Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0000256**
Facility Type	**Industrial**	APS ID	**1137892**
Major / Minor	**Minor**	Authorization ID	**1528169**

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

Applicant and Facility Information

Applicant Name	**PA American Water Co.**	Facility Name	**PA American Water Punxsutawney District**
Applicant Address	800 Hershey Park Drive PO Box 888	Facility Address	3933 Filtering Plant Road
	Hershey, PA 17003		Punxsutawney, PA 15767-4513
Applicant Contact	Paul Zielinski	Facility Contact	Paul Zielinski
Applicant Phone	(717) 531-3308	Facility Phone	(717) 531-3308
Client ID	87712	Site ID	450151
SIC Code	4941	Municipality	Gaskill Township
SIC Description	Trans. & Utilities - Water Supply	County	Jefferson
Date Application Received	May 23, 2025	EPA Waived?	Yes
Date Application Accepted		If No, Reason	-

Purpose of Application: Renewal NPDES permit application to discharge water treatment plant filter backwash water

Summary of Review

The permittee is applying for reissuance of Individual Permit No. PA0000256 which is set to expire on December 31, 2025. Big Run Water Treatment Plant is a water treatment plant that purifies water withdrawn from East Branch Mahoning Creek and well water for potable consumption. The treatment plant serves the boroughs and townships of Punxsutawney, Big Run, McCalmont, Bell, and Gaskill- all located in Jefferson County. The facility has one outfall (Outfall 001) that discharges into East Branch Mahoning designated as a Cold Water Fishery (CWF). The facility is not subject to any ELGs.

The current facility filters backwash which empties into a concrete lagoon, settles for 2 hours, and then the discharge valve is opened allowing the decanted water to return to the stream. The duration of the discharge is approximately 4 hours. The discharge valve is then closed prior to the next backwash. Each filter backwash is 8300-gallons. The plant is scheduled to be replaced within the next 5 years with the new treatment facility in the design phase.

Act 14 notifications were submitted and received.

There are 4 open violations in WMS for the subject Client ID (87712) as of July 2, 2025. None of the violations are associated with this site specifically. A list with more details is provided below on page 4 (Table 2).

Approve	Deny	Signatures	Date
X		Carlee Wilson Carlee Wilson / Environmental Engineering Trainee	July 3, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	July 7, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.037
Latitude	40º 57' 51.08"	Longitude	-78º 50' 59.27"
Quad Name	-	Quad Code	-
Wastewater Description:	IW Process Effluent without ELG		
Receiving Waters	East Branch Mahoning Creek (CWF)	Stream Code	47974
NHD Com ID	123861912	RMI	1.07
Drainage Area	41.8	Yield (cfs/mi^2)	0.0617
Q_{7-10} Flow (cfs)	2.58	Q_{7-10} Basis	USGS - StreamStats
Elevation (ft)	1310	Slope (ft/ft)	-
Watershed No.	17-D	Chapter 93 Class.	CWF
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	Final	Name	East Branch Mahoning Creek

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

Nearest Downstream Public Water Supply Intake	Kittanning Suburban Joint Water Authority		
PWS Waters	Allegheny River	Flow at Intake (cfs)	987
PWS RMI	45.6	Distance from Outfall (mi)	45.0

Changes Since Last Permit Issuance: Elevation, Q_{7-10} Flow, and yield were revised using StreamStats and Google Earth, however these changes did not alter any effluent limits.

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.

Compliance History

DMR Data for Outfall 001 (from May 1, 2024, to April 30, 2025)

Parameter	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24
Flow (MGD) Average Monthly	0.024	0.0242	0.0242	0.0242	0.0242	0.0243	0.0242	0.024	0.0243	0.0242	0.024	0.0242
Flow (MGD) Daily Maximum	0.0303	0.0303	0.0303	0.0303	0.0303	0.0303	0.0303	0.0303	0.0303	0.0303	0.0303	0.0303
pH (S.U.) Daily Minimum	7.0	7.3	7.0	7.0	7.0	7.1	7.2	7.3	7.3	7.2	7.3	7.2
pH (S.U.) Daily Maximum	7.8	7.6	7.5	7.5	7.5	7.5	7.5	7.5	7.4	7.4	7.4	7.4
TRC (mg/L) Average Monthly	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
TRC (mg/L) Instantaneous Maximum	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1
TSS (mg/L) Average Monthly	< 2.0	5.0	< 2.0	< 2.0	< 2.0	< 2.0	3.0	< 2.0	5.0	< 2.0	< 2.0	3.0
TSS (mg/L) Daily Maximum	< 2.0	5.0	< 2.0	< 2.0	< 2.0	< 2.0	3.0	< 2.0	5.0	< 2.0	< 2.0	3.0
Total Aluminum (mg/L) Average Monthly	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total Aluminum (mg/L) Daily Maximum	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total Iron (mg/L) Average Monthly	0.57	0.99	0.6	0.5	0.97	0.5	0.69	0.51	0.72	0.57	0.44	0.63
Total Iron (mg/L) Daily Maximum	0.57	0.99	0.6	0.5	0.97	0.5	0.69	0.51	0.72	0.57	0.44	0.63
Total Manganese (mg/L) Average Monthly	0.04	0.11	0.06	0.05	0.1	0.04	0.04	0.04	0.06	0.03	0.03	0.04
Total Manganese (mg/L) Daily Maximum	0.04	0.11	0.06	0.05	0.1	0.04	0.04	0.04	0.06	0.03	0.03	0.04

Table 1. Compliance History and Data	
Summary of DMRs:	There are currently no effluent violations.
Summary of Inspections:	The last site inspection was conducted on April 24, 2024. No violations were noted.
Future Compliance:	The facility should be able to meet the effluent limits based on historic DMR data.

Table 2. List of Open Violations in WMS for the Subject Client ID (87712)

Facility	*Inspection Program*	*Violation date*	*Violation*
PA AMERICAN DILLINER SYSTEM	Safe Drinking Water	04/01/2025	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM
DUQUESNE STP	WPC NPDES	06/04/2025	NPDES - Failure to utilize approved analytical methods
DUQUESNE STP	WPC NPDES	06/04/2025	NPDES - Failure to properly operate and maintain all facilities which are installed or used by the permittee to achieve compliance
UPPER POTTSGROVE SEWERS TO POTTSTOWN BORO STP	WPC State Water Pollution Control	08/21/2023	NPDES - Illegal discharge to waters of the Commonwealth from a sanitary sewer overflow

Development of Effluent Limitations

Outfall No.	001	**Design Flow (MGD)**	0.037
		Average Flow (MGD)	0.0236
Latitude	40º 57' 51.20"	**Longitude**	-78º 51' 0.09"

Wastewater Description: IW Process Effluent without ELG

Technology-Based Limitations

Technology-based limits were set for pH, Flow, TRC, Aluminum, Iron, Manganese, and Total Suspended Solids in the previous NPDES Permit and will be retained with this renewal.

pH requirements of 6.0 (minimum) and 9.0 S.U. (maximum) are required for all industrial waste processes according in 25 Pa. Code §§ 92a.48(a)(2) and 95.2). Flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1). Technology-based TRC limits are required by 25 Pa. Code § 92a.48(b) for facilities that use chlorination and were calculated using the Department's TRC Calculation Spreadsheet. The limits for Aluminum, Iron, Manganese, and TSS are technology-based limits for potable water treatment backwash wastewater from the DEPs Technology-Based Control Requirements for Water Treatment Plant Wastes Document.

Table 3. Technology-Based Limitations

Parameter	*Limit (mg/l)*	*SBC*	*Measurement Frequency*	*Sample Type*
pH	6.0	Daily Minimum	1/day	Grab
	9.0	Daily Maximum		
Flow	Report	Average Monthly	1/day	Measured
	Report	Daily Maximum		
Total Residual Chlorine (TRC)	0.5	Average Monthly	1/day	Grab
	1.2	IMAX		
Total Aluminum	4.0	Average Monthly	1/month	Grab
	8.0	Daily Maximum		
	10	IMAX		
Total Iron	2.0	Average Monthly	1/month	Grab
	4.0	Daily Maximum		
	5.0	IMAX		
Total Manganese	1.0	Average Monthly	1/month	Grab
	2.0	Daily Maximum		
	2.5	IMAX		
Total Suspended Solids (TSS)	30.0	Average Monthly	1/month	Grab
	60.0	Daily Maximum		
	75	IMAX		

Water Quality-Based Limitations

As part of the reasonable potential analysis, the Toxics Management Spreadsheet was used to determine if there is a need to implement water quality-based effluent limitations for discharges of toxic pollutants. The model uses stream data and pollutant testing data from the permittee's outfall to determine if any water quality standards are in risk of non-compliance. In this evaluation, the Total Management Spreadsheet did not recommend any WQBELs (**Attachment 6**).

Best Professional Judgment (BPJ) Limitations

N/A

TDS Evaluation

TDS were also evaluated to protect the water quality standards at the nearest downstream PWS intake.

To calculate the TDS capacity for the Allegheny River at the PA American Water Company - Kittanning District intake, the Q_{7-10} low flow at the PWS intake is needed. From prior work, the Q_{7-10} low flow for the Allegheny River at the PWS was calculated as 987 cfs. Since no background TDS data is readily available, an assumed value of 150 mg/l will be used for this evaluation. Subtracting the 150 mg/l from the allowable 500 mg/l yields a remaining assimilative capacity of 350 mg/l. Multiplying the 350 mg/l by the Allegheny River Q_{7-10} low flow rate of 987 cfs and then by 5.4 for conversions yields a total assimilative capacity of 1,865,430 lbs/day of TDS at the PWS intake.

To remain exempt from the treatment requirements in Chapter 95.10, the annual average daily load must remain under 5,000 lbs/day of TDS, which would be more protective than the 1,865,430 lbs/day limit calculated above. If that 5,000 lbs/day is divided by the flowrate of 0.037 MGD and the 8.34 conversion factor, the resulting TDS concentration limit would be 16,203 mg/l, which is well above the 333 mg/l maximum that was reported in the renewal NPDES Permit application. The Chapter 95 Treatment Requirements special condition will not be necessary with this renewal at this time.

Anti-Backsliding

The previous permit limitations, monitoring requirements, and conditions will be retained.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

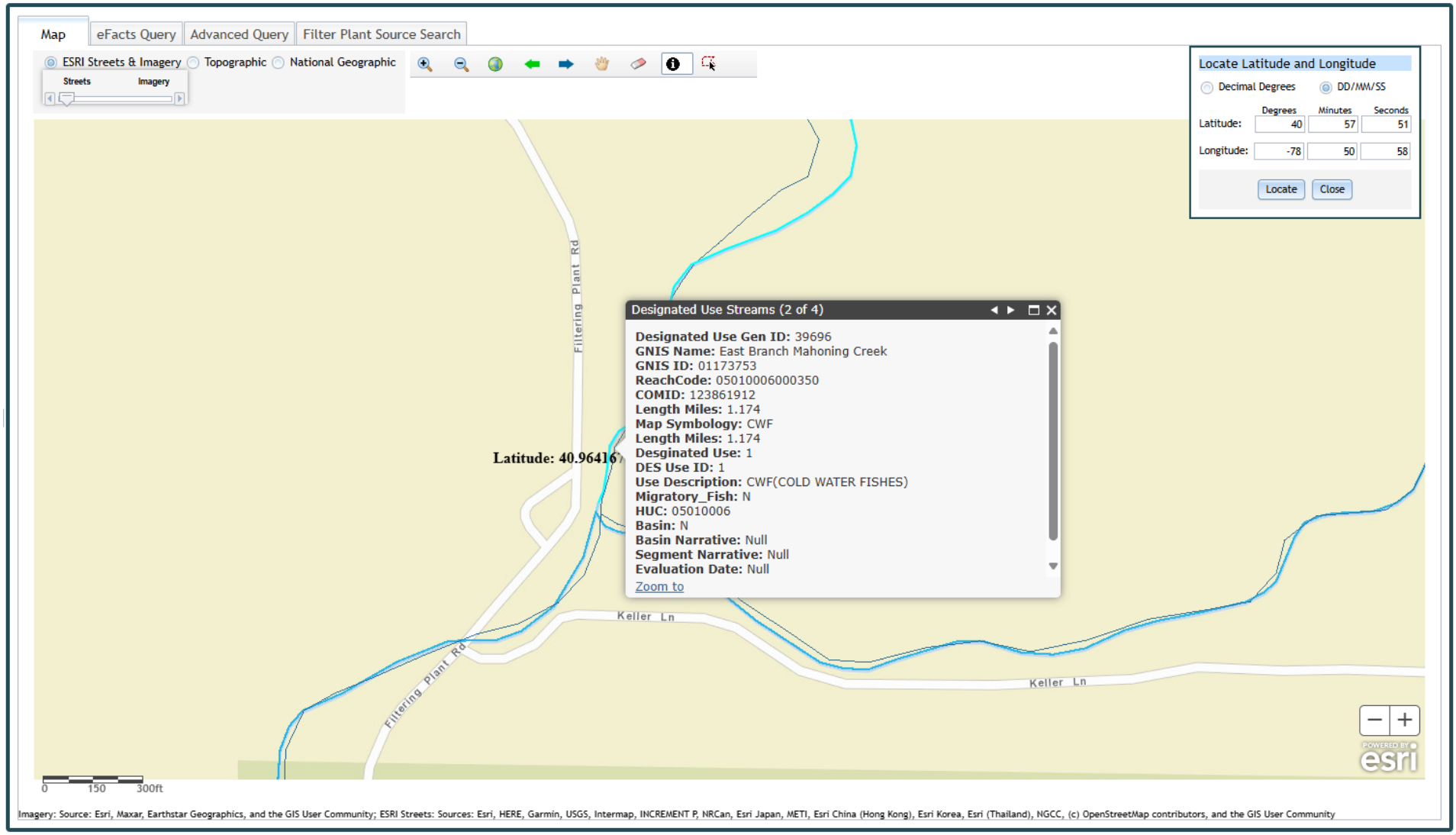
Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/day	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.2	1/day	Grab
TSS	XXX	XXX	XXX	30.0	60.0	75	1/month	Grab
Total Aluminum	XXX	XXX	XXX	4.0	8.0	10	1/month	Grab
Total Iron	XXX	XXX	XXX	2.0	4.0	5	1/month	Grab
Total Manganese	XXX	XXX	XXX	1.0	2.0	2.5	1/month	Grab

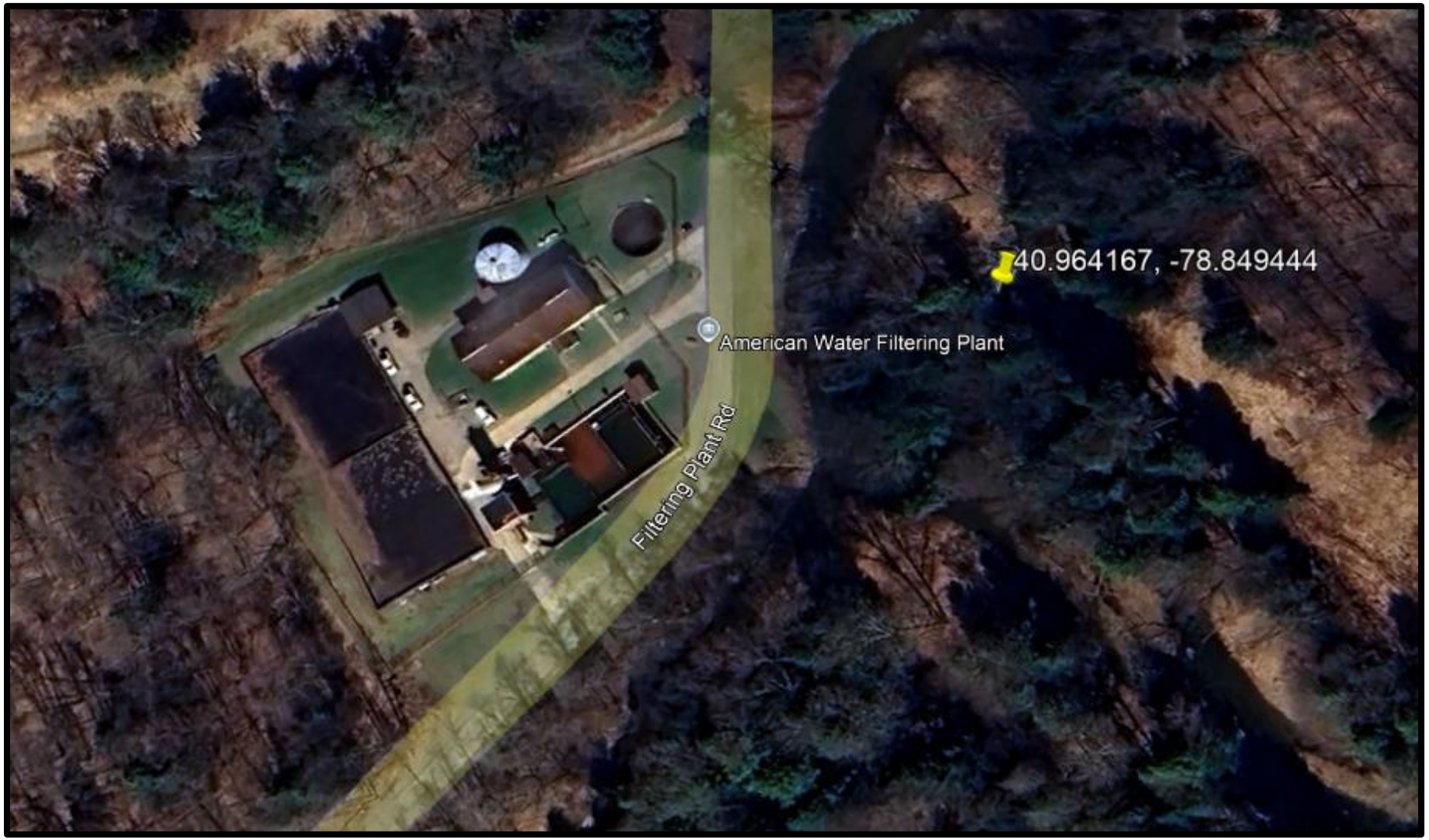
Compliance Sampling Location: Outfall 001

Other Comments: Flow is monitor only based on Chapter 92a.61. The limits for pH are technology-based on Chapter 95.2. The Total Residual Chlorine (TRC) limits are technology-based on Chapter 92a.48. The Total Suspended Solids limits are technology-based for potable water treatment backwash wastewater from the NPDES Permit Writers' Manual. The limits for Aluminum, Iron, and Manganese are technology-based on Chapter 93.7.

Attachment 1
eMapPA – Receiving Stream Location and Data



Attachment 2
Google Earth – Aerial Site View



Attachment 3
USGS (StreamStats) – Stream Discharge Data (Outfall 001)

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	41.8	square miles	2.33	1720
ELEV	Mean Basin Elevation	1748	feet	898	2700
PRECIP	Mean Annual Precipitation	44	inches	38.7	47.9

Low-Flow Statistics Flow Report [Low Flow Region 3]

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	5.22	ft^3/s	43	43
30 Day 2 Year Low Flow	7.25	ft^3/s	38	38
7 Day 10 Year Low Flow	2.58	ft^3/s	54	54
30 Day 10 Year Low Flow	3.41	ft^3/s	49	49
90 Day 10 Year Low Flow	4.9	ft^3/s	41	41

Low-Flow Statistics Citations

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

Attachment 4
USGS (StreamStats) – Stream Discharge Data (End Point)

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	42.3	square miles	2.33	1720
ELEV	Mean Basin Elevation	1744	feet	898	2700
PRECIP	Mean Annual Precipitation	44	inches	38.7	47.9

Low-Flow Statistics Flow Report [Low Flow Region 3]

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	5.28	ft^3/s	43	43
30 Day 2 Year Low Flow	7.33	ft^3/s	38	38
7 Day 10 Year Low Flow	2.61	ft^3/s	54	54
30 Day 10 Year Low Flow	3.45	ft^3/s	49	49
90 Day 10 Year Low Flow	4.95	ft^3/s	41	41

Low-Flow Statistics Citations

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

Attachment 5
TRC Modeling Results

TRC EVALUATION

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

Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	1.3.2.iii	WLA afc =	14.398	1.3.2.iii	WLA cfc =	14.029
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	5.365	5.1d	LTA_cfc =	8.156

Source		Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML MULT =	1.720	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) =	1.170	

Attachment 6
Toxic Management Spreadsheet

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2025

Discharge Information

Instructions | Discharge | Stream

Facility: PA American Co Punsxutawney NPDES Permit No.: PA0000256 Outfall No.: 001

Evaluation Type: Major Sewage / Industrial Waste Wastewater Description: Effluent

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
0.0236	156	7						

					0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		226									
	Chloride (PWS)	mg/L		36.9									
	Bromide	mg/L	<	0.1									
	Sulfate (PWS)	mg/L		68									
	Fluoride (PWS)	mg/L	<	0.1									
Group 2	Total Aluminum	µg/L		19.7									
	Total Antimony	µg/L	<	0.5									
	Total Arsenic	µg/L	<	0.5									
	Total Barium	µg/L		152									
	Total Beryllium	µg/L	<	0.5									
	Total Boron	µg/L	<	20									
	Total Cadmium	µg/L	<	0.1									
	Total Chromium (III)	µg/L	<	1									
	Hexavalent Chromium	µg/L		5.9									
	Total Cobalt	µg/L	<	0.2									
	Total Copper	µg/L	<	1									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	2									
	Dissolved Iron	µg/L	<	20									
	Total Iron	µg/L		1030									
	Total Lead	µg/L	<	0.2									
	Total Manganese	µg/L		110									
	Total Mercury	µg/L	<	0.1									
	Total Nickel	µg/L		1.8									
	Total Phenols (Phenolics) (PWS)	µg/L	<	5									
	Total Selenium	µg/L	<	0.5									
	Total Silver	µg/L	<	0.1									
	Total Thallium	µg/L	<	0.1									
	Total Zinc	µg/L		30.8									
	Total Molybdenum	µg/L	<	1									
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

Stream / Surface Water Information

PA American Co Punxsutawney, NPDES Permit No. PA0000256, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: East Branch Mahoning Creek

No. Reaches to Model: 1

(•) Statewide Criteria
( ) Great Lakes Criteria
( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	047974	1.07	1310	41.8			Yes
End of Reach 1	047974	0.56	1298	41.9			Yes

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

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	1.07	0.0617										100	7		
End of Reach 1	0.56	0.0618													

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	1.07														
End of Reach 1	0.56														

Model Results

PA American Co Punxsutawney, NPDES Permit No. PA0000256, Outfall 001

Instructions | *Results* | RETURN TO INPUTS | SAVE AS PDF | PRINT | (•) All ( ) Inputs ( ) Results ( ) Limits

☐ *Hydrodynamics*

☑ *Wasteload Allocations*

☑ *AFC* CCT (min): 15 PMF: 0.722 Analysis Hardness (mg/l): 101.08 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
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	39,023	
Total Antimony	0	0		0	1,100	1,100	57,234	
Total Arsenic	0	0		0	340	340	17,691	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	1,092,655	
Total Boron	0	0		0	8,100	8,100	421,453	
Total Cadmium	0	0		0	2.035	2.16	112	Chem Translator of 0.944 applied
Total Chromium (III)	0	0		0	574.781	1,819	94,641	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	848	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	4,943	
Total Copper	0	0		0	13.575	14.1	736	Chem Translator of 0.96 applied
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	65.338	82.8	4,306	Chem Translator of 0.789 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	85.7	Chem Translator of 0.85 applied
Total Nickel	0	0		0	472.496	473	24,634	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	3.277	3.85	201	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	3,382	
Total Zinc	0	0		0	118.248	121	6,291	Chem Translator of 0.978 applied

☑ *CFC* CCT (min): 28.743 PMF: 1 Analysis Hardness (mg/l): 100.78 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	15,761	
Total Arsenic	0	0		0	150	150	10,746	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	293,730	
Total Boron	0	0		0	1,600	1,600	114,626	
Total Cadmium	0	0		0	0.247	0.27	19.5	Chem Translator of 0.909 applied
Total Chromium (III)	0	0		0	74.589	86.7	6,214	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	745	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	1,361	
Total Copper	0	0		0	9.016	9.39	673	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	107,462	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.538	3.21	230	Chem Translator of 0.79 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	64.9	Chem Translator of 0.85 applied
Total Nickel	0	0		0	52.350	52.5	3,762	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	357	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	931	
Total Zinc	0	0		0	118.921	121	8,641	Chem Translator of 0.986 applied

☑ *THH* CCT (min): 28.743 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	401	
Total Arsenic	0	0		0	10	10.0	716	
Total Barium	0	0		0	2,400	2,400	171,939	
Total Boron	0	0		0	3,100	3,100	222,088	
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	
Dissolved Iron	0	0		0	300	300	21,492	
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	71,641	
Total Mercury	0	0		0	0.050	0.05	3.58	
Total Nickel	0	0		0	610	610	43,701	
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	17.2	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ *CRL* CCT (min): 8.544 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	
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	

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

No. Samples/Month: 4

Pollutants	*Mass Limits*		*Concentration Limits*				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			

☑ ***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	Discharge Conc < TQL
Total Aluminum	25,012	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	171,939	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	114,626	µg/L	Discharge Conc < TQL
Total Cadmium	19.5	µg/L	Discharge Conc < TQL
Total Chromium (III)	6,214	µg/L	Discharge Conc < TQL
Hexavalent Chromium	543	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	1,361	µg/L	Discharge Conc < TQL
Total Copper	472	µg/L	Discharge Conc < TQL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	21,492	µg/L	Discharge Conc < TQL
Total Iron	107,462	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	230	µg/L	Discharge Conc < TQL
Total Manganese	71,641	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	3.58	µg/L	Discharge Conc < TQL
Total Nickel	3,762	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Selenium	357	µg/L	Discharge Conc < TQL
Total Silver	129	µg/L	Discharge Conc < TQL
Total Thallium	17.2	µg/L	Discharge Conc < TQL

Total Zinc	4,032	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS

Tools and References Used to Develop Permit	
☒	Toxics Management Spreadsheet (see Attachment 6)
☒	TRC Model Spreadsheet (see Attachment 5)
☒	SOP: New and Reissuance Industrial Waste and Industrial Stormwater Individual NPDES Permit Applications
☒	SOP: Establishing Effluent Limitations for Individual Industrial Permits
☒	SOP: Establishing Water Quality-Based Effluent Limtiations (WQBELs) and Permit Conditions for Toxic Pollutants in NPDES Permits for Existing Dischargers
☒	Permit Writers' Manual
☒	Technology-Based Control Requirements for Water Treatment Plants