

 Application Type
 Renewal

 Facility Type
 Municipal

 Major / Minor
 Major

### NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application No.	PA0209228
APS ID	1065385
Authorization ID	1399619

#### Applicant and Facility Information

Applicant Name	Lycoming County Water & Sewer Authority	Facility Name	Montoursville Region Sewer System STP
Applicant Address	PO Box 186	Facility Address	216 Old Cement Road
	Montoursville, PA 17754-0186	_	Montoursville, PA 17754-8262
Applicant Contact	Christine Weigle	Facility Contact	Christine Weigle
Applicant Phone	(570) 546-8005	Facility Phone	(570) 546-8005
Client ID	75152	Site ID	257745
Ch 94 Load Status	Not Overloaded	Municipality	Fairfield Township
Connection Status	No Limitations	County	Lycoming
Date Application Recei	vedJune 13, 2022	EPA Waived?	No
Date Application Accept	otedJune 22, 2022	If No, Reason	Major Facility, Significant CB Discharge
Purpose of Application	Application for a renewal of an N	PDES permit for discharg	e of treated Sewage.

#### Summary of Review

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.

Approve	Deny	Signatures	Date
х		Jonathan P. Peterman	
~		Jonathan P. Peterman / Project Manager	June 2, 2023
х		Nickolas W. Hartranft	
~		Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	June 5, 2023

Discharge, Receiving Waters and Water Supply Information						
Outfall No. 001 Latitude <u>41°</u> Quad Name <u>M</u> Wastewater Descr	13' 58.96" uncy iption: Sewage Effluent	Design Flow (MGD) Longitude Quad Code	1.5 -76º 52' 17.82" 0931			
Receiving Waters NHD Com ID Drainage Area Q <sub>7-10</sub> Flow (cfs) Elevation (ft) Watershed No.	West Branch Susquehanna River (WWF) 66915129 6210 600.2 482	Stream Code RMI Yield (cfs/mi <sup>2</sup> ) Q <sub>7-10</sub> Basis Slope (ft/ft) Chapter 93 Class.	18668         32         0.10         Stream Gage No. 1551500         and Gage No. 1552000         0.0013			
Existing Use	10-D	Existing Use Qualifier	WWF			
Exceptions to Use	WWF	Exceptions to Criteria	N/A			
Assessment Statu Cause(s) of Impair Source(s) of Impai	s Impaired. ment Metals (iron, aluminum, an rment Abandoned mine drainage	id manganese) and pH & PCBs				
TMDL Status	Approved. 12/3/11	Name <u>Watershed 1</u>	MDL			
Nearest Downstrea	am Public Water Supply Intake West Branch of Susquehanna River	PA American Water White De	er			
PWS RMI	10.5	Distance from Outfall (mi)	21.5			

Changes Since Last Permit Issuance: There have been no changes to the watershed. The updated  $Q_{7-10}$  data was obtained from the updated stream gage information obtained from *Stuckey, M.H., and Roland, M.A., 2011, Selected Streamflow Statistics for Streamgage Locations In and Near Pennsylvania*. An analysis was conducted by using the combined flows from the West Branch of the Susquehanna River (01515000) and Loyalsock Creek (01520000) stream gages. Both of these gages are located upstream of the discharge location. This combination of flows is slightly conservative approach, but accounts for actual low flows seen at the discharge location. It was determined that a  $Q_{7-10}$  of 600.2 cfs will be used in lieu of the 490 cfs that was used in previous reviews.  $Q_{7-10}$  calculations are attached in Appendix A.

#### **TMDL** Impairment

#### West Branch Susquehanna River Watershed TMDL

The Department's Geographic Information System (GIS) shows that the West Branch Susquehanna River is impaired and a TMDL exists for the stream segment for metals and pH due to AMD. The TMDL addresses the three primary metals associated with abandoned mine drainage (iron, aluminum, and manganese) and acidity. No Waste Load Allocation (WLA) was developed for LCWSA in the TMDL given that the river is attaining it's use for this impairment at the discharge location. No effluent limits or monitoring requirements will be required for conservative pollutants where effluent quality is <50% of criteria.

#### West Branch Susquehanna River PCB (Impairment)

The pollutants that are the causes for the designated use impairments in the West Branch Susquehanna River have been identified as organic Polychlorinated Biphenyls (PCBs). It is now illegal to manufacture, distribute, or use PCB in the United States. It is believed that the PCBs present in the West Branch Susquehanna River and Susquehanna River reside primarily in the sediment due to historic use. The main source of the PCBs was introduced into the environment while their use was unrestricted. However, occasional releases still occur. In addition, some permitted discharges and Superfund sites contribute PCB to surface water. It can be determined that a facility of this type with no associated industrial users or landfill effluent, would not be a source for PCBs. In accordance with 40 CFR §122.44(d)(1)(ii)&(iii), it can be determined that the effluent from this facility has no "Reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant." Therefore, the permit will not be required to contain effluent limits or monitoring requirements for PCB's.

#### **Anti-Backsliding**

In accordance with 40 CFR 122.44(I)(1) and (2), this permit does not contain effluent limitations, standards, or conditions that are less stringent than the previous permit.

#### Sludge / Biosolids Management

Approximately 99.42 dry tons of sludge were generated in 2021 and all of the sludge was disposed at the Lycoming County Landfill in Montgomery, PA.

#### **Trucked-In Waste**

The application indicates that the facility receives no hauled-in municipal wastes.

#### Chesapeake Bay Requirements

In order to address the TMDL, Pennsylvania developed a Chesapeake Watershed Implementation Plan (WIP) – Phase I. Since the publication of Pennsylvania's Phase I Chesapeake WIP in January 2011 and the Chesapeake Bay TMDL, several activities have occurred that necessitated the development of the Phase II WIP. Initially, a phased approach was utilized which imposed TN and TP cap loads in reissued permits for significant sewage dischargers. Accordingly, LCWSA's renewed permit, issued 9/7/2012, included these TN and TP cap loads. In accordance with the Wastewater Supplement to Phase III WIP, these cap loads will remain in the permit. Per the April 6, 2015 revisions to the Chesapeake Bay Watershed Implementation Plan (WIP), Phase II, the monitoring frequencies for the Nitrogen series and Total Phosphorus have been increased from 1/week to 2/week. Additionally, the Chesapeake Bay language at Part C I of the permit has been revised to reflect the revised WIP Phase III.

The limitations and monitoring requirements specified below are proposed for the draft permit, to comply with Pennsylvania's Chesapeake Bay Tributary Strategy:

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

		Eff	luent Limitati	Monitoring Requirements			
Discharge	Mass Units	s (Ibs/day)	Conc	entrations (	mg/L)	Minimum	
Parameter				Monthly		Measurement	Required
	Monthly	Annual	Minimum	Average	Maximum	Frequency	Sample Type
AmmoniaN	Report	Report		Report		2/week	24-Hr Comp.
KjeldahlN	Report			Report		2/week	24-Hr Comp.
Nitrate-Nitrite as N	Report			Report		2/week	24-Hr Comp.
Total Nitrogen	Report	Report		Report		1/month	Calculation
Total Phosphorus	Report	Report		Report		2/week	24-Hr Comp.
Net Total Nitrogen	Report	34,703*				1/month	Calculation
Net Total Phosphorus	Report	4,627				1/month	Calculation

\*TN = 34,703 lb/yr + 6,300 lb/yr (Offsets) = 41,003 lb/yr (Total cap load for compliance purposes)

The permittee is authorized to use 6,300 lbs/yr as Total Nitrogen (TN) Offsets toward compliance with the Annual Net TN mass load limitation (Cap Load) in accordance with Part C of this permit. These Offsets maybe be applied throughout the Compliance Year or during the Truing Period. The application of Offsets must be reported to DEP as described in Part C.

#### Treatment Facility Summary

Treatment Facility Name: Lycoming County Water and Sewer Authority WWTP

**Tributary Sewer System Information:** The LCWSA Wastewater Treatment Plant serves Montoursville Borough, Fairfield Township, Loyalsock Township, Muncy Township, and Muncy Creek Township. All sewer systems are 100% separated.

Municipality Served	Flow Contribution %
Montoursville Borough	50
Fairfield Township	19
Loyalsock Township	19
Muncy Township	11
Muncy Creek Township	1
Total	100

#### **Treatment Facility Summary**

Treatment Facility Name: Lycoming County Water and Sewer Authority WWTP

WQM Permit No.	Issuance Date		Comments				
4196401	11/6/1996	Construction on sewage treatment plant and collection systems.					
4198401	6/32/1998	Gravity sewe	r extension and pump stati	ions.			
4198403	7/15/1998	Old Route 220	and Odell Road sewer exte	ension.			
4196401 A-1	2/10/1999	Pump S	Station with 3" force main.				
4101409	2/22/2002	Halls Station sewer extension.					
4196401 A-2	3/1/2002	Increases to wet well capacities.					
4104404	4/29/2005	Turkey Run Properties Sewer Extension and Pump Station					
4104404 A-1	8/22/2006	Upgrade to grinder pur	nps design capacity. (Repl	aced with A-2)			
4104404 A-2	10/16/2009	Upgrade to g	grinder pumps design capa	city.			
4109402	9/29/2009	Walmart sit	te pump station replaceme	nt.			
4110407	4/11/2011	Phase 1 upgrades to existing WWTP.					
	Degree of			Avg Annual			
Waste Type	Treatment	Process Type	Disinfection	Flow (MGD)			

Waste Type	Treatment	Process Type	Disinfection	Flow (MGD)
		Sequencing Batch		
Sewage	Secondary	Reactor	Gas Chlorine	1.5
Hydraulic Capacity	Organic Capacity			Biosolids
(MGD)	(lbs/day)	Load Status	<b>Biosolids Treatment</b>	Use/Disposal
1.5	3,128	Not Overloaded	Aerobic Digestion	Landfill

#### Treatment System Components (See Appendix D for Plant Process Flow Diagram):

- Fifteen (15) Pump Stations

- One (1) Auger Screen
- Two (2) Filtrate Tanks.
- One (1) Sludge Holding Tank.
- Two (2) SBR Tanks.
- One (1) Gas Chlorination Disinfection System.
- Two (2) Chlorine Contact Tanks.
- One (1) Step Aeration System.
- One (1) Outfall #001.

- Two (2) Aerobic Digesters.

- One (1) Gravity Belt Thickener.

- One (1) Belt Filter Press.

Compliance Sampling Location: After Chlorine Contact Tank.

Changes Since Last Permit Issuance: None.

#### **Industrial Users**

The application indicates that LCWSA does not have any Industrial Users or an EPA approved pre-treatment program.

#### Whole Effluent Toxicity (WET)

For Outfall 001, Acute Chronic WET Testing was completed:

$\boxtimes$	

 $\square$ 

For the permit renewal application (4 tests).

Quarterly throughout the permit term.

Quarterly throughout the permit term and a TIE/TRE was conducted.

Other:

The dilution series used for the tests was: 100%, 60%, 30%, 22%, and 1%. See section below for TIWC.

#### Summary of Four Most Recent Test Results

#### NOEC/LC50 Data Analysis

	Ceriodap	ohnia Results (%	Effluent)	Pimephale			
	NOEC	NOEC		NOEC	NOEC		
Test Date	Survival	Reproduction	LC50	Survival	Growth	LC50	Pass? *
November 30, 2021	100	100	100	100	100	100	Yes
August 25, 2020	100	100	100	100	100	100	Yes
October 10, 2019	100	100	100	100	100	100	Yes
September 18, 2018	60	60	100	60	60	100	Yes

\* A "passing" result is that which is greater than or equal to the TIWC value.

Is there reasonable potential for an excursion above water quality standards based on the results of these tests? (*NOTE* – *In general, reasonable potential is determined anytime there is at least one test failure in the previous four tests*).

#### 🗌 YES 🖾 NO

Comments: No reasonable potential can be assumed.

#### Evaluation of Test Type, IWC and Dilution Series for Renewed Permit

Acute Partial Mix Factor (PMFa): 0.047 Chronic Partial Mix Factor (PMFc): 0.328

#### 1. Determine IWC – Acute (IWCa):

(Q<sub>d</sub> x 1.547) / ((Q<sub>7-10</sub> x PMFa) + (Q<sub>d</sub> x 1.547))

[(1.5 MGD x 1.547) / ((600.2 cfs x 0.047) + (1.5 MGD x 1.547))] x 100 = 7.6%

#### Is IWCa < 1%? YES X NO (YES - Acute Tests Required OR NO - Chronic Tests Required)

If the discharge is to the tidal portion of the Delaware River, indicate how the type of test was determined:

No.

Type of Test for Permit Renewal: Chronic

#### 2a. Determine Target IWCa (If Acute Tests Required)

TIWCa = IWCa / 0.3 = N/A%

#### 2b. Determine Target IWCc (If Chronic Tests Required)

(Q<sub>d</sub> x 1.547) / (Q<sub>7-10</sub> x PMFc) + (Q<sub>d</sub> x 1.547)

[(1.5 MGD x 1.547) / ((600.2 cfs x 0.328) + (1.5 MGD x 1.547))] x 100 = **1.16%** <u>USE 1.0%</u>

#### 3. Determine Dilution Series

(NOTE – check Attachment C of WET SOP for dilution series based on TIWCa or TIWCc, whichever applies).

Dilution Series = 100%, 60%, 30%, 2%, and 1%.

#### **WET Limits**

Has reasonable potential been determined? YES 
NO

Will WET limits be established in the permit?  $\Box$  YES  $\boxtimes$  NO

If WET limits will be established, identify the species and the limit values for the permit (TU).

#### N/A.

If WET limits will not be established, but reasonable potential was determined, indicate the rationale for not establishing WET limits:

#### N/A.

#### Part C of the permit will contain following requirements for this major sewage facility:

1. Part C Condition 114 "Whole Effluent Toxicity (WET)"

	Effluent Limitations						Monitoring Requirements	
	Mass	Units	ts					
Parameter	(lbs/d	lay) <sup>(1)</sup>		Concentrat	ions (mg/L	.)	Minimum <sup>(2)</sup>	Required
	Average	Weekly		Average	Weekly	Instant.	Measurement	Sample
	Monthly	Average	Minimum	Monthly	Average	Maximum	Frequency	Туре
		Report						
		Daily						
Flow (MGD)	Report	Max	XXX	XXX	XXX	XXX	Continuous	Metered
			6.0					
pH (S.U.)	XXX	XXX	Daily Min	XXX	XXX	9.0	1/day	Grab
			Report					
Dissolved Oxygen	XXX	XXX	Daily Min	XXX	XXX	XXX	1/day	Grab
Total Residual								
Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.6	1/shift	Grab
Carbonaceous								
Biochemical								
Oxygen Demand					10.0			24-Hr
(CBOD5)	313	500	XXX	25.0	40.0	50	2/week	Composite
Biochemical								
Oxygen Demand		-						
(BOD5)		Report						
Raw Sewage	Desert	Daily		Desert			0/	24-Hr
	Report	IVIAX	***	Report	***	XXX	Z/week	Composite
Total Suspended	075	500	VVV	20.0	45.0	<u> </u>	2/week	24-Hr
Solids Total Over ended	375	563	***	30.0	45.0	60	Z/week	Composite
Total Suspended		Denert						
Solius Dour Sources		Report						04 Ur
Raw Sewaye	Poport	Max	vvv	Poport	VVV	vvv	2/wook	24-⊓i Composito
	Кероп	IVIAX		2000	~~~		Z/week	Composite
(No /100 ml)				2000				
(100.7100.111)	VVV	x x x	XXX	Mean	VVV	10000	2/wook	Grah
Eecal Coliform				200		10000	Z/WEEK	Grab
(No /100 ml)				Geo				
May 1 - Sep 30	XXX	XXX	xxx	Mean	XXX	1000	2/week	Grab
Ammonia-	7000			Mean	7077	1000	2/WCCR	24-Hr
Nitrogen	Report	XXX	XXX	Report	XXX	XXX	2/week	Composite
	Report	Report		Report	Report			Composite
Total Copper		Daily			Daily			24-Hr
	Report	Max	xxx	Report	Max	xxx	1/month	Composite
Total Copper (µg/L)	Report	Daily Max	xxx	Report	Daily Max	xxx	1/month	24-Hr Composite

### Existing Effluent Limitations and Monitoring Requirements

The existing effluent limits for Outfall 001 were based on a design flow of 1.5 MGD.

#### **Development of Effluent Limitations**

Outfall No.	001		Design Flow (MGD)	1.5
Latitude	41º 14' 0.51"		Longitude	-76º 52' 18.05"
Wastewater De	escription:	Sewage Effluent		

#### **Technology-Based Limitations**

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
Solids	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
рН	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform				
(5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform				
(5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform				
(10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform				
(10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

#### Water Quality-Based Limitations

To establish whether or not water-quality based effluent limitations (WQBELs) are required, the Department models instream conditions. In order to determine limitations for CBOD5, ammonia-N and dissolved oxygen, the Department utilizes the WQM 7.0 v1.0b model and in order to determine limitations for toxics, the Department utilizes the Toxics Management Spreadsheet.

WQM 7.0 for Windows, Version 1.0b, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen The model was run using the Q7-10 stream flow, background water quality, average annual design flow, and other discharge characteristics. The existing technology-based limit for  $CBOD_5$  (25 mg/l) and NH3-N (25 mg/l) were used as inputs for the modeling. The DO minimum daily average criterion from §93.7 (5.0 mg/L for WWF) was used for the in-stream objective for the model. The summary of the output is as follows:

Denemeter	Effluent Limit							
Parameter	30 Day Average	Maximum	Minimum					
CBOD5	25	N/A	N/A					
Ammonia-N	25	50	N/A					
Dissolved Oxygen	N/A	N/A	3					

The model does not recommend water-quality based effluent limitations with regards to CBOD5 and dissolved oxygen. The model also does not require more stringent water quality based effluent limits for Ammonia-N and the current limit will remain. Refer to Appendix B for the WQM 7.0 inputs and results.

#### **Toxics Management Spreadsheet**

This model is a single discharge wasteload allocation program for toxics that uses a mass-balance water quality analysis to determine recommended water quality-based effluent limits. The model incorporates consideration for mixing, first-order decay and other factors to computes a Wasteload Allocation (WLA) for each applicable criterion. Finally, the model determines a maximum water quality-based effluent limitation (WQBEL) for each parameter and outputs the more stringent of the WQBEL or the input concentration. The output of which is the recommends average monthly and maximum daily effluent limitations.

Sampling for pollutant Groups was submitted with the application. This sampling information and the receiving stream information was entered into the Toxics Management Spreadsheet. The modeling results indicated the following limits and monitoring requirements are needed. Monitoring requirements for Copper will remain. Refer to Appendix C for the Toxics Management Spreadsheet.

	Mass	Limits		Concentra	tion Limits				
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	Report	Report	Report	Report	Report	mg/L	0.13	AFC	Discharge Conc > 10% WQBEL (no RP)

#### **Best Professional Judgement (BPJ) Limitations**

See Dissolved Oxygen, Ammonia-Nitrogen, and total copper sections below. Comments: None.

#### Additional Considerations

None

#### **Proposed Effluent Limitations and Monitoring Requirements**

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

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

			Effluent L	imitations			Monitoring Re	quirements
Parameter	Mass Units	s (Ibs/day) <sup>(1)</sup>		Concentrat	ions (mg/L)		Minimum <sup>(2)</sup>	Required
Falailletei	Average	Weekly		Average	Weekly	Instant.	Measurement	Sample
	Monthly	Average	Minimum	Monthly	Average	Maximum	Frequency	Туре
		Report						
Flow (MGD)	Report	Daily Max	XXX	XXX	XXX	XXX	Continuous	Metered
			6.0					
pH (S.U.)	XXX	XXX	Daily Min	XXX	XXX	9.0	1/day	Grab
			Report					
Dissolved Oxygen	XXX	XXX	Daily Min	XXX	XXX	XXX	1/day	Grab
Total Desidual Chloring (TDC)	~~~	~~~~	VVV	0.5	~~~	1.6	1/abift	Croh
Carbanasasua Pisabamiaal	~~~			0.5		1.0	1/5/11/	
Carbonaceous Biochemical	212	500	VVV	25.0	40.0	50	2/wook	24-⊓i Composito
Displanical Oxygen Demand	313	500		25.0	40.0	50	Z/WEEK	Composite
(BOD5)		Peport						24_Hr
(BODS) Raw Sewage Influent	Report	Daily Max	XXX	Report	XXX	XXX	2/week	Composite
	Кероп			Кероп			Z/WCCK	24-Hr
Total Suspended Solids	375	563	XXX	30.0	45.0	60	2/week	Composite
Total Suspended Solids		Report						24-Hr
Raw Sewage Influent	Report	Daily Max	XXX	Report	XXX	XXX	2/week	Composite
Fecal Coliform (No./100 ml)	-			2000				
Oct 1 - Apr 30	XXX	XXX	XXX	Geo Mean	XXX	10000	2/week	Grab
Fecal Coliform (No./100 ml)				200				
May 1 - Sep 30	XXX	XXX	XXX	Geo Mean	XXX	1000	2/week	Grab
								24-Hr
Ammonia-Nitrogen	Report	XXX	XXX	Report	XXX	XXX	2/week	Composite
	vvv	~~~~	~~~	~~~	~~~	Boport	1/month	Crob
	~~~	AAA Bonort			AAA Doport	кероп	1/110/101	
Total Coppor (ug/L)	Poport		~~~	Poport		VVV	1/month	24-⊓i Composito
Total Copper (µg/L)	кероп		~~~	кероп		~~~	1/monun	Composite

\*The proposed effluent limits for Outfall 001 were based on a design flow of 1.5 MGD.

#### **General Information**

All of the limits proposed above are consistent with other permits issued for major wastewater treatment plants in the region. The associated mass-based limits (lbs/day) for all parameters were based on the formula: design flow (average annual) (MGD) x concentration limit (mg/L) at design flow x conversion factor (8.34). All effluent limits were then rounded down in accordance with the rounding rules established in the *Technical Guidance for the Development and Specification of Effluent Limitations (362-0400-001)*, Chapter 5 - Specifying Effluent Limitations in NPDES Permits.

#### Flow

Reporting of the average monthly and daily maximum flow is consistent with monitoring requirements for other treatment plants of this size.

#### Carbonaceous Biochemical Oxygen Demand (CBOD<sub>5</sub>)

The results of the WQM 7.0 model show that the previously applied secondary treatment standards (25 PA Code 92a.47 (a) (1&2)) for CBOD<sub>5</sub> are protective of water quality and will remain.

#### Total Suspended Solids (TSS)

The previously applied technology based secondary treatment standards (25 PA Code §92a.47 (a) (1&2)) for TSS will remain as well.

#### <u>рН</u>

CFR Title 40 §133.102(c) and 25 PA Code §95.2(1) provide the basis of effluent limitations for pH. The existing limits will remain.

#### **Fecal Coliforms**

The existing fecal coliform limits with I-max limits were updated from the previous Chapter 92 code to correspond with what is specified in the updated 25 PA Code § 92a.47 (a)(4)&(5).

#### Total Residual Chlorine (TRC)

The existing effluent limit (0.5 mg/L) was utilized as an input in the TRC Spreadsheet. The attached TRC model (Appendix G) indicates that the existing effluent limits of 0.5 mg/L (Average Monthly) and 1.6 mg/L (Instantaneous Maximum) are still protective of water quality. The effluent quality at the discharge is meeting a BAT value of 0.5 mg/L.

#### Dissolved Oxygen (DO)

Given results of the WQM 7.0 model, a discharge of effluent from this facility with a DO concentration of 3 mg/l would not result in an exceedance of water quality requirements for this stream. It is anticipated, based on similar technology, that the DO concentration in the effluent would be greater than 3.0 mg/l. Therefore, based on BPJ, only monitoring will be required for this facility.

#### E. Coli

25 PA Code § 92a.61 provide the basis of monitoring requirements for E. Coli. Monthly monitoring will be required going forward.

#### Influent BOD<sub>5</sub> and TSS

The Department requires the reporting of raw sewage influent monitoring for BOD<sub>5</sub> and TSS in all POTW permits. This provides the Department with the ability to monitor the percent removal of each parameter as stipulated in section 2 of the Part A conditions and maintain records of the BOD<sub>5</sub> loading as required by 25 Pa. Code Chapter 94. The monitoring frequencies and sample types are identical to the effluent sampling.

#### Ammonia-Nitrogen (NH3-N)

To maintain consistency with other sewage facilities, the year-round monitoring of NH3-N concentrations in the effluent will be remain as a minimum BPJ requirement. Effluent concentrations of NH3-N are not expected to exceed 25 mg/l.

#### Total Copper

Based on the Reasonable Potential Analysis, monitoring will remain for Total Copper.

#### **Stormwater Requirements**

The industrial activities associated with LCWSA's WWTP are identified in 40 CFR 122.26(b)(14)(ix) and thus the facility required to obtain an NPDES permit to discharge stormwater into waters of the Commonwealth of Pennsylvania. This NPDES PAG-03 assigns several control measures and Minimum Required Best Management Practices (BMPs) to all POTWs. The application identifies three stormwater outfalls (Outfalls OS1, OS2, and EW1). Part C123 – Stormwater Requirements will cover these outfalls and their requirements.

#### Significant Part C Conditions

The following Part C conditions will be included in the draft permit:

- Chesapeake Bay Nutrient Requirements
- Solids Management
- Whole Effluent Toxicity (WET)
- Requirements Applicable to Stormwater Outfalls
- Other Requirements

#### **Compliance History**

<u>Summary of Inspections</u> -The most recent Clean Water Program Compliance Evaluation for this facility was a Compliance Evaluation Inspection on 5/24/23. The inspection reports indicated that the facility was operating normally and no violations were noted.

<u>WMS Query Summary</u> - A WMS Query was run at *Reports* - *Violations & Enforcements* – *Open Violations for Client Report* to determine whether there are any unresolved violations associated with the client that will affect issuance of the permit (per CSL Section 609). This query revealed no open violations.

<u>eDMRs Summary</u> - Upon review of the eDMR's, the facility has generally been in compliance with the existing effluent limits.

#### **Compliance History**

#### DMR Data for Outfall 001 (from March 1, 2022 to February 28, 2023)

Parameter	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22
Flow (MGD)												
Average Monthly	0.539	0.619	0.607	0.551	0.530	0.540	0.523	0.510	0.537	0.565	0.585	0.593
Flow (MGD)												
Daily Maximum	0.739	0.931	1.312	1.067	0.675	0.768	0.702	0.669	0.694	0.878	0.869	0.791
pH (S.U.)												
Daily Minimum	7.1	6.9	7.1	6.9	6.5	6.9	6.9	6.9	6.9	6.8	7.0	7.0
pH (S.U.)												
Instantaneous												
Maximum	7.2	7.4	7.5	7.4	7.3	7.1	7.5	7.2	7.1	7.1	7.2	7.1
DO (mg/L)												
Daily Minimum	8.1	6.9	8.0	7.9	7.9	8.1	8.2	8.1	8.0	7.6	8.0	8.2
TRC (mg/L)												
Average Monthly	0.34	0.41	0.36	0.27	0.22	0.20	0.22	0.22	0.32	0.33	0.41	0.41
TRC (mg/L)												
Instantaneous												
Maximum	0.48	0.6	0.54	0.41	0.40	0.28	0.29	0.31	0.44	0.44	0.61	0.51
CBOD5 (lbs/day)												
Average Monthly	14	19	18	17	16	13	15	14	14	18	20	23
CBOD5 (lbs/day)					10	10		10	10			
Weekly Average	17	25	20	25	19	16	17	16	16	23	22	29
CBOD5 (mg/L)	0.4		1.0		0.7		0.4		0.4			5.0
	3.4	3.6	4.0	3.9	3.7	3.0	3.4	3.3	3.1	3.8	3.9	5.0
CBOD5 (mg/L)	2.0		1.0	<u> </u>	1.0	24	0.7	0.7	2.0	5.0	1.0	<u> </u>
	3.9	4.1	4.0	6.0	4.6	3.1	3.7	3.7	3.0	5.0	4.2	6.0
BOD5 (IDS/day)												
Raw Sewage Inituent												
 Southly	1202	1405	1470	1126	1160	1071	1207	1170	1552	1649	1510	1422
BOD5 (lbs/day)	1393	1495	1470	1120	1109	1271	1307	1179	1555	1040	1540	1455
BODS (IDS/day)												
<pre>chr/&gt; Daily Maximum</pre>	1654	2228	2313	1503	17/1	2011	1787	1856	2100	2282	2187	1885
BOD5 (mg/L)	1054	2220	2010	1303	1741	2011	1707	1000	2199	2202	2107	1005
Raw Sewage Influent												
<pre>     Average</pre>												
Monthly	330	290	320	266	269	288	300	281	333	348	303	284
TSS (lbs/dav)		200	020	200	200	200				0.0		
Average Monthly	21	32	34	26	31	23	33	21	23	28	26	25

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TSS (lbs/day)												
Raw Sewage Influent												
 br/> Average												
Monthly	928	755	632	816	868	751	962	832	870	1361	867	851
TSS (lbs/day)												
Raw Sewage Influent												
 br/> Daily Maximum	1381	1370	1019	1319	1164	1409	1264	1365	2057	3274	1247	1143
TSS (lbs/day)												
Weekly Average	39	35	60	35	46	32	53	21	28	31	29	27
TSS (mg/L)												
Average Monthly	5.0	6.7	7.4	6.0	7.1	5.2	7.6	5.0	5.0	6.0	5.0	5.0
TSS (mg/L)												
Raw Sewage Influent												
 br/> Average												
Monthly	219	144	137	191	200	167	221	195	187	287	170	170
TSS (mg/L)												
Weekly Average	10.0	7.5	12.0	8.5	11.0	6.0	11.0	5.0	5.0	7.0	5.0	5.0
Fecal Coliform												
(No./100 ml)												
Geometric Mean	7	3	5	12	8	12	10	14	4	12	3	2
Fecal Coliform												
(No./100 ml)												
Instantaneous												
Maximum	68	9	21	73	47	40	50	40	12	39	10	6
Nitrate-Nitrite (mg/L)												
Average Monthly	1.6	2.4	1.91	1.63	1.32	1.29	2.1	2.38	2.48	2.15	1.31	0.73
Nitrate-Nitrite (lbs)												
Total Monthly	191	387	273	209	178	168	282	309	345	313	196	112
Total Nitrogen (mg/L)												
Average Monthly	4.1	5.1	4.8	3.6	2.8	2.0	2.8	3.3	3.9	6.5	16.2	20.1
Total Nitrogen (lbs)												
Effluent Net 												
Total Monthly	487	826	671	460	376	269	386	427	542	940	2518	3148
Total Nitrogen (lbs)												
Total Monthly	487	826	671	460	376	269	386	427	542	940	2518	3148
Total Nitrogen (lbs)												
Effluent Net 												
Total Annual						12946						
Total Nitrogen (lbs)												
Total Annual						12946						
Ammonia (lbs/day)												
Average Monthly	2.78	2.46	1.5	0.9	0.49	0.45	0.44	0.62	2.6	8.0	71.6	92
Ammonia (mg/L)												
Average Monthly	0.66	0.46	0.3	0.22	0.11	0.10	0.1	0.15	0.54	1.7	13.8	18.2
<u> </u>	•									•		

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Ammonia (lbs)												
Total Monthly	77.8	76	48	26.8	15.1	13.5	13.6	19.1	77	247	2147	2854
Ammonia (lbs)												
Total Annual						8149						
TKN (mg/L)												
Average Monthly	2.5	2.73	2.87	2.0	1.47	0.74	0.76	0.90	1.4	4.3	14.9	19.3
TKN (lbs)												
Total Monthly	296	440	398	252	198	100	104	118	196	627	2322	3036
Total Phosphorus												
(lbs/day)												
Average Monthly	8.2	9.3	9.7	7.7	5.3	6.5	5	3.1	8.5	4.7	5.1	3
Total Phosphorus												
(mg/L)												
Average Monthly	1.97	1.81	2.18	1.78	1.22	1.47	1.1	0.75	1.84	1.02	1.03	0.65
Total Phosphorus (lbs)												
Effluent Net 												
Total Monthly	230	289	302	230	164	196	157	97	255	144	153	101
Total Phosphorus (lbs)												
Total Monthly	230	289	302	230	164	196	157	97	255	144	153	101
Total Phosphorus (lbs)												
Effluent Net 												
Total Annual						1806						
Total Phosphorus (lbs)						1000						
Total Annual						1806						
Total Copper (lbs/day)												
Average Monthly	0.07	0.1	0.6	0.6	0.5	0.5	0.7	0.7	0.8	0.05	0.06	0.09
Total Copper (lbs/day)												
Daily Maximum	0.07	0.1	0.6	0.6	0.5	0.5	0.7	0.7	0.8	0.05	0.06	0.09
Total Copper (ug/L)												
Average Monthly	15.9	21.8	132	140	0.11	133	168	188	165	10.0	12.7	15.6
Total Copper (ug/L)												
Daily Maximum	15.9	21.8	132	140	0.11	133	168	188	165	10.0	12.7	15.6

	Tools and References Used to Develop Permit
	WQM for Windows Model (see Attachment B)
	Toxics Management Spreadsheet (see Attachment C)
	TRC Model Spreadsheet (see Attachment E)
	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, 362-0400-001, 10/97.
	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
	Pennsylvania CSO Policy, 385-2000-011, 9/08.
$\boxtimes$	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
$\boxtimes$	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
$\boxtimes$	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
$\boxtimes$	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
$\boxtimes$	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 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, 391-2000-019, 10/97.
	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 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, 391-2000-022, 3/1999.
$\boxtimes$	Design Stream Flows, 391-2000-023, 9/98.
	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
$\square$	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
	SOP:
	Other:





Prepared in cooperation with the Pennsylvania Department of Environmental Protection

# Selected Streamflow Statistics for Streamgage Locations in and near Pennsylvania



Open-File Report 2011–1070

U.S. Department of the Interior U.S. Geological Survey

#### 26 Selected Streamflow Statistics for Streamgage Locations in and near Pennsylvania

Table 2. Selected low-flow statistics for streamgage locations in and near Pennsylvania.-Continued

 $[ft^3/s;$  cubic feet per second; —, statistic not computed; <, less than]

Streamgage number	Period of record used in analysis <sup>1</sup>	Number of years used in analysis	1-day, 10-year (ft³/s)	7-day, 10-year (ft³/s)	7-day, 2-year (ft³/s)	30-day, 10-year (ft³/s)	30-day, 2-year (ft³/s)	90-day, 10-year (ft³/s)	
01546000	1912–1934	17	1.8	2.2	6.8	3,7	12.1	11.2	
01546400	1986-2008	23	13.5	14.0	19.6	15,4	22.3	18.7	
01546500	1942-2008	67	26.8	29.0	41.3	31.2	44,2	33.7	
01547100	1969-2008	40	102	105	128	111	133	117	
01547200	1957-2008	52	99.4	101	132	106	142	115	2011/0
01547500	<sup>2</sup> 1971–2008	38	28.2	109	151	131	172	153	
01547500	<sup>3</sup> 1956–1969	14	90.0	94,9	123	98.1	131	105	
01547700	1957-2008	52	.5	.6	2.7	1.1	3.9	2.2	
01547800	1971-1981	11	1.6	1.8	2.4	2.1	2.9	3.5	
01547950	1970-2008	39	12.1	13.6	28.2	17.3	36.4	23.8	
01548005	<sup>2</sup> 1971–2000	25	142	151	206	178	241	223	
01548005	<sup>3</sup> 1912–1969	58	105	114	147	125	165	140	
01548500	1920-2008	89	21.2	24.2	50.1	33.6	68.6	49.3	
01549000	1910-1920	11	26.0	32.9	78,0	46.4	106	89.8	
01549500	1942-2008	67	.6	.8	2.5	1.4	3.9	2,6	
01549700	1959-2008	50	33.3	37.2	83.8	51.2	117	78.4	
01550000	1915-2008	94	6.6	7.6	16.8	11.2	24.6	18.6	
01551500	²1963-2008	46	520	578	1,020	678	1,330	919	
01551500	<sup>3</sup> 1901–1961	61	400	439	742	523	943	752	(d
01552000	1927-2008	80	20.5	22,2	49.5	29.2	69.8	49.6	
01552500	1942-2008	67	.9	1.2	3,1	1,7	4,4	3,3	
01553130	1969-1981	'13	1.0	1.1	1.5	1.3	1.8	1,7	
01553500	<sup>2</sup> 1968–2008	41	760	838	1,440	1,000	1,850	1,470	
01553500	<sup>3</sup> 1941–1966	26	562	619	880	690	1,090	881	
01553700	1981-2008	28	9,1	10.9	15.0	12.6	17.1	15.2	
01554000	<sup>2</sup> 1981–2008	28	1,830	1,990	3,270	2,320	4,210	3,160	
01554000	<sup>3</sup> 1939–1979	41	1,560	1,630	2,870	1,880	3,620	2,570	
01554500	1941-1993	53	16.2	22.0	31.2	25.9	35.7	31.4	
01555000	1931-2008	78	33.5	37.6	58.8	43.4	69.6	54.6	
01555500	1931-2008	78	4.9	6.5	18.0	9,4	24.3	16.6	
01556000	1918-2008	91	43.3	47.8	66.0	55.1	75.0	63.7	
01557500	1946-2008	63	2.8	3.2	6.3	4,2	8.1	5.8	
01558000	1940-2008	69	56.3	59.0	79.8	65.7	86.2	73.7	
01559000	1943-2008	66	104	177	249	198	279	227	
01559500	1931-1958	28	9,3	10,5	15.0	12,4	17.8	15.8	
01559700	1963-1978	16	.1	.1	.2	.1	.3	.2	
01560000	1941-2008	68	8.5	9.4	15.6	12.0	20.2	16.2	
01561000	1932-1958	27	.4	.5	1.6	.8	2.5	1.7	
01562000	1913-2008	96	64.1	67.1	106	77.4	122	94.5	
01562500	1931-1957	27	1.1	1,6	3.8	2.3	5.4	3.7	1014
01563200	<sup>2</sup> 1974–2008	35		n Dahar sa <u>ma</u> ng		112	266	129	
01563200	<sup>3</sup> 1948–1972	25	10.3	28.2	86.1	64.5	113	95.5	
01563500	<sup>2</sup> 1974–2008	35	384	415	519	441	580	493	
01563500	<sup>3</sup> 1939–1972	34	153	242	343	278	399	333	
01564500	1940-2008	69	3.6	4,2	10,0	6.2	14,4	10,6	

00.2 minued

#### Table 1 13

Table 1. List of U.S. Geological Survey streamgage locations in and near Pennsylvania with updated streamflow statistics.—Continued

[Latitude and Longitude in decimal degrees; mi2, square miles]

				Drainage	
Streamgage number	Streamgage name	Latitude	Longitude	area (mi²)	Regulated <sup>1</sup>
01541303	West Branch Susquehanna River at Hyde, Pa.	41.005	-78.457	474	Y
01541308	Bradley Run near Ashville. Pa.	40.509	-78.584	6.77	Ν
01541500	Clearfield Creek at Dimeling, Pa.	40.972	-78.406	371	Y
01541300	Moshannon Creek at Osceola Mills. Pa	40.850	-78.268	68.8	Ν
01542000	WB Susquehanna River at Karthaus Pa	41.118	-78.109	1,462	Y
01542500	Waldy Run near Emporium Pa	41.579	-78.293	5.24	N
01542810	Waldy Kurnea Emperium, ru.	41,413	-78.197	272	N
01545000	Simometraning Creek at Simometraning Pa	41.317	-78,103	685	N
01543300	Sime manoning Creek at Sinnemanoning, Tu	41.402	-78,024	245	Y
01544000	First Fork Simerianoning Creek near Simerianoning, Fa	41.476	-77.826	136	N
01544500	Kettle Creek al Closs Polk, I.d.	41 320	-77.874	233	Y
01545000	Kelle Creek hear westport, 1 a.	41 325	-77.751	2,975	Y
01545500	West Branch Susquenanna Kiver at Kenovo, 1 a.	41 390	-77.691	46.2	N
01545600	Young womans Creek near Kenovo, ra.	40.942	-77.794	119	N
01546000	North Baid Eagle Creek at Milesburg, Fa.	40.834	-77.828	58.5	N
01546400	Spring Creek at Houservine, ra.	40.890	-77 794	87.2	N
01546500	Spring Creek near Axemann, Fa.	40.932	-77.786	142	N
01547100	Spring Creek at Milesourg, Pa.	40.932	-77 786	265	N
01547200	Baid Eagle Creek below Spring Creek at Winesburg, 1 a.	41.052	-77.604	339	Y
01547500	Bald Eagle Creek at Blanchard, Pa.	41.052	-77,606	44 1	N
01547700	Marsh Creek at Blanchard, Pa.	41,000	-77.000	17.7	N
01547800	South Fork Beech Creek near Snow Shoe, Pa.	41.024	-77,904	152	N
01547950	Beech Creck at Monument, Pa.	41.112	-77.540	562	v
01548005	Bald Eagle Creek near Beech Creek Station, Pa.	41.001	-77.349	502 604	N
01548500	Pine Creek at Cedar Run, Pa.	41.522	-//.44/	750	N
01549000	Pine Creek near Waterville, Pa.	41.313	-11.319	150	N
01549500	Blockhouse Creek near English Center, Pa.	41,474	-/7.231	97,7 044	IN V
01549700	Pine Creek below Little Pine Creek near Waterville, Pa.	41.274	-77.324	944	I NI
01550000	Lycoming Creek near Trout Run, Pa.	41.418	-77,033	1/3	N N
01551500	WB Susquehanna River at Williamsport, Pa.	41,236	-76.997	2,682	
01552000	Loyalsock Creek at Loyalsockville, Pa.	41.325	-76.912	4.50	
01552500	Muncy Creck near Sonestown, Pa.	41.357	-76.535	23.8	N Combine
01553130	Sand Spring Run near White Deer, Pa.	41.059	-77.077	4.93	N
01553500	West Branch Susquehanna River at Lewisburg, Pa.	40.968	-76.876	6,847	Ŷ
01553700	Chillisquaque Creek at Washingtonville, Pa.	41,062	-76.680	51.3	N
01554000	Susquehanna River at Sunbury, Pa.	40.835	-76.827	18,300	Y
01554500	Shamokin Creek near Shamokin, Pa.	40.810	-76.584	54,2	N .
01555000	Penns Creek at Penns Creek, Pa.	40.867	-77.048	301	N
01555500	East Mahantango Creek near Dalmatia, Pa.	40.611	-76.912	162	N .
01556000	Frankstown Branch Juniata River at Williamsburg, Pa.	40.463	-78.200	291	N
01557500	Bald Eagle Creek at Tyrone, Pa.	40,684	-78,234	44.1	N
01558000	Little Juniata River at Spruce Creek, Pa.	40.613	-78.141	220	N
01559000	Juniata River at Huntingdon, Pa.	40.485	-78.019	816	LF
01559500	Standing Stone Creek near Huntingdon, Pa.	40,524	-77.971	128	N
01559700	Sulphur Springs Creek near Manns Choice, Pa.	39.978	-78.619	5.28	N
01560000	Dunning Creek at Belden, Pa.	40.072	-78.493	172	N
0100000					

# APPENDIX B WQM 7.0 MODEL INPUT/OUTPUT

# Input Data WQM 7.0

	SWF Basii	9 Strea n Coo	am le	Stre	am Name		RMI	Ele	evation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
	10D	180	668 WEST	BRANCH	I SUSQUE	HANNA R	32.00	00	482.00	6210.00	0.00000	0.00	$\checkmark$
					S	tream Dat	a						
Design	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Ten	<u>Tributary</u> าp pH	Tem	<u>Stream</u> np pH	
cond.	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C	;)	(°C	)	
Q7-10 Q1-10 Q30-10	0.100	0.00 0.00 0.00	600.20 0.00 0.00	0.000 0.000 0.000	0.000 0.000 0.000	0.0	0.00	0.0	00 2	0.00 7.0	00	0.00 0.00	

Existing     Permitted     Design     Disc       Name     Permit Number     Disc     Disc     Disc     Reserve     Temp       Name     Permit Number     Flow     Flow<	Disc pH
	7.00
LCWSA PA0209228 1.5000 1.5000 1.5000 0.000 25.00	1.00
Parameter Data	
Disc Trib Stream Fate Conc Conc Conc Coef	
(mg/L) (mg/L) (1/days)	
CBOD5 25.00 2.00 0.00 1.50	
Dissolved Oxygen 3.00 8.24 0.00 0.00	
NH3-N 25.00 0.00 0.00 0.70	

	<u>sn</u>	<u>/P Basin</u>	<u>Strea</u>	<u>m Code</u>				Stream	<u>Name</u>					
		10D	1	8668		WES	ST BRAN	CHSUS	QUEHAN	NA RIVE	R			
RMI	Stream Flow	PWS With	Net Stream Flow	Disc Analysis Flow	Reach Slope	Depth	Width	W/D Ratio	Velocity	Reach Trav Time	Analysis Temp	Analysis pH		
	(cfs)	(cfs)	(cfs)	(cfs)	(ft/ft)	(ft)	(ft)		(fps)	(days)	(°C)			
Q7-1	0 Flow													
32.000	600.20	0.00	600.20	2.3205	0.00125	1.181	471.73	399.3	1.08	0.120	20.02	7.00		
Q1-1	0 Flow													
32.000	539.58	0.00	539.58	2.3205	0.00125	NA	NA	NA	1.02	0.127	20.02	7.00		
Q30-	10 Flov	v												
32.000	702.23	0.00	702.23	2.3205	0.00125	NA	NA	NA	1.18	0.110	20.02	7.00		

# WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	✓
WLA Method	EMPR	Use Inputted W/D Ratio	
Q1-10/Q7-10 Ratio	0.899	Use Inputted Reach Travel Times	
Q30-10/Q7-10 Ratio	1.17	Temperature Adjust Kr	✓
D.O. Saturation	90.00%	Use Balanced Technology	✓
D.O. Goal	5		

	<u>SWP Basin</u> <u>Str</u> 10D	<u>eam Code</u> 18668	w	<u>St</u> EST BRANCH	<u>ream Name</u> I SUSQUEHA	NNA RIVEF	र	
NH3-N	Acute Allocatio	ns						
RMI	Discharge Nam	Baseline e Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction	
32.00	00 LCWSA	16.73	50	16.73	50	0	0	-
NH3-N	Chronic Alloca	tions						-
RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction	
32.00	00 LCWSA	1.89	25	1.89	25	0	0	
Dissolve	ed Oxygen Allo	cations						-
		9	CBOD5	NH3-N	Dissol	ved Oxygen	Critical	Doroci
RMI	Discharge Na	ime Basel	ne Multiple	Baseline Mu	ultiple Baselir	e Multiple	Reach F	Reducti

#### tol 4

32.00 LCWSA	25	25	25	25	3	3	0	0

SWP Basin	<u>Stream Code</u>			Stream Name	
10D	18668	w	RIVER		
RMI	Total Discharge	Flow (mgd	<u>) Anal</u>	<u>ysis Temperature (°C)</u>	<u>Analysis pH</u>
32.000	1.50	0		20.019	7.000
<u>Reach Width (ft)</u>	<u>Reach De</u>	pth (ft)		Reach WDRatio	<u>Reach Velocity (fps)</u>
471.733	1.18	1		399.295	1.081
Reach CBOD5 (mg/L)	<u>Reach Kc (</u>	1/days)	<u>R</u>	each NH3-N (mg/L)	<u>Reach Kn (1/days)</u>
2.09	0.06	4		0.10	0.701
Reach DO (mg/L)	<u>Reach Kr (</u>	<u>1/days)</u>		Kr Equation	<u>Reach DO Goal (mg/L)</u>
8.223	6.31	0		Tsivoglou	5
<u>Reach Travel Time (days</u>	)	Subreach	Results		
0.120	TravTime	CBOD5	NH3-N	D.O.	
	(days)	(mg/L)	(mg/L)	(mg/L)	
	0.012	2.09	0.10	8.24	
	0.024	2.09	0.09	8.24	
	0.036	2.08	0.09	8.24	
	0.048	2.08	0.09	8.24	
	0.060	2.08	0.09	8.24	
	0.072	2.08	0.09	8.24	
	0.084	2.08	0.09	8.24	
	0.096 2.08		0.09	8.24	
	0.108	2.07	0.09	8.24	
	0.120	2.07	0.09	8.24	

# WQM 7.0 D.O.Simulation

		VVQIVI	1.0 EI		2								
	SWP Basin	Stream Code		Stream Name	2								
	10D	18668	WEST BRANCH SUSQUEHANNA RIVER										
RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)						
32.000	LCWSA	PA0209228	1.500	CBOD5	25								
				NH3-N	25	50							
				Dissolved Oxygen			3						

#### WQM 7.0 Effluent Limits

# APPENDIX C TOXICS MANAGEMENT SPREADSHEET

Toxics Management Spreadsheet Version 1.4, May 2023



# **Discharge Information**

Inst	tructions D	Discharge Stream													
Fac	ility: LCV	WSA				N	IPE	)ES Peri	mit No.:	PA0209	228		Outfall	No.: 001	
Eva	luation Type:	Major Sewage /	Industr	ial Was	te	V	Vas	stewater	Descrip	tion:					
<u> </u>															
					Discha	rge C	na	racterist	lics			_			
De	esign Flow	Hardness (mg/l)*	pH (	SU)*		Pa	rtia	al Mix Fa	actors (F	PMFs)		Com	plete Mi	x Times	(min)
	(MGD)^				AFC	;		CFC	THE	•	CRL	Q,	7-10	G	2 <sub>h</sub>
	1.5	200		7											
						0 if	f left	blank	0.5 if le	eft blank	0	) if left blan	k	1 if lef	t blank
	Disch	arge Pollutant	Units	Max Di C	ischarge onc	Trib Con	0 C	Stream Conc	Daily CV	Hourly CV	Strea m CV	Fate Coeff	FOS	Criteri a Mod	Chem Transl
	Total Dissolve	ed Solids (PWS)	mg/L		766										
5	Chloride (PW	S)	mg/L		158										
no	Bromide		mg/L		0.362										
ō	Sulfate (PWS	5)	mg/L		36.1										
	Fluoride (PW	S)	mg/L												
	Total Aluminu	IM	µg/L		204										
	Total Antimony		µg/L		0.383										
	Total Arsenic		µg/L		2										
	Total Barium		µg/L		196										
	Total Berylliur	m	µg/L		0.676										
	Total Boron		µg/L		200										
	Total Cadmiu	m m (III)	µg/L		0.123										
	Hexavalent C	um (m) bromium	µg/L		2										
	Total Cohalt	momum	µg/L		0.00										
	Total Copper		mg/L		0.003										
2	Free Cvanide		ug/L		5										
dno	Total Cyanide	;	µg/L		6										
5	Dissolved Iror	n	µg/L		60										
-	Total Iron		µg/L		260										
	Total Lead		µg/L		0.493										
	Total Mangan	iese	µg/L		0.0507										
	Total Mercury	/	µg/L		0.1										
	Total Nickel		µg/L		2.42										
	Total Phenols	(Phenolics) (PWS)	µg/L		5										
	Total Seleniu	m	µg/L		1.67										
	Total Silver		µg/L		1.37										
	Total Thallium	n	µg/L		0.068										
	Total Zinc		µg/L		67.2										
<u> </u>	Total Molybde	enum	µg/L		9.99										
	Acrolein		µg/L		1.95										
	Acrylamide		µg/L		0.51										
	Renzene		µg/L		0.43										
	Bromoform		ug/L		0.34										

	Carbon Tetrachloride	ua/L		0.51					
	Chlorobenzene	ug/l		0.21					
	Chlorodibromomethane	µg/=		0.39					
	Chloroothana	µg/L		0.33			 		
		µg/L		0.42					
	2-Chioroethyl Vinyl Ether	µg/L		4			 		
	Chloroform	µg/L		2.91					
	Dichlorobromomethane	µg/L		0.32					
	1,1-Dichloroethane	µg/L		0.42					
3	1,2-Dichloroethane	µg/L		0.39					
q	1,1-Dichloroethylene	µg/L		0.33					
10	1,2-Dichloropropane	µg/L		0.42					
G	1.3-Dichloropropylene	ua/L		0.26					
	1 4-Dioxane	ug/l		3					
	Ethylbenzene	ug/L		0.27					
	Methyl Bromide	µg/L		0.46			 		
	Methyl Chloride	µg/L		0.40					
		µy/L		0.36		 	 		
	Methylene Chloride	µg/L		0.45			 		
	1,1,2,2-Tetrachloroethane	µg/L		0.36	 				
	Tetrachloroethylene	µg/L		0.39					
	Toluene	µg/L		0.33					
	1,2-trans-Dichloroethylene	µg/L		0.39					
	1,1,1-Trichloroethane	µg/L		0.38					
	1,1,2-Trichloroethane	µg/L		0.24					
	Trichloroethylene	µg/L		0.46					
	Vinyl Chloride	µq/L		0.46					
	2-Chlorophenol	ua/l		0 135					
	2 4-Dichlorophenol	ug/l		0.26					
	2.4-Dimethylphenol	ug/L		0.27					
	4 6-Dinitro-o-Cresol	ug/L		0.939					
4	2.4-Dinitrophenol	µg/L		0.894			 		
dn	2.4-Dimitrophenol	µg/L		0.034					
ē	2-Nitrophenol	µy/L		0.20			 		
G		µg/L		0.190					
	p-Chioro-m-Cresol	µg/L		0.416		 			
	Pentachiorophenoi	µg/L		1.01			 		
	Phenol	µg/L		0.26		 	 		
	2,4,6-Trichlorophenol	µg/L		0.25			 		
	Acenaphthene	µg/L		0.27					
	Acenaphthylene	µg/L		0.229			 		
	Anthracene	µg/L		0.135					
	Benzidine	µg/L	<	0.364					
	Benzo(a)Anthracene	µg/L	<	0.218					
	Benzo(a)Pyrene	µg/L	>	0.302					
	3,4-Benzofluoranthene	µg/L	<	0.322					
	Benzo(ghi)Perylene	µq/L	<	0.333					
	Benzo(k)Fluoranthene	ha\l		0.416					
	Bis(2-Chloroethoxy)Methane	ug/l		0.156					
	Bis(2-Chloroethyl)Ether	ug/L		0.26					
	Bis(2-Chloroisopropyl)Ether	ug/L		0.354					
	Bis(2_Ethylbeyyl)Dhthalate	µg/L		7.44					
	4 Bromonhonyd Dhonyd Ethor	µg/L		0.400					
	4-bioinophenyi Phenyi Eulei	µy/L		0.190					
	Butyi Benzyi Phinalate	µg/L		0.484					
	2-Chloronaphthalene	µg/L		0.291					
	4-Chlorophenyl Phenyl Ether	µg/L		0.302			 		
	Unrysene	µg/L		0.468					
	Dibenzo(a,h)Anthrancene	µg/L	<	0.291					
	1,2-Dichlorobenzene	µg/L		0.333					
	1,3-Dichlorobenzene	µg/L		0.177					
2	1,4-Dichlorobenzene	µg/L		0.156					
dn	3,3-Dichlorobenzidine	µg/L		0.135					
2	Diethyl Phthalate	µg/L		0.281					
0	Dimethyl Phthalate	µg/L		0.239					
	Di-n-Butyl Phthalate	µg/L		0.302					
	2,4-Dinitrotoluene	µg/L		0.801					

	2.6-Dinitrotoluene	µg/L		0.333					
	Di-n-Octyl Phthalate	µg/L		0.291					
	1.2-Diphenylhydrazine	ua/L		0.208					
	Fluoranthene	ug/L		0.364					
	Fluorene	ua/L		0.26			 		
	Hexachlorobenzene	ua/L	<	0.26					
	Hexachlorobutadiene	ua/L		0.281					
	Hexachlorocyclopentadiene	µq/L		0.229			 		
	Hexachloroethane	µg/L		0.27					
	Indeno(1,2,3-cd)Pyrene	µg/L	<	0.26					
	Isophorone	µg/L		0.239					
	Naphthalene	µg/L		1.34					
	Nitrobenzene	µg/L		0.27					
	n-Nitrosodimethylamine	µg/L	<	0.416					
	n-Nitrosodi-n-Propylamine	µg/L		0.322					
	n-Nitrosodiphenylamine	µg/L		0.281					
	Phenanthrene	µg/L		0.218					
	Pyrene	µg/L		0.166					
	1,2,4-Trichlorobenzene	µg/L		0.177					
	Aldrin	µg/L							
	alpha-BHC	µg/L							
	beta-BHC	µg/L							
	gamma-BHC	µg/L							
	delta BHC	µg/L							
	Chlordane	µg/L							
	4,4-DDT	µg/L							
	4,4-DDE	µg/L							
	4,4-DDD	µg/L						-	
	Dieldrin	µg/L					 		
	alpha-Endosulfan	µg/L					 		
<i>(</i> 0	beta-Endosulfan	µg/L							
d l	Endosulfan Sulfate	µg/L							
rou	Endrin	µg/L					 	 	
G	Endrin Aldehyde	µg/L					 		
	Heptachior	µg/L					 		
	Heptachlor Epoxide	µg/L							
	PCB-1016	µg/L							
	PCB-1221	µg/L							
	PCB-1232	µg/L							
	PCB-1242	µg/L					 		
	PCB-1240	µg/L					 		
	PCB-1234	µg/L							
	PCBs Total	µg/L							
	Toyaphene	µg/L							
	2 3 7 8-TCDD	ng/L							
	Gross Alpha	nCi/l					 		
	Total Beta	pCi/l							
7 d	Radium 226/228	pCi/l							
rou	Total Strontium	µa/l							
ō	Total Uranium	ua/L							
	Osmotic Pressure	mOs/ka							

Toxics Management Spreadsheet Version 1.4, May 2023



#### Stream / Surface Water Information

LCWSA, NPDES Permit No. PA0209228, Outfall 001

#### Instructions Discharge Stream

Receiving Surface W	/ater Name:					No. Reaches to Mod	<ul> <li>Statewide Criteria</li> <li>Great Lakes Criteria</li> </ul>	
Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi <sup>2</sup> )*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*	ORSANCO Criteria
Point of Discharge	018668	32	482	6210			Yes	
End of Reach 1	018668	29.88	468	6220			Yes	

#### Q 7-10

Location	DMI	LFY	Flow	r (cfs)	W/D	Width	Depth	Velocit	Time	Tributa	ary	Stream	m	Analys	sis
Location	rxivii	(cfs/mi <sup>2</sup> )*	Stream	Tributary	Ratio	(ft)	(ft)	y (fps)	(dave)	Hardness	pН	Hardness*	pH*	Hardness	pН
Point of Discharge	32	0.1										100	7		
End of Reach 1	29.88	0.1													

#### $Q_h$

Location	DMI	LFY	Flow	Flow (cfs)		W/D Width Depth Velocit		Time	Tributary		Stream		Analysis		
Location	<b>EXIMI</b>	(cfs/mi <sup>2</sup> )	Stream	Tributary	Ratio	(ft)	(ft)	y (fps)	(days)	Hardness	pН	Hardness	pН	Hardness	pН
Point of Discharge	32														
End of Reach 1	29.88														

#### tream / Surface Water Information

6/14/2023

#### NPDES Permit No. PA0209228

Toxics Management Spreadsheet Version 1.4, May 2023

DEPARTMENT OF ENVIRONMENTAL PROTECTION

#### **Model Results**

LCWSA, NPDES Permit No. PA0209228, Outfall 001

Instructions Results	RETURN	TO INPU	TS	SAVE AS	PDF	PRINT	r @ A	II () Inputs () Results () Limits							
Hydrodynamics	Hydrodynamics														
Wasteload Allocations															
AFC CC	Image: AFC     CCT (min):     15     PMF:     0.046     Analysis Hardness (mg/l):     107.44     Analysis pH:     7.00       Pollutants     Conc     Stream     Trib Conc     Fate     WQC     WQ Obj     WLA (µg/L)     Comments														
Pollutants	Conc	Stream	Trib Conc	Fate	WQC	WQ Obj	WLA (ug/L)	Comments							
	(ug/L)	CV	(µg/L)	Coef	(µg/L)	(µg/L)									
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	/50	750	10,077								
Total Anumony	0	0		0	1,100	1,100	14,779	Oherr Translates of A surfied							
Total Arsenic	0	0		0	340	340	4,008	Chem I ranslator of 1 applied							
Total Banum	0	0		0	21,000	21,000	282,140								
Total Codmium	0	0		0	3,100	8,100	108,828	Chem Translater of 0.041 applied							
Total Chromium (III)	0	0		0	604 269	2.29	25.602	Chem Translator of 0.341 applied							
Hexavalent Chromium	0	0		0	16	16.3	23,032	Chem Translator of 0.972 applied							
Total Cobalt	0	0		0	95	95.0	1 276								
Total Copper	0	0		0	14 380	15.0	201	Chem Translator of 0.96 applied							
Free Cvanide	0	0		0	22	22.0	296	Chem manalator or 0.00 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	69.826	89.5	1 202	Chem Translator of 0 781 applied							
Total Manganese	0	0		0	N/A	N/A	N/A								
Total Mercury	0	0		0	1.400	1.65	22.1	Chem Translator of 0.85 applied							
Total Nickel	0	0		0	497.555	499	6,698	Chem Translator of 0.998 applied							
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	, N/A								
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied							
Total Silver	0	0		0	3.640	4.28	57.5	Chem Translator of 0.85 applied							
Total Thallium	0	0		0	65	65.0	873								
Total Zinc	0	0		0	124.530	127	1,711	Chem Translator of 0.978 applied							
Acrolein	0	0		0	3	3.0	40.3								

Model Results

6/14/2023

Acrylonitrile	0	0	0	650	650	8,733	
Benzene	0	0	0	640	640	8,599	
Bromoform	0	0	0	1,800	1,800	24,184	
Carbon Tetrachloride	0	0	0	2,800	2,800	37,619	
Chlorobenzene	0	0	0	1,200	1,200	16,123	
Chlorodibromomethane	0	0	0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0	0	18,000	18,000	241,839	
Chloroform	0	0	0	1,900	1,900	25,527	
Dichlorobromomethane	0	0	0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0	0	15,000	15,000	201,533	
1,1-Dichloroethylene	0	0	0	7,500	7,500	100,766	
1,2-Dichloropropane	0	0	0	11,000	11,000	147,791	
1,3-Dichloropropylene	0	0	0	310	310	4,165	
Ethylbenzene	0	0	0	2,900	2,900	38,963	
Methyl Bromide	0	0	0	550	550	7,390	
Methyl Chloride	0	0	0	28,000	28,000	376,194	
Methylene Chloride	0	0	0	12,000	12,000	161,226	
1,1,2,2-Tetrachloroethane	0	0	0	1,000	1,000	13,436	
Tetrachloroethylene	0	0	0	700	700	9,405	
Toluene	0	0	0	1,700	1,700	22,840	
1,2-trans-Dichloroethylene	0	0	0	6,800	6,800	91,361	
1,1,1-Trichloroethane	0	0	0	3,000	3,000	40,307	
1,1,2-Trichloroethane	0	0	0	3,400	3,400	45,681	
Trichloroethylene	0	0	0	2,300	2,300	30,902	
Vinyl Chloride	0	0	0	N/A	N/A	N/A	
2-Chlorophenol	0	0	0	560	560	7,524	
2,4-Dichlorophenol	0	0	0	1,700	1,700	22,840	
2,4-Dimethylphenol	0	0	0	660	660	8,867	
4,6-Dinitro-o-Cresol	0	0	0	80	80.0	1,075	
2,4-Dinitrophenol	0	0	0	660	660	8,867	
2-Nitrophenol	0	0	0	8,000	8,000	107,484	
4-Nitrophenol	0	0	0	2,300	2,300	30,902	
p-Chloro-m-Cresol	0	0	0	160	160	2,150	
Pentachlorophenol	0	0	0	8.723	8.72	117	
Phenol	0	0	0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0	0	460	460	6,180	
Acenaphthene	0	0	0	83	83.0	1,115	
Anthracene	0	0	0	N/A	N/A	N/A	
Benzidine	0	0	0	300	300	4,031	
Benzo(a)Anthracene	0	0	0	0.5	0.5	6.72	
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	403,065	
Bis(2-Chloroisopropyl)Ether	0	0	0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0	0	4,500	4,500	60,460	
4-Bromophenyl Phenyl Ether	0	0	0	270	270	3,628	

Model Results

6/14/2023

Butyl Benzyl Phthalate	0	0		0	140	140	1,881	
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	11,017	
1,3-Dichlorobenzene	0	0		0	350	350	4,702	
1,4-Dichlorobenzene	0	0		0	730	730	9,808	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	53,742	
Dimethyl Phthalate	0	0		0	2,500	2,500	33,589	
Di-n-Butyl Phthalate	0	0		0	110	110	1,478	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	21,497	
2,6-Dinitrotoluene	0	0		0	990	990	13,301	
1,2-Diphenylhydrazine	0	0		0	15	15.0	202	
Fluoranthene	0	0		0	200	200	2,687	
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	134	
Hexachlorocyclopentadiene	0	0		0	5	5.0	67.2	
Hexachloroethane	0	0		0	60	60.0	806	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	134,355	
Naphthalene	0	0		0	140	140	1,881	
Nitrobenzene	0	0		0	4,000	4,000	53,742	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	228,404	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	4,031	
Phenanthrene	0	0		0	5	5.0	67.2	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	1,747	
✓ CFC CC	T (min): 7	20	PMF:	0.322	Ana	alysis Hardne	ess (mg/l):	101.15 Analysis pH: 7.00
Pollutants	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	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	19,174	
Total Arsenic	0	0		0	150	150	13,073	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	357,338	
Total Boron	0	0		0	1,600	1,600	139,449	
Total Cadmium	0	0		0	0.248	0.27	23.8	Chem Translator of 0.909 applied
Total Chromium (III)	0	0		0	74.810	87.0	7,582	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	906	Chem Translator of 0.962 applied
	-	-		-				

Model Results

6/14/2023

Total Copper         0         0         9.043         9.42         821         Chem Translator of 0.96 applied           Free Cyanide         0         0         5.2         5.2         453           Dissolved fron         0         0         0.1         100         N/A         N/A           Total Iand         0         0         0         1.500         402, 922         WCC = 30 day average; PMF = 1           Total Manganese         0         0         0         0.41         N/A         N/A           Total Mecary         0         0         0         0.770         0.91         790         Chem Translator of 0.937 applied           Total Mecary         0         0         0         N/A         N/A         N/A           Total Silver         0         0         0         N/A         N/A         N/A           Total Silver         0         0         0         13         13.3         1.133           Total Silver         0         0         0         13         13.3         1.133           Total Silver         0         0         0         13         13.0         1.130           Total Silver         0         0 </th <th>Total Cobalt</th> <th>0</th> <th>0</th> <th>0</th> <th>19</th> <th>19.0</th> <th>1,656</th> <th></th>	Total Cobalt	0	0	0	19	19.0	1,656	
Free Cyanide         0         0         5.2         5.2         453           Dissolved fron         0         0         N/A         N/A         N/A           Total Iron         0         0         1,500         1,500         402,922         WCC = 30 day average, PMF = 1           Total Manganese         0         0         0         2,543         3,23         281         Chem Translator of 0.85 appled           Total Marcay         0         0         0         0,770         0.91         79.0         Chem Translator of 0.85 appled           Total Nickel         0         0         0         0         N/A         N/A         N/A           Total Phone(s) (PMS)         0         0         0         N/A         N/A         N/A           Total Silver         0         0         0         13         13.0         1,133         -           Total Taitum         0         0         0         13.3         13.0         1,133         -           Acroion         0         0         13.3         13.0         1,330         -         -           Acroion         0         0         0         3.0         3.2.48         -	Total Copper	0	0	0	9.043	9.42	821	Chem Translator of 0.96 applied
Dissolved Iron         0         0         N/A         N/A         N/A           Total Iron         0         0         1,500         402,922         WCC = 30 day average, PMF = 1           Total Anganese         0         0         0         2,548         3,23         281         Chem Translator of 0.789 applied           Total Marcury         0         0         0         0,01         1,01         N/A         N/A           Total Marcury         0         0         0         0,01         1,01         N/A         N/A           Total Selenium         0         0         0         N/A         N/A         N/A         N/A           Total Sheer         0         0         0         N/A         N/A         N/A         Chem Translator of 0.927 appled           Total Sheer         0         0         0         13         13.0         1,133           Total Zinc         0         0         0         133         130         1,330           Bernene         0         0         0         370         32,248         Chem Translator of 0.996 applied           Choroberzene         0         0         0         380         330,991         33,9	Free Cyanide	0	0	0	5.2	5.2	453	
Total Icad         0         0         1,500         1,500         402,222         WQC = 30 day average. PMF = 1           Total Manganese         0         0         0         1,500         1,500         2,221         Chem Translator of 0.789 applied           Total Marganese         0         0         0         0,770         0,91         790         Chem Translator of 0.997 applied           Total Nickel         0         0         0         0         452,511         52,7         4,550         Chem Translator of 0.997 applied           Total Silver         0         0         0         435         Chem Translator of 0.922 applied           Total Silver         0         0         0         113         13.0         1,133           Total Zinc         0         0         130         130         1,330         Brancher           Acrolein         0         0         130         130         13.30         13.30         Brancher           Bromoform         0         0         0         370         32,44         Chem Translator of 0.998 applied           Chroor Tratstoinde         0         0         130         130         13.30         Brancher         0         0	Dissolved Iron	0	0	0	N/A	N/A	N/A	
Total Lead         0         0         2.548         3.23         281         Chem Translator 0 0 789 applied           Total Mercury         0         0         0         0.770         0.91         790         Chem Translator 0 0 85 applied           Total Mercury         0         0         0         0.52.511         52.7         4.500         Chem Translator 0 0 867 applied           Total Selenium         0         0         0         4.500         4.99         435         Chem Translator 0 1 922 applied           Total Silver         0         0         1.43         N/A         N/A         N/A           Total Thallum         0         0         0         1.3         1.03         1.133           Total Zinc         0         0         0         1.30         1.130         1.130           Acrolein         0         0         0         1.30         1.30         1.1330           Bernere         0         0         0         3.70         32.248         Cathon Tetrachoride         0           Chiorobenzene         0         0         0         1.30         1.30         1.30         1.50           Chiorobenzene         0         0 <t< td=""><td>Total Iron</td><td>0</td><td>0</td><td>0</td><td>1,500</td><td>1,500</td><td>402,922</td><td>WQC = 30 day average; PMF = 1</td></t<>	Total Iron	0	0	0	1,500	1,500	402,922	WQC = 30 day average; PMF = 1
Total Manganese         0         0         NA         NA         NA         NA           Total Mickel         0         0         0         0.770         0.91         79.0         Chem Translator of 0.897 applied           Total Pienols (PMS)         0         0         0         0.52.51         52.7         4.500         Chem Translator of 0.922 applied           Total Shernum         0         0         4.600         4.99         4.35         Chem Translator of 0.922 applied           Total Sher         0         0         0         1.400         1.13         1.13         Chem Translator of 0.922 applied           Total Zinc         0         0         0         1.3         1.3.0         1.1330           Total Zinc         0         0         0         3.3.0         281         Acrolein           Acrolein         0         0         1.30         13.0         11.330         Benzene         0         0         0         3.0         281           Carbon Terachioride         0         0         0         3.500         3.500         3.500         3.500         3.504         3.501         3.501         3.502         3.501         3.502         3.501         3.5	Total Lead	0	0	0	2.548	3.23	281	Chem Translator of 0.789 applied
Total Mercury         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         <	Total Manganese	0	0	0	N/A	N/A	N/A	
Total Nickel         0         0         52.511         52.7         4.590         Chem Translator of 0.997 applied           Total Selenium         0         0         NA         N/A         N/A         N/A           Total Selenium         0         0         0         4.600         4.99         435         Chem Translator of 0.922 applied           Total Silver         0         0         0         N/A         N/A         N/A         Chem Translator of 0.922 applied           Total Silver         0         0         13         13.0         1,133         Chem Translator of 0.926 applied           Acrobein         0         0         13         13.0         1,1330         Chem Translator of 0.986 applied           Acrobein         0         0         130         13.0         11.330         Enconform           Benzene         0         0         0         370         370         32,248         Carbon Tetrachoride         0         0         0         360         350.0         350.0         350.0         350.0         350.0         350.0         350.0         350.0         350.0         350.0         350.0         350.0         350.0         350.0         350.0         350.0	Total Mercury	0	0	0	0.770	0.91	79.0	Chem Translator of 0.85 applied
Total Phenols (PMS)         0         0         NA         N/A         N/A           Total Silver         0         0         4.600         4.99         435         Chem Translator of 0.922 applied           Total Silver         0         0         4.600         4.99         435         Chem Translator of 0.922 applied           Total Silver         0         0         113         13.0         11,33         Chem Translator of 0.986 applied           Acrolein         0         0         0         130         113.0         11,330           Benzene         0         0         0         130         130         11,330           Bromoform         0         0         130         130         11,330         Internation of 0.986 applied           Carbon Tetrachonde         0         0         0         370         370         32,248           Carbon Tetrachonde         0         0         0         240         20,917         Chiorodbromomethane         0         0         0         35,00         35,00         35,00         35,045         Chiorodbromomethane         0         0         0         3,991         Dichiorobromomethane         0         0         0         1,00	Total Nickel	0	0	0	52.511	52.7	4,590	Chem Translator of 0.997 applied
Total Selenium         0         0         4.600         4.99         435         Chem Translator of 0.922 appled           Total Thallium         0         0         0         N/A         N/A         N/A         Chem Translator of 1 appled           Total Thallium         0         0         0         13         13.0         1,133           Total Zinc         0         0         0         130         119.286         121         10.644         Chem Translator of 0.986 appled           Acrolein         0         0         0         3         3.0         281         Chem Translator of 0.986 appled           Acrolein         0         0         130         113.0         11.330         Benzene         0         0         0         370         32.248           Carbon Tetrachloride         0         0         0         560         560         48.807         Chorodbrommethane         0         0         0         3,500         35,043         Solution         Chorodbrommethane         0         0         0         3,500         35,045         Chorodbrommethane         0         0         0         N/A         N/A         N/A         N/A         N/A         N/A         N/A	Total Phenols (Phenolics) (PWS)	0	0	0	N/A	N/A	N/A	
Total Silver         0         0         N/A         N/A         N/A         Chem Translator of 1 applied           Total Zinc         0         0         13         13.0         1,13.3	Total Selenium	0	0	0	4.600	4.99	435	Chem Translator of 0.922 applied
Total Thallum         0         0         13         13.0         1,13.3           Total Zinc         0         0         119,286         121         10,544         Chem Translator of 0,986 applied           Acrolein         0         0         3         3.0         261           Acrolontine         0         0         13.0         13.0         11.330           Benzene         0         0         0         370         370         32,248           Carbon Tetrachloride         0         0         0         240         20,917         Chlorodbromenhane         0         0         240         20,917           Chlorodbromomehane         0         0         0         3,500         36,045         10.1         1.1.1         1.2.Dichloroethrane         0         0         0         3,901         33,991         11.2.Dichloroethrane         0         0         0         3,100         270,183         1.1.1.Dichloroethylene         0         0         0         1,301         1,303         1.302         1.2.Dichloroptylene         0         0         1.500         1,500         1.501         1.501         1.502         1.502         1.502         1.502         1.502         1.502	Total Silver	0	0	0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Zinc         0         0         119.286         121         10.544         Chem Translator of 0.986 applied           Acrylonitrile         0         0         3         3.0         261           Acrylonitrile         0         0         130         1130         1130           Benzene         0         0         0         130         1130         1130           Bromoform         0         0         0         370         32.248            Carbon Tetrachloride         0         0         0         240         20.917            Chlorodbromomethane         0         0         0         3,600         3,901         39.91           Dichorotim         0         0         0         3,100         3,100         270.183           1,2-Dichlorotimomethane         0         0         0         1,500         1,500         130.734           1,2-Dichlorotiphylene         0         0         0         10         5,316           Ethylbenzene         0         0         0         10         5,500           Methyl Bromide         0         0         0         2,400         2,400         2,017	Total Thallium	0	0	0	13	13.0	1,133	
Acrolenin         0         0         3         3.0         261           Acrylonitrile         0         0         130         130         11,330           Benzene         0         0         0         130         11,330           Bromoform         0         0         0         130         11,330           Carbon Tetrachloride         0         0         0         560         48,807           Chlorobenzene         0         0         0         240         240         20,917           Chlorodbromomethane         0         0         0         3,500         305,045         1000000           Chlorodbromomethane         0         0         0         3,100         3,100         270,183           1,2-Dichloroethy I'ngl Tether         0         0         0         3,100         3,100         270,183           1,1-Dichloroethylene         0         0         0         2,200         191,1743           1,2-Dichloropropane         0         0         0         2,400         2001,174           1,3-Dichloroptopylene         0         0         0         110         9,587           Methyl Bromide         0 <td< td=""><td>Total Zinc</td><td>0</td><td>0</td><td>0</td><td>119.286</td><td>121</td><td>10,544</td><td>Chem Translator of 0.986 applied</td></td<>	Total Zinc	0	0	0	119.286	121	10,544	Chem Translator of 0.986 applied
Acylonitrile         0         0         130         130         11,30           Benzene         0         0         0         130         130         11,330           Bromoform         0         0         0         370         32,248           Carbon Tetrachloride         0         0         560         560         48,807           Chlorobenzene         0         0         240         240         20,917           ChlorothryOmmethane         0         0         0         3,500         35,001         305,045           ChlorothryUnyEther         0         0         0         3,400         3,601         3,601         3,601           ChlorothryUnyEther         0         0         0         3,400         3,601         3,601         3,601           ChlorothryNethene         0         0         0         1,300         1,400         1,400         1,400         1,400           1,1-DichlorothryIne         0         0         0         1,500         13,07,44         1,30-3,14           1,2-DichlorothryDene         0         0         0         580         50,50         5,500           Methylenzene         0         0 </td <td>Acrolein</td> <td>0</td> <td>0</td> <td>0</td> <td>3</td> <td>3.0</td> <td>261</td> <td></td>	Acrolein	0	0	0	3	3.0	261	
Benzene         0         0         130         11,30         11,30           Bromotom         0         0         370         370         32,248           Carbon Tetrachloride         0         0         560         560         48,807           Chlorobenzene         0         0         0         240         240         20,917           Chlorobornomethane         0         0         0         3,500         3,500         305,045           Chlorobornomethane         0         0         0         390         33,991         Dichlorobornomethane         0         0         N/A         N/A           1,2-Dichloroethylene         0         0         0         3,100         3,100         270,133           1,1-Dichloroethylene         0         0         0         1,500         130,734           1,2-Dichloropropane         0         0         0         580         500,550           Methyl Bromide         0         0         0         5,500         479,356           Methyl Bromide         0         0         0         2,400         2,400         2,401           1,1,2,2-Tetrachloroethylene         0         0         0	Acrylonitrile	0	0	0	130	130	11,330	
Bromoform         0         0         370         370         32,248           Carbon Tetrachloride         0         0         560         560         48,807           Chlorodhorzene         0         0         0         240         240         20,917           Chlorodhorzene         0         0         0         N/A         N/A         N/A           2-Chlorodhyl Vinjl Ether         0         0         0         3,500         305,045           Chlorodhromomethane         0         0         0         3,901         33,991           Dichlorobromomethane         0         0         0         3,100         3,100         270,183           1,2-Dichloroptylee         0         0         0         1,500         130,734         130,734           1,2-Dichloropropane         0         0         0         61         61.0         5,316           Ethylbenzene         0         0         0         5500         5500         479,356           Methyl Choride         0         0         0         140         140         12,202           Tetrachorothane         0         0         0         110         110         110,2202 <td>Benzene</td> <td>0</td> <td>0</td> <td>0</td> <td>130</td> <td>130</td> <td>11,330</td> <td></td>	Benzene	0	0	0	130	130	11,330	
Carbon Tetrachloride         0         0         560         560         48,807           Chlorobenzene         0         0         0         240         20,917           Chlorobenzene         0         0         0         1/4         N/A         N/A           2-Chlorobethyl Vinyl Ether         0         0         0         3,500         305,045           Chloroboromomethane         0         0         0         300         3391           Dichloroboromomethane         0         0         0         3100         270,183           1,1-Dichloroethylene         0         0         0         2200         22,000         191,743           1,2-Dichloropropane         0         0         0         580         50,550           Methyl Bromide         0         0         0         5500         479,356           Methylenc Chloride         0         0         0         1400         18,303           Tetrachloroethylene         0         0         0         140         142,202           Methyl Bromide         0         0         0         140         142,201         18,303           Tetrachloroethylene         0         0 <td>Bromoform</td> <td>0</td> <td>0</td> <td>0</td> <td>370</td> <td>370</td> <td>32,248</td> <td></td>	Bromoform	0	0	0	370	370	32,248	
Chlorobenzene         0         0         240         240         20,917           Chlorodbromorethane         0         0         N/A         N/A         N/A           2-Chloroethyl Vingl Ether         0         0         3,500         3,500         305,045           Chlorobromorethane         0         0         0         390         33,991           Dichlorobromorethane         0         0         0         3,100         270,183           1,1-Dichloroethylene         0         0         1,200         1,500         130,734           1,2-Dichloroptropropane         0         0         2,200         191,743           1,3-Dichloroptropylene         0         0         580         580         50,550           Methyl Chloride         0         0         0         5,500         479,356           Methyl Chloride         0         0         0         330         330         28,761           1,1,2,2-Tetrachloroethane         0         0         0         330         330         28,761           1,1,2,2-Tetrachloroethane         0         0         0         140         140         12,202           Toluene         0         0	Carbon Tetrachloride	0	0	0	560	560	48,807	
Chlorodibromomethane         0         0         N/A         N/A         N/A           2-Chloroethyl Vinyl Ether         0         0         3,500         3,500         305,045           Chloroform         0         0         0         390         39,91         33,991           Dichlorobromomethane         0         0         0         N/A         N/A         N/A           1,2-Dichloroethane         0         0         0         1,500         1,500         1,30734           1,1-Dichloroethylene         0         0         0         2,200         2,201         191,743           1,3-Dichloropropylene         0         0         0         580         580         50,550           Methyl Bromide         0         0         0         2,400         2,401         11,9,587           Methyl Chloride         0         0         0         2,400         2,400         2,0174           1,1,2-Ziertachloroethane         0         0         0         2,100         14,9,303           Tetrachloroethane         0         0         0         140         140         12,202           Toluene         0         0         0         1,400	Chlorobenzene	0	0	0	240	240	20,917	
2-Chloroethyl Vinyl Ether         0         0         3,500         3,500         305,045           Chloroform         0         0         0         390         33,91         33,91           Dichlorobromomethane         0         0         0         N/A         N/A         N/A           1,2-Dichloroethylene         0         0         3,100         3,100         270,183           1,1-Dichloropropane         0         0         0         2,200         191,743           1,3-Dichloropropylene         0         0         61         61.0         5,316           Ethylbenzene         0         0         0         580         580         50,550           Methyl Chloride         0         0         0         5,500         479,356           Methylene Chloride         0         0         0         2,400         209,174           1,1,2,2-Tetrachloroethane         0         0         0         303         30,28,761           Tetrachloroethylene         0         0         0         1400         1420         120,218           1,1,2,2-Tetrachloroethylene         0         0         0         610         610         63,165	Chlorodibromomethane	0	0	0	N/A	N/A	N/A	
Chloroform         0         0         390         390         33,991           Dichlorobromomethane         0         0         N/A         N/A         N/A           1,2-Dichloroethane         0         0         3,100         3,100         270,183           1,1-Dichloroethylene         0         0         1,500         1,30,734         1.52-Dichloropropane         0         0         2,200         2,200         191,743           1,3-Dichloropropylene         0         0         0         61         61.0         5,316           Ethylbenzene         0         0         0         580         580         50,550           Methyl Bromide         0         0         0         5,500         479,356           Methylene Chloride         0         0         0         2,400         2,001         2,02,01           Toluene         0         0         0         2,100         18,303         1,1,2,2.Tetrachloroethane         0         0         2,100         18,303           Tetrachloroethylene         0         0         0         1,400         12,201         18,303           1,2-trans-Dichloroethylene         0         0         0         1,400 </td <td>2-Chloroethyl Vinyl Ether</td> <td>0</td> <td>0</td> <td>0</td> <td>3,500</td> <td>3,500</td> <td>305,045</td> <td></td>	2-Chloroethyl Vinyl Ether	0	0	0	3,500	3,500	305,045	
Dichlorobromomethane         0         0         N/A         N/A         N/A           1,2-Dichloroethane         0         0         3,100         3,100         270,183           1,1-Dichloroethylene         0         0         1,500         130,734           1,2-Dichloropropane         0         0         2,200         130,734           1,3-Dichloropropane         0         0         61         61.0         5,316           Ethylbenzene         0         0         0         550         550           Methyl Choide         0         0         550         5,500         479,356           Methyl Choide         0         0         2,400         2,400         209,174           1,1,2,2-Tetrachloroethane         0         0         140         140         12,202           Toluene         0         0         140         140         12,202           Toluene         0         0         1,400         1,400         12,201           1,1,1-Trichloroethane         0         0         610         610         53,165           1,1,2-Tirchloroethane         0         0         640         59,266         53,65           1	Chloroform	0	0	0	390	390	33,991	
1,2-Dichloroethane         0         0         3,100         3,100         270,183           1,1-Dichloroethylene         0         0         1,500         1500         130,734           1,2-Dichloropropane         0         0         2,200         2,200         191,743           1,3-Dichloropropylene         0         0         61         61.0         5,316           Ethylbenzene         0         0         580         580         50,550           Methyl Bromide         0         0         0         2,400         2,091,74           MethylChoride         0         0         0         2,400         2,091,74           1,1,2-Tetrachloroethane         0         0         2,400         2,091,74           1,1,2-Tetrachloroethane         0         0         2,100         2,001         18,303           Tetrachloroethylene         0         0         140         140         12,202           Toluene         0         0         0         140         1400         12,2018           1,1,1-Trichloroethane         0         0         680         59,266         11,1,2-Trichloroethane         0         0         680         59,220	Dichlorobromomethane	0	0	0	N/A	N/A	N/A	
1,1-Dichloroethylene         0         0         1,500         1,30,734           1,2-Dichloropropane         0         0         2,200         2,201         191,743           1,3-Dichloropropylene         0         0         61         61.0         5,316           Ethylbenzene         0         0         0         580         580         50,550           Methyl Bronide         0         0         0         5,500         479,356           Methyle Chloride         0         0         0         2,400         2,400         209,174           1,1,2,2-Tetrachloroethane         0         0         0         140         142,202         18,303           Tetrachloroethylene         0         0         0         330         330         28,761           1,2-Trichloroethane         0         0         0         1400         14,00         122,018           1,1,1-Trichloroethane         0         0         0         680         680         59,266           Trichloroethylene         0         0         0         450         39,220           Vinyl Chloride         0         0         0         110         110         9,587	1,2-Dichloroethane	0	0	0	3,100	3,100	270,183	
1,2-Dichloropropane         0         0         2,200         2,200         191,743           1,3-Dichloropropylene         0         0         61         61.0         5,316           Ethylbenzene         0         0         0         580         580         50,550           Methyl Bromide         0         0         0         110         110         9,587           Methyl Chloride         0         0         0         5,500         5,500         4,79,356           Methyl Chloride         0         0         0         2,400         2,400         209,174           1,1,2,2-Tetrachloroethane         0         0         2,400         2,400         209,174           1,1,2,2-Tetrachloroethylene         0         0         14.0         140         12,202           Toluene         0         0         0         330         330         28,761           1,2-trans-Dichloroethylene         0         0         1,400         1,400         122,018           1,1,1-Trichloroethane         0         0         680         680         59,266           Trichloroethylene         0         0         0         1400         14,00         122,018	1,1-Dichloroethylene	0	0	0	1,500	1,500	130,734	
1,3-Dichloropropylene         0         0         61         61.0         5,316           Ethylbenzene         0         0         0         580         580         50,550           Methyl Bromide         0         0         0         110         110         9,587           Methyl Chloride         0         0         0         5,500         479,356           Methylene Chloride         0         0         0         2,400         209,174           1,1,2,2-Tetrachloroethane         0         0         0         140         140         12,202           Toluene         0         0         0         330         330         28,761           1,1,1-Trichloroethylene         0         0         0         1,400         140         12,202           Toluene         0         0         0         1,400         1,400         122,018           1,1,1-Trichloroethane         0         0         0         680         680         59,266           Trichloroethylene         0         0         0         110         110         9,587           2.4-Dichorophenol         0         0         0         110         110	1,2-Dichloropropane	0	0	0	2,200	2,200	191,743	
Ethylbenzene         0         0         580         580         50,550           Methyl Bromide         0         0         110         110         9,587           Methyl Chloride         0         0         5,500         479,356           Methylene Chloride         0         0         2,400         2,400         209,174           1,1,2,2-Tetrachloroethane         0         0         210         210         18,303           Tetrachloroethylene         0         0         0         330         330         28,761           1,2-trans-Dichloroethylene         0         0         0         1,400         14,000         122,018           1,1,1-Trichloroethylene         0         0         0         610         610         53,165           1,1,2-Trichloroethane         0         0         0         680         680         59,266           Trichloroethylene         0         0         0         140         140         19,220           Vinyl Chloride         0         0         0         1450         450         39,220           Vinyl Chloride         0         0         0         110         110         9,587	1,3-Dichloropropylene	0	0	0	61	61.0	5,316	
Methyl Bromide         0         0         110         110         9,587           Methyl Chloride         0         0         5,500         5,500         479,356           Methylene Chloride         0         0         0         2,400         2,400         209,174           1,1,2,2-Tetrachloroethane         0         0         0         210         210         18,303           Tetrachloroethylene         0         0         0         330         330         28,761           1,2-trans-Dichloroethylene         0         0         0         1,400         140         122,02           Toluene         0         0         0         1,400         122,018           1,1,1-Trichloroethylene         0         0         610         610         53,165           1,1,2-Trichloroethane         0         0         0         880         680         59,266           Trichloroethylene         0         0         0         110         110         9,587           2.Chlorophenol         0         0         0         110         110         9,587           2.4-Dichlorophenol         0         0         0         340         29,633	Ethylbenzene	0	0	0	580	580	50,550	
Methyl Chloride         0         0         5,500         5,500         479,356           Methylene Chloride         0         0         0         2,400         209,174           1,1,2,2-Tetrachloroethane         0         0         0         210         210         18,303           Tetrachloroethylene         0         0         0         140         140         12,202           Toluene         0         0         0         330         330         28,761           1,2-trans-Dichloroethylene         0         0         0         1,400         1,400         122,018           1,1,1-Trichloroethylene         0         0         0         610         610         53,165           1,1,2-Trichloroethylene         0         0         0         450         450         39,220           Vinyl Chloride         0         0         0         110         110         9,587           2,4-Dichlorophenol         0         0         0         340         340         29,633           2,4-Dimethylphenol         0         0         0         130         11,330         11,330           4,6-Dinitro-o-Cresol         0         0         0 <td>Methyl Bromide</td> <td>0</td> <td>0</td> <td>0</td> <td>110</td> <td>110</td> <td>9,587</td> <td></td>	Methyl Bromide	0	0	0	110	110	9,587	
Methylene Chloride         0         0         2,400         2,400         209,174           1,1,2,2-Tetrachloroethane         0         0         0         210         210         18,303           Tetrachloroethylene         0         0         0         140         140         12,202           Toluene         0         0         0         330         330         28,761           1,2-trans-Dichloroethylene         0         0         0         1,400         1,400         12,2018           1,1,1-Trichloroethane         0         0         0         610         610         53,165           1,1,2-Trichloroethylene         0         0         0         680         680         59,266           Trichloroethylene         0         0         0         450         39,220         10           Vinyl Chloride         0         0         0         110         110         9,587           2,4-Dichlorophenol         0         0         0         340         340         29,633           2,4-Dimethylphenol         0         0         0         130         11,330         14,334           4,6-Dinitro-o-Cresol         0         0	Methyl Chloride	0	0	0	5,500	5,500	479,356	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Methylene Chloride	0	0	0	2,400	2,400	209,174	
Tetrachloroethylene         0         0         140         140         12,202           Toluene         0         0         0         330         330         28,761           1,2-trans-Dichloroethylene         0         0         0         1,400         1,400         122,018           1,1,1-Trichloroethane         0         0         610         610         53,165           1,1,2-Trichloroethane         0         0         680         680         59,266           Trichloroethylene         0         0         0         450         450         39,220           Vinyl Chloride         0         0         0         110         110         9,587           2Chlorophenol         0         0         0         340         340         29,633           2,4-Dintehylphenol         0         0         0         130         11,330         14,334           4,6-Dinitro-o-Cresol         0         0         0         140         12,00         1400	1,1,2,2-Tetrachloroethane	0	0	0	210	210	18,303	
Toluene         0         0         330         330         28,761           1,2-trans-Dichloroethylene         0         0         1,400         1,400         122,018           1,1,1-Trichloroethane         0         0         610         610         53,165           1,1,2-Trichloroethane         0         0         680         680         59,266           Trichloroethylene         0         0         0         450         450         39,220           Vinyl Chloride         0         0         0         110         110         9,587           2.chlorophenol         0         0         0         340         340         29,633           2,4-Dichlorophenol         0         0         0         130         11,330         4,6-Dinitro-o-Cresol         0         0         1420	Tetrachloroethylene	0	0	0	140	140	12,202	
1,2-trans-Dichloroethylene         0         0         1,400         122,018           1,1,1-Trichloroethane         0         0         610         610         53,165           1,1,2-Trichloroethane         0         0         0         680         680         59,266           Trichloroethylene         0         0         0         450         450         39,220           Vinyl Chloride         0         0         0         110         110         9,587           2.Chlorophenol         0         0         0         340         340         29,633           2,4-Dichlorophenol         0         0         0         130         11,330         11,330           4,6-Dinitro-o-Cresol         0         0         0         16         16,0         1,394	Toluene	0	0	0	330	330	28,761	
1,1,1-Trichloroethane         0         0         610         610         53,165           1,1,2-Trichloroethane         0         0         680         680         59,266           Trichloroethylene         0         0         0         450         39,220           Vinyl Chloride         0         0         0         N/A         N/A           2-Chlorophenol         0         0         110         110         9,587           2,4-Dichlorophenol         0         0         0         340         340         29,633           2,4-Dimethylphenol         0         0         0         130         11,330         4,6-Dinitro-o-Cresol         0         0         16         16,0         1,394	1,2-trans-Dichloroethylene	0	0	0	1,400	1,400	122,018	
1,1,2-Trichloroethane         0         0         680         680         59,266           Trichloroethylene         0         0         450         450         39,220           Vinyl Chloride         0         0         0         N/A         N/A         N/A           2-Chlorophenol         0         0         0         110         110         9,587           2,4-Dichlorophenol         0         0         0         340         340         29,633           2,4-Dimethylphenol         0         0         0         130         11,330           4,6-Dinitro-o-Cresol         0         0         16         16,0         1,394	1,1,1-Trichloroethane	0	0	0	610	610	53,165	
Trichloroethylene         0         0         450         450         39,220           Vinyl Chloride         0         0         0         N/A         N/A         N/A           2-Chlorophenol         0         0         0         110         110         9,587           2,4-Dichlorophenol         0         0         0         340         340         29,633           2,4-Dimethylphenol         0         0         0         130         11,330           4,6-Dinitro-o-Cresol         0         0         16         16,0         1,394	1,1,2-Trichloroethane	0	0	0	680	680	59,266	
Vinyl Chloride         0         0         N/A         N/A         N/A           2-Chlorophenol         0         0         0         110         110         9,587           2,4-Dichlorophenol         0         0         0         340         340         29,633           2,4-Dimethylphenol         0         0         0         130         11,330           4,6-Dinitro-o-Cresol         0         0         0         16         16,0         1,394	Trichloroethylene	0	0	0	450	450	39,220	
2-Chlorophenol         0         0         110         110         9,587           2,4-Dichlorophenol         0         0         0         340         340         29,633           2,4-Dimethylphenol         0         0         0         130         11,330         11,330           4,6-Dinitro-o-Cresol         0         0         0         16         16,0         1,394	Vinyl Chloride	0	0	0	N/A	N/A	N/A	
2,4-Dichlorophenol         0         0         340         340         29,633           2,4-Dimethylphenol         0         0         0         130         11,330           4,6-Dinitro-o-Cresol         0         0         0         16         16,0         1,394           2,4-Dimethylphenol         0         0         0         16         16,0         1,394	2-Chlorophenol	0	0	0	110	110	9,587	
2,4-Dimethylphenol         0         0         0         130         11,330           4,6-Dinitro-o-Cresol         0         0         16         16.0         1,394	2,4-Dichlorophenol	0	0	0	340	340	29,633	
4,6-Dinitro-o-Cresol 0 0 0 16 16.0 1,394	2,4-Dimethylphenol	0	0	0	130	130	11,330	
	4,6-Dinitro-o-Cresol	0	0	0	16	16.0	1,394	
2,4-Dinitrophenoi 0 0 130 130 11,330	2,4-Dinitrophenol	0	0	0	130	130	11,330	

Model Results

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2-Nitrophenol	0	0	0	1,600	1,600	139,449	
4-Nitrophenol	0	0	0	470	470	40,963	
p-Chloro-m-Cresol	0	0	0	500	500	43,578	
Pentachlorophenol	0	0	0	6.693	6.69	583	
Phenol	0	0	0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0	0	91	91.0	7,931	
Acenaphthene	0	0	0	17	17.0	1,482	
Anthracene	0	0	0	N/A	N/A	N/A	
Benzidine	0	0	0	59	59.0	5,142	
Benzo(a)Anthracene	0	0	0	0.1	0.1	8.72	
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	522,934	
Bis(2-Chloroisopropyl)Ether	0	0	0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0	0	910	910	79,312	
4-Bromophenyl Phenyl Ether	0	0	0	54	54.0	4,706	
Butyl Benzyl Phthalate	0	0	0	35	35.0	3,050	
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	13,945	
1,3-Dichlorobenzene	0	0	0	69	69.0	6,014	
1,4-Dichlorobenzene	0	0	0	150	150	13,073	
3,3-Dichlorobenzidine	0	0	0	N/A	N/A	N/A	
Diethyl Phthalate	0	0	0	800	800	69,725	
Dimethyl Phthalate	0	0	0	500	500	43,578	
Di-n-Butyl Phthalate	0	0	0	21	21.0	1,830	
2,4-Dinitrotoluene	0	0	0	320	320	27,890	
2,6-Dinitrotoluene	0	0	0	200	200	17,431	
1,2-Diphenylhydrazine	0	0	0	3	3.0	261	
Fluoranthene	0	0	0	40	40.0	3,486	
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	174	
Hexachlorocyclopentadiene	0	0	0	1	1.0	87.2	
Hexachloroethane	0	0	0	12	12.0	1,046	
Indeno(1,2,3-cd)Pyrene	0	0	0	N/A	N/A	N/A	
Isophorone	0	0	0	2,100	2,100	183,027	
Naphthalene	0	0	0	43	43.0	3,748	
Nitrobenzene	0	0	0	810	810	70,596	
n-Nitrosodimethylamine	0	0	0	3,400	3,400	296,329	
n-Nitrosodi-n-Propylamine	0	0	0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0	0	59	59.0	5,142	
Phenanthrene	0	0	0	1	1.0	87.2	

**Nodel Results** 

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Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	2,266	
<b>⊻ тнн</b> сс	T (min): 7	20	PMF:	0.322	Ana	alysis Hardne	ess (mg/l):	N/A Analysis pH: N/A
Pollutants	Conc (ug/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	488	
Total Arsenic	0	0		0	10	10.0	872	
Total Barium	0	0		0	2,400	2,400	209,174	
Total Boron	0	0		0	3,100	3,100	270,183	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	4	4.0	349	
Dissolved Iron	0	0		0	300	300	26,147	
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	87,156	
Total Mercury	0	0		0	0.050	0.05	4.36	
Total Nickel	0	0		0	610	610	53,165	
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	20.9	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	261	
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	8,716	
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	497	
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	2,876	
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	

**Nodel Results** 

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1,3-Dichloropropylene	0	0	0	N/A	N/A	N/A	
Ethylbenzene	0	0	0	68	68.0	5,927	
Methyl Bromide	0	0	0	100	100.0	8,716	
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	4,968	
1,2-trans-Dichloroethylene	0	0	0	100	100.0	8,716	
1,1,1-Trichloroethane	0	0	0	10,000	10,000	871,557	
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	2,615	
2,4-Dichlorophenol	0	0	0	10	10.0	872	
2,4-Dimethylphenol	0	0	 0	100	100.0	8,716	
4.6-Dinitro-o-Cresol	0	0	0	2	2.0	174	
2.4-Dinitrophenol	0	0	 0	10	10.0	872	
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	348,623	
2.4.6-Trichlorophenol	0	0	0	N/A	N/A	N/A	
Acenaphthene	0	0	0	70	70.0	6,101	
Anthracene	0	0	0	300	300	26,147	
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	17,431	
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	8.72	
2-Chloronaphthalene	0	0	0	800	800	69,725	
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	87,156	
1,3-Dichlorobenzene	0	0	0	7	7.0	610	
1.4-Dichlorobenzene	0	0	0	300	300	26,147	
3,3-Dichlorobenzidine	0	0	0	N/A	N/A	N/A	
Diethyl Phthalate	0	0	0	600	600	52,293	
Dimethyl Phthalate	0	0	0	2,000	2,000	174,311	
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Iodel Results

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Di-n-Butyl Phthalate	0	0		0	20	20.0	1,743		
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	1,743		
Fluorene	0	0		0	50	50.0	4,358		
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	349		
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	2,963		
Naphthalene	0	0		0	N/A	N/A	N/A		
Nitrobenzene	0	0		0	10	10.0	872		
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		
Durana	0	0		0	20	20.0	1,743		
Pyrene	0	0		0	0.07	0.07	6.1		
1,2,4-Trichlorobenzene									
- Fyrene       1,2,4-Trichlorobenzene	Г (min): 7	20	PMF:	0.476	Ana	alysis Hardne	ess (mg/l):	N/A Analysis pH:	N/A
Pyrene       1,2,4-Trichlorobenzene       Image: CRL       CC       Pollutants	T (min): 7 Sueam Conc	20 Stream CV	PMF: Trib Conc (µg/L)	0.476 Fate Coef	Ana WQC (µg/L)	alysis Hardne WQ Obj (µg/L)	ess (mg/l): WLA (μg/L)	N/A Analysis pH:	N/A ments
Pyrene       1,2,4-Trichlorobenzene       Image: CRL       CC       Pollutants       Total Dissolved Solids (PWS)	T (min): 7 Sureann Conc (ug/l ) 0	20 Stream CV 0	PMF: Trib Conc (µg/L)	0.476 Fate Coef 0	Ana WQC (μg/L) N/A	alysis Hardne WQ Obj (µg/L) N/A	ess (mg/l): WLA (µg/L) N/A	N/A Analysis pH:	N/A ments
Pyrene       1,2,4-Trichlorobenzene       Image: CRL       CC       Pollutants       Total Dissolved Solids (PWS)       Chloride (PWS)	T (min): 7 Stream Conc (ug/L) 0 0	20 Stream CV 0 0	PMF: Trib Conc (µg/L)	0.476 Fate Coef 0	Ana WQC (µg/L) N/A N/A	alysis Hardne WQ Obj (µg/L) N/A N/A	ess (mg/l): WLA (µg/L) N/A N/A	N/A Analysis pH:	N/A ments
Pyrene       1,2,4-Trichlorobenzene       Image: CRL       CC       Pollutants       Total Dissolved Solids (PWS)       Chloride (PWS)       Sulfate (PWS)	Г (min): 7 Sureann Conc (ug/l) 0 0 0	20 Stream CV 0 0 0	PMF: Trib Conc (µg/L)	0.476 Fate Coef 0 0	WQC (μg/L) N/A N/A N/A	alysis Hardne WQ Obj (µg/L) N/A N/A N/A	ess (mg/l): WLA (µg/L) N/A N/A N/A	N/A Analysis pH:	N/A iments
Pyrene       1,2,4-Trichlorobenzene       Image: CRL     CC       Pollutants       Total Dissolved Solids (PWS)       Chloride (PWS)       Sulfate (PWS)       Total Aluminum	F (min): 7 Suream Conc (uall) 0 0 0 0	20 Stream CV 0 0 0 0	PMF: Trib Conc (µg/L)	0.476 Fate Coef 0 0 0 0	WQC (µg/L) N/A N/A N/A N/A	WQ Obj (µg/L) N/A N/A N/A N/A	wla (μg/l): WLA (μg/l) N/A N/A N/A N/A	N/A Analysis pH:	N/A iments
Pyrene         1,2,4-Trichlorobenzene         Image: CRL       CC         Pollutants         Total Dissolved Solids (PWS)         Chloride (PWS)         Sulfate (PWS)         Total Aluminum         Total Antimony	T (min): 7 Stream Conc (unit) 0 0 0 0 0 0 0	20 Stream CV 0 0 0 0 0 0	PMF: Trib Conc (µg/L)	0.476 Fate Coef 0 0 0 0 0		WQ Obj (µg/L) N/A N/A N/A N/A N/A	xss (mg/l): WLA (μg/L) N/A N/A N/A N/A N/A	N/A Analysis pH:	N/A iments
Pyrene         1,2,4-Trichlorobenzene         Image: CRL       CC         Pollutants         Total Dissolved Solids (PWS)         Chloride (PWS)         Sulfate (PWS)         Total Aluminum         Total Antimony         Total Arsenic	T (min): 7 Stream Conc (ual) 0 0 0 0 0 0 0 0 0	20 Stream CV 0 0 0 0 0 0 0	PMF: Trib Conc (µg/L)	0.476 Fate Coef 0 0 0 0 0 0 0	WQC (µg/L) N/A N/A N/A N/A N/A N/A	alysis Hardne WQ Obj (µg/L) N/A N/A N/A N/A N/A N/A	WLA (μg/L): N/A	N/A Analysis pH: Com	N/A ments
Pyrene         1,2,4-Trichlorobenzene         Image: CRL       CC         Pollutants         Total Dissolved Solids (PWS)         Chloride (PWS)         Sulfate (PWS)         Total Aluminum         Total Antimony         Total Arsenic         Total Barium	T (min): 7 Stream Conc (untl ) 0 0 0 0 0 0 0 0 0 0	20 Stream CV 0 0 0 0 0 0 0 0 0 0	PMF: Trib Conc (µg/L)	0.476 Fate Coef 0 0 0 0 0 0 0 0 0	WQC (µg/L) N/A N/A N/A N/A N/A N/A N/A N/A	alysis Hardne WQ Obj (µg/L) N/A N/A N/A N/A N/A N/A N/A	<ul> <li>WLA (μg/L)</li> <li>WLA (μg/L)</li> <li>N/A</li> <li>N/A</li> <li>N/A</li> <li>N/A</li> <li>N/A</li> <li>N/A</li> <li>N/A</li> <li>N/A</li> </ul>	N/A Analysis pH: Com	N/A Iments
Pyrene         1,2,4-Trichlorobenzene         Image: CRL       CC <sup>-</sup> Pollutants         Total Dissolved Solids (PWS)         Chloride (PWS)         Sulfate (PWS)         Total Aluminum         Total Ansenic         Total Barium         Total Boron	T (min): 7 Stream Conc (und) > 0 0 0 0 0 0 0 0 0 0 0 0 0 0	20 Stream CV 0 0 0 0 0 0 0 0 0 0	PMF: Trib Conc (µg/L)	0.476 Fate Coef 0 0 0 0 0 0 0 0 0 0 0 0	WQC (µg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A	WQ Obj (µg/L) N/A N/A N/A N/A N/A N/A N/A N/A	WLA (μg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A Analysis pH: Con	N/A ments
Pyrene         1,2,4-Trichlorobenzene         Image: CRL       CC <sup>2</sup> Pollutants         Total Dissolved Solids (PWS)         Chloride (PWS)         Sulfate (PWS)         Total Aluminum         Total Antimony         Total Arsenic         Total Barium         Total Boron         Total Cadmium	T (min): 7 Stream Conc (mail) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	20 Stream CV 0 0 0 0 0 0 0 0 0 0 0 0 0	PMF: Trib Conc (µg/L)	0.476 Fate Coef 0 0 0 0 0 0 0 0 0 0 0 0	Ana WQC (µg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A	WQ Obj (µg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	WLA (μg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A Analysis pH:	N/A ments
Total Dissolved Solids (PWS)         Chloride (PWS)         Sulfate (PWS)         Total Aluminum         Total Antimony         Total Barium         Total Boron         Total Cadmium         Total Cadmium	T (min): 7 Sueam Conc (unll ) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	20 Stream CV 0 0 0 0 0 0 0 0 0 0 0 0 0	PMF: Trib Conc (µg/L)	0.476 Fate Coef 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Ana WQC (µg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	WQ Obj (µg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	WLA (μg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A Analysis pH:	N/A ments
Pyrene         1,2,4-Trichlorobenzene         Image: CRL       CC         Pollutants         Total Dissolved Solids (PWS)         Chloride (PWS)         Sulfate (PWS)         Total Aluminum         Total Antimony         Total Barium         Total Barium         Total Cadmium         Total Cadmium         Total Chromium (III)         Hexavalent Chromium	T (min): 7 Stream Conc (und) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	20 Stream CV 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PMF: Trib Conc (µg/L)	0.476 Fate Coef 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Ana WQC (µg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	WQ Obj (µg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	WLA (μg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A Analysis pH: Com	Iments
Pyrene         1,2,4-Trichlorobenzene         Image: CRL       CC         Pollutants         Total Dissolved Solids (PWS)         Chloride (PWS)         Sulfate (PWS)         Total Aluminum         Total Antimony         Total Barium         Total Barium         Total Cadmium         Total Cobalt	Γ (min): 7 Sueam Conc (wall ) 0 0 0 0 0 0 0 0 0 0 0 0 0	20 Stream CV 0 0 0 0 0 0 0 0 0 0 0 0 0	PMF: Trib Conc (µg/L)	0.476 Fate Coef 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	WQC           (µg/L)           N/A	Alysis Hardne WQ Obj (µg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	WLA (μg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A Analysis pH:	N/A ments
Pyrene         1,2,4-Trichlorobenzene         Image: CRL       CC         Pollutants         Total Dissolved Solids (PWS)         Chloride (PWS)         Sulfate (PWS)         Total Aluminum         Total Antimony         Total Antimony         Total Antimony         Total Barium         Total Cadmium         Total Chromium (III)         Hexavalent Chromium         Total Cobalt         Total Copper	Γ (min): 7 Sueam Conc (uall) 0 0 0 0 0 0 0 0 0 0 0 0 0	20 Stream CV 0 0 0 0 0 0 0 0 0 0 0 0 0	PMF: Trib Conc (µg/L)	0.476 Fate Coef 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	WQC           (µg/L)           N/A	alysis Hardne WQ Obj (µg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	<ul> <li>WLA (μg/L):</li> <li>WLA (μg/L)</li> <li>N/A</li> </ul>	N/A Analysis pH:	N/A ments
Pyrene         1,2,4-Trichlorobenzene         I,2,4-Trichlorobenzene         CRL       CC         Pollutants         Total Dissolved Solids (PWS)         Chloride (PWS)         Sulfate (PWS)         Total Aluminum         Total Aluminum         Total Antimony         Total Arsenic         Total Barium         Total Cadmium         Total Chromium (III)         Hexavalent Chromium         Total Cobalt         Total Copper         Free Cyanide	T (min): 7 Sueam Conc (uall) 0 0 0 0 0 0 0 0 0 0 0 0 0	20 Stream CV 0 0 0 0 0 0 0 0 0 0 0 0 0	PMF: Trib Conc (µg/L)	0.476 Fate Coef 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	WQC           (µg/L)           N/A	alysis Hardne WQ Obj (µg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	<ul> <li>WLA (μg/L)</li> <li>N/A</li> </ul>	N/A Analysis pH: Con	N/A ments
Pyrene         1,2,4-Trichlorobenzene         I,2,4-Trichlorobenzene         Pollutants         Total Dissolved Solids (PWS)         Chloride (PWS)         Sulfate (PWS)         Total Aluminum         Total Aluminum         Total Antimony         Total Antimony         Total Barium         Total Cadmium         Total Chromium (III)         Hexavalent Chromium         Total Copper         Free Cyanide         Dissolved Iron	T (min): 7 Suream Conc (uall) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	20 Stream CV 0 0 0 0 0 0 0 0 0 0 0 0 0	PMF: Trib Conc (µg/L)	0.476 Fate Coef 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Ana WQC (µg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	WQ Obj (µg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	SSS (mg/l): WLA (μg/L) N/A N/A N/A N/A N/A N/A N/A N/A	N/A Analysis pH: Con	N/A ments
Pyrene         1,2,4-Trichlorobenzene         I,2,4-Trichlorobenzene         I,2,4-Trichlorobenzene         Pollutants         Chloride (PWS)         Chloride (PWS)         Sulfate (PWS)         Total Aluminum         Total Antimony         Total Antimony         Total Arsenic         Total Barium         Total Boron         Total Cadmium         Total Chromium (III)         Hexavalent Chromium         Total Cobalt         Total Copper         Free Cyanide         Dissolved Iron         Total Iron	T (min): 7 Suream Conc (untl ) 0 0 0 0 0 0 0 0 0 0 0 0 0	20 Stream CV 0 0 0 0 0 0 0 0 0 0 0 0 0	PMF: Trib Conc (µg/L)	0.476 Fate Coef 0 0 0 0 0 0 0 0 0 0 0 0 0	Ana WQC (µg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	WQ Obj (µg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	<ul> <li>WLA (μg/L)</li> <li>N/A</li> </ul>	N/A Analysis pH: Con	N/A ments
Total Dissolved Solids (PWS)         Chloride (PWS)         Sulfate (PWS)         Total Aluminum         Total Aluminum         Total Aluminum         Total Antimony         Total Barium         Total Cadmium         Total Cobalt         Total Iron         Total Iron         Total Lead	T (min): 7 Suream Conc (unit ) 0 0 0 0 0 0 0 0 0 0 0 0 0	20 Stream CV 0 0 0 0 0 0 0 0 0 0 0 0 0	PMF: Trib Conc (µg/L)	0.476 Fate Coef 0 0 0 0 0 0 0 0 0 0 0 0 0	Апа WQC (µg/L) N/A N/A N/A N/A N/A N/A N/A N/A	WQ Obj (µg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	<ul> <li>WLA (μg/L)</li> <li>N/A</li> </ul>	N/A Analysis pH:	N/A ments
Total Dissolved Solids (PWS)         Chloride (PWS)         Sulfate (PWS)         Total Aluminum         Total Aluminum         Total Antimony         Total Antimony         Total Barium         Total Cadmium         Total Cadmium         Total Cobalt         Total Cobalt         Total Copper         Free Cyanide         Dissolved Iron         Total Icad         Total Icad         Total Cobalt	T (min): 7 Stream Conc (unit) 0 0 0 0 0 0 0 0 0 0 0 0 0	20 Stream CV 0 0 0 0 0 0 0 0 0 0 0 0 0	PMF: Trib Conc (µg/L)	0.476 Fate Coef 0 0 0 0 0 0 0 0 0 0 0 0 0	Ana WQC (µg/L) N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	WQ Obj         (µg/L)           N/A         N/A	<ul> <li>WLA (μg/L)</li> <li>N/A</li> </ul>	N/A Analysis pH: Con	N/A ments
Total Dissolved Solids (PWS)         Chloride (PWS)         Chloride (PWS)         Sulfate (PWS)         Total Aluminum         Total Antimony         Total Antimony         Total Barium         Total Cadmium         Total Chromium (III)         Hexavalent Chromium         Total Copper         Free Cyanide         Dissolved Iron         Total Lead         Total Manganese         Total Mercury	T (min): 7 Stream Conc (mail) 0 0 0 0 0 0 0 0 0 0 0 0 0	20 Stream CV 0 0 0 0 0 0 0 0 0 0 0 0 0	PMF: Trib Conc (µg/L)	0.476 Fate Coef 0 0 0 0 0 0 0 0 0 0 0 0 0	Ana           WQC           (µg/L)           N/A	WQ Obj (µg/L)           N/A           N/A	<ul> <li>WLA (μg/L)</li> <li>N/A</li> </ul>	N/A Analysis pH:	N/A ments
Total Dissolved Solids (PWS)         Chloride (PWS)         Chloride (PWS)         Sulfate (PWS)         Total Aluminum         Total Antimony         Total Antimony         Total Barium         Total Cadmium         Total Cobalt         Total Notal         Total Notal         Total Lead         Total Manganese         Total Nickel <td>T (min): 7 Sueam Conc (wall ) 0 0 0 0 0 0 0 0 0 0 0 0 0</td> <td>20 Stream CV 0 0 0 0 0 0 0 0 0 0 0 0 0</td> <td>PMF: Trib Conc (µg/L)</td> <td>0.476 Fate Coef 0 0 0 0 0 0 0 0 0 0 0 0 0</td> <td>Ana           WQC           (µg/L)           N/A           N/A</td> <td>WQ Obj (µg/L)           N/A           N/A</td> <td><ul> <li>WLA (μg/L)</li> <li>N/A</li> </ul></td> <td>N/A Analysis pH: Con</td> <td>N/A           iments          </td>	T (min): 7 Sueam Conc (wall ) 0 0 0 0 0 0 0 0 0 0 0 0 0	20 Stream CV 0 0 0 0 0 0 0 0 0 0 0 0 0	PMF: Trib Conc (µg/L)	0.476 Fate Coef 0 0 0 0 0 0 0 0 0 0 0 0 0	Ana           WQC           (µg/L)           N/A           N/A	WQ Obj (µg/L)           N/A           N/A	<ul> <li>WLA (μg/L)</li> <li>N/A</li> </ul>	N/A Analysis pH: Con	N/A           iments

odel Results

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Total Phenols (Phenolics) (PWS)	0	0	0	N/A	N/A	N/A	
Total Selenium	0	0	0	N/A	N/A	N/A	
Total Silver	0	0	0	N/A	N/A	N/A	
Total Thallium	0	0	0	N/A	N/A	N/A	
Total Zinc	0	0	0	N/A	N/A	N/A	
Acrolein	0	0	0	N/A	N/A	N/A	
Acrylonitrile	0	0	0	0.06	0.06	25.3	
Benzene	0	0	0	0.58	0.58	245	
Bromoform	0	0	0	7	7.0	2,953	
Carbon Tetrachloride	0	0	0	0.4	0.4	169	
Chlorobenzene	0	0	0	N/A	N/A	N/A	
Chlorodibromomethane	0	0	0	0.8	0.8	337	
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	401	
1,2-Dichloroethane	0	0	0	9.9	9.9	4,176	
1,1-Dichloroethylene	0	0	0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0	0	0.9	0.9	380	
1,3-Dichloropropylene	0	0	0	0.27	0.27	114	
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	8,437	
1,1,2,2-Tetrachloroethane	0	0	0	0.2	0.2	84.4	
Tetrachloroethylene	0	0	0	10	10.0	4,219	
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	232	
Trichloroethylene	0	0	0	0.6	0.6	253	
Vinyl Chloride	0	0	0	0.02	0.02	8.44	
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	12.7	
Phenol	0	0	0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0	0	1.5	1.5	633	
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	0.042	

Model Results

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Benzo(a)Anthracene	0	0	0	0.001	0.001	0.42	
Benzo(a)Pyrene	0	0	0	0.0001	0.0001	0.042	
3,4-Benzofluoranthene	0	0	0	0.001	0.001	0.42	
Benzo(k)Fluoranthene	0	0	0	0.01	0.01	4.22	
Bis(2-Chloroethyl)Ether	0	0	0	0.03	0.03	12.7	
Bis(2-Chloroisopropyl)Ether	0	0	0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0	0	0.32	0.32	135	
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	50.6	
Dibenzo(a,h)Anthrancene	0	0	0	0.0001	0.0001	0.042	
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	21.1	
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	21.1	
2,6-Dinitrotoluene	0	0	0	0.05	0.05	21.1	
1,2-Diphenylhydrazine	0	0	0	0.03	0.03	12.7	
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	0.034	
Hexachlorobutadiene	0	0	0	0.01	0.01	4.22	
Hexachlorocyclopentadiene	0	0	0	N/A	N/A	N/A	
Hexachloroethane	0	0	0	0.1	0.1	42.2	
Indeno(1,2,3-cd)Pyrene	0	0	0	0.001	0.001	0.42	
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	0.3	
n-Nitrosodi-n-Propylamine	0	0	0	0.005	0.005	2.11	
n-Nitrosodiphenylamine	0	0	0	3.3	3.3	1,392	
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	

#### ☑ Recommended WQBELs & Monitoring Requirements

#### No. Samples/Month: 4

	Mass	Limits		Concentra	tion Limits				
Pollutants	AML	MDL	ΔΜΙ	МП	ΙΜΔΧ	Units	Governing	WQBEL	Comments

Model Results

#### 6/14/2023

i Unutants	(lbs/day)	(lbs/day)	AWL	MDL	IWAA	Units	WQBEL	Basis	CONTINENTS
Total Copper	Report	Report	Report	Report	Report	mg/L	0.13	AFC	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 Aluminum	6,459	µg/L	Discharge Conc ≤ 10% WQBEL	
Total Antimony	488	µg/L	Discharge Conc ≤ 10% WQBEL	
Total Arsenic	872	µg/L	Discharge Conc ≤ 10% WQBEL	
Total Barium	180,844	µg/L	Discharge Conc ≤ 10% WQBEL	
Total Beryllium	N/A	N/A	No WQS	
Total Boron	69,754	µg/L	Discharge Conc ≤ 10% WQBEL	
Total Cadmium	19.8	µg/L	Discharge Conc ≤ 10% WQBEL	
Total Chromium (III)	7,582	µg/L	Discharge Conc ≤ 10% WQBEL	
Hexavalent Chromium	140	µg/L	Discharge Conc ≤ 10% WQBEL	
Total Cobalt	818	µg/L	Discharge Conc ≤ 10% WQBEL	
Free Cyanide	189	µg/L	Discharge Conc ≤ 25% WQBEL	
Total Cyanide	N/A	N/A	No WQS	
Dissolved Iron	26,147	µg/L	Discharge Conc ≤ 10% WQBEL	
Total Iron	402,922	µg/L	Discharge Conc ≤ 10% WQBEL	
Total Lead	281	µg/L	Discharge Conc ≤ 10% WQBEL	
Total Manganese	87,156	µg/L	Discharge Conc ≤ 10% WQBEL	
Total Mercury	4.36	µg/L	Discharge Conc ≤ 10% WQBEL	
Total Nickel	4,293	µg/L	Discharge Conc ≤ 10% WQBEL	
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable	
Total Selenium	435	µg/L	Discharge Conc ≤ 10% WQBEL	
Total Silver	36.9	µg/L	Discharge Conc ≤ 10% WQBEL	
Total Thallium	20.9	µg/L	Discharge Conc ≤ 10% WQBEL	

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Total Zinc	1,097	µg/L	Discharge Conc ≤ 10% WQBEL		
Total Molybdenum	N/A N/A		No WQS		
Acrolein	25.8	µg/L	Discharge Conc ≤ 25% WQBEL		
Acrylonitrile	25.3	μg/L	Discharge Conc ≤ 25% WQBEL		
Benzene	245	μg/L	Discharge Conc ≤ 25% WQBEL		
Bromoform	2,953	µg/L	Discharge Conc ≤ 25% WQBEL		
Carbon Tetrachloride	169	µg/L	Discharge Conc ≤ 25% WQBEL		
Chlorobenzene	8,716	µg/L	Discharge Conc ≤ 25% WQBEL		
Chlorodibromomethane	337	μg/L	Discharge Conc ≤ 25% WQBEL		
Chloroethane	N/A	N/A	No WQS		
2-Chloroethyl Vinyl Ether	155,009	µg/L	Discharge Conc ≤ 25% WQBEL		
Chloroform	497	µg/L	Discharge Conc ≤ 25% WQBEL		
Dichlorobromomethane	401	µg/L	Discharge Conc ≤ 25% WQBEL		
1,1-Dichloroethane	N/A	N/A	No WQS		
1,2-Dichloroethane	4,176	µg/L	Discharge Conc ≤ 25% WQBEL		
1,1-Dichloroethylene	2,876	µg/L	Discharge Conc ≤ 25% WQBEL		
1,2-Dichloropropane	380	µg/L	Discharge Conc ≤ 25% WQBEL		
1,3-Dichloropropylene	114	µg/L	Discharge Conc ≤ 25% WQBEL		
1,4-Dioxane	N/A	N/A	No WQS		
Ethylbenzene	5,927	μg/L	Discharge Conc ≤ 25% WQBEL		
Methyl Bromide	4,736	µg/L	Discharge Conc ≤ 25% WQBEL		
Methyl Chloride	241,125	µg/L	Discharge Conc ≤ 25% WQBEL		
Methylene Chloride	8,437	µg/L	Discharge Conc ≤ 25% WQBEL		
1,1,2,2-Tetrachloroethane	84.4	µg/L	Discharge Conc ≤ 25% WQBEL		
Tetrachloroethylene	4,219	μg/L	Discharge Conc ≤ 25% WQBEL		
Toluene	4,968	µg/L	Discharge Conc ≤ 25% WQBEL		
1,2-trans-Dichloroethylene	8,716	µg/L	Discharge Conc ≤ 25% WQBEL		
1,1,1-Trichloroethane	25,835	µg/L	Discharge Conc ≤ 25% WQBEL		
1,1,2-Trichloroethane	232	µg/L	Discharge Conc ≤ 25% WQBEL		
Trichloroethylene	253	µg/L	Discharge Conc ≤ 25% WQBEL		
Vinyl Chloride	8.44	µg/L	Discharge Conc ≤ 25% WQBEL		
2-Chlorophenol	2,615	µg/L	Discharge Conc ≤ 25% WQBEL		
2,4-Dichlorophenol	872	µg/L	Discharge Conc ≤ 25% WQBEL		
2,4-Dimethylphenol	5,684	µg/L	Discharge Conc ≤ 25% WQBEL		
4,6-Dinitro-o-Cresol	174	µg/L	Discharge Conc ≤ 25% WQBEL		
2,4-Dinitrophenol	872	μg/L	Discharge Conc ≤ 25% WQBEL		
2-Nitrophenol	68,893	µg/L	Discharge Conc ≤ 25% WQBEL		
4-Nitrophenol	19,807	µg/L	Discharge Conc ≤ 25% WQBEL		
p-Chloro-m-Cresol	1,378	µg/L	Discharge Conc ≤ 25% WQBEL		
Pentachlorophenol	12.7	µg/L	Discharge Conc ≤ 25% WQBEL		
Phenol	348,623	µg/L	Discharge Conc ≤ 25% WQBEL		
2,4,6-Trichlorophenol	633	µg/L	Discharge Conc ≤ 25% WQBEL		
Acenaphthene	715	µg/L	Discharge Conc ≤ 25% WQBEL		
Acenaphthylene	N/A	N/A	No WQS		
Anthracene	26,147	µg/L	Discharge Conc ≤ 25% WQBEL		

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Benzidine	0.042	µg/L	Discharge Conc < TQL		
Benzo(a)Anthracene	0.42	µg/L	Discharge Conc < TQL		
Benzo(a)Pyrene	0.042	µg/L	Discharge Conc < TQL		
3,4-Benzofluoranthene	0.42	µg/L	Discharge Conc < TQL		
Benzo(ghi)Perylene	N/A	N/A	No WQS		
Benzo(k)Fluoranthene	4.22	µg/L	Discharge Conc ≤ 25% WQBEL		
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS		
Bis(2-Chloroethyl)Ether	12.7	µg/L	Discharge Conc ≤ 25% WQBEL		
Bis(2-Chloroisopropyl)Ether	17,431	µg/L	Discharge Conc ≤ 25% WQBEL		
Bis(2-Ethylhexyl)Phthalate	135	µg/L	Discharge Conc ≤ 25% WQBEL		
4-Bromophenyl Phenyl Ether	2,325	µg/L	Discharge Conc ≤ 25% WQBEL		
Butyl Benzyl Phthalate	8.72	µg/L	Discharge Conc ≤ 25% WQBEL		
2-Chloronaphthalene	69,725	µg/L	Discharge Conc ≤ 25% WQBEL		
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS		
Chrysene	50.6	µg/L	Discharge Conc ≤ 25% WQBEL		
Dibenzo(a,h)Anthrancene	0.042	µg/L	Discharge Conc < TQL		
1,2-Dichlorobenzene	7,062	µg/L	Discharge Conc ≤ 25% WQBEL		
1,3-Dichlorobenzene	610	µg/L	Discharge Conc ≤ 25% WQBEL		
1,4-Dichlorobenzene	6,286	µg/L	Discharge Conc ≤ 25% WQBEL		
3,3-Dichlorobenzidine	21.1	µg/L	Discharge Conc ≤ 25% WQBEL		
Diethyl Phthalate	34,446	µg/L	Discharge Conc ≤ 25% WQBEL		
Dimethyl Phthalate	21,529	µg/L	Discharge Conc ≤ 25% WQBEL		
Di-n-Butyl Phthalate	947	µg/L	Discharge Conc ≤ 25% WQBEL		
2,4-Dinitrotoluene	21.1	µg/L	Discharge Conc ≤ 25% WQBEL		
2,6-Dinitrotoluene	21.1	µg/L	Discharge Conc ≤ 25% WQBEL		
Di-n-Octyl Phthalate	N/A	N/A	No WQS		
1,2-Diphenylhydrazine	12.7	µg/L	Discharge Conc ≤ 25% WQBEL		
Fluoranthene	1,722	µg/L	Discharge Conc ≤ 25% WQBEL		
Fluorene	4,358	µg/L	Discharge Conc ≤ 25% WQBEL		
Hexachlorobenzene	0.034	µg/L	Discharge Conc < TQL		
Hexachlorobutadiene	4.22	µg/L	Discharge Conc ≤ 25% WQBEL		
Hexachlorocyclopentadiene	43.1	µg/L	Discharge Conc ≤ 25% WQBEL		
Hexachloroethane	42.2	µg/L	Discharge Conc ≤ 25% WQBEL		
Indeno(1,2,3-cd)Pyrene	0.42	µg/L	Discharge Conc < TQL		
Isophorone	2,963	µg/L	Discharge Conc ≤ 25% WQBEL		
Naphthalene	1,206	µg/L	Discharge Conc ≤ 25% WQBEL		
Nitrobenzene	872	µg/L	Discharge Conc ≤ 25% WQBEL		
n-Nitrosodimethylamine	0.3	µg/L	Discharge Conc < TQL		
n-Nitrosodi-n-Propylamine	2.11	µg/L	Discharge Conc ≤ 25% WQBEL		
n-Nitrosodiphenylamine	1,392	µg/L	Discharge Conc ≤ 25% WQBEL		
Phenanthrene	43.1	µg/L	Discharge Conc ≤ 25% WQBEL		
Pyrene	1,743	µg/L	Discharge Conc ≤ 25% WQBEL		
1,2,4-Trichlorobenzene	6.1	µg/L	Discharge Conc ≤ 25% WQBEL		

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1A	В	С	D	E	F	G			
2	TRC EVALU	ATION		LCWS/	4				
3	nput appropriate values in B4:B8 and E4:E7								
4	600.2	= Q stream (	cfs)	0.5	= CV Daily				
5	1.5	= Q discharg	ge (MGD)	0.5	= CV Hourly				
6	30	= no. sample	88	0.047	= AFC_Partial Mix Factor				
7	0.3	= Chlorine D	emand of Stream	0.328	= CFC_Partial Mix Factor				
8	0	= Chlorine D	emand of Discharge	15	= AFC_Criteria Compliance Time (min)				
9	0.5	= BAT/BPJ V	alue	720	= CFC_Criteria Compliance Time (min)				
	0	= % Factor o	of Safety (FOS)	0	=Decay Coefficient (K)				
10	Source	Reference	AFC Calculations		Reference	CFC Calculations			
11	TRC	1.3.2.iii	WLA afc =	3.897	1.3.2.iii	WLA cfc = 26.395			
12	PENTOXSD TRG	5.1a	LTAMULT atc =	0.373	5.10	LTAMULT ctc = 0.581			
14	PENTOXSDIRG	0.10	LTA_arc=	1.402	5.10	LTA_cfc = 15.345			
15	Source		Effluent	Limit Calc	culations				
16	PENTOXSD TRG	5.1f	AM	L MULT =	1.231				
17	PENTOXSD TRG	5.1g	AVG MON LIMI	T (mg/l) =	0.500	BAT/BPJ			
18		-	INST MAX LIMI	T (mg/l) =	1.635				
	WLA afc	(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))							
	TANUU T -6-	+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)							
	LTAMULI arc	EXP((0.5°LN(cvn^2+1))-2.325°LN(cvh^2+1)^0.5)							
	LIA_alc	wia_alc LTA	moer_arc						
	WLA cfc	( 011/e(-k*CEC tc) + [(CEC Yc*Os* 011/Qd*e(-k*CEC tc) )							
		+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)							
	LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)							
	LTA_cfc	wla_efc*LTAMULT_cfc							
	AMLMULT	EXP(2.326*LN((cvd^2/no samples+1)^0.5)-0.5*LN(cvd^2/no samples+1))							
	AVG MON LIMIT MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)								
	INST MAX LIMIT	1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)							