Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

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

Application Type	**Renewal**	Application No.	**PA0095265**
Facility Type	**Industrial**	APS ID	**1102248**
Major / Minor	**Minor**	Authorization ID	**1464243**

Applicant and Facility Information

Applicant Name	**Indiana County Municipal Service Authority**	Facility Name	**Indiana County Municipal Service Authority Pine Township**
Applicant Address	602 Kolter Drive Indiana, PA 15701-3570	Facility Address	5988 Rt 403 Highway Heilwood, PA 15745
Applicant Contact	Tricia Lefko	Facility Contact	Derek Long
Applicant Phone	(724) 349-6640	Facility Phone	(724) 349-6640
Client ID	38534	Site ID	246852
SIC Code	4941	Municipality	Pine Township
SIC Description	Trans. & Utilities - Water Supply	County	Indiana
Date Application Received	November 27, 2023	EPA Waived?	Yes
Date Application Accepted	April 21, 2025	If No, Reason	

Purpose of Application: This is an application for NPDES renewal.

Summary of Review

The application submitted by the applicant requests a NPDES renewal permit for the Pine Township Water Treatment Plant located at 5988 Route 403 Highway, Heilwood, PA 15745 in Indiana County, municipality of Pine Township. The existing permit became effective on June 1, 2019 and expired on May 31, 2024. The application for renewal was received by DEP Northwest Regional Office (NWRO) on November 27, 2023.

The purpose of this Fact Sheet is to present the basis of information used for establishing the proposed NPDES permit effluent limitations. The Fact Sheet includes a description of the facility, a description of the facility's receiving waters, a description of the facility's receiving waters attainment/non-attainment assessment status, and a description of any changes to the proposed monitoring/sampling frequency. Section 6 provides the justification for the proposed NPDES effluent limits derived from technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), total maximum daily loading (TMDL), antidegradation, anti-backsliding, and/or whole effluent toxicity (WET). A brief summary of the outlined descriptions has been included in the Summary of Review section.

The subject facility is a 0.002 MGD treatment facility. The applicant does not anticipate any proposed upgrades to the treatment facility in the next five years. The NPDES application has been processed as an Industrial Waste due to the type of wastewater and the design flow rate for the facility. The applicant disclosed the Act 14 requirement to Indiana County Commissioners and Pine Township Supervisors and the notice was received by the parties on November 2, 2023.

Utilizing the DEP's web-based Emap-PA information system, the receiving waters has been determined to be Trib 44223 to Yellow Creek. The sequence of receiving streams that the Trib 44223 to Yellow Creek discharges into are Yellow Creek, Two Lick Creek, Blacklick Creek, Conemaugh River, Kiskiminetas River and traveling south through several states prior to

Approve	Deny	Signatures	Date
X		Nicholas Hong, P.E. / Environmental Engineer Nick Hong (via electronic signature)	May 8, 2025
X		Adam Olesnanik, P.E. / Environmental Engineer Manager Adam Olesnanik	May 21, 2025

Summary of Review

discharging to the Gulf of America. The receiving water has protected water usage for cold water fishes (CWF). No Class A Wild Trout fisheries are impacted by this discharge. The absence of high quality and/or exceptional value surface waters removes the need for an additional evaluation of anti-degradation requirements.

The Trib 44223 to Yellow Creek is a Category 2 and 4a stream listed in the 2024 Integrated List of All Waters (formerly 303d Listed Streams). This stream is an attaining stream that supports recreational uses. The receiving waters is impaired for aquatic life due to metals from acid mine drainage. The receiving waters is subject to the Kiskiminetas-Conemaugh River Watersheds total maximum daily load (TMDL) plan to improve water quality in the subject facility's watershed.

The existing permit and proposed permit differ as follows:

- **TRC has reduced effluent limits**

Sludge use and disposal description and location(s): Wastewater generated from the facility is filter backwash from the drinking water plant. No biosolids is suspected of being generated.

The proposed permit will expire five (5) years from the effective date.

Based on the review in this report, it is recommended that the permit be drafted. 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.

Any additional information or public review of documents associated with the discharge or facility may be available at PA DEP Northwest Regional Office (NWRO), 230 Chestnut Street. Meadville, PA 16335. To make an appointment for file review, contact the NWRO File Review Coordinator at 814-332-6945.

1.0 Applicant

1.1 General Information

This fact sheet summarizes PA Department of Environmental Protection's review for the NPDES renewal for the following subject facility.

Facility Name:	Pine Township Water Treatment Plant
NPDES Permit #	PA0095265
Physical Address:	5988 Route 403 Highway Heilwood, PA 15745
Mailing Address:	602 Kolter Drive Indiana, PA 15701
Contact:	Tricia Lefko Compliance Superintendent (724) 349-6640 tlefko@icomsa.org Derek Long Operations Manager (724) 349-6640 dlong@icomsa.org
Consultant:	There was not a consultant utilized for this NPDES renewal.

1.2 Permit History

Permit submittal included the following information.

- NPDES Application
- Flow Diagrams
- Influent Sample Data
- Effluent Sample Data

2.0 Treatment Facility Summary

2.1.1 Site location

The physical address for the facility is 5988 Route 403 Highway, Heilwood, PA 15745. A topographical and an aerial photograph of the facility are depicted as Figure 1 and Figure 2.

Figure 1: Topographical map of the subject facility

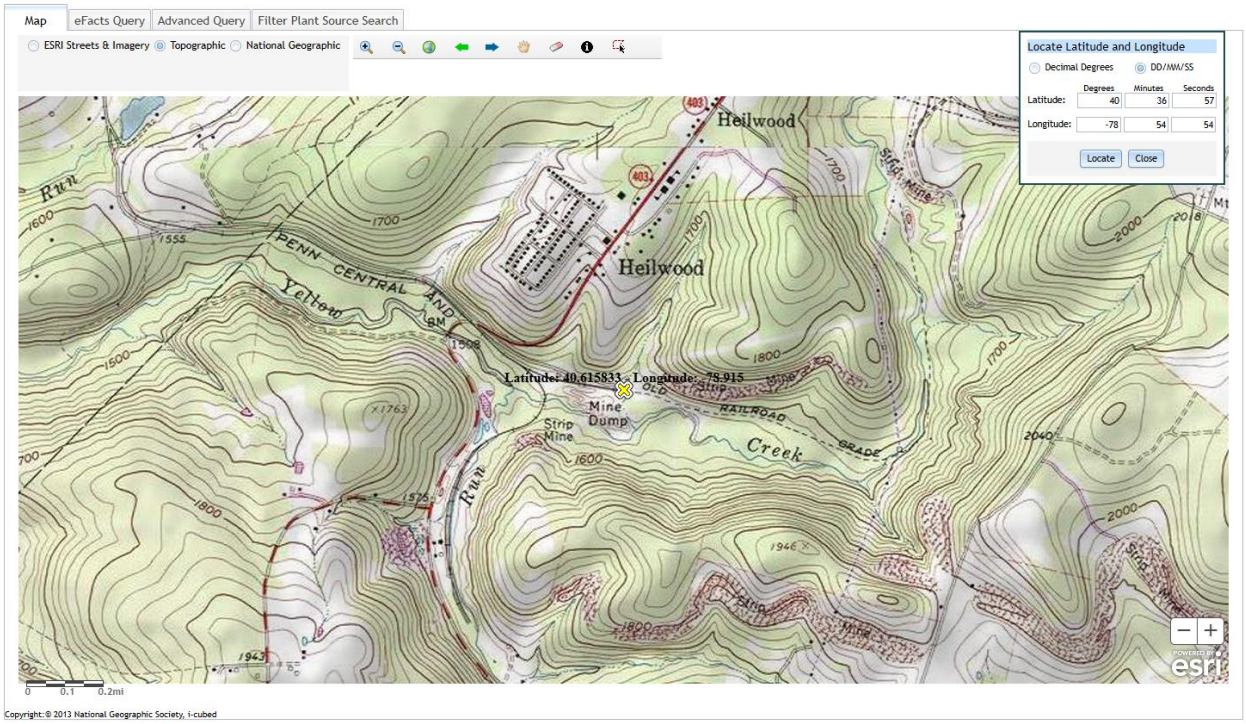
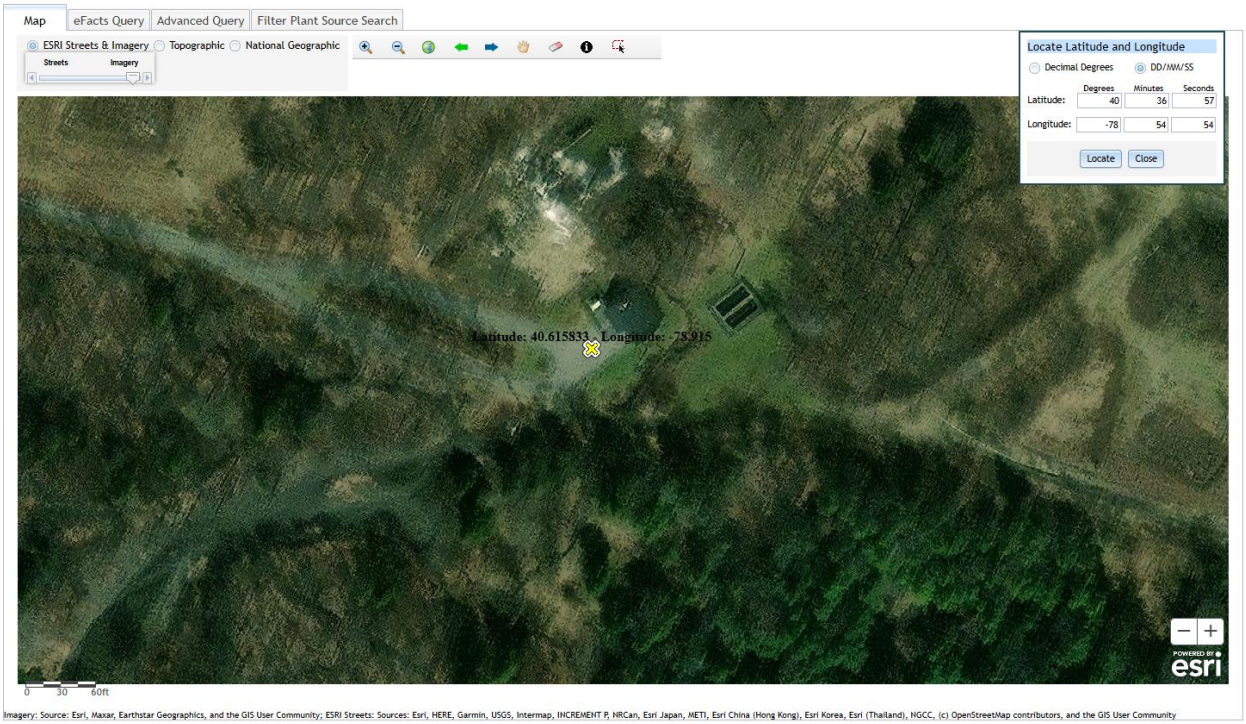


Figure 2: Aerial Photograph of the subject facility

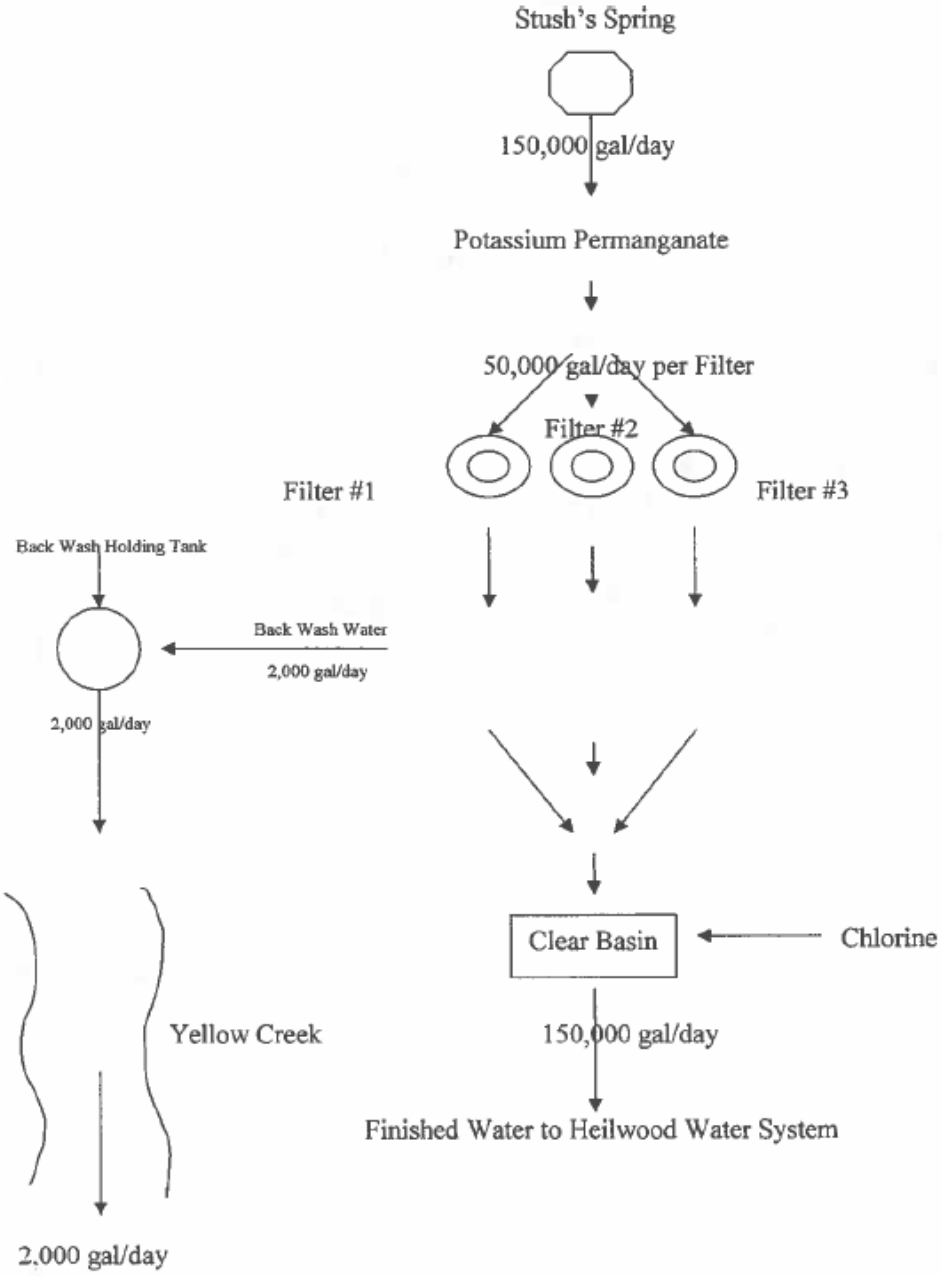


2.2 Description of Wastewater Treatment Process

The subject facility is a 0.002 MGD design flow facility. Wastewater is generated from backwashing of the plant's filters. The wastewater is treated through a settling tank prior to discharge through the outfall. The facility is being evaluated for flow, pH, TSS, TRC, aluminum, iron, and manganese. The existing permits limits for the facility is summarized in Section 2.4.

The schematic shows the treatment process.

Outfall Number 001
"Heilwood Schematic Water Flow"



2.3 Facility Outfall Information

The facility has the following outfall information for wastewater.

Outfall No.	001	**Design Flow (MGD)**	.002
Latitude	40º 36' 57.00"	**Longitude**	-78º 54' 54.00"
Wastewater Description:	IW Process Effluent without ELG		

The subject facility outfall is within the vicinity of another sewage/wastewater outfall. The downstream outfall is the Indiana County Heilwood STP (PA0218634) which is about 0.75 miles from the subject facility.

2.3.1 Operational Considerations- Chemical Additives

Chemical additives are chemical products introduced into a waste stream that is used for cleaning, disinfecting, or maintenance and which may be detected in effluent discharged to waters of the Commonwealth. Chemicals excluded are those used for neutralization of waste streams, the production of goods, and treatment of wastewater.

The subject facility utilizes the following chemicals as part of their treatment process.

- The facility reported they do not use chemicals for their wastewater treatment

2.4 Existing NPDES Permits Limits

The existing NPDES permit limits are summarized in the table.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. For Outfall 001 , **Latitude** 40º 36' 57.00" , **Longitude** 78º 54' 54.00" , **River Mile Index** 0.13 , **Stream Code** 44223

Receiving Waters: Unnamed Tributary to Yellow Creek (CWF)

Type of Effluent: IW Process Effluent without ELG

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Daily Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	9.0	XXX	2/month	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	1.0	XXX	2/month	Grab
Total Suspended Solids	XXX	XXX	XXX	30.0	60.0	XXX	2/month	Grab
Aluminum, Total	XXX	XXX	XXX	0.75	0.75	XXX	2/month	Grab
Iron, Total	XXX	XXX	XXX	1.5	3.0	XXX	2/month	Grab
Manganese, Total	XXX	XXX	XXX	1.0	2.0	XXX	2/month	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

3.0 Facility NPDES Compliance History

3.1 Summary of Inspections

A summary of the most recent inspections during the existing permit review cycle is as follows.

The DEP inspector noted the following during the inspection.

10/06/2020:

- The outfall and headwall are also intact, however, they appear to be buried. The operator indicated that the creek had a washout and flushed all that garbage at their outfall. Currently it is not causing any issues but may in the future

3.2 Summary of DMR Data

A review of approximately 1-year of DMR data shows that the monthly average flow data for the facility above the design capacity of the treatment system. The maximum average flow data for the DMR reviewed was 0.008 MGD in April 2024. The design capacity of the treatment system is 0.002 MGD.

DMR data from June 2019 to March 2025 was reviewed. The maximum flow rate during the study period was 0.0096 MGD. The average flow rate was 0.0059 MGD. Modeling was conducted using a flow rate of 0.0059 MGD.

The off-site laboratory used for the analysis of the parameters was Pace Analytical located at 2019 Ninth Avenue, Altoona, PA 16603

DMR Data for Outfall 001 (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
Flow (MGD) Average Monthly	0.005	0.006	0.007	0.006	0.007	0.007	0.006	0.007	0.006	0.007	0.008	0.006
Flow (MGD) Daily Maximum	0.006	0.007	0.007	0.007	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008
pH (S.U.) Daily Minimum	6.97	6.71	6.91	7.14	7.21	6.14	7.17	7.00	6.90	7.10	7.10	7.00
pH (S.U.) Daily Maximum	6.99	7.11	7.41	7.41	7.21	7.59	7.47	7.10	7.10	7.10	7.20	7.10
TRC (mg/L) Average Monthly	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.03	< 0.05
TRC (mg/L) Daily Maximum	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
TSS (mg/L) Average Monthly	11.0	< 1.80	< 2.0	5.8	11.2	< 2.6	1.60	4.6	4.6	3.2	4.2	< 1.60
TSS (mg/L) Daily Maximum	12.00	2.00	2.40	7.20	11.2	3.60	1.60	5.60	7.60	4.00	4.80	1.60
Total Aluminum (mg/L) Average Monthly	0.1685	< 0.100	< 0.100	< 0.100	< 0.83	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100
Total Aluminum (mg/L) Daily Maximum	0.179	< 0.100	< 0.100	< 0.100	1.56	0.202	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100
Total Iron (mg/L) Average Monthly	0.818	< 0.200	< 0.232	< 0.249	< 0.413	< 0.200	< 0.65	< 0.248	< 0.200	< 0.207	< 0.200	< 0.222
Total Iron (mg/L) Daily Maximum	0.989	< 0.200	0.264	0.298	0.626	< 0.200	1.10	0.297	< 0.200	0.215	< 0.200	0.243
Total Manganese (mg/L) Average Monthly	0.213	0.0316	0.107	0.162	0.185	0.173	0.078	0.15	0.097	0.13	0.0928	0.094
Total Manganese (mg/L) Daily Maximum	0.216	0.0432	0.138	0.171	0.267	0.212	0.087	0.156	0.114	0.140	0.132	0.114

3.3 Non-Compliance

3.3.1 Non-Compliance- NPDES Effluent

A summary of the non-compliance to the permit limits for the existing permit cycle is as follows.

From the DMR data beginning in June 1, 2019 to April 23, 2025, the following were observed effluent non-compliances.

Summary of Non-Compliance with NPDES Effluent Limits
Beginning June 1, 2019 and Ending April 23, 2025

NON_COMPLIANCE_DATE	NON_COMPL_TYPE_DESC	NON_COMPL_CATEGORY_DESC	PARAMETER	SAMPLE_VALUE	VIOLATION_CONDITION	PERMIT_VALUE	UNIT_OF_MEASURE	STAT_BASE_CODE	FACILITY_COMMENTS
8/19/2019	Violation of permit condition	Effluent	Aluminum, Total	0.83	>	.75	mg/L	Daily Maximum	
9/4/2019	Violation of permit condition	Effluent	Aluminum, Total	1.87	>	.75	mg/L	Average Monthly	Increased backwashing
9/4/2019	Violation of permit condition	Effluent	Aluminum, Total	3.06	>	.75	mg/L	Daily Maximum	Increased backwashing
11/13/2024	Violation of permit condition	Effluent	Aluminum, Total	< 0.83	>	.75	mg/L	Average Monthly	
11/13/2024	Violation of permit condition	Effluent	Aluminum, Total	1.56	>	.75	mg/L	Daily Maximum	

3.3.2 Non-Compliance- Enforcement Actions

A summary of the non-compliance enforcement actions for the current permit cycle is as follows:

Beginning in June 1, 2019 to April 23, 2025, there were no observed enforcement actions.

3.4 Summary of Biosolids Disposal

A summary of the biosolids disposed of from the facility is as follows.

Wastewater generated from the facility is filter backwash from the drinking water plant. No biosolids is suspected of being generated.

No supplemental biosolids forms were submitted from June 2019 to April 2025.

3.5 Open Violations

As of April 2025, open violations existed for the client. While the open violation exists for the ICMSA Rossiter facility, the final executed NPDES for Pine Township WTP may be withheld until the open violations are addressed.

4.0 Receiving Waters and Water Supply Information Detail Summary

4.1 Receiving Waters

The receiving waters has been determined to be Trib 44223 to Yellow Creek. The sequence of receiving streams that the Trib 44223 to Yellow Creek discharges into are Yellow Creek, Two Lick Creek, Blacklick Creek, Conemaugh River, Kiskiminetas River and traveling south through several states prior to discharging to the Gulf of America,

4.2 Public Water Supply (PWS) Intake

The closest PWS to the subject facility is Central Indiana CO Water Authority (PWS ID #5320040) located approximately 15 miles downstream of the subject facility on the Yellow Creek. Based upon the distance and the flow rate of the facility, the PWS should not be impacted.

4.3 Class A Wild Trout Streams

Class A Wild Trout Streams are waters that support a population of naturally produced trout of sufficient size and abundance to support long-term and rewarding sport fishery. DEP classifies these waters as high-quality coldwater fisheries.

The information obtained from EMAP suggests that no Class A Wild Trout Fishery will be impacted by this discharge.

4.4 2024 Integrated List of All Waters (303d Listed Streams)

Section 303(d) of the Clean Water Act requires States to list all impaired surface waters not supporting uses even after appropriate and required water pollution control technologies have been applied. The 303(d) list includes the reason for impairment which may be one or more point sources (i.e. industrial or sewage discharges) or non-point sources (i.e. abandoned mine lands or agricultural runoff and the pollutant causing the impairment such as metals, pH, mercury or siltation).

States or the U.S. Environmental Protection Agency (EPA) must determine the conditions that would return the water to a condition that meets water quality standards. As a follow-up to listing, the state or EPA must develop a Total Maximum Daily Load (TMDL) for each waterbody on the list. A TMDL identifies allowable pollutant loads to a waterbody from both point and non-point sources that will prevent a violation of water quality standards. A TMDL also includes a margin of safety to ensure protection of the water.

The water quality status of Pennsylvania's waters uses a five-part categorization (lists) of waters per their attainment use status. The categories represent varying levels of attainment, ranging from Category 1, where all designated water uses are met to Category 5 where impairment by pollutants requires a TMDL for water quality protection.

The receiving waters is listed in the 2024 Pennsylvania Integrated Water Quality Monitoring and Assessment Report as a Category 2 and 4a waterbody. The surface waters is an attaining stream that supports recreational uses. The receiving waters is impaired for aquatic life due to metals from acid mine drainage The designated use has been classified as protected waters for cold water fishes (CWF) and migratory fishes (MF).

4.5 Low Flow Stream Conditions

Water quality modeling estimates are based upon conservative data inputs. The data are typically estimated using either a stream gauge or through USGS web based StreamStats program. The NPDES effluent limits are based upon the combined flows from both the stream and the facility discharge.

A conservative approach to estimate the impact of the facility discharge using values which minimize the total combined volume of the stream and the facility discharge. The volumetric flow rate for the stream is based upon the seven-day, 10-year low flow (Q710) which is the lowest estimated flow rate of the stream during a 7 consecutive day period that occurs once in 10 -year time period. The facility discharge is based upon a known design capacity of the subject facility.

The closest WQN station to the subject facility is the Conemaugh River station (WQN0810). This WQN station is located approximately 48 miles downstream of the subject facility.

The closest gauge station to the subject facility is the Yellow Creek Lake station at Brush Valley, PA (USGS station number 3042260). This gauge station is located approximately 11 miles downstream of the subject facility.

For WQM modeling, pH from the water quality network station was used. pH was estimated to be 7.4.

The hardness of the stream was estimated from the water quality network to be 178 mg/l $CaCO_3$.

The low flow yield and the Q710 for the subject facility was estimated using StreamStats.

The low flow yield is 0.05375 $ft^3/s/mi^2$ and the Q710 is 0.0129 ft^3/s.

4.6 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.002
Latitude	40º 36' 56.72"	Longitude	-78º 54' 53.29"
Quad Name		Quad Code	
Wastewater Description:	IW Process Effluent without ELG		
Receiving Waters	Unnamed Tributary to Yellow Creek (CWF)	Stream Code	44223
NHD Com ID	123724678	RMI	0.11
Drainage Area	0.24	Yield (cfs/mi^2)	0.05375
Q_{7-10} Flow (cfs)	0.0129	Q_{7-10} Basis	StreamStats
Elevation (ft)	1536	Slope (ft/ft)	
Watershed No.	18-D	Chapter 93 Class.	CWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	METALS		
Source(s) of Impairment	ACID MINE DRAINAGE		
TMDL Status	Final	Name	Kiskiminetas-Conemaugh River Watersheds TMDL

Background/Ambient Data		Data Source
pH (SU)	7.4	WQN0810; median July to Sept
Temperature (°C)		
Hardness (mg/L)	178	WQN0810; historical median
Other:		

Nearest Downstream Public Water Supply Intake		Central Indiana CO Water Authority	
PWS Waters	Yellow Creek	Flow at Intake (cfs)	
PWS RMI	4.63	Distance from Outfall (mi)	15

5.0: Overview of Presiding Water Quality Standards

5.1 General

There are at least six (6) different policies which determines the effluent performance limits for the NPDES permit. The policies are technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), antidegradation, total maximum daily loading (TMDL), anti-backsliding, and whole effluent toxicity (WET) The effluent performance limitations enforced are the selected permit limits that is most protective to the designated use of the receiving waters. An overview of each of the policies that are applicable to the subject facility has been presented in Section 6.

5.2.1 Technology-Based Limitations

TBEL treatment requirements under section 301(b) of the Act represent the minimum level of control that must be imposed in a permit issued under section 402 of the Act (40 CFR 125.3). Permit limits for water treatment plant wastes are subject to handling and disposal of water treatment plant (WTP) using Best Practicable Control Technology (BPCT) currently available. Waste water from treatment of WTP sludges and filter backwash shall have the following permit limits.

Parameter	Monthly Average	Daily Max
	mg/l	mg/l
Suspended Solids	30	60
Iron (total)	2	4
Aluminum (total)	4	8
Manganese (total)	1	2
pH	6 - 9	-----
TRC	0.5	1

Notes:
Source: TECHNOLOGY-BASED CONTROL REQUIREMENTS FOR WATER TREATMENT PLANT WASTES

5.2.2 Mass Based Limits

For publicly owned treatment works (POTW), mass loadings are calculated based upon design flow rate of the facility and the permit limit concentration. The generalized calculation for mass loadings is shown below:

$$Quantity\left(\frac{lb}{day}\right) = (MGD)(Concentration)(8.34)$$

5.3 Water Quality-Based Limitations

WQBEL are based on the need to attain or maintain the water quality criteria and to assure protection of designated and existing uses (PA Code 25, Chapter 92a.2). The subject facility that is typically enforced is the more stringent limit of either the TBEL or the WQBEL.

Determination of WQBEL is calculated by spreadsheet analysis or by a computer modeling program developed by DEP. DEP permit engineers utilize the following computing programs for WQBEL permit limitations: (1) MS Excel worksheet for Total Residual Chorine (TRC); (2) WQM 7.0 for Windows Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen Version 1.1 (WQM Model) and (3) Toxics using DEP Toxics Management Spreadsheet for Toxics pollutants.

The modeling point nodes utilized for this facility are summarized below.

General Data 1	*(Modeling Point #1)*	*(Modeling Point #2)*	*Units*
Stream Code	44223	44223	
River Mile Index	0.11	0	miles
Elevation	1536	1519	feet
Latitude	40.615833	40.6144	
Longitude	-78.915	-78.914562	
Drainage Area	0.24	0.25	sq miles
Low Flow Yield	0.05375	0.0536	cfs/sq mile

5.3.1 Water Quality Modeling 7.0

5.3.2 Toxics Modeling

The Toxics Management Spreadsheet model is a computer model that is used to determine effluent limitations for toxics (and other substances) for single discharge wasteload allocations. This computer model uses a mass-balance water quality analysis that includes consideration for mixing, first-order decay, and other factors used to determine recommended water quality-based effluent limits. Toxics Management Spreadsheet does not assume that all discharges completely mix with the stream. The point of compliance with water quality criteria are established using criteria compliance times (CCTs). The available CCTs are either acute fish criterion (AFC), chronic fish criterion (CFC), or human health criteria (THH & CRL).

Acute Fish Criterion (AFC) measures the criteria compliance time as either the maximum criteria compliance time (i.e.15 minutes travel time downstream of the current discharge) or the complete mix time whichever comes first. AFC is evaluated at Q710 conditions.

Chronic Fish Criterion (CFC) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CFC is evaluated at Q710 conditions.

Threshold Human Health (THH) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the estimated travel time downstream to the nearest potable water supply intake whichever comes first. THH is evaluated at Q710 conditions.

Cancer Risk Level (CRL) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CRL is evaluated at Qh (harmonic mean or normal flow) conditions.

The Toxics Model requires several input values for calculating output values. The source of data originates from either EMAP, the National Map, or Stream Stats. Data for stream gauge information, if any, was abstracted from USGS Low-Flow, Base-Flow, and Mean-Flow Regression Equations for Pennsylvania Streams authored by Marla H. Stuckey (Scientific Investigations Report 2006-5130).

5.3.2.1 Determining if NPDES Permit Will Require Monitoring/Limits in the Proposed Permit for Toxic Pollutants

To determine if Toxics modeling is necessary, DEP has developed a Toxics Management Spreadsheet to identify toxics of concern. Toxic pollutants whose maximum concentrations as reported in the permit application or on DMRs are greater than the most stringent applicable water quality criterion are pollutants of concern. A Reasonable Potential Analysis was utilized to determine (a) if the toxic parameters modeled would require monitoring or (b) if permit limitations would be required for the parameters. The toxics reviewed for reasonable potential were the pollutants in Groups 1 and 2.

The NPDES application collected three samples.

Based upon the SOP- Establishing Water Quality-Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants (Revised January 10, 2019), monitoring and/or limits will be established as follows.

(a) When reasonable potential is demonstrated, establish limits where the maximum reported concentration equals or exceeds 50% of the WQBEL.
(b) For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.
(c) For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10% - 50% of the WQBEL.

Applicable monitoring or permit limits for toxics are summarized in Section 6.

The Toxics Management Spreadsheet output has been included in Attachment B.

5.3.3 Whole Effluent Toxicity (WET)

The facility is not subject to WET.

5.4 Total Maximum Daily Loading (TMDL)

5.4.1 TMDL

The goal of the Clean Water Act (CWA), which governs water pollution, is to ensure that all of the Nation's waters are clean and healthy enough to support aquatic life and recreation. To achieve this goal, the CWA created programs designed to regulate and reduce the amount of pollution entering United States waters. Section 303(d) of the CWA requires states to assess their waterbodies to identify those not meeting water quality standards. If a waterbody is not meeting standards, it is listed as impaired and reported to the U.S. Environmental Protection Agency. The state then develops a plan to clean up the impaired waterbody. This plan includes the development of a Total Maximum Daily Load (TMDL) for the pollutant(s) that were found to be the cause of the water quality violations. A Total Maximum Daily Load (TMDL) calculates the maximum amount of a specific pollutant that a waterbody can receive and still meet water quality standards.

A TMDL for a given pollutant and waterbody is composed of the sum of individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background levels. In addition, the TMDL must include an implicit or explicit margin of safety (MOS) to account for the uncertainty in the relationship between pollutant loads and the quality of the receiving waterbody. The TMDL components are illustrated using the following equation:

$$TMDL = \Sigma WLAs + \Sigma LAs + MOS$$

Pennsylvania has committed to restoring all impaired waters by developing TMDLs and TMDL alternatives for all impaired waterbodies. The TMDL serves as the starting point or planning tool for restoring water quality.

5.4.1.1 Local TMDL

The subject facility discharges into a local TMDL. The TMDL is summarized in the *TMDLs for Streams Impaired by Acid Mine Drainage in the Kiskiminetas-Conemaugh River Watersheds*, Pennsylvania report prepared by TetraTech on January 29, 2010 (TMDL Kiskiminetas-Conemaugh River Watersheds).

The Kiskiminetas River watershed is in western Pennsylvania. It encompasses part or all of Cambria, Somerset, Indiana, and Westmoreland counties, including the drainages of the Conemaugh, Little Conemaugh, and Stonycreek rivers. The watershed contains several large and small reservoirs, including the Loyalhanna, Conemaugh, Beaver Run, Two Lick Creek, and Yellow Creek reservoirs (TMDL Kiskiminetas-Conemaugh River Watersheds 2).

Of the almost 5,000 stream segments in the watershed, 29 percent are listed as impaired and do not support their designated aquatic life use. The watershed has a long history of coal mining, which left many abandoned mine lands (AMLs) and associated features that contribute mine drainage to surface waters. Of the total impaired waters in the watershed, 59 percent of all impairments are attributed to AMD and its impacts (singly or in combination with other sources and causes of pollutants): high levels of metals, low pH, and increased rates of siltation (TMDL Kiskiminetas-Conemaugh River Watersheds 5).

When calculating TMDLs, numeric instream water quality target concentrations are established to ensure meeting water quality criteria and protection of beneficial uses, in this case, various aquatic life uses and potable water supply. The target concentrations for this TMDL were based on established numeric water quality criteria of 750 micrograms per liter (µg/L) aluminum, 1,500 µg/L total iron, 300 µg/L dissolved iron, and 1,000 µg/L manganese (TMDL Kiskiminetas-Conemaugh River Watersheds 9)

The TMDL Kiskiminetas-Conemaugh River Watersheds specifies allocated concentrations for aluminum, iron, and manganese. See the excerpted Kiskiminetas River Watershed Major Non-Mining Wastewater Allocations table.

Kiskiminetas River Watershed Major Non-Mining Wasteload Allocations

Region	SWS	PERMIT	PIPE	Metal	Baseline Load (lbs/yr)	Baseline Concentration (mg/L)	Allocated Load (lbs/yr)	Allocated Concentration (mg/L)	% Reduction
4	4399	PA0095265	001	Aluminum	12	4.00	2	0.75	81
4	4399	PA0095265	001	Iron	6	2.00	5	1.50	25
4	4399	PA0095265	001	Manganese	3	1.00	3	1.00	0

The facility will be subject to the following TMDL loading.

- Aluminum 0.75 mg/l
- Iron 1.50 mg/l
- Manganese 1.0 mg/l

5.5 Anti-Degradation Requirement

Chapter 93.4a of the PA regulations requires that surface water of the Commonwealth of Pennsylvania may not be degraded below levels that protect the existing uses. The regulations specifically state that *Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected*. Antidegradation requirements are implemented through DEP's guidance manual entitled Water Quality Antidegradation Implementation Guidance (Document #391-0300-02).

The policy requires DEP to protect the existing uses of all surface waters and the existing quality of High Quality (HQ) and Exceptional Value (EV) Waters. Existing uses are protected when DEP makes a final decision on any permit or approval for an activity that may affect a protected use. Existing uses are protected based upon DEP's evaluation of the best available information (which satisfies DEP protocols and Quality Assurance/Quality Control (QA/QC) procedures) that indicates the protected use of the waterbody.

For a new, additional, or increased point source discharge to an HQ or EV water, the person proposing the discharge is required to utilize a nondischarge alternative that is cost-effective and environmentally sound when compared with the cost of the proposed discharge. If a nondischarge alternative is not cost-effective and environmentally sound, the person must use the best available combination of treatment, pollution prevention, and wastewater reuse technologies and assure that any discharge is nondegrading. In the case of HQ waters, DEP may find that after satisfaction of intergovernmental coordination and public participation requirements lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In addition, DEP will assure that cost-effective and reasonable best management practices for nonpoint source control in HQ and EV waters are achieved.

The subject facility's discharge will be to a non-special protection waters and the permit conditions are imposed to protect existing instream water quality and uses. Neither HQ waters or EV waters is impacted by this discharge.

5.6 Anti-Backsliding

Anti-backsliding is a federal regulation which prohibits a permit from being renewed, reissued, or modified containing effluent limitations which are less stringent than the comparable effluent limitations in the previous permit (40 CFR 122.l.1 and 40 CFR 122.l.2). A review of the existing permit limitations with the proposed permit limitations confirm that the facility is consistent with anti-backsliding requirements. The facility has proposed effluent limitations that are as stringent as the existing permit.

6.0 NPDES Parameter Details

The basis for the proposed sampling and their monitoring frequency that will appear in the permit for each individual parameter are itemized in this Section. The final limits are the more stringent of technology based effluent treatment (TBEL) requirements, water quality based (WQBEL) limits, TMDL, antidegradation, anti-degradation, or WET.

The reader will find in this section:

a) a justification of recommended permit monitoring requirements and limitations for each parameter in the proposed NPDES permit;
b) a summary of changes from the existing NPDES permit to the proposed permit; and
c) a summary of the proposed NPDES effluent limits.

6.1 Recommended Monitoring Requirements and Effluent Limitations

A summary of the recommended monitoring requirements and effluent limitations are itemized in the tables. The tables are categorized by (a) Conventional Pollutants and Disinfection and (b) Toxics.

Note:

The Fact Sheet dated for March 2019 used a flow rate of 0.002 MGD.

The flow diagram in Section 2.2 of the Fact Sheet illustrates that the settling tank is designed for 0.002 MGD. A review of DMR data from June 2019 to March 2025 showed an overall average discharge flow rate of 0.0059 MGD.

Modeling was conducted using a flow rate of 0.0059 MGD.

6.1.1 Conventional Pollutants and Disinfection

For TRC, effluent limits from the modeling were 0.2 mg/l as an average monthly and 1.2 mg/l as an instantaneous maximum. From the DMR from March 2024 to February 2025, the facility will not have issues meeting the reduced effluent limit.

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection
Pine Township WTP, PA0095265

Parameter	Permit Limitation Required by[1]:	Recommendation	
pH (S.U.)	TBEL	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-4).
		Effluent Limit:	Effluent limits may range from pH = 6.0 to 9.0
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-4 and the effluent limits assigned by Chapter 95.2(1).
TSS	DEP Guidance Document-Water Treatment Plant Wastes	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-4).
		Effluent Limit:	Effluent limits shall not exceed 30 mg/l as an average monthly
		Rationale:	Effluent limits are defined by DEP Guidance Document- Technology-Based Control Requirements for Water Treatment Plant Wastes- Waste Water from Treatment of WTP Sludges and Filter Backwash
TRC	TBEL	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-4).
		Effluent Limit:	The average monthly limit should not exceed 0.2 mg/l and/or 0.7 mg/l as an instantaneous maximum.
		Rationale: Chlorine in both combined (chloramine) and free form is extremely toxic to freshwater fish and other forms of aquatic life (Implementation Guidance Total Residual Chlorine 1). The TRC effluent limitations to be imposed on a discharger shall be the more stringent of either the WQBEL or TBEL requirements and shall be expressed in the NPDES permit as an average monthly and instantaneous maximum effluent concentration (Implementation Guidance Total Residual Chlorine 4). Based on the stream flow rate (lowest 7-day flow rate in 10 years) and the design flow rate of the subject facility calculated by the TRC Evaluation worksheet, the WQBEL is more stringent than the TQBEL. The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by the TRC modeling worksheet	

Notes:

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 0.002 MGD.

3 Table 6-4 (Self Monitoring Requirements for Industrial Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

6.1.2 Toxics

Two modeling runs were completed to review the monitoring data.

Run #1 used the monitoring data in the NPDES application. Toxics Management Spreadsheet (TMS) recommended monitoring for aluminum, iron, selenium, and thallium. The TMDLs for Streams Impaired by Acid Mine Drainage in the Kiskiminetas-Conemaugh River Watersheds includes effluent limits for aluminum and iron. No reasonable potential was observed for any of the pollutants.

Run #2 used DMR monitoring data for aluminum, iron, and manganese. The maximum result for each of the parameters was used. TMS recommended limits for aluminum at an average monthly limit of 1.16 mg/l. The current permit limit is 0.75 mg/l. This limit is more stringent than the TMS modeling run. Due to anti-backsliding, the current permit limit shall continue to the proposed permit.

TMS recommended monitoring for iron, manganese, selenium, and thallium. The TMDLs for Streams Impaired by Acid Mine Drainage in the Kiskiminetas-Conemaugh River Watersheds includes effluent limits for iron and manganese. Since no reasonable potential was observed for thallium the parameter was not recommended for monitoring for the proposed permit.

Summary of Proposed NPDES Parameter Details for Toxics

Pine Township WTP, PA0095265

Parameter	Permit Limitation Required by[1]:	Recommendation	
Iron	TMDL	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-4).
		Effluent Limit:	The effluent limit shall not exceed 1.5 mg/l as a monthly average.
		Rationale:	Effluent limits were established by the TMDLs for Streams Impaired by Acid Mine Drainage in the Kiskiminetas-Conemaugh River Watersheds
Aluminum	TMDL	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-4).
		Effluent Limit:	The effluent limit shall not exceed 0.75 mg/l as a monthly average.
		Rationale:	Effluent limits were established by the TMDLs for Streams Impaired by Acid Mine Drainage in the Kiskiminetas-Conemaugh River Watersheds
Manganese	TMDL	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-4).
		Effluent Limit:	The effluent limit shall not exceed 1 mg/l as a monthly average.
		Rationale:	Effluent limits were established by the TMDLs for Streams Impaired by Acid Mine Drainage in the Kiskiminetas-Conemaugh River Watersheds

Notes:

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 0.002 MGD.

3 Table 6-4 (Self Monitoring Requirements for Industrial Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

6.1.3 Chapter 92a.61 Targeted Parameters

The facility is a drinking water plant. The facility will not be subject to monitoring of PFOS parameters. However, the drinking water program may enforce monitoring for PFOS parameters.

6.2 Summary of Changes From Existing Permit to Proposed Permit

A summary of how the proposed NPDES permit differs from the existing NPDES permit is summarized as follows.

- **TRC has reduced effluent limits**

6.3.1 Summary of Proposed NPDES Effluent Limits

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

The proposed NPDES effluent limitations are summarized in the table below.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. For Outfall 001 , **Latitude** 40º 36' 57.00" , **Longitude** 78º 54' 54.00" , **River Mile Index** 0.11 , **Stream Code** 44223

Receiving Waters: Unnamed Tributary to Yellow Creek (CWF)

Type of Effluent: IW Process Effluent without ELG

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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	2/month	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0	XXX	2/month	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.2	XXX	0.7	2/month	Grab
Total Suspended Solids	XXX	XXX	XXX	30.0	60.0	XXX	2/month	Grab
Aluminum, Total	XXX	XXX	XXX	0.75	0.75	XXX	2/month	Grab
Iron, Total	XXX	XXX	XXX	1.5	3.0	XXX	2/month	Grab
Manganese, Total	XXX	XXX	XXX	1.0	2.0	XXX	2/month	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

6.3.2 Summary of Proposed Permit Part C Conditions

The subject facility has the following Part C conditions.

- Chlorine Minimization

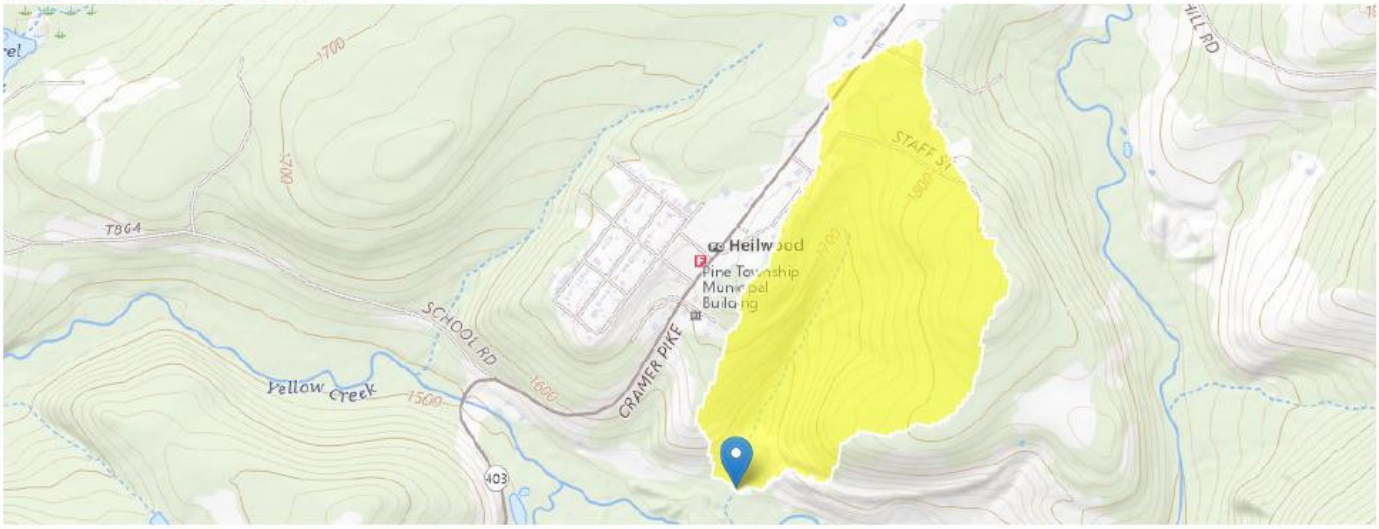
Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical 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:
☐	Other:

Attachment A

Stream Stats/Gauge Data

StreamStats Report

Region ID: PA
Workspace ID: PA20250427090952543000
Clicked Point (Latitude, Longitude): 40.61570, -78.91488
Time: 2025-04-27 05:10:17 -0400



Pine Township WTP PA0095265 Modeling Point #1 April 2025

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.24	square miles
ELEV	Mean Basin Elevation	1739	feet
PRECIP	Mean Annual Precipitation	47	inches

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.24	square miles	2.33	1720
ELEV	Mean Basin Elevation	1739	feet	898	2700
PRECIP	Mean Annual Precipitation	47	inches	38.7	47.9

Low-Flow Statistics Disclaimers [Low Flow Region 3]

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

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

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0314	ft^3/s
30 Day 2 Year Low Flow	0.0485	ft^3/s

Statistic	Value	Unit
7 Day 10 Year Low Flow	0.0129	ft^3/s
30 Day 10 Year Low Flow	0.0185	ft^3/s
90 Day 10 Year Low Flow	0.0278	ft^3/s

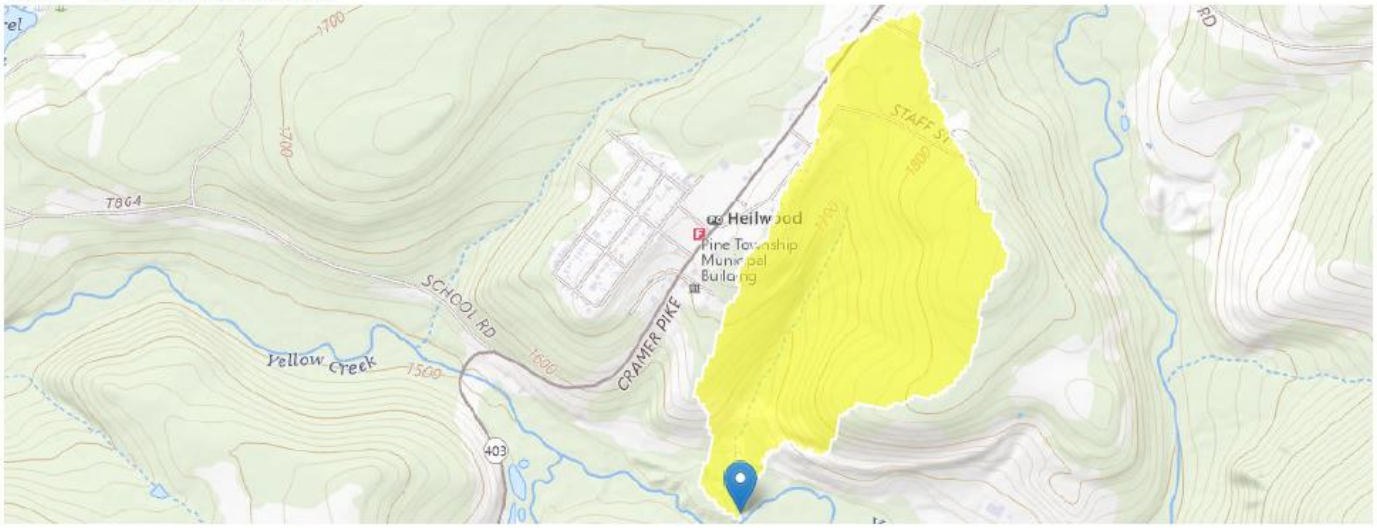
Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

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

StreamStats Report

Region ID: PA
Workspace ID: PA20250427091359681000
Clicked Point (Latitude, Longitude): 40.61441, -78.91467
Time: 2025-04-27 05:14:23 -0400



Pine Township WTP PA0095265 Modeling Point #2 April 2025

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.25	square miles
ELEV	Mean Basin Elevation	1733	feet
PRECIP	Mean Annual Precipitation	47	inches

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.25	square miles	2.33	1720
ELEV	Mean Basin Elevation	1733	feet	898	2700
PRECIP	Mean Annual Precipitation	47	inches	38.7	47.9

Low-Flow Statistics Disclaimers [Low Flow Region 3]

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

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

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0326	ft^3/s
30 Day 2 Year Low Flow	0.0504	ft^3/s

Statistic	Value	Unit
7 Day 10 Year Low Flow	0.0134	ft^3/s
30 Day 10 Year Low Flow	0.0193	ft^3/s
90 Day 10 Year Low Flow	0.0289	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

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

Attachment B

Toxics Management Spreadsheet Output Values

pennsylvania
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Toxics Management Spreadsheet
Version 1.4, May 2023

RUN #1

Discharge Information

Instructions | Discharge | Stream

Facility: **Pine Township WTP** NPDES Permit No.: **PA0095265** Outfall No.: **001**

Evaluation Type **Major Sewage / Industrial Waste** Wastewater Description: **Backwash wastewater**

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
0.0059	260	7.08						

					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		358									
	Chloride (PWS)	mg/L		10.3									
	Bromide	mg/L	<	0.036									
	Sulfate (PWS)	mg/L		129									
	Fluoride (PWS)	mg/L		0.329									
Group 2	Total Aluminum	µg/L		181									
	Total Antimony	µg/L	<	0.348									
	Total Arsenic	µg/L		0.58									
	Total Barium	µg/L		35.2									
	Total Beryllium	µg/L		0.676									
	Total Boron	µg/L	<	56.5									
	Total Cadmium	µg/L	<	0.123									
	Total Chromium (III)	µg/L	<	1.99									
	Hexavalent Chromium	µg/L	<	0.25									
	Total Cobalt	µg/L		0.441									
	Total Copper	µg/L	<	2.21									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	6									
	Dissolved Iron	µg/L		20									
	Total Iron	µg/L		1230									
	Total Lead	µg/L	<	0.172									
	Total Manganese	µg/L		216									
	Total Mercury	µg/L	<	0.0932									
	Total Nickel	µg/L		3.27									
	Total Phenols (Phenolics) (PWS)	µg/L	<	5									
	Total Selenium	µg/L		4.1									
	Total Silver	µg/L	<	1.37									
	Total Thallium	µg/L		0.155									
	Total Zinc	µg/L		14.7									
	Total Molybdenum	µg/L		0.286									
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										
	Carbon Tetrachloride	µg/L	<										
	Chlorobenzene	µg/L											
	Chlorodibromomethane	µg/L	<										
	Chloroethane	µg/L	<										
	2-Chloroethyl Vinyl Ether	µg/L	<										

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Pine Township WTP, NPDES Permit No. PA0095265, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Trib 44223 to Yellow Creek** 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	044223	0.11	1536	0.24			Yes
End of Reach 1	044223	0	1519	0.25			Yes

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

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	0.11	0.05375	0.0129									178	7.4		
End of Reach 1	0	0.0536										178	7.4		

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	0.11														
End of Reach 1	0														

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Pine Township WTP, NPDES Permit No. PA0095265, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.075 PMF: 1 Analysis Hardness (mg/l): 211.98 Analysis pH: 7.24

Pollutants	Stream Conc	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	1,810	
Total Antimony	0	0		0	1,100	1,100	2,655	
Total Arsenic	0	0		0	340	340	821	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	50,680	
Total Boron	0	0		0	8,100	8,100	19,548	
Total Cadmium	0	0		0	4.178	4.58	11.0	Chem Translator of 0.913 applied
Total Chromium (III)	0	0		0	1054.208	3,336	8,051	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	39.3	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	229	
Total Copper	0	0		0	27.277	28.4	68.6	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	144.804	212	513	Chem Translator of 0.682 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	3.97	Chem Translator of 0.85 applied
Total Nickel	0	0		0	884.110	886	2,138	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	11.712	13.8	33.3	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	157	
Total Zinc	0	0		0	221.473	226	547	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 0.075 PMF: 1 Analysis Hardness (mg/l): 211.98 Analysis pH: 7.24

Pollutants	Stream Conc	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	531	
Total Arsenic	0	0		0	150	150	362	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	9,895	
Total Boron	0	0		0	1,600	1,600	3,861	
Total Cadmium	0	0		0	0.414	0.47	1.14	Chem Translator of 0.878 applied
Total Chromium (III)	0	0		0	137.131	159	385	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	25.1	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	45.9	
Total Copper	0	0		0	17.018	17.7	42.8	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	3,620	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	5.643	8.28	20.0	Chem Translator of 0.682 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	2.19	Chem Translator of 0.85 applied
Total Nickel	0	0		0	98.197	98.5	238	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	12.0	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	31.4	
Total Zinc	0	0		0	223.285	226	547	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 0.075 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc	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	13.5	
Total Arsenic	0	0		0	10	10.0	24.1	
Total Barium	0	0		0	2,400	2,400	5,792	
Total Boron	0	0		0	3,100	3,100	7,481	
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	724	
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	2,413	
Total Mercury	0	0		0	0.050	0.05	0.12	
Total Nickel	0	0		0	610	610	1,472	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	0.58	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 0.050 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc	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

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Aluminum	Report	Report	Report	Report	Report	µg/L	1,160	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Iron	Report	Report	Report	Report	Report	µg/L	3,620	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Selenium	Report	Report	Report	Report	Report	µg/L	12.0	CFC	Discharge Conc > 10% WQBEL (no RP)

Total Thallium	Report	Report	Report	Report	Report	µg/L	0.58	THH	Discharge Conc > 10% WQBEL (no RP)

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

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	24.1	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	5,792	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	3,861	µg/L	Discharge Conc < TQL
Total Cadmium	1.14	µg/L	Discharge Conc < TQL
Total Chromium (III)	385	µg/L	Discharge Conc < TQL
Hexavalent Chromium	25.1	µg/L	Discharge Conc < TQL
Total Cobalt	45.9	µg/L	Discharge Conc ≤ 10% WQBEL
Total Copper	42.8	µg/L	Discharge Conc < TQL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	724	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	20.0	µg/L	Discharge Conc < TQL
Total Manganese	2,413	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.12	µg/L	Discharge Conc < TQL
Total Nickel	238	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Silver	21.3	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	350	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS

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RUN #2

Discharge Information

Instructions | Discharge | Stream

Facility: **Pine Township WTP** NPDES Permit No.: **PA0095265** Outfall No.: **001**

Evaluation Type **Major Sewage / Industrial Waste** Wastewater Description: **Backwash wastewater**

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
0.0059	260	7.08						

					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		358									
	Chloride (PWS)	mg/L		10.3									
	Bromide	mg/L	<	0.036									
	Sulfate (PWS)	mg/L		129									
	Fluoride (PWS)	mg/L		0.329									
Group 2	Total Aluminum	mg/L		1.87									
	Total Antimony	µg/L	<	0.348									
	Total Arsenic	µg/L		0.58									
	Total Barium	µg/L		35.2									
	Total Beryllium	µg/L		0.676									
	Total Boron	µg/L	<	56.5									
	Total Cadmium	µg/L	<	0.123									
	Total Chromium (III)	µg/L	<	1.99									
	Hexavalent Chromium	µg/L	<	0.25									
	Total Cobalt	µg/L		0.441									
	Total Copper	µg/L	<	2.21									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	6									
	Dissolved Iron	µg/L		20									
	Total Iron	mg/L	<	0.9575									
	Total Lead	µg/L	<	0.172									
	Total Manganese	mg/L		0.452									
	Total Mercury	µg/L	<	0.0932									
	Total Nickel	µg/L		3.27									
	Total Phenols (Phenolics) (PWS)	µg/L	<	5									
	Total Selenium	µg/L		4.1									
	Total Silver	µg/L	<	1.37									
	Total Thallium	µg/L		0.155									
	Total Zinc	µg/L		14.7									
	Total Molybdenum	µg/L		0.286									
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										
	Carbon Tetrachloride	µg/L	<										
	Chlorobenzene	µg/L											
	Chlorodibromomethane	µg/L	<										
	Chloroethane	µg/L	<										
	2-Chloroethyl Vinyl Ether	µg/L	<										

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Stream / Surface Water Information

Pine Township WTP, NPDES Permit No. PA0095265, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Trib 44223 to Yellow Creek** 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	044223	0.11	1536	0.24			Yes
End of Reach 1	044223	0	1519	0.25			Yes

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

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	0.11	0.05375	0.0129									178	7.4		
End of Reach 1	0	0.0536										178	7.4		

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	0.11														
End of Reach 1	0														

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Model Results

Pine Township WTP, NPDES Permit No. PA0095265, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.075 PMF: 1 Analysis Hardness (mg/l): 211.98 Analysis pH: 7.24

Pollutants	Stream Conc	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	1,810	
Total Antimony	0	0		0	1,100	1,100	2,655	
Total Arsenic	0	0		0	340	340	821	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	50,680	
Total Boron	0	0		0	8,100	8,100	19,548	
Total Cadmium	0	0		0	4.178	4.58	11.0	Chem Translator of 0.913 applied
Total Chromium (III)	0	0		0	1054.208	3,336	8,051	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	39.3	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	229	
Total Copper	0	0		0	27.277	28.4	68.6	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	144.804	212	513	Chem Translator of 0.682 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	3.97	Chem Translator of 0.85 applied
Total Nickel	0	0		0	884.110	886	2,138	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	11.712	13.8	33.3	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	157	
Total Zinc	0	0		0	221.473	226	547	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 0.075 PMF: 1 Analysis Hardness (mg/l): 211.98 Analysis pH: 7.24

Pollutants	Stream Conc	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	531	
Total Arsenic	0	0		0	150	150	362	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	9,895	
Total Boron	0	0		0	1,600	1,600	3,861	
Total Cadmium	0	0		0	0.414	0.47	1.14	Chem Translator of 0.878 applied
Total Chromium (III)	0	0		0	137.131	159	385	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	25.1	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	45.9	
Total Copper	0	0		0	17.018	17.7	42.8	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	3,620	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	5.643	8.28	20.0	Chem Translator of 0.682 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	2.19	Chem Translator of 0.85 applied
Total Nickel	0	0		0	98.197	98.5	238	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	12.0	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	31.4	
Total Zinc	0	0		0	223.285	226	547	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 0.075 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc	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	13.5	
Total Arsenic	0	0		0	10	10.0	24.1	
Total Barium	0	0		0	2,400	2,400	5,792	
Total Boron	0	0		0	3,100	3,100	7,481	
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	724	
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	2,413	
Total Mercury	0	0		0	0.050	0.05	0.12	
Total Nickel	0	0		0	610	610	1,472	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	0.58	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 0.050 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc	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

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Aluminum	0.057	0.089	1.16	1.81	2.9	mg/L	1.16	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Iron	Report	Report	Report	Report	Report	mg/L	3.62	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Manganese	Report	Report	Report	Report	Report	mg/L	2.41	THH	Discharge Conc > 10% WQBEL (no RP)

Total Thallium	Report	Report	Report	Report	Report	µg/L	0.58	THH	Discharge Conc > 10% WQBEL (no RP)

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

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	24.1	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	5,792	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	3,861	µg/L	Discharge Conc < TQL
Total Cadmium	1.14	µg/L	Discharge Conc < TQL
Total Chromium (III)	385	µg/L	Discharge Conc < TQL
Hexavalent Chromium	25.1	µg/L	Discharge Conc < TQL
Total Cobalt	45.9	µg/L	Discharge Conc ≤ 10% WQBEL
Total Copper	42.8	µg/L	Discharge Conc < TQL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	724	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	20.0	µg/L	Discharge Conc < TQL
Total Manganese	2,413	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.12	µg/L	Discharge Conc < TQL
Total Nickel	238	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Silver	21.3	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	350	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS

Attachment C

TRC Evaluation

Pine Township WTP
PA0095265

April 2025

1A	B	C	D	E	F	G
2	**TRC EVALUATION**					
3	Input appropriate values in B4:B8 and E4:E7					
4	0.0129	= Q stream (cfs)		0.5	= CV Daily	
5	0.0059	= Q discharge (MGD)		0.5	= CV Hourly	
6	30	= no. samples		1	= AFC_Partial Mix Factor	
7	0.3	= Chlorine Demand of Stream		1	= CFC_Partial Mix Factor	
8	0	= Chlorine Demand of Discharge		15	= AFC_Criteria Compliance Time (min)	
9	0.5	= BAT/BPJ Value		720	= CFC_Criteria Compliance Time (min)	
	0	= % Factor of Safety (FOS)		0	=Decay Coefficient (K)	
10	Source	Reference	AFC Calculations		Reference	CFC Calculations
11	TRC	1.3.2.iii	WLA afc = 0.470		1.3.2.iii	WLA cfc = 0.451
12	PENTOXSD TRG	5.1a	LTAMULT afc = 0.373		5.1c	LTAMULT cfc = 0.581
13	PENTOXSD TRG	5.1b	LTA_afc= 0.175		5.1d	LTA_cfc = 0.262
14						
15	Source		Effluent Limit Calculations			
16	PENTOXSD TRG	5.1f	AML MULT = 1.231			
17	PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.216		AFC	
18			INST MAX LIMIT (mg/l) = 0.705			

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

Attachment D – DMR Data

Monitoring Period Begin Date	Monitoring Period End Date	DMR Received Date	Parameter Name	DMR Value	Permit Limit	Units	Statistical Base Code
06/01/2019	06/30/2019	07/17/2019	Flow	0.003	Monitor and Report	MGD	Average Monthly
07/01/2019	07/31/2019	08/19/2019	Flow	0.003	Monitor and Report	MGD	Average Monthly
08/01/2019	08/31/2019	09/04/2019	Flow	0.003	Monitor and Report	MGD	Average Monthly
09/01/2019	09/30/2019	10/21/2019	Flow	0.003	Monitor and Report	MGD	Average Monthly
10/01/2019	10/31/2019	11/08/2019	Flow	0.004	Monitor and Report	MGD	Average Monthly
11/01/2019	11/30/2019	12/05/2019	Flow	0.004	Monitor and Report	MGD	Average Monthly
12/01/2019	12/31/2019	01/13/2020	Flow	0.004	Monitor and Report	MGD	Average Monthly
01/01/2020	01/31/2020	02/13/2020	Flow	0.003	Monitor and Report	MGD	Average Monthly
02/01/2020	02/29/2020	03/20/2020	Flow	0.003	Monitor and Report	MGD	Average Monthly
03/01/2020	03/31/2020	04/21/2020	Flow	0.004	Monitor and Report	MGD	Average Monthly
04/01/2020	04/30/2020	05/21/2020	Flow	0.004	Monitor and Report	MGD	Average Monthly
05/01/2020	05/31/2020	06/11/2020	Flow	0.005	Monitor and Report	MGD	Average Monthly
06/01/2020	06/30/2020	07/16/2020	Flow	0.006	Monitor and Report	MGD	Average Monthly
07/01/2020	07/31/2020	08/24/2020	Flow	0.005	Monitor and Report	MGD	Average Monthly
08/01/2020	08/31/2020	09/21/2020	Flow	0.006	Monitor and Report	MGD	Average Monthly
09/01/2020	09/30/2020	10/13/2020	Flow	0.004	Monitor and Report	MGD	Average Monthly
10/01/2020	10/31/2020	11/12/2020	Flow	0.005	Monitor and Report	MGD	Average Monthly
11/01/2020	11/30/2020	12/08/2020	Flow	0.005	Monitor and Report	MGD	Average Monthly
12/01/2020	12/31/2020	01/11/2021	Flow	0.005	Monitor and Report	MGD	Average Monthly
01/01/2021	01/31/2021	02/09/2021	Flow	0.006	Monitor and Report	MGD	Average Monthly
02/01/2021	02/28/2021	03/10/2021	Flow	0.005	Monitor and Report	MGD	Average Monthly
03/01/2021	03/31/2021	04/14/2021	Flow	0.006	Monitor and Report	MGD	Average Monthly
04/01/2021	04/30/2021	05/20/2021	Flow	0.006	Monitor and Report	MGD	Average Monthly
05/01/2021	05/31/2021	06/10/2021	Flow	0.004	Monitor and Report	MGD	Average Monthly
06/01/2021	06/30/2021	07/15/2021	Flow	0.006	Monitor and Report	MGD	Average Monthly
07/01/2021	07/31/2021	08/09/2021	Flow	0.007	Monitor and Report	MGD	Average Monthly
08/01/2021	08/31/2021	09/20/2021	Flow	0.007	Monitor and Report	MGD	Average Monthly
09/01/2021	09/30/2021	10/22/2021	Flow	0.0049	Monitor and Report	MGD	Average Monthly
10/01/2021	10/31/2021	11/08/2021	Flow	0.007	Monitor and Report	MGD	Average Monthly
11/01/2021	11/30/2021	12/01/2021	Flow	0.0096	Monitor and Report	MGD	Average Monthly
12/01/2021	12/31/2021	01/12/2022	Flow	0.009	Monitor and Report	MGD	Average Monthly
01/01/2022	01/31/2022	02/07/2022	Flow	0.008	Monitor and Report	MGD	Average Monthly
02/01/2022	02/28/2022	03/14/2022	Flow	0.001	Monitor and Report	MGD	Average Monthly
03/01/2022	03/31/2022	04/11/2022	Flow	0.008	Monitor and Report	MGD	Average Monthly
04/01/2022	04/30/2022	05/11/2022	Flow	0.008	Monitor and Report	MGD	Average Monthly
05/01/2022	05/31/2022	06/08/2022	Flow	0.008	Monitor and Report	MGD	Average Monthly
06/01/2022	06/30/2022	07/07/2022	Flow	0.008	Monitor and Report	MGD	Average Monthly
07/01/2022	07/31/2022	08/05/2022	Flow	0.007	Monitor and Report	MGD	Average Monthly
08/01/2022	08/31/2022	09/01/2022	Flow	0.007	Monitor and Report	MGD	Average Monthly
09/01/2022	09/30/2022	10/11/2022	Flow	0.007	Monitor and Report	MGD	Average Monthly
10/01/2022	10/31/2022	11/10/2022	Flow	0.007	Monitor and Report	MGD	Average Monthly
11/01/2022	11/30/2022	11/30/2022	Flow	0.007	Monitor and Report	MGD	Average Monthly
12/01/2022	12/31/2022	01/11/2023	Flow	0.006	Monitor and Report	MGD	Average Monthly
01/01/2023	01/31/2023	02/09/2023	Flow	0.008	Monitor and Report	MGD	Average Monthly
02/01/2023	02/28/2023	03/08/2023	Flow	0.006	Monitor and Report	MGD	Average Monthly
03/01/2023	03/31/2023	04/12/2023	Flow	0.006	Monitor and Report	MGD	Average Monthly
04/01/2023	04/30/2023	05/08/2023	Flow	0.007	Monitor and Report	MGD	Average Monthly
05/01/2023	05/31/2023	06/13/2023	Flow	0.006	Monitor and Report	MGD	Average Monthly
06/01/2023	06/30/2023	07/11/2023	Flow	0.006	Monitor and Report	MGD	Average Monthly
07/01/2023	07/31/2023	08/07/2023	Flow	0.008	Monitor and Report	MGD	Average Monthly
08/01/2023	08/31/2023	09/07/2023	Flow	0.007	Monitor and Report	MGD	Average Monthly
09/01/2023	09/30/2023	10/09/2023	Flow	0.006	Monitor and Report	MGD	Average Monthly
10/01/2023	10/31/2023	11/01/2023	Flow	0.007	Monitor and Report	MGD	Average Monthly
11/01/2023	11/30/2023	12/13/2023	Flow	0.006	Monitor and Report	MGD	Average Monthly
12/01/2023	12/31/2023	01/12/2024	Flow	0.006	Monitor and Report	MGD	Average Monthly
01/01/2024	01/31/2024	02/05/2024	Flow	0.007	Monitor and Report	MGD	Average Monthly
02/01/2024	02/29/2024	03/06/2024	Flow	0.008	Monitor and Report	MGD	Average Monthly
03/01/2024	03/31/2024	04/11/2024	Flow	0.006	Monitor and Report	MGD	Average Monthly
04/01/2024	04/30/2024	05/10/2024	Flow	0.008	Monitor and Report	MGD	Average Monthly
05/01/2024	05/31/2024	06/07/2024	Flow	0.007	Monitor and Report	MGD	Average Monthly
06/01/2024	06/30/2024	07/11/2024	Flow	0.006	Monitor and Report	MGD	Average Monthly
07/01/2024	07/31/2024	08/09/2024	Flow	0.007	Monitor and Report	MGD	Average Monthly
08/01/2024	08/31/2024	09/09/2024	Flow	0.006	Monitor and Report	MGD	Average Monthly
09/01/2024	09/30/2024	10/15/2024	Flow	0.007	Monitor and Report	MGD	Average Monthly
10/01/2024	10/31/2024	11/13/2024	Flow	0.007	Monitor and Report	MGD	Average Monthly
11/01/2024	11/30/2024	12/11/2024	Flow	0.006	Monitor and Report	MGD	Average Monthly
12/01/2024	12/31/2024	01/13/2025	Flow	0.007	Monitor and Report	MGD	Average Monthly
01/01/2025	01/31/2025	02/10/2025	Flow	0.006	Monitor and Report	MGD	Average Monthly
02/01/2025	02/28/2025	03/07/2025	Flow	0.005	Monitor and Report	MGD	Average Monthly
03/01/2025	03/31/2025	04/09/2025	Flow	0.004	Monitor and Report	MGD	Average Monthly
			Max	0.0096			
			Average	0.0059			

Monitoring Period Begin Date	Monitoring Period End Date	DMR Received Date	Parameter Name		DMR Value	Permit Limit	Units	Statistical Base Code
06/01/2019	06/30/2019	07/17/2019	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
07/01/2019	07/31/2019	08/19/2019	Aluminum,		0.6	0.75	mg/L	Average Monthly
08/01/2019	08/31/2019	09/04/2019	Aluminum,		1.87	0.75	mg/L	Average Monthly
09/01/2019	09/30/2019	10/21/2019	Aluminum,	<	0.14	0.75	mg/L	Average Monthly
10/01/2019	10/31/2019	11/08/2019	Aluminum,	<	0.16	0.75	mg/L	Average Monthly
11/01/2019	11/30/2019	12/05/2019	Aluminum,	<	0.28	0.75	mg/L	Average Monthly
12/01/2019	12/31/2019	01/13/2020	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
01/01/2020	01/31/2020	02/13/2020	Aluminum,	<	0.11	0.75	mg/L	Average Monthly
02/01/2020	02/29/2020	03/20/2020	Aluminum,	<	0.14	0.75	mg/L	Average Monthly
03/01/2020	03/31/2020	04/21/2020	Aluminum,	<	0.17	0.75	mg/L	Average Monthly
04/01/2020	04/30/2020	05/21/2020	Aluminum,		0.354	0.75	mg/L	Average Monthly
05/01/2020	05/31/2020	06/11/2020	Aluminum,		0.419	0.75	mg/L	Average Monthly
06/01/2020	06/30/2020	07/16/2020	Aluminum,		0.228	0.75	mg/L	Average Monthly
07/01/2020	07/31/2020	08/24/2020	Aluminum,	<	0.40	0.75	mg/L	Average Monthly
08/01/2020	08/31/2020	09/21/2020	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
09/01/2020	09/30/2020	10/13/2020	Aluminum,		0.296	0.75	mg/L	Average Monthly
10/01/2020	10/31/2020	11/12/2020	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
11/01/2020	11/30/2020	12/08/2020	Aluminum,	<	0.12	0.75	mg/L	Average Monthly
12/01/2020	12/31/2020	01/11/2021	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
01/01/2021	01/31/2021	02/09/2021	Aluminum,	<	0.23	0.75	mg/L	Average Monthly
02/01/2021	02/28/2021	03/10/2021	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
03/01/2021	03/31/2021	04/14/2021	Aluminum,	<	0.34	0.75	mg/L	Average Monthly
04/01/2021	04/30/2021	05/20/2021	Aluminum,		0.238	0.75	mg/L	Average Monthly
05/01/2021	05/31/2021	06/10/2021	Aluminum,	<	0.24	0.75	mg/L	Average Monthly
06/01/2021	06/30/2021	07/15/2021	Aluminum,	<	0.22	0.75	mg/L	Average Monthly
07/01/2021	07/31/2021	08/09/2021	Aluminum,	<	0.12	0.75	mg/L	Average Monthly
08/01/2021	08/31/2021	09/20/2021	Aluminum,	<	0.17	0.75	mg/L	Average Monthly
09/01/2021	09/30/2021	10/22/2021	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
10/01/2021	10/31/2021	11/08/2021	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
11/01/2021	11/30/2021	12/01/2021	Aluminum,	<	0.11	0.75	mg/L	Average Monthly
12/01/2021	12/31/2021	01/12/2022	Aluminum,	<	0.30	0.75	mg/L	Average Monthly
01/01/2022	01/31/2022	02/07/2022	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
02/01/2022	02/28/2022	03/14/2022	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
03/01/2022	03/31/2022	04/11/2022	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
04/01/2022	04/30/2022	05/11/2022	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
05/01/2022	05/31/2022	06/08/2022	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
06/01/2022	06/30/2022	07/07/2022	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
07/01/2022	07/31/2022	08/05/2022	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
08/01/2022	08/31/2022	09/01/2022	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
09/01/2022	09/30/2022	10/11/2022	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
10/01/2022	10/31/2022	11/10/2022	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
11/01/2022	11/30/2022	11/30/2022	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
12/01/2022	12/31/2022	01/11/2023	Aluminum,	<	0.14	0.75	mg/L	Average Monthly
01/01/2023	01/31/2023	02/09/2023	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
02/01/2023	02/28/2023	03/08/2023	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
03/01/2023	03/31/2023	04/12/2023	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
04/01/2023	04/30/2023	05/08/2023	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
05/01/2023	05/31/2023	06/13/2023	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
06/01/2023	06/30/2023	07/11/2023	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
07/01/2023	07/31/2023	08/07/2023	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
08/01/2023	08/31/2023	09/07/2023	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
09/01/2023	09/30/2023	10/09/2023	Aluminum,	<	0.13	0.75	mg/L	Average Monthly
10/01/2023	10/31/2023	11/01/2023	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
11/01/2023	11/30/2023	12/13/2023	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
12/01/2023	12/31/2023	01/12/2024	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
01/01/2024	01/31/2024	02/05/2024	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
02/01/2024	02/29/2024	03/06/2024	Aluminum,	<	0.13	0.75	mg/L	Average Monthly
03/01/2024	03/31/2024	04/11/2024	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
04/01/2024	04/30/2024	05/10/2024	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
05/01/2024	05/31/2024	06/07/2024	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
06/01/2024	06/30/2024	07/11/2024	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
07/01/2024	07/31/2024	08/09/2024	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
08/01/2024	08/31/2024	09/09/2024	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
09/01/2024	09/30/2024	10/15/2024	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
10/01/2024	10/31/2024	11/13/2024	Aluminum,	<	0.83	0.75	mg/L	Average Monthly
11/01/2024	11/30/2024	12/11/2024	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
12/01/2024	12/31/2024	01/13/2025	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
01/01/2025	01/31/2025	02/10/2025	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
02/01/2025	02/28/2025	03/07/2025	Aluminum,		0.1685	0.75	mg/L	Average Monthly
03/01/2025	03/31/2025	04/09/2025	Aluminum,	<	0.10	0.75	mg/L	Average Monthly
			Max		1.87			

Monitoring Period Begin Date	Monitoring Period End Date	DMR Received Date	Parameter Name		DMR Value	Permit Limit	Units	Statistical Base Code
06/01/2019	06/30/2019	07/17/2019	Iron, Total		0.0966	1.5	mg/L	Average Monthly
07/01/2019	07/31/2019	08/19/2019	Iron, Total	<	0.022	1.5	mg/L	Average Monthly
08/01/2019	08/31/2019	09/04/2019	Iron, Total	<	0.093	1.5	mg/L	Average Monthly
09/01/2019	09/30/2019	10/21/2019	Iron, Total		0.19	1.5	mg/L	Average Monthly
10/01/2019	10/31/2019	11/08/2019	Iron, Total	<	0.309	1.5	mg/L	Average Monthly
11/01/2019	11/30/2019	12/05/2019	Iron, Total		0.25	1.5	mg/L	Average Monthly
12/01/2019	12/31/2019	01/13/2020	Iron, Total	<	0.26	1.5	mg/L	Average Monthly
01/01/2020	01/31/2020	02/13/2020	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
02/01/2020	02/29/2020	03/20/2020	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
03/01/2020	03/31/2020	04/21/2020	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
04/01/2020	04/30/2020	05/21/2020	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
05/01/2020	05/31/2020	06/11/2020	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
06/01/2020	06/30/2020	07/16/2020	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
07/01/2020	07/31/2020	08/24/2020	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
08/01/2020	08/31/2020	09/21/2020	Iron, Total	<	0.253	1.5	mg/L	Average Monthly
09/01/2020	09/30/2020	10/13/2020	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
10/01/2020	10/31/2020	11/12/2020	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
11/01/2020	11/30/2020	12/08/2020	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
12/01/2020	12/31/2020	01/11/2021	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
01/01/2021	01/31/2021	02/09/2021	Iron, Total	<	0.208	1.5	mg/L	Average Monthly
02/01/2021	02/28/2021	03/10/2021	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
03/01/2021	03/31/2021	04/14/2021	Iron, Total	<	0.364	1.5	mg/L	Average Monthly
04/01/2021	04/30/2021	05/20/2021	Iron, Total	<	0.02	1.5	mg/L	Average Monthly
05/01/2021	05/31/2021	06/10/2021	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
06/01/2021	06/30/2021	07/15/2021	Iron, Total		0.639	1.5	mg/L	Average Monthly
07/01/2021	07/31/2021	08/09/2021	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
08/01/2021	08/31/2021	09/20/2021	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
09/01/2021	09/30/2021	10/22/2021	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
10/01/2021	10/31/2021	11/08/2021	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
11/01/2021	11/30/2021	12/01/2021	Iron, Total		0.5815	1.5	mg/L	Average Monthly
12/01/2021	12/31/2021	01/12/2022	Iron, Total	<	0.9575	1.5	mg/L	Average Monthly
01/01/2022	01/31/2022	02/07/2022	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
02/01/2022	02/28/2022	03/14/2022	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
03/01/2022	03/31/2022	04/11/2022	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
04/01/2022	04/30/2022	05/11/2022	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
05/01/2022	05/31/2022	06/08/2022	Iron, Total	<	0.206	1.5	mg/L	Average Monthly
06/01/2022	06/30/2022	07/07/2022	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
07/01/2022	07/31/2022	08/05/2022	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
08/01/2022	08/31/2022	09/01/2022	Iron, Total	<	0.201	1.5	mg/L	Average Monthly
09/01/2022	09/30/2022	10/11/2022	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
10/01/2022	10/31/2022	11/10/2022	Iron, Total		0.331	1.5	mg/L	Average Monthly
11/01/2022	11/30/2022	11/30/2022	Iron, Total		0.223	1.5	mg/L	Average Monthly
12/01/2022	12/31/2022	01/11/2023	Iron, Total	<	0.715	1.5	mg/L	Average Monthly
01/01/2023	01/31/2023	02/09/2023	Iron, Total	<	0.154	1.5	mg/L	Average Monthly
02/01/2023	02/28/2023	03/08/2023	Iron, Total	<	0.571	1.5	mg/L	Average Monthly
03/01/2023	03/31/2023	04/12/2023	Iron, Total	<	0.208	1.5	mg/L	Average Monthly
04/01/2023	04/30/2023	05/08/2023	Iron, Total		0.304	1.5	mg/L	Average Monthly
05/01/2023	05/31/2023	06/13/2023	Iron, Total		0.396	1.5	mg/L	Average Monthly
06/01/2023	06/30/2023	07/11/2023	Iron, Total		0.378	1.5	mg/L	Average Monthly
07/01/2023	07/31/2023	08/07/2023	Iron, Total	<	0.21	1.5	mg/L	Average Monthly
08/01/2023	08/31/2023	09/07/2023	Iron, Total		0.2	1.5	mg/L	Average Monthly
09/01/2023	09/30/2023	10/09/2023	Iron, Total		0.335	1.5	mg/L	Average Monthly
10/01/2023	10/31/2023	11/01/2023	Iron, Total		0.325	1.5	mg/L	Average Monthly
11/01/2023	11/30/2023	12/13/2023	Iron, Total		0.301	1.5	mg/L	Average Monthly
12/01/2023	12/31/2023	01/12/2024	Iron, Total	<	0.254	1.5	mg/L	Average Monthly
01/01/2024	01/31/2024	02/05/2024	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
02/01/2024	02/29/2024	03/06/2024	Iron, Total		0.282	1.5	mg/L	Average Monthly
03/01/2024	03/31/2024	04/11/2024	Iron, Total	<	0.222	1.5	mg/L	Average Monthly
04/01/2024	04/30/2024	05/10/2024	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
05/01/2024	05/31/2024	06/07/2024	Iron, Total	<	0.207	1.5	mg/L	Average Monthly
06/01/2024	06/30/2024	07/11/2024	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
07/01/2024	07/31/2024	08/09/2024	Iron, Total	<	0.248	1.5	mg/L	Average Monthly
08/01/2024	08/31/2024	09/09/2024	Iron, Total	<	0.65	1.5	mg/L	Average Monthly
09/01/2024	09/30/2024	10/15/2024	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
10/01/2024	10/31/2024	11/13/2024	Iron, Total	<	0.413	1.5	mg/L	Average Monthly
11/01/2024	11/30/2024	12/11/2024	Iron, Total	<	0.249	1.5	mg/L	Average Monthly
12/01/2024	12/31/2024	01/13/2025	Iron, Total	<	0.232	1.5	mg/L	Average Monthly
01/01/2025	01/31/2025	02/10/2025	Iron, Total	<	0.2	1.5	mg/L	Average Monthly
02/01/2025	02/28/2025	03/07/2025	Iron, Total		0.818	1.5	mg/L	Average Monthly
03/01/2025	03/31/2025	04/09/2025	Iron, Total		0.3855	1.5	mg/L	Average Monthly
			Max	<	0.9575			

Monitoring Period Begin Date	Monitoring Period End Date	DMR Received Date	Parameter Name		DMR Value	Permit Limit	Units	Statistical Base Code
06/01/2019	06/30/2019	07/17/2019	Manganese, Total		0.06445	1.0	mg/L	Average Monthly
07/01/2019	07/31/2019	08/19/2019	Manganese, Total	<	0.025	1.0	mg/L	Average Monthly
08/01/2019	08/31/2019	09/04/2019	Manganese, Total	<	0.036	1.0	mg/L	Average Monthly
09/01/2019	09/30/2019	10/21/2019	Manganese, Total		0.08	1.0	mg/L	Average Monthly
10/01/2019	10/31/2019	11/08/2019	Manganese, Total		0.232	1.0	mg/L	Average Monthly
11/01/2019	11/30/2019	12/05/2019	Manganese, Total		0.14	1.0	mg/L	Average Monthly
12/01/2019	12/31/2019	01/13/2020	Manganese, Total	<	0.13	1.0	mg/L	Average Monthly
01/01/2020	01/31/2020	02/13/2020	Manganese, Total	<	0.045	1.0	mg/L	Average Monthly
02/01/2020	02/29/2020	03/20/2020	Manganese, Total	<	0.02	1.0	mg/L	Average Monthly
03/01/2020	03/31/2020	04/21/2020	Manganese, Total	<	0.02	1.0	mg/L	Average Monthly
04/01/2020	04/30/2020	05/21/2020	Manganese, Total	<	0.02	1.0	mg/L	Average Monthly
05/01/2020	05/31/2020	06/11/2020	Manganese, Total	<	0.02	1.0	mg/L	Average Monthly
06/01/2020	06/30/2020	07/16/2020	Manganese, Total	<	0.02	1.0	mg/L	Average Monthly
07/01/2020	07/31/2020	08/24/2020	Manganese, Total	<	0.02	1.0	mg/L	Average Monthly
08/01/2020	08/31/2020	09/21/2020	Manganese, Total	<	0.388	1.0	mg/L	Average Monthly
09/01/2020	09/30/2020	10/13/2020	Manganese, Total	<	0.0592	1.0	mg/L	Average Monthly
10/01/2020	10/31/2020	11/12/2020	Manganese, Total	<	0.0224	1.0	mg/L	Average Monthly
11/01/2020	11/30/2020	12/08/2020	Manganese, Total	<	0.02	1.0	mg/L	Average Monthly
12/01/2020	12/31/2020	01/11/2021	Manganese, Total	<	0.02	1.0	mg/L	Average Monthly
01/01/2021	01/31/2021	02/09/2021	Manganese, Total	<	0.0372	1.0	mg/L	Average Monthly
02/01/2021	02/28/2021	03/10/2021	Manganese, Total	<	0.02	1.0	mg/L	Average Monthly
03/01/2021	03/31/2021	04/14/2021	Manganese, Total	<	0.02	1.0	mg/L	Average Monthly
04/01/2021	04/30/2021	05/20/2021	Manganese, Total	<	0.02	1.0	mg/L	Average Monthly
05/01/2021	05/31/2021	06/10/2021	Manganese, Total	<	0.0238	1.0	mg/L	Average Monthly
06/01/2021	06/30/2021	07/15/2021	Manganese, Total	<	0.0253	1.0	mg/L	Average Monthly
07/01/2021	07/31/2021	08/09/2021	Manganese, Total	<	0.02	1.0	mg/L	Average Monthly
08/01/2021	08/31/2021	09/20/2021	Manganese, Total		0.0543	1.0	mg/L	Average Monthly
09/01/2021	09/30/2021	10/22/2021	Manganese, Total	<	0.03825	1.0	mg/L	Average Monthly
10/01/2021	10/31/2021	11/08/2021	Manganese, Total	<	0.03	1.0	mg/L	Average Monthly
11/01/2021	11/30/2021	12/01/2021	Manganese, Total		0.28	1.0	mg/L	Average Monthly
12/01/2021	12/31/2021	01/12/2022	Manganese, Total		0.452	1.0	mg/L	Average Monthly
01/01/2022	01/31/2022	02/07/2022	Manganese, Total	<	0.02	1.0	mg/L	Average Monthly
02/01/2022	02/28/2022	03/14/2022	Manganese, Total	<	0.02	1.0	mg/L	Average Monthly
03/01/2022	03/31/2022	04/11/2022	Manganese, Total	<	0.02	1.0	mg/L	Average Monthly
04/01/2022	04/30/2022	05/11/2022	Manganese, Total	<	0.02	1.0	mg/L	Average Monthly
05/01/2022	05/31/2022	06/08/2022	Manganese, Total	<	0.079	1.0	mg/L	Average Monthly
06/01/2022	06/30/2022	07/07/2022	Manganese, Total		0.0762	1.0	mg/L	Average Monthly
07/01/2022	07/31/2022	08/05/2022	Manganese, Total	<	0.07075	1.0	mg/L	Average Monthly
08/01/2022	08/31/2022	09/01/2022	Manganese, Total		0.14	1.0	mg/L	Average Monthly
09/01/2022	09/30/2022	10/11/2022	Manganese, Total	<	0.09	1.0	mg/L	Average Monthly
10/01/2022	10/31/2022	11/10/2022	Manganese, Total		0.175	1.0	mg/L	Average Monthly
11/01/2022	11/30/2022	11/30/2022	Manganese, Total	<	0.104	1.0	mg/L	Average Monthly
12/01/2022	12/31/2022	01/11/2023	Manganese, Total		0.2308	1.0	mg/L	Average Monthly
01/01/2023	01/31/2023	02/09/2023	Manganese, Total	<	0.03395	1.0	mg/L	Average Monthly
02/01/2023	02/28/2023	03/08/2023	Manganese, Total	<	0.082	1.0	mg/L	Average Monthly
03/01/2023	03/31/2023	04/12/2023	Manganese, Total	<	0.0429	1.0	mg/L	Average Monthly
04/01/2023	04/30/2023	05/08/2023	Manganese, Total		0.0626	1.0	mg/L	Average Monthly
05/01/2023	05/31/2023	06/13/2023	Manganese, Total		0.1	1.0	mg/L	Average Monthly
06/01/2023	06/30/2023	07/11/2023	Manganese, Total		0.0773	1.0	mg/L	Average Monthly
07/01/2023	07/31/2023	08/07/2023	Manganese, Total		0.0549	1.0	mg/L	Average Monthly
08/01/2023	08/31/2023	09/07/2023	Manganese, Total		0.0456	1.0	mg/L	Average Monthly
09/01/2023	09/30/2023	10/09/2023	Manganese, Total		0.096	1.0	mg/L	Average Monthly
10/01/2023	10/31/2023	11/01/2023	Manganese, Total		0.109	1.0	mg/L	Average Monthly
11/01/2023	11/30/2023	12/13/2023	Manganese, Total		0.114	1.0	mg/L	Average Monthly
12/01/2023	12/31/2023	01/12/2024	Manganese, Total		0.0573	1.0	mg/L	Average Monthly
01/01/2024	01/31/2024	02/05/2024	Manganese, Total	<	0.02	1.0	mg/L	Average Monthly
02/01/2024	02/29/2024	03/06/2024	Manganese, Total		0.1193	1.0	mg/L	Average Monthly
03/01/2024	03/31/2024	04/11/2024	Manganese, Total		0.094	1.0	mg/L	Average Monthly
04/01/2024	04/30/2024	05/10/2024	Manganese, Total		0.0928	1.0	mg/L	Average Monthly
05/01/2024	05/31/2024	06/07/2024	Manganese, Total		0.13	1.0	mg/L	Average Monthly
06/01/2024	06/30/2024	07/11/2024	Manganese, Total		0.097	1.0	mg/L	Average Monthly
07/01/2024	07/31/2024	08/09/2024	Manganese, Total		0.15	1.0	mg/L	Average Monthly
08/01/2024	08/31/2024	09/09/2024	Manganese, Total		0.078	1.0	mg/L	Average Monthly
09/01/2024	09/30/2024	10/15/2024	Manganese, Total		0.173	1.0	mg/L	Average Monthly
10/01/2024	10/31/2024	11/13/2024	Manganese, Total		0.185	1.0	mg/L	Average Monthly
11/01/2024	11/30/2024	12/11/2024	Manganese, Total		0.162	1.0	mg/L	Average Monthly
12/01/2024	12/31/2024	01/13/2025	Manganese, Total		0.107	1.0	mg/L	Average Monthly
01/01/2025	01/31/2025	02/10/2025	Manganese, Total		0.0316	1.0	mg/L	Average Monthly
02/01/2025	02/28/2025	03/07/2025	Manganese, Total		0.213	1.0	mg/L	Average Monthly
03/01/2025	03/31/2025	04/09/2025	Manganese, Total		0.08085	1.0	mg/L	Average Monthly
			Max		0.452			