Pennsylvania Department of Environmental Protection

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0032883**
Facility Type	**Municipal**	APS ID	**31634**
Major / Minor	**Major**	Authorization ID	**1518427**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Duncansville Borough Municipal Authority Blair County**	Facility Name	**Duncansville STP**
Applicant Address	315 14th Street	Facility Address	109 Jennifer Road
	Duncansville, PA 16635-1232		Duncansville, PA 16635-1359
Applicant Contact	Amy Ott	Facility Contact	Jerome Eckardt
Applicant Phone	(814) 695-0354	Facility Phone	(814) 381-3286
Client ID	5988	Site ID	451747
Ch 94 Load Status	Not Overloaded	Municipality	Duncansville Borough
Connection Status	No Limitations	County	Blair
Date Application Received	February 28, 2025	EPA Waived?	No
Date Application Accepted	March 13, 2025	If No, Reason	Major Facility, Significant CB Discharge

Purpose of Application: This is an application for NPDES renewal.

Approve	Deny	Signatures	Date
X		Nicholas Hong, P.E. / Environmental Engineer Nick Hong (via electronic signature)	September 22, 2025
x		Daniel W. Martin, P.E. / Environmental Engineer Manager Maria D. Bebenek for	October 17, 2025
x		Maria D. Bebenek, P.E. / Environmental Program Manager Maria D. Bebenek	October 17, 2025

Summary of Review

The application submitted by the applicant requests a NPDES renewal permit for the Duncansville STP located at 109 Jennnifer Road, Duncansville, PA 16635 in Blair County, municipality of Allegheny Township. The existing permit became effective on July 1, 2020 and expired on June 30, 2025. The application for renewal was received by DEP Southcentral Regional Office (SCRO) on February 28, 2025.

The purpose of this Fact Sheet is to present the basis of information used for establishing the proposed NPDES permit effluent limitations. The Fact Sheet includes a description of the facility, a description of the facility's receiving waters, a description of the facility's receiving waters attainment/non-attainment assessment status, and a description of any changes to the proposed monitoring/sampling frequency. Section 6 provides the justification for the proposed NPDES effluent limits derived from technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), total maximum daily loading (TMDL), antidegradation, anti-backsliding, and/or whole effluent toxicity (WET). A brief summary of the outlined descriptions has been included in the Summary of Review section.

The subject facility is a 1.75 MGD treatment facility. The applicant did not indicate on the application if any proposed upgrades to the treatment facility will occur in the next five years. The NPDES application has been processed as a Major Sewage Facility (Level 1) due to the type of sewage and the design flow rate for the facility. The applicant disclosed the Act 14 requirement to Blair County Commissioners, Duncansville Borough, and Allegheny Township Board of Supervisors and the notice was received by the parties on January 7, 2025 and December 13, 2024. A planning approval letter was not necessary as the facility is neither new or expanding.

Utilizing the DEP's web-based Emap-PA information system, the receiving waters has been determined to be Blair Gap Run. The sequence of receiving streams that the Blair Gap Run discharges into are Beaverdam Branch, Frankstown Branch Juniata River, Juniata River, and Susquehanna River which eventually drains into the Chesapeake Bay. The subject site is subject to the Chesapeake Bay implementation requirements. The receiving water has protected water usage for trout stocking fishes (TSF) and migratory fishes (MF). No Class A Wild Trout fisheries are impacted by this discharge. The absence of high quality and/or exceptional value surface waters removes the need for an additional evaluation of anti-degradation requirements.

The Blair Gap Run is a Category 2 stream listed in the 2024 Integrated List of All Waters (formerly 303d Listed Streams). This stream is an attaining stream that supports aquatic life. The receiving waters is subject to the Beaverdam Branch Watershed total maximum daily load (TMDL) plan to improve water quality in the subject facility's watershed.

The existing permit and proposed permit differ as follows:

- **Due to the EPA triennial review, monitoring shall be required for E. Coli and PFOS parameters**
- **Monitoring shall be required 2x/yr for Total Copper, Dissolved Iron, Total Zinc, and Carbon Tetrachloride**
- **Limits have been established for Acrolein**

Sludge use and disposal description and location(s): Laurel Highland Landfill located in Cambria County, Vintondale as landfill

The proposed permit will expire five (5) years from the effective date.

Based on the review in this report, it is recommended that the permit be drafted. 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.

Any additional information or public review of documents associated with the discharge or facility may be available at PA DEP Southcentral Regional Office (SCRO), 909 Elmerton Avenue, Harrisburg, PA 17110. To make an appointment for file review, contact the SCRO File Review Coordinator at 717.705.4700.

1.0 Applicant

1.1 General Information

This fact sheet summarizes PA Department of Environmental Protection's review for the NPDES renewal for the following subject facility.

Facility Name:	Duncansville STP
NPDES Permit #	PA0032883
Physical Address:	109 Jennifer Road Duncansville, PA 16635
Mailing Address:	315 14th Street Duncansville, PA 16635
Contact:	Jerome Eckardt License Operator Borough of Duncansville jeckardt@duncansvillepa.org
Consultant:	Daniel Beyer EADS Group, Inc. (814) 944-5035 dbeyer@eadsgroup.com

1.2 Permit History

Permit submittal included the following information.

- NPDES Application
- Flow Diagrams
- Influent Sample Data
- Effluent Sample Data
- WET Testing Data

2.0 Treatment Facility Summary

2.1.1 Site location

The physical address for the facility is 109 Jennifer Road, Duncansville, PA 16635. A topographical and an aerial photograph of the facility are depicted as Figure 1 and Figure 2.

Figure 1: Topographical map of the subject facility

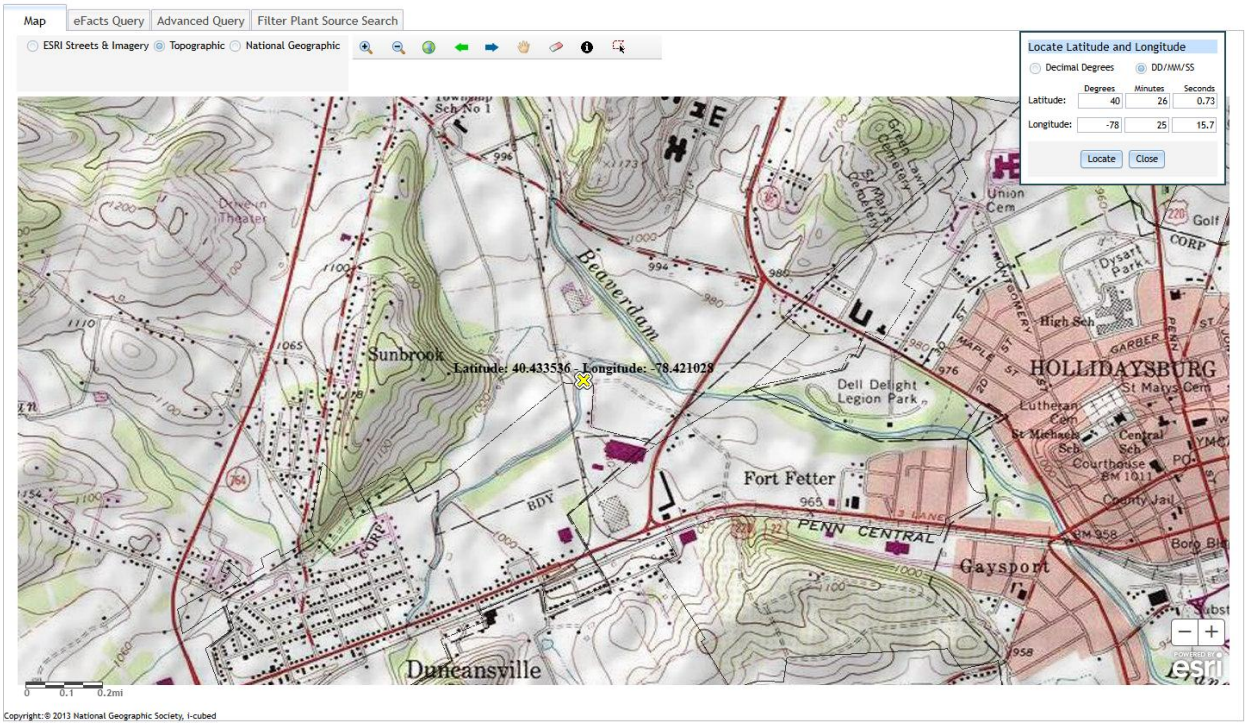
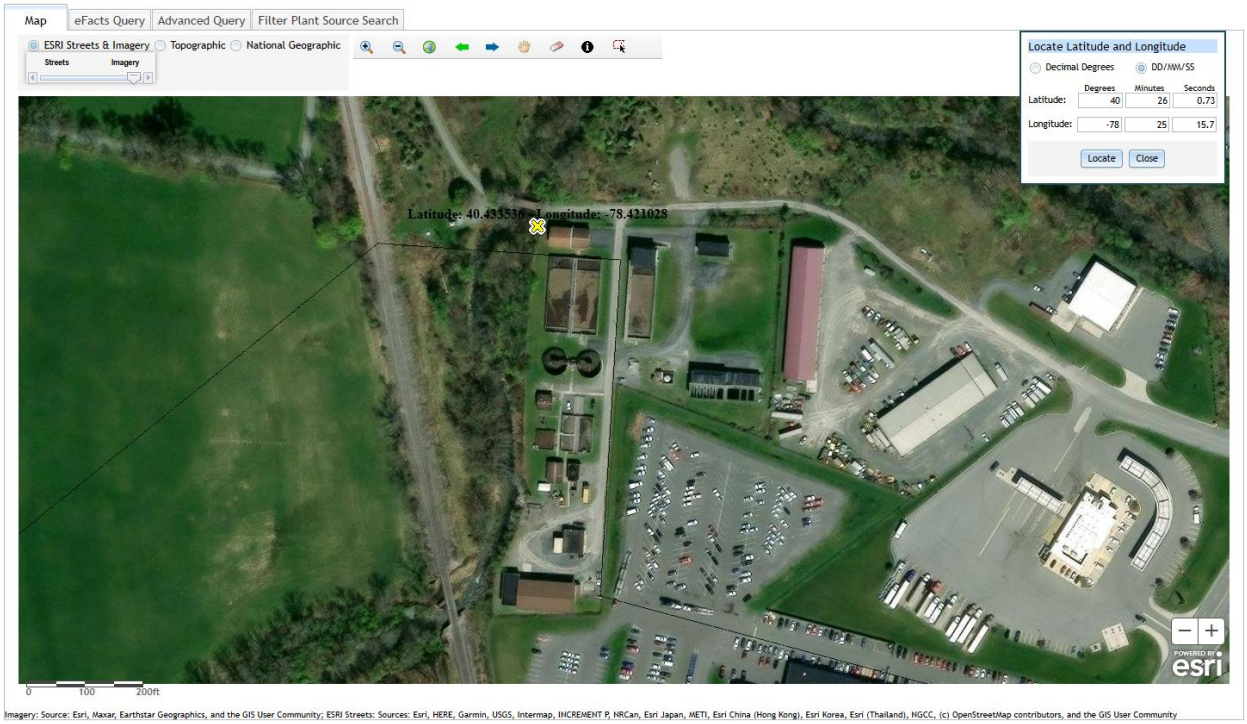


Figure 2: Aerial Photograph of the subject facility



2.1.2 Sources of Wastewater/Stormwater

The facility received hauled-in wastes within the last three years. The facility anticipates receiving hauled in wastes in the next five years.

The facility reported no CSOs.

The facility reported no industrial users.

The facility has a SOP for managing peak flows.

In severe precipitation-caused high flow conditions, the operators bypass the denitrification unit downstream of the SBR system to avoid spillage of SBR effluent and damage to facilities. The bypass pipeline is manually opened and activated and SBR effluent flow bypasses the denitrification filter system and goes on to ultraviolet disinfection.

The facility has the following outfall information for stormwater.

Outfall 002 located at Latitude 40^0 26' 0.84" Longitude -78^0 25' 10.48"

2.2 Description of Wastewater Treatment Process

The subject facility is a 1.75 MGD design flow facility. The subject facility treats wastewater using 3 equally sized intermittent cycle extended aeration SBRs, UV disinfection and post aeration prior to discharge through the outfall. The facility is being evaluated for flow, pH, dissolved oxygen, CBOD5, TSS, fecal coliform, UV disinfection, nitrogen species, and phosphorus. The existing permits limits for the facility is summarized in Section 2.4.

The treatment process is summarized in the table.

Treatment Facility Summary

Treatment Facility Name: Duncansville STP

WQM Permit No.	Issuance Date
0708401	02/22/2021
0708401	06/20/2008
0707403	10/30/2007

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Sequencing Batch Reactor W/Sol Removal	Ultraviolet	1.75

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
1.89	2300	Not Overloaded		Combination of methods

2.3 Facility Outfall Information

The facility has the following outfall information for wastewater.

Outfall No. 001 **Design Flow (MGD)** 1.75
Latitude 40º 25' 57.98" **Longitude** -78º 25' 16.30"
Wastewater Description: Sewage Effluent

2.3.1 Operational Considerations- Chemical Additives

Chemical additives are chemical products introduced into a waste stream that is used for cleaning, disinfecting, or maintenance and which may be detected in effluent discharged to waters of the Commonwealth. Chemicals excluded are those used for neutralization of waste streams, the production of goods, and treatment of wastewater.

The subject facility utilizes the following chemicals as part of their treatment process.

- Methanol as a carbon source for denitrification filter system
- Poly aluminum chloride for coagulant / settling aid for total phosphorus removal

2.4 Existing NPDES Permits Limits

The existing NPDES permit limits are summarized in the table.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. For Outfall 001 , **Latitude** 40° 25' 57.98" , **Longitude** 78° 25' 16.30" , **River Mile Index** 0.38 , **Stream Code** 16335

Receiving Waters: Blair Gap Run (TSF)

Type of Effluent: Sewage Effluent

1. The permittee is authorized to discharge during the period from **July 1, 2020** through **June 30, 2025**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Instantaneous Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	364	546	XXX	25	40	50	2/week	24-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Suspended Solids	437	655	XXX	30	45	60	2/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/week	Grab
Ultraviolet light transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded

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	Instantaneous Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Ammonia-Nitrogen Nov 1 - Apr 30	131	XXX	XXX	9.0	XXX	18	2/week	24-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	51	XXX	XXX	3.5	XXX	7	2/week	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

Footnotes:
(1) See Part C for Chesapeake Bay Requirements.
(2) This is the minimum number of sampling events required. Permittees are encouraged, and it may be advantageous in demonstrating compliance, to perform more than the minimum number of sampling events required.
(3) The permittee is authorized to use 1000 lbs/year as Total Nitrogen (TN) Offsets toward compliance with the Annual Net TN mass load limitations (Cap Loads), in accordance with Part C of this permit. These Offsets may be applied throughout the Compliance Year or during the Truing Period. The application of offsets must be reported to DEP as described in Part C. The Offsets are authorized for the following pollutant load reduction activities:
Connection of 40 on-lot sewage disposal systems to the public sewer system after January 1, 2003, in which 25 lbs/year of TN offsets are granted per connection.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. B. For Outfall 001 , **Latitude** 40° 25' 57.98" , **Longitude** 78° 25' 16.30" , **River Mile Index** 0.38 , **Stream Code** 16335

Receiving Waters: Blair Gap Run (TSF)

Type of Effluent: Sewage Effluent

1. The permittee is authorized to discharge during the period from **July 1, 2020** through **June 30, 2025**.

2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia--N	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Net Total Nitrogen	Report	22228	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	2963	XXX	XXX	XXX	XXX	1/month	Calculation

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

Footnotes:
(1) See Part C for Chesapeake Bay Requirements.
(2) This is the minimum number of sampling events required. Permittees are encouraged, and it may be advantageous in demonstrating compliance, to perform more than the minimum number of sampling events required.

3.0 Facility NPDES Compliance History

3.1 Summary of Inspections

A summary of the most recent inspections during the existing permit review cycle is as follows.

The DEP inspector noted the following during the inspection.

12/23/2020:
The C-bay spreadsheet was an older version that was revised in October 2020. Future reports should include the newest version of the form (V2.2).

03/18/2021:
Since the last inspection the comminutor was replaced, one influent pump was repaired, and the belt filter press was repaired. The authority was issued a WQM permit to replace the belt filter press with a new rotary press. The project also involves installing a new water line and constructing a new sludge building to house the press.

04/25/2022:
The old belt filter press was replaced with a new rotary sludge press and a new building was constructed to house the press. Some of the electrical panel boxes at the plant were upgraded with fans and exhaust vents. The effluent composite sampler was replaced with a new unit. The effluent storage refrigerator needed a thermometer. During the sludge press replacement project, liquid sludge was hauled out by Ken Wertz Septic Hauling. Hauling receipts from Wertz are kept at the Authority's office and not available for review.

11/06/2023:
Since last inspection two sludge wasting pumps have been replaced. One alum feed pump is currently out of service and was being worked on. Additional pumps are available. A review of DMRs shows that test results for TKN and NO2-NO3 are not included on the effluent supplemental forms. The parameters need to be added to the supplemental or an Annual Chesapeake Bay Supplemental form can be attached to the monthly DMRs. Since the UV unit shows the intensity %, the effluent supplemental form needs to be revised to show UV intensity percentage instead of percent transmittance. A change of operator form needs to be submitted through the DEP website to update the change in lead operator. The PPC plan also needs to be updated to reflect the change in personnel

12/17/2024:
Since last inspection one SBR mixer was replaced, the blower for digester #2 was replaced, a backwash pump for the denite tanks was replaced, new methanol pump motor, and a new alum feed pump. Also repainted the methanol tank. The influent screen is currently out of service and waiting new parts. The borough has plans to replace two more alum feed pumps and to update the SCADA system next year. The plant's two flow meters were being calibrated. The meters are located after the denitrification tanks and before the UV system. The effluent supplemental form was revised to show UV intensity percentage instead of percent transmittance. The facility's PPC plan was updated to reflect a change in personnel. During a review of plant record Jerome was unable to locate the original plant bench sheets used to record the pH and DO results for the months prior to January 2024.

3.2 Summary of DMR Data

A review of approximately 1-year of DMR data shows that the monthly average flow data for the facility below the design capacity of the treatment system. The maximum average flow data for the DMR reviewed was 1.463 MGD in April 2024. The design capacity of the treatment system is 1.89 MGD.

The off-site laboratory used for the analysis of the parameters was Pace Analytical located at 2019 Ninth Avenue, Altoona, PA 16602.

The off-site laboratory used for the WET analysis of the parameters was Pace Analytical located at 2019 Ninth Avenue, Altoona, PA 16602.

DMR Data for Outfall 001 (from February 1, 2024 to January 31, 2025)

Parameter	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24
Flow (MGD) Average Monthly	0.607	0.722	0.520	0.547	0.507	0.562	0.466	0.551	0.793	1.463	1.076	0.905
Flow (MGD) Daily Maximum	0.778	0.880	0.727	0.889	0.653	0.744	0.542	0.701	1.103	4.298	1.769	1.323
pH (S.U.) Instantaneous Minimum	6.78	6.71	6.52	6.61	6.82	6.8	6.82	6.76	6.55	6.21	6.1	6.08
pH (S.U.) Instantaneous Maximum	7.36	7.5	6.99	7.11	7.12	7.21	7.29	7.07	6.97	6.97	7.31	7.16
DO (mg/L) Instantaneous Minimum	6.1	7.1	7.0	6.9	6.0	6.2	6.0	6.0	6.9	6.8	6.9	7.0
CBOD5 (lbs/day) Average Monthly	< 19	< 20	< 13	< 14	< 13	< 14	< 15	< 14	< 21	< 46	< 26	< 27
CBOD5 (lbs/day) Weekly Average	32	< 29	< 16	< 21	< 15	< 16	< 22	< 17	< 27	< 93	< 33	< 32
CBOD5 (mg/L) Average Monthly	< 4	< 3	< 3	< 3	< 3	< 3	< 4	< 3	< 3	< 3	< 3	< 3
CBOD5 (mg/L) Weekly Average	7	< 5	< 3	< 3	< 3	< 3	< 6	< 3	< 4	< 3	< 4	< 5
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	754	927	843	572	562	618	522	565	1098	995	872	1200
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	922	1594	1345	885	777	1471	777	930	1441	1821	1418	2366
BOD5 (mg/L) Raw Sewage Influent Average Monthly	157	153	193	131	134	136	130	123	166	83	112	149
TSS (lbs/day) Average Monthly	< 8	< 11	< 8	< 8	< 8	< 8	< 7	< 7	< 11	< 28	< 17	< 15
TSS (lbs/day) Raw Sewage Influent Average Monthly	993	947	1005	638	558	750	524	517	1174	844	878	1254

TSS (lbs/day) Raw Sewage Influent Daily Maximum	1978	1742	1533	1306	802	1641	621	892	2822	1266	1625	3835
TSS (lbs/day) Weekly Average	< 15	< 11	< 15	< 14	< 12	< 8	< 7	< 9	< 12	< 55	< 20	< 18
TSS (mg/L) Average Monthly	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
TSS (mg/L) Raw Sewage Influent Average Monthly	207	155	229	141	133	168	132	208	180	76	114	156
TSS (mg/L) Weekly Average	< 3	< 2	< 3	< 2	< 2	< 2	< 2	< 2	< 2	< 2	3	< 2
Fecal Coliform (No./100 ml) Geometric Mean	< 5	< 2	122	< 42	< 20	< 11	< 1	< 2	< 3	< 4	< 1	< 2
Fecal Coliform (No./100 ml) Instantaneous Maximum	21.3	29.2	1011.2	435.2	261.3	365.4	23.8	14.5	120.1	214.3	< 1	41.4
UV Transmittance (%) Instantaneous Minimum	15.1	14.9	17.1	17.6	18.1	14.7	17.9	17.7	17.9	16.8	15.9	14.6
Nitrate-Nitrite (mg/L) Average Monthly	< 2.2416	< 2.95	< 2.9843	< 3.1364	< 1.292	< 1.26	< 1.2	< 1.324	< 1.705	< 1.899	< 3.67	< 5.162
Nitrate-Nitrite (lbs) Total Monthly	< 336.9	< 553.3	< 379.2	< 441.4	< 166.7	< 179.5	< 150.9	< 186.1	< 352.4	< 819.4	< 1031.2	< 1098.5
Total Nitrogen (mg/L) Average Monthly	< 3.6118	< 3.4523	< 3.4976	< 3.6743	< 1.805	< 1.7943	< 1.8091	< 2.0283	< 2.2373	< 2.4858	< 4.1702	< 5.7479
Total Nitrogen (lbs) Effluent Net Total Monthly	< 539	< 647.5	< 445.9	< 518.5	< 231.9	< 255.6	< 228	< 285.5	< 461.3	< 1142.7	< 1166	< 1227.8
Total Nitrogen (lbs) Total Monthly	< 539	< 647.5	< 445.9	< 518.5	< 231.9	< 255.6	< 228	< 285.5	< 461.3	< 1142.7	< 1166	< 1227.8
Total Nitrogen (lbs) Effluent Net Total Annual					< 6863							
Total Nitrogen (lbs) Total Annual					< 7863							
Ammonia (lbs/day) Average Monthly	4	< 0.6	< 0.4	< 0.5	< 0.4	< 0.5	< 0.6	< 0.5	< 0.7	< 7	< 0.9	< 2
Ammonia (mg/L) Average Monthly	< 0.8585	< 0.1	< 0.1	< 0.1	< 0.102	< 0.1001	< 0.1403	< 0.1	< 0.1034	< 0.2634	< 0.1092	< 0.22

Ammonia (lbs) Total Monthly	126.9	< 18.8	< 13	< 14	< 13	< 14.3	< 18	< 14	< 21.2	< 209	< 29	< 54
Ammonia (lbs) Total Annual					< 467							
TKN (mg/L) Average Monthly	1.3625	< 0.5	< 0.5134	< 0.5379	< 0.5133	< 0.5348	< 0.6091	0.7044	< 0.5326	< 0.5873	< 0.5	< 0.5479
TKN (lbs) Total Monthly	200.8	< 94.2	< 66.7	< 77.1	< 65.2	< 76.1	< 77.1	99.4	< 108.9	< 323.3	< 134.8	< 120
Total Phosphorus (mg/L) Average Monthly	0.946	1	2.21	3.19	3.958	3.29	4.42	3.59	2.3	1.384	1.24	1.77
Total Phosphorus (lbs) Effluent Net Total Monthly	145	186	272.6	446.4	502	476.5	574.8	500	465	782.6	298	420
Total Phosphorus (lbs) Total Monthly	145	186	272.6	446	502	476.5	574.8	500	465	783	298	420
Total Phosphorus (lbs) Effluent Net Total Annual					2890							
Total Phosphorus (lbs) Total Annual					5367							

3.2.1 Chesapeake Bay Truing

The table summarizes the facility's compliance/noncompliance with Chesapeake Bay cap loads.

Chesapeake Bay Annual Nutrient Summary
Duncansville Borough WWTP
PA0032883

Year for Truing Period (Oct 1 - Sept 30)	Nitrogen (lbs)					Phosphorus (lbs)					Compliant with Permit Limits (Yes/No)	
	Annual Total Mass Load	Lbs Credit Purchased	Lbs from Credits Sold	Lbs Offsets Generated	Annual Net Mass Load	Annual Total Mass Load	Lbs Credit Purchased	Lbs from Credits Sold	Lbs Offsets Generated	Annual Net Mass Load	Nitrogen	Phosphorus
2021	24,512	1459	0	1000	22,053	3,292	755	0	0	2,537	Yes	Yes
2022	22,427	0	0	1000	21,427	3,328	703	0	0	2,625	Yes	Yes
2023	14,628	0	0	1000	13,628	3,975	1014	0	0	2,961	Yes	Yes
2024	7,863	0	0	1000	6,863	5,367	2477	0	0	2,890	Yes	Yes

Notes:

Nitrogen Annual Net Mass CAP Load =	22,228	lbs
Phosphorus Annual Net Mass CAP Load =	2963	lbs

3.3 Non-Compliance

3.3.1 Non-Compliance- NPDES Effluent

A summary of the non-compliance to the permit limits for the existing permit cycle is as follows.

From the DMR data beginning in July 1, 2020 to June 17, 2025, there were no observed effluent non-compliances.

3.3.2 Non-Compliance- Enforcement Actions

A summary of the non-compliance enforcement actions for the current permit cycle is as follows:

Beginning in July 1, 2020 to June 17, 2025, there were no observed enforcement actions.

3.4 Summary of Biosolids Disposal

A summary of the biosolids disposed of from the facility is as follows.

2024			
Sewage Sludge / Biosolids Production Information			
Dewatered Sewage Sludge/ Biosolids Hauled Off-Site			
Date (YEAR)	Tons Dewatered	% Solids	Dry Tons
January	67.33	17.23	11.601
February	68.66	17.23	11.83
March	32.9	17.67	5.813
April	28.81	17.67	5.091
May	34.25	17.67	6.052
June	35.21	17.67	6.222
July	50.21	17.67	8.872
August	35.56	17.67	6.283
September			
October			
November			
December			
Notes:			
Laurel Highland Landfill located in Cambria County, Vintondale as landfill			

3.5 Open Violations

No open violations existed as of September 2025.

4.0 Receiving Waters and Water Supply Information Detail Summary

4.1 Receiving Waters

The receiving waters has been determined to be Blair Gap Run. The sequence of receiving streams that the Blair Gap Run discharges into are Beaverdam Branch, Frankstown Branch Juniata River, Juniata River, and Susquehanna River which eventually drains into the Chesapeake Bay.

4.2 Public Water Supply (PWS) Intake

The closest PWS to the subject facility is Mifflintown MA (PWS ID # 4340008) located approximately 101 miles downstream of the subject facility on the Juniata River. Based upon the distance and the flow rate of the facility, the PWS should not be impacted.

4.3 Class A Wild Trout Streams

Class A Wild Trout Streams are waters that support a population of naturally produced trout of sufficient size and abundance to support long-term and rewarding sport fishery. DEP classifies these waters as high-quality coldwater fisheries.

The information obtained from EMAP suggests that no Class A Wild Trout Fishery will be impacted by this discharge.

4.4 2024 Integrated List of All Waters (303d Listed Streams)

Section 303(d) of the Clean Water Act requires States to list all impaired surface waters not supporting uses even after appropriate and required water pollution control technologies have been applied. The 303(d) list includes the reason for impairment which may be one or more point sources (i.e. industrial or sewage discharges) or non-point sources (i.e. abandoned mine lands or agricultural runoff and the pollutant causing the impairment such as metals, pH, mercury or siltation).

States or the U.S. Environmental Protection Agency (EPA) must determine the conditions that would return the water to a condition that meets water quality standards. As a follow-up to listing, the state or EPA must develop a Total Maximum Daily Load (TMDL) for each waterbody on the list. A TMDL identifies allowable pollutant loads to a waterbody from both point and non-point sources that will prevent a violation of water quality standards. A TMDL also includes a margin of safety to ensure protection of the water.

The water quality status of Pennsylvania's waters uses a five-part categorization (lists) of waters per their attainment use status. The categories represent varying levels of attainment, ranging from Category 1, where all designated water uses are met to Category 5 where impairment by pollutants requires a TMDL for water quality protection.

The receiving waters is listed in the 2024 Pennsylvania Integrated Water Quality Monitoring and Assessment Report as a Category 2 waterbody. The surface waters is an attaining stream that supports aquatic life. The designated use has been classified as protected waters for trout stocking fishes (TSF) and migratory fishes (MF).

4.5 Low Flow Stream Conditions

Water quality modeling estimates are based upon conservative data inputs. The data are typically estimated using either a stream gauge or through USGS web based StreamStats program. The NPDES effluent limits are based upon the combined flows from both the stream and the facility discharge.

A conservative approach to estimate the impact of the facility discharge using values which minimize the total combined volume of the stream and the facility discharge. The volumetric flow rate for the stream is based upon the seven-day, 10-year low flow (Q710) which is the lowest estimated flow rate of the stream during a 7 consecutive day period that occurs once in 10 -year time period. The facility discharge is based upon a known design capacity of the subject facility.

The closest WQN station to the subject facility is the Beaver Branch Juniata River (WQN252). This WQN station is located approximately 3.6 miles downstream of the subject facility.

The closest gauge station to the subject facility is the Frankstown Branch Juniata River at Williamsburg, PA (USGS station number 1556000). This gauge station is located approximately 17 miles downstream of the subject facility.

For WQM modeling, pH and stream water temperature data from the water quality network station was used. pH was estimated to be 7.3 and the stream water temperature was estimated to be 19.5 C.

The hardness of the stream was estimated by collecting a sample upstream of the facility. The sampling result was 120 mg/l $CaCO_3$.

The low flow yield and the Q710 for the subject facility was estimated using StreamStats.

The low flow yield is 0.051 $ft^3/s/mi^2$ and Q710 is 1.08 ft^3/s.

4.6 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	1.75
Latitude	40º 25' 58.11"	Longitude	-78º 25' 17.01"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		

Receiving Waters	Blair Gap Run (TSF)	Stream Code	16335
NHD Com ID	133386883	RMI	0.28
Drainage Area	21.1	Yield (cfs/mi^2)	0.051
Q_{7-10} Flow (cfs)	1.08	Q_{7-10} Basis	StreamStats
Elevation (ft)	977	Slope (ft/ft)	
Watershed No.	11-A	Chapter 93 Class.	TSF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s) supports aquatic life		
Cause(s) of Impairment	Not applicable		
Source(s) of Impairment	Not applicable		
TMDL Status	Final	Name	Beaverdam Branch Watershed

Background/Ambient Data		Data Source
pH (SU)	7.3	WQN252; median July to Sept
Temperature (°C)	19.5	WQN252; median July to Sept
Hardness (mg/L)	120	WQN252; historical median
Other:		

Nearest Downstream Public Water Supply Intake	Mifflintown MA		
PWS Waters	Juniata River	Flow at Intake (cfs)	
PWS RMI	37	Distance from Outfall (mi)	101

5.0: Overview of Presiding Water Quality Standards

5.1 General

There are at least six (6) different policies which determines the effluent performance limits for the NPDES permit. The policies are technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), antidegradation, total maximum daily loading (TMDL), anti-backsliding, and whole effluent toxicity (WET) The effluent performance limitations enforced are the selected permit limits that is most protective to the designated use of the receiving waters. An overview of each of the policies that are applicable to the subject facility has been presented in Section 6.

5.2.1 Technology-Based Limitations

TBEL treatment requirements under section 301(b) of the Act represent the minimum level of control that must be imposed in a permit issued under section 402 of the Act (40 CFR 125.3). Available TBEL requirements for the state of Pennsylvania are itemized in PA Code 25, Chapter 92a.47.

The presiding sources for the basis for the effluent limitations are governed by either federal or state regulation. The reference sources for each of the parameters is itemized in the tables. The following technology-based limitations apply, subject to water quality analysis and best professional judgement (BPJ) where applicable:

Parameter	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)

5.2.2 Mass Based Limits

For publicly owned treatment works (POTW), mass loadings are calculated based upon design flow rate of the facility and the permit limit concentration. The generalized calculation for mass loadings is shown below:

$$Quantity\left(\frac{lb}{day}\right) = (MGD)(Concentration)(8.34)$$

5.3 Water Quality-Based Limitations

WQBEL are based on the need to attain or maintain the water quality criteria and to assure protection of designated and existing uses (PA Code 25, Chapter 92a.2). The subject facility that is typically enforced is the more stringent limit of either the TBEL or the WQBEL.

Determination of WQBEL is calculated by spreadsheet analysis or by a computer modeling program developed by DEP. DEP permit engineers utilize the following computing programs for WQBEL permit limitations: (1) MS Excel worksheet for Total Residual Chorine (TRC); (2) WQM 7.0 for Windows Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen Version 1.1 (WQM Model) and (3) Toxics using DEP Toxics Management Spreadsheet for Toxics pollutants.

The modeling point nodes utilized for this facility are summarized below.

General Data 1	*(Modeling Point #1)*	*(Modeling Point #2)*	*Units*
Stream Code	16335	16335	
River Mile Index	2.14	0	miles
Elevation	977	932	feet
Latitude	40.4325	40.421621	
Longitude	-78.420556	-78.389434	
Drainage Area	21.1	74.3	sq miles
Low Flow Yield	0.051	0.051	cfs/sq mile

5.3.1 Water Quality Modeling 7.0

The WQM Model is a computer model that is used to determine NPDES discharge effluent limitations for Carbonaceous BOD (CBOD5), Ammonia Nitrogen (NH3-N), and Dissolved Oxygen (DO) for single and multiple point source discharges scenarios. WQM Model is a complete-mix model which means that the discharge flow and the stream flow are assumed to instantly and completely mixed at the discharge node.

WQM recommends effluent limits for DO, CBOD5, and NH_3-N in mg/l for the discharge(s) in the simulation.

Four types of limits may be recommended. The limits are

(a) a *minimum concentration for DO in the discharge as 30-day average;*
(b) a 30-day average concentration for CBOD5 in the discharge;
(c) a 30-day average concentration for the NH_3-N in the discharge;
(d) *24-hour average concentration for NH_3-N in the discharge*.

The WQM Model requires several input values for calculating output values. The source of data originates from either EMAP, the National Map, or Stream Stats. Data for stream gauge information, if any, was abstracted from USGS Low-Flow, Base-Flow, and Mean-Flow Regression Equations for Pennsylvania Streams authored by Marla H. Stuckey (Scientific Investigations Report 2006-5130).

The applicable WQM Effluent Limit Type are discussed in Section 6 under the corresponding parameter which is either DO, CBOD, or ammonia-nitrogen.

5.3.2 Toxics Modeling

The Toxics Management Spreadsheet model is a computer model that is used to determine effluent limitations for toxics (and other substances) for single discharge wasteload allocations. This computer model uses a mass-balance water quality analysis that includes consideration for mixing, first-order decay, and other factors used to determine recommended water quality-based effluent limits. Toxics Management Spreadsheet does not assume that all discharges completely mix with the stream. The point of compliance with water quality criteria are established using criteria compliance times (CCTs). The available CCTs are either acute fish criterion (AFC), chronic fish criterion (CFC), or human health criteria (THH & CRL).

Acute Fish Criterion (AFC) measures the criteria compliance time as either the maximum criteria compliance time (i.e.15 minutes travel time downstream of the current discharge) or the complete mix time whichever comes first. AFC is evaluated at Q710 conditions.

Chronic Fish Criterion (CFC) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CFC is evaluated at Q710 conditions.

Threshold Human Health (THH) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the estimated travel time downstream to the nearest potable water supply intake whichever comes first. THH is evaluated at Q710 conditions.

Cancer Risk Level (CRL) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CRL is evaluated at Qh (harmonic mean or normal flow) conditions.

The Toxics Model requires several input values for calculating output values. The source of data originates from either EMAP, the National Map, or Stream Stats. Data for stream gauge information, if any, was abstracted from USGS Low-Flow, Base-Flow, and Mean-Flow Regression Equations for Pennsylvania Streams authored by Marla H. Stuckey (Scientific Investigations Report 2006-5130).

5.3.2.1 Determining if NPDES Permit Will Require Monitoring/Limits in the Proposed Permit for Toxic Pollutants

To determine if Toxics modeling is necessary, DEP has developed a Toxics Management Spreadsheet to identify toxics of concern. Toxic pollutants whose maximum concentrations as reported in the permit application or on DMRs are greater than the most stringent applicable water quality criterion are pollutants of concern. A Reasonable Potential Analysis was utilized to determine (a) if the toxic parameters modeled would require monitoring or (b) if permit limitations would be required for the parameters. The toxics reviewed for reasonable potential were the pollutants in Groups 1 through 5.

The NPDES application collected three samples.

Based upon the SOP- Establishing Water Quality-Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants (Revised January 10, 2019), monitoring and/or limits will be established as follows.

(a) When reasonable potential is demonstrated, establish limits where the maximum reported concentration equals or exceeds 50% of the WQBEL.
(b) For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.
(c) For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10% - 50% of the WQBEL.

Applicable monitoring or permit limits for toxics are summarized in Section 6.

The Toxics Management Spreadsheet output has been included in Attachment B.

5.3.3 Whole Effluent Toxicity (WET)

Whole effluent toxicity is the aggregate toxic effect from a facility's wastewater discharge on aquatic organisms. WET measures the effect of wastewater effluent on an organisms' ability to survive, grow, and reproduce. WET testing is either acute or chronic. Acute testing measures lethality, the ability for an organism to survive after no more than 96 hours of exposure to an effluent. Chronic tests measures both lethality, immobility, and sublethal endpoints to exposures ranging longer than 96 hours and up to 8 days.

WET is required if the applicant satisfies any one of the following conditions.

(a) Major sewage facilities with an average annual design flow greater than or equal to 1.0 MGD (25 Pa. Code § 92a.27(a)(1)(i)).
(b) Sewage facilities with EPA-approved pretreatment programs or will be required in the permit to develop a program (25 Pa. Code § 92a.27(a)(1)(i)).
(c) Other facilities that are considered candidates for WET testing by one or more of the factors contained in 25 Pa. Code § 92a.27(a)(2).

5.3.3.1 WET Tests Review

The in-stream waste concentration and dilution series was estimated using partial mixing factor factors from Toxics Management Spreadsheet, the design flow rate for the facility, and the Q710.

The proposed NPDES permit shall utilize a chronic instream waste concentration of 71%. The complete dilution series will be 18%, 36%, 71%, 86%, and 100%.

The derivation is shown in the calculations.

Whole Effluent Toxicity (WET)

For Outfall 001, **Chronic** WET Testing was completed:

X	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%, 88%, 75%, 38%, and 19%. The Target Instream Waste Concentration (TIWC) used for current permit analysis of the results is: 75%.The Target Instream Waste Concentration (TIWC) to be used for proposed permit analysis of the results shall be: 71%.

Summary of Four Most Recent Test Results

(NOTE – Enter results into one table, depending on which data analysis method was used).

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
11/9/2021	PASS	PASS	PASS	PASS
11/22/2022	PASS	PASS	PASS	PASS
10/31/2023	PASS	PASS	PASS	PASS
10/29/2024	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). NO*

Comments:

Data

PMFa =	1	
PMFc =	1	
Qd =	1.75	MGD
Q710 =	1.08	cfs

Step 1: Determine IWC - Acute (IWCa)

IWCa = [(Qd x 1.547) / ((Q7-10 x PMFa) + (Qd x 1.547))] x 100

IWCa = 71.48

Is IWCA < 1% No (Yes- acute tests required; No- chronic test required)

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

Type of Test for Permit Renewal:

Chronic test

Step 2a: Determine Target IWCa (If acute tests required)

TIWCa = IWCA / 0.3

TIWCa = 238.28

Step 2b: Determine Target IWCc (If chronic tests required)

ICCc = [(Qd x 1.547) / ((Q7-10 x PWFc) + (Design Flow MGD x 1.547))] x 100

ICCc = 71.48

Step 3: Determine Dilution Series

Dilution Series =	100%	86	71	36	18

WET Limits

Has reasonable potential been determined ? No

Will WET limits be established in the permit ? No

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

Not applicable

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

Not applicable

5.4 Total Maximum Daily Loading (TMDL)

5.4.1 TMDL

The goal of the Clean Water Act (CWA), which governs water pollution, is to ensure that all of the Nation's waters are clean and healthy enough to support aquatic life and recreation. To achieve this goal, the CWA created programs designed to regulate and reduce the amount of pollution entering United States waters. Section 303(d) of the CWA requires states to assess their waterbodies to identify those not meeting water quality standards. If a waterbody is not meeting standards, it is listed as impaired and reported to the U.S. Environmental Protection Agency. The state then develops a plan to clean up the impaired waterbody. This plan includes the development of a Total Maximum Daily Load (TMDL) for the pollutant(s) that were found to be the cause of the water quality violations. A Total Maximum Daily Load (TMDL) calculates the maximum amount of a specific pollutant that a waterbody can receive and still meet water quality standards.

A TMDL for a given pollutant and waterbody is composed of the sum of individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background levels. In addition, the TMDL must include an implicit or explicit margin of safety (MOS) to account for the uncertainty in the relationship between pollutant loads and the quality of the receiving waterbody. The TMDL components are illustrated using the following equation:

$$TMDL = \Sigma WLAs + \Sigma LAs + MOS$$

Pennsylvania has committed to restoring all impaired waters by developing TMDLs and TMDL alternatives for all impaired waterbodies. The TMDL serves as the starting point or planning tool for restoring water quality.

5.4.1.1 Local TMDL

The subject facility discharges into Blair Gap Run. Blair Gap Run discharges into Beaverdam Branch. Beaverdam Branch has been designated with a local TMDL- Beaverdam Branch Watershed TMDL.

Beaverdam Branch Watershed TMDL was implemented was to address the impairments caused by high levels of metals from acid drainage from abandoned coal mines. The TMDL addresses the three primary metals associated with acid mine drainage (iron, manganese, aluminum), and pH.

The Duncansville WWTP is not listed in the Beaverdam Branch Watershed TMDL.

5.4.1.2 Chesapeake Bay TMDL Requirement

The Chesapeake Bay Watershed is a large ecosystem that encompasses approximately 64,000 square miles in Maryland, Delaware, Virginia, West Virginia, Pennsylvania, New York and the District of Columbia. An ecosystem is composed of interrelated parts that interact with each other to form a whole. All of the plants and animals in an ecosystem depend on each other in some way. Every living thing needs a healthy ecosystem to survive. Human activities affect the Chesapeake Bay ecosystem by adding pollution, using resources and changing the character of the land.

Most of the Chesapeake Bay and many of its tidal tributaries have been listed as impaired under Section 303(d) of the federal Water Pollution Control Act ("Clean Water Act"), 33 U.S.C. § 1313(d). While the Chesapeake Bay is outside the boundaries of Pennsylvania, more than half of the State lies within the watershed. Two major rivers in Pennsylvania are part of the Chesapeake Bay Watershed. They are (a) the Susquehanna River and (b) the Potomac River. These two rivers total 40 percent of the entire Chesapeake Bay watershed.

The overall management approach needed for reducing nitrogen, phosphorus and sediment are provided in the Bay TMDL document and the Phase I, II, and III WIPs which is described in the Bay TMDL document and Executive Order 13508.

The Bay TMDL is a comprehensive pollution reduction effort in the Chesapeake Bay watershed identifying the necessary pollution reductions of nitrogen, phosphorus and sediment across the seven Bay watershed jurisdictions of Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia and the District of Columbia to meet applicable water quality standards in the Bay and its tidal waters.

The Watershed Implementation Plans (WIPs) provides objectives for how the jurisdictions in partnership with federal and local governments will achieve the Bay TMDL's nutrient and sediment allocations.

Phase 3 WIP provides an update on Chesapeake Bay TMDL implementation activities for point sources and DEP's current implementation strategy for wastewater. The latest revision of the supplement was September 13, 2021.

The Chesapeake Bay TMDL (Appendix Q) categorizes point sources into four sectors:

- Sector A- significant sewage dischargers;
- Sector B- significant industrial waste (IW) dischargers;
- Sector C- non-significant dischargers (both sewage and IW facilities); and
- Sector D- combined sewer overflows (CSOs).

All sectors contain a listing of individual facilities with NPDES permits that were believed to be discharging at the time the TMDL was published (2010). All sectors with the exception of the non-significant dischargers have individual wasteload allocations (WLAs) for TN and TP assigned to specific facilities. Non-significant dischargers have a bulk or aggregate allocation for TN and TP based on the facilities in that sector that were believed to be discharging at that time and their estimated nutrient loads.

Cap Loads will be established in permits as Net Annual TN and TP loads (lbs/yr) that apply during the period of October 1 – September 30. For facilities that have received Cap Loads in any other form, the Cap Loads will be modified accordingly when the permits are renewed.

Offsets have been incorporated into Cap Loads in several permits issued to date. From this point forward, permits will be issued with the WLAs as Cap Loads and will identify Offsets separately to facilitate nutrient trading activities and compliance with the TMDL.

Based upon the supplement the subject facility has been categorized as a Sector A discharger. The supplement defines Sector A as a sewage facility is considered significant if it has a design flow of at least 0.4 MGD.

Table 5 of the Phase 3 WIP (revised September 13, 2021) presents all NPDES permits for Significant Sewage dischargers with Cap Loads. The NPDES Permit No., phase, facility name, latest permit issuance date, expiration date, Cap Load

compliance start date, TN and TP Cap Loads, and TN and TP Delivery Ratios are presented. In addition, if TN Offsets were incorporated into the TN Cap Loads when the permit was issued, the amount is shown; these Offsets will be removed from Cap Loads upon issuance of renewed permits to implement Section IV of this document (i.e., a facility may use Offsets for compliance but may not register them as credits).

The total nitrogen (TN) and total phosphorus (TP) cap loads itemized by Table 5 for the subject facility are as follows:

TN Cap Load (lbs/yr)	22,228
TN Delivery Ratio	0.705
TP Cap Load (lbs/yr)	2,963
TP Delivery Ratio	0.519

Expansions by any Significant Sewage discharger will not result in any increase in Cap Loads. Where non-significant facilities expand to a design flow of 0.4 MGD or greater, the lesser of baseline Cap Loads of 7,306 lbs/yr TN and 974 lbs/yr TP or existing performance will be used for permits, and the load will be moved from the Non-Significant sector load to the Significant Sewage sector load. If considered necessary for environmental protection, DEP may decide to move load from the Point Source Reserve to the Significant Sewage sector in the future.

The minimum monitoring frequency for TN species and TP in new or renewed NPDES permits for Significant Sewage dischargers is 2/week.

Due to the Chesapeake Bay WIP, this facility is subject to Sector A monitoring requirements. Monitoring shall be required at least 2x/week.

Reporting

Cap Loads will be established in permits as Net Annual TN and TP loads (lbs/yr) that apply during the period of October 1 – September 30.

Facilities with NPDES permits must use DEP's eDMR system for reporting, except small flow treatment facilities. An Annual DMR must be submitted by the end of the Truing Period, November 28. As attachments to the Annual DMR a facility must submit a completed Annual Chesapeake Bay Spreadsheet, available through DEP's Supplemental Reports website, which contains an Annual Nutrient Monitoring worksheet and an Annual Nutrient Budget worksheet. This Spreadsheet will be submitted once per Compliance Year only, and reflect all nutrient sample results (for the period October 1 – September 30), Credit transactions (including the Truing Period) and Offsets applied during the Compliance Year.

5.5 Anti-Degradation Requirement

Chapter 93.4a of the PA regulations requires that surface water of the Commonwealth of Pennsylvania may not be degraded below levels that protect the existing uses. The regulations specifically state that *Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected*. Antidegradation requirements are implemented through DEP's guidance manual entitled Water Quality Antidegradation Implementation Guidance (Document #391-0300-02).

The policy requires DEP to protect the existing uses of all surface waters and the existing quality of High Quality (HQ) and Exceptional Value (EV) Waters. Existing uses are protected when DEP makes a final decision on any permit or approval for an activity that may affect a protected use. Existing uses are protected based upon DEP's evaluation of the best available information (which satisfies DEP protocols and Quality Assurance/Quality Control (QA/QC) procedures) that indicates the protected use of the waterbody.

For a new, additional, or increased point source discharge to an HQ or EV water, the person proposing the discharge is required to utilize a nondischarge alternative that is cost-effective and environmentally sound when compared with the cost of the proposed discharge. If a nondischarge alternative is not cost-effective and environmentally sound, the person must use the best available combination of treatment, pollution prevention, and wastewater reuse technologies and assure that any discharge is nondegrading. In the case of HQ waters, DEP may find that after satisfaction of intergovernmental coordination and public participation requirements lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In addition, DEP will assure that cost-effective and reasonable best management practices for nonpoint source control in HQ and EV waters are achieved.

The subject facility's discharge will be to a non-special protection waters and the permit conditions are imposed to protect existing instream water quality and uses. Neither HQ waters or EV waters is impacted by this discharge.

5.6 Anti-Backsliding

Anti-backsliding is a federal regulation which prohibits a permit from being renewed, reissued, or modified containing effluent limitations which are less stringent than the comparable effluent limitations in the previous permit (40 CFR 122.l.1 and 40 CFR 122.l.2). A review of the existing permit limitations with the proposed permit limitations confirm that the facility is consistent with anti-backsliding requirements. The facility has proposed effluent limitations that are as stringent as the existing permit.

6.0 NPDES Parameter Details

The basis for the proposed sampling and their monitoring frequency that will appear in the permit for each individual parameter are itemized in this Section. The final limits are the more stringent of technology based effluent treatment (TBEL) requirements, water quality based (WQBEL) limits, TMDL, antidegradation, anti-degradation, or WET.

The reader will find in this section:

a) a justification of recommended permit monitoring requirements and limitations for each parameter in the proposed NPDES permit;
b) a summary of changes from the existing NPDES permit to the proposed permit; and

c) a summary of the proposed NPDES effluent limits.

6.1 Recommended Monitoring Requirements and Effluent Limitations

A summary of the recommended monitoring requirements and effluent limitations are itemized in the tables. The tables are categorized by (a) Conventional Pollutants and Disinfection, (b) Nitrogen Species and Phosphorus, (c) Toxics, and (d) Non-Conventional Pollutants, and (e) Chapter 92a.61 targeted parameters

6.1.1 Conventional Pollutants and Disinfection

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection
Duncansville WWTP; PA0032883

Parameter	Permit Limitation Required by[1]:	Recommendation	
pH (S.U.)	TBEL	Monitoring:	The monitoring frequency shall be daily as a grab sample (Table 6-3).
		Effluent Limit:	Effluent limits may range from pH = 6.0 to 9.0
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 95.2(1).
Dissolved Oxygen	BPJ	Monitoring:	The monitoring frequency shall be daily as a grab sample (Table 6-3).
		Effluent Limit:	Effluent limits shall be greater than 5.0 mg/l.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by best professional judgement.
CBOD	TBEL	Monitoring:	The monitoring frequency shall be 2x/wk as a 24-hr composite sample (Table 6-3).
		Effluent Limit:	During the months of May 1 to Oct 31, effluent limits shall not exceed 292 lbs/day and 20 mg/l as an average monthly. During the months of Nov 1 to Apr 30, effluent limits shall not exceed 364 lbs/day and 25 mg/l as an average monthly.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(1). WQM modeling indicates that the WQBEL is more stringent than the TBEL. Thus, the permit limit is confined to WQBEL.
TSS	TBEL	Monitoring:	The monitoring frequency shall be 2x/wk as a 24-hr composite sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 437 lbs/day and 30 mg/l as an average monthly.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(1). While there is no WQM modeling for this parameter, the permit limit for TSS is generally assigned similar effluent limits as CBOD or BOD.
UV disinfection	SOP	Monitoring:	The monitoring frequency is 1/day. The facility will be required to recording the UV intensity
		Effluent Limit:	No effluent requirements.
		Rationale:	Consistent with the SOP- Establishing Effluent Limitations for Individual Sewage Permits (Revised January 10, 2019), the facility will be required to have routine monitoring for UV transmittance, UV dosage, or UV intensity.
Fecal Coliform	TBEL	Monitoring:	The monitoring frequency shall be 2x/wk as a grab sample (Table 6-3).
		Effluent Limit:	Summer effluent limits shall not exceed 200 No./100 mL as a geometric mean. Winter effluent limits shall not exceed 2000 No./100 mL as a geometric mean.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(4) and 92a.47(a)(5).

Notes:

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 1.75 MGD.

3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

6.1.2 Nitrogen Species and Phosphorus

Summary of Proposed NPDES Parameter Details for Nitrogen Species and Phosphorus

Duncansville WWTP; PA0032883

Parameter	Permit Limitation Required by[1]:	Recommendation	
Ammonia-Nitrogen	WQBEL	Monitoring:	The monitoring frequency shall be 2x/wk as a 24-hr composite sample
		Effluent Limit:	During the months of May 1 to Oct 31, effluent limits shall not exceed 2.0 lbs/day and 29 mg/l as an average monthly. During the months of Nov 1 to Apr 30, effluent limits shall not exceed 87 lbs/day and 6.0 mg/l as an average monthly.
		Rationale:	Water quality modeling recommended effluent limits. The facility is required to be monitored on a frequency at least 2x/wk.
Nitrate-Nitrite as N	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 2x/wk as a 24-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 2x/wk.
Total Nitrogen	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/mo as a calculation
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 1x/mo.
TKN	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 2x/wk as a 24-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 2x/wk.
Total Phosphorus	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 2x/wk as a 24-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 2x/wk.
Net Total Nitrogen	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/yr as a calculation
		Effluent Limit:	Effluent limits shall not exceed 22,228 lbs/yr
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 1x/yr.
Net Total Phosphorus	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/yr as a calculation
		Effluent Limit:	Effluent limits shall not exceed 2,963 lbs/yr
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 1x/yr.
Notes:			

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 1.75 MGD.

3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

6.1.3 Toxics

With Toxics Management Spreadsheet (TMS), two modeling runs were conducted.

Modeling Run #1 utilized sampling data from the NPDES renewal application. The following pollutants were analyzed by the laboratory above DEP target limits:

Free cyanide
Carbon Tetrachloride
Dichlorobromomethane
1,2-Dichloropropane
1,3-Dichloropropylene
1,1,2- Trichloroethane
Trichloroethylene

The pollutants were re-sampled.

Modeling Run #2 re-sampled the aforementioned pollutants. The following pollutants were dropped from the modeling results:

Free cyanide
Dichlorobromomethane
1,2-Dichloropropane
1,3-Dichloropropylene
1,1,2- Trichloroethane
Trichloroethylene

Monitoring shall be required for Total Copper, Dissolved Iron, Total Zinc, and Carbon Tetrachloride.

Limits will be established for Acrolein.

Pending favorable results, the monitoring will be reduced or eliminated.

Summary of Proposed NPDES Parameter Details for Toxics

Duncansville WWTP; PA0032883

Parameter	Permit Limitation Required by[1]:	Recommendation	
Total Copper	WQBEL	Monitoring:	The monitoring frequency shall be 2x/yr as a calculation
		Effluent Limit:	No effluent limit requirements.
		Rationale:	TMS recommends monitoring. Pending favorable results, monitoring may be reduced or eliminated in future renewals.
Dissolved Iron	WQBEL	Monitoring:	The monitoring frequency shall be 2x/yr as a calculation
		Effluent Limit:	No effluent limit requirements.
		Rationale:	TMS recommends monitoring. Pending favorable results, monitoring may be reduced or eliminated in future renewals.
Total Zinc	WQBEL	Monitoring:	The monitoring frequency shall be 2x/yr as a calculation
		Effluent Limit:	No effluent limit requirements.
		Rationale:	TMS recommends monitoring. Pending favorable results, monitoring may be reduced or eliminated in future renewals.
Acrolein	WQBEL	Monitoring:	The monitoring frequency shall be 1x/quarter as a calculation
		Effluent Limit:	Effluent limits shall not exceed 0.044 lbs/day and 3.0 mg/l as an average monthly.
		Rationale:	TMS recommends effluent limits
Carbon Tetrachloride	WQBEL	Monitoring:	The monitoring frequency shall be 2x/yr as a calculation
		Effluent Limit:	No effluent limit requirements.
		Rationale:	TMS recommends monitoring. Pending favorable results, monitoring may be reduced or eliminated in future renewals.

Notes:

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 1.75 MGD.

3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

6.1.3.1 Implementation of Regulation- Chapter 92a.61

Chapter 92a.61 provides provisions to DEP to monitor for pollutants that may have an impact on the quality of waters of the Commonwealth.

Based upon DEP policy directives the following pollutants shall be monitored:

- Consistent with DEP Management directives issued on March 22, 2021 and in conjunction with EPA's 2017 Triennial Review, monitoring for E. Coli shall be required. The monitoring frequency is based upon flow rate.
- Consistent with DEP Management directives issued on February 5, 2024, monitoring for PFAS parameters shall be required. The recommended monitoring frequency is quarterly. The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive monitoring periods indicate non-detect results 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 must enter a No Discharge Indicator (NODI) Code of "GG" on DMRs.

Summary of Proposed NPDES Parameter Details for polluants monitored under Chapter 92a.61
Duncansville WWTP; PA0032883

Parameter	Permit Limitation Required by[1]:	Recommendation	
E. Coli	SOP; Chapter 92a.61	Monitoring:	The monitoring frequency shall be 1x/month as a grab sample (SOP).
		Effluent Limit:	No effluent requirements.
		Rationale:	Consistent with the SOP- Establishing Effluent Limitations for Individual Sewage Permits (Revised March 22, 2019) and under the authority of Chapter 92a.61, the facility will be required to monitor for E.Coli.
PFOA	SOP; Chapter 92a.61	Monitoring:	The monitoring frequency shall be 1x/quarter as a grab sample (SOP).
		Effluent Limit:	No effluent limit requirement
		Rationale:	Consistent with the SOP- Establishing Effluent Limitations for Individual Sewage Permits (Revised Febraury 5, 2024) and under the authority of Chapter 92a.61, the facility will be required to monitor for PFAS related parameters.
PFOS	SOP; Chapter 92a.61	Monitoring:	The monitoring frequency shall be 1x/quarter as a grab sample (SOP).
		Effluent Limit:	No effluent limit requirement
		Rationale:	Consistent with the SOP- Establishing Effluent Limitations for Individual Sewage Permits (Revised Febraury 5, 2024) and under the authority of Chapter 92a.61, the facility will be required to monitor for PFAS related parameters.
HFPO-DA	SOP; Chapter 92a.61	Monitoring:	The monitoring frequency shall be 1x/quarter as a grab sample (SOP).
		Effluent Limit:	No effluent limit requirement
		Rationale:	Consistent with the SOP- Establishing Effluent Limitations for Individual Sewage Permits (Revised Febraury 5, 2024) and under the authority of Chapter 92a.61, the facility will be required to monitor for PFAS related parameters.
PFBS	SOP; Chapter 92a.61	Monitoring:	The monitoring frequency shall be 1x/quarter as a grab sample (SOP).
		Effluent Limit:	No effluent limit requirement
		Rationale:	Consistent with the SOP- Establishing Effluent Limitations for Individual Sewage Permits (Revised Febraury 5, 2024) and under the authority of Chapter 92a.61, the facility will be required to monitor for PFAS related parameters.

Notes:

The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive monitoring periods indicate non-detect results 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 must enter a No Discharge Indicator (NODI) Code of "GG" on DMRs.

6.2 Summary of Changes From Existing Permit to Proposed Permit

A summary of how the proposed NPDES permit differs from the existing NPDES permit is summarized as follows.

- Due to the EPA triennial review, monitoring shall be required for E. Coli and PFOS parameters
- Monitoring shall be required 2x/yr for Total Copper, Dissolved Iron, Total Zinc, and Carbon Tetrachloride
- Limits have been established for Acrolein

6.3.1 Summary of Proposed NPDES Effluent Limits

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" (362-0400-001), SOPs and/or BPJ.

The proposed NPDES effluent limitations are summarized in the table below.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. For Outfall 001 , **Latitude** 40° 25' 57.98" , **Longitude** 78° 25' 16.30" , **River Mile Index** 0.28 , **Stream Code** 16335

Receiving Waters: Blair Gap Run (TSF)

Type of Effluent: Sewage Effluent

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Instantaneous Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5) Nov 1 - Apr 30	364	546	XXX	25.0	40.0 Wkly Avg	50	2/week	24-Hr Composite
Carbonaceous Biochemical Oxygen Demand (CBOD5) May 1 - Oct 31	292	467	XXX	20.0	32.0 Wkly Avg	40	2/week	24-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Suspended Solids	437	655	XXX	30	45 Wkly Avg	60	2/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/week	Grab

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)	Required
	Average Monthly	Weekly Average	Instantaneous Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Ultraviolet light transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
Ammonia-Nitrogen Nov 1 - Apr 30	131	XXX	XXX	9.0	XXX	18	2/week	24-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	51	XXX	XXX	3.5	XXX	7	2/week	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Copper, Total	Report SEMI AVG	XXX	XXX	Report SEMI AVG	Report	XXX	1/6 months	24-Hr Composite
Iron, Dissolved	Report SEMI AVG	XXX	XXX	Report SEMI AVG	Report	XXX	1/6 months	24-Hr Composite
Zinc, Total	Report SEMI AVG	XXX	XXX	Report SEMI AVG	Report	XXX	1/6 months	24-Hr Composite
Acrolein	0.044 Avg Qrtly	XXX	XXX	0.003 Avg Qrtly	0.004	0.004	1/quarter	24-Hr Composite
Carbon Tetrachloride	Report SEMI AVG	XXX	XXX	Report SEMI AVG	Report	XXX	1/6 months	24-Hr Composite
PFOA (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
PFOS (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
PFBS (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
HFPO-DA (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. B. For Outfall 001 , **Latitude** 40º 25' 57.98" , **Longitude** 78º 25' 16.30" , **River Mile Index** 0.28 , **Stream Code** 16335

Receiving Waters: Blair Gap Run (TSF)

Type of Effluent: Sewage Effluent

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia--N	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Net Total Nitrogen	Report	22228	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	2963	XXX	XXX	XXX	XXX	1/month	Calculation

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

Footnotes:
(1) See Part C for Chesapeake Bay Requirements.
(2) This is the minimum number of sampling events required. Permittees are encouraged, and it may be advantageous in demonstrating compliance, to perform more than the minimum number of sampling events required.

6.3.2 Summary of Proposed Permit Part C Conditions

The subject facility has the following Part C conditions.

- SBR Batch Discharge Condition
- UV Monitoring Conditions
- Peak Flow Management Plan
- Hauled-in Waste Restrictions
- Chesapeake Bay Nutrient Definitions
- Whole Effluent Toxicity – No Permit Limits
- Stormwater Requirements

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☐	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 386-2000-020, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 386-2000-010, 3/1999.
☐	Design Stream Flows, 386-2000-003, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP:
☐	Other:

Attachment A

Stream Stats/Gauge Data

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

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

Streamgage number	Streamgage name	Latitude	Longitude	Drainage area (mi²)	Regulated[1]
01541303	West Branch Susquehanna River at Hyde, Pa.	41.005	-78.457	474	Y
01541308	Bradley Run near Ashville, Pa.	40.509	-78.584	6.77	N
01541500	Clearfield Creek at Dimeling, Pa.	40.972	-78.406	371	Y
01542000	Moshannon Creek at Osceola Mills, Pa.	40.850	-78.268	68.8	N
01542500	WB Susquehanna River at Karthaus, Pa.	41.118	-78.109	1,462	Y
01542810	Waldy Run near Emporium, Pa.	41.579	-78.293	5.24	N
01543000	Driftwood Branch Sinnemahoning Creek at Sterling Run, Pa.	41.413	-78.197	272	N
01543500	Sinnemahoning Creek at Sinnemahoning, Pa.	41.317	-78.103	685	N
01544000	First Fork Sinnemahoning Creek near Sinnemahoning, Pa.	41.402	-78.024	245	Y
01544500	Kettle Creek at Cross Fork, Pa.	41.476	-77.826	136	N
01545000	Kettle Creek near Westport, Pa.	41.320	-77.874	233	Y
01545500	West Branch Susquehanna River at Renovo, Pa.	41.325	-77.751	2,975	Y
01545600	Young Womans Creek near Renovo, Pa.	41.390	-77.691	46.2	N
01546000	North Bald Eagle Creek at Milesburg, Pa.	40.942	-77.794	119	N
01546400	Spring Creek at Houserville, Pa.	40.834	-77.828	58.5	N
01546500	Spring Creek near Axemann, Pa.	40.890	-77.794	87.2	N
01547100	Spring Creek at Milesburg, Pa.	40.932	-77.786	142	N
01547200	Bald Eagle Creek below Spring Creek at Milesburg, Pa.	40.943	-77.786	265	N
01547500	Bald Eagle Creek at Blanchard, Pa.	41.052	-77.604	339	Y
01547700	Marsh Creek at Blanchard, Pa.	41.060	-77.606	44.1	N
01547800	South Fork Beech Creek near Snow Shoe, Pa.	41.024	-77.904	12.2	N
01547950	Beech Creek at Monument, Pa.	41.112	-77.702	152	N
01548005	Bald Eagle Creek near Beech Creek Station, Pa.	41.081	-77.549	562	Y
01548500	Pine Creek at Cedar Run, Pa.	41.522	-77.447	604	N
01549000	Pine Creek near Waterville, Pa.	41.313	-77.379	750	N
01549500	Blockhouse Creek near English Center, Pa.	41.474	-77.231	37.7	N
01549700	Pine Creek below Little Pine Creek near Waterville, Pa.	41.274	-77.324	944	Y
01550000	Lycoming Creek near Trout Run, Pa.	41.418	-77.033	173	N
01551500	WB Susquehanna River at Williamsport, Pa.	41.236	-76.997	5,682	Y
01552000	Loyalsock Creek at Loyalsockville, Pa.	41.325	-76.912	435	N
01552500	Muncy Creek near Sonestown, Pa.	41.357	-76.535	23.8	N
01553130	Sand Spring Run near White Deer, Pa.	41.059	-77.077	4.93	N
01553500	West Branch Susquehanna River at Lewisburg, Pa.	40.968	-76.876	6,847	Y
01553700	Chillisquaque Creek at Washingtonville, Pa.	41.062	-76.680	51.3	N
01554000	Susquehanna River at Sunbury, Pa.	40.835	-76.827	18,300	Y
01554500	Shamokin Creek near Shamokin, Pa.	40.810	-76.584	54.2	N
01555000	Penns Creek at Penns Creek, Pa.	40.867	-77.048	301	N
01555500	East Mahantango Creek near Dalmatia, Pa.	40.611	-76.912	162	N
01556000	Frankstown Branch Juniata River at Williamsburg, Pa.	40.463	-78.200	291	N
01557500	Bald Eagle Creek at Tyrone, Pa.	40.684	-78.234	44.1	N
01558000	Little Juniata River at Spruce Creek, Pa.	40.613	-78.141	220	N
01559000	Juniata River at Huntingdon, Pa.	40.485	-78.019	816	LF
01559500	Standing Stone Creek near Huntingdon, Pa.	40.524	-77.971	128	N
01559700	Sulphur Springs Creek near Manns Choice, Pa.	39.978	-78.619	5.28	N
01560000	Dunning Creek at Belden, Pa.	40.072	-78.493	172	N

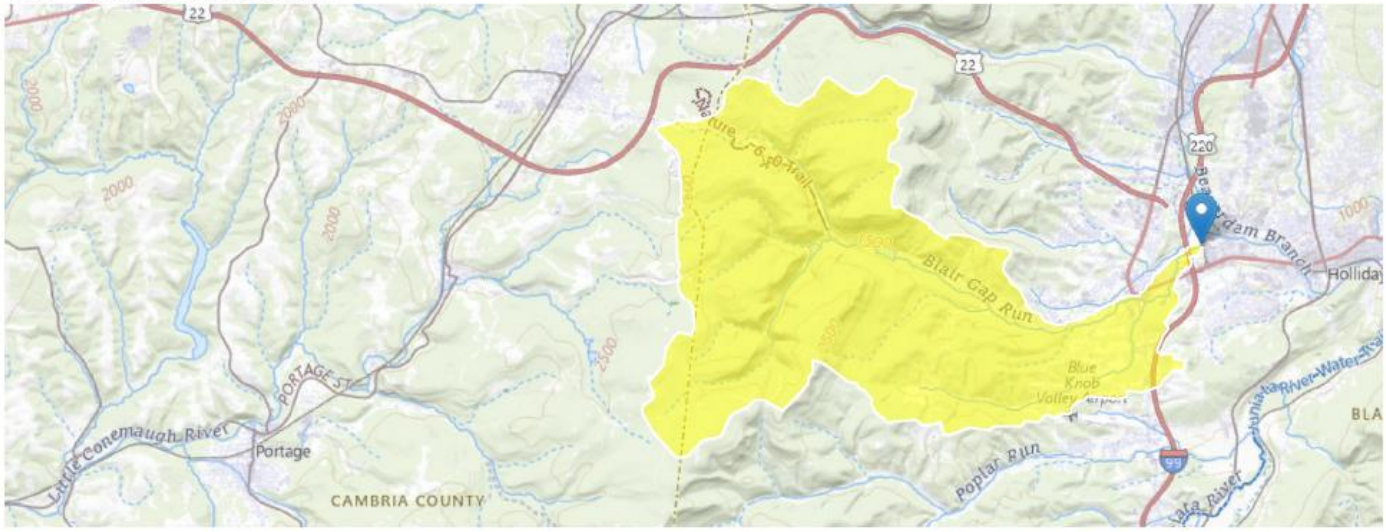
Table 2. Selected low-flow statistics for streamgage locations in and near Pennsylvania.—Continued

[ft³/s; cubic feet per second; —, statistic not computed; <, less than]

Streamgage number	Period of record used in analysis[1]	Number of years used in analysis	1-day, 10-year (ft³/s)	7-day, 10-year (ft³/s)	7-day, 2-year (ft³/s)	30-day, 10-year (ft³/s)	30-day, 2-year (ft³/s)	90-day, 10-year (ft³/s)
01546000	1912–1934	17	1.8	2.2	6.8	3.7	12.1	11.2
01546400	1986–2008	23	13.5	14.0	19.6	15.4	22.3	18.7
01546500	1942–2008	67	26.8	29.0	41.3	31.2	44.2	33.7
01547100	1969–2008	40	102	105	128	111	133	117
01547200	1957–2008	52	99.4	101	132	106	142	115
01547500	[2]1971–2008	38	28.2	109	151	131	172	153
01547500	[3]1956–1969	14	90.0	94.9	123	98.1	131	105
01547700	1957–2008	52	.5	.6	2.7	1.1	3.9	2.2
01547800	1971–1981	11	1.6	1.8	2.4	2.1	2.9	3.5
01547950	1970–2008	39	12.1	13.6	28.2	17.3	36.4	23.8
01548005	[2]1971–2000	25	142	151	206	178	241	223
01548005	[3]1912–1969	58	105	114	147	125	165	140
01548500	1920–2008	89	21.2	24.2	50.1	33.6	68.6	49.3
01549000	1910–1920	11	26.0	32.9	78.0	46.4	106	89.8
01549500	1942–2008	67	.6	.8	2.5	1.4	3.9	2.6
01549700	1959–2008	50	33.3	37.2	83.8	51.2	117	78.4
01550000	1915–2008	94	6.6	7.6	16.8	11.2	24.6	18.6
01551500	[2]1963–2008	46	520	578	1,020	678	1,330	919
01551500	[3]1901–1961	61	400	439	742	523	943	752
01552000	1927–2008	80	20.5	22.2	49.5	29.2	69.8	49.6
01552500	1942–2008	67	.9	1.2	3.1	1.7	4.4	3.3
01553130	1969–1981	13	1.0	1.1	1.5	1.3	1.8	1.7
01553500	[2]1968–2008	41	760	838	1,440	1,000	1,850	1,470
01553500	[3]1941–1966	26	562	619	880	690	1,090	881
01553700	1981–2008	28	9.1	10.9	15.0	12.6	17.1	15.2
01554000	[2]1981–2008	28	1,830	1,990	3,270	2,320	4,210	3,160
01554000	[3]1939–1979	41	1,560	1,630	2,870	1,880	3,620	2,570
01554500	1941–1993	53	16.2	22.0	31.2	25.9	35.7	31.4
01555000	1931–2008	78	33.5	37.6	58.8	43.4	69.6	54.6
01555500	1931–2008	78	4.9	6.5	18.0	9.4	24.3	16.6
01556000	1918–2008	91	43.3	47.8	66.0	55.1	75.0	63.7
01557500	1946–2008	63	2.8	3.2	6.3	4.2	8.1	5.8
01558000	1940–2008	69	56.3	59.0	79.8	65.7	86.2	73.7
01559000	1943–2008	66	104	177	249	198	279	227
01559500	1931–1958	28	9.3	10.5	15.0	12.4	17.8	15.8
01559700	1963–1978	16	.1	.1	.2	.1	.3	.2
01560000	1941–2008	68	8.5	9.4	15.6	12.0	20.2	16.2
01561000	1932–1958	27	.4	.5	1.6	.8	2.5	1.7
01562000	1913–2008	96	64.1	67.1	106	77.4	122	94.5
01562500	1931–1957	27	1.1	1.6	3.8	2.3	5.4	3.7
01563200	[2]1974–2008	35	—	—	—	112	266	129
01563200	[3]1948–1972	25	10.3	28.2	86.1	64.5	113	95.5
01563500	[2]1974–2008	35	384	415	519	441	580	493
01563500	[3]1939–1972	34	153	242	343	278	399	333
01564500	1940–2008	69	3.6	4.2	10.0	6.2	14.4	10.6

StreamStats Report

Region ID: PA
Workspace ID: PA20250618131538188000
Clicked Point (Latitude, Longitude): 40.43156, -78.42208
Time: 2025-06-18 09:16:06 -0400



Duncansville WWTP PA0032883 Modeling Point #1 June 2025

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0.76	percent
DRNAREA	Area that drains to a point on a stream	21.1	square miles
PRECIP	Mean Annual Precipitation	43	inches
ROCKDEP	Depth to rock	4.3	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	1.94	miles per square mile

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	0.76	percent	0	99
DRNAREA	Drainage Area	21.1	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	43	inches	35	50.4
ROCKDEP	Depth to Rock	4.3	feet	3.32	5.65
STRDEN	Stream Density	1.94	miles per square mile	0.51	3.1

Low-Flow Statistics Flow Report [Low Flow Region 2]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	2.39	ft^3/s	38	38
30 Day 2 Year Low Flow	3.27	ft^3/s	33	33
7 Day 10 Year Low Flow	1.08	ft^3/s	51	51
30 Day 10 Year Low Flow	1.48	ft^3/s	46	46
90 Day 10 Year Low Flow	2.33	ft^3/s	36	36

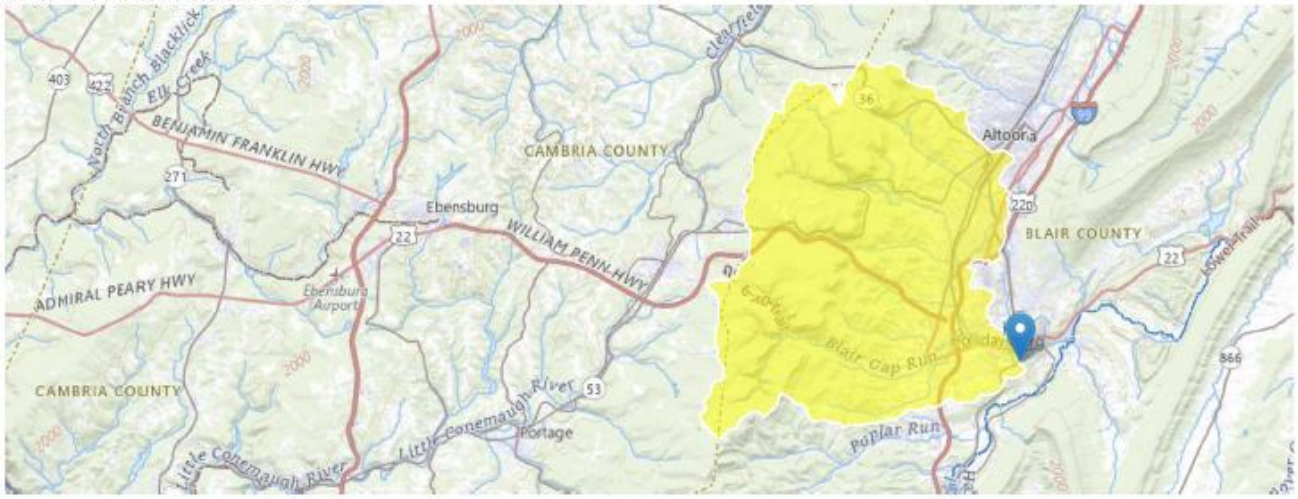
Low-Flow Statistics Citations

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: 4.29.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

StreamStats Report

Region ID: PA
Workspace ID: PA20250618130925992000
Clicked Point (Latitude, Longitude): 40.42166, -78.38917
Time: 2025-06-18 09:09:52 -0400



Duncansville WWTP PA0032883 Modeling Point #2 June 2025

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	5.01	percent
DRNAREA	Area that drains to a point on a stream	74.3	square miles
PRECIP	Mean Annual Precipitation	42	inches
ROCKDEP	Depth to rock	4.3	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	1.88	miles per square mile

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	5.01	percent	0	99
DRNAREA	Drainage Area	74.3	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	42	inches	35	50.4
ROCKDEP	Depth to Rock	4.3	feet	3.32	5.65
STRDEN	Stream Density	1.88	miles per square mile	0.51	3.1

Low-Flow Statistics Flow Report [Low Flow Region 2]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	9.55	ft^3/s	38	38
30 Day 2 Year Low Flow	12.7	ft^3/s	33	33
7 Day 10 Year Low Flow	4.71	ft^3/s	51	51
30 Day 10 Year Low Flow	6.3	ft^3/s	46	46
90 Day 10 Year Low Flow	9.48	ft^3/s	36	36

LowFlow 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: 4.29.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Attachment B

WQM 7.0 Modeling Output Values

Toxics Management Spreadsheet Output Values

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
11A	16335	BLAIR GAP RUN

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)
2.140	DuncansvilleSTP	PA0032883	1.750	CBOD5	20.45		
				NH3-N	2.26	4.52	
				Dissolved Oxygen			5

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
11A	16335	BLAIR GAP RUN

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
2.140	DuncansvilleSTP	13.14	7	13.14	7	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
2.140	DuncansvilleSTP	1.55	2.26	1.55	2.26	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)		
2.14	DuncansvilleSTP	20.45	20.45	2.26	2.26	5	5	0	0

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
11A	16335	BLAIR GAP RUN	**2.140**	977.00	21.10	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	0.051	0.00	0.00	0.000	0.000	0.0	0.00	0.00	19.50	7.30	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
DuncansvilleSTP	PA0032883	1.7500	1.7500	1.7500	0.000	25.00	6.86

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	5.00	8.24	0.00	0.00
NH3-N	3.50	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
11A	16335	BLAIR GAP RUN	0.000	932.00	74.30	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	0.051	0.00	0.00	0.000	0.000	0.0	0.00	0.00	19.50	7.30	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 D.O.Simulation

SWP Basin	Stream Code	Stream Name
11A	16335	BLAIR GAP RUN

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
2.140	1.750	23.436	6.947
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
26.952	0.632	42.637	0.222
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
15.20	1.157	1.62	0.912
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.922	9.117	Tsivoglou	5
Reach Travel Time (days)			
0.589			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.059	14.04	1.53	5.39
0.118	12.96	1.45	5.20
0.177	11.97	1.38	5.20
0.236	11.05	1.31	5.30
0.294	10.20	1.24	5.45
0.353	9.42	1.17	5.63
0.412	8.70	1.11	5.81
0.471	8.03	1.05	6.00
0.530	7.42	1.00	6.18
0.589	6.85	0.95	6.34

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
11A	16335	BLAIR GAP RUN

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												
2.140	1.08	0.00	1.08	2.7073	0.00398	.632	26.95	42.64	0.22	0.589	23.44	6.95
Q1-10 Flow												
2.140	0.98	0.00	0.98	2.7073	0.00398	NA	NA	NA	0.22	0.598	23.54	6.94
Q30-10 Flow												
2.140	1.24	0.00	1.24	2.7073	0.00398	NA	NA	NA	0.23	0.575	23.27	6.96

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	0.91	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.15	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

RUN #1

Discharge Information

Instructions | Discharge | Stream

Facility: **Duncansville WWTP** NPDES Permit No.: **PA0032883** Outfall No.: **001**

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

Discharge Characteristics									
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
1.75	100	6.86						

					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		578									
	Chloride (PWS)	mg/L		175									
	Bromide	mg/L	<	0.011									
	Sulfate (PWS)	mg/L		48									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L	<	8.7									
	Total Antimony	µg/L		0.7									
	Total Arsenic	µg/L	<	2.5									
	Total Barium	µg/L		57.5									
	Total Beryllium	µg/L	<	0.135									
	Total Boron	µg/L		83.5									
	Total Cadmium	µg/L	<	0.114									
	Total Chromium (III)	µg/L	<	1.99									
	Hexavalent Chromium	µg/L	<	1									
	Total Cobalt	µg/L		0.404									
	Total Copper	µg/L		3.23									
	Free Cyanide	µg/L		5									
	Total Cyanide	µg/L	<	5									
	Dissolved Iron	µg/L		42.7									
	Total Iron	µg/L		48.9									
	Total Lead	µg/L		0.178									
	Total Manganese	µg/L		107									
	Total Mercury	µg/L	<	0.0932									
	Total Nickel	µg/L		2									
	Total Phenols (Phenolics) (PWS)	µg/L		5									
	Total Selenium	µg/L	<	2.5									
	Total Silver	µg/L	<	0.274									
	Total Thallium	µg/L	<	0.03									
	Total Zinc	µg/L		46.4									
	Total Molybdenum	µg/L		0.724									
	Acrolein	µg/L		4.52									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	0.51									
	Benzene	µg/L	<	0.43									
	Bromoform	µg/L	<	0.34									
	Carbon Tetrachloride	µg/L	<	0.51									
	Chlorobenzene	µg/L	<	0.21									
	Chlorodibromomethane	µg/L	<	0.39									
	Chloroethane	µg/L	<	0.992									
	2-Chloroethyl Vinyl Ether	µg/L	<	4									

Group 3	Chloroform	µg/L	<	0.51									
	Dichlorobromomethane	µg/L	<	0.987									
	1,1-Dichloroethane	µg/L	<	0.42									
	1,2-Dichloroethane	µg/L	<	0.867									
	1,1-Dichloroethylene	µg/L	<	0.721									
	1,2-Dichloropropane	µg/L	<	0.976									
	1,3-Dichloropropylene	µg/L	<	0.827									
	1,4-Dioxane	µg/L	<	3									
	Ethylbenzene	µg/L	<	0.967									
	Methyl Bromide	µg/L	<	0.46									
	Methyl Chloride	µg/L	<	0.957									
	Methylene Chloride	µg/L	<	1.2									
	1,1,2,2-Tetrachloroethane	µg/L	<	0.36									
	Tetrachloroethylene	µg/L	<	0.39									
	Toluene	µg/L	<	0.33									
	1,2-trans-Dichloroethylene	µg/L	<	0.39									
	1,1,1-Trichloroethane	µg/L	<	0.805									
	1,1,2-Trichloroethane	µg/L	<	0.795									
	Trichloroethylene	µg/L	<	0.997									
	Vinyl Chloride	µg/L	<	0.46									
Group 4	2-Chlorophenol	µg/L	<	0.13									
	2,4-Dichlorophenol	µg/L	<	0.25									
	2,4-Dimethylphenol	µg/L		8.64									
	4,6-Dinitro-o-Cresol	µg/L	<	0.9									
	2,4-Dinitrophenol	µg/L	<	0.86									
	2-Nitrophenol	µg/L	<	0.25									
	4-Nitrophenol	µg/L	<	0.19									
	p-Chloro-m-Cresol	µg/L	<	0.4									
	Pentachlorophenol	µg/L	<	0.97									
	Phenol	µg/L		0.61									
	2,4,6-Trichlorophenol	µg/L	<	0.24									
Group 5	Acenaphthene	µg/L	<	0.26									
	Acenaphthylene	µg/L	<	0.22									
	Anthracene	µg/L	<	0.13									
	Benzidine	µg/L	<	0.35									
	Benzo(a)Anthracene	µg/L	<	0.21									
	Benzo(a)Pyrene	µg/L	<	0.29									
	3,4-Benzofluoranthene	µg/L	<	0.31									
	Benzo(ghi)Perylene	µg/L	<	0.32									
	Benzo(k)Fluoranthene	µg/L	<	0.4									
	Bis(2-Chloroethoxy)Methane	µg/L	<	0.15									
	Bis(2-Chloroethyl)Ether	µg/L	<	0.25									
	Bis(2-Chloroisopropyl)Ether	µg/L	<	0.34									
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	0.64									
	4-Bromophenyl Phenyl Ether	µg/L	<	0.19									
	Butyl Benzyl Phthalate	µg/L	<	0.38									
	2-Chloronaphthalene	µg/L	<	0.38									
	4-Chlorophenyl Phenyl Ether	µg/L	<	0.29									
	Chrysene	µg/L	<	0.45									
	Dibenzo(a,h)Anthrancene	µg/L	<	0.28									
	1,2-Dichlorobenzene	µg/L	<	0.32									
	1,3-Dichlorobenzene	µg/L	<	0.17									
	1,4-Dichlorobenzene	µg/L	<	0.15									
	3,3-Dichlorobenzidine	µg/L	<	0.13									
	Diethyl Phthalate	µg/L	<	0.27									
	Dimethyl Phthalate	µg/L	<	0.23									
	Di-n-Butyl Phthalate	µg/L		0.98									
	2,4-Dinitrotoluene	µg/L	<	0.77									
	2,6-Dinitrotoluene	µg/L	<	0.32									
	Di-n-Octyl Phthalate	µg/L	<	0.28									
	1,2-Diphenylhydrazine	µg/L	<	0.2									
	Fluoranthene	µg/L	<	0.35									
	Fluorene	µg/L	<	0.25									
	Hexachlorobenzene	µg/L	<	0.25									
	Hexachlorobutadiene	µg/L	<	0.27									
	Hexachlorocyclopentadiene	µg/L	<	0.22									
	Hexachloroethane	µg/L	<	0.26									
	Indeno(1,2,3-cd)Pyrene	µg/L	<	0.25									

	Isophorone	µg/L	<	0.23										
	Naphthalene	µg/L	<	0.25										
	Nitrobenzene	µg/L	<	0.26										
	n-Nitrosodimethylamine	µg/L	<	0.4										
	n-Nitrosodi-n-Propylamine	µg/L	<	0.31										
	n-Nitrosodiphenylamine	µg/L	<	0.27										
	Phenanthrene	µg/L	<	0.21										
	Pyrene	µg/L	<	0.16										
	1,2,4-Trichlorobenzene	µg/L	<	0.17										
Group 6	Aldrin	µg/L	<											
	alpha-BHC	µg/L	<											
	beta-BHC	µg/L	<											
	gamma-BHC	µg/L	<											
	delta BHC	µg/L	<											
	Chlordane	µg/L	<											
	4,4-DDT	µg/L	<											
	4,4-DDE	µg/L	<											
	4,4-DDD	µg/L	<											
	Dieldrin	µg/L	<											
	alpha-Endosulfan	µg/L	<											
	beta-Endosulfan	µg/L	<											
	Endosulfan Sulfate	µg/L	<											
	Endrin	µg/L	<											
	Endrin Aldehyde	µg/L	<											
	Heptachlor	µg/L	<											
	Heptachlor Epoxide	µg/L	<											
	PCB-1016	µg/L	<											
	PCB-1221	µg/L	<											
	PCB-1232	µg/L	<											
	PCB-1242	µg/L	<											
	PCB-1248	µg/L	<											
	PCB-1254	µg/L	<											
	PCB-1260	µg/L	<											
	PCBs, Total	µg/L	<											
	Toxaphene	µg/L	<											
	2,3,7,8-TCDD	ng/L	<											
Group 7	Gross Alpha	pCi/L												
	Total Beta	pCi/L	<											
	Radium 226/228	pCi/L	<											
	Total Strontium	µg/L	<											
	Total Uranium	µg/L	<											
	Osmotic Pressure	mOs/kg												

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Duncansville WWTP, NPDES Permit No. PA0032883, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: _____ 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	016335	2.14	977	21.1			Yes
End of Reach 1	016335	0	932	74.3			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	2.14	0.0511848										37.1	7.3		
End of Reach 1	0	0.0511848										37.1	7.3		

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	2.14														
End of Reach 1	0														

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Duncansville WWTP, NPDES Permit No. PA0032883, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 2.554 PMF: 1 Analysis Hardness (mg/l): 82.063 Analysis pH: 6.95

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	1,049	
Total Antimony	0	0		0	1,100	1,100	1,539	
Total Arsenic	0	0		0	340	340	476	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	29,378	
Total Boron	0	0		0	8,100	8,100	11,331	
Total Cadmium	0	0		0	1.662	1.74	2.44	Chem Translator of 0.952 applied
Total Chromium (III)	0	0		0	484.598	1,534	2,145	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	22.8	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	133	
Total Copper	0	0		0	11.155	11.6	16.3	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	30.8	
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	52.042	63.5	88.8	Chem Translator of 0.82 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	2.3	Chem Translator of 0.85 applied
Total Nickel	0	0		0	396.126	397	555	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	2.290	2.69	3.77	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	90.9	
Total Zinc	0	0		0	99.109	101	142	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	4.2	
Acrylonitrile	0	0		0	650	650	909	
Benzene	0	0		0	640	640	895	

Bromoform	0	0		0	1,800	1,800	2,518	
Carbon Tetrachloride	0	0		0	2,800	2,800	3,917	
Chlorobenzene	0	0		0	1,200	1,200	1,679	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	25,181	
Chloroform	0	0		0	1,900	1,900	2,658	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	20,984	
1,1-Dichloroethylene	0	0		0	7,500	7,500	10,492	
1,2-Dichloropropane	0	0		0	11,000	11,000	15,388	
1,3-Dichloropropylene	0	0		0	310	310	434	
Ethylbenzene	0	0		0	2,900	2,900	4,057	
Methyl Bromide	0	0		0	550	550	769	
Methyl Chloride	0	0		0	28,000	28,000	39,170	
Methylene Chloride	0	0		0	12,000	12,000	16,787	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	1,399	
Tetrachloroethylene	0	0		0	700	700	979	
Toluene	0	0		0	1,700	1,700	2,378	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	9,513	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	4,197	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	4,756	
Trichloroethylene	0	0		0	2,300	2,300	3,218	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	783	
2,4-Dichlorophenol	0	0		0	1,700	1,700	2,378	
2,4-Dimethylphenol	0	0		0	660	660	923	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	112	
2,4-Dinitrophenol	0	0		0	660	660	923	
2-Nitrophenol	0	0		0	8,000	8,000	11,191	
4-Nitrophenol	0	0		0	2,300	2,300	3,218	
p-Chloro-m-Cresol	0	0		0	160	160	224	
Pentachlorophenol	0	0		0	8.271	8.27	11.6	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	644	
Acenaphthene	0	0		0	83	83.0	116	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	420	
Benzo(a)Anthracene	0	0		0	0.5	0.5	0.7	
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	41,968	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	6,295	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	378	
Butyl Benzyl Phthalate	0	0		0	140	140	196	
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	1,147	
1,3-Dichlorobenzene	0	0		0	350	350	490	
1,4-Dichlorobenzene	0	0		0	730	730	1,021	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	5,596	
Dimethyl Phthalate	0	0		0	2,500	2,500	3,497	
Di-n-Butyl Phthalate	0	0		0	110	110	154	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	2,238	
2,6-Dinitrotoluene	0	0		0	990	990	1,385	
1,2-Diphenylhydrazine	0	0		0	15	15.0	21.0	
Fluoranthene	0	0		0	200	200	280	
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	14.0	
Hexachlorocyclopentadiene	0	0		0	5	5.0	6.99	
Hexachloroethane	0	0		0	60	60.0	83.9	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	13,989	
Naphthalene	0	0		0	140	140	196	
Nitrobenzene	0	0		0	4,000	4,000	5,596	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	23,782	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	420	
Phenanthrene	0	0		0	5	5.0	6.99	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	182	

☑ ***CFC*** CCT (min): 2.554 PMF: 1 Analysis Hardness (mg/l): 82.063 Analysis pH: 6.95

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	308	
Total Arsenic	0	0		0	150	150	210	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	5,736	
Total Boron	0	0		0	1,600	1,600	2,238	
Total Cadmium	0	0		0	0.214	0.23	0.33	Chem Translator of 0.917 applied
Total Chromium (III)	0	0		0	63.036	73.3	103	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	14.5	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	26.6	
Total Copper	0	0		0	7.564	7.88	11.0	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	5.2	5.2	7.27	
Dissolved Iron	0	0		0	N/A	N/A	N/A	

Total Iron	0	0		0	1,500	1,500	2,098	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.028	2.47	3.46	Chem Translator of 0.82 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	1.27	Chem Translator of 0.85 applied
Total Nickel	0	0		0	43.997	44.1	61.7	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	6.98	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	18.2	
Total Zinc	0	0		0	99.919	101	142	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	4.2	
Acrylonitrile	0	0		0	130	130	182	
Benzene	0	0		0	130	130	182	
Bromoform	0	0		0	370	370	518	
Carbon Tetrachloride	0	0		0	560	560	783	
Chlorobenzene	0	0		0	240	240	336	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	4,896	
Chloroform	0	0		0	390	390	546	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	4,337	
1,1-Dichloroethylene	0	0		0	1,500	1,500	2,098	
1,2-Dichloropropane	0	0		0	2,200	2,200	3,078	
1,3-Dichloropropylene	0	0		0	61	61.0	85.3	
Ethylbenzene	0	0		0	580	580	811	
Methyl Bromide	0	0		0	110	110	154	
Methyl Chloride	0	0		0	5,500	5,500	7,694	
Methylene Chloride	0	0		0	2,400	2,400	3,357	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	294	
Tetrachloroethylene	0	0		0	140	140	196	
Toluene	0	0		0	330	330	462	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	1,959	
1,1,1-Trichloroethane	0	0		0	610	610	853	
1,1,2-Trichloroethane	0	0		0	680	680	951	
Trichloroethylene	0	0		0	450	450	630	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	154	
2,4-Dichlorophenol	0	0		0	340	340	476	
2,4-Dimethylphenol	0	0		0	130	130	182	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	22.4	
2,4-Dinitrophenol	0	0		0	130	130	182	
2-Nitrophenol	0	0		0	1,600	1,600	2,238	
4-Nitrophenol	0	0		0	470	470	657	
p-Chloro-m-Cresol	0	0		0	500	500	699	
Pentachlorophenol	0	0		0	6.346	6.35	8.88	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	127	
Acenaphthene	0	0		0	17	17.0	23.8	
Anthracene	0	0		0	N/A	N/A	N/A	

Benzidine	0	0		0	59	59.0	82.5	
Benzo(a)Anthracene	0	0		0	0.1	0.1	0.14	
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	8,394	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	1,273	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	75.5	
Butyl Benzyl Phthalate	0	0		0	35	35.0	49.0	
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	224	
1,3-Dichlorobenzene	0	0		0	69	69.0	96.5	
1,4-Dichlorobenzene	0	0		0	150	150	210	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	1,119	
Dimethyl Phthalate	0	0		0	500	500	699	
Di-n-Butyl Phthalate	0	0		0	21	21.0	29.4	
2,4-Dinitrotoluene	0	0		0	320	320	448	
2,6-Dinitrotoluene	0	0		0	200	200	280	
1,2-Diphenylhydrazine	0	0		0	3	3.0	4.2	
Fluoranthene	0	0		0	40	40.0	56.0	
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	2.8	
Hexachlorocyclopentadiene	0	0		0	1	1.0	1.4	
Hexachloroethane	0	0		0	12	12.0	16.8	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	2,938	
Naphthalene	0	0		0	43	43.0	60.2	
Nitrobenzene	0	0		0	810	810	1,133	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	4,756	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	82.5	
Phenanthrene	0	0		0	1	1.0	1.4	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	36.4	

☑ ***THH*** CCT (min): 2.554 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	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	7.83	

Total Arsenic	0	0		0	10	10.0	14.0	
Total Barium	0	0		0	2,400	2,400	3,357	
Total Boron	0	0		0	3,100	3,100	4,337	
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	5.6	
Dissolved Iron	0	0		0	300	300	420	
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	1,399	
Total Mercury	0	0		0	0.050	0.05	0.07	
Total Nickel	0	0		0	610	610	853	
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	0.34	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	4.2	
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	140	
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	7.97	
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	46.2	
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	95.1	
Methyl Bromide	0	0		0	100	100.0	140	
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	79.7	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	140	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	13,989	
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	42.0	
2,4-Dichlorophenol	0	0		0	10	10.0	14.0	
2,4-Dimethylphenol	0	0		0	100	100.0	140	

4,6-Dinitro-o-Cresol	0	0		0	2	2.0	2.8	
2,4-Dinitrophenol	0	0		0	10	10.0	14.0	
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	5,596	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	97.9	
Anthracene	0	0		0	300	300	420	
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	280	
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	0.14	
2-Chloronaphthalene	0	0		0	800	800	1,119	
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	1,399	
1,3-Dichlorobenzene	0	0		0	7	7.0	9.79	
1,4-Dichlorobenzene	0	0		0	300	300	420	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	839	
Dimethyl Phthalate	0	0		0	2,000	2,000	2,798	
Di-n-Butyl Phthalate	0	0		0	20	20.0	28.0	
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	28.0	
Fluorene	0	0		0	50	50.0	69.9	
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	5.6	
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	47.6	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	14.0	
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	28.0	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	0.098	

☑ ***CRL*** CCT (min): 8.829 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	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	0.24	
Benzene	0	0		0	0.58	0.58	2.28	
Bromoform	0	0		0	7	7.0	27.5	
Carbon Tetrachloride	0	0		0	0.4	0.4	1.57	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	3.15	
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	3.74	
1,2-Dichloroethane	0	0		0	9.9	9.9	39.0	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	3.54	
1,3-Dichloropropylene	0	0		0	0.27	0.27	1.06	
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	78.7	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	0.79	

Tetrachloroethylene	0	0		0	10	10.0	39.4	
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	2.16	
Trichloroethylene	0	0		0	0.6	0.6	2.36	
Vinyl Chloride	0	0		0	0.02	0.02	0.079	
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	0.12	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	5.9	
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	0.0004	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.004	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.0004	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.004	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.039	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	0.12	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	1.26	
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	0.47	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.0004	
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	0.2	
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	0.2	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	0.2	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	0.12	
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	0.0003	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.039	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	0.39	

Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.004	
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	0.003	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.02	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	13.0	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	N/A	N/A	N/A	

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

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	Report	Report	Report	Report	Report	µg/L	11.0	CFC	Discharge Conc > 10% WQBEL (no RP)
Free Cyanide	0.082	0.13	5.6	8.73	14.0	µg/L	5.6	THH	Discharge Conc ≥ 50% WQBEL (RP)
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	420	THH	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	Report	Report	Report	Report	µg/L	101	AFC	Discharge Conc > 10% WQBEL (no RP)
Acrolein	0.044	0.061	3.0	4.2	4.2	µg/L	3.0	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Carbon Tetrachloride	Report	Report	Report	Report	Report	µg/L	1.57	CRL	Discharge Conc > 25% WQBEL (no RP)
Dichlorobromomethane	Report	Report	Report	Report	Report	µg/L	3.74	CRL	Discharge Conc > 25% WQBEL (no RP)
1,2-Dichloropropane	Report	Report	Report	Report	Report	µg/L	3.54	CRL	Discharge Conc > 25% WQBEL (no RP)
1,3-Dichloropropylene	0.016	0.024	1.06	1.66	2.66	µg/L	1.06	CRL	Discharge Conc ≥ 50% WQBEL (RP)
1,1,2-Trichloroethane	Report	Report	Report	Report	Report	µg/L	2.16	CRL	Discharge Conc > 25% WQBEL (no RP)
Trichloroethylene	Report	Report	Report	Report	Report	µg/L	2.36	CRL	Discharge Conc > 25% WQBEL (no RP)

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

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	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	N/A	N/A	Discharge Conc < TQL
Total Antimony	7.83	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	3,357	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	2,238	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	0.33	µg/L	Discharge Conc < TQL
Total Chromium (III)	103	µg/L	Discharge Conc < TQL

Hexavalent Chromium	14.5	µg/L	Discharge Conc < TQL
Total Cobalt	26.6	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Total Iron	2,098	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	3.46	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	1,399	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.07	µg/L	Discharge Conc < TQL
Total Nickel	61.7	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	6.98	µg/L	Discharge Conc < TQL
Total Silver	2.69	µg/L	Discharge Conc < TQL
Total Thallium	0.34	µg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS
Acrylonitrile	0.24	µg/L	Discharge Conc < TQL
Benzene	2.28	µg/L	Discharge Conc < TQL
Bromoform	27.5	µg/L	Discharge Conc < TQL
Chlorobenzene	140	µg/L	Discharge Conc < TQL
Chlorodibromomethane	3.15	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	4,896	µg/L	Discharge Conc < TQL
Chloroform	7.97	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	39.0	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethylene	46.2	µg/L	Discharge Conc ≤ 25% WQBEL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	95.1	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Bromide	140	µg/L	Discharge Conc < TQL
Methyl Chloride	7,694	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	78.7	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2,2-Tetrachloroethane	0.79	µg/L	Discharge Conc < TQL
Tetrachloroethylene	39.4	µg/L	Discharge Conc < TQL
Toluene	79.7	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	140	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	853	µg/L	Discharge Conc ≤ 25% WQBEL
Vinyl Chloride	0.079	µg/L	Discharge Conc < TQL
2-Chlorophenol	42.0	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	14.0	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	140	µg/L	Discharge Conc ≤ 25% WQBEL
4,6-Dinitro-o-Cresol	2.8	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	14.0	µg/L	Discharge Conc < TQL
2-Nitrophenol	2,238	µg/L	Discharge Conc < TQL
4-Nitrophenol	657	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	160	µg/L	Discharge Conc < TQL
Pentachlorophenol	0.12	µg/L	Discharge Conc < TQL
Phenol	5,596	µg/L	Discharge Conc ≤ 25% WQBEL
2,4,6-Trichlorophenol	5.9	µg/L	Discharge Conc < TQL
Acenaphthene	23.8	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	420	µg/L	Discharge Conc < TQL

Benzidine	0.0004	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.004	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.0004	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.004	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.039	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	0.12	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	280	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	1.26	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	75.5	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	0.14	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	1,119	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	0.47	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.0004	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	224	µg/L	Discharge Conc < TQL
1,3-Dichlorobenzene	9.79	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	210	µg/L	Discharge Conc < TQL
3,3-Dichlorobenzidine	0.2	µg/L	Discharge Conc < TQL
Diethyl Phthalate	839	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	699	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	28.0	µg/L	Discharge Conc ≤ 25% WQBEL
2,4-Dinitrotoluene	0.2	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	0.2	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	0.12	µg/L	Discharge Conc < TQL
Fluoranthene	28.0	µg/L	Discharge Conc < TQL
Fluorene	69.9	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.0003	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.039	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	1.4	µg/L	Discharge Conc < TQL
Hexachloroethane	0.39	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.004	µg/L	Discharge Conc < TQL
Isophorone	47.6	µg/L	Discharge Conc < TQL
Naphthalene	60.2	µg/L	Discharge Conc < TQL
Nitrobenzene	14.0	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.003	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.02	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	13.0	µg/L	Discharge Conc < TQL
Phenanthrene	1.4	µg/L	Discharge Conc < TQL
Pyrene	28.0	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	0.098	µg/L	Discharge Conc < TQL

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

RUN #2

Discharge Information

Instructions | Discharge | Stream

Facility: **Duncansville WWTP** NPDES Permit No.: **PA0032883** Outfall No.: **001**

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

Discharge Characteristics									
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
1.75	100	6.86						

					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		578									
	Chloride (PWS)	mg/L		175									
	Bromide	mg/L	<	0.011									
	Sulfate (PWS)	mg/L		48									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L	<	8.7									
	Total Antimony	µg/L		0.7									
	Total Arsenic	µg/L	<	2.5									
	Total Barium	µg/L		57.5									
	Total Beryllium	µg/L	<	0.135									
	Total Boron	µg/L		83.5									
	Total Cadmium	µg/L	<	0.114									
	Total Chromium (III)	µg/L	<	1.99									
	Hexavalent Chromium	µg/L	<	1									
	Total Cobalt	µg/L		0.404									
	Total Copper	µg/L		3.59									
	Free Cyanide	µg/L	<	0.5									
	Total Cyanide	µg/L	<	5									
	Dissolved Iron	µg/L		42.7									
	Total Iron	µg/L		48.9									
	Total Lead	µg/L		0.178									
	Total Manganese	µg/L		107									
	Total Mercury	µg/L	<	0.0932									
	Total Nickel	µg/L		2									
	Total Phenols (Phenolics) (PWS)	µg/L		5									
	Total Selenium	µg/L	<	2.5									
	Total Silver	µg/L	<	0.274									
	Total Thallium	µg/L	<	0.03									
	Total Zinc	µg/L		46.4									
	Total Molybdenum	µg/L		0.724									
	Acrolein	µg/L		4.52									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	0.51									
	Benzene	µg/L	<	0.43									
	Bromoform	µg/L	<	0.34									
	Carbon Tetrachloride	µg/L	<	0.51									
	Chlorobenzene	µg/L	<	0.21									
	Chlorodibromomethane	µg/L	<	0.39									
	Chloroethane	µg/L	<	0.992									
	2-Chloroethyl Vinyl Ether	µg/L	<	4									

Group 3	Chloroform	µg/L	<	0.51										
	Dichlorobromomethane	µg/L	<	0.32										
	1,1-Dichloroethane	µg/L	<	0.42										
	1,2-Dichloroethane	µg/L	<	0.867										
	1,1-Dichloroethylene	µg/L	<	0.721										
	1,2-Dichloropropane	µg/L	<	0.11										
	1,3-Dichloropropylene	µg/L	<	0.11										
	1,4-Dioxane	µg/L	<	3										
	Ethylbenzene	µg/L	<	0.967										
	Methyl Bromide	µg/L	<	0.46										
	Methyl Chloride	µg/L	<	0.957										
	Methylene Chloride	µg/L	<	1.2										
	1,1,2,2-Tetrachloroethane	µg/L	<	0.36										
	Tetrachloroethylene	µg/L	<	0.39										
	Toluene	µg/L	<	0.33										
	1,2-trans-Dichloroethylene	µg/L	<	0.39										
	1,1,1-Trichloroethane	µg/L	<	0.805										
	1,1,2-Trichloroethane	µg/L	<	0.24										
	Trichloroethylene	µg/L	<	0.46										
	Vinyl Chloride	µg/L	<	0.46										
Group 4	2-Chlorophenol	µg/L	<	0.13										
	2,4-Dichlorophenol	µg/L	<	0.25										
	2,4-Dimethylphenol	µg/L		8.64										
	4,6-Dinitro-o-Cresol	µg/L	<	0.9										
	2,4-Dinitrophenol	µg/L	<	0.86										
	2-Nitrophenol	µg/L	<	0.25										
	4-Nitrophenol	µg/L	<	0.19										
	p-Chloro-m-Cresol	µg/L	<	0.4										
	Pentachlorophenol	µg/L	<	0.97										
	Phenol	µg/L		0.61										
	2,4,6-Trichlorophenol	µg/L	<	0.24										
Group 5	Acenaphthene	µg/L	<	0.26										
	Acenaphthylene	µg/L	<	0.22										
	Anthracene	µg/L	<	0.13										
	Benzidine	µg/L	<	0.35										
	Benzo(a)Anthracene	µg/L	<	0.21										
	Benzo(a)Pyrene	µg/L	<	0.29										
	3,4-Benzofluoranthene	µg/L	<	0.31										
	Benzo(ghi)Perylene	µg/L	<	0.32										
	Benzo(k)Fluoranthene	µg/L	<	0.4										
	Bis(2-Chloroethoxy)Methane	µg/L	<	0.15										
	Bis(2-Chloroethyl)Ether	µg/L	<	0.25										
	Bis(2-Chloroisopropyl)Ether	µg/L	<	0.34										
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	0.64										
	4-Bromophenyl Phenyl Ether	µg/L	<	0.19										
	Butyl Benzyl Phthalate	µg/L	<	0.38										
	2-Chloronaphthalene	µg/L	<	0.28										
	4-Chlorophenyl Phenyl Ether	µg/L	<	0.29										
	Chrysene	µg/L	<	0.45										
	Dibenzo(a,h)Anthrancene	µg/L	<	0.28										
	1,2-Dichlorobenzene	µg/L	<	0.32										
	1,3-Dichlorobenzene	µg/L	<	0.17										
	1,4-Dichlorobenzene	µg/L	<	0.15										
	3,3-Dichlorobenzidine	µg/L	<	0.13										
	Diethyl Phthalate	µg/L	<	0.27										
	Dimethyl Phthalate	µg/L	<	0.23										
	Di-n-Butyl Phthalate	µg/L		0.98										
	2,4-Dinitrotoluene	µg/L	<	0.77										
	2,6-Dinitrotoluene	µg/L	<	0.32										
	Di-n-Octyl Phthalate	µg/L	<	0.28										
	1,2-Diphenylhydrazine	µg/L	<	0.2										
	Fluoranthene	µg/L	<	0.35										
	Fluorene	µg/L	<	0.25										
	Hexachlorobenzene	µg/L	<	0.25										
	Hexachlorobutadiene	µg/L	<	0.27										
	Hexachlorocyclopentadiene	µg/L	<	0.22										
	Hexachloroethane	µg/L	<	0.26										
	Indeno(1,2,3-cd)Pyrene	µg/L	<	0.25										

	Isophorone	µg/L	<	0.23										
	Naphthalene	µg/L	<	0.25										
	Nitrobenzene	µg/L	<	0.26										
	n-Nitrosodimethylamine	µg/L	<	0.4										
	n-Nitrosodi-n-Propylamine	µg/L	<	0.31										
	n-Nitrosodiphenylamine	µg/L	<	0.27										
	Phenanthrene	µg/L	<	0.21										
	Pyrene	µg/L	<	0.16										
	1,2,4-Trichlorobenzene	µg/L	<	0.17										
Group 6	Aldrin	µg/L	<											
	alpha-BHC	µg/L	<											
	beta-BHC	µg/L	<											
	gamma-BHC	µg/L	<											
	delta BHC	µg/L	<											
	Chlordane	µg/L	<											
	4,4-DDT	µg/L	<											
	4,4-DDE	µg/L	<											
	4,4-DDD	µg/L	<											
	Dieldrin	µg/L	<											
	alpha-Endosulfan	µg/L	<											
	beta-Endosulfan	µg/L	<											
	Endosulfan Sulfate	µg/L	<											
	Endrin	µg/L	<											
	Endrin Aldehyde	µg/L	<											
	Heptachlor	µg/L	<											
	Heptachlor Epoxide	µg/L	<											
	PCB-1016	µg/L	<											
	PCB-1221	µg/L	<											
	PCB-1232	µg/L	<											
	PCB-1242	µg/L	<											
	PCB-1248	µg/L	<											
	PCB-1254	µg/L	<											
	PCB-1260	µg/L	<											
	PCBs, Total	µg/L	<											
	Toxaphene	µg/L	<											
	2,3,7,8-TCDD	ng/L	<											
Group 7	Gross Alpha	pCi/L												
	Total Beta	pCi/L	<											
	Radium 226/228	pCi/L	<											
	Total Strontium	µg/L	<											
	Total Uranium	µg/L	<											
	Osmotic Pressure	mOs/kg												

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Duncansville WWTP, NPDES Permit No. PA0032883, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: _____ 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	016335	2.14	977	21.1			Yes
End of Reach 1	016335	0	932	74.3			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	2.14	0.0511848										37.1	7.3		
End of Reach 1	0	0.0511848										37.1	7.3		

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	2.14														
End of Reach 1	0														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Duncansville WWTP, NPDES Permit No. PA0032883, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 2.554 PMF: 1 Analysis Hardness (mg/l): 82.063 Analysis pH: 6.95

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	1,049	
Total Antimony	0	0		0	1,100	1,100	1,539	
Total Arsenic	0	0		0	340	340	476	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	29,378	
Total Boron	0	0		0	8,100	8,100	11,331	
Total Cadmium	0	0		0	1.662	1.74	2.44	Chem Translator of 0.952 applied
Total Chromium (III)	0	0		0	484.598	1,534	2,145	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	22.8	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	133	
Total Copper	0	0		0	11.155	11.6	16.3	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	30.8	
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	52.042	63.5	88.8	Chem Translator of 0.82 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	2.3	Chem Translator of 0.85 applied
Total Nickel	0	0		0	396.126	397	555	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	2.290	2.69	3.77	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	90.9	
Total Zinc	0	0		0	99.109	101	142	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	4.2	
Acrylonitrile	0	0		0	650	650	909	
Benzene	0	0		0	640	640	895	

Bromoform	0	0		0	1,800	1,800	2,518	
Carbon Tetrachloride	0	0		0	2,800	2,800	3,917	
Chlorobenzene	0	0		0	1,200	1,200	1,679	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	25,181	
Chloroform	0	0		0	1,900	1,900	2,658	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	20,984	
1,1-Dichloroethylene	0	0		0	7,500	7,500	10,492	
1,2-Dichloropropane	0	0		0	11,000	11,000	15,388	
1,3-Dichloropropylene	0	0		0	310	310	434	
Ethylbenzene	0	0		0	2,900	2,900	4,057	
Methyl Bromide	0	0		0	550	550	769	
Methyl Chloride	0	0		0	28,000	28,000	39,170	
Methylene Chloride	0	0		0	12,000	12,000	16,787	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	1,399	
Tetrachloroethylene	0	0		0	700	700	979	
Toluene	0	0		0	1,700	1,700	2,378	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	9,513	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	4,197	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	4,756	
Trichloroethylene	0	0		0	2,300	2,300	3,218	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	783	
2,4-Dichlorophenol	0	0		0	1,700	1,700	2,378	
2,4-Dimethylphenol	0	0		0	660	660	923	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	112	
2,4-Dinitrophenol	0	0		0	660	660	923	
2-Nitrophenol	0	0		0	8,000	8,000	11,191	
4-Nitrophenol	0	0		0	2,300	2,300	3,218	
p-Chloro-m-Cresol	0	0		0	160	160	224	
Pentachlorophenol	0	0		0	8.271	8.27	11.6	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	644	
Acenaphthene	0	0		0	83	83.0	116	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	420	
Benzo(a)Anthracene	0	0		0	0.5	0.5	0.7	
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	41,968	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	6,295	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	378	
Butyl Benzyl Phthalate	0	0		0	140	140	196	
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	1,147	
1,3-Dichlorobenzene	0	0		0	350	350	490	
1,4-Dichlorobenzene	0	0		0	730	730	1,021	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	5,596	
Dimethyl Phthalate	0	0		0	2,500	2,500	3,497	
Di-n-Butyl Phthalate	0	0		0	110	110	154	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	2,238	
2,6-Dinitrotoluene	0	0		0	990	990	1,385	
1,2-Diphenylhydrazine	0	0		0	15	15.0	21.0	
Fluoranthene	0	0		0	200	200	280	
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	14.0	
Hexachlorocyclopentadiene	0	0		0	5	5.0	6.99	
Hexachloroethane	0	0		0	60	60.0	83.9	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	13,989	
Naphthalene	0	0		0	140	140	196	
Nitrobenzene	0	0		0	4,000	4,000	5,596	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	23,782	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	420	
Phenanthrene	0	0		0	5	5.0	6.99	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	182	

☑ ***CFC*** CCT (min): 2.554 PMF: 1 Analysis Hardness (mg/l): 82.063 Analysis pH: 6.95

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	308	
Total Arsenic	0	0		0	150	150	210	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	5,736	
Total Boron	0	0		0	1,600	1,600	2,238	
Total Cadmium	0	0		0	0.214	0.23	0.33	Chem Translator of 0.917 applied
Total Chromium (III)	0	0		0	63.036	73.3	103	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	14.5	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	26.6	
Total Copper	0	0		0	7.564	7.88	11.0	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	5.2	5.2	7.27	
Dissolved Iron	0	0		0	N/A	N/A	N/A	

Total Iron	0	0		0	1,500	1,500	2,098	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.028	2.47	3.46	Chem Translator of 0.82 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	1.27	Chem Translator of 0.85 applied
Total Nickel	0	0		0	43.997	44.1	61.7	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	6.98	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	18.2	
Total Zinc	0	0		0	99.919	101	142	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	4.2	
Acrylonitrile	0	0		0	130	130	182	
Benzene	0	0		0	130	130	182	
Bromoform	0	0		0	370	370	518	
Carbon Tetrachloride	0	0		0	560	560	783	
Chlorobenzene	0	0		0	240	240	336	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	4,896	
Chloroform	0	0		0	390	390	546	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	4,337	
1,1-Dichloroethylene	0	0		0	1,500	1,500	2,098	
1,2-Dichloropropane	0	0		0	2,200	2,200	3,078	
1,3-Dichloropropylene	0	0		0	61	61.0	85.3	
Ethylbenzene	0	0		0	580	580	811	
Methyl Bromide	0	0		0	110	110	154	
Methyl Chloride	0	0		0	5,500	5,500	7,694	
Methylene Chloride	0	0		0	2,400	2,400	3,357	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	294	
Tetrachloroethylene	0	0		0	140	140	196	
Toluene	0	0		0	330	330	462	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	1,959	
1,1,1-Trichloroethane	0	0		0	610	610	853	
1,1,2-Trichloroethane	0	0		0	680	680	951	
Trichloroethylene	0	0		0	450	450	630	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	154	
2,4-Dichlorophenol	0	0		0	340	340	476	
2,4-Dimethylphenol	0	0		0	130	130	182	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	22.4	
2,4-Dinitrophenol	0	0		0	130	130	182	
2-Nitrophenol	0	0		0	1,600	1,600	2,238	
4-Nitrophenol	0	0		0	470	470	657	
p-Chloro-m-Cresol	0	0		0	500	500	699	
Pentachlorophenol	0	0		0	6.346	6.35	8.88	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	127	
Acenaphthene	0	0		0	17	17.0	23.8	
Anthracene	0	0		0	N/A	N/A	N/A	

Benzidine	0	0		0	59	59.0	82.5	
Benzo(a)Anthracene	0	0		0	0.1	0.1	0.14	
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	8,394	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	1,273	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	75.5	
Butyl Benzyl Phthalate	0	0		0	35	35.0	49.0	
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	224	
1,3-Dichlorobenzene	0	0		0	69	69.0	96.5	
1,4-Dichlorobenzene	0	0		0	150	150	210	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	1,119	
Dimethyl Phthalate	0	0		0	500	500	699	
Di-n-Butyl Phthalate	0	0		0	21	21.0	29.4	
2,4-Dinitrotoluene	0	0		0	320	320	448	
2,6-Dinitrotoluene	0	0		0	200	200	280	
1,2-Diphenylhydrazine	0	0		0	3	3.0	4.2	
Fluoranthene	0	0		0	40	40.0	56.0	
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	2.8	
Hexachlorocyclopentadiene	0	0		0	1	1.0	1.4	
Hexachloroethane	0	0		0	12	12.0	16.8	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	2,938	
Naphthalene	0	0		0	43	43.0	60.2	
Nitrobenzene	0	0		0	810	810	1,133	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	4,756	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	82.5	
Phenanthrene	0	0		0	1	1.0	1.4	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	36.4	

☑ ***THH*** CCT (min): 2.554 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	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	7.83	

Total Arsenic	0	0		0	10	10.0	14.0	
Total Barium	0	0		0	2,400	2,400	3,357	
Total Boron	0	0		0	3,100	3,100	4,337	
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	5.6	
Dissolved Iron	0	0		0	300	300	420	
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	1,399	
Total Mercury	0	0		0	0.050	0.05	0.07	
Total Nickel	0	0		0	610	610	853	
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	0.34	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	4.2	
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	140	
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	7.97	
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	46.2	
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	95.1	
Methyl Bromide	0	0		0	100	100.0	140	
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	79.7	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	140	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	13,989	
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	42.0	
2,4-Dichlorophenol	0	0		0	10	10.0	14.0	
2,4-Dimethylphenol	0	0		0	100	100.0	140	

4,6-Dinitro-o-Cresol	0	0		0	2	2.0	2.8	
2,4-Dinitrophenol	0	0		0	10	10.0	14.0	
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	5,596	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	97.9	
Anthracene	0	0		0	300	300	420	
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	280	
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	0.14	
2-Chloronaphthalene	0	0		0	800	800	1,119	
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	1,399	
1,3-Dichlorobenzene	0	0		0	7	7.0	9.79	
1,4-Dichlorobenzene	0	0		0	300	300	420	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	839	
Dimethyl Phthalate	0	0		0	2,000	2,000	2,798	
Di-n-Butyl Phthalate	0	0		0	20	20.0	28.0	
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	28.0	
Fluorene	0	0		0	50	50.0	69.9	
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	5.6	
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	47.6	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	14.0	
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	28.0	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	0.098	

☑ ***CRL*** CCT (min): 8.829 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	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	0.24	
Benzene	0	0		0	0.58	0.58	2.28	
Bromoform	0	0		0	7	7.0	27.5	
Carbon Tetrachloride	0	0		0	0.4	0.4	1.57	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	3.15	
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	3.74	
1,2-Dichloroethane	0	0		0	9.9	9.9	39.0	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	3.54	
1,3-Dichloropropylene	0	0		0	0.27	0.27	1.06	
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	78.7	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	0.79	

Tetrachloroethylene	0	0		0	10	10.0	39.4	
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	2.16	
Trichloroethylene	0	0		0	0.6	0.6	2.36	
Vinyl Chloride	0	0		0	0.02	0.02	0.079	
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	0.12	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	5.9	
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	0.0004	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.004	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.0004	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.004	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.039	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	0.12	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	1.26	
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	0.47	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.0004	
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	0.2	
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	0.2	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	0.2	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	0.12	
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	0.0003	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.039	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	0.39	

Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.004	
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	0.003	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.02	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	13.0	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	N/A	N/A	N/A	

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

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	Report	Report	Report	Report	Report	µg/L	11.0	CFC	Discharge Conc > 10% WQBEL (no RP)
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	420	THH	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	Report	Report	Report	Report	µg/L	101	AFC	Discharge Conc > 10% WQBEL (no RP)
Acrolein	0.044	0.061	3.0	4.2	4.2	µg/L	3.0	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Carbon Tetrachloride	Report	Report	Report	Report	Report	µg/L	1.57	CRL	Discharge Conc > 25% WQBEL (no RP)

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

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	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	N/A	N/A	Discharge Conc < TQL
Total Antimony	7.83	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	3,357	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	2,238	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	0.33	µg/L	Discharge Conc < TQL
Total Chromium (III)	103	µg/L	Discharge Conc < TQL

Hexavalent Chromium	14.5	µg/L	Discharge Conc < TQL
Total Cobalt	26.6	µg/L	Discharge Conc ≤ 10% WQBEL
Free Cyanide	5.6	µg/L	Discharge Conc < TQL
Total Cyanide	N/A	N/A	No WQS
Total Iron	2,098	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	3.46	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	1,399	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.07	µg/L	Discharge Conc < TQL
Total Nickel	61.7	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	6.98	µg/L	Discharge Conc < TQL
Total Silver	2.69	µg/L	Discharge Conc < TQL
Total Thallium	0.34	µg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS
Acrylonitrile	0.24	µg/L	Discharge Conc < TQL
Benzene	2.28	µg/L	Discharge Conc < TQL
Bromoform	27.5	µg/L	Discharge Conc < TQL
Chlorobenzene	140	µg/L	Discharge Conc < TQL
Chlorodibromomethane	3.15	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	4,896	µg/L	Discharge Conc < TQL
Chloroform	7.97	µg/L	Discharge Conc ≤ 25% WQBEL
Dichlorobromomethane	3.74	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	39.0	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethylene	46.2	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-Dichloropropane	3.54	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	1.06	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	95.1	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Bromide	140	µg/L	Discharge Conc < TQL
Methyl Chloride	7,694	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	78.7	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2,2-Tetrachloroethane	0.79	µg/L	Discharge Conc < TQL
Tetrachloroethylene	39.4	µg/L	Discharge Conc < TQL
Toluene	79.7	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	140	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	853	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2-Trichloroethane	2.16	µg/L	Discharge Conc < TQL
Trichloroethylene	2.36	µg/L	Discharge Conc < TQL
Vinyl Chloride	0.079	µg/L	Discharge Conc < TQL
2-Chlorophenol	42.0	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	14.0	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	140	µg/L	Discharge Conc ≤ 25% WQBEL
4,6-Dinitro-o-Cresol	2.8	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	14.0	µg/L	Discharge Conc < TQL
2-Nitrophenol	2,238	µg/L	Discharge Conc < TQL
4-Nitrophenol	657	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	160	µg/L	Discharge Conc < TQL

Pentachlorophenol	0.12	µg/L	Discharge Conc < TQL
Phenol	5,596	µg/L	Discharge Conc ≤ 25% WQBEL
2,4,6-Trichlorophenol	5.9	µg/L	Discharge Conc < TQL
Acenaphthene	23.8	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	420	µg/L	Discharge Conc < TQL
Benzidine	0.0004	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.004	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.0004	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.004	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.039	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	0.12	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	280	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	1.26	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	75.5	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	0.14	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	1,119	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	0.47	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.0004	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	224	µg/L	Discharge Conc < TQL
1,3-Dichlorobenzene	9.79	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	210	µg/L	Discharge Conc < TQL
3,3-Dichlorobenzidine	0.2	µg/L	Discharge Conc < TQL
Diethyl Phthalate	839	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	699	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	28.0	µg/L	Discharge Conc ≤ 25% WQBEL
2,4-Dinitrotoluene	0.2	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	0.2	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	0.12	µg/L	Discharge Conc < TQL
Fluoranthene	28.0	µg/L	Discharge Conc < TQL
Fluorene	69.9	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.0003	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.039	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	1.4	µg/L	Discharge Conc < TQL
Hexachloroethane	0.39	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.004	µg/L	Discharge Conc < TQL
Isophorone	47.6	µg/L	Discharge Conc < TQL
Naphthalene	60.2	µg/L	Discharge Conc < TQL
Nitrobenzene	14.0	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.003	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.02	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	13.0	µg/L	Discharge Conc < TQL
Phenanthrene	1.4	µg/L	Discharge Conc < TQL
Pyrene	28.0	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	0.098	µg/L	Discharge Conc < TQL

Attachment C

WET Test Results

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.43
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Duncansville Borough

Permit No.: PA0032883

Test Completion Date: 10/29/2024

Replicate No.	Control	TIWC
1	10	10
2	10	9
3	9	9
4	10	10
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	9.750	9.500
Std Dev.	0.500	0.577
# Replicates	4	4

T-Test Result	5.3848
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	PASS

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

Test Completion Date:

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

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

Test Completion Date:

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

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.43
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Duncansville Borough

Permit No.: PA0032883

Test Completion Date: 10/29/2024

Replicate No.	Control	TIWC
1	0.577	0.499
2	0.682	0.38
3	0.454	0.533
4	0.596	0.628
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.577	0.510
Std Dev.	0.094	0.102
# Replicates	4	4

T-Test Result: 3.2192
Deg. of Freedom: 5
Critical T Value: 0.7267
Pass or Fail: PASS

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

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

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.43
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Duncansville Borough

Permit No.: PA0032883

Test Completion Date: 10/28/2024

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:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

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

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.43
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Duncansville Borough

Permit No.: PA0032883

Test Completion Date: 10/28/2024

Replicate No.	Control	TIWC
1	31	28
2	24	28
3	17	24
4	17	28
5	25	22
6	20	23
7	18	25
8	18	21
9	28	28
10	11	22
11		
12		
13		
14		
15		
Mean	20.900	24.900
Std Dev.	6.008	2.885
# Replicates	10	10
T-Test Result	5.4521	
Deg. of Freedom	17	
Critical T Value	0.8633	
Pass or Fail	PASS	

Test Completion Date:

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

Test Completion Date:

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

Test Completion Date:

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

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.43
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Duncansville Borough

Permit No.: PA0032883

Test Completion Date: 10/31/2023

Replicate No.	Control	TIWC
1	9	9
2	9	9
3	10	10
4	10	10
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	9.500	9.500
Std Dev.	0.577	0.577
# Replicates	4	4

T-Test Result	5.6564
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	PASS

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

Test Completion Date:

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

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

Test Completion Date:

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

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	0.43
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Duncansville Borough

Permit No.: PA0032883

Test Completion Date: 10/31/2023

Replicate No.	Control	TIWC
1	0.848	0.744
2	0.792	0.637
3	0.762	0.693
4	0.704	0.753
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.777	0.707
Std Dev.	0.060	0.053
# Replicates	4	4

T-Test Result	3.5576
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	PASS

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

Test Completion Date:

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

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

Test Completion Date:

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

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.43
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.2

Facility Name: Duncansville Borough

Permit No.: PA0032883

Test Completion Date: 10/30/2023

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:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

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

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.43
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.2

Facility Name: Duncansville Borough

Permit No.: PA0032883

Test Completion Date: 10/30/2023

Replicate No.	Control	TIWC
1	23	31
2	32	33
3	25	27
4	24	27
5	27	26
6	35	37
7	24	26
8	23	24
9		20
10		28
11		
12		
13		
14		
15		
Mean	26.625	27.900
Std Dev.	4.502	4.771
# Replicates	8	10

T-Test Result	4.1223
Deg. of Freedom	15
Critical T Value	0.8662
Pass or Fail	PASS

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

Test Completion Date:

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

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.44
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name
Duncansville WWTP

Permit No.
PA0032883

Test Completion Date 11/22/2022

Replicate No.	Control	TIWC
1	10	10
2	10	10
3	10	10
4	10	10
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	10.000	10.000
Std Dev.	0.000	0.000
# Replicates	4	4

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

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
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11		
12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	0.44
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Duncansville WWTP

Permit No.: PA0032883

Test Completion Date: 11/22/2022

Replicate No.	Control	TIWC
1	0.368	0.351
2	0.397	0.362
3	0.413	0.383
4	0.339	0.412
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.379	0.377
Std Dev.	0.033	0.027
# Replicates	4	4

T-Test Result	5.0938
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	PASS

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
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14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

Test Completion Date:

Replicate No.	Control	TIWC
1		
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14		
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Mean		
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.44
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Duncansville WWTP

Permit No.: PA0032883

Test Completion Date: 11/22/2022

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:

Replicate No.	Control	TIWC
1		
2		
3		
4		
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8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
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11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
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11		
12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.44
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Duncansville WWTP

Permit No.: PA0032883

Test Completion Date: 11/22/2022

Replicate No.	Control	TIWC
1	40	40
2	19	44
3	29	36
4	44	44
5	42	45
6	42	38
7	37	28
8	16	42
9	36	44
10	36	32
11		
12		
13		
14		
15		
Mean	34.100	39.300
Std Dev.	9.746	5.774
# Replicates	10	10

T-Test Result: 4.6592
Deg. of Freedom: 17
Critical T Value: 0.8633
Pass or Fail: PASS

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
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9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
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7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
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14		
15		
Mean		
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.43
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Duncansville WWTP

Permit No.: PA0032883

Test Completion Date: 11/9/2021

Replicate No.	Control	TIWC
1	10	10
2	10	10
3	10	10
4	9	10
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	9.750	10.000
Std Dev.	0.500	0.000
# Replicates	4	4

T-Test Result	12.5523
Deg. of Freedom	3
Critical T Value	0.7649
Pass or Fail	PASS

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
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5		
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7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
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7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

Test Completion Date:

Replicate No.	Control	TIWC
1		
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12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	0.43
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Duncansville WWTP

Permit No.: PA0032883

Test Completion Date: 11/9/2021

Replicate No.	Control	TIWC
1	0.339	0.366
2	0.358	0.342
3	0.403	0.388
4	0.367	0.312
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.367	0.352
Std Dev.	0.027	0.033
# Replicates	4	4

T-Test Result	4.0145
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	PASS

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
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10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
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6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

Test Completion Date:

Replicate No.	Control	TIWC
1		
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13		
14		
15		
Mean		
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.43
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Duncansville WWTP

Permit No.: PA0032883

Test Completion Date: 11/9/2021

Replicate No.	Control	TIWC
1	42	36
2	38	35
3	34	38
4	33	44
5	34	33
6	42	18
7	24	43
8	38	41
9	34	37
10	28	33
11		
12		
13		
14		
15		
Mean	34.700	35.800
Std Dev.	5.697	7.345
# Replicates	10	10

T-Test Result: 3.6376
Deg. of Freedom: 15
Critical T Value: 0.8662
Pass or Fail: PASS

Test Completion Date:

Replicate No.	Control	TIWC
1		
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11		
12		
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14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
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14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
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Mean		
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.43
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Duncansville WWTP

Permit No.: PA0032883

Test Completion Date: 11/9/2021

Replicate No.	Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	0
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	0.900
Std Dev.	0.000	0.316
# Replicates	10	10

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail: PASS

Test Completion Date:

Replicate No.	Control	TIWC
1		
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Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
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11		
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14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
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Mean		
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail