

Application Type New
 Facility Type Industrial
 Major / Minor Minor

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



Application No. PA0285510
 APS ID 1156404
 Authorization ID 1559157

Applicant and Facility Information

Applicant Name	<u>Nanty Glo Water Authority</u>	Facility Name	<u>Nanty Glo WTP</u>
Applicant Address	<u>1015 1st Street</u> <u>Nanty Glo, PA 15943-1189</u>	Facility Address	<u>1596 Benjamin Franklin Highway</u> <u>Ebensburg, PA 15931</u>
Applicant Contact	<u>Diane Holby</u>	Facility Contact	<u>Tom Williamson</u>
Applicant Phone	<u>(814) 749-8225</u>	Facility Phone	<u>(814) 659-8666</u>
Client ID	<u>26167</u>	Site ID	<u>262439</u>
SIC Code	<u>4941</u>	Municipality	<u>Cambria Township</u>
SIC Description	<u>Water Supply</u>	County	<u>Cambria</u>
Date Application Received	<u>February 3, 2026</u>	EPA Waived?	<u>No</u>
Date Application Accepted	<u>February 18, 2026</u>	If No, Reason	<u>Discharge implementing a TMDL WLA for the first time</u>
Purpose of Application	<u>New NPDES permit</u>		

Summary of Review

The Department received an NPDES permit application for new coverage of the Nanty Glo Water Authority Water Treatment Plant (WTP) on 2/3/2026. Nanty Glo WTP is a potable water treatment plant; the facility flow diagram is shown in Figure 1 on Page 4. The facility previously held NPDES Permit # PA0203807 issued on 5/5/2009 for discharge of wastewater overflow from a settling tank, but this permit was terminated 2/14/2017 following a plant upgrade which repurposed this settling tank as an equalization tank with a parallel plate settler in series to facilitate recycling of wastewater, eliminating the wastewater discharge at the time. Now, another upgrade is being implemented to add a third filter, improving potable water treatment capacity. The increased amount of filter backwash and clarifier flush water from this additional filter necessitates an additional equalization tank and parallel plate settler along with a line that allows Nanty Glo WTP the option to discharge wastewater during unfavorable conditions for wastewater recycling through the WTP like high turbidity events or periods of excessive algae accumulation in the reservoir. So, with this plant upgrade implemented, raw water enters the plant from Williams Run Reservoir, is treated with permanganate, carbon, and algicide at the raw water pumping station, then a polymer and DelPAC (polyaluminum chloride) is added before the water enters one of three of clarification & filtration structures at the plant building, and, following final addition of sodium hypochlorite and caustic, the now finished water is sent to clearwell storage or distribution. Clarifiers are flushed with raw water whereas the filters are backwashed with finished water. Wastewaters from the clarifier flush and filter backwash processes are treated with sodium bisulfite for dechlorination before entering two parallel equalization tanks (total capacity of 80,000 gallons) connected in series to two parallel, parallel plate settlers. From the parallel plate settlers, the supernatant is either recycled to the headworks of the plant or discharged via Outfall 001 to Williams Run. Flushed solids from the parallel plate settling vaults are directed to two absorption beds for disposal. In Attachment A is the approval letter from the EPA Underground Injection Control program for the absorption beds. According to the application, Outfall 001 has a design flow of 0.288 MGD and an average flow of 0.114 MGD. Williams Run has a 25 PA Code Chapter 93 Cold Water Fishes designation and is impaired at Outfall 001 due to flow regime modification from a dam/impoundment.

Approve	Deny	Signatures	Date
X		 Jace W. Marsh / Environmental Engineering Specialist	March 19, 2026
X		 Michael E. Fifth, P.E. / Environmental Engineer Manager	April 1, 2026

Summary of Review

The permittee has seven open violations under the Safe Drinking Water Program, but the Safe Drinking Water Program has confirmed that these should not impact NPDES permit issuance. The last NPDES compliance evaluation inspection at the facility under the prior permit was on 5/11/2015 with no violations noted.

Effluent limits for Outfall 001 in the Draft permit originate from DEP Best Practicable Technology Currently Available (BPT) effluent limits for wastewater from treatment of WTP sludge and filter backwash, the Kiskiminetas-Conemaugh River Watersheds TMDL, the Toxics Management Spreadsheet, and the TRC Model Spreadsheet. Draft permit issuance is recommended.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	<u>001</u>	Design Flow (MGD)	<u>.288</u>
Latitude	<u>40° 29' 57.48"</u>	Longitude	<u>-78° 46' 22.97"</u>
Quad Name	<u>Nanty Glo</u>	Quad Code	<u>1515</u>
Wastewater Description: <u>Treated filter backwash and clarifier flush wastewater from parallel plate settler vaults</u>			
Receiving Waters	<u>Williams Run (CWF)</u>	Stream Code	<u>44648</u>
NHD Com ID	<u>123720829</u>	RMI	<u>1.47</u>
Drainage Area	<u>4.85 mi²</u>	Yield (cfs/mi ²)	<u>0.0790</u>
Q ₇₋₁₀ Flow (cfs)	<u>0.383</u>	Q ₇₋₁₀ Basis	<u>USGS StreamStats</u>
Elevation (ft)	<u>2005</u>	Slope (ft/ft)	<u>0.08 (mean basin slope)</u>
Watershed No.	<u>18-D</u>	Chapter 93 Class.	<u>CWF</u>
Existing Use	<u>n/a</u>	Existing Use Qualifier	<u>n/a</u>
Exceptions to Use	<u>n/a</u>	Exceptions to Criteria	<u>n/a</u>
Assessment Status	<u>Impaired</u>		
Cause(s) of Impairment	<u>Flow Regime Modification</u>		
Source(s) of Impairment	<u>Dam or Impoundment</u>		
TMDL Status	<u>Final, Tentative</u>	Name	<u>Kiskiminetas-Conemaugh River Watersheds TMDL, South Branch Blacklick Creek Watershed</u>
Nearest Downstream Public Water Supply Intake	<u>Buffalo Township Municipal Authority Freeport</u>		
PWS Waters	<u>Allegheny River</u>	Flow at Intake (cfs)	<u>2390</u>
PWS RMI	<u>29.4</u>	Distance from Outfall (mi)	<u>>60</u>

Changes Since Last Permit Issuance: n/a

Other Comments: none

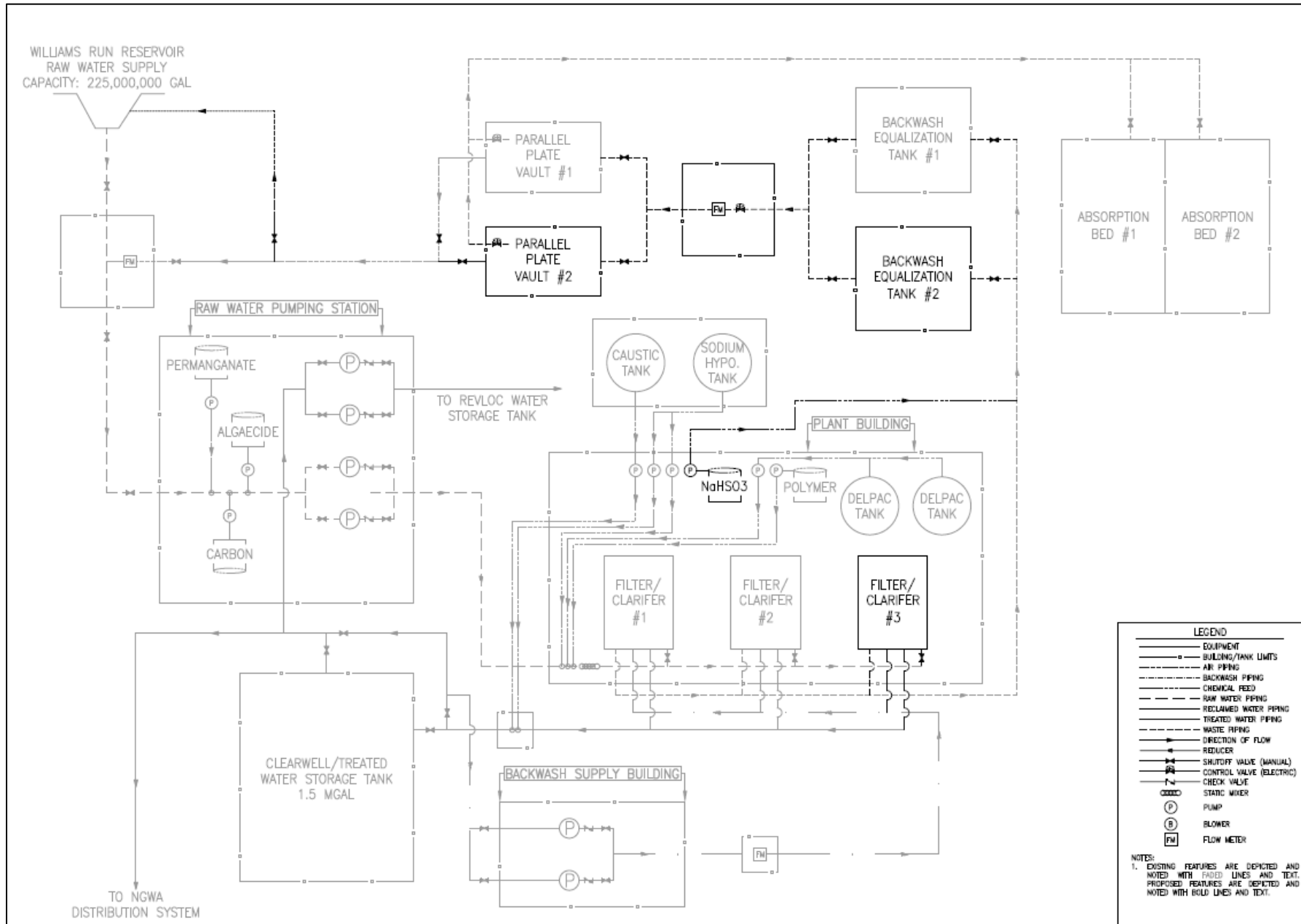


Figure 1. Nanty Glo WTP flow diagram

Development of Effluent Limitations

Outfall No.	001	Design Flow (MGD)	0.288
Latitude	40° 29' 57.48"	Longitude	-78° 46' 22.97"
Wastewater Description: Treated filter backwash and clarifier flush wastewater from parallel plate settler vaults			

001.A. Technology-Based Effluent Limitations (TBEL)

Federal Effluent Limitation Guidelines

Nanty Glo WTP is not subject to Federal Effluent Limitation Guidelines (ELGs).

Regulatory Effluent Standards and Monitoring Requirements

The pH effluent range for all Industrial waste process and non-process discharges pursuant with 25 Pa. Code § 92a.48(a)(2) and 25 Pa. Code § 95.2 is indicated in Table 1 below.

Flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1) as indicated in Table 1 below.

Pursuant to 25 Pa. Code § 95.2(4) effluent standards for industrial wastes may not contain more than 7 mg/L of dissolved iron as indicated in Table 1 below.

Pursuant to 25 Pa. Code § 92a.48(b) the imposition of technology-based Total Residual Chlorine (TRC) limits for facilities that use chlorination and that are not already subject to TRC limits based on applicable federal ELG's or a facility specific BPJ evaluation as indicated in Table 1 below.

Table 1. Regulatory Effluent Standards

Parameter	Monthly Avg	Daily Max	Instantaneous Max, IMAX
Flow (MGD)	Monitor	Monitor	–
Iron, Dissolved	–	–	7.0 mg/L
pH (S.U.)	Wastes must have a pH of not less than 6.0 nor greater than 9.0		
Total Residual Chlorine	0.5 mg/L	–	1.6

Total Dissolved Solids (TDS)

This facility is exempt from 25 Pa. Code § 95.10 which outlines treatment requirements for new and expanding mass loadings of TDS and clarifies which facilities are exempt. Relevant sections to this facility state:

(a) The following are not considered new and expanding mass loadings of TDS and are exempt from the treatment requirements in this section:

(1) Maximum daily discharge loads of TDS or specific conductivity levels that were authorized by the Department prior to August 21, 2010. These discharge loads will be considered existing mass loadings by the Department.

...

(7) New and expanding discharge loadings of TDS equal to or less than 5,000 pounds per day, measured as an average daily discharge over the course of a calendar year, otherwise known as the annual average daily load.

Even though the facility has held a NPDES permit in the past, the facility ceased discharging and permit coverage was terminated. This is a new discharge resulting from facility upgrades. 25 Pa. Code § 95.1(a)(7) provides an exemption. From the NPDES permit application, the maximum reported TDS concentration of 114 mg/L and the maximum reported discharge flowrate of 0.288 MGD are considered in the following calculation:

$$\text{Loading (lbs/day)} = \text{Concentration (mg/L)} \times \text{Flow (MGD)} \times 8.34 \text{ (conversion factor)}$$

$$114 \text{ mg/L} \times 0.288 \text{ MGD} \times 8.34 = 274 \text{ lbs/day} < 5,000 \text{ lbs/day}$$

Best Practicable Control Technology Currently Achievable (BPT)

The Department's reference document *Technology-Based Control Requirements for Water Treatment Plant Wastes* (DEP-ID 362-2183-003) established BPT for discharges of WTPs wastewater, which are shown in Table 2 below.

Table 2. BPT Limits for WTP Filter Backwash Wastewater

Parameter	Monthly Avg (mg/L)	Daily Max (mg/L)
Total Suspended solids (TSS)	30.0	60.0
Total Iron	2.0	4.0
Total Aluminum	4.0	8.0
Total Manganese	1.0	2.0
Flow	Monitor	----
pH (S.U.)	6-9 at all times	
Total Residual Chlorine	0.5	1.0

001.B. Water Quality-Based Effluent Limitations (WQBEL)

Total Maximum Daily Load (TMDL)

Wastewater discharges from the Nanty Glo WTP are located within the Kiskiminetas-Conemaugh River Watersheds for which the Department has developed a TMDL. The TMDL was finalized on January 29, 2010, and establishes waste load allocations for the discharge of aluminum, iron, and manganese within the Kiskiminetas-Conemaugh River Watersheds. Nanty Glo WTP's prior terminated permit, PA0203807, is listed in the Appendix G of the Kiskiminetas-Conemaugh River Watershed TMDL, requiring load allocations, and is displayed below in Table 3. These allocations will remain the same for the new permit number. Section 303(d) of the Clean Water Act and the U.S. Environmental Protection Agency's Water Quality Planning and Management Regulations (codified at Title 40 of the Code of Federal Regulations Part 130) require states to develop a TMDL for impaired water bodies. A TMDL establishes the amount of a pollutant that a water body can assimilate without exceeding the water quality criteria for that pollutant. TMDLs provide the scientific basis for a state to establish water quality-based controls to reduce pollution from both point and non-point sources in order to restore and maintain the quality of the state's water resources (USEPA 1991a). Stream reaches within the Kiskiminetas-Conemaugh River Watersheds are included in the state's 2008 Section 303(d) list because of various impairments, including metals, pH and sediment. The TMDL includes consideration for each river and tributary within the target watershed and its impairment sources. Stream data is then used to calculate minimum pollutant reductions that are necessary to attain water quality criteria levels. Target concentrations published in the TMDL were based on established water quality criteria of 0.750 mg/L total recoverable aluminum, 1.5 mg/L total recoverable iron based on a 30-day average, and 1.0 mg/L total recoverable manganese. The reduction needed to meet the minimum water quality standards is then divided between each known point and non-point pollutant source in the form of a watershed allocation. TMDLs prescribe allocations that minimally achieve water quality criteria (i.e., 100 percent use of a stream's assimilative capacity).

Table 3. Kiskiminetas-Conemaugh River Watershed TMDL PA0203807 Wasteload Allocations

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	4508	PA0203807	001	Aluminum	73	4.00	14	0.75	81
4	4508	PA0203807	001	Iron	37	2.00	27	1.50	25
4	4508	PA0203807	001	Manganese	18	1.00	18	1.00	0

Aluminum: The specific water quality criterion for aluminum is expressed as an acute or maximum daily in 25 Pa. Code Chapter 93.8(c). Discharges of aluminum may only be authorized to the extent that they will not cause or contribute to any violation of the water quality standards. Therefore, the allocated concentration is imposed as a maximum daily effluent limit (MDL). Whenever the most stringent criterion is selected for the MDL, the Department should also impose an average monthly limit (AML) and instantaneous maximum limit (IMAX) if applicable. The imposition of an AML that is

more stringent than the MDL is typically not appropriate because the water quality concerns have already been fully addressed by setting the MDL equal to the most stringent applicable criterion. Therefore, where the MDL is set at the value of the most stringent applicable criterion, the AML should be set equal to the MDL. Accordingly, TMDL aluminum limits are proposed for Outfall 001 at 0.75 mg/L for both the AML and MDL.

Iron: The specific water quality criterion for iron is expressed as a 30-day average of 1.5 mg/L in 25 Pa. Code § 93.7(a). The criterion is based on the protection of aquatic life and is associated with chronic exposure. There are no other criteria for total iron. Since the duration of the total iron criterion coincides with the 30-day duration of the AML, the 30-day average criterion for total iron is set equal to the AML. In addition, because the total iron criterion is associated with chronic exposure, the MDL (representing acute exposure) and the IMAX may be made less stringent according to established procedures described in Section III.C.3.h on Page 13 of the Water Quality Toxics Management Strategy (Doc. # 361-0100-003). These procedures state that a MDL and IMAX may be set at 2 times and 2.5 times the AML, respectively, or there is the option to use multipliers from EPA's Technical Support Document for Water Quality-based Toxics Control, if data are available to support the use of alternative multipliers. The 2x multiplier was chosen for the MDL. Accordingly, TMDL iron limits are proposed for Outfall 001 at 1.5 mg/L for the AML and 3.0 mg/L for the MDL.

Manganese: The specific water quality criterion for manganese is expressed as an acute or maximum daily of 1.0 mg/L in 25 Pa. Code § 93.7(a). The criterion is based on the protection of human health and is associated with chronic exposure associated with a potable water supply. Since no duration is given in Chapter 93 for the manganese criterion, a duration of 30 days is used based on the water quality criteria duration for Threshold Human Health (THH) criteria given in Section III.C.3.a., Table 1 on Page 10 of DEP's Water Quality Toxics Management Strategy. The 30-day duration for THH criteria coincides with the 30-day duration of an AML, which is why the manganese criterion is set equal to the AML for a "permitting at criteria" scenario. Because the manganese criterion is interpreted as having chronic exposure, the manganese MDL may be made less stringent according to procedures explained in the "Iron" section above. Accordingly, TMDL manganese limits are proposed for Outfall 001 at 1.0 mg/L for the AML and 2.0 mg/L for the MDL.

Table 4. TMDL Limits for Outfall 001

Parameter	Monthly Average (mg/L)	Daily Max (mg/L)
Total Aluminum	0.75	0.75
Total Iron	1.5	3.0
Total Manganese	1.0	2.0

Toxics Management Spreadsheet

The Department of Environmental Protection has developed the DEP Toxics Management Spreadsheet ("TMS") to facilitate calculations necessary for completing a reasonable potential (RP) analysis and determining water quality-based effluent limitations for discharges of toxic pollutants. The TMS is a macro-enabled Excel binary file that combines the functions of the PENTOXSD model and the Toxics Screening Analysis spreadsheet to evaluate the reasonable potential for discharges to cause excursions above water quality standards and to determine WQBELs. The TMS is a single discharge, mass-balance water quality calculation spread sheet that includes consideration for mixing, first-order decay and other factors to determine recommended WQBELs for toxic substances and several non-toxic substances. Required input data including stream code, river mile index, elevation, drainage area, discharge name, NPDES permit number, discharge flow rate and the discharge concentrations for parameters in the permit application or in DMRs, which are entered into the spread sheet to establish site-specific discharge conditions. Other data such as low flow yield, reach dimensions and partial mix factors may also be entered to further characterize the conditions of the discharge and receiving water. Discharge concentrations for the parameters are chosen to represent the "worst case" quality of the discharge (i.e., maximum reported discharge concentrations). The spread sheet then evaluates each parameter by computing a Waste Load Allocation for each applicable criterion, determining a recommended maximum WQBEL and comparing that recommended WQBEL with the input discharge concentration to determine which is more stringent. Based on this evaluation, the TMS recommends average monthly and maximum daily WQBELs.

Reasonable Potential Analysis and WQBEL Development for Outfall 001

Discharges from Outfall 001 are evaluated based on concentrations reported on the application and on DMRs; data from those sources are entered into the TMS. The maximum reported value of the parameters from the application form or from previous DMRs is used as the input concentration in the TMS. All 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

considered to be pollutants of concern. This includes pollutants reported as "Not Detectable" or as "<MDL" where the method detection limit for the analytical method used by the applicant is greater than the most stringent water quality criterion. The TMS is run with the discharge and receiving stream characteristics shown in Table 5. Pollutants for which water quality standards have not been promulgated (e.g., TSS, oil and grease) are excluded from the analysis. All the parameters are evaluated using the model to determine the water quality-based effluent limits applicable to the discharge and the receiving stream. The spreadsheet then compares the reported discharge concentrations to the calculated water quality-based effluent limitations to determine if a reasonable potential exists to exceed the calculated WQBELs. Effluent limitations are established in the draft permit where a pollutant's maximum reported discharge concentration equals or exceeds 50% of the WQBEL. For non-conservative pollutants, monitoring requirements are established where the maximum reported concentration is between 25% - 50% of the WQBEL. For conservative pollutants, monitoring requirements are established where the maximum reported concentration is between 10% - 50% of the WQBEL.

Taken from the application, an average discharge flow of 0.114 MGD was used for modeling. Effluent limitations recommended by the TMS are shown in Table 6. The Output from the TMS is included in Attachment C. The site received these WQBELs due to detections in the sample analysis, not the quantitation limits (QLs) used as can sometimes be the case.

Table 5. TMS Inputs for Outfall 001

Discharge Information	
Parameter	Value
River Mile Index	1.47
Discharge Flow (MGD)	0.114
Basin/Stream Information	
Parameter	Value
Drainage Area (mi ²)	4.85
Q ₇₋₁₀ (cfs)	0.383
Low-flow yield (cfs/mi ²)	0.079
Elevation (ft)	2005

Table 6. WQBELs from TMS

Parameter	Monthly Avg (ug/L)	Daily Max (ug/L)	IMAX (ug/L)
Total Aluminum	1,525	2,379	3,813
Total Iron	Report	Report	Report
Total Copper	Report	Report	Report
Total Lead	Report	Report	Report
Total Manganese	Report	Report	Report

Total Residual Chlorine

To determine if WQBELs are required for discharges containing total residual chlorine (TRC), a discharge evaluation is performed using a DEP program called TRC_CALC created with Microsoft Excel for Windows. TRC_CALC calculates TRC Waste Load Allocations (WLAs) through the application of a mass balance model which considers TRC losses due to stream and discharge chlorine demands and first-order chlorine decay. Input values for the program include flow rates and discharge chlorine demands for the receiving stream, the number of samples taken per month, coefficients of TRC variability, partial mix factors, and an optional factor of safety. The mass balance model calculates WLAs for acute and chronic criteria that are then converted to long term averages using calculated multipliers. The multipliers are functions of the number of samples taken per month and the TRC variability coefficients (normally kept at default values unless site specific information is available). The most stringent limitation between the acute and chronic long-term averages is converted to an average monthly limit for comparison to the BAT average monthly limit of 0.5 mg/L from 25 Pa. Code § 92a.48(b)(2). The more stringent of these average monthly TRC limitations is then proposed. The results of the modeling, included in Attachment D, indicate that an average monthly limit of 0.456 mg/L and an instantaneous maximum (IMAX) limit of 1.068 mg/L are required for TRC.

Table 7. TRC limits from TRC_CALC

Parameter	Monthly Average (mg/L)	IMAX (mg/L)
Total Residual Chlorine	0.456	1.068

001.C. Anti-Backsliding

This facility has not held prior permit coverage so anti-backsliding does not apply.

001.D. Proposed Effluent Limitations and Monitoring Requirements

Effluent limits applicable at Outfall 001 are the more stringent of TBELs, WQBELs, regulatory effluent standards, and monitoring requirements as summarized in Table 8.

Table 8. Effluent limits and monitoring requirements for Outfall 001

Parameter	Mass (pounds)		Concentration (mg/L)			Samples	
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant. Maximum	Frequency	Sample Type
Flow (MGD)	Report	Report	—	—	—	2/month	Measure
Total Residual Chlorine	—	—	0.456	1.0	1.068	2/month	Grab
Total Suspended Solids	—	—	30.0	60.0	—	2/month	Grab
Total Aluminum	—	—	0.75	0.75	3.813	2/month	Grab
Total Iron	—	—	1.5	3.0	—	2/month	Grab
Total Manganese	—	—	1.0	2.0	—	2/month	Grab
Total Copper	—	—	Report	Report	—	2/month	Grab
Total Lead	—	—	Report	Report	—	2/month	Grab
pH (S.U.)	—	—	6.0-9.0 at all times			—	Grab

Tools and References Used to Develop Permit	
<input type="checkbox"/>	WQM for Windows Model (see Attachment [REDACTED])
<input checked="" type="checkbox"/>	Toxics Management Spreadsheet (see Attachment C)
<input checked="" type="checkbox"/>	TRC Model Spreadsheet (see Attachment D)
<input type="checkbox"/>	Temperature Model Spreadsheet (see Attachment [REDACTED])
<input checked="" type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
<input type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 386-2000-002, 9/08.
<input type="checkbox"/>	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
<input type="checkbox"/>	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
<input type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
<input type="checkbox"/>	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
<input type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
<input type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
<input type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
<input type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
<input type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Design Stream Flows, 386-2000-003, 9/98.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
<input type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input checked="" type="checkbox"/>	SOP: Establishing Effluent Limits for Individual Industrial Permits (BCW-PMT-032)
<input checked="" type="checkbox"/>	Other: USGS StreamStats (see Attachment B)

**Attachment A:
Absorption Bed Approval Letter**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Wheeling Field Office
1060 Chapline Street
Wheeling, West Virginia 26003

May 20, 2015

Mr. Brian D. Shura, P.E.
Stiffler-McGraw & Associates, Inc.
1731 N. Juniata Street
Hollidaysburg, Pennsylvania 16648

Re: Nanty Glo Authority Water Treatment Plant
1596 Ben Franklin Highway
Ebensburg, Cambria County, Pennsylvania

Dear Mr. Shura:

We have received correspondence from you dated May 14, 2015 regarding the proposed water treatment plant filtration system upgrades and subsurface discharge at the referenced facility. **Non-sanitary wastewater discharges to the subsurface through an infiltration system or other shallow injection well are subject to the requirements of the Underground Injection Control (UIC) program.** The UIC program is administered by the Environmental Protection Agency (EPA) in the Commonwealth of Pennsylvania.

Based upon our understanding of the operation in general and the proposed contents of the filter backwash discharge to the subsurface specifically, we feel that the facility poses minimal potential to adversely impact ground water. For this reason you may proceed with the construction and operation of the subsurface filtration backwash waste water discharge system.

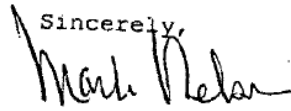
EPA approval is based upon the characteristics of the discharge and does not include an evaluation of the local soil conditions influencing the recharge of the fluids. EPA approval does not preclude the need for you to comply with any other applicable state or local requirements.

*Printed on 100% recycled/recyclable paper with 100% post-consumer fiber and process chlorine free.
Customer Service Hotline: 1-800-438-2474*



The facility has been added to our inventory of shallow injection wells. The UIC program prohibits the subsurface emplacement of fluids which have the potential to adversely impact underground sources of drinking water.

We appreciate your cooperation in these matters and the opportunity to address these issues with you. Please contact me at (304) 234-0286 with any questions.

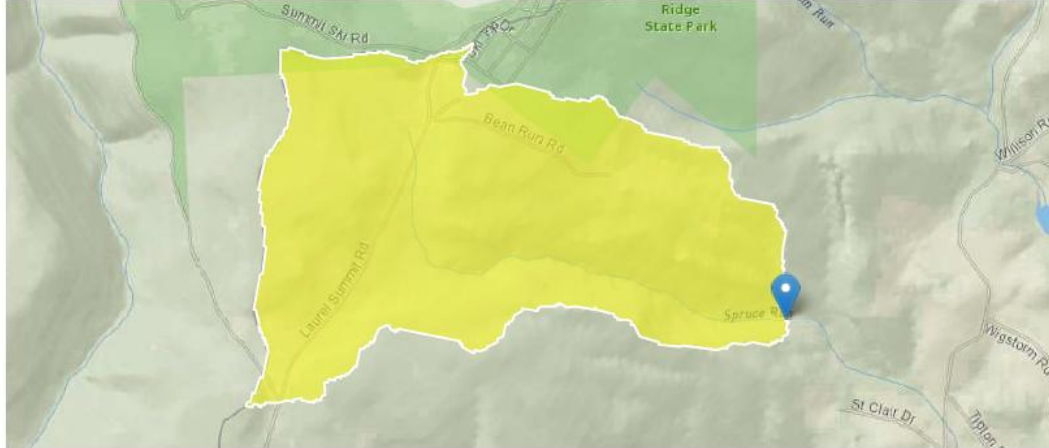
Sincerely,


Mark Nelson, Hydrologist
Water Protection Division

Attachment B: USGS StreamStats at Point of Discharge

PA0255483 Gray Area Water Authority WTP StreamStats Report

Region ID: PA
 Workspace ID: PA20240417123800537000
 Clicked Point (Latitude, Longitude): 40.14526, -79.12253
 Time: 2024-04-17 08:38:22 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	4.916	degrees
DRNAREA	Area that drains to a point on a stream	2.07	square miles
ELEV	Mean Basin Elevation	2571	feet
PRECIP	Mean Annual Precipitation	45	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	2.07	square miles	2.33	1720
ELEV	Mean Basin Elevation	2571	feet	898	2700
PRECIP	Mean Annual Precipitation	45	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	0.344	ft ³ /s
30 Day 2 Year Low Flow	0.491	ft ³ /s
7 Day 10 Year Low Flow	0.153	ft ³ /s
30 Day 10 Year Low Flow	0.2	ft ³ /s
90 Day 10 Year Low Flow	0.294	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/>)

Attachment C: Toxics Management Spreadsheet



Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions **Discharge** Stream

Facility: **Nanty Glo WTP** NPDES Permit No.: **PA0285510** Outfall No.: **001**
 Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **IW Process Effluent without ELG**

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 _n
0.114	28.7	7.12						

Discharge Pollutant	Units	Max Discharge Conc	0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
			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	114								
	Chloride (PWS)	mg/L	11.9								
	Bromide	mg/L	0.011								
	Sulfate (PWS)	mg/L	11.1								
	Fluoride (PWS)	mg/L									
Group 2	Total Aluminum	µg/L	4220								
	Total Antimony	µg/L	< 0.172								
	Total Arsenic	µg/L	< 1.8								
	Total Barium	µg/L	52.4								
	Total Beryllium	µg/L	< 0.135								
	Total Boron	mg/L	< 0.0238								
	Total Cadmium	µg/L	< 0.114								
	Total Chromium (III)	mg/L	< 0.00199								
	Hexavalent Chromium	µg/L	0.61								
	Total Cobalt	µg/L	0.34								
	Total Copper	µg/L	7.27								
	Free Cyanide	µg/L									
	Total Cyanide	mg/L	< 0.005								
	Dissolved Iron	µg/L	< 18								
	Total Iron	µg/L	1080								
	Total Lead	µg/L	0.972								
	Total Manganese	µg/L	384								
	Total Mercury	mg/L	< 0.0000932								
	Total Nickel	µg/L	1.46								
	Total Phenols (Phenolics) (PWS)	mg/L	0.00322								
Total Selenium	µg/L	< 0.335									
Total Silver	µg/L	< 0.096									
Total Thallium	µg/L	< 0.03									
Total Zinc	µg/L	5									
Total Molybdenum	µg/L	0.11									
Acrolein	µg/L	<									
Acrylamide	µg/L	<									
Acrylonitrile	µg/L	<									
Benzene	µg/L	<									
Bromoform	µg/L	<									
Carbon Tetrachloride	µg/L	<									

Stream / Surface Water Information

Nanty Glo WTP, NPDES Permit No. PA0285510, Outfall 001

Instructions **Discharge** Stream

Receiving Surface Water Name: Williams Run 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	044648	1.47	2005	4.85			Yes
End of Reach 1	044648	1.46	2004	4.86			Yes

Q₇₋₁₀

Location	RMI	LFY (cfs/mi ²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	1.47	0.079										100	7		
End of Reach 1	1.46	0.079													

Q_h

Location	RMI	LFY (cfs/mi ²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	1.47														
End of Reach 1	1.46														

Model Results

Nanty Glo WTP, NPDES Permit No. PA0285510, Outfall 001

Instructions **Results**

RETURN TO INPUTS SAVE AS PDF PRINT All Inputs Results Limits

Hydrodynamics

Wasteload Allocations

AFC CCT (min): 1.429 PMF: 1 Analysis Hardness (mg/l): 77.526 Analysis pH: 7.03

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	
Total Aluminum	0	0		0	750	750	2,379	
Total Antimony	0	0		0	1,100	1,100	3,490	
Total Arsenic	0	0		0	340	340	1,079	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	66,624	
Total Boron	0	0		0	8,100	8,100	25,698	
Total Cadmium	0	0		0	1,572	1.85	5.22	Chem Translator of 0.955 applied
Total Chromium (III)	0	0		0	462.543	1,464	4,644	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	51.7	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	301	
Total Copper	0	0		0	10.573	11.0	34.9	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	48.896	59.0	187	Chem Translator of 0.828 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1,400	1.85	5.23	Chem Translator of 0.85 applied
Total Nickel	0	0		0	377.518	378	1,200	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	2.076	2.44	7.75	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	206	
Total Zinc	0	0		0	94.446	96.6	306	Chem Translator of 0.978 applied

CFC CCT (min): 1.429 PMF: 1 Analysis Hardness (mg/l): 77.526 Analysis pH: 7.03

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	698	
Total Arsenic	0	0		0	150	150	476	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	13,008	
Total Boron	0	0		0	1,600	1,600	5,078	
Total Cadmium	0	0		0	0.208	0.22	0.71	Chem Translator of 0.92 applied
Total Chromium (III)	0	0		0	60.167	70.0	222	Chem Translator of 0.88 applied
Hexavalent Chromium	0	0		0	10	10.4	33.0	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	60.3	
Total Copper	0	0		0	7.205	7.51	23.8	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	4,759	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	1.905	2.3	7.3	Chem Translator of 0.828 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	2.87	Chem Translator of 0.85 applied
Total Nickel	0	0		0	41.931	42.1	133	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	15.8	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	41.2	
Total Zinc	0	0		0	95.219	96.6	306	Chem Translator of 0.986 applied

THH CCT (min): PMF: Analysis Hardness (mg/l): Analysis pH:

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	17.8	
Total Arsenic	0	0		0	10	10.0	31.7	
Total Barium	0	0		0	2,400	2,400	7,614	
Total Boron	0	0		0	3,100	3,100	9,835	
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	952	
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	3,173	
Total Mercury	0	0		0	0.050	0.05	0.16	
Total Nickel	0	0		0	610	610	1,935	
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	0.76	
Total Zinc	0	0		0	N/A	N/A	N/A	

CRL CCT (min): PMF: Analysis Hardness (mg/l): Analysis pH:

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
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:

Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			
Total Aluminum	1.45	2.28	1,525	2,379	3,813	µg/L	1,525	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Copper	Report	Report	Report	Report	Report	µg/L	22.4	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Iron	Report	Report	Report	Report	Report	µg/L	4,759	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Lead	Report	Report	Report	Report	Report	µg/L	7.3	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Manganese	Report	Report	Report	Report	Report	µg/L	3,173	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
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	7,614	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	5.08	mg/L	Discharge Conc < TQL
Total Cadmium	0.71	µg/L	Discharge Conc < TQL
Total Chromium (III)	0.22	mg/L	Discharge Conc < TQL
Hexavalent Chromium	33.0	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	60.3	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	952	µg/L	Discharge Conc < TQL
Total Mercury	0.0002	mg/L	Discharge Conc < TQL
Total Nickel	133	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		mg/L	PWS Not Applicable
Total Selenium	15.8	µg/L	Discharge Conc < TQL
Total Silver	4.97	µg/L	Discharge Conc < TQL
Total Thallium	0.76	µg/L	Discharge Conc < TQL
Total Zinc	196	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS

Attachment D:
TRC Model Spreadsheet

TRC EVALUATION				
Input appropriate values in A3:A9 and D3:D9				
0.383	= Q stream (cfs)	0.5	= CV Daily	
0.114	= Q discharge (MGD)	0.5	= CV Hourly	
4	= no. samples	1	= AFC_Partial Mix Factor	
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor	
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)	
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)	
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)	
Source	Reference	AFC Calculations		Reference CFC Calculations
TRC	1.3.2.iii	WLA_afc = 0.712		1.3.2.iii WLA_cfc = 0.686
PENTOXSD TRG	5.1a	LTAMULT_afc = 0.373		5.1c LTAMULT_cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc = 0.265		5.1d LTA_cfc = 0.399
Source	Effluent Limit Calculations			
PENTOXSD TRG	5.1f	AML_MULT = 1.720		
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.456		AFC
		INST MAX LIMIT (mg/l) = 1.068		
WLA_afc	$(.019/e^{-k \cdot AFC_tc}) + [(AFC_Yc \cdot Qs \cdot .019 / Qd \cdot e^{-k \cdot AFC_tc}) \dots + Xd + (AFC_Yc \cdot Qs \cdot Xs / Qd)] \cdot (1 - FOS / 100)$			
LTAMULT_afc	$EXP((0.5 \cdot LN(cvh^2 + 1)) - 2.326 \cdot LN(cvh^2 + 1)^{0.5})$			
LTA_afc	wla_afc * LTAMULT_afc			
WLA_cfc	$(.011/e^{-k \cdot CFC_tc}) + [(CFC_Yc \cdot Qs \cdot .011 / Qd \cdot e^{-k \cdot CFC_tc}) \dots + Xd + (CFC_Yc \cdot Qs \cdot Xs / Qd)] \cdot (1 - FOS / 100)$			
LTAMULT_cfc	$EXP((0.5 \cdot LN(cvd^2 / no_samples + 1)) - 2.326 \cdot LN(cvd^2 / no_samples + 1)^{0.5})$			
LTA_cfc	wla_cfc * LTAMULT_cfc			
AML_MULT	$EXP(2.326 \cdot LN((cvd^2 / no_samples + 1)^{0.5}) - 0.5 \cdot LN(cvd^2 / no_samples + 1))$			
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)			