pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0026212**
Facility Type	**Municipal**	APS ID	**1091971**
Major / Minor	**Major**	Authorization ID	**1445806**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Washington-East Washington Joint Authority**	Facility Name	**Washington-East Washington STP**
Applicant Address	2 Wilson Avenue, PO Box 510	Facility Address	102 Arden Station Road
	Washington, PA 15301-3335		Washington, PA 15301-4514
Applicant Contact	Mr. Michael C. Sherrieb	Facility Contact	Same as Applicant
Applicant Phone	(724) 225-1338	Facility Phone	Same as Applicant
Client ID	83942	Site ID	443810
Ch 94 Load Status	Not Overloaded	Municipality	South Strabane Township
Connection Status	No Limitations	County	Washington
Date Application Received	June 29, 2023	EPA Waived?	No
Date Application Accepted		If No, Reason	Major Facility, Pretreatment

Purpose of Application: Application for the Renewal of a NPDES permit for the discharge of treated Sewage.

Summary of Review

The Authority has applied for a renewal of NPDES Permit No. PA0026212, which was previously issued by the Department on December 21, 2018. That permit expired on December 31, 2023.

WQM Permit No. 6374419 A-5, issued February 16, 2010, authorized STP expansion from an annual average flow of 6.2 MGD to 9.77 MGD with a design organic loading of 13,700 lbs./day. The STP's peak hourly flow is 24.4 MGD, and the peak instantaneous flow is 28.7 MGD.

The STP consists of a mechanically cleaned bar screen, followed by a mechanically cleaned velocity grit chamber, 4 primary clarifiers, 2 carbonaceous trickling filters, 4 aeration tanks, 3 secondary clarifiers, 2 nitrification towers, chlorine disinfection, and dechlorination.

Application data indicates that there are three industrial users in the system. Pollutant Group 1 through 7 has been sampled for and attached to the NPDES Renewal Application due to the waste received at Arden Landfill (drill cuttings). Part C.II, POTW Pretreatment Program Implementation, has again been added to the permit.

The receiving stream, Chartiers Creek, is currently classified as a WWF, located in State Watershed No. 20-F.

The Authority has complied with Act 14 Notifications and no comments were received.

Sludge use and disposal description and location(s): Sludge is Anaerobically Digested to Class B Biosolids, a filter press is then used for de-watering purposes, and solids are hauled to Arden Landfill.

Approve	Deny	Signatures	Date
X		William C. Mitchell, E.I.T. / Project Manager	October 7, 2024
X		Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineering Manager	October 8, 2024

Summary of Review
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)	9.77
Latitude	40º 12' 20.00"	Longitude	-80º 15' 54.00"
Quad Name	Washington West	Quad Code	1703
Wastewater Description:	Sewage Effluent		
Receiving Waters	Chartiers Creek (WWF)	Stream Code	36777
NHD Com ID	99694448	RMI	39.75
Drainage Area	37.0	Yield (cfs/mi^2)	0.0189459
Q_{7-10} Flow (cfs)	0.701	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	985	Slope (ft/ft)	0.00123
Watershed No.	20-F	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use	NONE	Exceptions to Criteria	NONE
Assessment Status	Impaired		
Cause(s) of Impairment	METALS, NUTRIENTS, ORGANIC ENRICHMENT, TOTAL SUSPENDED SOLIDS (TSS)		
Source(s) of Impairment	ACID MINE DRAINAGE, AGRICULTURE, COMBINED SEWER OVERFLOWS, HABITAT MODIFICATION - OTHER THAN HYDROMODIFICATION, URBAN RUNOFF/STORM SEWERS		
TMDL Status	Final, Final	Name	Chartiers Creek TMDL & Chartiers Creek Watershed TMDL

Background/Ambient Data		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake		West View Water Authority	
PWS Waters	Ohio River	Flow at Intake (cfs)	
PWS RMI	976.06	Distance from Outfall (mi)	42.29

Changes Since Last Permit Issuance: Elevation, Slope, DA, Q7/10 Flow, and Yield updated with current data taken from USGS StreamStats (Attachment 1).

Other Comments: The discharge is to Chartiers Creek, which has a Final TMDL and is impaired by PCBs and Chlordane. No WLAs have been developed for this sewage discharge, as neither PCB nor Chlordane is typically found in sewage, but instead found in legacy sediments.

The discharge is to Chartiers Creek, which is part of the Chartiers Creek Watershed that has a Final TMDL and is impaired by metals and pH. This sewage discharge is not expected to contribute to the stream impairment for which abandoned mine drainage is source of such impairment. No WLAs have been developed for this sewage discharge and they are not expected to contribute to the stream impairment for these pollutants. Application data states that maximum concentration values for total aluminum, total iron, and total manganese are 0.037 mg/L, 0.238 mg/L, and 0.061 mg/L, which are below the criteria-based concentration values. These pollutants were analyzed using the TMS and no WQBELs or monitoring requirements for these pollutants will be placed on this facility at this time.

Treatment Facility Summary

Treatment Facility Name: Washington E Washington STP

WQM Permit No.	Issuance Date
6374419	
6374419 A-5 (STP Expansion)	February 16, 2010

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary with Ammonia Reduction	Trickling Filter With Solids Removal	Chlorine/Dechlorination	9.77

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
9.77	13,700	Not Overloaded	Anaerobic Digesting & Belt Filter Press	Arden Landfill

Changes Since Last Permit Issuance: NONE

Other Comments: The Act 537 Plan for STP expansion was approved on August 21, 2009. The NPDES Permit was later amended on February 16, 2010, to reflect the expanded design flow. WQM Permit No. 6374419 A-5 for STP expansion was issued concurrently with the NPDES Permit on February 16, 2021.

Compliance History

Operations Compliance Check Summary Report

Facility: Washington East Washington West STP

NPDES Permit No.: PA0026212

Compliance Review Period: 10/1/18-10/19/23

Inspection Summary:

INSPECTED DATE	INSP TYPE	AGENCY	INSPECTION RESULT DESC
02/23/2022	Compliance Evaluation	PA Dept of Environmental Protection	Violation(s) Noted
04/18/2023	Compliance Evaluation	PA Dept of Environmental Protection	Violation(s) Noted
10/04/2019	Compliance Evaluation	PA Dept of Environmental Protection	Violation(s) Noted
03/12/2020	Routine/Partial Inspection	PA Dept of Environmental Protection	No Violations Noted

Violation Summary:

VIOLATION DATE	VIOLATION TYPE	VIOLATION TYPE DESC	RESOLVED DATE
04/18/2023	92A.41(A)12B	NPDES - Failure to submit monitoring report(s) or properly complete monitoring reports	04/18/2023
04/18/2023	92A.41(A)13B	NPDES - Unauthorized bypass occurred	04/18/2023
04/18/2023	92A.44	NPDES - Violation of effluent limits in Part A of permit	10/19/2023
02/23/2022	92A.44	NPDES - Violation of effluent limits in Part A of permit	08/05/2022
02/23/2022	92A.51	NPDES - Failure to comply with a compliance schedule in an NPDES permit	08/05/2022
02/23/2022	92A.41(A)10A	NPDES - Failure to retain records required by the permit	08/05/2022
02/23/2022	CSL201	CSL - Unauthorized, unpermitted discharge of sewage to waters of the Commonwealth	08/05/2022
10/04/2019	92A.44	NPDES - Violation of effluent limits in Part A of permit	10/04/2019

Open Violations by Client ID:

No open violations for Client ID 83942

Enforcement Summary:

ENF TYPE	EXECUTED DATE	INITIATED DATE	VIOLATIONS	ENF FINALSTATUS	ENF CLOSED DATE
NOV	04/20/2023		92A.41(A)12B; 92A.41(A)13B; 92A.44	Administrative Close Out	4/20/2023
NOV	08/05/2022		92A.41(A)10A; 92A.44; 92A.51; CSL201	Administrative Close Out	8/5/2022
NOV	10/11/2019	10/04/2019	92A.44	Administrative Close Out	04/13/2021

Effluent Violation Summary:

MON_PD_END	PARAMETER	SAMPLE	PERMIT	UNIT	STAT_BASE_CODE
Aug-23	Chlorodibromomethane	2.988	0.748	ug/L	Average Monthly
Aug-23	Chlorodibromomethane	3.99	1.167	ug/L	Daily Maximum
Aug-23	Cyanide, Free	10	9.094	ug/L	Daily Maximum
Aug-23	Dichlorobromomethane	6.958	1.028	ug/L	Average Monthly
Aug-23	Dichlorobromomethane	8.57	1.604	ug/L	Daily Maximum
Jul-23	Chlorodibromomethane	3	0.748	ug/L	Average Monthly
Jul-23	Chlorodibromomethane	6.89	1.167	ug/L	Daily Maximum
Jul-23	Dichlorobromomethane	11.8	1.604	ug/L	Daily Maximum
Jul-23	Dichlorobromomethane	7	1.028	ug/L	Average Monthly
Jun-23	Chlorodibromomethane	4.2225	0.748	ug/L	Average Monthly
Jun-23	Chlorodibromomethane	5.4	1.167	ug/L	Daily Maximum
Jun-23	Chloroform	10.86	10.658	ug/L	Average Monthly
Jun-23	Cyanide, Free	14	9.094	ug/L	Daily Maximum
Jun-23	Cyanide, Free	6.5	5.829	ug/L	Average Monthly
Jun-23	Dichlorobromomethane	12.2	1.604	ug/L	Daily Maximum
Jun-23	Dichlorobromomethane	9.01	1.028	ug/L	Average Monthly
Jun-23	Dinitrotoluene, Total	< 0.09425	0.093	ug/L	Average Monthly
May-23	Chlorodibromomethane	< 2.355	0.748	ug/L	Average Monthly
May-23	Chlorodibromomethane	4.01	1.167	ug/L	Daily Maximum
May-23	Dichlorobromomethane	5.42	1.028	ug/L	Average Monthly
May-23	Dichlorobromomethane	9.05	1.604	ug/L	Daily Maximum
May-23	Dinitrotoluene, Total	< 0.0973	0.093	ug/L	Average Monthly
Apr-23	Chlorodibromomethane	< 1.2975	0.748	ug/L	Average Monthly
Apr-23	Chlorodibromomethane	3.98	1.167	ug/L	Daily Maximum
Apr-23	Chloroform	< 10.870	10.658	ug/L	Average Monthly
Apr-23	Dichlorobromomethane	< 2.6525	1.028	ug/L	Average Monthly
Apr-23	Dichlorobromomethane	8.49	1.604	ug/L	Daily Maximum
Apr-23	Dinitrotoluene, Total	< 0.09975	0.093	ug/L	Average Monthly
Mar-23	Chlorodibromomethane	< 0.936	0.748	ug/L	Average Monthly
Mar-23	Chlorodibromomethane	2.64	1.167	ug/L	Daily Maximum
Mar-23	Dichlorobromomethane	2.028	1.028	ug/L	Average Monthly
Mar-23	Dichlorobromomethane	6.04	1.604	ug/L	Daily Maximum
Mar-23	Dinitrotoluene, Total	< 0.098	0.093	ug/L	Average Monthly

Feb-23	Dichlorobromomethane	1.375	1.028	ug/L	Average Monthly
Feb-23	Dichlorobromomethane	2.11	1.604	ug/L	Daily Maximum
Feb-23	Dinitrotoluene, Total	< 0.0992	0.093	ug/L	Average Monthly
Jan-23	Chlorodibromomethane	< 2.206	0.748	ug/L	Average Monthly
Jan-23	Chlorodibromomethane	3.52	1.167	ug/L	Daily Maximum
Jan-23	Dichlorobromomethane	5.162	1.028	ug/L	Average Monthly
Jan-23	Dichlorobromomethane	7.01	1.604	ug/L	Daily Maximum
Jan-23	Dinitrotoluene, Total	< 0.098	0.093	ug/L	Average Monthly
Dec-22	Chlorodibromomethane	< 1.210	0.748	ug/L	Average Monthly
Dec-22	Chlorodibromomethane	2.65	1.167	ug/L	Daily Maximum
Dec-22	Dichlorobromomethane	< 2.630	1.028	ug/L	Average Monthly
Dec-22	Dichlorobromomethane	6.96	1.604	ug/L	Daily Maximum
Dec-22	Dinitrotoluene, Total	< 0.0974	0.093	ug/L	Average Monthly
Nov-22	Chlorodibromomethane	1.206	0.748	ug/L	Average Monthly
Nov-22	Chlorodibromomethane	1.87	1.167	ug/L	Daily Maximum
Nov-22	Cyanide, Free	10.8	5.829	ug/L	Average Monthly
Nov-22	Cyanide, Free	17	9.094	ug/L	Daily Maximum
Nov-22	Dichlorobromomethane	4.85	1.028	ug/L	Average Monthly
Nov-22	Dichlorobromomethane	6.54	1.604	ug/L	Daily Maximum
Nov-22	Dinitrotoluene, Total	< 0.0962	0.093	ug/L	Average Monthly
Oct-22	Chlorodibromomethane	11.3	1.167	ug/L	Daily Maximum
Oct-22	Chlorodibromomethane	3.326	0.748	ug/L	Average Monthly
Oct-22	Chloroform	11.466	10.658	ug/L	Average Monthly
Oct-22	Dichlorobromomethane	16.3	1.604	ug/L	Daily Maximum
Oct-22	Dichlorobromomethane	8	1.028	ug/L	Average Monthly
Sep-22	Chlorodibromomethane	5	0.748	ug/L	Average Monthly
Sep-22	Chlorodibromomethane	6.53	1.167	ug/L	Daily Maximum
Sep-22	Chloroform	14	10.658	ug/L	Average Monthly
Sep-22	Chloroform	17.8	16.628	ug/L	Daily Maximum
Sep-22	Cyanide, Free	< 5.875	5.829	ug/L	Average Monthly
Sep-22	Cyanide, Free	12	9.094	ug/L	Daily Maximum
Sep-22	Dichlorobromomethane	12.547	1.028	ug/L	Average Monthly
Sep-22	Dichlorobromomethane	15.4	1.604	ug/L	Daily Maximum
Sep-22	Dinitrotoluene, Total	< 0.0952	0.093	ug/L	Average Monthly
Aug-22	Chlorodibromomethane	6	0.748	ug/L	Average Monthly
Aug-22	Chlorodibromomethane	8.34	1.167	ug/L	Daily Maximum
Aug-22	Chloroform	19.3	10.658	ug/L	Average Monthly
Aug-22	Chloroform	22.6	16.628	ug/L	Daily Maximum
Aug-22	Cyanide, Free	16	9.094	ug/L	Daily Maximum
Aug-22	Cyanide, Free	8	5.829	ug/L	Average Monthly
Aug-22	Dichlorobromomethane	16.46	1.028	ug/L	Average Monthly
Aug-22	Dichlorobromomethane	18.6	1.604	ug/L	Daily Maximum
Aug-22	Dinitrotoluene, Total	< 0.0978	0.093	ug/L	Average Monthly
Jul-22	Chlorodibromomethane	6.476	0.748	ug/L	Average Monthly
Jul-22	Chlorodibromomethane	9.04	1.167	ug/L	Daily Maximum

Jul-22	Chloroform	16.5	10.658	ug/L	Average Monthly
Jul-22	Chloroform	21.6	16.628	ug/L	Daily Maximum
Jul-22	Cyanide, Free	10	9.094	ug/L	Daily Maximum
Jul-22	Dichlorobromomethane	16.8	1.028	ug/L	Average Monthly
Jul-22	Dichlorobromomethane	21.9	1.604	ug/L	Daily Maximum
Jul-22	Dinitrotoluene, Total	< 0.0968	0.093	ug/L	Average Monthly
Jun-22	Chlorodibromomethane	2.91	0.748	ug/L	Average Monthly
Jun-22	Chlorodibromomethane	5.72	1.167	ug/L	Daily Maximum
Jun-22	Dichlorobromomethane	10.5	1.604	ug/L	Daily Maximum
Jun-22	Dichlorobromomethane	7.058	1.028	ug/L	Average Monthly
Jun-22	Dinitrotoluene, Total	< 0.0974	0.093	ug/L	Average Monthly
May-22	Chlorodibromomethane	2.016	0.748	ug/L	Average Monthly
May-22	Chlorodibromomethane	2.98	1.167	ug/L	Daily Maximum
May-22	Cyanide, Free	12.5	5.829	ug/L	Average Monthly
May-22	Cyanide, Free	43	9.094	ug/L	Daily Maximum
May-22	Dichlorobromomethane	5.488	1.028	ug/L	Average Monthly
May-22	Dichlorobromomethane	7.9	1.604	ug/L	Daily Maximum
May-22	Dinitrotoluene, Total	< 0.0994	0.093	ug/L	Average Monthly
May-22	Fecal Coliform	2053	1000	No./100 ml	Instantaneous Maximum
Apr-22	Chlorodibromomethane	2.7475	0.748	ug/L	Average Monthly
Apr-22	Chlorodibromomethane	3.57	1.167	ug/L	Daily Maximum
Apr-22	Dichlorobromomethane	6.3575	1.028	ug/L	Average Monthly
Apr-22	Dichlorobromomethane	7.86	1.604	ug/L	Daily Maximum
Apr-22	Dinitrotoluene, Total	< 0.0975	0.093	ug/L	Average Monthly
Mar-22	Chlorodibromomethane	2	0.748	ug/L	Average Monthly
Mar-22	Chlorodibromomethane	4.85	1.167	ug/L	Daily Maximum
Mar-22	Cyanide, Free	11	9.094	ug/L	Daily Maximum
Mar-22	Dichlorobromomethane	3	1.028	ug/L	Average Monthly
Mar-22	Dichlorobromomethane	4.67	1.604	ug/L	Daily Maximum
Mar-22	Dinitrotoluene, Total	< 0.100	0.093	ug/L	Average Monthly
Mar-22	Dinitrotoluene, Total	< 0.166	0.146	ug/L	Daily Maximum
Feb-22	Chlorodibromomethane	0.78	0.748	ug/L	Average Monthly
Feb-22	Dichlorobromomethane	1.35	1.028	ug/L	Average Monthly
Feb-22	Dinitrotoluene, Total	< 1.020	0.093	ug/L	Average Monthly
Feb-22	Dinitrotoluene, Total	< 1.020	0.146	ug/L	Daily Maximum
Feb-22	Fecal Coliform	12100	10000	No./100 ml	Instantaneous Maximum
Jan-22	Chlorodibromomethane	< 1.000	0.748	ug/L	Average Monthly
Jan-22	Cyanide, Free	6.5	5.829	ug/L	Average Monthly
Jan-22	Dinitrotoluene, Total	< 1.000	0.093	ug/L	Average Monthly
Jan-22	Dinitrotoluene, Total	< 1.000	0.146	ug/L	Daily Maximum
Jul-21	Fecal Coliform	> 12100	1000	No./100 ml	Instantaneous Maximum
Mar-21	Fecal Coliform	12100	10000	No./100 ml	Instantaneous Maximum
Aug-19	Fecal Coliform	1630	1000	No./100 ml	Instantaneous Maximum
Jun-19	Fecal Coliform	3070	1000	No./100 ml	Instantaneous Maximum
Jan-19	Fecal Coliform	12100	10000	No./100 ml	Instantaneous Maximum

Unauthorized bypasses:

Month	Comment
Feb-22	Siphon manhole I-12 became flooded by Chartiers Creek overflowing its banks. The flooding of this chamber manhole caused surcharge and outflow of the system at the upstream manhole. The flood condition was sustained for approximately 5 hours. Once the flood subsided the surcharge condition and out flow ceased. Volume of outflow was unknown.
Aug-21	Utility power outage4 of primary and secondary power sources to Arden Plant. West Penn Power outage report is attached to this eDMR.
Mar-21	Primary and secondary utility power failure to the WWTP. Power Company report is attached
Jun-20	Sewer line clogged with root intrusion, sewage overflow was entering a 15" overflow pipe which was found to be cross connected to the storm sewer system. WEWJA immediately removed the root clog and restored sanitary sewer service. WEWJA has scheduled a pipe bursting project with State Pipe Services to remove the cross connection overflow permanently
Apr-20	Hydraulic Overload due to root intrusion. Root intrusion mechanically removed, pipes restored to full flow capacity
Mar-20	Broken Sewer Pressure Main for grinder pump system
Feb-20	Broken 14" diameter forcemain. Vacuum trucks used to haul sewage during repair. Trucks mobilized and hauling within two hrs of discovery
Jan-20	Manhole clogged with FOG discharged from restaurant. Manhole overflow spilled onto Railroad Street after lid was struck by a car and dislodged. Full incident report and photo attached to eDMR
Dec-19	Clogged Sewer line from illegal discharge of non-degrading sanitary wipes. Clog was removed by Authority with high pressure jet truck and service restored. Minor backflow of sewage into 56 Spring Valley and 82 Spring Valley Drive
Dec-19	Extremely high flows from rain and slight restriction in line due to roots. Roots were cut and removed after flow surcharge stopped
Nov-19	Clogged sanitary sewer line. Line was clogged with large ball of sanitary cloth wipes, which caused a surcharge of the line and an outflow from the lid of MH #1055. WEWJA was notified of an odor complaint and investigated to find the MH in overflow at 1PM on 11-19-19. The clog was removed with a high pressure jet truck and service restored at 1:50PM on 11-19-19.

Compliance Status: Facility does not currently have any open violations; however effluent exceedances have occurred since last CEI and NOV in April 2023. A COA is pending to address the facility's failure to conduct a TRE, acknowledge their most recent permit limits & sampling parameters, and conduct pretreatment studies to further evaluate the IW waters they are receiving through their pretreatment program - namely the landfill situated immediately adjacent to the facility. Follow up inspections will be conducted as needed with respect to the pending COA.

Completed by: Amanda Illar

Completed date: 10/20/23

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 9.77
Latitude 40º 12' 20.00" **Longitude** -80º 15' 54.00"
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)

Comments: Impose the above Technology-Based Limitations forTSS, pH, and Fecal Coliform.

Water Quality-Based Limitations

A “Reasonable Potential Analysis” (Attachment 5 - TMS Version 1.4) determined the following parameters were candidates for limitations: Total Arsenic, Total Boron, Total Copper, Free Cyanide, Dissolved Iron, Total Iron, Total Zinc, Chlorodibromomethane, Chloroform, and Dichlorobromomethane.

The following limitations were determined through water quality modeling (Attachments 2, 3, and 5):

Parameter	Limit (mg/l)	SBC	Model
CBOD5 Nov 1 – Apr 30	11.0	Average Monthly	WQM 7.0 Version 1.1
CBOD5 May 1 – Oct 31	13.0	Average Monthly	WQM 7.0 Version 1.1
Ammonia-Nitrogen Nov 1 – Apr 30	3.15	Average Monthly	WQM 7.0 Version 1.1
Ammonia-Nitrogen May 1 – Oct 31	1.97	Average Monthly	WQM 7.0 Version 1.1
Dissolved Oxygen	5.0	Inst Minimum	WQM 7.0 Version 1.1
TRC	0.04	Average Monthly	TRC_CALC (No Remodel is Required or Attached. See Note below)
Copper, Total (ug/L)	22.8	Average Monthly	TMS Version 1.4
Cyanide, Free (ug/L)	4.98	Average Monthly	TMS Version 1.4
Chlorodibromomethane (ug/L)	2.03	Average Monthly	TMS Version 1.4
Chloroform (ug/L)	7.1	Average Monthly	TMS Version 1.4
Dichlorobromomethane (ug/L)	2.42	Average Monthly	TMS Version 1.4

Comments: Due to anti-backsliding, the previously permitted WQBEL for Dissolved Oxygen (6.0 mg/L Inst Minimum) will be re-imposed.

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 2 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 Total Copper, Free Cyanide, and Chloroform. In the interim period the previously permitted (less restrictive) WQBELs for Free Cyanide and Chloroform will be re-imposed. Application data indicates that the Authority cannot comply with the above discussed WQBELs upon permit issuance.

The TMS Model Results recommended Monitoring be established for Total Arsenic, Total Boron, Dissolved Iron, Total Iron, and Total Zinc, as the discharge concentration of those parameters is greater than 10 % of the governing WQBELs (no RP), respectively.

For existing discharges, where the existing TRC limit is at or below 0.1 mg/L, the existing limit may remain in the reissued permit (no modeling required). The existing TRC limit of 0.04 mg/L will be re-imposed per Section II.C.4, SOP for Clean Water Program, Establishing Effluent Limitations for Individual Sewage Permits, Final November 9, 2012, Revised March 24, 2021, Version 1.9.

Best Professional Judgment (BPJ) Limitations

Comments: N/A

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.

The exceptions to the anti-backsliding regulations are stated in 40 CFR 122.44(l)(2)(i) as, *"A permit…may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant if –*

- *(A) Material and substantial alterations or additions to the permitted facility occurred after permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation;*
- *(B) (i) Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance; or*
  (ii) The Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under subsection (a)(1)(B) of this section;
- *(C) A less stringent effluent limitation is necessary because of events over which the permittee has no control and for which there is no reasonably available remedy;"*
- *(D) The permittee has received a permit modification under section 1311(c), 1311(g), 1311(h), 1311(i), 1311(k), 1311(n), or 1326(a) of this title; or*
- *(E) The permittee has installed the treatment facilities required to meet the effluent limitations in the previous permit and has properly operated and maintained the facilities but has nevertheless been unable to achieve the previous effluent limitations, in which case the limitations in the reviewed, reissued, or modified permit may reflect the level*

of pollutant control actually achieved (but shall not be less stringent than required by effluent guidelines in effect at the time of permit renewal, reissuance, or modification). Subparagraph (B) shall not apply to any revised waste load allocations or any alternative grounds for translating water quality standards into effluent limitations, except where the cumulative effect of such revised allocations results in a decrease in the amount of pollutants discharged into the concerned waters, and such revised allocations are not the result of a discharger eliminating or substantially reducing its discharge of pollutants due to complying with the requirements of this chapter or for reasons otherwise unrelated to water quality.

The facility is seeking to revise the previously permitted WQBEL and Monitoring Requirements for Total Dinitrotoluene, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, Chlorodibromomethane, and Dichlorobromomethane. Application data (Pollutant Groups 1 – 7) provided updated sampling data that was not available at the time of permit issuance and technical mistakes were made when imposing these WQBELs during review of previous renewal. Per applicability of 40 CFR 122.44(I)(2)(i)(B)(i), 40 CFR 122.44(I)(2)(i)(B)(ii) & Section II.A, SOP No. BCW-PMT-037 for Clean Water, Establishing WQBELs and Permit Conditions for Toxic Pollutants in NPDES Permits for Existing Dischargers, the WQBELs and Monitoring Requirements of the above parameters were re-evaluated.

The re-evaluation of Total Dinitrotoluene, 2,4-Dinitrotoluene, and 2,6-Dinitrotoluene (TMS Model was updated to reflect current Q7/10 stream flow data based upon USGS StreamStats) resulted in No RP. The TMS did not recommend establishing WQBELs Monitoring requirements for the pollutants discussed above. Therefore, these three parameters have been removed from the list of effluent monitoring and/or limitation requirements.

The re-evaluation of Chlorodibromomethane, and Dichlorobromomethane (TMS Model was updated to reflect current Q7/10 stream flow data, TOXCONC data (Avg Monthly & Coefficient of Variation Daily Values), and current design discharge flow rate of 9.77 MGD) resulted in relaxed effluent limitations (0.74 ug/L vs. 2.03 ug/L & 1.02 ug/L vs. 2.42 ug/L). The revised WQBELs will be imposed upon permit issuance. The Authority will not be able to comply with these revised effluent limits and will continue to have effluent limit violation for these pollutants. Draft COA negations are currently underway to address long term compliance with these pollutants.

Due to anti-backsliding, the previously permitted WQBELs for Dissolved Oxygen (6.0 mg/L Inst Minimum) will be re-imposed.

Total Dissolved Solids (TDS)

The application indicates that the long-term average concentration of TDS is 673.73 mg/L and the long-term average mass loading rate of 35,730 lbs/day. Act 537 Planning, NPDES Permitting, and WQM Permits related to STP expansion occurred prior to August 21, 2010. At the time of permitting the facility was already receiving landfill leachate from Arden Landfill. There is no active water supply intake on Chartiers Creek. The nearest downstream water supply intake is 42.29 miles away on the Ohio River.

The previous permit required quarterly sampling for TDS, Sulfate, Chloride, and Bromide due to the waste being received by Arden Landfill. The long-term average concentration values of these pollutants were evaluated with the TMS and no WQBELs or monitoring requirements were recommended. Monitoring requirements for these pollutants will not be imposed in this renewal permit.

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

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.I of DEP's "Standard Operating Procedure (SOP) for Clean Water Program – Establishing Effluent Limitations for Individual Industrial Permits" [SOP No. BCW-PMT-032] 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-032 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. Also, according to EPA's guidance, The Authority receives waste from one of the industries EPA expects to be a source for PFAS (landfill leachate from Arden Landfill). Therefore, quarterly reporting of PFOA, PFOS, PFBS, and HFPO-DA will be required consistent with Section II.G of SOP BCW-PMT-0332.

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 quarterly 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.

Total Radium 226/228

In a letter, Dated September 30, 2022, the Department made the following comment:

Per the "National Pollutant Discharge Elimination System (NPDES) Application for Individual Permit to Discharge Sewage Effluent for Major Sewage Facilities: Instructions" (3800-PM-BCW0009a), "Pollutant Group 7 must be analyzed if, during the three years prior to the submission of the application, the facility has received natural gas wastewaters, either hauled-in or through indirect discharges." Arden Landfill accepts residual wastes that arise from natural gas drilling. Therefore, Washington E Washington STP receives natural gas wastewaters through indirect discharges.

Gross Alpha, Total Beta, Total Radium 226/228, Total Strontium, and Total Uranium were detected in the effluent and were evaluated using the TMS. No WQS exist for Gross Alpha, Total Beta, Total Radium 226/228, and Total Uranium. Due to the elevated level of Radium 226/228, monthly monitoring will be required per 25 Pa. Code § 92a.61.

Additional Considerations

Monitoring frequency for the proposed effluent limits are based upon Table 6-3, Self-Monitoring Requirements for Sewage Dischargers, from the Departments Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits (Document No. 386-0400-001).

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. Mass loading limits for toxic pollutants with effluent concentration limits are also being established at this time per the application managers discretion (Section IV, SOP No. BCW-PMT-033, Establishing Effluent Limitations for Individual Sewage Permits).

For POTWs with design flows greater than 2,000 GPD and for non-municipal sewage facilities that service municipalities or portions thereof, the application manager will establish influent BOD_5 and TSS monitoring in the permit using the same frequency and sample type as is used for other effluent parameters (Section IV.E.8, SOP No BCW-PWT-002, New and Reissuance Sewage Individual NPDES Permit Applications).

Sewage discharges will include monitoring, at a minimum, for *E. Coli*, in new and reissued permits, with a monitoring frequency of 1/month for design flows > 1.0 MGD per 25 Pa. Code § 92a.61(b) and Section I.A, Note 12, SOP No. BCW-PMT-033, Establishing Effluent Limitations for Individual Sewage Permits.

Nutrient monitoring is required to establish the nutrient load from the wastewater treatment facility and the impacts that load may have on the quality of the receiving stream(s). The discharge is to waters impaired for nutrients. Application data indicates that the long term average concentration value of Total N & Total P is 13.05 mg/L & 1.32 mg/L. A 1/week monitoring requirement for Total N & Total P has been added to the permit per 25 Pa. Code § 92a.61(b) and Section I.A, Note 7 & 8, SOP No. BCW-PMT-033, Establishing Effluent Limitations for Individual Sewage Permits.

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:

The dilution series used for the tests was: 100%, 97%, 93%, 47%, and 23%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 93%.

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).

Test Date	*Ceriodaphnia* Results (Pass/Fail)		*Pimephales* Results (Pass/Fail)	
	Survival	Reproduction	Survival	Growth
07/07/2020	Pass	Pass	Pass	Pass
07/05/2021	Pass	Pass	Pass	Pass
02/01/2022	Pass	Pass	Pass	Pass
08/02/2022	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**

Comments: N/A

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

Acute Partial Mix Factor (PMFa): **1** Chronic Partial Mix Factor (PMFc): **1**

1. Determine IWC – Acute (IWCa):

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

[(9.77 MGD x 1.547) / ((0.701 cfs x 1) + (9.77 MGD x 1.547))] x 100 = **96%**

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

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

N/A

Type of Test for Permit Renewal: **Chronic WET Testing**

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

TIWCa = 0.96 / 0.3 = 100**%**

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

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

[(9.77 MGD x 1.547) / ((0.701 cfs x 1) + (9.77 MGD x 1.547))] x 100 = **96%**

3. Determine Dilution Series

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

Dilution Series = 100%, 96%, 72%, 48%, and 24%.

WET Limits

Has reasonable potential been determined? ☐ YES ☒ NO

Will WET limits be established in the permit? ☐ YES ☒ NO

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

N/A

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

N/A

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 End of 24th Month.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (ug/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Copper (ug/L)	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Free Cyanide (ug/L)	0.47	0.74	XXX	5.82	9.09	14.55	1/week	24-Hr Composite
Chloroform (ug/L)	0.86	1.35	XXX	10.65	16.62	26.62	1/week	4 Grabs/24 Hours

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: Beginning of 25th Month through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (ug/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Copper (ug/L)	1.86	2.40	XXX	22.8	29.5	29.5	1/week	24-Hr Composite
Free Cyanide (ug/L)	0.41	0.72	XXX	4.98	8.86	12.4	1/week	24-Hr Composite
Chloroform (ug/L)	0.58	1.07	XXX	7.1	13.1	17.7	1/week	4 Grabs/24 Hours

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) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	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	6.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.04	XXX	0.13	1/day	Grab
CBOD5 Nov 1 - Apr 30	1055	1545	XXX	13.0	19.0	26	1/day	24-Hr Composite
CBOD5 May 1 - Oct 31	895	1300	XXX	11.0	16.0	22	1/day	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	Report	XXX	1/day	24-Hr Composite
TSS	2440	3665	XXX	30.0	45.0	60	1/day	24-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	Report	XXX	1/day	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/day	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/day	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/month	Grab
Total Nitrogen	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/week	24-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	255	XXX	XXX	3.15	XXX	6.3	1/day	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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Ammonia-Nitrogen May 1 - Oct 31	160	XXX	XXX	1.97	XXX	3.94	1/day	24-Hr Composite
Total Phosphorus	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/week	24-Hr Composite
Total Arsenic (ug/L)	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/week	24-Hr Composite
Total Boron (ug/L)	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/week	24-Hr Composite
Dissolved Iron (ug/L)	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/week	24-Hr Composite
Total Iron (ug/L)	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/week	24-Hr Composite
Total Zinc (ug/L)	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/week	24-Hr Composite
Chlorodibromo-methane (ug/L)	0.17	0.3 Daily Max	XXX	2.03	3.71 Daily Max	5.08	1/week	4 Grabs/24 Hours
Dichlorobromo-methane (ug/L)	0.2	0.36 Daily Max	XXX	2.42	4.39 Daily Max	6.04	1/week	4 Grabs/24 Hours
PFOA (ng/L) (3)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
PFOS (ng/L) (3)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
PFBS (ng/L) (3)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
HFPO-DA (ng/L) (3)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Ra-226/228, Total (pCi/L)	XXX	XXX	XXX	Report	Report Daily Max	XXX	1/month	24-Hr Composite

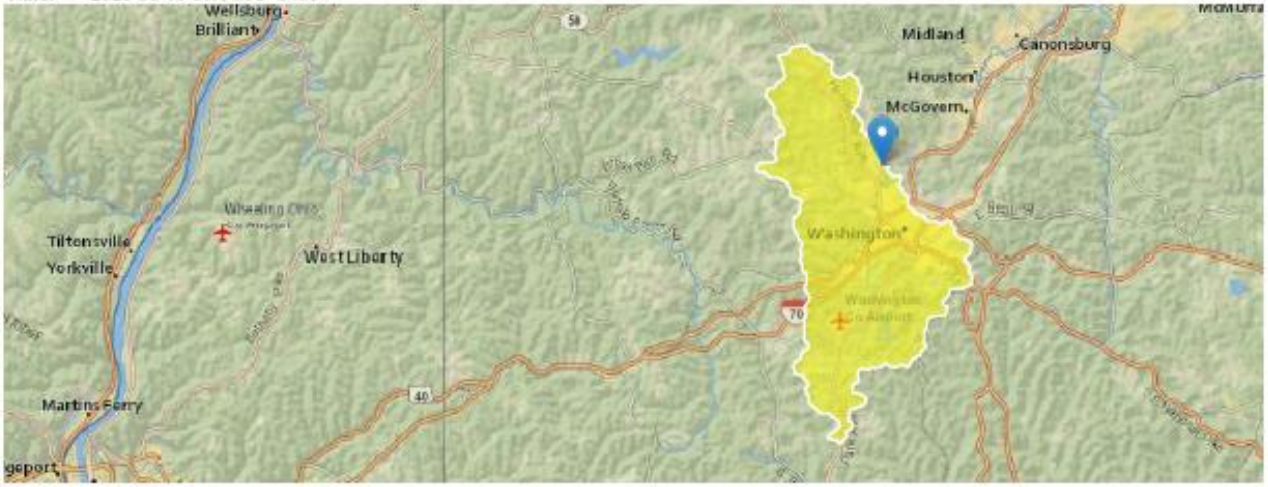
Compliance Sampling Location: Outfall 001

Other Comments: 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.

Attachment 1 – USGS StreamStats Report

StreamStats Report - PA0026212

Region ID: PA
Workspace ID: PA20230816125344640000
Clicked Point (Latitude, Longitude): 40.20564, -80.26519
Time: 2023-08-16 08:54:05 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	37	square miles
ELEV	Mean Basin Elevation	1184	feet

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	37	square miles	2.26	1400
ELEV	Mean Basin Elevation	1184	feet	1050	2580

Low-Flow Statistics Flow Report [Low Flow Region 4]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	1.7	ft^3/s	43	43
30 Day 2 Year Low Flow	2.77	ft^3/s	38	38
7 Day 10 Year Low Flow	0.701	ft^3/s	66	66
30 Day 10 Year Low Flow	1.14	ft^3/s	54	54
90 Day 10 Year Low Flow	1.95	ft^3/s	41	41

Low-Flow Statistics Citations

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

Application Version: 4.16.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Attachment 2 – WQM 7.0 Version 1.1 – Summer Period

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
20F	36777	CHARTIERS CREEK	39.750	985.00	37.00	0.00000	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	0.019	0.00	0.00	0.000	0.000	10.0	73.25	0.00	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
WEWJA STP	PA0026212	9.7700	9.7700	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

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
20F	36777	CHARTIERS CREEK	38.720	977.00	41.80	0.00000	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	0.019	0.00	0.00	0.000	0.000	10.0	0.00	0.00	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
		0.0000	0.0000	0.0000	0.000	25.00	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	3.00	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
20F	36777	CHARTIERS CREEK

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												
39.750	0.70	0.00	0.70	15.1142	0.00147	.536	73.25	136.56	0.40	0.156	20.22	7.00
Q1-10 Flow												
39.750	0.45	0.00	0.45	15.1142	0.00147	NA	NA	NA	0.40	0.158	20.14	7.00
Q30-10 Flow												
39.750	0.95	0.00	0.95	15.1142	0.00147	NA	NA	NA	0.41	0.155	20.30	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
20F	36777	CHARTIERS CREEK

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
39.750	WEWJA STP	16.56	17.05	16.56	17.05	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
39.750	WEWJA STP	1.85	1.97	1.85	1.97	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)		
39.75	WEWJA STP	11.63	11.63	1.97	1.97	5	5	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20F	36777	CHARTIERS CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
39.750	9.770	20.222	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
73.250	0.536	136.563	0.403
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
11.21	0.692	1.88	0.712
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.144	4.062	Tsivoglou	5
Reach Travel Time (days)			
0.156			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.016	11.09	1.86	5.12
0.031	10.97	1.84	5.10
0.047	10.85	1.82	5.08
0.063	10.73	1.80	5.07
0.078	10.61	1.78	5.06
0.094	10.50	1.76	5.06
0.109	10.38	1.74	5.06
0.125	10.27	1.72	5.06
0.141	10.16	1.70	5.06
0.156	10.05	1.68	5.07

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20F	36777	CHARTIERS CREEK

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)
39.750	WEWJA STP	PA0026212	9.770	CBOD5	11.63		
				NH3-N	1.97	3.94	
				Dissolved Oxygen			5

Attachment 3 – WQM 7.0 Version 1.1 – Winter Period

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
20F	36777	CHARTIERS CREEK	**39.750**	985.00	37.00	0.00000	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	0.038	0.00	0.00	0.000	0.000	10.0	73.25	0.00	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
WEWJA STP	PA0026212	9.7700	9.7700	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

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
20F	36777	CHARTIERS CREEK	**37.750**	972.00	43.80	0.00000	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	0.038	0.00	0.00	0.000	0.000	10.0	0.00	0.00	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
		0.0000	0.0000	0.0000	0.000	0.00	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	3.00	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
20F	36777	CHARTIERS CREEK

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												
39.750	1.40	0.00	1.40	15.1142	0.00123	.555	73.25	132.02	0.41	0.301	14.15	7.00
Q1-10 Flow												
39.750	0.90	0.00	0.90	15.1142	0.00123	NA	NA	NA	0.40	0.306	14.44	7.00
Q30-10 Flow												
39.750	1.91	0.00	1.91	15.1142	0.00123	NA	NA	NA	0.41	0.296	13.88	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
20F	36777	CHARTIERS CREEK

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
39.750	WEWJA STP	24.1	25.53	24.1	25.53	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
39.750	WEWJA STP	2.8	3.15	2.8	3.15	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)		
39.75	WEWJA STP	13.35	13.35	3.15	3.15	5	5	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20F	36777	CHARTIERS CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
39.750	9.770	14.151	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
73.250	0.555	132.015	0.406
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
12.39	0.789	2.89	0.446
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.637	2.972	Tsivoglou	5
Reach Travel Time (days)			
0.301			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.030	12.17	2.85	5.55
0.060	11.95	2.81	5.47
0.090	11.73	2.77	5.41
0.120	11.52	2.73	5.36
0.150	11.31	2.70	5.33
0.180	11.11	2.66	5.30
0.211	10.91	2.63	5.29
0.241	10.71	2.59	5.28
0.271	10.52	2.56	5.28
0.301	10.33	2.52	5.29

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20F	36777	CHARTIERS CREEK

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)
39.750	WEWJA STP	PA0026212	9.770	CBOD5	13.35		
				NH3-N	3.15	6.3	
				Dissolved Oxygen			5

Attachment 4 – TOXCONC

Reviewer/Permit Engineer: W. Mitchell

Facility: WEWJA STP
NPDES #: PA0026212
Outfall No: 001
n (Samples/Month): 4

Parameter	Distribution Applied	Coefficient of Variation (daily)	Avg. Monthly
Free Cyanide (µg/L)	Delta-Lognormal	0.8395099	6.8922459
hlorodibromomethane (µg/	Delta-Lognormal	0.9841903	11.2362420
Chloroform (µg/L)	Delta-Lognormal	1.1086961	34.5667238
chlorobromomethane (µg/	Delta-Lognormal	0.9618724	23.2990461
Arsenic, Total (µg/L)	Delta-Lognormal	0.4047819	3.4488758
Boron, Total (µg/L)	Lognormal	0.2273311	273.8905789
Iron, Total (µg/L)	Lognormal	0.2702111	219.2512367
Iron, Dissolved (µg/L)	Delta-Lognormal	0.6000137	148.9462563
Zinc, Total (µg/L)	Lognormal	0.2342147	56.4033761
Copper, Total (µg/L)	Lognormal	0.2967611	35.6897243

Attachment 5 – TMS Version 1.4

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **WEWJS STP** NPDES Permit No.: **PA0026212** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Treated Sewage**

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
9.77	250	7.4	1	1				

					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		673.73									
	Chloride (PWS)	mg/L		209.73									
	Bromide	mg/L	<	0.54									
	Sulfate (PWS)	mg/L		75.63									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		37									
	Total Antimony	µg/L	<	0.6									
	Total Arsenic	µg/L		3.4488758			0.4048						
	Total Barium	µg/L		57									
	Total Beryllium	µg/L	<	0.8									
	Total Boron	µg/L		273.890579			0.2273						
	Total Cadmium	µg/L	<	0.2									
	Total Chromium (III)	µg/L		3									
	Hexavalent Chromium	µg/L	<	0.1									
	Total Cobalt	µg/L	<	0.5									
	Total Copper	µg/L		35.6897243			0.2968						
	Free Cyanide	µg/L		6.8922459			0.8395						
	Total Cyanide	µg/L	<	7									
	Dissolved Iron	µg/L		148.946256			0.6						
	Total Iron	µg/L		219.251237			0.2702						
	Total Lead	µg/L	<	0.6									
	Total Manganese	µg/L		61									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		9									
	Total Phenols (Phenolics) (PWS)	µg/L	<	23									
	Total Selenium	µg/L	<	2									
	Total Silver	µg/L	<	0.3									
	Total Thallium	µg/L	<	0.1									
	Total Zinc	µg/L		56.4033761			0.2342						
	Total Molybdenum	µg/L		37									
	Acrolein	µg/L	<	1									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	0.5									
	Benzene	µg/L	<	0.5									
	Bromoform	µg/L		0.7									

Group 3	Carbon Tetrachloride	µg/L	<	0.5										
	Chlorobenzene	µg/L	<	0.5										
	Chlorodibromomethane	µg/L		11.236242			0.9842							
	Chloroethane	µg/L	<	0.5										
	2-Chloroethyl Vinyl Ether	µg/L	<	0.5										
	Chloroform	µg/L		34.5667238			1.1087							
	Dichlorobromomethane	µg/L		23.2990461			0.9619							
	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	<	3.9										
	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	<	0.95										
	2,4-Dichlorophenol	µg/L	<	0.95										
	2,4-Dimethylphenol	µg/L	<	0.95										
	4,6-Dinitro-o-Cresol	µg/L	<	2.86										
	2,4-Dinitrophenol	µg/L	<	2.86										
	2-Nitrophenol	µg/L	<	0.95										
	4-Nitrophenol	µg/L	<	2.86										
	p-Chloro-m-Cresol	µg/L	<	0.95										
	Pentachlorophenol	µg/L	<	0.95										
	Phenol	µg/L	<	2.86										
	2,4,6-Trichlorophenol	µg/L	<	0.95										
Group 5	Acenaphthene	µg/L	<	0.95										
	Acenaphthylene	µg/L	<	0.95										
	Anthracene	µg/L	<	0.95										
	Benzidine	µg/L	<	4.76										
	Benzo(a)Anthracene	µg/L	<	0.95										
	Benzo(a)Pyrene	µg/L	<	0.95										
	3,4-Benzofluoranthene	µg/L	<	0.95										
	Benzo(ghi)Perylene	µg/L	<	0.95										
	Benzo(k)Fluoranthene	µg/L	<	0.95										
	Bis(2-Chloroethoxy)Methane	µg/L	<	0.95										
	Bis(2-Chloroethyl)Ether	µg/L	<	0.95										
	Bis(2-Chloroisopropyl)Ether	µg/L	<	0.95										
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	2.86										
	4-Bromophenyl Phenyl Ether	µg/L	<	0.95										
	Butyl Benzyl Phthalate	µg/L	<	2.86										
	2-Chloronaphthalene	µg/L	<	0.95										
	4-Chlorophenyl Phenyl Ether	µg/L	<	0.95										
	Chrysene	µg/L	<	0.95										
	Dibenzo(a,h)Anthrancene	µg/L	<	0.95										
	1,2-Dichlorobenzene	µg/L	<	0.18										
	1,3-Dichlorobenzene	µg/L	<	0.39										
	1,4-Dichlorobenzene	µg/L	<	0.43										
	3,3-Dichlorobenzidine	µg/L	<	0.95										
	Diethyl Phthalate	µg/L	<	0.95										
	Dimethyl Phthalate	µg/L	<	0.95										
	Di-n-Butyl Phthalate	µg/L	<	2.86										
	2,4-Dinitrotoluene	µg/L	<	0.95										

	2,6-Dinitrotoluene	µg/L	<	0.95									
	Di-n-Octyl Phthalate	µg/L		1.3									
	1,2-Diphenylhydrazine	µg/L	<	0.95									
	Fluoranthene	µg/L	<	0.95									
	Fluorene	µg/L	<	0.95									
	Hexachlorobenzene	µg/L	<	0.95									
	Hexachlorobutadiene	µg/L	<	0.24									
	Hexachlorocyclopentadiene	µg/L	<	0.95									
	Hexachloroethane	µg/L	<	0.95									
	Indeno(1,2,3-cd)Pyrene	µg/L	<	0.95									
	Isophorone	µg/L	<	0.95									
	Naphthalene	µg/L	<	0.23									
	Nitrobenzene	µg/L	<	0.95									
	n-Nitrosodimethylamine	µg/L	<	0.95									
	n-Nitrosodi-n-Propylamine	µg/L	<	0.95									
	n-Nitrosodiphenylamine	µg/L	<	0.95									
	Phenanthrene	µg/L	<	0.95									
	Pyrene	µg/L	<	0.95									
	1,2,4-Trichlorobenzene	µg/L	<	0.25									
Group 6	Aldrin	µg/L	<	0.025									
	alpha-BHC	µg/L	<	0.025									
	beta-BHC	µg/L	<	0.025									
	gamma-BHC	µg/L	<	0.025									
	delta BHC	µg/L	<	0.025									
	Chlordane	µg/L	<	0.25									
	4,4-DDT	µg/L	<	0.05									
	4,4-DDE	µg/L	<	0.05									
	4,4-DDD	µg/L	<	0.05									
	Dieldrin	µg/L	<	0.05									
	alpha-Endosulfan	µg/L	<	0.025									
	beta-Endosulfan	µg/L	<	0.05									
	Endosulfan Sulfate	µg/L	<	0.05									
	Endrin	µg/L	<	0.05									
	Endrin Aldehyde	µg/L	<	0.05									
	Heptachlor	µg/L	<	0.027									
	Heptachlor Epoxide	µg/L	<	0.025									
	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	<	0.5									
	2,3,7,8-TCDD	ng/L											
Group 7	Gross Alpha	pCi/L	<	1.09									
	Total Beta	pCi/L		12.69									
	Radium 226/228	pCi/L		244.33									
	Total Strontium	µg/L		0.75									
	Total Uranium	µg/L		70.17									
	Osmotic Pressure	mOs/kg											

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

WEWJS STP, NPDES Permit No. PA0026212, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Chartiers Creek**

No. Reaches to Model: **1**

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	036777	39.75	985	37	0.00147		Yes
End of Reach 1	036777	38.72	977	41.8			Yes

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

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	39.75	0.1			10	73.25						100	7		
End of Reach 1	38.72	0.1			10										

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	39.75														
End of Reach 1	38.72														

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

WEWJS STP, NPDES Permit No. PA0026212, Outfall 001

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

☑ ***Hydrodynamics***

Q_{7-10}

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)
39.75	3.70		3.70	15.114	0.001	0.579	73.25	10.	0.444	0.142	16.838
38.72	4.18		4.18					10.000			

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)
39.75	23.31		23.31	15.114	0.001	0.793	73.25	92.397	0.662	0.095	100.018
38.72	25.936		25.94								

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 1 Analysis Hardness (mg/l): 220.5 Analysis pH: 7.29

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	934	
Total Antimony	0	0		0	1,100	1,100	1,369	
Total Arsenic	0	0		0	340	340	423	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	26,141	
Total Boron	0	0		0	8,100	8,100	10,083	
Total Cadmium	0	0		0	4.341	4.77	5.93	Chem Translator of 0.911 applied
Total Chromium (III)	0	0		0	1088.799	3,446	4,289	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	20.3	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	118	
Total Copper	0	0		0	28.309	29.5	36.7	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	27.4	

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	150.973	223	278	Chem Translator of 0.676 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	2.05	Chem Translator of 0.85 applied
Total Nickel	0	0		0	914.092	916	1,140	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	12.534	14.7	18.4	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	80.9	
Total Zinc	0	0		0	228.995	234	291	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	3.73	
Acrylonitrile	0	0		0	650	650	809	
Benzene	0	0		0	640	640	797	
Bromoform	0	0		0	1,800	1,800	2,241	
Carbon Tetrachloride	0	0		0	2,800	2,800	3,485	
Chlorobenzene	0	0		0	1,200	1,200	1,494	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	22,406	
Chloroform	0	0		0	1,900	1,900	2,365	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	18,672	
1,1-Dichloroethylene	0	0		0	7,500	7,500	9,336	
1,2-Dichloropropane	0	0		0	11,000	11,000	13,693	
1,3-Dichloropropylene	0	0		0	310	310	386	
Ethylbenzene	0	0		0	2,900	2,900	3,610	
Methyl Bromide	0	0		0	550	550	685	
Methyl Chloride	0	0		0	28,000	28,000	34,854	
Methylene Chloride	0	0		0	12,000	12,000	14,938	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	1,245	
Tetrachloroethylene	0	0		0	700	700	871	
Toluene	0	0		0	1,700	1,700	2,116	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	8,465	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	3,734	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	4,232	
Trichloroethylene	0	0		0	2,300	2,300	2,863	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	697	
2,4-Dichlorophenol	0	0		0	1,700	1,700	2,116	
2,4-Dimethylphenol	0	0		0	660	660	822	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	99.6	
2,4-Dinitrophenol	0	0		0	660	660	822	
2-Nitrophenol	0	0		0	8,000	8,000	9,958	
4-Nitrophenol	0	0		0	2,300	2,300	2,863	
p-Chloro-m-Cresol	0	0		0	160	160	199	
Pentachlorophenol	0	0		0	11.639	11.6	14.5	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	573	

Acenaphthene	0	0		0	83	83.0	103	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	373	
Benzo(a)Anthracene	0	0		0	0.5	0.5	0.62	
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	37,344	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	5,602	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	336	
Butyl Benzyl Phthalate	0	0		0	140	140	174	
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	1,021	
1,3-Dichlorobenzene	0	0		0	350	350	436	
1,4-Dichlorobenzene	0	0		0	730	730	909	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	4,979	
Dimethyl Phthalate	0	0		0	2,500	2,500	3,112	
Di-n-Butyl Phthalate	0	0		0	110	110	137	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	1,992	
2,6-Dinitrotoluene	0	0		0	990	990	1,232	
1,2-Diphenylhydrazine	0	0		0	15	15.0	18.7	
Fluoranthene	0	0		0	200	200	249	
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	12.4	
Hexachlorocyclopentadiene	0	0		0	5	5.0	6.22	
Hexachloroethane	0	0		0	60	60.0	74.7	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	12,448	
Naphthalene	0	0		0	140	140	174	
Nitrobenzene	0	0		0	4,000	4,000	4,979	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	21,162	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	373	
Phenanthrene	0	0		0	5	5.0	6.22	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	162	
Aldrin	0	0		0	3	3.0	3.73	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	0.95	0.95	1.18	
Chlordane	0	0		0	2.4	2.4	2.99	
4,4-DDT	0	0		0	1.1	1.1	1.37	
4,4-DDE	0	0		0	1.1	1.1	1.37	

4,4-DDD	0	0		0	1.1	1.1	1.37	
Dieldrin	0	0		0	0.24	0.24	0.3	
alpha-Endosulfan	0	0		0	0.22	0.22	0.27	
beta-Endosulfan	0	0		0	0.22	0.22	0.27	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.086	0.086	0.11	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.52	0.52	0.65	
Heptachlor Epoxide	0	0		0	0.5	0.5	0.62	
Toxaphene	0	0		0	0.73	0.73	0.91	
Total Strontium	0	0		0	N/A	N/A	N/A	

☑ ***CFC*** CCT (min): 16.838 PMF: 1 Analysis Hardness (mg/l): 220.5 Analysis pH: 7.29

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	274	
Total Arsenic	0	0		0	150	150	187	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	5,104	
Total Boron	0	0		0	1,600	1,600	1,992	
Total Cadmium	0	0		0	0.426	0.49	0.61	Chem Translator of 0.876 applied
Total Chromium (III)	0	0		0	141.630	165	205	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	12.9	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	23.7	
Total Copper	0	0		0	17.601	18.3	22.8	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	5.2	5.2	6.47	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	1,867	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	5.883	8.71	10.8	Chem Translator of 0.676 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	1.13	Chem Translator of 0.85 applied
Total Nickel	0	0		0	101.527	102	127	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	6.21	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	16.2	
Total Zinc	0	0		0	230.869	234	291	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	3.73	
Acrylonitrile	0	0		0	130	130	162	
Benzene	0	0		0	130	130	162	
Bromoform	0	0		0	370	370	461	
Carbon Tetrachloride	0	0		0	560	560	697	

Chlorobenzene	0	0		0	240	240	299	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	4,357	
Chloroform	0	0		0	390	390	485	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	3,859	
1,1-Dichloroethylene	0	0		0	1,500	1,500	1,867	
1,2-Dichloropropane	0	0		0	2,200	2,200	2,739	
1,3-Dichloropropylene	0	0		0	61	61.0	75.9	
Ethylbenzene	0	0		0	580	580	722	
Methyl Bromide	0	0		0	110	110	137	
Methyl Chloride	0	0		0	5,500	5,500	6,846	
Methylene Chloride	0	0		0	2,400	2,400	2,988	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	261	
Tetrachloroethylene	0	0		0	140	140	174	
Toluene	0	0		0	330	330	411	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	1,743	
1,1,1-Trichloroethane	0	0		0	610	610	759	
1,1,2-Trichloroethane	0	0		0	680	680	846	
Trichloroethylene	0	0		0	450	450	560	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	137	
2,4-Dichlorophenol	0	0		0	340	340	423	
2,4-Dimethylphenol	0	0		0	130	130	162	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	19.9	
2,4-Dinitrophenol	0	0		0	130	130	162	
2-Nitrophenol	0	0		0	1,600	1,600	1,992	
4-Nitrophenol	0	0		0	470	470	585	
p-Chloro-m-Cresol	0	0		0	500	500	622	
Pentachlorophenol	0	0		0	8.930	8.93	11.1	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	113	
Acenaphthene	0	0		0	17	17.0	21.2	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	73.4	
Benzo(a)Anthracene	0	0		0	0.1	0.1	0.12	
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	7,469	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	1,133	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	67.2	
Butyl Benzyl Phthalate	0	0		0	35	35.0	43.6	
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	199	
1,3-Dichlorobenzene	0	0		0	69	69.0	85.9	
1,4-Dichlorobenzene	0	0		0	150	150	187	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	996	
Dimethyl Phthalate	0	0		0	500	500	622	
Di-n-Butyl Phthalate	0	0		0	21	21.0	26.1	
2,4-Dinitrotoluene	0	0		0	320	320	398	
2,6-Dinitrotoluene	0	0		0	200	200	249	
1,2-Diphenylhydrazine	0	0		0	3	3.0	3.73	
Fluoranthene	0	0		0	40	40.0	49.8	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	2	2.0	2.49	
Hexachlorocyclopentadiene	0	0		0	1	1.0	1.24	
Hexachloroethane	0	0		0	12	12.0	14.9	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	2,614	
Naphthalene	0	0		0	43	43.0	53.5	
Nitrobenzene	0	0		0	810	810	1,008	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	4,232	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	73.4	
Phenanthrene	0	0		0	1	1.0	1.24	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	32.4	
Aldrin	0	0		0	0.1	0.1	0.12	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	0.0043	0.004	0.005	
4,4-DDT	0	0		0	0.001	0.001	0.001	
4,4-DDE	0	0		0	0.001	0.001	0.001	
4,4-DDD	0	0		0	0.001	0.001	0.001	
Dieldrin	0	0		0	0.056	0.056	0.07	
alpha-Endosulfan	0	0		0	0.056	0.056	0.07	
beta-Endosulfan	0	0		0	0.056	0.056	0.07	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.036	0.036	0.045	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.0038	0.004	0.005	
Heptachlor Epoxide	0	0		0	0.0038	0.004	0.005	
Toxaphene	0	0		0	0.0002	0.0002	0.0002	

Total Strontium	0	0		0	N/A	N/A	N/A	

☑ ***THH*** CCT (min): 16.838 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	6.97	
Total Arsenic	0	0		0	10	10.0	12.4	
Total Barium	0	0		0	2,400	2,400	2,988	
Total Boron	0	0		0	3,100	3,100	3,859	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	4	4.0	4.98	
Dissolved Iron	0	0		0	300	300	373	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	1,245	
Total Mercury	0	0		0	0.050	0.05	0.062	
Total Nickel	0	0		0	610	610	759	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	0.3	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	3.73	
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	124	
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	7.1	
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	41.1	
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	84.6	
Methyl Bromide	0	0		0	100	100.0	124	
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	71.0	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	124	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	12,448	
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	37.3	
2,4-Dichlorophenol	0	0		0	10	10.0	12.4	
2,4-Dimethylphenol	0	0		0	100	100.0	124	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	2.49	
2,4-Dinitrophenol	0	0		0	10	10.0	12.4	
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	4,979	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	87.1	
Anthracene	0	0		0	300	300	373	
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	249	
Bis(2-Ethylhexyl)Phthalate	0	0		0	N/A	N/A	N/A	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	0.1	0.1	0.12	
2-Chloronaphthalene	0	0		0	800	800	996	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	1,000	1,000	1,245	
1,3-Dichlorobenzene	0	0		0	7	7.0	8.71	
1,4-Dichlorobenzene	0	0		0	300	300	373	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	747	
Dimethyl Phthalate	0	0		0	2,000	2,000	2,490	
Di-n-Butyl Phthalate	0	0		0	20	20.0	24.9	

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	24.9	
Fluorene	0	0		0	50	50.0	62.2	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	N/A	N/A	N/A	
Hexachlorocyclopentadiene	0	0		0	4	4.0	4.98	
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	42.3	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	12.4	
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	24.9	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	0.087	
Aldrin	0	0		0	N/A	N/A	N/A	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	4.2	4.2	5.23	
Chlordane	0	0		0	N/A	N/A	N/A	
4,4-DDT	0	0		0	N/A	N/A	N/A	
4,4-DDE	0	0		0	N/A	N/A	N/A	
4,4-DDD	0	0		0	N/A	N/A	N/A	
Dieldrin	0	0		0	N/A	N/A	N/A	
alpha-Endosulfan	0	0		0	20	20.0	24.9	
beta-Endosulfan	0	0		0	20	20.0	24.9	
Endosulfan Sulfate	0	0		0	20	20.0	24.9	
Endrin	0	0		0	0.03	0.03	0.037	
Endrin Aldehyde	0	0		0	1	1.0	1.24	
Heptachlor	0	0		0	N/A	N/A	N/A	
Heptachlor Epoxide	0	0		0	N/A	N/A	N/A	
Toxaphene	0	0		0	N/A	N/A	N/A	
Total Strontium	0	0		0	4,000	4,000	4,979	

☑ ***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	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	0.06	0.06	0.15	
Benzene	0	0		0	0.58	0.58	1.47	
Bromoform	0	0		0	7	7.0	17.8	
Carbon Tetrachloride	0	0		0	0.4	0.4	1.02	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	2.03	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	N/A	N/A	N/A	
Dichlorobromomethane	0	0		0	0.95	0.95	2.42	
1,2-Dichloroethane	0	0		0	9.9	9.9	25.2	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	2.29	
1,3-Dichloropropylene	0	0		0	0.27	0.27	0.69	
Ethylbenzene	0	0		0	N/A	N/A	N/A	
Methyl Bromide	0	0		0	N/A	N/A	N/A	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	20	20.0	50.8	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	0.51	
Tetrachloroethylene	0	0		0	10	10.0	25.4	
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	1.4	
Trichloroethylene	0	0		0	0.6	0.6	1.53	
Vinyl Chloride	0	0		0	0.02	0.02	0.051	
2-Chlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dichlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dimethylphenol	0	0		0	N/A	N/A	N/A	
4,6-Dinitro-o-Cresol	0	0		0	N/A	N/A	N/A	
2,4-Dinitrophenol	0	0		0	N/A	N/A	N/A	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	0.030	0.03	0.076	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	3.81	
Acenaphthene	0	0		0	N/A	N/A	N/A	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	0.0001	0.0001	0.0003	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.003	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.0003	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.003	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.025	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	0.076	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	0.81	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	N/A	N/A	N/A	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	0.12	0.12	0.31	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.0003	
1,2-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,3-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,4-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
3,3-Dichlorobenzidine	0	0		0	0.05	0.05	0.13	
Diethyl Phthalate	0	0		0	N/A	N/A	N/A	
Dimethyl Phthalate	0	0		0	N/A	N/A	N/A	
Di-n-Butyl Phthalate	0	0		0	N/A	N/A	N/A	
2,4-Dinitrotoluene	0	0		0	0.05	0.05	0.13	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	0.13	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	0.076	
Fluoranthene	0	0		0	N/A	N/A	N/A	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	0.00008	0.00008	0.0002	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.025	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	0.25	

Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.003	
Isophorone	0	0		0	N/A	N/A	N/A	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	N/A	N/A	N/A	
n-Nitrosodimethylamine	0	0		0	0.0007	0.0007	0.002	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.013	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	8.39	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	N/A	N/A	N/A	
Aldrin	0	0		0	0.0000008	8.00E-07	0.000002	
alpha-BHC	0	0		0	0.0004	0.0004	0.001	
beta-BHC	0	0		0	0.008	0.008	0.02	
gamma-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	0.0003	0.0003	0.0008	
4,4-DDT	0	0		0	0.00003	0.00003	0.00008	
4,4-DDE	0	0		0	0.00002	0.00002	0.00005	
4,4-DDD	0	0		0	0.0001	0.0001	0.0003	
Dieldrin	0	0		0	0.000001	0.000001	0.000003	
alpha-Endosulfan	0	0		0	N/A	N/A	N/A	
beta-Endosulfan	0	0		0	N/A	N/A	N/A	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	N/A	N/A	N/A	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.000006	0.000006	0.00002	
Heptachlor Epoxide	0	0		0	0.00003	0.00003	0.00008	
Toxaphene	0	0		0	0.0007	0.0007	0.002	
Total Strontium	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 Arsenic	Report	Report	Report	Report	Report	µg/L	12.4	THH	Discharge Conc > 10% WQBEL (no RP)
Total Boron	Report	Report	Report	Report	Report	µg/L	1,992	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Copper	1.86	2.4	22.8	29.5	29.5	µg/L	22.8	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Free Cyanide	0.41	0.72	4.98	8.86	12.4	µg/L	4.98	THH	Discharge Conc ≥ 50% WQBEL (RP)
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	373	THH	Discharge Conc > 10% WQBEL (no RP)
Total Iron	Report	Report	Report	Report	Report	µg/L	1,867	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	Report	Report	Report	Report	µg/L	234	AFC	Discharge Conc > 10% WQBEL (no RP)
Chlorodibromomethane	0.17	0.3	2.03	3.71	5.08	µg/L	2.03	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Chloroform	0.58	1.07	7.1	13.1	17.7	µg/L	7.1	THH	Discharge Conc ≥ 50% WQBEL (RP)

Dichlorobromomethane	0.2	0.36	2.42	4.39	6.04	µg/L	2.42	CRL	Discharge Conc ≥ 50% WQBEL (RP)

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

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	750	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Barium	2,988	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Cadmium	0.61	µg/L	Discharge Conc < TQL
Total Chromium (III)	205	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	12.9	µg/L	Discharge Conc < TQL
Total Cobalt	23.7	µg/L	Discharge Conc < TQL
Total Cyanide	N/A	N/A	No WQS
Total Lead	10.8	µg/L	Discharge Conc < TQL
Total Manganese	1,245	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.062	µg/L	Discharge Conc < TQL
Total Nickel	127	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	6.21	µg/L	Discharge Conc < TQL
Total Silver	14.7	µg/L	Discharge Conc < TQL
Total Thallium	0.3	µg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	3.0	µg/L	Discharge Conc < TQL
Acrylonitrile	0.15	µg/L	Discharge Conc < TQL
Benzene	1.47	µg/L	Discharge Conc < TQL
Bromoform	17.8	µg/L	Discharge Conc ≤ 25% WQBEL
Carbon Tetrachloride	1.02	µg/L	Discharge Conc < TQL
Chlorobenzene	124	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	4,357	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	25.2	µg/L	Discharge Conc < TQL

1,1-Dichloroethylene	41.1	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	2.29	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	0.69	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	84.6	µg/L	Discharge Conc < TQL
Methyl Bromide	124	µg/L	Discharge Conc < TQL
Methyl Chloride	6,846	µg/L	Discharge Conc < TQL
Methylene Chloride	50.8	µg/L	Discharge Conc < TQL
1,1,2,2-Tetrachloroethane	0.51	µg/L	Discharge Conc < TQL
Tetrachloroethylene	25.4	µg/L	Discharge Conc < TQL
Toluene	71.0	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	124	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	759	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	1.4	µg/L	Discharge Conc < TQL
Trichloroethylene	1.53	µg/L	Discharge Conc < TQL
Vinyl Chloride	0.051	µg/L	Discharge Conc < TQL
2-Chlorophenol	37.3	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	12.4	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	124	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	2.49	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	12.4	µg/L	Discharge Conc < TQL
2-Nitrophenol	1,992	µg/L	Discharge Conc < TQL
4-Nitrophenol	585	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	160	µg/L	Discharge Conc < TQL
Pentachlorophenol	0.076	µg/L	Discharge Conc < TQL
Phenol	4,979	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	3.81	µg/L	Discharge Conc < TQL
Acenaphthene	21.2	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	373	µg/L	Discharge Conc < TQL
Benzidine	0.0003	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.003	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.0003	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.003	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.025	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	0.076	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	249	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	0.81	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	67.2	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	0.12	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	996	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	0.31	µg/L	Discharge Conc < TQL

Dibenzo(a,h)Anthrancene	0.0003	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	199	µg/L	Discharge Conc < TQL
1,3-Dichlorobenzene	8.71	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	187	µg/L	Discharge Conc < TQL
3,3-Dichlorobenzidine	0.13	µg/L	Discharge Conc < TQL
Diethyl Phthalate	747	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	622	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	24.9	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	0.13	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	0.13	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	0.076	µg/L	Discharge Conc < TQL
Fluoranthene	24.9	µg/L	Discharge Conc < TQL
Fluorene	62.2	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.0002	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.025	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	1.24	µg/L	Discharge Conc < TQL
Hexachloroethane	0.25	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.003	µg/L	Discharge Conc < TQL
Isophorone	42.3	µg/L	Discharge Conc < TQL
Naphthalene	53.5	µg/L	Discharge Conc < TQL
Nitrobenzene	12.4	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.002	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.013	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	8.39	µg/L	Discharge Conc < TQL
Phenanthrene	1.24	µg/L	Discharge Conc < TQL
Pyrene	24.9	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	0.087	µg/L	Discharge Conc < TQL
Aldrin	0.000002	µg/L	Discharge Conc < TQL
alpha-BHC	0.001	µg/L	Discharge Conc < TQL
beta-BHC	0.02	µg/L	Discharge Conc < TQL
gamma-BHC	0.95	µg/L	Discharge Conc < TQL
delta BHC	N/A	N/A	No WQS
Chlordane	0.0008	µg/L	Discharge Conc < TQL
4,4-DDT	0.00008	µg/L	Discharge Conc < TQL
4,4-DDE	0.00005	µg/L	Discharge Conc < TQL
4,4-DDD	0.0003	µg/L	Discharge Conc < TQL
Dieldrin	0.000003	µg/L	Discharge Conc < TQL
alpha-Endosulfan	0.07	µg/L	Discharge Conc < TQL
beta-Endosulfan	0.07	µg/L	Discharge Conc < TQL
Endosulfan Sulfate	24.9	µg/L	Discharge Conc < TQL
Endrin	0.037	µg/L	Discharge Conc < TQL
Endrin Aldehyde	1.24	µg/L	Discharge Conc < TQL
Heptachlor	0.00002	µg/L	Discharge Conc < TQL
Heptachlor Epoxide	0.00008	µg/L	Discharge Conc < TQL

Toxaphene	0.0002	µg/L	Discharge Conc < TQL
Gross Alpha	N/A	N/A	No WQS
Total Beta	N/A	N/A	No WQS
Radium 226/228	N/A	N/A	No WQS
Total Strontium	4,979	µg/L	Discharge Conc ≤ 10% WQBEL
Total Uranium	N/A	N/A	No WQS

Attachment 6 – WET Analysis Spreadsheet

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.93
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: WEWJA STP

Permit No.: PA0026212

Test Completion Date: 5/24/2016

Replicate No.	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**

Test Completion Date: 5/30/2017

Replicate No.	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**

Test Completion Date: 5/29/2018

Replicate No.	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**

Test Completion Date: 5/21/2019

Replicate No.	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**

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.93
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name

WEWJA STP

Permit No.

PA0026212

Test Completion Date: 5/24/2016

Replicate No.	Control	TIWC
1	35	37
2	37	45
3	41	48
4	42	47
5	44	42
6	37	43
7	38	40
8	40	41
9	36	36
10	34	39
11		
12		
13		
14		
15		
Mean	38.400	41.800
Std Dev.	3.239	4.022
# Replicates	10	10

T-Test Result	8.7491
Deg. of Freedom	15
Critical T Value	0.8662
Pass or Fail	**PASS**

Test Completion Date: 5/30/2017

Replicate No.	Control	TIWC
1	29	37
2	29	42
3	32	40
4	32	35
5	29	42
6	34	35
7	28	37
8	31	38
9	30	38
10	29	35
11		
12		
13		
14		
15		
Mean	30.300	37.900
Std Dev.	1.889	2.685
# Replicates	10	10

T-Test Result	15.8061
Deg. of Freedom	15
Critical T Value	0.8662
Pass or Fail	**PASS**

Test Completion Date: 5/29/2018

Replicate No.	Control	TIWC
1	36	40
2	36	39
3	36	48
4	35	45
5	37	47
6	32	37
7	35	38
8	36	27
9	35	36
10	28	32
11		
12		
13		
14		
15		
Mean	34.600	38.900
Std Dev.	2.675	6.574
# Replicates	10	10

T-Test Result	5.9584
Deg. of Freedom	12
Critical T Value	0.8726
Pass or Fail	**PASS**

Test Completion Date: 5/21/2019

Replicate No.	Control	TIWC
1	30	33
2	29	31
3	32	32
4	30	39
5	35	36
6	31	33
7	31	33
8	33	32
9	30	29
10	35	36
11		
12		
13		
14		
15		
Mean	31.600	33.400
Std Dev.	2.119	2.875
# Replicates	10	10

T-Test Result	9.3374
Deg. of Freedom	15
Critical T Value	0.8662
Pass or Fail	**PASS**

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.93
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: WEWJA STP

Permit No.: PA0026212

Test Completion Date: 5/24/2016

Replicate No.	Control	TIWC
1	1	0.7
2	1	0.9
3	1	1
4	0.9	1
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.975	0.900
Std Dev.	0.050	0.141
# Replicates	4	4

T-Test Result	5.0199
Deg. of Freedom	4
Critical T Value	0.7407
Pass or Fail	PASS

Test Completion Date: 5/30/2017

Replicate No.	Control	TIWC
1	0.9	1
2	0.9	1
3	0.9	1
4	0.6	0.8
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.825	0.950
Std Dev.	0.150	0.100
# Replicates	4	4

T-Test Result	6.8774
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	PASS

Test Completion Date: 5/29/2018

Replicate No.	Control	TIWC
1	0.9	1
2	1	0.9
3	0.8	1
4	1	0.9
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.925	0.950
Std Dev.	0.096	0.058
# Replicates	4	4

T-Test Result	10.2456
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	PASS

Test Completion Date: 5/21/2019

Replicate No.	Control	TIWC
1	1	0.9
2	1	1
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)	0.93
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: WEWJA STP

Permit No.: PA0026212

Test Completion Date: 5/24/2016

Replicate No.	Control	TIWC
1	0.325	0.229
2	0.389	0.315
3	0.355	0.315
4	0.309	0.299
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.345	0.290
Std Dev.	0.035	0.041
# Replicates	4	4

T-Test Result	1.2751
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	**PASS**

Test Completion Date: 5/30/2017

Replicate No.	Control	TIWC
1	0.392	0.428
2	0.419	0.434
3	0.461	0.43
4	0.285	0.348
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.389	0.410
Std Dev.	0.075	0.041
# Replicates	4	4

T-Test Result	3.3784
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	**PASS**

Test Completion Date: 5/29/2018

Replicate No.	Control	TIWC
1	0.273	0.321
2	0.3022	0.266
3	0.245	0.296
4	0.283	0.306
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.276	0.297
Std Dev.	0.024	0.023
# Replicates	4	4

T-Test Result	6.1677
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	**PASS**

Test Completion Date: 5/21/2019

Replicate No.	Control	TIWC
1	0.368	0.381
2	0.327	0.292
3	0.361	0.348
4	0.374	0.309
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.358	0.333
Std Dev.	0.021	0.040
# Replicates	4	4

T-Test Result	2.9987
Deg. of Freedom	4
Critical T Value	0.7407
Pass or Fail	**PASS**

WET Summary and Evaluation

Facility Name	WEWJA STP
Permit No.	PA0026212
Design Flow (MGD)	9.77
Q_{7-10} Flow (cfs)	0.701
PMF_a	1
PMF_c	1

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	5/24/16	5/30/17	5/29/18	5/21/19
Ceriodaphnia	Survival	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	5/24/16	5/30/17	5/29/18	5/21/19
Ceriodaphnia	Reproduction	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	5/24/16	5/30/17	5/29/18	5/21/19
Pimephales	Survival	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	5/24/16	5/30/17	5/29/18	5/21/19
Pimephales	Growth	PASS	PASS	PASS	PASS

Reasonable Potential? NO

Permit Recommendations

Test Type	**Chronic**
TIWC	**96 % Effluent**
Dilution Series	**24, 48, 72, 96, 100 % Effluent**
Permit Limit	**None**
Permit Limit Species	