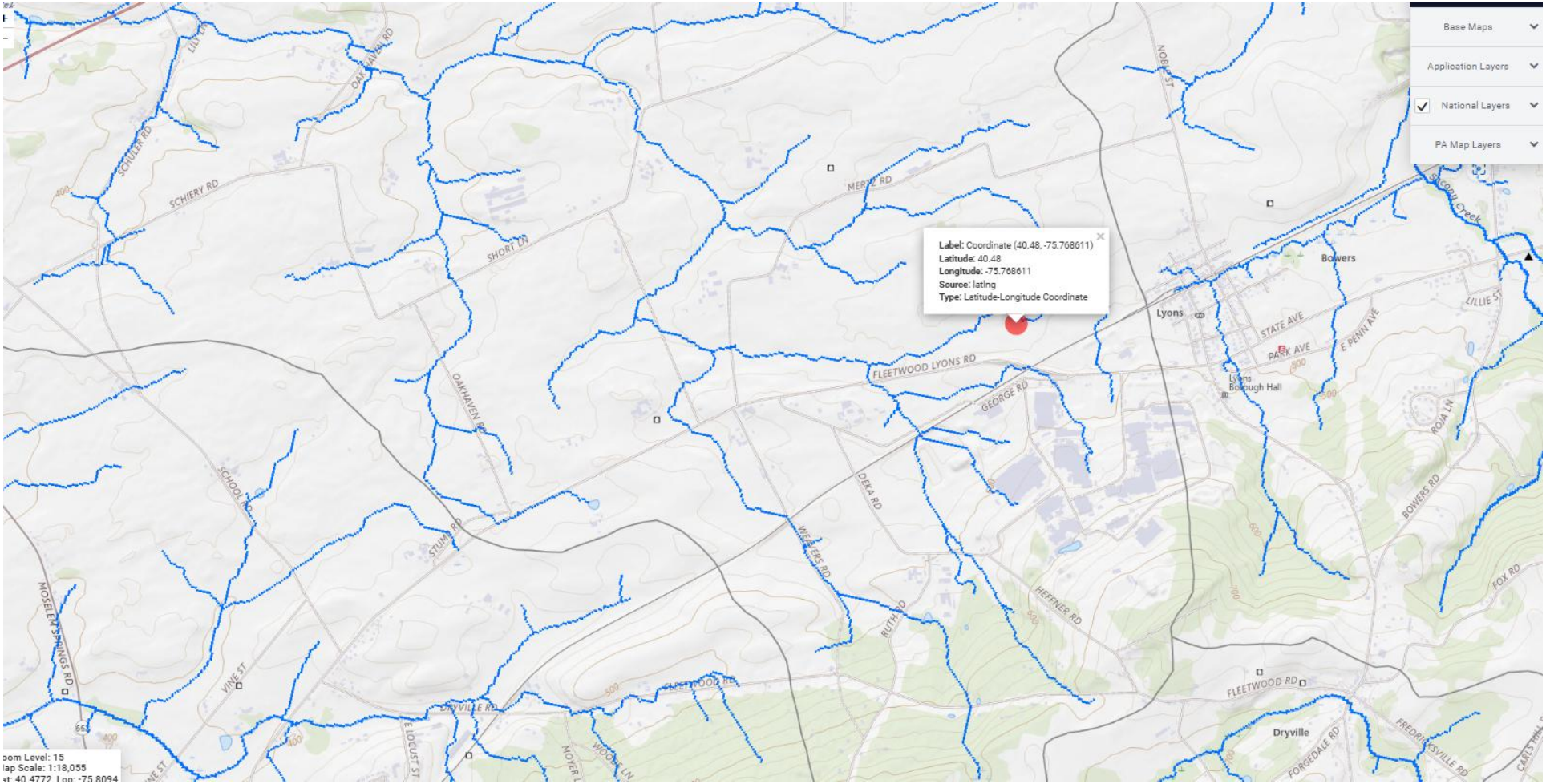
Stormwater flows to unnamed tributary then to Moselem Creek.

Stream Stats, outfall 004 as red dot. Used lat/long from application.

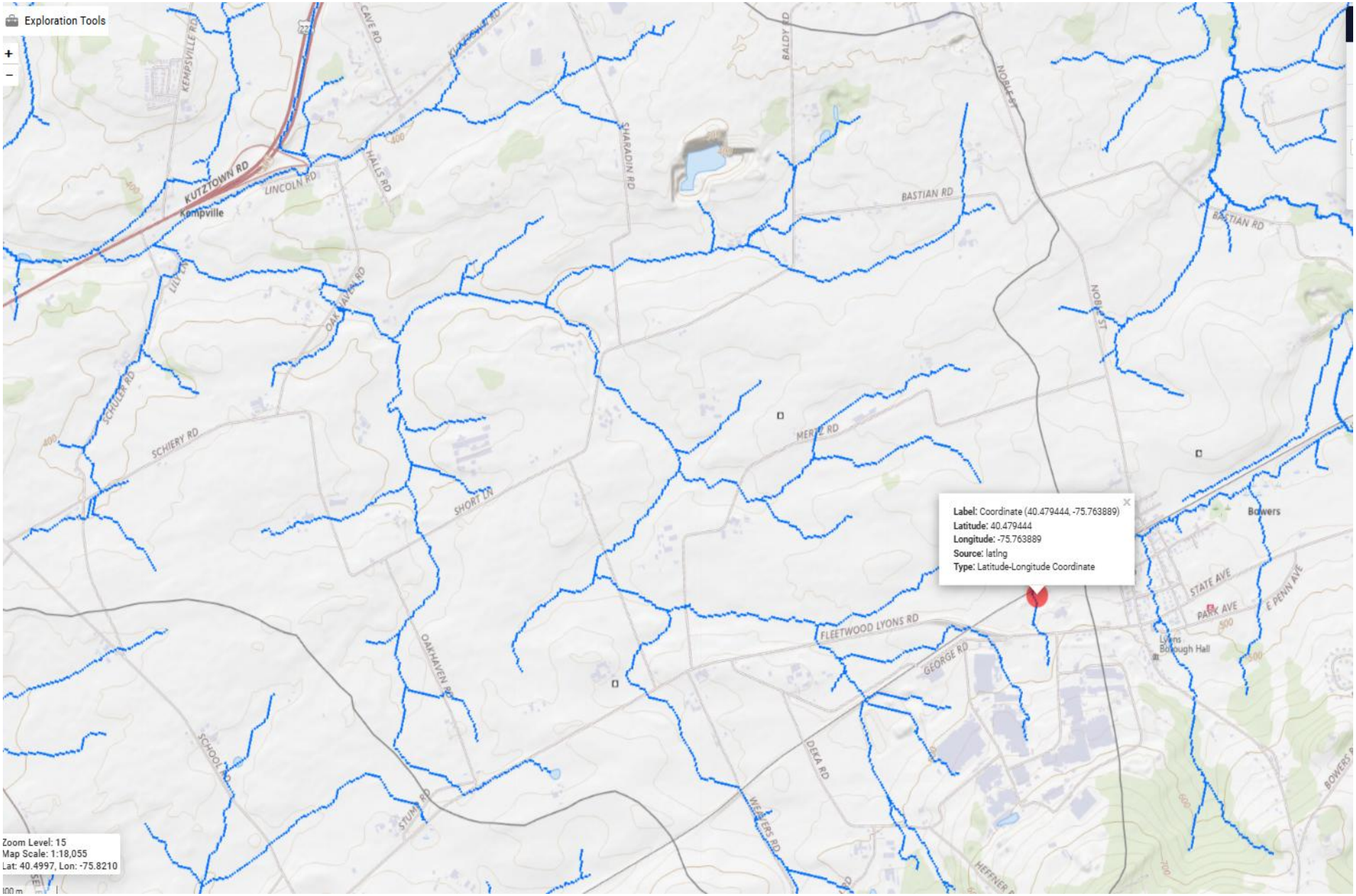


The discharge is to UNT which flows into Moselem Creek .

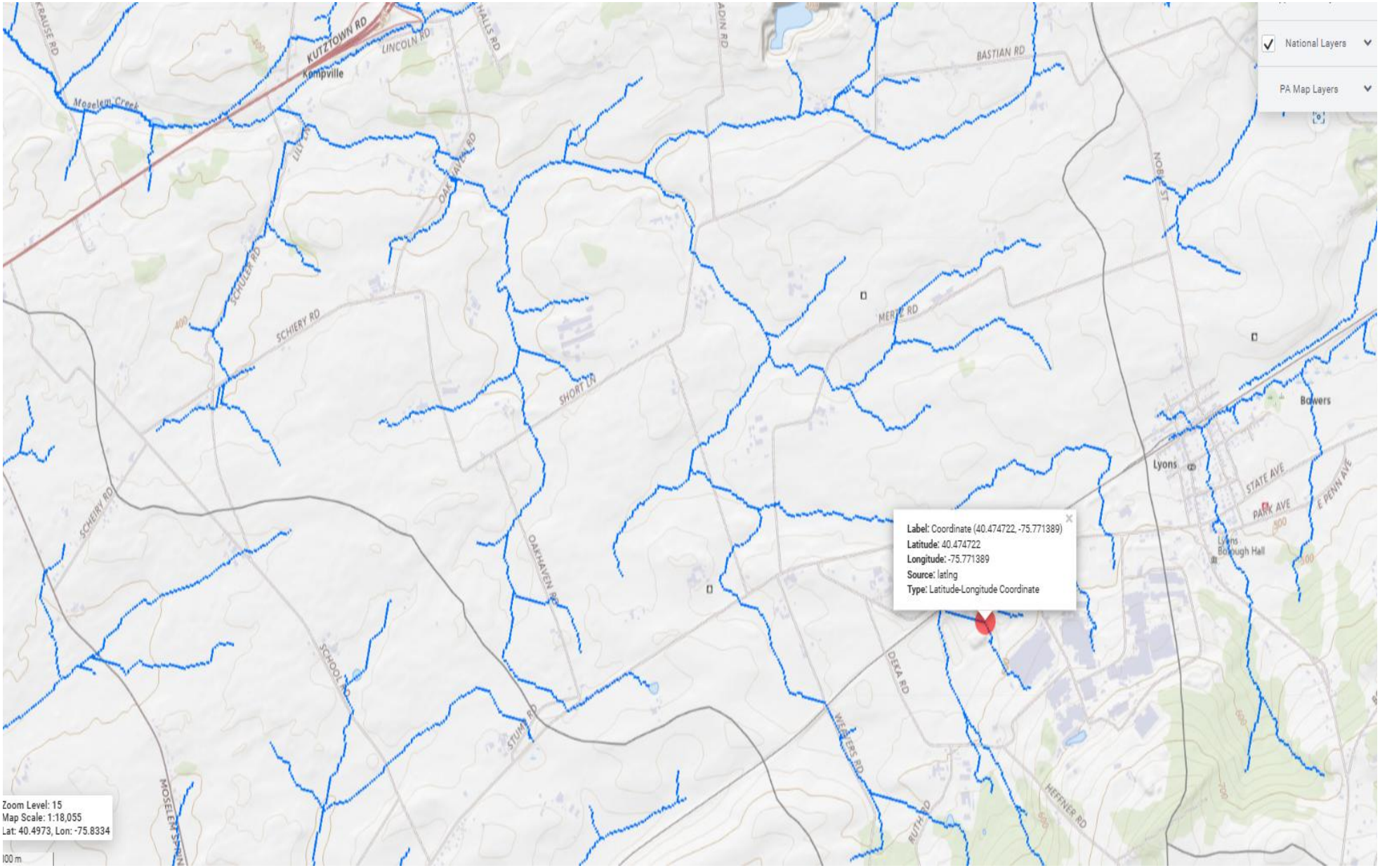
Outfall 005 using lat/long in application and USGS Stream Stats. Outfall discharges into UNT which flows into Moselem Creek to the north.



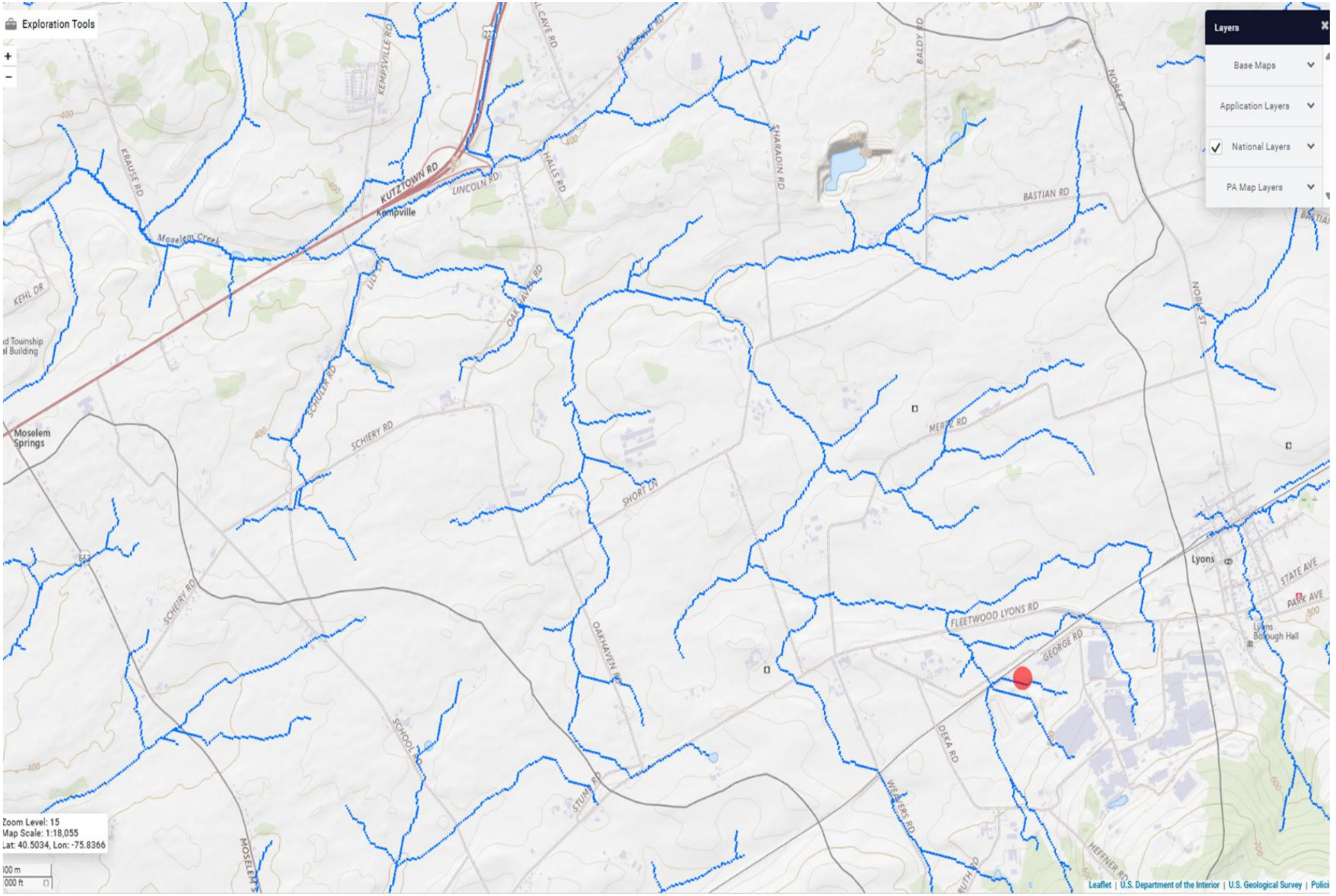
006 using lat/long in application and USGS Stream Stats:

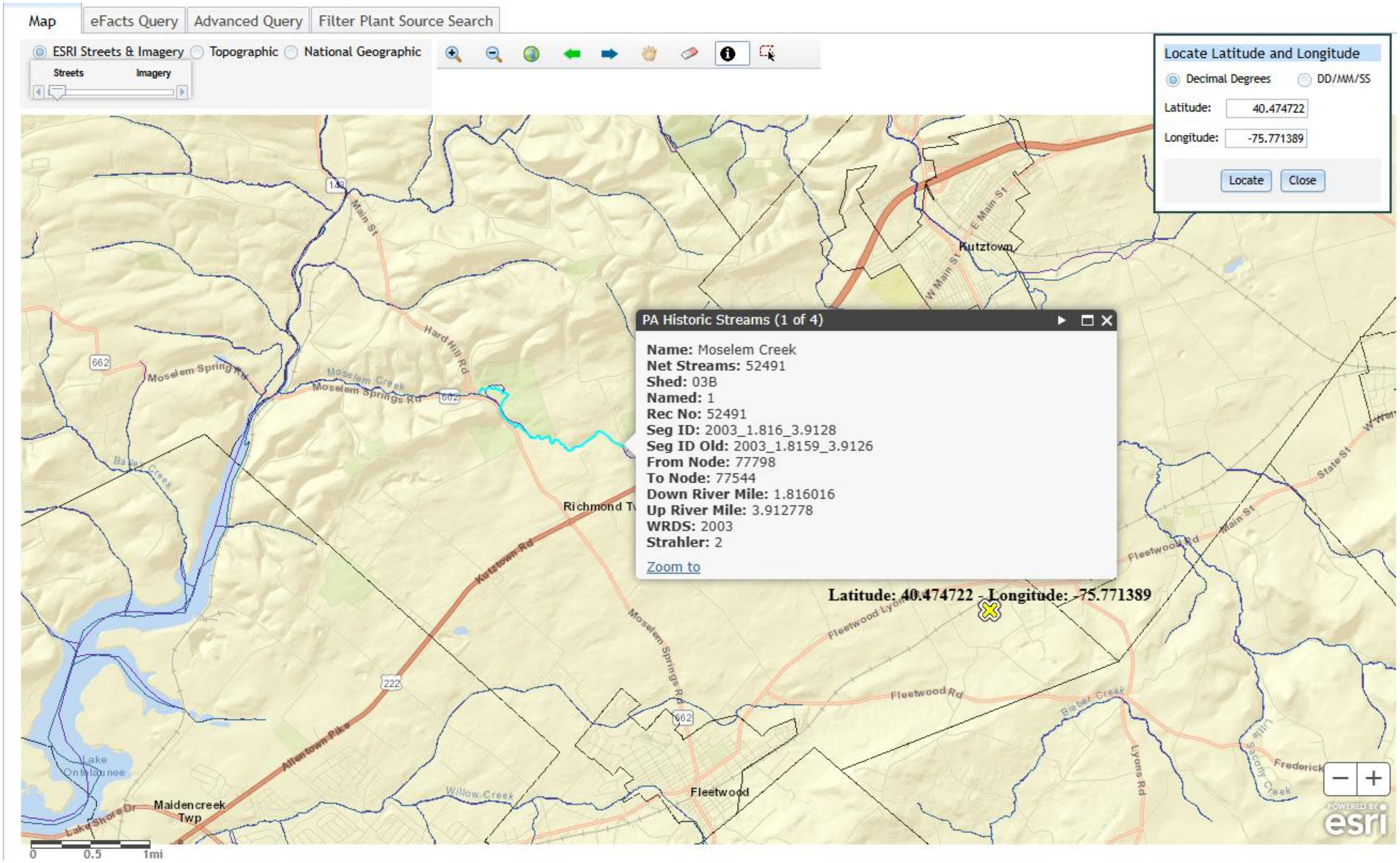


Outfall 007 using lat/long in application and USGS Stream Stats:



USGS PA Stream Stats, showing how UNT enters into Moselem Creek to the north of facility……




Map
eFacts Query
Advanced Query
Filter Plant Source Search
ESRI Streets & Imagery
Topographic
National Geographic
Streets
Imagery
Locate Latitude and Longitude
Decimal Degrees
DD/MM/SS
Latitude:
40.474722
Longitude:
-75.771389
Locate
Close
PA Historic Streams (1 of 4)
Name: Moselem Creek
Net Streams: 52491
Shed: 03B
Named: 1
Rec No: 52491
Seg ID: 2003_1.816_3.9128
Seg ID Old: 2003_1.8159_3.9126
From Node: 77798
To Node: 77544
Down River Mile: 1.816016
Up River Mile: 3.912778
WRDS: 2003
Strahler: 2
Zoom to
Latitude: 40.474722 - Longitude: -75.771389
Kutztown
Richmond Twp
Fleetwood
Maidencreek Twp
Lake Ontelaunee
Moselem Creek
Moselem Springs Rd
Hard Hill Rd
Kutztown Rd
Allentown Pike
Fleetwood Rd
Willow Creek
Bieber Creek
Sacony Creek
Lyons Rd
Main St
State St
0
0.5
1mi

Parameter	Max.concentration reported on DMRs, 6/1/2022-6/30/2025 (mg/l)					Max per appl., grab sample (mg/l)					fish wqc(mg/l)		wqc*100 (mg/l)	HH wqc (mg/l)	HH wqc * 100 (mg/l)	Is fish wqc*100 < max conc DMRs?	Is HH wqc*100 < max conc DMRs?	Benchmarks per PAG-03 (mg/l)	Is benchmark < max conc's DMRs?	Is benchmark < max conc's appl?
	002	004	005	006	007	002	004	005	006	007										
Antimony	0.037	0.0074	0.011	0.0066	0.018	0.0369	0.0051	0.0085	0.0048	<0.0020	0.22	a	22	0.0056	0.56	No	No			
Arsenic	0.011	0.003	0.001	<0.002	0.034	0.03	0.001	<0.001	<0.002	0.014	0.15	a	15	0.01	1	No	No			
CBOD5	11.3	19.6	10	6.8	40.7	none	none	none	none	none	none		none	none	none					
Copper	0.023	0.025	0.014	0.01	0.256	0.016	0.02	0.014	0.007	0.052	0.009	a	0.9	none	none	No				
Iron	2.2	5.88	1.45	1.02	275	1.62	2.19	0.291	0.245	62.4	1.5	b	150	none	none	No				
Lead	0.547	1.1	0.305	0.069	0.806	0.159	0.438	0.11	0.021	0.082	0.0025	a	0.25	none	none	Yes				
Oil and Grease	9.8	9.5	7.7	5.7	10.4	9.8	9.5	<5.2	<5.4	10.4	none		none	none	none			30	No	No
pH	8.81	8.04	7.48	7.93	8.33	7.59	8.04	7.32	7.34	7.34	6-9 s.u.	d	N/A	none	none	No		9.0 s.u.	No	No
Sulfate	57.1	45.3	14.6	19.1	71.6	57.1	22.9	7.6	8.11	71.6	<500	d & e	< 50,000	none	none	No				
TDS	1580	6090	358	1540	1300	528	764	55	104	525	500	d	50000	none	none	No				
Total Nitrogen	9.55	6.9	<2.19	<1.90	20.69	9.5	6.9	<1.7	<1.8	7.2	10	c	1000	none	none	No				
TSS	32	350	47	32	12,200	24	107	4.7	6.8	475	none		none	none	none			100	Yes, for 004 and 007	Yes for 004 and 007
Zinc	0.211	0.621	0.059	0.039	0.608	0.03	0.251	0.027	<0.020	0.016	0.12	a	12	none	none	No				
BOD5	none	none	none	none	none	9.1	10.0	10	4.1	40.7	none		none	none	none					
COD	none	none	none	none	none	none	none	none	none	none	none		none	none	none			120		
TP	none	none	none	none	none	none	none	none	none	none	2	f	200	none	none					

a assuming Hardness of 100 mg/l.
25 Pa Code 93.8c

b 1.5 mg/l as 30-day avg for CWF,
25 Pa Code 93.7

c Maxmum for NO3+NO2,
25 Pa Code 93.7

d 25 Pa Code 93.7

e 250 mg/l if near PWS

f 2.0 mg/l as a monthly avg if receiving water or downstream water is impaired for TP

NOTE:
SOP – Establishing Effluent Limitations for Individual Industrial Permits Revised, February 5, 2024
III. Consider Effluent Limits and Monitoring Requirements for Industrial Stormwater Discharges
C. The applicable appendix of the PAG-03 General Permit should be considered the minimum standards for limits, benchmarks and monitoring requirements for individual industrial stormwater permits. The application manager may include other limits, benchmarks and monitoring requirements as justified in the fact sheet.
D. In general, if actual stormwater concentrations exceed 100 times the most stringent Chapter 93 criterion (or a lesser amount for large industrial areas that drain to small streams), or exceed 100 mg/L for pollutants without criteria, the application manager should consider applying effluent limits for the applicable parameters and/or the implementation of BMPs with compliance schedules as necessary to achieve the limits or otherwise reduce stormwater concentrations.

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

Total Maximum Daily Load
For Nutrients and Suspended Sediment
Lake Ontelaunee
Berks and Lehigh County, Pennsylvania

/s/
Jon M. Capacasa, Director
Water Protection Division

Date: 8-9-04

Table ES-10. WLA for TSS, NPDES Facilities (metric tons)

Facility ID	Facility Name	WLA, TSS [a] (ton/yr)
PA 0053708	Hawk Mt. B&B/Gaffney	0.08
PA 0085430	Robin Hill Campground	0.42
PA 0086878	Hamburg MA	1.25
PA 0246921	Borough of Lenhartsville proposed STP	1.75
PA 0070122	Highland Estates MHP	3.44
PA 0031135	Kutztown MA	62.17
PA 0070335	McConway and Torley, Inc. (outfall 001)	13.18
	McConway and Torley, Inc. (outfall 002)	13.18
PA 0088021	Christman Lake STP	3.25
PA 0085171	Lyons Borough MA	6.21
PA 0086754	East Penn Manufacturing	0.21
PA 0031348	Moselem Devl. Corp.	0.21
PA 0088137	Reading Area Water Authority	0.31
PA 0070254	Lynn Township Sewer Authority	3.32
Proposed	Richmond Township (Virginville) STP	0.78
	TOTAL	**109.55**

[a] Based on design flow conditions and TSS limit of 30 mg/L

Table ES-4. WLA for Total Phosphorus, NPDES Facilities (metric tons)

Permit ID	Permitted Facility	WLA, TP [a] (tons/yr)
PA 0031135	Kutztown MA	2.074
PA 0031348	Moselem Devl. Corp.	0.007
PA 0070122	Highland Estates MHP	0.115
PA 0085171	Lyons Borough MA	0.207
PA 0085430	Robin Hill Campground	0.014
PA 0086878	Hamburg MA	0.041
PA 0088021	Christman Lake STP	0.109
PA 0246921	Lenhartsville STP	0.058
Proposed	Virginville STP (Richmond	0.026
PA 0070254	Lynn Township Sewer Authority	0.111
	TOTAL	2.76

[a] Based on design flow values and total phosphorus limit of 1 mg/L .