pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0216739**
Facility Type	**Industrial**	APS ID	**1090142**
Major / Minor	**Minor**	Authorization ID	**1442776**

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

Applicant and Facility Information

Applicant Name	**ATI Flat Rolled Products Holdings LLC**	Facility Name	**Route 356 Landfill**
Applicant Address	100 River Road	Facility Address	Route 356
	Brackenridge, PA 15014-1537		Freeport, PA 16229-1512
Applicant Contact	Deborah Calderazzo	Facility Contact	Deborah Calderazzo
Applicant Phone	(724) 266-5543	Facility Phone	(724) 266-5543
Client ID	332685	Site ID	63149
SIC Code	4953	Municipality	Allegheny Township
SIC Description	Refuse Systems	County	Westmoreland
Date Application Received	May 31, 2023	EPA Waived?	Yes
Date Application Accepted	November 07, 2023	If No, Reason	

Purpose of Application: To renew NPDES permit coverage for PA0216739.

Summary of Review

On May 31, 2023, the Department received a timely NPDES permit renewal application from Allegheny Ludlum, LLC for the Route 356 Captive Residual Waste Landfill Water Treatment Facility located in Allegheny Township of Westmoreland County. The facility's industrial activities are classified under SIC Code 4953 – Refuse Systems.

The facility is a leachate treatment plant for the closed captive residual waste landfill. Onsite treated landfill leachate and underdrain water are discharged to an unnamed tributary of the Allegheny River. The landfill leachate is contaminated with various pollutants including oil and grease, hexavalent chromium, trivalent chromium, aluminum, iron and molybdenum.

The old underdrain Outfall 001 was contaminated with oil during operations. The flow generated by this underdrain outfall is directed to the oil and grease separator prior to entering the leachate pond. The flowrate from this underdrain outfall has declined to barely a trickle now. Landfill leachate is collected/stored in a 440,000-gallon, double layer synthetic liner system, holding pond until the volume is adequate to commence a batch treatment cycle. The system is designed to treat up to 75 gallons per minute (typical flow rate is 30 – 50 gpm) of wastewater. The facility has two methods of handling the leachate. Method one is loading trucks and hauling the leachate to an off-site treatment facility. The second and preferred method is the on-site treatment plant. The on-site treatment is achieved in three stages. Leachate from the landfill underdrains (including former Outfalls 002 and 003) enter the treatment system with a typical pH of 10+ S.U. Sulfuric acid is added to decrease the pH to 2.5 S.U. This facilitates the precipitation of hexavalent chromium. During the second phase, the pH is neutralized to approximately 6.8 S.U. through the addition of sodium hydroxide. This facilitates the removal of additional metals including molybdenum, nickel, aluminum, and iron. Lastly, flocculent is added to promote settling. Sludge collected during the treatment process is stored in a holding tank until the volume is adequate for disposal. The treatment system is operated by McKutcheon Enterprises with personnel onsite daily.

Approve	Deny	Signatures	Date
X		Curtis Holes, P.E. / Environmental Engineer	November 7, 2023
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	December 12, 2023

Summary of Review

Residual waste disposal must meet solid waste regulations.

Part C language in the draft permit provides controls on floating solids, chemical additives, residual solids, Total Residual Chlorine and Sedimentation Basin Cleaning.

The client has no open violations with the Clean Water Program.

It is recommended that a draft permit be published for public comment in response to this application.

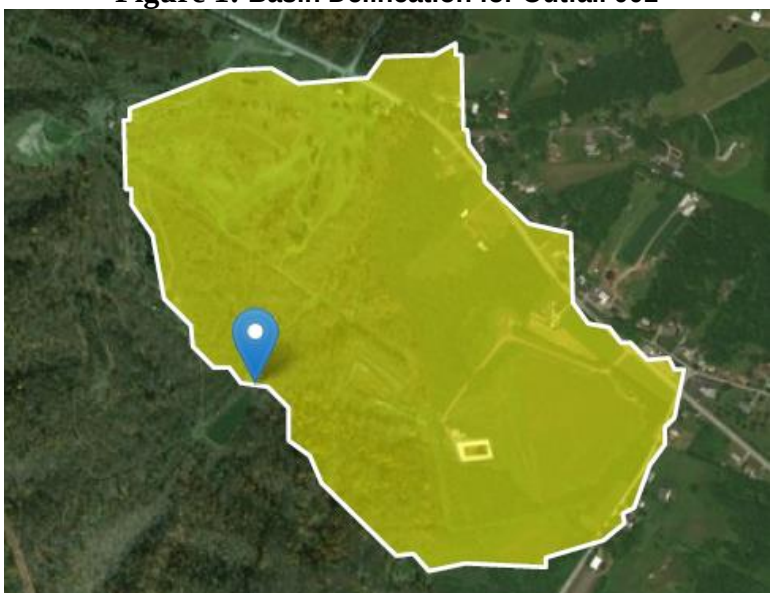
Public Participation

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

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.008
Latitude	40º 39' 17"	Longitude	-79º 40' 26"
Quad Name	Freeport	Quad Code	1308
Wastewater Description:	Treated landfill leachate from a closed captive residual waste landfill.		
Receiving Waters	UNT to Allegheny River (WWF)	Stream Code	42553
NHD Com ID	123971668	RMI	0.663
Drainage Area	0.24 mi^2	Yield (cfs/mi^2)	0.0057
Q_{7-10} Flow (cfs)	0.00137	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1020	Slope (ft/ft)	0.05
Watershed No.	18-A	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use	None	Exceptions to Criteria	None
Nearest Downstream Public Water Supply Intake		Harrison Township Water Authority (4 MGD)	
PWS Waters	Allegheny River	Flow at Intake (cfs)	2,390
PWS RMI	24.52	Distance from Outfall (mi)	2.94

Changes Since Last Permit Issuance: None

Figure 1: Basin Delineation for Outfall 001



Compliance History	
Summary of DMRs:	No exceedances with permit effluent limits.
Summary of Inspections:	The last inspection conducted by the Department was on September 30, 2021 by Zachary Flannigan with no violations noted.

Other Comments: **None**

Compliance History

DMR Data for Outfall 001 (from August 1, 2022 to June 30, 2023)

Parameter	Limit	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22	SEP-22	AUG-22
Flow (MGD) Average Monthly	**Report**	0.003	0.003	0.009	0.009	0.007	0.014	0.005	0.004	0.002	0.004	0.025
Flow (MGD) Daily Maximum	**Report**	0.018	0.018	0.028	0.023	0.02	0.023	0.038	0.02	0.005	0.006	0.049
pH (S.U.) Daily Minimum	**6.0**	6.5	6.2	6.3	7.2	6.2	6.2	6.3	6.2	6.3	6.3	6.2
pH (S.U.) Daily Maximum	**9.0**	6.9	6.7	6.9	8.0	6.8	6.7	6.6	6.4	6.7	6.7	6.5
TSS (mg/L) Average Monthly	**10.0**	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
TSS (mg/L) Daily Maximum	**20.0**	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	5.0	< 4.0
Oil and Grease (mg/L) Average Monthly	**15.0**	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Oil and Grease (mg/L) Daily Maximum	**30.3**	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Total Aluminum (mg/L) Average Monthly	**0.5**	< 0.04	< 0.04	< 0.06	< 0.04	< 0.04	0.06	0.1	0.06	< 0.04	< 0.04	< 0.04
Total Aluminum (mg/L) Daily Maximum	**1.0**	0.04	< 0.04	0.2	< 0.04	< 0.04	0.07	0.1	0.08	< 0.04	< 0.04	< 0.04
Hexavalent Chromium (mg/L) Average Monthly	**0.011**	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Hexavalent Chromium (mg/L) Daily Maximum	**0.018**	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Iron (mg/L) Average Monthly	**1.5**	1.26	0.29	< 0.17	0.4	0.4	0.6	0.5	0.7	0.5	0.9	0.5
Total Iron (mg/L) Daily Maximum	**3.0**	1.77	0.55	0.4	0.5	0.6	0.86	0.8	1.6	0.65	2.2	0.6
Total Molybdenum (mg/L) Average Monthly	**0.18**	0.12	0.10	< 0.11	0.16	0.09	0.09	< 0.04	< 0.04	0.05	0.08	0.05
Total Molybdenum (mg/L) Daily Maximum	**0.36**	0.15	0.14	0.18	0.18	0.15	0.22	< 0.04	0.06	0.09	0.12	0.11

Compliance History

DMR Data for Outfall 001 (from August 1, 2022 to June 30, 2023)

Parameter	Limit	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22	SEP-22	AUG-22
Total Nickel (mg/L) Average Monthly	**0.054**	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Total Nickel (mg/L) Daily Maximum	**0.11**	< 0.040	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04

Development of Effluent Limitations

Outfall No.	001	**Design Flow (MGD)**	0.008
Latitude	40º 39' 17"	**Longitude**	-79º 40' 26"

Wastewater Description: Treated landfill leachate from a closed captive residual waste landfill.

Technology-Based Limitations

Federal involvement in the regulation of wastes from water treatment plants began with the enactment of the 1965 amendments to the Federal Water Pollution Control Act (PL 84-660). These amendments required states to initiate water quality standards for interstate waters and gave states additional authority to require control/treatment of wastes from sewage and industrial discharges (including water treatment plants).

The primary objective of such Technology-Based Effluent Limitations (TBEL) is to decrease the total pollution load to all streams, while dealing equitably with discharges in each class or category.

TBELs should not be looked at from the viewpoint of whether they will or will not protect the water quality; rather they should be considered as the baseline for decreasing pollution with more stringent requirements being imposed as needed to protect the water quality of a receiving stream.

The Route 356 Landfill is a closed captive landfill with no other industrial activities at the site and not subject to Federal Effluent Limitation Guidelines (ELGs) as SIC Code 4953 is not listed under 40 CFR 445. When a facility is not captured by a Federal ELG, TBELs are then developed on a case-by-case- basis using Best Professional Judgement (BPJ).

Regulatory Effluent Standards and Monitoring Requirements

The pH effluent range for all Industrial waste process and non-process discharges pursuant of 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) and 25 Pa. Code § 95.2(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.

The facility does not use chlorination for treatment of the landfill leachate, therefore, no TRC limits are proposed.

Pursuant to 25 Pa. Code § 95.2(ii) effluent standards for Oil and Grease are indicated in Table 1 below.

The previous permit contained effluent limitations on TSS, Total Aluminum, Total Molybdenum, Hexavalent Chromium, Total Nickel, and Total Iron as indicated in Table 1 below.

Table 1: TBELs

Parameter	Monthly Avg.	Daily Max	Units
Flow	Monitor/Report		MGD
Iron (Dissolved)	1.5	3.0	mg/L
pH	6.0 – 9.0 at all times		S.U.
Total Aluminum	0.5	1.0	mg/L
Hexavalent Chromium	0.011	0.018	mg/L
Oil and Grease	15.0	30.0	mg/L
Total Molybdenum	0.18	0.36	mg/L
TSS	10.0	20.0	mg/L
Total Nickel	0.054	0.11	mg/L

Integral to the implementation of 25 Pa. Code § 95.10 is the principle that existing, authorized mass loadings of TDS are exempt from any treatment requirements under these provisions. Existing mass loadings of TDS up to and including the

maximum daily discharge loading for any existing discharge, provided that the loading was authorized prior to August 21, 2010 are exempt. Discharge loadings of TDS authorized by the Department are typically exempt from the treatment requirements of Chapter 95.10 until the net TDS loading is increased, an existing discharge proposes a hydraulic expansion or a change in the waste stream quality. If there are existing mass or production-based TDS effluent limits, then these are used as the basis for the existing mass loading. The facility is not a new or expanding waste loading of TDS, therefore, the facility is exempt from 25 Pa. Code § 95.10 treatment requirements.

Water Quality-Based Limitations

Toxics Management Analysis

The Department's Toxics Management Spreadsheet (TMS) was utilized to facilitate calculations necessary for completing a reasonable potential analysis and determine Water Quality-Based Effluent Limitations (WQBELs) for discharges containing toxic pollutant concentrations. TMS combines the functionality of two (2) of the Department's analysis tools, Toxics Screening Analysis Spreadsheet and PENTOXSD water quality model.

DEP's procedures for evaluating reasonable potential are as follows:

1. For IW discharges, the design flow to use in modeling is the average flow during production or operation and may be taken form the permit application.

2. Perform a Toxics Screening Analysis to identify toxic pollutants of concern. All toxic pollutants, as reported in the permit application or on DMRs, are modeled by the TMS to determine the parameters 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].

    - Establish limits in the draft permit where the maximum reported concentration equals or exceeds 50% of the WQBEL. Use the average monthly and maximum daily limits for the permit as recommended by TMS. Establish an IMAX limit at 2.5 times the average monthly limit.

    - For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.

    - For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10% - 50% of the WQBEL.

Discharges from Outfall 001 are evaluated based on concentrations reported on the application and contained in the DMRs; data from those sources are used as inputs into the TMS. A summary of TMS Inputs is contained in Table 2 below.

Table 2. TMS Inputs

Parameter	Value
Discharge Inputs	
Facility	Route 356 Landfill
Evaluation Type	Industrial
NPDES Permit No.	PA0216739
Wastewater Description	Landfill Leachate
Outfall ID	001
Design Flow (MGD)	0.008
Hardness ($^{mg}/_{L}$)	85
pH (S.U.)	8.0
Partial Mix Factors	Unknown – Calculated by TMS
Complete Mix Times	
$Q_{7\text{-}10}$ (min)	
Q_h (min)	

Table 2. TMS Inputs (cont.)

Stream Inputs	
Receiving Surface Water	Allegheny River
Number of Reaches to Model	1
Stream Code	042553
RMI	0.66
Elevation (ft)	1020/840*
Drainage Area (mi^2)	0.24
Slope (ft/ft)	0.05
PWS Withdrawal (MGD)	3
Apply Fish Criteria	Yes
Low Flow Yield (cfs/mi^2)	
Flows	
Stream (cfs)	2,390
Tributary (cfs)	N/A
Width (ft)	
Stream Hardness ($^{mg}/_{L}$)	
Stream pH (S.U.)	

***** Denotes discharge location/downstream location values.

The TMS Model WQBEL recommendations at Outfall 001 are summarized below in Table 3. Analysis Report from the TMS run is included in Attachment B.

Table 3. TMS WQBEL Recommendations

Parameter	Average Monthly ($^{\mu g}/_{L}$)	Maximum Daily ($^{\mu g}/_{L}$)
Total Aluminum	Report	Report
Total Chromium (III)	Report	Report
Dissolved Iron	0.333	0.520
Total Iron	1,666	2,599
Total Nickel	51.2	80.0
Acrylamide*	0.2	0.32

***** The renewal application reported Acrylamid**e concentration of** <1.0 µg/L. The facility evaluated their additives for Acrylamide and determined that Acrylamide is not contained in their materials. Since Acrylamide is not in the facility's materials, the reasonable potential for Acrylamide is removed. No Acrylamide effluent limitations are imposed.

WQM 7.0 Model

In general, the WQM 7.0 Model is run if the maximum BOD_5/$CBOD_5$ concentrations exceeds 30/25 mg/L respectively in the permit application or the DMRs. The permit application reports BOD_5/$CBOD_5$ concentrations of <3/<25 mg/L respectively, therefore, WQM 7.0 Model is not required to be run.

Anti-Backsliding

Section 402(o) of the Clean Water Act (CWA), enacted in the Water Quality Act of 1987, establishes anti-backsliding rules governing two situations. The first situation occurs when a permittee seeks to revise a Technology-Based effluent limitation based on BPJ to reflect a subsequently promulgated effluent guideline which is less stringent. The second situation addressed by Section 402(o) arises when a permittee seeks relaxation of an effluent limitation which is based upon a State treatment standard of water quality standard.

Previous limits can be used pursuant to EPA's anti-backsliding regulation 40 CFR 122.44 (l) Reissued permits. (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under §122.62). (2) In the case of effluent limitations established based on Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

The facility is not seeking to revise the previously permitted effluent limits.

Effluent Limitations and Monitoring Requirements for Outfall 001

Effluent limits applicable at Outfall 001 are the more stringent of TBELs, WQBELs, regulatory effluent standards, and monitoring requirements as summarized in Table 4. The applicable limits and monitoring requirements provided below are based on discussions above and those contained in Table 1 of this Fact Sheet.

Table 4. Effluent Limits and Monitoring Requirements for Outfall 001

Parameter	Concentration		Units	Basis
	Average Monthly	Daily Maximum		
Flow	Monitor/Report		MGD	25 Pa. Code § 92a.61(b)
TSS	10.0	20.0	mg/L	40 CFR 122.44(l)
Iron (Total)	1.5	2.6	mg/L	40 CFR 122.44(l)
Aluminum (Total)	0.5	1.0	mg/L	40 CFR 122.44(l)
Molybdenum (Total)	0.18	0.36	mg/L	40 CFR 122.44(l)
pH	Within the range of 6.0 to 9.0		S.U.	25 Pa. Code § 92a.48(a)(2) & 25 Pa. Code § 95.2
Oil and Grease	15.0	30.0	mg/L	25 Pa. Code § 95.2
Hexavalent Chromium	0.011	0.018	mg/L	40 CFR 122.44(l)
Nickel (Total)	0.051	0.080	mg/L	40 CFR 122.44(l)
Chromium (III)	Report	Report	mg/L	WQBEL
Dissolved Iron	0.33	0.52	mg/L	WQBEL

Monitoring Frequency for Outfall 001

Monitoring requirements are based on the previous permits monitoring requirements for Route 356 Landfill along with recommendations from the Performance-Based Reduction Analysis and displayed in Table 5 below.

Table 5: Monitoring Requirements for Outfall 001

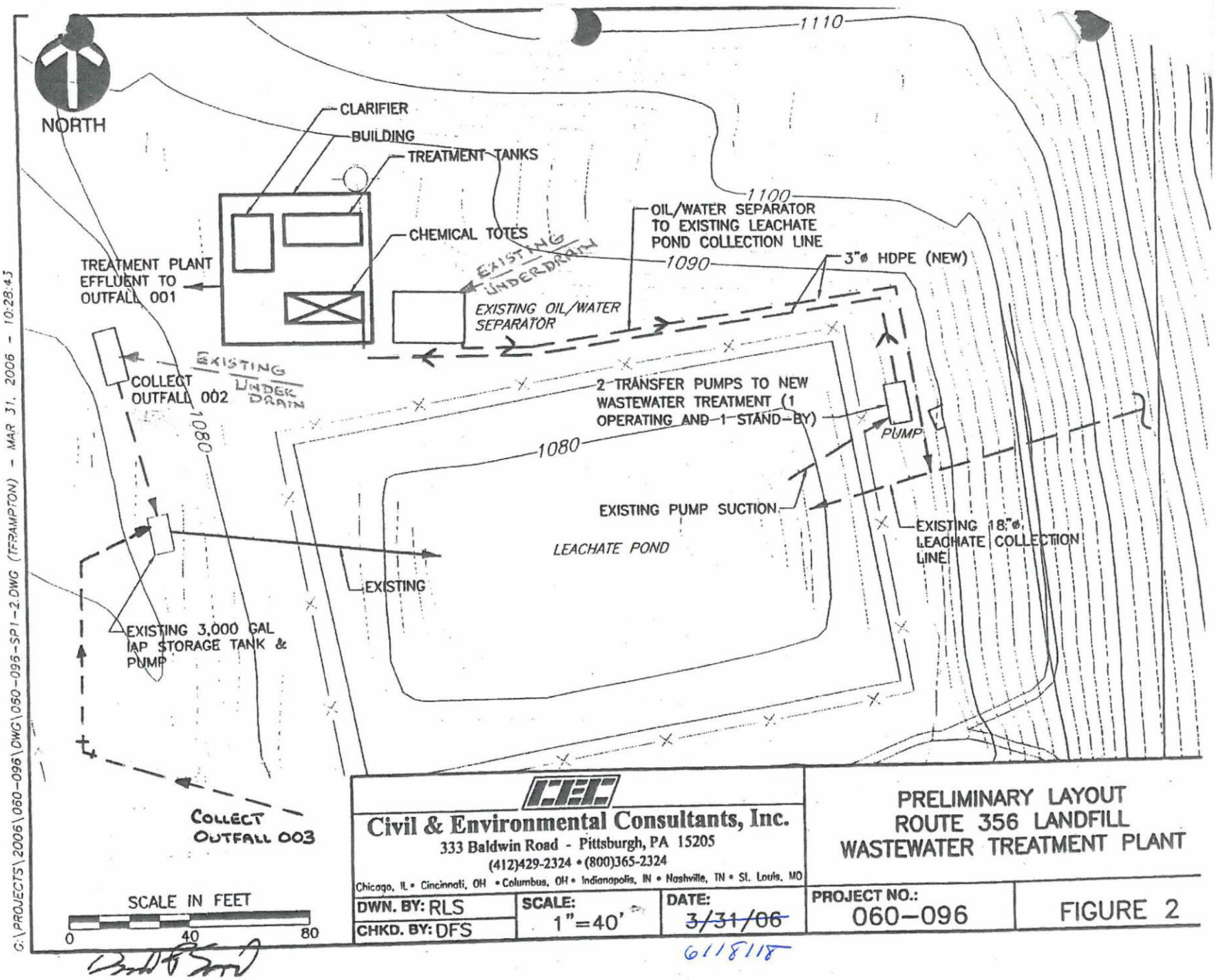
Parameter	Sample Type	Minimum Sample Frequency
Flow	Estimate	1/week
TSS	Grab	2/month
Iron (Total)	Grab	2/month
Aluminum (Total)	Grab	2/month
Molybdenum (Total)	Grab	1/week
pH	Grab	1/week
Oil and Grease	Grab	2/month
Hexavalent Chromium	Grab	1/week
Chromium (III)	Grab	1/week
Nickel	Grab	1/week
Dissolved Iron	Grab	1/week

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment **B**)
☐	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 – Wastewater Treatment Plant Layout

Attachment B – TMS Model Output File

Attachment A – Wastewater Treatment Plant Layout



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PRELIMINARY LAYOUT
ROUTE 356 LANDFILL
WASTEWATER TREATMENT PLANT

DWN. BY: RLS	SCALE: 1"=40'	DATE: ~~3/31/06~~ 6/18/18	PROJECT NO.: 060-096	FIGURE 2
CHKD. BY: DFS				

Site Plan

Attachment B - TMS Model Output File

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Route 356 Landfill** NPDES Permit No.: **PA0216739** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Landfill Leachate**

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
0.008	85	8						

					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		492									
	Chloride (PWS)	mg/L		35									
	Bromide	mg/L	<	0.2									
	Sulfate (PWS)	mg/L		158									
	Fluoride (PWS)	mg/L		1									
Group 2	Total Aluminum	µg/L		240									
	Total Antimony	µg/L	<	2									
	Total Arsenic	µg/L	<	3									
	Total Barium	µg/L	<	2									
	Total Beryllium	µg/L	<	1									
	Total Boron	µg/L	<	50									
	Total Cadmium	µg/L	<	0.2									
	Total Chromium (III)	µg/L		12									
	Hexavalent Chromium	µg/L	<	1									
	Total Cobalt	µg/L	<	1									
	Total Copper	mg/L	<	0.001									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	10									
	Dissolved Iron	µg/L		230									
	Total Iron	µg/L		1600									
	Total Lead	µg/L	<	1									
	Total Manganese	µg/L	<	2									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		40									
	Total Phenols (Phenolics) (PWS)	µg/L	<	5									
	Total Selenium	µg/L	<	3									
	Total Silver	µg/L	<	0.4									
	Total Thallium	µg/L	<	1									
	Total Zinc	mg/L	<	0.001									
	Total Molybdenum	µg/L		320									
	Acrolein	µg/L	<	0.5									
	Acrylamide	µg/L	<	1									
	Acrylonitrile	µg/L	<	0.5									
	Benzene	µg/L	<	0.5									
	Bromoform	µg/L	<	0.5									

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

	2,6-Dinitrotoluene	µg/L	<	1										
	Di-n-Octyl Phthalate	µg/L	<	1										
	1,2-Diphenylhydrazine	µg/L	<	10										
	Fluoranthene	µg/L	<	1										
	Fluorene	µg/L		1										
	Hexachlorobenzene	µg/L	<	1										
	Hexachlorobutadiene	µg/L	<	0.5										
	Hexachlorocyclopentadiene	µg/L	<	1										
	Hexachloroethane	µg/L	<	1										
	Indeno(1,2,3-cd)Pyrene	µg/L	<	1										
	Isophorone	µg/L	<	1										
	Naphthalene	µg/L	<	0.5										
	Nitrobenzene	µg/L	<	1										
	n-Nitrosodimethylamine	µg/L	<	1										
	n-Nitrosodi-n-Propylamine	µg/L	<	1										
	n-Nitrosodiphenylamine	µg/L	<	1										
	Phenanthrene	µg/L	<	1										
	Pyrene	µg/L	<	1										
	1,2,4-Trichlorobenzene	µg/L	<	0.5										
Group 6	Aldrin	µg/L	<	0.05										
	alpha-BHC	µg/L	<	0.05										
	beta-BHC	µg/L	<	0.05										
	gamma-BHC	µg/L	<	0.05										
	delta BHC	µg/L	<	0.05										
	Chlordane	µg/L	<	1										
	4,4-DDT	µg/L	<	0.05										
	4,4-DDE	µg/L	<	0.05										
	4,4-DDD	µg/L	<	0.05										
	Dieldrin	µg/L	<	0.05										
	alpha-Endosulfan	µg/L	<	0.05										
	beta-Endosulfan	µg/L	<	0.05										
	Endosulfan Sulfate	µg/L	<	0.5										
	Endrin	µg/L	<	0.05										
	Endrin Aldehyde	µg/L	<	0.05										
	Heptachlor	µg/L	<	0.05										
	Heptachlor Epoxide	µg/L	<	0.05										
	PCB-1016	µg/L	<	0.05										
	PCB-1221	µg/L	<	0.05										
	PCB-1232	µg/L	<	0.05										
	PCB-1242	µg/L	<	0.05										
	PCB-1248	µg/L	<	0.05										
	PCB-1254	µg/L	<	0.05										
	PCB-1260	µg/L	<	0.05										
	PCBs, Total	µg/L	<	0.05										
	Toxaphene	µg/L	<	0.05										
	2,3,7,8-TCDD	ng/L	<											
Group 7	Gross Alpha	pCi/L												
	Total Beta	pCi/L	<											
	Radium 226/228	pCi/L	<											
	Total Strontium	µg/L	<											
	Total Uranium	µg/L	<											
	Osmotic Pressure	mOs/kg												

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Route 356 Landfill, NPDES Permit No. PA0216739, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **UNT to Allegheny River**

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	042553	0.66	1020	0.24			Yes
End of Reach 1	042553	0.42	840	0.6			Yes

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

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	0.66	0.1	0.00137									100	7		
End of Reach 1	0.42	0.1													

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	0.66														
End of Reach 1	0.42														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Route 356 Landfill, NPDES Permit No. PA0216739, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.000 PMF: 1 Analysis Hardness (mg/l): 86.495 Analysis pH: 7.72

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	833	
Total Antimony	0	0		0	1,100	1,100	1,222	
Total Arsenic	0	0		0	340	340	378	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	23,325	
Total Boron	0	0		0	8,100	8,100	8,997	
Total Cadmium	0	0		0	1.749	1.84	2.04	Chem Translator of 0.95 applied
Total Chromium (III)	0	0		0	505.930	1,601	1,778	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	18.1	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	106	
Total Copper	0	0		0	11.722	12.2	13.6	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	55.125	67.9	75.4	Chem Translator of 0.812 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	1.83	Chem Translator of 0.85 applied
Total Nickel	0	0		0	414.151	415	461	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	2.506	2.95	3.28	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	72.2	
Total Zinc	0	0		0	103.626	106	118	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	3.33	

Acrylamide	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	650	650	722	
Benzene	0	0		0	640	640	711	
Bromoform	0	0		0	1,800	1,800	1,999	
Carbon Tetrachloride	0	0		0	2,800	2,800	3,110	
Chlorobenzene	0	0		0	1,200	1,200	1,333	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	19,993	
Chloroform	0	0		0	1,900	1,900	2,110	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	16,660	
1,1-Dichloroethylene	0	0		0	7,500	7,500	8,330	
1,2-Dichloropropane	0	0		0	11,000	11,000	12,218	
1,3-Dichloropropylene	0	0		0	310	310	344	
Ethylbenzene	0	0		0	2,900	2,900	3,221	
Methyl Bromide	0	0		0	550	550	611	
Methyl Chloride	0	0		0	28,000	28,000	31,100	
Methylene Chloride	0	0		0	12,000	12,000	13,328	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	1,111	
Tetrachloroethylene	0	0		0	700	700	777	
Toluene	0	0		0	1,700	1,700	1,888	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	7,553	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	3,332	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	3,776	
Trichloroethylene	0	0		0	2,300	2,300	2,555	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	622	
2,4-Dichlorophenol	0	0		0	1,700	1,700	1,888	
2,4-Dimethylphenol	0	0		0	660	660	733	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	88.9	
2,4-Dinitrophenol	0	0		0	660	660	733	
2-Nitrophenol	0	0		0	8,000	8,000	8,886	
4-Nitrophenol	0	0		0	2,300	2,300	2,555	
p-Chloro-m-Cresol	0	0		0	160	160	178	
Pentachlorophenol	0	0		0	18.021	18.0	20.0	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	511	
Acenaphthene	0	0		0	83	83.0	92.2	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	333	
Benzo(a)Anthracene	0	0		0	0.5	0.5	0.56	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	30,000	30,000	33,321	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	4,998	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	300	

Butyl Benzyl Phthalate	0	0		0	140	140	155	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	820	820	911	
1,3-Dichlorobenzene	0	0		0	350	350	389	
1,4-Dichlorobenzene	0	0		0	730	730	811	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	4,443	
Dimethyl Phthalate	0	0		0	2,500	2,500	2,777	
Di-n-Butyl Phthalate	0	0		0	110	110	122	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	1,777	
2,6-Dinitrotoluene	0	0		0	990	990	1,100	
1,2-Diphenylhydrazine	0	0		0	15	15.0	16.7	
Fluoranthene	0	0		0	200	200	222	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	10	10.0	11.1	
Hexachlorocyclopentadiene	0	0		0	5	5.0	5.55	
Hexachloroethane	0	0		0	60	60.0	66.6	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	11,107	
Naphthalene	0	0		0	140	140	155	
Nitrobenzene	0	0		0	4,000	4,000	4,443	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	18,882	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	333	
Phenanthrene	0	0		0	5	5.0	5.55	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	144	
Aldrin	0	0		0	3	3.0	3.33	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	0.95	0.95	1.06	
Chlordane	0	0		0	2.4	2.4	2.67	
4,4-DDT	0	0		0	1.1	1.1	1.22	
4,4-DDE	0	0		0	1.1	1.1	1.22	
4,4-DDD	0	0		0	1.1	1.1	1.22	
Dieldrin	0	0		0	0.24	0.24	0.27	
alpha-Endosulfan	0	0		0	0.22	0.22	0.24	
beta-Endosulfan	0	0		0	0.22	0.22	0.24	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.086	0.086	0.096	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.52	0.52	0.58	
Heptachlor Epoxide	0	0		0	0.5	0.5	0.56	
PCBs, Total	0	0		0	N/A	N/A	N/A	
Toxaphene	0	0		0	0.73	0.73	0.81	

☑ *CFC* CCT (min): 0.000 PMF: 1 Analysis Hardness (mg/l): 86.495 Analysis pH: 7.72

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	244	
Total Arsenic	0	0		0	150	150	167	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	4,554	
Total Boron	0	0		0	1,600	1,600	1,777	
Total Cadmium	0	0		0	0.222	0.24	0.27	Chem Translator of 0.915 applied
Total Chromium (III)	0	0		0	65.811	76.5	85.0	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	11.5	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	21.1	
Total Copper	0	0		0	7.912	8.24	9.15	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	1,666	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.148	2.65	2.94	Chem Translator of 0.812 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	1.01	Chem Translator of 0.85 applied
Total Nickel	0	0		0	45.999	46.1	51.2	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	5.54	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	14.4	
Total Zinc	0	0		0	104.473	106	118	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	3.33	
Acrylamide	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	130	130	144	
Benzene	0	0		0	130	130	144	
Bromoform	0	0		0	370	370	411	
Carbon Tetrachloride	0	0		0	560	560	622	
Chlorobenzene	0	0		0	240	240	267	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	3,887	
Chloroform	0	0		0	390	390	433	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	3,443	
1,1-Dichloroethylene	0	0		0	1,500	1,500	1,666	
1,2-Dichloropropane	0	0		0	2,200	2,200	2,444	
1,3-Dichloropropylene	0	0		0	61	61.0	67.8	

Ethylbenzene	0	0		0	580	580	644	
Methyl Bromide	0	0		0	110	110	122	
Methyl Chloride	0	0		0	5,500	5,500	6,109	
Methylene Chloride	0	0		0	2,400	2,400	2,666	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	233	
Tetrachloroethylene	0	0		0	140	140	155	
Toluene	0	0		0	330	330	367	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	1,555	
1,1,1-Trichloroethane	0	0		0	610	610	678	
1,1,2-Trichloroethane	0	0		0	680	680	755	
Trichloroethylene	0	0		0	450	450	500	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	122	
2,4-Dichlorophenol	0	0		0	340	340	378	
2,4-Dimethylphenol	0	0		0	130	130	144	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	17.8	
2,4-Dinitrophenol	0	0		0	130	130	144	
2-Nitrophenol	0	0		0	1,600	1,600	1,777	
4-Nitrophenol	0	0		0	470	470	522	
p-Chloro-m-Cresol	0	0		0	500	500	555	
Pentachlorophenol	0	0		0	13.826	13.8	15.4	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	101	
Acenaphthene	0	0		0	17	17.0	18.9	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	65.5	
Benzo(a)Anthracene	0	0		0	0.1	0.1	0.11	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	6,000	6,000	6,664	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	1,011	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	60.0	
Butyl Benzyl Phthalate	0	0		0	35	35.0	38.9	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	160	160	178	
1,3-Dichlorobenzene	0	0		0	69	69.0	76.6	
1,4-Dichlorobenzene	0	0		0	150	150	167	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	889	
Dimethyl Phthalate	0	0		0	500	500	555	
Di-n-Butyl Phthalate	0	0		0	21	21.0	23.3	

2,4-Dinitrotoluene	0	0		0	320	320	355	
2,6-Dinitrotoluene	0	0		0	200	200	222	
1,2-Diphenylhydrazine	0	0		0	3	3.0	3.33	
Fluoranthene	0	0		0	40	40.0	44.4	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	2	2.0	2.22	
Hexachlorocyclopentadiene	0	0		0	1	1.0	1.11	
Hexachloroethane	0	0		0	12	12.0	13.3	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	2,332	
Naphthalene	0	0		0	43	43.0	47.8	
Nitrobenzene	0	0		0	810	810	900	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	3,776	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	65.5	
Phenanthrene	0	0		0	1	1.0	1.11	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	28.9	
Aldrin	0	0		0	0.1	0.1	0.11	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	0.0043	0.004	0.005	
4,4-DDT	0	0		0	0.001	0.001	0.001	
4,4-DDE	0	0		0	0.001	0.001	0.001	
4,4-DDD	0	0		0	0.001	0.001	0.001	
Dieldrin	0	0		0	0.056	0.056	0.062	
alpha-Endosulfan	0	0		0	0.056	0.056	0.062	
beta-Endosulfan	0	0		0	0.056	0.056	0.062	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.036	0.036	0.04	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.0038	0.004	0.004	
Heptachlor Epoxide	0	0		0	0.0038	0.004	0.004	
PCBs, Total	0	0		0	0.014	0.014	0.016	
Toxaphene	0	0		0	0.0002	0.0002	0.0002	

☑ ***THH*** CCT (min): 0.000 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	

Fluoride (PWS)	0	0		0	2,000	2,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	6.22	
Total Arsenic	0	0		0	10	10.0	11.1	
Total Barium	0	0		0	2,400	2,400	2,666	
Total Boron	0	0		0	3,100	3,100	3,443	
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	333	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	1,111	
Total Mercury	0	0		0	0.050	0.05	0.056	
Total Nickel	0	0		0	610	610	678	
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	0.27	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	3.33	
Acrylamide	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	N/A	N/A	N/A	
Benzene	0	0		0	N/A	N/A	N/A	
Bromoform	0	0		0	N/A	N/A	N/A	
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A	
Chlorobenzene	0	0		0	100	100.0	111	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	6.33	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	N/A	N/A	N/A	
1,1-Dichloroethylene	0	0		0	33	33.0	36.7	
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	
1,3-Dichloropropylene	0	0		0	N/A	N/A	N/A	
Ethylbenzene	0	0		0	68	68.0	75.5	
Methyl Bromide	0	0		0	100	100.0	111	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	N/A	N/A	N/A	
1,1,2,2-Tetrachloroethane	0	0		0	N/A	N/A	N/A	
Tetrachloroethylene	0	0		0	N/A	N/A	N/A	
Toluene	0	0		0	57	57.0	63.3	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	111	

1,1,1-Trichloroethane	0	0		0	10,000	10,000	11,107	
1,1,2-Trichloroethane	0	0		0	N/A	N/A	N/A	
Trichloroethylene	0	0		0	N/A	N/A	N/A	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	30	30.0	33.3	
2,4-Dichlorophenol	0	0		0	10	10.0	11.1	
2,4-Dimethylphenol	0	0		0	100	100.0	111	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	2.22	
2,4-Dinitrophenol	0	0		0	10	10.0	11.1	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	N/A	N/A	N/A	
Phenol	0	0		0	4,000	4,000	4,443	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	77.7	
Anthracene	0	0		0	300	300	333	
Benzidine	0	0		0	N/A	N/A	N/A	
Benzo(a)Anthracene	0	0		0	N/A	N/A	N/A	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroisopropyl)Ether	0	0		0	200	200	222	
Bis(2-Ethylhexyl)Phthalate	0	0		0	N/A	N/A	N/A	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	0.1	0.1	0.11	
2-Chloronaphthalene	0	0		0	800	800	889	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	1,000	1,000	1,111	
1,3-Dichlorobenzene	0	0		0	7	7.0	7.77	
1,4-Dichlorobenzene	0	0		0	300	300	333	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	666	
Dimethyl Phthalate	0	0		0	2,000	2,000	2,221	
Di-n-Butyl Phthalate	0	0		0	20	20.0	22.2	
2,4-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
2,6-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
1,2-Diphenylhydrazine	0	0		0	N/A	N/A	N/A	
Fluoranthene	0	0		0	20	20.0	22.2	
Fluorene	0	0		0	50	50.0	55.5	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	N/A	N/A	N/A	
Hexachlorocyclopentadiene	0	0		0	4	4.0	4.44	

Hexachloroethane	0	0		0	N/A	N/A	N/A	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	34	34.0	37.8	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	11.1	
n-Nitrosodimethylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	N/A	N/A	N/A	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	20	20.0	22.2	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	0.078	
Aldrin	0	0		0	N/A	N/A	N/A	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	4.2	4.2	4.66	
Chlordane	0	0		0	N/A	N/A	N/A	
4,4-DDT	0	0		0	N/A	N/A	N/A	
4,4-DDE	0	0		0	N/A	N/A	N/A	
4,4-DDD	0	0		0	N/A	N/A	N/A	
Dieldrin	0	0		0	N/A	N/A	N/A	
alpha-Endosulfan	0	0		0	20	20.0	22.2	
beta-Endosulfan	0	0		0	20	20.0	22.2	
Endosulfan Sulfate	0	0		0	20	20.0	22.2	
Endrin	0	0		0	0.03	0.03	0.033	
Endrin Aldehyde	0	0		0	1	1.0	1.11	
Heptachlor	0	0		0	N/A	N/A	N/A	
Heptachlor Epoxide	0	0		0	N/A	N/A	N/A	
PCBs, Total	0	0		0	N/A	N/A	N/A	
Toxaphene	0	0		0	N/A	N/A	N/A	

☑ *CRL* CCT (min): 0.008 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

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

Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylamide	0	0		0	0.07	0.07	0.2	
Acrylonitrile	0	0		0	0.06	0.06	0.17	
Benzene	0	0		0	0.58	0.58	1.67	
Bromoform	0	0		0	7	7.0	20.2	
Carbon Tetrachloride	0	0		0	0.4	0.4	1.16	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	2.31	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	N/A	N/A	N/A	
Dichlorobromomethane	0	0		0	0.95	0.95	2.74	
1,2-Dichloroethane	0	0		0	9.9	9.9	28.6	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	2.6	
1,3-Dichloropropylene	0	0		0	0.27	0.27	0.78	
Ethylbenzene	0	0		0	N/A	N/A	N/A	
Methyl Bromide	0	0		0	N/A	N/A	N/A	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	20	20.0	57.8	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	0.58	
Tetrachloroethylene	0	0		0	10	10.0	28.9	
Toluene	0	0		0	N/A	N/A	N/A	
1,2-trans-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,1,1-Trichloroethane	0	0		0	N/A	N/A	N/A	
1,1,2-Trichloroethane	0	0		0	0.55	0.55	1.59	
Trichloroethylene	0	0		0	0.6	0.6	1.73	
Vinyl Chloride	0	0		0	0.02	0.02	0.058	
2-Chlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dichlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dimethylphenol	0	0		0	N/A	N/A	N/A	
4,6-Dinitro-o-Cresol	0	0		0	N/A	N/A	N/A	

2,4-Dinitrophenol	0	0		0	N/A	N/A	N/A	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	0.030	0.03	0.087	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	4.33	
Acenaphthene	0	0		0	N/A	N/A	N/A	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	0.0001	0.0001	0.0003	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.003	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.0003	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.003	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.029	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	0.087	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	0.92	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	N/A	N/A	N/A	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	0.12	0.12	0.35	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.0003	
1,2-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,3-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,4-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
3,3-Dichlorobenzidine	0	0		0	0.05	0.05	0.14	
Diethyl Phthalate	0	0		0	N/A	N/A	N/A	
Dimethyl Phthalate	0	0		0	N/A	N/A	N/A	
Di-n-Butyl Phthalate	0	0		0	N/A	N/A	N/A	
2,4-Dinitrotoluene	0	0		0	0.05	0.05	0.14	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	0.14	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	0.087	
Fluoranthene	0	0		0	N/A	N/A	N/A	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	0.00008	0.00008	0.0002	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.029	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	0.29	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.003	
Isophorone	0	0		0	N/A	N/A	N/A	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	N/A	N/A	N/A	
n-Nitrosodimethylamine	0	0		0	0.0007	0.0007	0.002	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.014	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	9.53	

Phenanthrene	0	0	0	N/A	N/A	N/A	
Pyrene	0	0	0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0	0	N/A	N/A	N/A	
Aldrin	0	0	0	0.0000008	8.00E-07	0.000002	
alpha-BHC	0	0	0	0.0004	0.0004	0.001	
beta-BHC	0	0	0	0.008	0.008	0.023	
gamma-BHC	0	0	0	N/A	N/A	N/A	
Chlordane	0	0	0	0.0003	0.0003	0.0009	
4,4-DDT	0	0	0	0.00003	0.00003	0.00009	
4,4-DDE	0	0	0	0.00002	0.00002	0.00006	
4,4-DDD	0	0	0	0.0001	0.0001	0.0003	
Dieldrin	0	0	0	0.000001	0.000001	0.000003	
alpha-Endosulfan	0	0	0	N/A	N/A	N/A	
beta-Endosulfan	0	0	0	N/A	N/A	N/A	
Endosulfan Sulfate	0	0	0	N/A	N/A	N/A	
Endrin	0	0	0	N/A	N/A	N/A	
Endrin Aldehyde	0	0	0	N/A	N/A	N/A	
Heptachlor	0	0	0	0.000006	0.000006	0.00002	
Heptachlor Epoxide	0	0	0	0.00003	0.00003	0.00009	
PCBs, Total	0	0	0	0.000064	0.00006	0.0002	
Toxaphene	0	0	0	0.0007	0.0007	0.002	

☑ ***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	750	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Chromium (III)	Report	Report	Report	Report	Report	µg/L	85.0	CFC	Discharge Conc > 10% WQBEL (no RP)
Dissolved Iron	0.022	0.035	333	520	833	µg/L	333	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Iron	0.11	0.17	1,666	2,599	4,165	µg/L	1,666	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Nickel	0.003	0.005	51.2	80.0	128	µg/L	51.2	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Acrylamide	0.00001	0.00002	0.2	0.32	0.51	µg/L	0.2	CRL	Discharge Conc ≥ 50% WQBEL (RP)

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

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

Pollutants	Governing WQBEL	Units	Comments
Total 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	N/A	N/A	Discharge Conc < TQL
Total Barium	N/A	N/A	Discharge Conc < TQL
Total Beryllium	N/A	N/A	No WQS
Total Boron	1,777	µg/L	Discharge Conc < TQL
Total Cadmium	0.27	µg/L	Discharge Conc < TQL
Hexavalent Chromium	11.5	µg/L	Discharge Conc < TQL
Total Cobalt	21.1	µg/L	Discharge Conc < TQL
Total Copper	0.009	mg/L	Discharge Conc < TQL
Total Cyanide	N/A	N/A	No WQS
Total Lead	2.94	µg/L	Discharge Conc < TQL
Total Manganese	1,111	µg/L	Discharge Conc < TQL
Total Mercury	0.056	µg/L	Discharge Conc < TQL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Selenium	5.54	µg/L	Discharge Conc < TQL
Total Silver	2.95	µg/L	Discharge Conc < TQL
Total Thallium	0.27	µg/L	Discharge Conc < TQL
Total Zinc	0.11	mg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	3.0	µg/L	Discharge Conc < TQL
Acrylonitrile	0.17	µg/L	Discharge Conc < TQL
Benzene	1.67	µg/L	Discharge Conc < TQL
Bromoform	20.2	µg/L	Discharge Conc < TQL
Carbon Tetrachloride	1.16	µg/L	Discharge Conc < TQL
Chlorobenzene	111	µg/L	Discharge Conc < TQL
Chlorodibromomethane	2.31	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	3,887	µg/L	Discharge Conc < TQL
Chloroform	6.33	µg/L	Discharge Conc < TQL
Dichlorobromomethane	2.74	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	28.6	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	36.7	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	2.6	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	0.78	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	75.5	µg/L	Discharge Conc < TQL

Methyl Bromide	111	µg/L	Discharge Conc < TQL
Methyl Chloride	6,109	µg/L	Discharge Conc < TQL
Methylene Chloride	57.8	µg/L	Discharge Conc < TQL
1,1,2,2-Tetrachloroethane	0.58	µg/L	Discharge Conc < TQL
Tetrachloroethylene	28.9	µg/L	Discharge Conc < TQL
Toluene	63.3	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	111	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	678	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	1.59	µg/L	Discharge Conc < TQL
Trichloroethylene	1.73	µg/L	Discharge Conc < TQL
Vinyl Chloride	0.058	µg/L	Discharge Conc < TQL
2-Chlorophenol	33.3	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	11.1	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	111	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	2.22	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	11.1	µg/L	Discharge Conc < TQL
2-Nitrophenol	1,777	µg/L	Discharge Conc < TQL
4-Nitrophenol	522	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	160	µg/L	Discharge Conc < TQL
Pentachlorophenol	0.087	µg/L	Discharge Conc < TQL
Phenol	4,443	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	4.33	µg/L	Discharge Conc < TQL
Acenaphthene	18.9	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	333	µg/L	Discharge Conc < TQL
Benzidine	0.0003	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.003	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.0003	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.003	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.029	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	0.087	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	222	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	0.92	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	60.0	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	0.11	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	889	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	0.35	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.0003	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	178	µg/L	Discharge Conc < TQL
1,3-Dichlorobenzene	7.77	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	167	µg/L	Discharge Conc < TQL
3,3-Dichlorobenzidine	0.14	µg/L	Discharge Conc < TQL

Diethyl Phthalate	666	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	555	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	22.2	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	0.14	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	0.14	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	0.087	µg/L	Discharge Conc < TQL
Fluoranthene	22.2	µg/L	Discharge Conc < TQL
Fluorene	55.5	µg/L	Discharge Conc ≤ 25% WQBEL
Hexachlorobenzene	0.0002	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.029	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	1.11	µg/L	Discharge Conc < TQL
Hexachloroethane	0.29	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.003	µg/L	Discharge Conc < TQL
Isophorone	37.8	µg/L	Discharge Conc < TQL
Naphthalene	47.8	µg/L	Discharge Conc < TQL
Nitrobenzene	11.1	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.002	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.014	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	9.53	µg/L	Discharge Conc < TQL
Phenanthrene	1.11	µg/L	Discharge Conc < TQL
Pyrene	22.2	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	0.078	µg/L	Discharge Conc < TQL
Aldrin	0.000002	µg/L	Discharge Conc < TQL
alpha-BHC	0.001	µg/L	Discharge Conc < TQL
beta-BHC	0.023	µg/L	Discharge Conc < TQL
gamma-BHC	0.95	µg/L	Discharge Conc < TQL
delta BHC	N/A	N/A	No WQS
Chlordane	0.0009	µg/L	Discharge Conc < TQL
4,4-DDT	0.00009	µg/L	Discharge Conc < TQL
4,4-DDE	0.00006	µg/L	Discharge Conc < TQL
4,4-DDD	0.0003	µg/L	Discharge Conc < TQL
Dieldrin	0.000003	µg/L	Discharge Conc < TQL
alpha-Endosulfan	0.062	µg/L	Discharge Conc < TQL
beta-Endosulfan	0.062	µg/L	Discharge Conc < TQL
Endosulfan Sulfate	22.2	µg/L	Discharge Conc ≤ 25% WQBEL
Endrin	0.033	µg/L	Discharge Conc < TQL
Endrin Aldehyde	1.11	µg/L	Discharge Conc < TQL
Heptachlor	0.00002	µg/L	Discharge Conc < TQL
Heptachlor Epoxide	0.00009	µg/L	Discharge Conc < TQL
PCB-1016	N/A	N/A	No WQS
PCB-1221	N/A	N/A	No WQS
PCB-1232	N/A	N/A	No WQS
PCB-1242	N/A	N/A	No WQS
PCB-1248	N/A	N/A	No WQS

PCB-1254	N/A	N/A	No WQS
PCB-1260	N/A	N/A	No WQS
PCBs, Total	0.0002	µg/L	Discharge Conc < TQL
Toxaphene	0.0002	µg/L	Discharge Conc < TQL