Pennsylvania Department of Environmental Protection

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0025968**
Facility Type	**Municipal**	APS ID	**801946**
Major / Minor	**Major**	Authorization ID	**1274845**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Aliquippa City Municipal Water Authority Beaver County**	Facility Name	**Aliquippa STP**
Applicant Address	160 Hopewell Avenue	Facility Address	160 Hopewell Avenue
	Aliquippa, PA 15001-3545		Aliquippa, PA 15001-3545
Applicant Contact	Robert Bible	Facility Contact	Same as applicant
Applicant Phone	(724) 375-5525	Facility Phone	Same as applicant
Client ID	66853	Site ID	254797
Ch 94 Load Status	Existing Hydraulic Overload	Municipality	Aliquippa City
Connection Status		County	Beaver
Date Application Received	May 28, 2019	EPA Waived?	No
Date Application Accepted		If No, Reason	Major Facility

Purpose of Application .NPDES Permit Renewal

Summary of Review

This application is for a renewal which was previously issued on December 1, 2014 and expired on November 30, 2019.

Part II Permit No. 0471407 issued on June 2, 1971 authorized construction of the plant to treat an average design flow of 3.4 mgd. The receiving stream, Ohio River, is currently classified as a warm water fishery.

Permit No. 0471407 was amended on June 8, 2017 to include a sulfur dioxide gas de-chlorination system

The existing treatment process consists of primary clarification, trickling filter/oxidation tower system, final clarification, chlorination, and gas de-chlorination.

On May 9, 2022, the permittee submitted additional analyses for effluent mercury as requested by the DEP.

On September 20, 2024, the permittee submitted updated influent and effluent testing results as requested by the DEP

The NPDES application indicates that no industrial user process wastewater is served by the STP. The toxic pollutants of concern analyzed in the subject application were again included in PADEP's Toxics Management Spreadsheet (TMS) Model to determine if any water quality-based limitations would be required. The results showed that limitations for several toxins would be needed considering reasonable potential. The results of the TMS Modeling are included as Attachment 7.

ORSANCO has requested that all direct discharges to the Ohio River are screened for Mercury using a method that will detect down to a level of 12 nanograms/liter (ng/l). This is the ORSANCO Mercury limit at the end of pipe. The facility's discharge to the Ohio River has been tested for Mercury using EPA Method 1631. 14 samples for mercury gave an average

Approve	Deny	Signatures	Date
		Jordan T Coldsmith Jordan Coldsmith / Environmental Engineering Specialist	May 12, 2025
X		Mahbuba Iasmin Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineering Manager	May 23, 2025

Summary of Review

discharge concentration of 7.75 ng/l. Mercury is a bioaccumulative chemical of concern (BCC). ORSANCO does not want mixing zones for BCC's, but Chapter 4 section F. of ORSANCO's regulations allow mixing zones for permitting authorities if the facility has been in existing before Oct 16, 2003, measures are taken during the permit cycle to reduce or eliminate the necessity of a mixing zone, and the permitting authority uses mixing zones to evaluate BCC's. The Aliquippa STP predates Oct 16, 2003, so its mercury was evaluated with a mixing zone. The evaluation with a mixing zone showed that water quality -based limits for mercury are not necessary. It is recommended that Aliquippa sample for mercury using EPA method 1631 over the next permit cycle to show its progress towards not using a mixing zone to meet ORSANCO's standards.

The permittee completed the required series of chronic WET tests. The Department's WET Evaluation Summary on the following pages shows that the tests were all passes. Part C of the permit will contain DEP's current requirements for the permittee to conduct acute WET tests, which will now be required as shown in the WET Evaluation Summary. The TIWC in the renewed permit will be 2.0%. The dilution series in the renewed permit will be the same as the previous permit: 100%, 60%, 30%, 2%, and 1%.

Per- and Polyfluoroalkyl Substances (PFAS)

In February 2024, DEP implemented a new monitoring initiative for PFAS consistent with an EPA memorandum that provides guidance to states for addressing PFAS discharges. PFAS are a family of thousands of synthetic organic chemicals that contain a chain of strong carbon-fluorine bonds. Many PFAS are highly stable, water- and oil-resistant, and exhibit other properties that make them useful in a variety of consumer products and industrial processes. PFAS are resistant to biodegradation, photooxidation, direct photolysis, and hydrolysis and do not readily degrade naturally; thus, many PFAS accumulate over time. According to the United States Department of Health and Human Services, Agency for Toxic Substances and Disease Registry (ATSDR), the environmental persistence and mobility of some PFAS, combined with decades of widespread use, have resulted in their presence in surface water, groundwater, drinking water, rainwater, soil, sediment, ice caps, outdoor and indoor air, plants, animal tissue, and human blood serum across the globe. ATSDR also reported that exposure to certain PFAS can lead to adverse human health impacts Due to their durability, toxicity, persistence, and pervasiveness, PFAS have emerged as potentially significant pollutants of concern.

In accordance with Section II.G of DEP's "Standard Operating Procedure (SOP) for Clean Water Program – Establishing Effluent Limitations for Individual Sewage Permits" [SOP No. BCW-PMT-033] and under the authority of 25 Pa. Code § 92a.61(b), DEP has determined that monitoring for a subset of common/well-studied PFAS including Perfluorooctanoic acid (PFOA), Perfluorooctanesulfonic acid (PFOS), Perfluorobutanesulfonic acid (PFBS), and Hexafluoropropylene oxide dimer acid (HFPO-DA) is necessary to help understand the extent of environmental contamination by PFAS in the Commonwealth and the extent to which point source dischargers are contributors. SOP BCW-PMT-033 directs permit writers to consider special monitoring requirements for PFOA, PFOS, PFBS, and HFPO-DA in the following instances:

a. If sampling that is completed as part of the permit renewal application reveals a detection of PFOA, PFOS, HFPO-DA or PFBS (any of these compounds), the application manager will establish a quarterly monitoring requirement for PFOA, PFOS, HFPO-DA and PFBS (all of these compounds) in the permit.

b. If sampling that is completed as part of the permit renewal application demonstrates non-detect values at or below the Target QLs for PFOA, PFOS, HFPO-DA and PFBS (all of these compounds in a minimum of 3 samples), the application manager will establish an annual monitoring requirement for PFOA, PFOS, HFPO-DA and PFBS in the permit.

c. In all cases the application manager will include a condition in the permit that the permittee may cease monitoring for PFOA, PFOS, HFPO-DA and PFBS when the permittee reports non-detect values at or below the Target QL for four consecutive monitoring periods for each PFAS parameter that is analyzed. Use the following language: The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive monitoring periods indicate non-detects at or below Quantitation Limits of 4.0 ng/L for PFOA, 3.7 ng/L for PFOS, 3.5 ng/L for PFBS and 6.4 ng/L for HFPO-DA. When monitoring is discontinued, permittees should enter a No Discharge Indicator (NODI) Code of "GG" on DMRs.

The Authority's application was submitted before the NPDES permit application forms were updated to require sampling for PFOA, PFOS, PFBS, and HFPO-DA. Therefore, annual reporting of PFOA, PFOS, PFBS, and HFPO-DA will be established consistent with Section II.G of SOP BCW-PMT-033 and under the authority of 25 Pa. Code § 92a.61(b).

Summary of Review

As stated in Section II.G.3 of SOP BCW-PMT-0332, if non-detect values at or below DEP's Target QLs are reported for four consecutive monitoring periods (i.e., four consecutive annual results), then the monitoring may be discontinued. Footnote (3) has been added to Part A of the NPDES Permit, which further discusses monitoring and reporting requirements.

Public Participation

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

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	3.4
Latitude	40º 38' 32.65"	Longitude	-80º 14' 14.97"
Quad Name	Baden	Quad Code	40080F2
Wastewater Description:	Sewage Effluent		
Receiving Waters	Ohio River (WWF)	Stream Code	32317
NHD Com ID	99680304	RMI	960.4
Drainage Area	19600	Yield (cfs/mi^2)	0.24
Q_{7-10} Flow (cfs)	4730	Q_{7-10} Basis	Army Corp of Engineers
Elevation (ft)	682	Slope (ft/ft)	
Watershed No.	20-G	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	DIOXIN, PATHOGENS, POLYCHLORINATED BIPHENYLS (PCBs)		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status	Final	Name	Ohio River
Background/Ambient Data		Data Source	
pH (SU)			
Temperature (°F)			
Hardness (mg/L)			
Other:			
Nearest Downstream Public Water Supply Intake	CENTER TWP WATER AUTH		
PWS Waters	Ohio River (WWF)	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	7.11

Changes Since Last Permit Issuance: None

Other Comments:

This discharge is to the Ohio River Watershed that has a Final TMDL and is impaired by PCBs and Chlordane. This sewage discharge is not expected to contribute to the stream impairment. No Waste Load Allocations (WLAs) have been developed for this sewage discharge and they are not expected to contribute to the stream impairment for these pollutants. No limitations or monitoring requirements for PCBs or Chlordane have been placed on this STP.

Treatment Facility Summary

Treatment Facility Name: Aliquippa STP

WQM Permit No.	Issuance Date
0471407	06/02/1971
0471407	06/08/2017

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Attached Growth Using Trickling Filter/ Oxidation Tower System	Chlorine	3.4

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
3.4	5673	Existing Hydraulic Overload	Drying	Landfill

Changes Since Last Permit Issuance: a sulfur dioxide gas de-chlorination system was added to consistently meet TRC limits

Other Comments: Current Treatment Process consists of:

- primary clarification
- trickling filter/oxidation tower system
- final clarification
- chlorination
- gas de-chlorination.

Compliance History

Operations Compliance Check Summary Report

Facility: ALIQUIPPA STP

NPDES Permit No.: PA0025968

Compliance Review Period: 4/1/20-4/24/25

Inspection Summary:

INSPECTED DATE	INSP TYPE	INSPECTION RESULT DESC	INSPECTION COMMENT
03/05/2025	Compliance Evaluation	Violation(s) Noted	
11/07/2024	Complaint Inspection	No Violations Noted	
01/18/2024	Compliance Evaluation	Violation(s) Noted	
05/16/2023	Compliance Evaluation	Violation(s) Noted	
12/07/2021	Compliance Evaluation	Violation(s) Noted	
11/02/2020	Compliance Evaluation	Violation(s) Noted	Continue to work on CAP with the planning section to reduce I&I and pump station bypasses.

Violation Summary:

VIOLATION DATE	VIOLATION TYPE	VIOLATION TYPE DESC	RESOLVED DATE	VIOLATION COMMENT
03/05/2025	92A.41(A)13B	NPDES - Unauthorized bypass occurred	04/24/2025	Hydraulic overload at wye street.
03/05/2025	92A.47(C)	NPDES - Illegal discharge to waters of the Commonwealth from a sanitary sewer overflow (SSO)	04/24/2025	Wye Street and golf street hydraulic overload from rain
01/18/2024	92A.41(A)13B	NPDES - Unauthorized bypass occurred	02/13/2024	Bypass at Wye lift station during heavy rain events.
01/18/2024	92A.47(C)	NPDES - Illegal discharge to waters of the Commonwealth from a sanitary sewer overflow (SSO)	02/13/2024	Hydraulic overload collection system.
05/16/2023	92A.41(A)13B	NPDES - Unauthorized bypass occurred	05/16/2023	Overflow due to heavy rains and hydraulic load.
05/16/2023	92A.47(C)	NPDES - Illegal discharge to waters of the Commonwealth from a sanitary sewer overflow (SSO)	05/16/2023	
12/07/2021	92A.41(A)13B	NPDES - Unauthorized bypass occurred	07/05/2022	Wye Street
11/02/2020	92A.41(A)13B	NPDES - Unauthorized bypass occurred	12/01/2020	Hydraulic overload at Wye Street & Golf Course lift stations. Authority is currently under a CAP.
11/02/2020	92A.47(C)	NPDES - Illegal discharge to waters of the Commonwealth from a sanitary sewer overflow (SSO)	12/01/2020	Wye street and golf course lift station bypasses.

Open Violations by Client ID:

No open violations for Client ID 66853 with Clean Water Program. The follow open violations exist with Safe Drinking Water Program in Southwest Region.

PROGRAM SPECIFIC ID	INSP ID	VIOLATION ID	VIOLATION DATE	VIOLATION CODE	VIOLATION	PF INSPECTOR
5040006	3661438	8168671	05/30/2023	B5A	FAILURE OF A PUBLIC WATER SYSTEM TO OBTAIN A PERMIT	SHAFFER,SHEILA
5040006	3661438	8168672	05/30/2023	C1A	FAILURE TO MEET DESIGN AND CONSTRUCTION STANDARDS	SHAFFER,SHEILA
5040006	3661438	8168673	05/30/2023	C2B	FAILURE TO FOLLOW APPROVED METHODS FOR SAMPLING AND ANALYSIS	SHAFFER,SHEILA
5040006	3661438	8168674	05/30/2023	C2B	FAILURE TO FOLLOW APPROVED METHODS FOR SAMPLING AND ANALYSIS	SHAFFER,SHEILA
5040006	3661438	8168675	05/30/2023	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM	SHAFFER,SHEILA
5040006	3661438	8168676	05/30/2023	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM	SHAFFER,SHEILA
5040006	3661438	8168677	05/30/2023	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM	SHAFFER,SHEILA
5040006	3661438	8168678	05/30/2023	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM	SHAFFER,SHEILA
5040006	3661438	8168679	05/30/2023	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM	SHAFFER,SHEILA
5040006	3661438	8168680	05/30/2023	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM	SHAFFER,SHEILA
5040006	3661438	8168681	05/30/2023	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM	SHAFFER,SHEILA
5040006	3661438	8168682	05/30/2023	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM	SHAFFER,SHEILA
5040006	3661438	8168684	05/30/2023	C8A	FAILURE OF A CWS TO PERFORM A SYSTEM EVALUATION ANNUALLY	SHAFFER,SHEILA
5040006	3661438	8168685	05/30/2023	D6A	FAILURE OF A COMMUNITY WATER SYSTEM TO DEVELOP AND/OR UPDATE AN OPERATION AND MAINTENANCE PLAN	SHAFFER,SHEILA

Enforcement Summary:

No enforcements executed during review period

Effluent Violation Summary:

MON PD	PARAMETER	REPORTED VALUE	PERMIT LIMIT	UNIT	STAT_BASE_CODE
Oct-20	Fecal Coliform	411	400	CFU/100 ml	Instantaneous Maximum

Unauthorized Discharges:

MONITORING_PERIOD	DISCHARGE_COMMENTS
Feb-25	Hydraulic overload due to wet weather event
Dec-24	Hydraulic overload due to wet weather event
Aug-24	Hydraulic overload due to wet weather event
Jul-24	Hydraulic overload due to wet weather event
Jun-24	Hydraulic overload due to wet weather
May-24	Hydraulic overload due to wet weather
Apr-24	Hydraulic overload due to wet weather
Apr-24	Overload due to extreme wet weather event
Apr-24	Overload due to significant wet weather event
Mar-24	Hydraulic overload due to wet weather event
Feb-24	Hydraulic overload due to wet weather event
Jan-24	Hydraulic overload due to wet weather
Dec-23	Hydraulic overload due to wet weather
Nov-23	Hydraulic overload due to wet weather event
Aug-23	Hydraulic overload due to wet weather event
Jul-23	Hydraulic overload due to significant wet weather event
Jul-23	Hydraulic overload due to wet weather event
Mar-23	Hydraulic overload due to signficant wet weather
Mar-23	Hydraulic overload due to significant wet weather
Feb-23	Hydraulic overload due to significant wet weather event
Jan-23	Hydraulic overload due to significant wet weather
Nov-22	Hydraulic overload due to extreme wet weather
Aug-22	Hydraulic overload due to significant wet weather
May-22	Hydraulic overload during extreme wet weather event
Feb-22	18-inch force main blew out; bypass at lift station required to make necessary repairs
Feb-22	Overload due to wet weather
Jan-22	Power loss; auto transfer switch to 2nd source of supply didn't work
Dec-21	Overload due to wet weather event
Oct-21	Construction activities at head of WWTP
Sep-21	Overload due to excessive wet weather
Aug-21	Construction-related activities associated with tie-ins of relocated force main
Aug-21	Overload due to wet weather
Jun-21	Overload due to wet weather

May-21	Hydraulic overload due to wet weather
Jan-21	Maintenance-related activities; replaced gate valve.
Jan-21	Overload due to wet weather
Dec-20	Maintenance-related work along interceptor sewer
Dec-20	Maintenance-related work in influent channel / bar screen area
Sep-20	Valve Replacement
Aug-20	Hydraulic overload due to wet weather
Jul-20	Overload due to rain even
Jun-20	Construction activities at PS; preparing for new mechanical screen
Jun-20	Hydraulic overload due to wet weather
Apr-20	Overload due to wet weather

Compliance Status: Facility has no open violations with Clean Water Program. A CAP is in effect for hydraulic overload conditions. 2024 Annual Progress Report was submitted with the Chapter 94.

Completed by: Amanda Illar **Completed date:** 4/24/25

Compliance History

DMR Data for Outfall 001 (from April 1, 2024 to March 31, 2025)

Parameter	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24
Flow (MGD) Average Monthly	2.26	3.1	2.0	2.0	1.7	1.4	1.4	2.01	1.53	1.58	2.34	3.38
Flow (MGD) Daily Maximum	3.30	6.6	5.2	6.9	5.7	6.1	2.6	5.78	3.43	2.88	3.53	7.25
pH (S.U.) Minimum	7.0	7.0	6.9	7.0	7.0	7.3	7.2	7.0	7.0	6.9	7.0	7.1
pH (S.U.) Maximum	7.6	7.4	7.9	7.7	7.6	7.8	7.7	7.4	7.6	7.3	7.4	7.5
DO (mg/L) Minimum	8.7	8.2	8.6	7.8	6.0	6.2	6.0	6.3	5.7	6.3	7.9	9.0
TRC (mg/L) Average Monthly	0.07	0.07	0.07	0.1	0.08	0.05	0.05	0.11	0.11	0.04	0.04	0.07
TRC (mg/L) Instantaneous Maximum	0.6	0.6	0.7	0.6	0.4	0.2	0.07	0.70	0.80	0.10	0.10	1.10
CBOD5 (lbs/day) Average Monthly	220	230	147	158	142	114	116	103	86	53	118	179
CBOD5 (lbs/day) Weekly Average	329	361	216	242	221	147	215	217	126	67	313	307
CBOD5 (mg/L) Average Monthly	12	10	10	9.5	10	10	9	7	6	4	6	7
CBOD5 (mg/L) Weekly Average	22	16	14	20.3	21.8	15	21	16	9	6	14	12
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	1872	1588	1483	1535	2354	1440	2548	1437	1227	1094	1427	1173
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	3723	2220	2497	2702	3894	2006	2997	2282	1727	1339	3203	1686
BOD5 (mg/L) Raw Sewage Influent Average Monthly	100	70	103	92	166	123	191	107	94	85	82	43
TSS (lbs/day) Average Monthly	105	92	53	103	77	43	51	48	77	68	72	195

TSS (lbs/day) Raw Sewage Influent Average Monthly	1038	1164	1409	1268	1248	1249	1922	1766	1480	1791	1756	1633
TSS (lbs/day) Raw Sewage Influent Daily Maximum	1268	2504	2526	2082	1531	1496	2100	2322	3046	2949	3620	3763
TSS (lbs/day) Weekly Average	195	190	64	238	211	60	65	74	155	98	116	337
TSS (mg/L) Average Monthly	6	4	4	6.2	5	4	4	3	5	5	4	8
TSS (mg/L) Raw Sewage Influent Average Monthly	56	48	95	76	88	107	144	126	114	136	106	67
TSS (mg/L) Weekly Average	13	6	5	10	17	6	9	3	11	7	6	11
Fecal Coliform (CFU/100 ml) Geometric Mean	8	12	3	19	22	8	34	3	6	11	10	12
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	22	58	8	38	102	21	239	8	39	42	23	76
Total Nitrogen (mg/L) Daily Maximum	6.31			1.82			13.5			7.88		
Ammonia (lbs/day) Average Monthly	18	24	18	16.7	11	9	12	6.16	18.34	11.02	2.85	4.61
Ammonia (mg/L) Average Monthly	0.9	1.2	1.3	1.0	0.8	0.8	1.0	0.45	1.32	0.88	0.17	0.16
Total Phosphorus (mg/L) Daily Maximum	1.09			1.39			1.21			0.93		

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 3.4
Latitude 40º 38' 32.65" **Longitude** -80º 14' 14.97"
Wastewater Description: 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
$CBOD_5$	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 Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	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

The discharge was evaluated using WQM7.0 to determine the $CBOD_5$, ammonia nitrogen, and dissolved oxygen parameters. The limits evaluated for CBOD5 and Ammonia Nitrogen are the same as previously imposed permit limits. The limits evaluated for DO show a more restrictive limit. Submitted eDMR data shows the facility is capable of meeting this new limit. Therefore, the more restrictive limit for DO will be imposed and no compliance schedule will be given.

TRC was evaluated using the TRC Spreadsheet. The limits evaluated were found to be the same as the previously imposed limits.

Parameter	Limit (mg/l)	SBC	Model
DO	4	Inst Min.	WQM 7.0
Ammonia-Nitrogen (May 1 – Oct 31)	25 50	Average Monthly IMAX	WQM 7.0
Ammonia-Nitrogen (Nov 1 – Apr 30)	25 50	Average Monthly IMAX	WQM 7.0
$CBOD_5$	25.0 50.0	Average Monthly IMAX	WQM 7.0
TRC	0.5 1.6	Average Monthly IMAX	TRC Spreadsheet

Per Department SOP “Establishing Effluent Limitations for Individual Sewage Permits” (BCW-PMT-033), for existing discharges, if WQM modeling results for summer indicates that an average monthly limit of 25 mg/L is acceptable, the application manager will generally establish a year-round monitoring requirement for ammonia-nitrogen, at a minimum. A seasonal multiplier of 3 times the summertime average monthly limit should be established for the winter period.

A weekly monitoring frequency for Ammonia-Nitrogen will again be imposed.

Toxics Management Spreadsheet

The NPDES application indicates that no industrial user process wastewater is served by the STP. The toxic pollutants of concern analyzed in the subject application were again included in DEP's TMS Model to determine if any water quality-based limitations would be required. The results showed that limitations for several toxic pollutants would be needed considering reasonable potential.

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Cadmium	4.24	6.61	149	233	373	µg/L	149	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Mercury	0.0003	0.0005	0.012	0.019	0.03	µg/L	0.012	THH	Discharge Conc ≥ 50% WQBEL (RP)
Benzidine	0.006	0.009	0.2	0.31	0.49	µg/L	0.2	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Benzo(a)Anthracene	0.065	0.1	2.3	3.59	5.75	µg/L	2.3	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Benzo(a)Pyrene	0.007	0.01	0.23	0.36	0.57	µg/L	0.23	CRL	Discharge Conc ≥ 50% WQBEL (RP)
3,4-Benzofluoranthene	0.065	0.1	2.3	3.59	5.75	µg/L	2.3	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Benzo(k)Fluoranthene	Report	Report	Report	Report	Report	µg/L	8.74	CRL	Discharge Conc > 25% WQBEL (no RP)
Chrysene	Report	Report	Report	Report	Report	µg/L	8.74	CRL	Discharge Conc > 25% WQBEL (no RP)
Dibenzo(a,h)Anthrancene	0.007	0.01	0.23	0.36	0.57	µg/L	0.23	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Hexachlorobenzene	0.000002	0.000004	0.00008	0.0001	0.0002	µg/L	0.00008	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Hexachlorobutadiene	0.0003	0.0004	0.01	0.016	0.025	µg/L	0.01	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Indeno(1,2,3-cd)Pyrene	0.065	0.1	2.3	3.59	5.75	µg/L	2.3	CRL	Discharge Conc ≥ 50% WQBEL (RP)
n-Nitrosodimethylamine	0.045	0.07	1.59	2.47	3.97	µg/L	1.59	CRL	Discharge Conc ≥ 50% WQBEL (RP)
n-Nitrosodi-n-Propylamine	Report	Report	Report	Report	Report	µg/L	11.5	CRL	Discharge Conc > 25% WQBEL (no RP)

Part C.III. (Titled "WQBELs for Toxic Pollutants) has been added to the permit. The Authority will have the opportunity to collect site-specific data and conduct a TRE Study. The Authority will have 3 years to complete the required studies and submit a Final WQBEL Compliance Report to the Department before having to comply with Final Permit Limits for the above toxic pollutants with limits suggested three years after the permit effective date. In the interim period, limits for the toxic pollutants listed above will not be imposed. There is not enough data at this time to indicate that the Authority can comply with the above discussed WQBELs upon permit issuance.

The TMS Model Results recommended Monitoring be established for Benzo(k)Flouranthene, Chrysene, and n-Nitrosodi-n-Propylamine, as the discharge concentration of those parameters is greater than or equal to 50 % of the governing WQBELs (no RP), respectively.

When considering limitations for mercury ORSANCO's regulations will allow mixing zones for permitting authorities if the facility has been in existing before Oct 16, 2003, measures are taken during the permit cycle to reduce or eliminate the necessity of a mixing zone, and the permitting authority uses mixing zones to evaluate BCC's. The Aliquippa STP predates Oct 16, 2003, so its mercury was evaluated with a mixing zone. On May 9, 2022, additional mercury analysis results were submitted to the department. The average of these results was entered into the TMS spreadsheet as Orsanco Mercury and results were run using a mixing zone.

Effluent 24 Hour Composite Sample		
Date	Result (ng/L)	Notes
3/21/2022	2.6	Duplicate Analysis Performed
3/21/2022	2.8	Duplicate Analysis Performed
3/22/2022	1.9	
3/23/2022	3.2	Q1
3/24/2022	3.1	Q1
3/25/2022	6.4	Q1
3/28/2022	8.7	Duplicate Analysis Performed
3/28/2022	8.6	Duplicate Analysis Performed
3/29/2022	6.7	Q1
3/30/2022	3.5	Q1
3/31/2022	3.5	Q1
4/1/2022	37.9	
4/4/2022	12.9	
4/5/2022	6.7	
Average Result	7.75	

Orsanco Mercury	µg/L		0.00775

Pollutants	Governing WQBEL	Units	Comments
Orsanco Mercury	9.01	µg/L	Discharge Conc ≤ 10% WQBEL

Monitoring requirements will instead be imposed.

Full results of our TMS Modeling are included as Attachment 7.

Anti-Backsliding

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

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

No permit limits and/or monitoring requirements have been relaxed in this permit cycle.

Additional Considerations

Sewage discharges will include monitoring, at a minimum, for *E. Coli*, in new and reissued permits, with a monitoring frequency of 1/month for facilities with design flows of >= 1.0 MGD.

An annual sampling frequency for total phosphorus and total nitrogen will again be imposed per 25 PA Code §92a.61.

Aliquippa STP is an existing facility and is not expanding. Therefore, anti-degradation requirements are not evaluated during this permit cycle.

Monitoring frequency for the proposed effluent limits and toxic pollutant limits are based upon Table 6-3, Self-Monitoring Requirements for Sewage Dischargers, and Table 6-4, Self-Monitoring Requirements for Industrial Dischargers from the Department's "Technical Guidance for the Development and Specification of Effluent Limitations".

Per DEP SOP New and Reissuance Sewage Individual NPDES Permit Applications SOP No. BCW-PMT-002, that for POTWs with design flows greater than 2,000 GPD, non-municipal sewage facilities, and other non-municipal sewage facilities where justified influent BOD_5 and TSS monitoring in the permit using the same frequency and sample type as is used for effluent will be established. The department finds it appropriate to again impose influent BOD_5 and TSS monitoring for this facility,

Per DEP SOP New and Reissuance Sewage Individual NPDES Permit Applications SOP No. BCW-PMT-002, For POTWs, mass loading limits will be established for $CBOD_5$, TSS, NH_3-N, and where necessary Total P and Total N. In general, average monthly mass loading limits will be established for $CBOD_5$, TSS, NH_3-N, and where necessary Total P and Total N, and average weekly mass loading limits will be established for $CBOD_5$ and TSS. The department finds it appropriate to again impose mass-loading limits for $CBOD_5$ and TSS.

Whole Effluent Toxicity (WET)

For Outfall 001, ☐ **Acute** ☒ **Chronic** WET Testing was completed:

☒ For the permit renewal application (4 tests).
☐ Quarterly throughout the permit term.
☐ Quarterly throughout the permit term and a TIE/TRE was conducted.
☐ Other: **N/A**

The dilution series used for the tests was: 100%, 60%, 30%, 2%, and 1%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 2%.

Summary of Four Most Recent Test Results

TST Data Analysis

(NOTE – In lieu of recording information below, the application manager may attach the DEP WET Analysis Spreadsheet).

	***Ceriodaphnia* Results (Pass/Fail)**		***Pimephales* Results (Pass/Fail)**	
Test Date	**Survival**	**Reproduction**	**Survival**	**Growth**
1/11/21	PASS	PASS	PASS	PASS
1/31/22	PASS	PASS	PASS	PASS
10/16/23	PASS	PASS	PASS	PASS
8/27/24	PASS	PASS	PASS	PASS

***** *A "passing" result is that in which the replicate data for the TIWC is not statistically significant from the control condition. This is exhibited when the calculated t value ("T-Test Result") is greater than the critical t value. A "failing" result is exhibited when the calculated t value ("T-Test Result") is less than the critical t 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**

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

Acute Partial Mix Factor (PMFa): **0.121** Chronic Partial Mix Factor (PMFc): **0.835**

1. Determine IWC – Acute (IWCa):

$(Q_d \times 1.547) / ((Q_{7\text{-}10} \times PMFa) + (Q_d \times 1.547))$

[(3.4 MGD x 1.547) / ((4730 cfs x 0.121) + (3.4 MGD x 1.547))] x 100 = **0.91%**

Is IWCa < 1%? ☒ **YES** ☐ **NO** **(YES - Acute Tests Required OR NO - Chronic Tests Required)**

Type of Test for Permit Renewal: **ACUTE**

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

TIWCa = .91 / 0.3 = 3**%**

PA DEP WET Analysis Spreadsheet recommends 2% TIWCa. 2% will instead be used as the target IWCa

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? ☐ YES ☒ NO

Proposed Effluent Limitations and Monitoring Requirements

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

Outfall 001, Effective Period: Permit Effective Date through three years after permit issue date

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Maximum	Instant. Maximum		
Total Cadmium (ug/L)	Report	Report	Report	Report	XXX	XXX	1/week	24-Hr Composite
Hexachloro-benzene (ug/L)	Report	Report	Report	Report	XXX	XXX	1/week	24-Hr Composite
Benzidine (ug/L)	Report	Report	Report	Report	XXX	XXX	1/week	24-Hr Composite
Benzo(a)-Anthracene (ug/L)	Report	Report	Report	Report	XXX	XXX	1/week	24-Hr Composite
Benzo(a)Pyrene (ug/L)	Report	Report	Report	Report	XXX	XXX	1/week	24-Hr Composite
3,4-Benzo-fluoranthene (ug/L)	Report	Report	Report	Report	XXX	XXX	1/week	24-Hr Composite
Dibenzo(a,h)-Anthracene (ug/L)	Report	Report	Report	Report	XXX	XXX	1/week	24-Hr Composite
Hexachloro-butadiene (ug/L)	Report	Report	Report	Report	XXX	XXX	1/week	24-Hr Composite
Indeno(1,2,3-cd)Pyrene (ug/L)	Report	Report	Report	Report	XXX	XXX	1/week	24-Hr Composite
N-Nitroso-dimethylamine (ug/L)	Report	Report	Report	Report	XXX	XXX	1/week	24-Hr Composite

Compliance Sampling Location: Outfall 001

Other Comments: N/A

Proposed Effluent Limitations and Monitoring Requirements

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

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2)	Required
	Average Monthly	Daily Maximum	Average Monthly	Average Monthly	Weekly Average	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	709	1078 Wkly Avg	XXX	25	38	50	2/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
TSS	851	1276 Wkly Avg	XXX	30	45	60	2/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Fecal Coliform (No./100 ml) Nov 1 - Mar 31	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/week	Grab
Fecal Coliform (No./100 ml) Apr 1 - Oct 31	XXX	XXX	XXX	200 Geo Mean	XXX	400	2/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/month	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	24-Hr Composite
Ammonia-Nitrogen	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite

Outfall 001, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Average Monthly	Average Monthly	Weekly Average	Instant. Maximum		
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	24-Hr Composite
Total Mercury (ug/L)	Report	Report	Report	Report Daily Max	XXX	Report	1/week	24-Hr Composite
Benzo(k)Fluor-anthene (ug/L)	Report	Report	Report	Report Daily Max	XXX	Report	1/week	24-Hr Composite
Chrysene (ug/L)	Report	Report	Report	Report Daily Max	XXX	Report	1/week	24-Hr Composite
N-Nitrosodi-N-Propylamine (ug/L)	Report	Report	Report	Report Daily Max	XXX	Report	1/week	24-Hr Composite
PFOA (ng/L) (3)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
PFOS (ng/L) (3)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
PFBS (ng/L) (3)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
HFPO-DA (ng/L) (3)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab

Compliance Sampling Location: Outfall 001

Other Comments: N/A

Proposed Effluent Limitations and Monitoring Requirements

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

Outfall 001, Effective Period: three years after permit issue date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Maximum	Instant. Maximum		
Total Cadmium (ug/L)	4.24	6.61	149.0	233.0	XXX	373	1/week	24-Hr Composite
Hexachloro-benzene (ug/L)	0.000002	0.000004	0.00008	0.0001	XXX	0.0002	1/week	24-Hr Composite
Benzidine (ug/L)	0.006	0.009	0.2	0.31	XXX	0.49	1/week	24-Hr Composite
Benzo(a)-Anthracene (ug/L)	0.065	0.1	2.3	3.59	XXX	5.75	1/week	24-Hr Composite
Benzo(a)Pyrene (ug/L)	0.007	0.01	0.23	0.36	XXX	0.57	1/week	24-Hr Composite
3,4-Benzo-fluoranthene (ug/L)	0.065	0.1	2.3	3.59	XXX	5.75	1/week	24-Hr Composite
Dibenzo(a,h)-Anthracene (ug/L)	0.007	0.01	0.23	0.36	XXX	0.57	1/week	24-Hr Composite
Hexachloro-butadiene (ug/L)	0.0003	0.0004	0.01	0.016	XXX	0.025	1/week	24-Hr Composite
Indeno(1,2,3-cd)Pyrene (ug/L)	0.065	0.1	2.3	3.59	XXX	5.75	1/week	24-Hr Composite
N-Nitroso-dimethylamine (ug/L)	0.045	0.07	1.59	2.47	XXX	3.97	1/week	24-Hr Composite

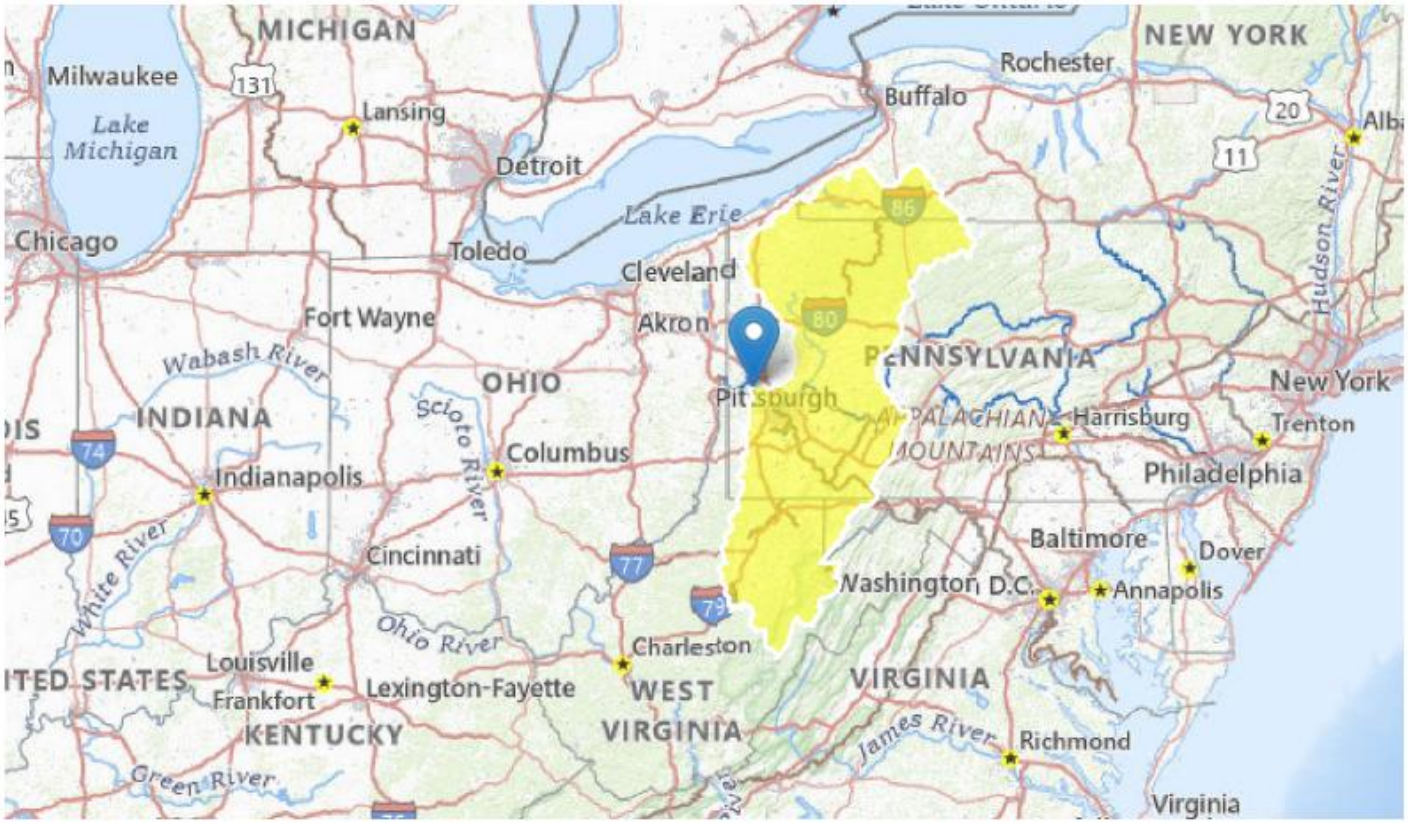
Compliance Sampling Location: Outfall 001

Other Comments: N/A

Attachment 1
USGS Outfall StreamStat

StreamStats Report

Region ID: PA
Workspace ID: PA20250414163340040000
Clicked Point (Latitude, Longitude): 40.64235, -80.23751
Time: 2025-04-14 12:34:35 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	19600	square miles
ELEV	Mean Basin Elevation	1670	feet
PRECIP	Mean Annual Precipitation	45	inches

Low-Flow Statistics

Low-Flow Statistics Parameters [57.0 Percent (11200 square miles) Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	19600	square miles	2.33	1720
ELEV	Mean Basin Elevation	1670	feet	898	2700
PRECIP	Mean Annual Precipitation	45	inches	38.7	47.9

Low-Flow Statistics Parameters [43.0 Percent (8330 square miles) Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	19600	square miles	2.26	1400
ELEV	Mean Basin Elevation	1670	feet	1050	2580

Low-Flow Statistics Disclaimers [57.0 Percent (11200 square miles) Low Flow Region 3]

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

Low-Flow Statistics Flow Report [57.0 Percent (11200 square miles) Low Flow Region 3]

Statistic	Value	Unit
7 Day 2 Year Low Flow	2830	ft^3/s
30 Day 2 Year Low Flow	3560	ft^3/s
7 Day 10 Year Low Flow	2010	ft^3/s
30 Day 10 Year Low Flow	2330	ft^3/s
90 Day 10 Year Low Flow	3110	ft^3/s

Low-Flow Statistics Disclaimers [43.0 Percent (8330 square miles) Low Flow Region 4]

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

Low-Flow Statistics Flow Report [43.0 Percent (8330 square miles) Low Flow Region 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	2870	ft^3/s
30 Day 2 Year Low Flow	3560	ft^3/s
7 Day 10 Year Low Flow	1950	ft^3/s
30 Day 10 Year Low Flow	2040	ft^3/s
90 Day 10 Year Low Flow	2780	ft^3/s

Low-Flow Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
7 Day 2 Year Low Flow	2850	ft^3/s
30 Day 2 Year Low Flow	3560	ft^3/s
7 Day 10 Year Low Flow	1980	ft^3/s
30 Day 10 Year Low Flow	2210	ft^3/s
90 Day 10 Year Low Flow	2970	ft^3/s

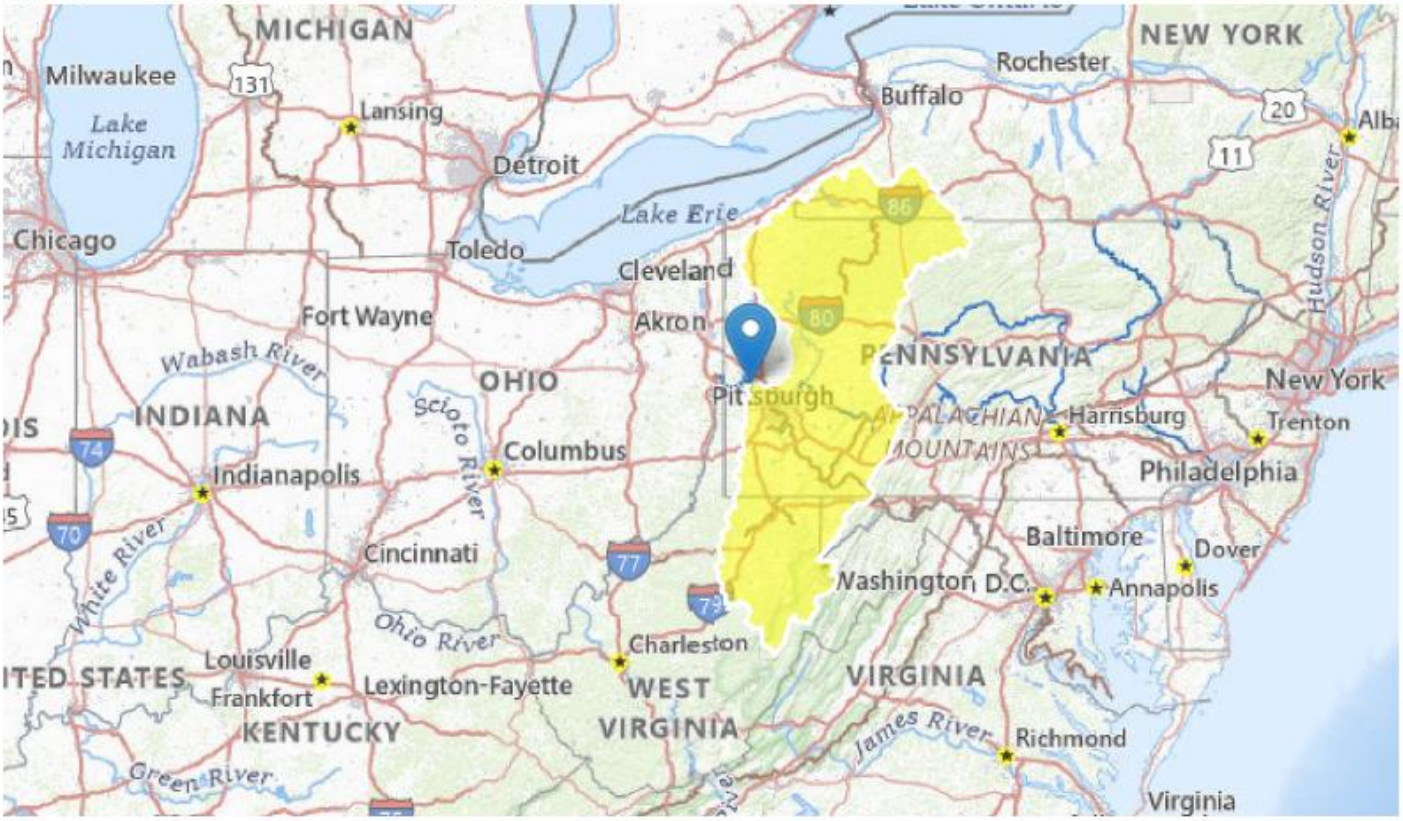
Low-Flow Statistics Citations

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

Attachment 2
USGS Downstream StreamStat

StreamStats Report

Region ID: PA
Workspace ID: PA20250414154518389000
Clicked Point (Latitude, Longitude): 40.65596, -80.24549
Time: 2025-04-14 11:46:16 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	19600	square miles
ELEV	Mean Basin Elevation	1670	feet
PRECIP	Mean Annual Precipitation	45	inches

Low-Flow Statistics

Low-Flow Statistics Parameters [57.0 Percent (11200 square miles) Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	19600	square miles	2.33	1720
ELEV	Mean Basin Elevation	1670	feet	898	2700
PRECIP	Mean Annual Precipitation	45	inches	38.7	47.9

Low-Flow Statistics Parameters [43.0 Percent (8340 square miles) Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	19600	square miles	2.26	1400
ELEV	Mean Basin Elevation	1670	feet	1050	2580

Low-Flow Statistics Disclaimers [57.0 Percent (11200 square miles) Low Flow Region 3]

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

Low-Flow Statistics Flow Report [57.0 Percent (11200 square miles) Low Flow Region 3]

Statistic	Value	Unit
7 Day 2 Year Low Flow	2830	ft^3/s
30 Day 2 Year Low Flow	3560	ft^3/s
7 Day 10 Year Low Flow	2010	ft^3/s
30 Day 10 Year Low Flow	2330	ft^3/s
90 Day 10 Year Low Flow	3110	ft^3/s

Low-Flow Statistics Disclaimers [43.0 Percent (8340 square miles) Low Flow Region 4]

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

Low-Flow Statistics Flow Report [43.0 Percent (8340 square miles) Low Flow Region 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	2870	ft^3/s
30 Day 2 Year Low Flow	3560	ft^3/s
7 Day 10 Year Low Flow	1950	ft^3/s
30 Day 10 Year Low Flow	2040	ft^3/s
90 Day 10 Year Low Flow	2780	ft^3/s

Low-Flow Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
7 Day 2 Year Low Flow	2850	ft^3/s
30 Day 2 Year Low Flow	3560	ft^3/s
7 Day 10 Year Low Flow	1980	ft^3/s
30 Day 10 Year Low Flow	2210	ft^3/s
90 Day 10 Year Low Flow	2970	ft^3/s

Low-Flow Statistics Citations

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

Attachment 3
WQM7 Summer Results

Input Data WQM 7.0

	SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
	20E	32317	OHIO RIVER	**960.400**	682.00	19600.00	0.00010	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.241	4730.00	0.00	0.000	0.000	75.0	1350.00	18.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Aliquippa STP	PA0025968	3.4000	0.0000	0.0000	0.000	20.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	4.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
20E	32317	OHIO RIVER

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
960.400	4730.00	0.00	4730.00	5.2598	0.00010	18	1350	75	0.19	0.314	24.99	7.00
Q1-10 Flow												
960.400	3027.20	0.00	3027.20	5.2598	0.00010	NA	NA	NA	0.12	0.490	24.99	7.00
Q30-10 Flow												
960.400	6432.80	0.00	6432.80	5.2598	0.00010	NA	NA	NA	0.26	0.231	25.00	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	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
20E	32317	OHIO RIVER

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
960.400	Aliquippa STP	11.08	50	11.08	50	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
960.400	Aliquippa STP	1.37	25	1.37	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
960.40	Aliquippa STP	25	25	25	25	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20E	32317	OHIO RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
960.400	3.400	24.994	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
1350.000	18.000	75.000	0.195
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.03	0.016	0.03	1.028
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.238	0.084	O'Connor	5
Reach Travel Time (days)			
0.314			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.031	2.02	0.03	7.54
0.063	2.02	0.03	7.54
0.094	2.02	0.03	7.54
0.125	2.02	0.02	7.54
0.157	2.02	0.02	7.54
0.188	2.02	0.02	7.54
0.220	2.02	0.02	7.54
0.251	2.02	0.02	7.54
0.282	2.01	0.02	7.54
0.314	2.01	0.02	7.54

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20E	32317	OHIO 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)
960.400	Aliquippa STP	PA0025968	3.400	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

Attachment 4
WQM7 Winter Results

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
20E	32317	OHIO RIVER	**960.400**	682.00	19600.00	0.00010	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.482	4730.00	0.00	0.000	0.000	75.0	1350.00	18.00	5.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Aliquippa STP	PA0025968	3.4000	0.0000	0.0000	0.000	15.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	4.00	12.51	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
20E	32317	OHIO RIVER

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
960.400	4730.00	0.00	4730.00	5.2598	0.00010	18	1350	75	0.19	0.314	5.01	7.00
Q1-10 Flow												
960.400	3027.20	0.00	3027.20	5.2598	0.00010	NA	NA	NA	0.12	0.490	5.02	7.00
Q30-10 Flow												
960.400	6432.80	0.00	6432.80	5.2598	0.00010	NA	NA	NA	0.26	0.231	5.01	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	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
20E	32317	OHIO RIVER

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
960.400	Aliquippa STP	24.1	50	24.1	50	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
960.400	Aliquippa STP	4.36	25	4.36	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
960.40	Aliquippa STP	25	25	25	25	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20E	32317	OHIO RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
960.400	3.400	5.011	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
1350.000	18.000	75.000	0.195
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.03	0.018	0.03	0.221
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
12.501	0.052	O'Connor	5
Reach Travel Time (days)			
0.314			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.031	2.02	0.03	11.45
0.063	2.02	0.03	11.45
0.094	2.02	0.03	11.45
0.125	2.02	0.03	11.45
0.157	2.02	0.03	11.45
0.188	2.02	0.03	11.45
0.220	2.02	0.03	11.45
0.251	2.02	0.03	11.45
0.282	2.02	0.03	11.45
0.314	2.02	0.03	11.45

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20E	32317	OHIO 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)
960.400	Aliquippa STP	PA0025968	3.400	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

Attachment 5
TRC Calculations

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

4730	= Q stream (cfs)	0.5	= CV Daily
3.4	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 286.887	1.3.2.iii	WLA cfc = 279.685
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 106.901	5.1d	LTA_cfc = 162.596

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) = 1.635	

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

Attachment 6
WET Test Results

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.02
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Aliquippa MA

Permit No.: PA 0025968

Replicate No.	Test Completion Date: 1/11/2021 Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail	PASS	

Replicate No.	Test Completion Date: 1/31/2022 Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	0	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	0.900	1.000
Std Dev.	0.316	0.000
# Replicates	10	10
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail	PASS	

Replicate No.	Test Completion Date: 10/16/2023 Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	0
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	0.900
Std Dev.	0.000	0.316
# Replicates	10	10
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail	PASS	

Replicate No.	Test Completion Date: 8/26/2024 Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	0
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	0.900
Std Dev.	0.000	0.316
# Replicates	10	10
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail	PASS	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.02
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Aliquippa MA

Permit No.: PA 0025968

Test Completion Date: 1/11/2021

Replicate No.	Control	TIWC
1	30	32
2	32	28
3	30	30
4	23	33
5	30	35
6	27	30
7	26	24
8	25	34
9	36	31
10	37	29
11		
12		
13		
14		
15		
Mean	29.600	30.600
Std Dev.	4.551	3.204
# Replicates	10	10

T-Test Result	5.6740
Deg. of Freedom	17
Critical T Value	0.8633
Pass or Fail	**PASS**

Test Completion Date: 1/31/2022

Replicate No.	Control	TIWC
1	31	32
2	29	30
3	37	28
4	42	29
5	31	28
6	36	37
7	0	36
8	37	31
9	33	33
10	12	17
11		
12		
13		
14		
15		
Mean	28.800	30.100
Std Dev.	12.908	5.547
# Replicates	10	10

T-Test Result	2.4091
Deg. of Freedom	17
Critical T Value	0.8633
Pass or Fail	**PASS**

Test Completion Date: 10/16/2023

Replicate No.	Control	TIWC
1	24	23
2	22	18
3	22	23
4	24	25
5	27	23
6	24	24
7	25	21
8	18	23
9	29	26
10	25	23
11		
12		
13		
14		
15		
Mean	24.000	22.900
Std Dev.	2.981	2.183
# Replicates	10	10

T-Test Result	4.9582
Deg. of Freedom	17
Critical T Value	0.8633
Pass or Fail	**PASS**

Test Completion Date: 8/26/2024

Replicate No.	Control	TIWC
1	22	29
2	23	27
3	21	25
4	25	5
5	13	22
6	20	26
7	27	28
8	22	25
9	17	27
10	12	14
11		
12		
13		
14		
15		
Mean	20.200	22.800
Std Dev.	4.872	7.569
# Replicates	10	10

T-Test Result	2.8783
Deg. of Freedom	14
Critical T Value	0.8681
Pass or Fail	**PASS**

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.02
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Aliquippa MA

Permit No.: PA 0025968

Replicate No.	Test Completion Date: 1/12/2021 Control	TIWC
1	0.7	0.7
2	0.8	1
3	1	0.9
4	1	1
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.875	0.900
Std Dev.	0.150	0.141
# Replicates	4	4
T-Test Result	4.8915	
Deg. of Freedom	5	
Critical T Value	0.7267	
Pass or Fail	PASS	

Replicate No.	Test Completion Date: 2/1/2022 Control	TIWC
1	1	0.9
2	0.9	0.9
3	0.9	0.9
4	0.9	0.8
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.925	0.875
Std Dev.	0.050	0.050
# Replicates	4	4
T-Test Result	12.4352	
Deg. of Freedom	5	
Critical T Value	0.7267	
Pass or Fail	PASS	

Replicate No.	Test Completion Date: 9/5/2023 Control	TIWC
1	0.8	0.9
2	0.8	0.5
3	0.8	0.8
4	0.8	0.9
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.800	0.775
Std Dev.	0.000	0.189
# Replicates	4	4
T-Test Result	3.4792	
Deg. of Freedom	3	
Critical T Value	0.7649	
Pass or Fail	PASS	

Replicate No.	Test Completion Date: 8/27/2024 Control	TIWC
1	1	1
2	1	0.9
3	1	1
4	1	1
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	1.000	0.975
Std Dev.	0.000	0.050
# Replicates	4	4
T-Test Result	17.8623	
Deg. of Freedom	3	
Critical T Value	0.7649	
Pass or Fail	PASS	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	0.02
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Aliquippa MA

Permit No.: PA 0025968

Test Completion Date: 1/12/2021

Replicate No.	Control	TIWC
1	0.356	0.38
2	0.381	0.501
3	0.586	0.432
4	0.516	0.473
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.460	0.447
Std Dev.	0.110	0.053
# Replicates	4	4

T-Test Result	2.0832
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	**PASS**

Test Completion Date: 2/1/2022

Replicate No.	Control	TIWC
1	0.38	0.3
2	0.464	0.477
3	0.382	0.25
4	0.392	0.346
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.405	0.343
Std Dev.	0.040	0.097
# Replicates	4	4

T-Test Result	0.7825
Deg. of Freedom	4
Critical T Value	0.7407
Pass or Fail	**PASS**

Test Completion Date: 9/5/2023

Replicate No.	Control	TIWC
1	0.277	0.29
2	0.323	0.272
3	0.258	0.225
4	0.264	0.261
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.281	0.262
Std Dev.	0.029	0.027
# Replicates	4	4

T-Test Result	2.9341
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	**PASS**

Test Completion Date: 8/27/2024

Replicate No.	Control	TIWC
1	0.261	0.289
2	0.244	0.281
3	0.318	0.286
4	0.242	0.288
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.266	0.286
Std Dev.	0.036	0.004
# Replicates	4	4

T-Test Result	6.4197
Deg. of Freedom	4
Critical T Value	0.7407
Pass or Fail	**PASS**

WET Summary and Evaluation

Facility Name	Aliquippa MA
Permit No.	PA 0025968
Design Flow (MGD)	3.4
Q_{7-10} Flow (cfs)	5880
PMF_a	0.121
PMF_c	0.835

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	1/11/21	1/31/22	10/16/23	8/26/24
Ceriodaphnia	Survival	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	1/11/21	1/31/22	10/16/23	8/26/24
Ceriodaphnia	Reproduction	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	1/12/21	2/1/22	9/5/23	8/27/24
Pimephales	Survival	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	1/12/21	2/1/22	9/5/23	8/27/24
Pimephales	Growth	PASS	PASS	PASS	PASS

Reasonable Potential? NO

Permit Recommendations

Test Type	**Acute**
TIWC	**2** % Effluent
Dilution Series	**1, 2, 30, 60, 100** % Effluent
Permit Limit	**None**
Permit Limit Species	

Attachment 7
Toxics Modeling Spreadsheet

Pennsylvania Department of

Discharge Information

Instructions | Discharge | Stream

Facility: **Aliquippa STP** NPDES Permit No.: **PA0025968** Outfall No.: **001**

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

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
3.4	100	7						

						0 if left blank		*0.5 if left blank*		*0 if left blank*			*1 if left blank*	
	Discharge Pollutant	Units	Max Discharge Conc			Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		888										
	Chloride (PWS)	mg/L		359										
	Bromide	mg/L		0.101										
	Sulfate (PWS)	mg/L		89.6										
	Fluoride (PWS)	mg/L												
Group 2	Total Aluminum	µg/L		110										
	Total Antimony	µg/L		2										
	Total Arsenic	µg/L		1										
	Total Barium	µg/L		72.1										
	Total Beryllium	µg/L		0.06										
	Total Boron	µg/L		273										
	Total Cadmium	µg/L		77										
	Total Chromium (III)	µg/L		2										
	Hexavalent Chromium	µg/L		0.84										
	Total Cobalt	µg/L		0.32										
	Total Copper	µg/L		31.1										
	Free Cyanide	µg/L		9										
	Total Cyanide	µg/L		9										
	Dissolved Iron	µg/L		1220										
	Total Iron	µg/L		1480										
	Total Lead	µg/L		1										
	Total Manganese	µg/L		76.2										
	Total Mercury	µg/L		0.2										
	Total Nickel	µg/L		3.73										
	Total Phenols (Phenolics) (PWS)	µg/L		2500										
	Total Selenium	µg/L		3										
	Total Silver	µg/L		0.4										
	Total Thallium	µg/L		15										
	Total Zinc	µg/L		23										
	Total Molybdenum	µg/L		3.96										
	Acrolein	µg/L		2										
	Acrylamide	µg/L												
	Acrylonitrile	µg/L		2										
	Benzene	µg/L		0.5										
	Bromoform	µg/L		0.5										

		Jordan Coldsmith / Environmental Engineering Specialist	May 12, 2025
X		Mahbuba Iasmin Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineering Manager	May 23, 2025

Group 3	Carbon Tetrachloride	µg/L		0.5										
	Chlorobenzene	µg/L		0.5										
	Chlorodibromomethane	µg/L		1.5										
	Chloroethane	µg/L		0.5										
	2-Chloroethyl Vinyl Ether	µg/L		5										
	Chloroform	µg/L		18.5										
	Dichlorobromomethane	µg/L		7.4										
	1,1-Dichloroethane	µg/L		0.5										
	1,2-Dichloroethane	µg/L		0.5										
	1,1-Dichloroethylene	µg/L		0.5										
	1,2-Dichloropropane	µg/L		0.5										
	1,3-Dichloropropylene	µg/L		0.5										
	1,4-Dioxane	µg/L		5										
	Ethylbenzene	µg/L		0.5										
	Methyl Bromide	µg/L		0.5										
	Methyl Chloride	µg/L		0.5										
	Methylene Chloride	µg/L		0.5										
	1,1,2,2-Tetrachloroethane	µg/L		0.5										
	Tetrachloroethylene	µg/L		0.5										
	Toluene	µg/L		0.5										
	1,2-trans-Dichloroethylene	µg/L		0.5										
	1,1,1-Trichloroethane	µg/L		0.5										
	1,1,2-Trichloroethane	µg/L		0.5										
	Trichloroethylene	µg/L		0.5										
	Vinyl Chloride	µg/L		0.5										
Group 4	2-Chlorophenol	µg/L		5										
	2,4-Dichlorophenol	µg/L		5										
	2,4-Dimethylphenol	µg/L		5										
	4,6-Dinitro-o-Cresol	µg/L		10										
	2,4-Dinitrophenol	µg/L		10										
	2-Nitrophenol	µg/L		10										
	4-Nitrophenol	µg/L		5										
	p-Chloro-m-Cresol	µg/L		5										
	Pentachlorophenol	µg/L		10										
	Phenol	µg/L		2.5										
	2,4,6-Trichlorophenol	µg/L		5										
Group 5	Acenaphthene	µg/L		2.5										
	Acenaphthylene	µg/L		2.5										
	Anthracene	µg/L		2.5										
	Benzidine	µg/L		50										
	Benzo(a)Anthracene	µg/L		2.5										
	Benzo(a)Pyrene	µg/L		2.5										
	3,4-Benzofluoranthene	µg/L		2.5										
	Benzo(ghi)Perylene	µg/L		2.5										
	Benzo(k)Fluoranthene	µg/L		2.5										
	Bis(2-Chloroethoxy)Methane	µg/L		5										
	Bis(2-Chloroethyl)Ether	µg/L		5										
	Bis(2-Chloroisopropyl)Ether	µg/L		5										
	Bis(2-Ethylhexyl)Phthalate	µg/L		5										
	4-Bromophenyl Phenyl Ether	µg/L		5										
	Butyl Benzyl Phthalate	µg/L		5										
	2-Chloronaphthalene	µg/L		5										
	4-Chlorophenyl Phenyl Ether	µg/L		5										
	Chrysene	µg/L		2.5										
	Dibenzo(a,h)Anthrancene	µg/L		2.5										
	1,2-Dichlorobenzene	µg/L		0.5										
	1,3-Dichlorobenzene	µg/L		0.5										
	1,4-Dichlorobenzene	µg/L		0.5										
	3,3-Dichlorobenzidine	µg/L		5										
	Diethyl Phthalate	µg/L		5										
	Dimethyl Phthalate	µg/L		2.5										
	Di-n-Butyl Phthalate	µg/L		5										
	2,4-Dinitrotoluene	µg/L		5										

	2,6-Dinitrotoluene	µg/L		5										
	Di-n-Octyl Phthalate	µg/L		5										
	1,2-Diphenylhydrazine	µg/L		5										
	Fluoranthene	µg/L		2.5										
	Fluorene	µg/L		2.5										
	Hexachlorobenzene	µg/L		5										
	Hexachlorobutadiene	µg/L		0.5										
	Hexachlorocyclopentadiene	µg/L		5										
	Hexachloroethane	µg/L		2.5										
	Indeno(1,2,3-cd)Pyrene	µg/L		2.5										
	Isophorone	µg/L		5										
	Naphthalene	µg/L		0.5										
	Nitrobenzene	µg/L		5										
	n-Nitrosodimethylamine	µg/L		5										
	n-Nitrosodi-n-Propylamine	µg/L		5										
	n-Nitrosodiphenylamine	µg/L		5										
	Phenanthrene	µg/L		2.5										
	Pyrene	µg/L		2.5										
	1,2,4-Trichlorobenzene	µg/L		0.5										
Group 6	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												
	beta-Endosulfan	µg/L												
	Endosulfan Sulfate	µg/L												
	Endrin	µg/L												
	Endrin Aldehyde	µg/L												
	Heptachlor	µg/L												
	Heptachlor Epoxide	µg/L												
	PCB-1016	µg/L												
	PCB-1221	µg/L												
	PCB-1232	µg/L												
	PCB-1242	µg/L												
	PCB-1248	µg/L												
	PCB-1254	µg/L												
	PCB-1260	µg/L												
	PCBs, Total	µg/L												
	Toxaphene	µg/L												
	2,3,7,8-TCDD	ng/L												
Group 7	Gross Alpha	pCi/L												
	Total Beta	pCi/L												
	Radium 226/228	pCi/L												
	Total Strontium	µg/L												
	Total Uranium	µg/L												
	Osmotic Pressure	mOs/kg												
	Orsanco Mercury	µg/L		0.00775										

Stream / Surface Water Information

Aliquippa STP, NPDES Permit No. PA0025968, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Ohio River**

No. Reaches to Model: 1

- ○ Statewide Criteria
- ○ Great Lakes Criteria
- ◉ ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	032317	960.4	682	19600	0.001		Yes
End of Reach 1	032317	959.4	676.72	19610	0.001	0	Yes

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

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	960.4	0.241			75	1350	18	0.198	0.309			100	7		
End of Reach 1	959.4	0.241													

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	960.4														
End of Reach 1	959.4														

Model Results

Aliquippa STP, NPDES Permit No. PA0025968, Outfall 001

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

☑ ***Hydrodynamics***

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

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
960.4	4723.60		4723.60	5.26	0.001	18.	1350.	75.	0.198	0.309	1032.095
959.4	4726.01	0.	4726.01								

Q_h

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
960.4	12086.58		12086.58	5.26	0.001	27.207	1350.	49.62	0.335	0.182	556.164
959.4	12091.972	0.	12091.97								

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.121 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	81,949	
Total Antimony	0	0		0	1,100	1,100	120,192	
Total Arsenic	0	0		0	340	340	37,150	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	2,294,573	
Total Boron	0	0		0	8,100	8,100	885,050	
Total Cadmium	0	0		0	2.014	2.13	233	Chem Translator of 0.944 applied
Total Chromium (III)	0	0		0	569.763	1,803	197,011	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	1,780	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	10,380	
Total Copper	0	0		0	13.439	14.0	1,530	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	2,404	

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	64.581	81.6	8,921	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	180	Chem Translator of 0.85 applied
Total Nickel	0	0		0	468.236	469	51,264	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	3.217	3.78	414	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	7,102	
Total Zinc	0	0		0	117.180	120	13,092	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	328	
Acrylonitrile	0	0		0	650	650	71,023	
Benzene	0	0		0	640	640	69,930	
Bromoform	0	0		0	1,800	1,800	196,678	
Carbon Tetrachloride	0	0		0	2,800	2,800	305,943	
Chlorobenzene	0	0		0	1,200	1,200	131,118	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	1,966,777	
Chloroform	0	0		0	1,900	1,900	207,604	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	1,638,981	
1,1-Dichloroethylene	0	0		0	7,500	7,500	819,490	
1,2-Dichloropropane	0	0		0	11,000	11,000	1,201,919	
1,3-Dichloropropylene	0	0		0	310	310	33,872	
Ethylbenzene	0	0		0	2,900	2,900	316,870	
Methyl Bromide	0	0		0	550	550	60,096	
Methyl Chloride	0	0		0	28,000	28,000	3,059,431	
Methylene Chloride	0	0		0	12,000	12,000	1,311,185	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	109,265	
Tetrachloroethylene	0	0		0	700	700	76,486	
Toluene	0	0		0	1,700	1,700	185,751	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	743,005	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	327,796	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	371,502	
Trichloroethylene	0	0		0	2,300	2,300	251,310	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	61,189	
2,4-Dichlorophenol	0	0		0	1,700	1,700	185,751	
2,4-Dimethylphenol	0	0		0	660	660	72,115	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	8,741	
2,4-Dinitrophenol	0	0		0	660	660	72,115	
2-Nitrophenol	0	0		0	8,000	8,000	874,123	
4-Nitrophenol	0	0		0	2,300	2,300	251,310	
p-Chloro-m-Cresol	0	0		0	160	160	17,482	
Pentachlorophenol	0	0		0	8.723	8.72	953	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	50,262	

Acenaphthene	0	0		0	83	83.0	9,069	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	32,780	
Benzo(a)Anthracene	0	0		0	0.5	0.5	54.6	
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	3,277,962	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	491,694	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	29,502	
Butyl Benzyl Phthalate	0	0		0	140	140	15,297	
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	89,598	
1,3-Dichlorobenzene	0	0		0	350	350	38,243	
1,4-Dichlorobenzene	0	0		0	730	730	79,764	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	437,062	
Dimethyl Phthalate	0	0		0	2,500	2,500	273,163	
Di-n-Butyl Phthalate	0	0		0	110	110	12,019	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	174,825	
2,6-Dinitrotoluene	0	0		0	990	990	108,173	
1,2-Diphenylhydrazine	0	0		0	15	15.0	1,639	
Fluoranthene	0	0		0	200	200	21,853	
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	1,093	
Hexachlorocyclopentadiene	0	0		0	5	5.0	546	
Hexachloroethane	0	0		0	60	60.0	6,556	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	1,092,654	
Naphthalene	0	0		0	140	140	15,297	
Nitrobenzene	0	0		0	4,000	4,000	437,062	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	1,857,512	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	32,780	
Phenanthrene	0	0		0	5	5.0	546	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	14,205	
Orsanco Mercury	0	0		0	N/A	N/A	N/A	

☑ ***CFC*** CCT (min): 720 PMF: 0.835 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

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

Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	165,239	
Total Arsenic	0	0		0	150	150	112,663	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	3,079,447	
Total Boron	0	0		0	1,600	1,600	1,201,735	
Total Cadmium	0	0		0	0.246	0.27	203	Chem Translator of 0.909 applied
Total Chromium (III)	0	0		0	74.115	86.2	64,728	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	7,808	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	14,271	
Total Copper	0	0		0	8.956	9.33	7,007	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	5.2	5.2	3,906	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	1,348,585	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.517	3.18	2,390	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	680	Chem Translator of 0.85 applied
Total Nickel	0	0		0	52.007	52.2	39,179	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	3,747	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	9,764	
Total Zinc	0	0		0	118.139	120	89,992	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	2,253	
Acrylonitrile	0	0		0	130	130	97,641	
Benzene	0	0		0	130	130	97,641	
Bromoform	0	0		0	370	370	277,901	
Carbon Tetrachloride	0	0		0	560	560	420,607	
Chlorobenzene	0	0		0	240	240	180,260	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	2,628,796	
Chloroform	0	0		0	390	390	292,923	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	2,328,362	
1,1-Dichloroethylene	0	0		0	1,500	1,500	1,126,627	
1,2-Dichloropropane	0	0		0	2,200	2,200	1,652,386	
1,3-Dichloropropylene	0	0		0	61	61.0	45,816	
Ethylbenzene	0	0		0	580	580	435,629	
Methyl Bromide	0	0		0	110	110	82,619	
Methyl Chloride	0	0		0	5,500	5,500	4,130,965	
Methylene Chloride	0	0		0	2,400	2,400	1,802,603	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	157,728	
Tetrachloroethylene	0	0		0	140	140	105,152	
Toluene	0	0		0	330	330	247,858	

1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	1,051,518	
1,1,1-Trichloroethane	0	0		0	610	610	458,162	
1,1,2-Trichloroethane	0	0		0	680	680	510,738	
Trichloroethylene	0	0		0	450	450	337,988	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	82,619	
2,4-Dichlorophenol	0	0		0	340	340	255,369	
2,4-Dimethylphenol	0	0		0	130	130	97,641	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	12,017	
2,4-Dinitrophenol	0	0		0	130	130	97,641	
2-Nitrophenol	0	0		0	1,600	1,600	1,201,735	
4-Nitrophenol	0	0		0	470	470	353,010	
p-Chloro-m-Cresol	0	0		0	500	500	375,542	
Pentachlorophenol	0	0		0	6.693	6.69	5,027	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	68,349	
Acenaphthene	0	0		0	17	17.0	12,768	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	44,314	
Benzo(a)Anthracene	0	0		0	0.1	0.1	75.1	
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	4,506,508	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	683,487	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	40,559	
Butyl Benzyl Phthalate	0	0		0	35	35.0	26,288	
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	120,174	
1,3-Dichlorobenzene	0	0		0	69	69.0	51,825	
1,4-Dichlorobenzene	0	0		0	150	150	112,663	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	600,868	
Dimethyl Phthalate	0	0		0	500	500	375,542	
Di-n-Butyl Phthalate	0	0		0	21	21.0	15,773	
2,4-Dinitrotoluene	0	0		0	320	320	240,347	
2,6-Dinitrotoluene	0	0		0	200	200	150,217	
1,2-Diphenylhydrazine	0	0		0	3	3.0	2,253	
Fluoranthene	0	0		0	40	40.0	30,043	
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	1,502	

Hexachlorocyclopentadiene	0	0		0	1	1.0	751	
Hexachloroethane	0	0		0	12	12.0	9,013	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	1,577,278	
Naphthalene	0	0		0	43	43.0	32,297	
Nitrobenzene	0	0		0	810	810	608,379	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	2,553,688	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	44,314	
Phenanthrene	0	0		0	1	1.0	751	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	19,528	
Orsanco Mercury	0	0		0	N/A	N/A	N/A	

☑ ***THH*** CCT (min): ###### THH PMF: 0.835 Analysis Hardness (mg/l): N/A Analysis pH: N/A PWS PMF: 0.6566

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	4,206	THH WQC applied at PWS at RMI 959.4
Total Arsenic	0	0		0	10	10.0	7,511	THH WQC applied at PWS at RMI 959.4
Total Barium	0	0		0	1,000	1,000	751,085	THH WQC applied at PWS at RMI 959.4
Total Boron	0	0		0	3,100	3,100	2,328,362	THH WQC applied at PWS at RMI 959.4
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	1,300	1,300	976,410	THH WQC applied at PWS at RMI 959.4
Free Cyanide	0	0		0	4	4.0	3,004	THH WQC applied at PWS at RMI 959.4
Dissolved Iron	0	0		0	300	300	225,325	THH WQC applied at PWS at RMI 959.4
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	751,085	THH WQC applied at PWS at RMI 959.4
Total Mercury	0	0		0	0.012	0.012	9.01	THH WQC applied at PWS at RMI 959.4
Total Nickel	0	0		0	610	610	458,162	THH WQC applied at PWS at RMI 959.4
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	180	THH WQC applied at PWS at RMI 959.4
Total Zinc	0	0		0	7,400	7,400	5,558,026	THH WQC applied at PWS at RMI 959.4
Acrolein	0	0		0	3	3.0	2,253	THH WQC applied at PWS at RMI 959.4
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	75,108	THH WQC applied at PWS at RMI 959.4
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	4,281	THH WQC applied at PWS at RMI 959.4
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	24,786	THH WQC applied at PWS at RMI 959.4
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	
1,3-Dichloropropylene	0	0		0	N/A	N/A	N/A	
Ethylbenzene	0	0		0	68	68.0	51,074	THH WQC applied at PWS at RMI 959.4
Methyl Bromide	0	0		0	47	47.0	35,301	THH WQC applied at PWS at RMI 959.4
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	42,812	THH WQC applied at PWS at RMI 959.4
1,2-trans-Dichloroethylene	0	0		0	100	100.0	75,108	THH WQC applied at PWS at RMI 959.4
1,1,1-Trichloroethane	0	0		0	10,000	10,000	7,510,846	THH WQC applied at PWS at RMI 959.4
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	22,533	THH WQC applied at PWS at RMI 959.4
2,4-Dichlorophenol	0	0		0	10	10.0	7,511	THH WQC applied at PWS at RMI 959.4
2,4-Dimethylphenol	0	0		0	100	100.0	75,108	THH WQC applied at PWS at RMI 959.4
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	1,502	THH WQC applied at PWS at RMI 959.4
2,4-Dinitrophenol	0	0		0	10	10.0	7,511	THH WQC applied at PWS at RMI 959.4
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	3,004,339	THH WQC applied at PWS at RMI 959.4
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	52,576	THH WQC applied at PWS at RMI 959.4
Anthracene	0	0		0	300	300	225,325	THH WQC applied at PWS at RMI 959.4
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	150,217	THH WQC applied at PWS at RMI 959.4
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	75.1	THH WQC applied at PWS at RMI 959.4
2-Chloronaphthalene	0	0		0	800	800	600,868	THH WQC applied at PWS at RMI 959.4
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	420	420	315,456	THH WQC applied at PWS at RMI 959.4
1,3-Dichlorobenzene	0	0		0	7	7.0	5,258	THH WQC applied at PWS at RMI 959.4
1,4-Dichlorobenzene	0	0		0	63	63.0	47,318	THH WQC applied at PWS at RMI 959.4
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	450,651	THH WQC applied at PWS at RMI 959.4
Dimethyl Phthalate	0	0		0	2,000	2,000	1,502,169	THH WQC applied at PWS at RMI 959.4
Di-n-Butyl Phthalate	0	0		0	20	20.0	15,022	THH WQC applied at PWS at RMI 959.4
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	15,022	THH WQC applied at PWS at RMI 959.4
Fluorene	0	0		0	50	50.0	37,554	THH WQC applied at PWS at RMI 959.4
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	3,004	THH WQC applied at PWS at RMI 959.4
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	25,537	THH WQC applied at PWS at RMI 959.4
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	7,511	THH WQC applied at PWS at RMI 959.4
n-Nitrosodimethylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	N/A	N/A	N/A	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	20	20.0	15,022	THH WQC applied at PWS at RMI 959.4
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	52.6	THH WQC applied at PWS at RMI 959.4
Orsanco Mercury	0	0		0	0.012	0.012	9.01	THH WQC applied at PWS at RMI 959.4

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

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

Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	50	50.0	114,946	
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	0.051	0.051	117	
Benzene	0	0		0	0.58	0.58	1,333	
Bromoform	0	0		0	4.3	4.3	9,885	
Carbon Tetrachloride	0	0		0	0.4	0.4	920	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.4	0.4	920	
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	0.55	0.55	1,264	
1,2-Dichloroethane	0	0		0	0.38	0.38	874	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.5	0.5	1,149	
1,3-Dichloropropylene	0	0		0	0.27	0.27	621	
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	4.6	4.6	10,575	
1,1,2,2-Tetrachloroethane	0	0		0	0.17	0.17	391	
Tetrachloroethylene	0	0		0	0.69	0.69	1,586	
Toluene	0	0		0	N/A	N/A	N/A	
1,2-trans-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,1,1-Trichloroethane	0	0		0	N/A	N/A	N/A	
1,1,2-Trichloroethane	0	0		0	0.55	0.55	1,264	
Trichloroethylene	0	0		0	0.6	0.6	1,379	
Vinyl Chloride	0	0		0	0.02	0.02	46.0	
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	69.0	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.4	1.4	3,218	
Acenaphthene	0	0		0	N/A	N/A	N/A	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	0.000086	0.00009	0.2	
Benzo(a)Anthracene	0	0		0	0.001	0.001	2.3	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.23	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	2.3	
Benzo(k)Fluoranthene	0	0		0	0.0038	0.004	8.74	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	69.0	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	736	
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	0.0038	0.004	8.74	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.23	
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	0.021	0.021	48.3	
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	115	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	115	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	69.0	
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	0.18	
Hexachlorobutadiene	0	0		0	0.01	0.01	23.0	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	230	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	2.3	
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	0.00069	0.0007	1.59	

n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	11.5	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	7,586	
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	
Orsanco Mercury	0	0		0	N/A	N/A	N/A	

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

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Cadmium	4.24	6.61	149	233	373	µg/L	149	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Mercury	0.0003	0.0005	0.012	0.019	0.03	µg/L	0.012	THH	Discharge Conc ≥ 50% WQBEL (RP)
Benzidine	0.006	0.009	0.2	0.31	0.49	µg/L	0.2	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Benzo(a)Anthracene	0.065	0.1	2.3	3.59	5.75	µg/L	2.3	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Benzo(a)Pyrene	0.007	0.01	0.23	0.36	0.57	µg/L	0.23	CRL	Discharge Conc ≥ 50% WQBEL (RP)
3,4-Benzofluoranthene	0.065	0.1	2.3	3.59	5.75	µg/L	2.3	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Benzo(k)Fluoranthene	Report	Report	Report	Report	Report	µg/L	8.74	CRL	Discharge Conc > 25% WQBEL (no RP)
Chrysene	Report	Report	Report	Report	Report	µg/L	8.74	CRL	Discharge Conc > 25% WQBEL (no RP)
Dibenzo(a,h)Anthrancene	0.007	0.01	0.23	0.36	0.57	µg/L	0.23	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Hexachlorobenzene	0.000002	0.000004	0.00008	0.0001	0.0002	µg/L	0.00008	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Hexachlorobutadiene	0.0003	0.0004	0.01	0.016	0.025	µg/L	0.01	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Indeno(1,2,3-cd)Pyrene	0.065	0.1	2.3	3.59	5.75	µg/L	2.3	CRL	Discharge Conc ≥ 50% WQBEL (RP)
n-Nitrosodimethylamine	0.045	0.07	1.59	2.47	3.97	µg/L	1.59	CRL	Discharge Conc ≥ 50% WQBEL (RP)
n-Nitrosodi-n-Propylamine	Report	Report	Report	Report	Report	µg/L	11.5	CRL	Discharge Conc > 25% 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)		mg/L	Discharge Conc ≤ 10% WQBEL
Chloride (PWS)		mg/L	Discharge Conc ≤ 10% WQBEL
Bromide	N/A	N/A	No WQS
Sulfate (PWS)		mg/L	Discharge Conc ≤ 10% WQBEL
Total Aluminum	52,526	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	4,206	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	7,511	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	751,085	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	567,281	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	64,728	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	1,141	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	6,653	µg/L	Discharge Conc ≤ 10% WQBEL
Total Copper	980	µg/L	Discharge Conc ≤ 10% WQBEL
Free Cyanide	1,541	µg/L	Discharge Conc ≤ 25% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	225,325	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	1,348,585	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	2,390	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	751,085	µg/L	Discharge Conc ≤ 10% WQBEL
Total Nickel	32,858	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc ≤ 10% WQBEL
Total Selenium	3,747	µg/L	Discharge Conc ≤ 10% WQBEL
Total Silver	265	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	180	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	8,391	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	210	µg/L	Discharge Conc ≤ 25% WQBEL
Acrylonitrile	117	µg/L	Discharge Conc ≤ 25% WQBEL
Benzene	1,333	µg/L	Discharge Conc ≤ 25% WQBEL
Bromoform	9,885	µg/L	Discharge Conc ≤ 25% WQBEL
Carbon Tetrachloride	920	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorobenzene	75,108	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorodibromomethane	920	µg/L	Discharge Conc ≤ 25% WQBEL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	1,260,625	µg/L	Discharge Conc ≤ 25% WQBEL
Chloroform	4,281	µg/L	Discharge Conc ≤ 25% WQBEL

Dichlorobromomethane	1,264	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	874	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethylene	24,786	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-Dichloropropane	1,149	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichloropropylene	621	µg/L	Discharge Conc ≤ 25% WQBEL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	51,074	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Bromide	35,301	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Chloride	1,960,972	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	10,575	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2,2-Tetrachloroethane	391	µg/L	Discharge Conc ≤ 25% WQBEL
Tetrachloroethylene	1,586	µg/L	Discharge Conc ≤ 25% WQBEL
Toluene	42,812	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-trans-Dichloroethylene	75,108	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,1-Trichloroethane	210,104	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2-Trichloroethane	1,264	µg/L	Discharge Conc ≤ 25% WQBEL
Trichloroethylene	1,379	µg/L	Discharge Conc ≤ 25% WQBEL
Vinyl Chloride	46.0	µg/L	Discharge Conc ≤ 25% WQBEL
2-Chlorophenol	22,533	µg/L	Discharge Conc ≤ 25% WQBEL
2,4-Dichlorophenol	7,511	µg/L	Discharge Conc ≤ 25% WQBEL
2,4-Dimethylphenol	46,223	µg/L	Discharge Conc ≤ 25% WQBEL
4,6-Dinitro-o-Cresol	1,502	µg/L	Discharge Conc ≤ 25% WQBEL
2,4-Dinitrophenol	7,511	µg/L	Discharge Conc ≤ 25% WQBEL
2-Nitrophenol	560,278	µg/L	Discharge Conc ≤ 25% WQBEL
4-Nitrophenol	161,080	µg/L	Discharge Conc ≤ 25% WQBEL
p-Chloro-m-Cresol	11,206	µg/L	Discharge Conc ≤ 25% WQBEL
Pentachlorophenol	69.0	µg/L	Discharge Conc ≤ 25% WQBEL
Phenol	3,004,339	µg/L	Discharge Conc ≤ 25% WQBEL
2,4,6-Trichlorophenol	3,218	µg/L	Discharge Conc ≤ 25% WQBEL
Acenaphthene	5,813	µg/L	Discharge Conc ≤ 25% WQBEL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	225,325	µg/L	Discharge Conc ≤ 25% WQBEL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	69.0	µg/L	Discharge Conc ≤ 25% WQBEL
Bis(2-Chloroisopropyl)Ether	150,217	µg/L	Discharge Conc ≤ 25% WQBEL
Bis(2-Ethylhexyl)Phthalate	736	µg/L	Discharge Conc ≤ 25% WQBEL
4-Bromophenyl Phenyl Ether	18,909	µg/L	Discharge Conc ≤ 25% WQBEL
Butyl Benzyl Phthalate	75.1	µg/L	Discharge Conc ≤ 25% WQBEL
2-Chloronaphthalene	600,868	µg/L	Discharge Conc ≤ 25% WQBEL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
1,2-Dichlorobenzene	57,428	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichlorobenzene	5,258	µg/L	Discharge Conc ≤ 25% WQBEL
1,4-Dichlorobenzene	47,318	µg/L	Discharge Conc ≤ 25% WQBEL

3,3-Dichlorobenzidine	48.3	µg/L	Discharge Conc ≤ 25% WQBEL
Diethyl Phthalate	280,139	µg/L	Discharge Conc ≤ 25% WQBEL
Dimethyl Phthalate	175,087	µg/L	Discharge Conc ≤ 25% WQBEL
Di-n-Butyl Phthalate	7,704	µg/L	Discharge Conc ≤ 25% WQBEL
2,4-Dinitrotoluene	115	µg/L	Discharge Conc ≤ 25% WQBEL
2,6-Dinitrotoluene	115	µg/L	Discharge Conc ≤ 25% WQBEL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	69.0	µg/L	Discharge Conc ≤ 25% WQBEL
Fluoranthene	14,007	µg/L	Discharge Conc ≤ 25% WQBEL
Fluorene	37,554	µg/L	Discharge Conc ≤ 25% WQBEL
Hexachlorocyclopentadiene	350	µg/L	Discharge Conc ≤ 25% WQBEL
Hexachloroethane	230	µg/L	Discharge Conc ≤ 25% WQBEL
Isophorone	25,537	µg/L	Discharge Conc ≤ 25% WQBEL
Naphthalene	9,805	µg/L	Discharge Conc ≤ 25% WQBEL
Nitrobenzene	7,511	µg/L	Discharge Conc ≤ 25% WQBEL
n-Nitrosodiphenylamine	7,586	µg/L	Discharge Conc ≤ 25% WQBEL
Phenanthrene	350	µg/L	Discharge Conc ≤ 25% WQBEL
Pyrene	15,022	µg/L	Discharge Conc ≤ 25% WQBEL
1,2,4-Trichlorobenzene	52.6	µg/L	Discharge Conc ≤ 25% WQBEL
Orsanco Mercury	9.01	µg/L	Discharge Conc ≤ 10% WQBEL