

Application Type Renewal  
Facility Type Industrial  
Major / Minor Minor

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

Application No. PA0081604  
APS ID 618840  
Authorization ID 1508427

**Applicant and Facility Information**

Applicant Name	<u>PA DEP SCRO</u>	Facility Name	<u>ADCSO Landfill</u>
Applicant Address	<u>909 Elmerton Avenue</u> <u>Harrisburg, PA 17110-9207</u>	Facility Address	<u>174 Cranberry Road</u> <u>Aspers, PA 17304-9765</u>
Applicant Contact	<u>Rachel Heasley, PADEP SCRO ECB</u>	Facility Contact	<u>Rachel Heasley, Regl Project Offcr</u>
Applicant Phone	<u>(717) 783-8319 / raheasley@pa.gov</u>	Facility Phone	<u>(717) 783-8319</u> <u>238854 (PF: 241758)</u>
Client ID	<u>62499</u>	Site ID	<u>Adams Sanitation Company Inc.</u>
SIC Code	<u>SIC 4953 = Refuse Systems</u> <u>NAICS 562212 = Solid Waste Landfill</u>	Municipality	<u>Tyrone Township</u>
SIC Description	<u>Trans. &amp; Utilities - Refuse Systems</u>	County	<u>Adams</u>
Date Application Received	<u>December 4, 2024 &amp;</u> <u>March 13, 2025</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>December 9, 2024</u>	If No, Reason	<u></u>
Purpose of Application	<u>Renewal of an industrial NPDES permit</u>		

\*with copy to Dennis Low, PADEP ECB, [delow@pa.gov](mailto:delow@pa.gov)

**Summary of Review**

The existing NPDES permit was issued May 22, 2020 and amended on May 26, 2022 and again on June 6, 2024. The existing permit had an expiration date of May 31, 2025 but was administratively extended. The renewal application was received via copafpt.state.pa.us on December 4, 2024, and then scanned into DEP's Public Upload electronic database, Reference ID # 274466. Additional information was then electronically transferred to Clean Water Permits from DEP's ECB Program on March 13, 2025, via a shared folder, and then scanned into DEP's OnBase electronic database on March 17, 2025, under the same Reference ID # 274466.

This facility is an unlined landfill that operated from 1971 until 1990. DEP's Environmental Cleanup and Brownfields (ECB) Program is overseeing the remediation and monitoring at the site. According to Module 2 of the NPDES permit renewal application:

An area of the property south of Cranberry Road (the "Very Old Fill Area") was used as a dumping site, possibly as early as the 1940s and through 1970. North of Cranberry Road - from 1971 until 1983 - landfilling occurred in an area of 13 acres in the northcentral portion of the property (the "Old" Fill Area). In 1983, ADCSO conducted landfill operations further north in the "New" Fill Area under Solid Waste Disposal Permit #100002, issued February 10, 1984. Approximately 10 of the 30 acres under this permit were landfilled using trench-style methods.

DEP's contractor submitted 2023 groundwater monitoring results with the permit application but noted that 1) the wells are located around the large property and would not be expected in many cases to reach the leachate collection system (with

Approve	Deny	Signatures	Date
x		<i>Bonnie Boylan</i> Bonnie Boylan / Environmental Engineering Specialist	February 10, 2026
x		<i>Maria D. Bebenek for</i> Daniel W. Martin, P.E. / Environmental Engineer Manager	February 25, 2026
x		<i>Maria D. Bebenek</i> Maria D. Bebenek, P.E. / Environmental Program Manager	February 25, 2026

### Summary of Review

discharge to the receiving water) and 2) untreated groundwater is best represented by the influent sampling data provided on the application form.

According to an Environmental Covenant and Deed Restriction signed by PADEP on May 4, 2023 with the property owners of a house and drinking well on-site (at 174 Cranberry Road, Aspers):

Sanitary Landfill operations resulted in contamination of local surface water and groundwater at levels above the medium-specific concentrations (MSCs) for used aquifers [Act 2] and 25 Pa Code Chapter 250 for the following parameters: Benzene, Vinyl Chloride, Dichloromethane (methylene chloride), 1,1-Dichloroethane, 1,2-Dichloroethylene, methyl ethyl ketone (2-butanone), Tetrachloroethylene, and Trichloroethylene.

There is no on-site sewage treatment facility or sewage generated at the facility.

#### Design Flow

The existing permit included a design flow of 0.14 MGD for outfall 001 based on 2012 flow monitoring conducted by a consultant and subsequently forwarded to DEP when requested. That data included many days of zero flow such that the design flow of 0.14 MGD used in the existing permit was the 'estimated daily average flow when discharging' for an intermittent discharge.

A flow meter was replaced in February 2022 and was in use according to a May 2022 DEP Inspections Report. Daily Effluent Supplemental data in DEP's eDMR system were reviewed and show flows occurring at outfall 001 on a daily basis (i.e. a flow was reported for every day in 2025). Summarized Discharge Monitoring Report (DMR) flow data from January 1, 2023 through December 31, 2025 is attached.

Upon review of the DMR data for flows, the design flow of 0.14 MGD from the existing permit has not been changed.

#### Variations

None requested.

#### Sludge Disposal

Hauled and disposed off-site.

#### Unresolved Violations

There are two unresolved violations for this client according to DEP's Compliance History Summary Report.

#### Public Participation

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

#### History of the site

-In 1975 and 1976, DEP (or rather DEP's predecessor) approved a discharge of industrial wastewater from Adams Sanitation Company of Gettysburg at this site following a July 18, 1975 order from the DEP Bureau of Solid Waste Management. The approved treatment was for collection of leachate, aeration in one basin, settling in one basin, with the effluent discharged to an Unnamed Tributary (UNT) of Opossum Creek noted as a "virtual dry stream". The basins were supposed to be constructed to be watertight. Basin sludge would be deposited in the landfill. A collateral bond was submitted and approved by legal counsel. The treatment was expected to achieve stated pollutant limits for BOD5, TSS, Dissolved Oxygen, Total Phosphorus as PO4, Total Iron, Manganese, Zinc, and Copper.

-Adams Sanitation Company was the operator and conducted waste disposal in the old fill area until 1983. ADSCO, a wholly-owned subsidiary of Keystone Sanitation Company, Inc., became the operator in 1983 and conducted waste disposal in the

Summary of Review

new fill area until January 1, 1990. The new fill area accepted **municipal and industrial waste**, an average of 80 tons per day. "Reportedly, one-third of the waste was industrial and two-thirds was municipal waste." PADEP issued a Solid Waste permit for the landfill February 10, 1984.

-A NPDES permit (PA0081604) was issued May 15, 1984 to the Keystone Sanitation Company. The permit was not terminated when ADSCO/Keystone ceased operation in 1990. NOVs were issued in 1997, 1998, and 1999 per eFacts for not submitting a renewal permit application and/or DMRs.

-In 1985, a spring that served as the water supply for a neighboring residence was found to be contaminated by organic contaminants. Nearby groundwater monitoring wells were also found to have organic pollutants at concentrations greater than drinking water Maximum Contaminant Levels (MCLs).

-The landfill area was covered with 2 feet of compacted soil and vegetated with grass.

-A remedial investigation was completed in 2000, followed by an interim response in 2001 to install a water treatment system for the on-site residence. In 2002, there was a focused feasibility study. PADEP executed a Statement of Decision (SOD) in 2003. Remedial actions implemented by DEP are documented in the May 11, 2022 Final Report and in the August 28 2022 Design Report for upgrades to address NPDES permit requirements. A long-term monitoring program is in place to assess plume migration and to protect down-gradient receptors.

-Remediation has included a deed restriction, lining of the leachate ponds, re-contouring of the leachate ponds to make three ponds into two, a new aerator in the first leachate pond, stormwater controls, collecting spring water and leachate that had been seeping from the sidewalls of the cap and in a wooded area into trenches and conveyance piping to the leachate ponds, an underdrain system to collect groundwater accumulating underneath the liner of the leachate ponds with conveyance in separate pipe (outfall 002) to same rip-rap lined swale as the leachate discharge pipe (outfall 001), monitoring, and landfill gas management.

-In August 2008, a draft NPDES permit (PA0081604) was prepared for the site and provided to ECB staff but was never finalized.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>001</u>	Design Flow (MGD)	<u>0.14</u>
Latitude	<u>39° 58' 31"</u> <u>(39.975278)</u>	Longitude	<u>77° 11' 28"</u> <u>(-77.191111)</u>
Quad Name	<u></u>	Quad Code	<u></u>
Wastewater Description: <u>IW Process Effluent with ELG</u>			
Receiving Waters	<u>Unnamed Tributary (UNT) to</u> <u>Opossum Creek</u>	Stream Code	<u>UNT09071 to UNT09066</u>
NHD Com ID	<u>57470093</u>	RMI	<u>0.15 (09071) /1.8 (09066)</u>
Drainage Area	<u>UNT 09071: 0.18 mi2</u> <u>UNT 09066: 0.48 mi2.</u>	Yield (cfs/mi <sup>2</sup> )	<u>0.17 (UNT 09071)</u> <u>0.15 (UNT 09066)</u>
Q <sub>7-10</sub> Flow (cfs)	<u>UNT 09071: 0.031 (=0.02 MGD)</u> <u>UNT 09066: 0.071 (=0.046 MGD)</u>	Q <sub>7-10</sub> Basis	<u>PA Stream Stats</u>
Elevation (ft)	<u>UNT 09071: 695</u> <u>UNT 09066: 685'</u>	Slope (ft/ft)	<u>(Trout Stocking Fish TSF,</u> <u>Migratory Fish MF)</u>
Watershed No.	<u>7-F</u>	Chapter 93 Class.	<u>(Trout Stocking Fish TSF,</u> <u>Migratory Fish MF)</u>
Existing Use	<u>-</u>	Existing Use Qualifier	<u>-</u>
Exceptions to Use	<u>-</u>	Exceptions to Criteria	<u>-</u>
Assessment Status	<u><b>Impaired:</b> aquatic life (#13020, 5/2006); recreational uses (#18577, 10/2015)</u> <u>--for both UNT 09071 and UNT 09066</u>		
Cause(s) of Impairment	<u>Siltation / pathogens</u>		
Source(s) of Impairment	<u>Agriculture / unknown</u>		
TMDL Status	<u>Final, 9/14/2014</u>	Name	<u>Opossum Creek: siltation, TSS, turbidity</u>
Secondary Waters:			
<p>-UNT 09066 (TSF, MF, not Class A or Trout Natural Reproduction) at RMI 1.8;                      -then to Opossum Creek (Stream code 09057, TSF, MF, impaired for Recreational Uses due to Pathogens, Trout Natural Reproduction from headwaters to mouth, not Class A Trout) at RMI 2.44;                      -then to Conewago Creek (Stream Code 8303, WWF, MF) at approximately RMI 61.33;                      -then to Susquehanna River (stream Code 6685, WWF, MF, subject to Chesapeake Bay TMDL for nutrients) at RMI 41.2.</p>			
Background/Ambient Data – None available			
Nearest Downstream Public Water Supply Intake	<u>surface water withdrawal for cooling at York Haven</u> <u>Hydroelectric Power Station, then</u> <u>PPL &amp; Bruner Island (PWS 7670802)</u>		
PWS Waters	<u>Susquehanna River</u>	Flow at Intake (cfs)	<u></u>
PWS RMI	<u>Approx. 40</u>	Distance from Outfall (mi)	<u>Approx. 87 miles</u>

Other Comments:

- Receiving stream is NOT Class A Trout or Trout Natural Reproduction
- No upstream gages or nearby downstream gages exist
- No Water Quality Network (WQN) stations nearby, upstream or downstream
- No other nearby wastewater dischargers to include in modeling

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>003</u>	Design Flow (MGD)	<u>0</u>
Latitude	<u>39° 58' 54"</u>	Longitude	<u>-77° 11' 22"</u>
Wastewater Description: <u>Stormwater</u>			
Receiving Waters	<u>Unnamed Tributary to Opossum Creek (TSF, MF)</u>	Stream Code	<u>UNT 09071</u>
NHD Com ID		RMI	<u>0.6</u>
Watershed No.	<u>7-F</u>	Chapter 93 Class.	<u>TSF, MF</u>
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	<u>Impaired</u>		
Cause(s) of Impairment	<u>SILTATION</u>		
Source(s) of Impairment	<u>AGRICULTURE</u>		
TMDL Status	<u>Tentative</u>	Name	<u>Opossum Creek</u>

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>004</u>	Design Flow (MGD)	<u>0</u>
Latitude	<u>39° 58' 29"</u>	Longitude	<u>7° 11' 35"</u>
Wastewater Description: <u>Stormwater</u>			
Receiving Waters	<u>Unnamed Tributary of Opossum Creek (TSF, MF)</u>	Stream Code	<u>UNT 09070</u>
NHD Com ID		RMI	<u>0.3</u>
Watershed No.	<u>7-F</u>	Chapter 93 Class.	<u>TSF, MF</u>
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	<u>Impaired</u>		
Cause(s) of Impairment	<u>SILTATION</u>		
Source(s) of Impairment	<u>AGRICULTURE</u>		
TMDL Status	<u>Tentative</u>	Name	<u>Opossum Creek</u>

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>005</u>	Design Flow (MGD)	<u>0</u>
Latitude	<u>39° 58' 28"</u>	Longitude	<u>77° 11' 41"</u>
Wastewater Description: <u>Stormwater</u>			
Receiving Waters	<u>Unnamed Tributary of Opossum Creek (TSF, MF)</u>	Stream Code	<u>UNT 09070</u>
NHD Com ID		RMI	<u>0.3</u>
Watershed No.	<u>7-F</u>	Chapter 93 Class.	<u>TSF, MF</u>
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	<u>Impaired</u>		
Cause(s) of Impairment	<u>SILTATION</u>		
Source(s) of Impairment	<u>AGRICULTURE</u>		
TMDL Status	<u>Tentative</u>	Name	<u>Opossum Creek</u>

Treatment Facility Summary				
<b>Treatment Facility Name:</b> ADSCO Landfill				
<b>WQM Permit No.</b>		<b>Issuance Date</b>		
None*				
<b>Waste Type</b>	<b>Degree of Treatment</b>	<b>Process Type</b>	<b>Disinfection</b>	<b>Avg Annual Flow (MGD)</b>
Industrial	Physical	Aeration/Settling/Filtration	No Disinfection	0.14
<b>Hydraulic Capacity (MGD)</b>	<b>Organic Capacity (lbs/day)</b>	<b>Load Status</b>	<b>Biosolids Treatment</b>	<b>Biosolids Use/Disposal</b>
			None	

\* DEP legal counsel determined that no WQM permit was needed. Further, an internal Memorandum dated December 18, 2013 from the Director of Point and Non-Point Source Management (now known as Clean Water) and the Director of the Bureau of Environmental Cleanup and Brownfields specifies the following: "Note that a WQM permit is not required for the design and construction of a groundwater remediation system that proposes the use of standard technology, but a WQM permit would be required for land application of effluent for storage tank remediation systems." The memo also states: "DEP reserves the right to deviate from the process outlined below if circumstances warrant."

Leachate from the landfill is collected and conveyed by gravity using underground piping to the treatment system. The flow is first treated in an aeration pond and then in a settling pond. The flow from the settling pond is conveyed by gravity into an influent pumping station which pumps flow using duplex pumps into three (3) multimedia filters operating in parallel before being discharged to outfall 001. The multimedia filters consist of layers of layers of gravel, sand, garnet sand, manganese green sand plus, and anthracite. These filters reduce iron and manganese concentrations in the leachate.

Potassium permanganate is used in the treatment system. The chemical is stored in a double-walled above ground tank inside a dedicated treatment shed with containment curbing and sump.

Backwash waste resulting from backwash of filters is stored in a backwash waste tank and conveyed back into the influent pumping station. Sludge waste is stored in a sludge holding tank and periodically pumped out and hauled off-site using a vac truck.

Changes since last NPDES renewal permit:

Tetra Tech submitted a 100% Design Report to PADEP on August 29, 2022 in order to add treatment to achieve the final Iron and Manganese limits in the NPDES permit. In 2024, PADEP completed construction of the additional leachate treatment. Operation of the upgraded leachate treatment system began in July 2024.

Outfall 002 has been eliminated. An email from Dennis Low, PADEP SCRO ECB, was received by Clean Water Permits staff on February 22, 2024:

Steve and I discussed Tetra Tech's recommendation. We have also reviewed the information they prepared, presented and their discussion. I have been to the site several times and inspected both outfalls and the test pit they dug in the hunt for outfall 2 piping. Steve and I concur with Tetra Tech's recommendation for cut and plug of outfall 2.

EXISTING PERMIT LIMITS, OUTFALL 001:

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/day	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	2/month	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	2/month	Grab
Biochemical Oxygen Demand (BOD5)	XXX	XXX	XXX	56.0	220.0	XXX	2/month	Grab
Total Suspended Solids	XXX	XXX	XXX	27.0	88.0	XXX	2/month	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	Report	XXX	Report	1/month	Grab
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	4.9	9.8	XXX	2/month	Grab
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	2.5	5.0	XXX	2/month	Grab
a-Terpineol	XXX	XXX	XXX	0.019	0.042	XXX	2/month	Grab
Aniline	XXX	XXX	XXX	0.015	0.024	XXX	2/month	Grab
Arsenic, Total	XXX	XXX	XXX	0.54	1.1	XXX	2/month	Grab
Benzoic Acid	XXX	XXX	XXX	0.073	0.119	XXX	2/month	Grab
Chromium, Total	XXX	XXX	XXX	0.46	1.1	XXX	2/month	Grab
1,4-Dioxane	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Iron, Total	XXX	XXX	XXX	1.5	3.0	XXX	2/month	Grab
Manganese, Total	XXX	XXX	XXX	1.16	1.82	XXX	2/month	Grab
Naphthalene	XXX	XXX	XXX	0.022	0.059	XXX	2/month	Grab
p-Cresol	XXX	XXX	XXX	0.015	0.024	XXX	2/month	Grab

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Phenol	XXX	XXX	XXX	0.029	0.048	XXX	2/month	Grab
Pyridine	XXX	XXX	XXX	0.025	0.072	XXX	2/month	Grab
Zinc, Total	XXX	XXX	XXX	0.296	0.535	XXX	2/month	Grab
Nitrate as N	XXX	XXX	XXX	Report	XXX	Report	1/month	Grab
Nitrite as N	XXX	XXX	XXX	Report	XXX	Report	1/month	Grab
Total Kjeldahl Nitrogen	XXX	XXX	XXX	Report	XXX	Report	1/month	Grab
Total Nitrogen	XXX	XXX	XXX	Report	XXX	Report	1/month	Calculation*
Total Phosphorus	XXX	XXX	XXX	Report	XXX	Report	1/month	Grab

**EXISTING PERMIT REQUIREMENTS, OUTFALLS 003, 004, and 005:**

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Chemical Oxygen Demand (COD)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Suspended Solids	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Iron, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Compliance History

DMR Data for Outfall 001 (from December 1, 2024 to November 30, 2025)

Parameter	NOV-25	OCT-25	SEP-25	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24
Flow (MGD) Average Monthly	0.00328 9	0.00428 1	0.00433 4	0.00509 0	0.01275 9	0.02365 7	0.03438 7	0.01229 6	0.01427 0	0.00998 7	0.00710 2	0.01040 7
Flow (MGD) Daily Maximum	0.00483 4	0.01183 7	0.01089 2	0.01126 1	0.04481 3	0.12744 0	0.19800 0	0.10998 0	0.23184 0	0.14742 0	0.05094 0	0.12780 0
pH (S.U.) Instantaneous Minimum	8.27	8.32	8.28	8.40	8.33	8.30	7.80	8.10	8.30	8.29	8.32	8.30
pH (S.U.) Instantaneous Maximum	8.30	8.62	8.53	8.54	8.39	8.61	8.21	8.20	8.35	9.0	8.37	8.43
DO (mg/L) Instantaneous Minimum	9.7	8.9	8.7	8.7	8.9	8.4	7.2	9.0	9.9	9.9	10.4	9.8
BOD5 (mg/L) Average Monthly	4.7	< 2.7	< 2.0	< 2.0	< 7.2	< 2.4	< 2.6	< 2.6	< 2.0	3.5	< 4.6	2.5
BOD5 (mg/L) Daily Maximum	6.8	3.4	< 2.0	< 2.0	12.4	2.7	3.2	3.1	< 2.0	4.7	7.2	2.6
TSS (mg/L) Average Monthly	< 5.0	< 5.0	< 13.0	< 5.0	< 7.0	< 6.0	< 6.0	< 5.0	< 5.0	< 6.0	< 5.0	< 5.0
TSS (mg/L) Daily Maximum	< 5.0	< 5.0	20.0	< 5.0	8.0	7.0	7.0	< 5.0	< 5.0	6.0	< 5.0	< 5.0
Fecal Coliform (No./100 ml) Average Monthly	< 1	< 1	6	< 1	< 1	22	< 1	1	< 1	< 1.0	< 1	81
Fecal Coliform (No./100 ml) Instantaneous Maximum	< 1	< 1	6	< 1	< 1	22	< 1	1	< 1	< 1.0	< 1	81
Total Nitrogen (mg/L) Average Monthly	1.07	1.58	1.44	1.83	1.82	2.89	3.51	3.91	3.65	6.2	5.22	2.74
Total Nitrogen (mg/L) Instantaneous Maximum	1.07	1.58	1.44	1.83	1.82	2.89	3.51	3.91	3.65	6.2	5.22	2.74
Ammonia (mg/L) Average Monthly	0.06	0.84	0.03	0.05	< 0.07	< 0.07	0.05	0.5	1.22	0.94	0.75	0.32
Ammonia (mg/L) Daily Maximum	0.09	1.63	0.04	0.08	< 0.10	0.03	0.07	1.0	1.28	1.37	0.87	0.44

**NPDES Permit Fact Sheet  
ADSCO Landfill**

**NPDES Permit No. PA0081604**

Nitrate (mg/L) Average Monthly	0.22	0.3	0.46	0.81	1.1	1.2	1.9	2.7	1.80	4.5	1.5	1.3
Nitrate (mg/L) Instantaneous Maximum	0.22	0.3	0.46	0.81	1.1	1.2	1.9	2.7	1.80	4.5	1.5	1.3
Nitrite (mg/L) Average Monthly	< 1.0	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.5	< 1.0	< 1.0
Nitrite (mg/L) Instantaneous Maximum	< 1.0	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.5	< 1.0	< 1.0
TKN (mg/L) Average Monthly	0.8	1.3	1	1.0	0.7	1.7	1.6	1.2	1.8	1.7	3.7	1.4
TKN (mg/L) Instantaneous Maximum	0.8	1.3	1	1.0	0.7	1.7	1.6	1.2	1.8	1.7	3.7	1.4
Total Phosphorus (mg/L) Average Monthly	< 0.10	< 0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.11	< 0.10	< 0.10	< 0.10
Total Phosphorus (mg/L) Instantaneous Maximum	< 0.10	< 0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.11	< 0.10	< 0.10	< 0.10
Total Arsenic (mg/L) Average Monthly	< 0.0050	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0037	< 0.0050	< 0.0050	< 0.0036	< 0.0050
Total Arsenic (mg/L) Daily Maximum	< 0.0050	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.025	0.0023	< 0.0050	< 0.0050	0.0021	< 0.0050
Total Chromium (mg/L) Average Monthly	< 0.0025	< 0.0025	< 0.0017	< 0.0025	< 0.0025	< 0.0025	< 0.008	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025
Total Chromium (mg/L) Daily Maximum	< 0.0025	< 0.0025	0.00085	< 0.0025	< 0.0025	< 0.0025	< 0.013	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025
Total Iron (mg/L) Average Monthly	< 0.048	0.063	0.093	0.020	0.027	0.19	0.14	< 0.030	< 0.030	1.1	0.11	0.2
Total Iron (mg/L) Daily Maximum	0.065	0.030	0.11	0.027	0.040	0.24	0.20	< 0.030	< 0.030	1.4	0.21	0.23
Total Manganese (mg/L) Average Monthly	0.07	0.31	0.68	0.15	0.19	0.0032	0.052	0.030	0.013	1.24	0.040	0.010
Total Manganese (mg/L) Daily Maximum	0.12	0.62	1.30	0.24	0.28	0.0040	0.057	0.041	0.016	1.80	0.065	0.013
Total Zinc (mg/L) Average Monthly	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.030	< 0.027	< 0.044	< 0.010	< 0.013	< 0.010	< 0.010

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Total Zinc (mg/L) Daily Maximum	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.050	0.0034	0.077	< 0.010	0.016	< 0.010	< 0.010
Phenol (mg/L) Average Monthly	< 0.0080	< 0.0080	< 0.010	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080
Phenol (mg/L) Daily Maximum	< 0.0080	< 0.0080	< 0.010	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080	< 0.0080
Aniline (mg/L) Average Monthly	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030
Aniline (mg/L) Daily Maximum	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030
a-Terpineol (mg/L) Average Monthly	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030
a-Terpineol (mg/L) Daily Maximum	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030
1,4-Dioxane (mg/L) Average Monthly	0.0015	< 0.0024	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0025	< 0.0025	0.0022	< 0.0030	0.0022	< 0.0026
1,4-Dioxane (mg/L) Daily Maximum	0.0016	0.0018	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	0.0020	0.0020	0.0023	< 0.0030	0.0027	0.0021
Benzoic Acid (mg/L) Average Monthly	< 0.0160	0.0160	< 0.0160	< 0.0160	< 0.0160	< 0.0160	< 0.0160	< 0.0160	< 0.0160	< 0.0160	< 0.0160	< 0.0160	< 0.0160
Benzoic Acid (mg/L) Daily Maximum	< 0.0160	0.016	< 0.0160	< 0.0160	< 0.0160	< 0.0160	< 0.0160	< 0.0160	< 0.0160	< 0.0160	< 0.0160	< 0.0160	< 0.0160
Naphthalene (mg/L) Average Monthly	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015
Naphthalene (mg/L) Daily Maximum	< 0.0015	< 0.0015	0.0012	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015
p-Cresol (mg/L) Average Monthly	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030
p-Cresol (mg/L) Daily Maximum	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030
Pyridine (mg/L) Average Monthly	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030
Pyridine (mg/L) Daily Maximum	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030

**DMR Data for Outfall 003 (from December 1, 2024 to November 30, 2025)**

Parameter	NOV-25	OCT-25	SEP-25	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24
pH (S.U.) Daily Maximum						6.25						7.88
COD (mg/L) Daily Maximum						28						27
TSS (mg/L) Daily Maximum						10						44

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Ammonia (mg/L) Daily Maximum						0.06						0.01
Total Iron (mg/L) Daily Maximum						0.41						1.2

**DMR Data for Outfall 004 (from December 1, 2024 to November 30, 2025)**

Parameter	NOV-25	OCT-25	SEP-25	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24
pH (S.U.) Daily Maximum						8.29						8.20
COD (mg/L) Daily Maximum						24						31
TSS (mg/L) Daily Maximum						10						10
Ammonia (mg/L) Daily Maximum						1.67						0.76
Total Iron (mg/L) Daily Maximum						0.32						0.21

**DMR Data for Outfall 005 (from December 1, 2024 to November 30, 2025)**

Parameter	NOV-25	OCT-25	SEP-25	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24
pH (S.U.) Daily Maximum						7.95						7.87
COD (mg/L) Daily Maximum						26						39
TSS (mg/L) Daily Maximum						5						128
Ammonia (mg/L) Daily Maximum						0.17						0.02
Total Iron (mg/L) Daily Maximum						0.47						1.4

**Compliance History**

**Effluent Violations for Outfall 001, from January 1, 2025 to December 31, 2025:**

Parameter	Date	Statistical Base Code	DMR Value	Units	Limit Value	Units
Total Manganese	02/28/25	Avg Mo	1.24	mg/L	1.16	mg/L

The facility had an unauthorized discharge February 16-18, 2025, due to freezing in the backwash tank which caused a clog. Samples were collected during the incident and analyzed for Total Iron and Total Manganese.

**Summary of Inspections:**

May 9, 2022 – No violations. The treatment system discharges to a swale. The swale contains an ultrasonic flow meter. Outfall 003 discharges stormwater from on top of the landfill cover. Outfall 004 is another stormwater outfall located on the downgradient side of Cranberry Road across from the home whose water supply had been contaminated and is now treated. Discharge from outfall 004 was observed to be from culvert pipe under Cranberry Rd. Outfall 005 is a stormwater outfall along Cranberry Road that captures some overflow from the home's pond. Discharge from outfall 005 was observed to be from Culvert pipe under Cranberry Road

**Development of Effluent Limitations**

<b>Outfall No.</b> <u>001</u>	<b>Design Flow (MGD)</b> <u>0.14</u>
<b>Latitude</b> <u>39° 58' 31"</u>	<b>Longitude</b> <u>-77° 11' 28"</u>
<b>Wastewater Description:</b> <u>Landfill leachate, stormwater</u>	

Permit limits can be Technology Based Effluent Limitations (TBELs) or Water Quality Based Effluent Limitations (WQBELs). Both are discussed in this Fact Sheet, in separate sections. Existing permit limits can also be carried forward in accordance with anti-backsliding provisions found in federal regulations [40 CFR §122.44(l)(1)]. Typically the limits imposed in the new permit are the more stringent of the Technology Based Effluent Limitations, Water Quality Based Effluent Limitations as needed, or the existing permit limits.

**Technology-Based Effluent Limitations (TBELs)**

Federal Effluent Limitation Guidelines (ELGs) for Landfills were promulgated in 2000 [40 CFR Part 445, 65 FR 3048, January 18, 2000]. The below ELG limits are considered Best Practicable Control Technology Currently Available (BPT), Best Conventional Pollutant Control Technology (BCT), and Best Available Technology Economically Achievable (BAT):

Pollutant	Limit (mg/l)	Statistical Base Code	Federal ELGs	State Regs. / Other
pH	6.0 – 9.0 S.U.	Min – Max		Pa Code Ch. 95.2
BOD <sub>5</sub>	56	Average Monthly	40 CFR Part 445 Subpart A	
	220	Maximum Daily		
Total Suspended Solids	27	Average Monthly	40 CFR Part 445 Subpart A	
	88	Maximum Daily		
Ammonia	4.9	Average Monthly	40 CFR Part 445 Subpart A	
	10	Maximum Daily		
a-Terpineol	0.019	Average Monthly	40 CFR Part 445 Subpart A	
	0.042	Maximum Daily		
Aniline	0.015	Average Monthly	40 CFR Part 445 Subpart A	
	0.024	Maximum Daily		
Benzoic Acid	0.073	Average Monthly	40 CFR Part 445 Subpart A	
	0.119	Maximum Daily		
Naphthalene	0.022	Average Monthly	40 CFR Part 445 Subpart A	
	0.059	Maximum Daily		
p-Cresol	0.015	Average Monthly	40 CFR Part 445 Subpart A	
	0.024	Maximum Daily		
Phenol	0.029	Average Monthly	40 CFR Part 445 Subpart A	
	0.048	Maximum Daily		
Pyridine	0.025	Average Monthly	40 CFR Part 445 Subpart A	
	0.072	Maximum Daily		
Arsenic	0.54	Average Monthly	40 CFR Part 445 Subpart A	
	1.1	Maximum Daily		
Chromium	0.46	Average Monthly	40 CFR Part 445 Subpart A	
	1.1	Maximum Daily		
Zinc	0.296	Average Monthly	40 CFR Part 445 Subpart A	
	0.535	Maximum Daily		

Note: the Development document for the Landfill ELGs specifies “Total Chromium”, not Chromium III or Chromium VI.

With the exception of Ammonia, the above limits have been included in the draft renewal and are the same limits as in the existing permit. (DEP’s software adds a decimal point and zero: “.0”) The facility has been meeting these limits. Ammonia limits during cold months are the same as the TBELs above which were also included in the existing permit. For the warm months of May through October, the permit limits for Ammonia are WQBELs instead of TBELs and are discussed in the WQBEL section of this Fact Sheet.

Note: As announced in the [Effluent Guidelines Program Plan 15](#) (January 2023), the EPA has completed a detailed study of the Landfills category. Based on the information and data collected through this study, the development of effluent guidelines and pretreatment standards for landfills that discharge their leachate is warranted. The EPA intends to revise

the existing Landfills Point Source Category ELGs to address PFAS [Per- and Polyfluoroalkyl Substances] discharge from these landfills.[Source: [www.epa.gov](http://www.epa.gov), [Landfills Effluent Guidelines | US EPA](#), <https://www.epa.gov/eg/landfills-effluent-guidelines>]

Other TBELs:

Pollutant	Limit (mg/l)	Statistical Base Code	State Reg. / Other
Dissolved Iron*	7	IMAX	Pa Code Ch. 95.2
Oil and Grease*	15	Average Monthly	Pa Code Ch. 95.2
	30	Maximum Daily	Pa Code Ch. 95.2

The effluent sample results in the renewal application showed a maximum concentration of 0 mg/l for Dissolved Iron; 3 out of 3 samples were “non-detect”. The effluent sample results in the renewal application showed a maximum concentration of 2.90 mg/l for Oil and Grease. The effluent sample results in previous permit applications similarly did not indicate a need for Dissolved Iron or Oil and Grease limits to be imposed in the permit. Unlike the ELG TBELs which are not discretionary, the above TBELs only need to be imposed when there is a Reasonable Potential that the discharge will exceed them.

**TBELs: Best Professional Judgment (BPJ) Limitations**

The existing permit included limits for both Total Iron and Total Manganese. There were significant concentrations of Iron and Manganese in the influent to the treatment plant: the permit application reported 7.2 mg/l for Total Iron (15 data points) and 7.2 mg/l for Total Manganese (15 data points) [sic]. These are above the developed WQBELs of 2.16 mg/l for Total Iron and 1.16 mg/l for Total Manganese.

Using the Treatability data attached to this Fact Sheet (compiled from literature searches), the proposed TBELs based on BPJ for **Total Iron** are 1.5 mg/l as a monthly average and 3 mg/l as a Daily Maximum, considered generally achievable by using chemical precipitation. These limits are more stringent than the WQBELs and are therefore imposed in the draft renewal permit. These are the same limits as in the existing permit.

Using the Treatability data attached to this Fact Sheet (compiled from literature searches), the proposed TBELs based on BPJ for **Total Manganese** are 2 mg/l as a monthly average and 4 mg/l as a Daily Maximum, considered generally achievable by using chemical precipitation. These TBELs are less stringent than the developed WQBELs discussed in the next section of the Fact Sheet. The WQBELs will therefore be imposed instead. The existing permit similarly imposed the WQBELs for Total Manganese.

**Water Quality-Based Effluent Limitations (WQBELs)**

*Opossum Creek Total Maximum Daily Load (TMDL):*

Opossum Creek		
Information	Status	Links
<b>County:</b> <b>Category:</b> Unknown <b>Cause:</b> TURBIDITY, TOTAL SUSPENDED SOLIDS (TSS), SILTATION <b>HUC:</b>	EPA Approved 9/14/2014	<b>TMDL:</b> <a href="#">Opossum Creek Final TMDL</a>

A TMDL was developed for Opossum Creek after it and its tributaries were assessed impaired and placed on Pennsylvania’s 303(d) list of impaired waters. The TMDL mentions three point source contributions but the ADSCO landfill is not one of them. The point sources were: Motts Inc. PA0009326 (now Motts LLP), Rice Foods PA0088455 (now Rice Fruit Co.), and Possum Valley Municipal Utility Authority PA0247154 (water treatment plant). The current NPDES permits for Motts and Rice limit Total Suspended Solids (TSS) concentration to 30 mg/l as a monthly average. The current NPDES permit for Motts also includes mass load limitations: 260 lbs/day as a monthly average. The NPDES permit for Rice does not include a TSS mass load limitation. The NPDES permit PA0247154 was terminated at the end of 2024 due to ceased discharges. Also, the TMDL includes a bulk reserve of 227.80 lbs/day of TSS in the Waste Load Allocations (WLAs) for point source contributions.

The TMDL proposed achieving reductions in ‘current’ sediment loadings from cropland, from hay/pasture, developed areas, and streambanks. The reduction goals established by the TMDL were expected to be achieved with Best Management Practices (BMPs) such as streambank stabilization and fencing; riparian buffer strips; strip cropping; conservation tillage; stormwater retention wetlands; and heavy use area protection.

When a downstream water is impaired and a WLA has not been included for a point source discharge in a TMDL, it is DEP policy to require reporting of the pollutant concentrations and, at a minimum, to freeze the loads of the pollutants identified as contributing to the impairment until such time as a TMDL is developed or revised. In this case, concentration limits for TSS based on ELGs are already included in the NPDES permit and are being met. There is no increased TSS load expected: this renewal permit is not authorizing an increase in design flow or changing the TSS concentration limits from the existing permit.

In addition to this “local” TMDL, the facility’s discharges are within the Chesapeake Bay watershed which is also subject to a TMDL as discussed below.

*Chesapeake Bay TMDL:*

The site’s discharge is to the Opossum Creek which empties into the Conewago River which empties into the Susquehanna River which empties into the Chesapeake Bay. There is a TMDL for the Chesapeake Bay to control nutrient loads. This facility has not been identified as a significant industrial discharger of nutrients, such as one that discharges  $\geq 75$  lbs/day of Total Nitrogen (TN) and  $\geq 25$  lbs/day of Total Phosphorus (TP).

Monitoring and reporting of TN and TP were included in the existing permit for purposes of tracking nutrient loads to the Chesapeake Bay, a requirement of the TMDL:

DMRs from 1/1/2023 – 12/31/2025, outfall 001			
	Avg. Conc. (mg/l)	Avg. Flow (MGD)	Estimated Average Mass Load (lbs/day)
Total Phosphorus	<0.10	0.01865	0.0156
Total Nitrogen	<2.95	0.01865	0.4588

The above data indicate TN and TP loads well below 75 lbs/day and 25 lbs/day, respectively.

Monitoring and reporting of TN and TP have continued to be required in the draft renewal permit. Given the small mass loads, the frequency of once per month in the existing permit has been carried forward.

Because this facility is an existing discharger and is not an operating landfill, this permit does not require a zero cap load for TP and TN.

***WQBELs other than TMDLs:***

DEP uses a model known as WQM 7.0 to determine appropriate limits for CBOD<sub>5</sub>, Ammonia (NH<sub>3</sub>-N), and Dissolved Oxygen (DO). DEP’s Guidance document #386-2000-022 provides the methods and calculations contained in the WQM 7.0 model for conducting wasteload allocation and for determining recommended NPDES effluent limits for point source discharges. For more explanation of the WQM 7.0 model, see Technical Reference Guide ‘WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen’, document #386-2000-016.

The source of the River Mile Indices (RMI’s) and elevations that were used in the WM 7.0 model (and TMS model discussed below) are DEP’s eMapPA while the source of the Drainage Areas and stream design low-flows (Q<sub>7-10</sub>) are the USGS PA Stream Stats online tool (see attached). The Low Flow Yield (LFY) is calculated as the Q<sub>7-10</sub> / Drainage Area.

DEP uses a model called the Toxics Management Spreadsheet (TMS) for toxic pollutants. It is a macro-enabled Excel version of DEP’s former PENTOX model. It evaluates the reasonable potential for discharges to cause in-stream exceedances of water quality criteria for toxic parameters and recommends Water Quality-Based Effluent Limitations (WQBELs) as permit limits as needed or recommends monitoring requirements to better evaluate ‘reasonable potential’ for some parameters. For more explanation of the TMS / PENTOX model, see Technical Reference Guide ‘PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics’, Version 2.0, document #386-2000-015.

When there are less than 10 effluent sample results, the *maximum* effluent concentration of the available data (such as from the permit application and from DMRs) is used by DEP as the discharge concentration input value in the TMS for each toxic parameter. In this case there were more than 10 effluent sampling results for Total Arsenic, Total Chromium\*, Total Iron, Total Manganese, and 1,4-Dioxane in the discharge at outfall 001 and the median values of discrete data from Daily Effluent Supplemental forms between January 1, 2024 and December 31, 2025 were calculated. See the attached. Those median values were used in the TMS as discharge concentrations for the reasonable potential analysis. There were also more than 10 effluent sample results for Naphthalene, Phenol, and Zinc but it was not necessary to calculate median values from discrete data for these 3 parameters. Even using the maximum effluent concentrations from the DMR data for Naphthalene and Phenol, the TMS did not recommend WQBELs or monitoring requirements for these two parameters. Even using the maximum effluent concentrations from the DMR data for Total Zinc (0.077 mg/l), the TMS did not recommend WQBELs, only a monitoring requirement whereas the permittee is already monitoring for the sake of meeting TBELs. If the median value of the Total Zinc Daily Maximums from the DMR data is used (0.010 mg/l) as the discharge concentration input value in TMS, Total Zinc is not flagged by the TMS for WQBELs or for a monitoring requirement. For the other toxic parameters for which DMR data is available, there are no water quality criteria adopted in regulations and approved by EPA for use in NPDES permits and loaded in the TMS model in order to calculate WQBELs: Aniline,  $\alpha$ -Terpineol, Benzoic Acid, p-Cresol, Pyridine, and 1-4-Dioxane.

\*The existing permit and the ELGs impose limits for Total Chromium. Total Chromium is the sum of all valence states of Chromium, the most common being Chromium III and Chromium VI. Because the median effluent concentration of “Total Chromium” reported on the Daily Effluent Supplemental forms for the past two years was <0.0025 mg/l, that value was used as a TMS input for both Chromium III and Hexavalent Chromium. Individually, Cr III and Cr VI could not be greater than “Total Chromium”.)

For discharge Hardness, DEP typically uses the average concentration rather than the maximum concentration, taken from the application or DMRs.

Default values used in the models in the absence of site-specific data include:

- Stream pH = 7 s.u.
- Discharge pH = 7 s.u.
- Stream Temperature = 20°C
- Discharge Temperature = 25°C
- Stream Hardness = 100 mg/l
- Coefficient of Variability in data = 0.5
- Chemical translators for metals [provided in regulations, Title 25 Pa Code Chapter 93.8b]
- Background concentration of toxics = 0 mg/l

In addition, the models estimate the stream width, depth, slope, velocity, and partial mix factors.

When every laboratory sample result for a parameter is “undetected” (U qualifier by a certified lab), the analytical method’s Minimum Detection Limit (MDL) can be used as the discharge concentration in TMS rather than “<QL value” (QL stands for Quantitation Limit). The Bureau of Labs previously provided in emails to DEP’s Bureau of Clean Water that method 624.1 and method 625.1 can yield sufficiently sensitive detection limits. The permittee used these two methods for their influent and effluent samples for the NPDES renewal application.

In a November 2009 DEP investigation, DEP biologists labeled UNT 09071 as “intermittent” and UNT 09066 as “perennial”. In the attached model simulations, State fish criteria were applied at UNT 09066 and not at UNT 09071. Human health criteria were applied at the point of discharge (UNT 09071) as appropriate.

The following results were determined through water quality modeling (see attached):

Parameter	Model Results	Statistical Base Code	Model
Ammonia, May 1- Oct 31	2.5 mg/l *	Average Monthly	WQM 7.0
Ammonia, May 1- Oct 31	5.0 mg/l *	Maximum	WQM 7.0
Dissolved Oxygen	5.0 mg/l	Instant. Minimum	WQM 7.0

\*The model did not calculate a more stringent WQBEL but carried forward the existing permit limits (WQBELs) to avoid backsliding.

The **Ammonia** limits in the existing permit for November through April are also being carried forward into the draft renewal permit and are also WQBELs. The winter Ammonia limits in the existing permit were developed by adjusting the Q7-10 and the Temperature to approximate winter conditions and re-running the WQM 7.0 model.

In addition to the limits shown above, the TMS model recommended a **monitoring requirement** for Total Arsenic, Total Manganese, and Total Zinc. Monitoring is already required for these 3 parameters because there are existing permit limits: ELGs for Total Arsenic and Total Zinc and WQBELs for Total Manganese. These limits will be carried forward.

Running the TMS with *influent* concentrations (see attached) demonstrates that, without treatment, the **Total Manganese** concentrations in the leachate would cause an in-stream exceedance of water quality criteria. Having the limits and monitoring requirement ensures that the treatment is consistently effective and that any bypasses or overflows are sampled for Total Manganese. Retaining the Total Manganese permit limit is consistent with DEP's Standard Operating Procedure (SOP) 'Establishing Water Quality-Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants in NPDES Permits for Existing Dischargers' which states:

*Application managers will reestablish existing WQBELs in a renewed permit if RP [reasonable potential to cause an in-stream exceedance of water quality criteria] is demonstrated based on the latest information.... if there is no longer reasonable potential because the permittee has successfully implemented treatment to achieve the existing WQBEL in a prior permit term, the existing WQBEL should remain in the permit unless it can be documented that there would be no reasonable potential in the absence of continued treatment (e.g., reduced influent pollutant loading).*

The influent TMS simulation also flagged **Hexavalent Chromium** and **Trichloroethylene (TCE)** as parameters which could cause in-stream exceedances of water quality criteria if effective treatment is not consistent. TCE was identified as a contaminant in the remedial investigation and in the 2023 Environmental Covenant and Deed Restriction. (The groundwater data provided in the permit application showed detects of Total Chromium and TCE. The groundwater data did not include analysis for Hexavalent Chromium.) A monitoring requirement for these 2 parameters has been added to the draft renewal permit.

#### Mass Loading Limits

In this case, the landfill ELGs are expressed as concentration limits and DEP's Technical Guidance Document 362-0400-001, page 4 of Chapter 2, states: "In these situations the technology-based permit limitations should be expressed in concentrations only, unless the ELG regulation contains instructions for conversion into mass limitations." Also, the site is unmanned and collection of samples is not frequent. As with the existing permit, mass load limits are not imposed in the draft renewal permit for any parameters..

#### Sampling Frequency and Type

Because a flow meter is in use (and preferred), the minimum sampling frequency and sampling type for Flow has been changed to 'Continuous' and 'Metered'.

The site is not an active landfill and is not manned. A sample type of 'Grab' has been carried forward from the existing permit. Twice per month as the minimum monitoring frequency will be allowed, except that once a month will be allowed for Total Phosphorus, Total Nitrogen, and Total Nitrogen's components TKN, NO3, and NO2. These are the same monitoring frequencies as in the existing permit.

#### Per- and Polyfluoroalkyl Substances (PFAS) Monitoring

While there are many PFAS compounds, DEP has initiated a policy to identify PFAS in discharges using four indicator parameters: Perfluorooctanoic acid (PFOA), Perfluorooctane sulfonic acid (PFOS), Perfluorobutane sulfonic acid (PFBS), and Hexafluoropropylene oxide dimer acid (HFPO-DA).

The renewal application included three effluent sampling results for these 4 PFAS parameters:

POLLUTANT GROUP 1 PARAMETERS	CONCENTRATION / MASS PRESENT						No. Analyses	No. "Non-Detect" Results	QL Used	Method Used
	Min/Max Daily Value		Max Avg Monthly Value		Long-Term Avg Value					
	Conc	Mass (lbs/dav)	Conc	Mass (lbs/dav)	Conc	Mass (lbs/dav)				
Perfluorooctanoic acid (PFOA) (ng/L)	29.00	0.000007	25.67	0.000006	25.67	0.000006	3	0	1.0	EPA 1633
Perfluorooctanesulfonic acid (PFOS) (ng/L)	29.00	0.000007	26.33	0.000006	26.33	0.000006	3	0	2.0	EPA 1633
Perfluorobutanesulfonic acid (PFBS) (ng/L)	7.80	0.000002	7.63	0.000002	7.63	0.000002	3	0	1.0	EPA 1633
Hexafluoropropylene oxide dimer acid (HFPO-DA) (ng/L)	0	0	0	0	0	0	3	3	2.0	EPA 1633

Because there were detects of PFAS, quarterly monitoring at outfall 001 has been added to the draft renewal permit, consistent with DEP's SOP 'Establishing Effluent Limitations for Individual Industrial Permits'. The following footnote has also been included:

*\*The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive quarters 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.*

Coliform Monitoring

Fecal Coliform is not found in most industrial wastewater. The ELGs for Landfill do not include Fecal Coliform. The monitoring requirement from the existing permit has produced effluent sampling data that supports dropping this monitoring requirement from the draft renewal permit. The DMR data from January 1, 2023 through December 31, 2025 yield a median concentration of 1.5 No./100 mL for Fecal Coliform.

Total Dissolved Solids (TDS) Baseline

Chapter 95.10 of the PA Code requires a TDS limit of 2000 mg/l if there is an increase of an existing mass loading after August 2010 of greater than 5000 lbs/day [95.10(a)(1) and (7) and 95.10(c)]. 95.10(a)(1) describes the existing load as "maximum daily discharge loads of TDS".

The July 2007 application sampling results were used to determine the estimated TDS baseline as of August 2010:

$$(330 \text{ mg/l Daily max. for } 001 \times 0.14 \text{ MGD for } 001) + (260 \text{ mg/l Daily max. for } 002 \times 0.01 \text{ MGD for } 002) \times 8.34 \text{ c.f.} = 407 \text{ lb/day TDS}$$

Anti-Backsliding

Not Applicable. No limits were made less stringent.

Antidegradation (Chapter 93.4)

The effluent limits for this discharge have been developed so that the existing stream uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High Quality (HQ) or Exceptional Value (EV) waters are impacted by this discharge.

303(d) List: Impaired Waters

This renewal permit does not authorize any increase in the loading of sediment or TSS for this existing discharger. For further discussion, see the TMDL section of the Fact Sheet.

As evidenced by Fecal Coliform sampling over the past three years, this site's discharge is not contributing pathogens to the receiving water causing an impairment of recreational uses.

**Stormwater**

“Stormwater associated with industrial activity” must be covered by a NPDES permit. The stormwater discharged at outfalls 003, 004, and 005 does not come into direct contact with landfill wastes or leachate treatment. Therefore federal ELGs for stormwater at landfills do not apply [40 CFR 445].

According to the renewal application:

Outfall / IMP No.	LATITUDE			LONGITUDE			RECEIVING WATERS
	Deg	Min	Sec	Deg	Min	Sec	Name of Receiving Waters
003	39	58	53.691	77	11	22.520	Unnamed Tributary to Opossum Creek
004	39	58	29.228	77	11	35.069	Unnamed Tributary to Opossum Creek
005	39	58	27.841	77	11	41.206	Unnamed Tributary to Opossum Creek

Outfall No.	Entirely Stormwater?	Ind. SW?	Drainage Area (ft <sup>2</sup> )	% Impervious	Description of Materials/Activities in Drainage Area Exposed to Precipitation	No Exposure?
003	<input checked="" type="checkbox"/>	<input type="checkbox"/>	551,992	0	Capped Landfill	<input type="checkbox"/>
004	<input checked="" type="checkbox"/>	<input type="checkbox"/>	173,404	0	Capped Landfill	<input type="checkbox"/>
005	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4,460,544	0	Capped Landfill	<input type="checkbox"/>

The monitoring requirements in the draft renewal permit match those found in DEP’s general permit for industrial stormwater PAG-03, Appendix C for Landfills, which was public noticed and is in effect. DEP’s PAG-03 permit is modeled after the EPA’s general stormwater permit. Monitoring once every six months at each stormwater outfall is required for **pH, TSS, Chemical Oxygen Demand (COD), Ammonia, Total Iron, Total Nitrogen, and Total Phosphorus.**

Besides monitoring, the PAG-03 requires that Best Management Practices (BMPs) be employed, a Preparedness, Prevention and Contingency (PPC) Plan be kept updated and followed, semiannual inspections of each stormwater outfall be conducted, and a stormwater annual report be submitted to the DEP. These requirements were in the existing permit and are again included in the Part C conditions of the draft renewal permit.

Summarized DMR data for the stormwater outfalls are shown below.

**Outfall 003:**

Parameter and units	1/1/2023-6/30/2023	7/1/2023-12/31/2023	1/1/2024-6/30/2024	7/1/2024-12/31/2024	1/1/2025-6/30/2025	7/1/2025-12/31/2025
COD, mg/l	12	22	15	27	28	Not yet provided
pH, s.u.	7.78	8.3	8.19	7.88	6.25	provided
TSS, mg/l	7	14	5	44	10	
Ammonia, mg/l	0.167	0.06	0.03	0.01	0.06	
Total Iron, mg/l	0.22	0.11	0.31	1.2	0.41	

**Outfall 004:**

Parameter and units	1/1/2023-6/30/2023	7/1/2023-12/31/2023	1/1/2024-6/30/2024	7/1/2024-12/31/2024	1/1/2025-6/30/2025	7/1/2025-12/31/2025
COD, mg/l	10	20	18	31	24	Not yet provided
pH, s.u.	7.78	8.42	8.01	8.20	8.29	provided
TSS, mg/l	5	98	9	10	10	
Ammonia, mg/l	2.13	0.11	0.76	0.76	1.67	
Total Iron, mg/l	0.22	0.71	0.26	0.21	0.32	

**Outfall 005:**

Parameter and units	1/1/2023-6/30/2023	7/1/2023-12/31/2023	1/1/2024-6/30/2024	7/1/2024-12/31/2024	1/1/2025-6/30/2025	7/1/2025-12/31/2025
COD, mg/l	11	20	20	39	26	Not yet provided
pH, s.u.	7.72	7.45	7.71	7.87	7.95	provided
TSS, mg/l	23	<5	48	128	5	
Ammonia, mg/l	0.235	0.08	0.04	0.02	0.17	
Total Iron, mg/l	0.44	0.066	0.73	1.4	0.47	

**Proposed Effluent Limitations and Monitoring Requirements**

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality as needed and BPJ. Daily maximum limits and Instantaneous Maximum (IMAX) limits may be stated in regulations or derived from multipliers. Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	2/month	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	2/month	Grab
Biochemical Oxygen Demand (BOD5)	XXX	XXX	XXX	56.0	220.0	XXX	2/month	Grab
Total Suspended Solids	XXX	XXX	XXX	27.0	88.0	XXX	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	Report	XXX	Report	1/month	Calculation
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	4.9	9.8	XXX	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	2.5	5.0	XXX	2/month	Grab
Nitrate as N	XXX	XXX	XXX	Report	XXX	Report	1/month	Grab
Nitrite as N	XXX	XXX	XXX	Report	XXX	Report	1/month	Grab
Total Kjeldahl Nitrogen	XXX	XXX	XXX	Report	XXX	Report	1/month	Grab
Total Phosphorus	XXX	XXX	XXX	Report	XXX	Report	1/month	Grab
Total Arsenic	XXX	XXX	XXX	0.54	1.1	XXX	2/month	Grab
Chromium, Hexavalent	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Chromium, Total	XXX	XXX	XXX	0.46	1.1	XXX	2/month	Grab

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Iron, Total	XXX	XXX	XXX	1.5	3.0	XXX	2/month	Grab
Manganese, Total	XXX	XXX	XXX	1.16	1.82	XXX	2/month	Grab
Zinc, Total	XXX	XXX	XXX	0.296	0.535	XXX	2/month	Grab
Phenol	XXX	XXX	XXX	0.029	0.048	XXX	2/month	Grab
Aniline	XXX	XXX	XXX	0.015	0.024	XXX	2/month	Grab
a-Terpineol	XXX	XXX	XXX	0.019	0.042	XXX	2/month	Grab
1,4-Dioxane	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Benzoic Acid	XXX	XXX	XXX	0.073	0.119	XXX	2/month	Grab
Naphthalene	XXX	XXX	XXX	0.022	0.059	XXX	2/month	Grab
p-Cresol	XXX	XXX	XXX	0.015	0.024	XXX	2/month	Grab
Pyridine	XXX	XXX	XXX	0.025	0.072	XXX	2/month	Grab
Trichloroethylene	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
PFOA (ng/L) *	XXX	XXX	XXX	XXX	XXX	Report	1/quarter *	Grab
PFOS (ng/L) *	XXX	XXX	XXX	XXX	XXX	Report	1/quarter *	Grab
PFBS (ng/L) *	XXX	XXX	XXX	XXX	XXX	Report	1/quarter *	Grab
HFPO-DA (ng/L) *	XXX	XXX	XXX	XXX	XXX	Report	1/quarter *	Grab

\*The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive quarters 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.

Compliance Sampling Location: at discharge from facility, after treatment

**Proposed Effluent Limitations and Monitoring Requirements**

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality as needed and BPJ. Daily maximum limits and Instantaneous Maximum (IMAX) limits may be stated in regulations or derived from multipliers. Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

**Outfalls 003, 004, and 005, Effective Period: Permit Effective Date through Permit Expiration Date.**

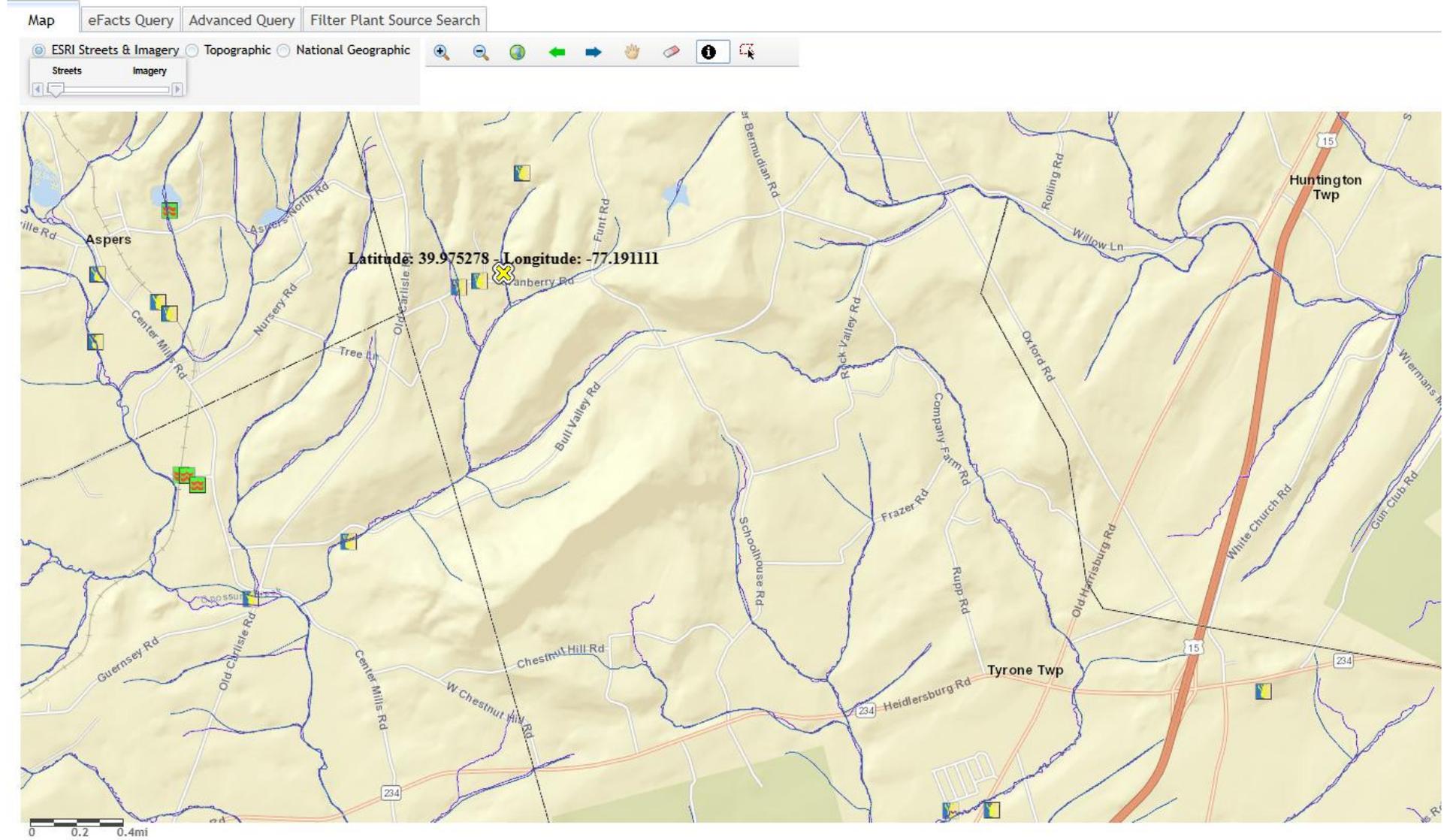
Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
COD	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Ammonia	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Iron	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Compliance Sampling Location: at outfall 003

Other Comments:

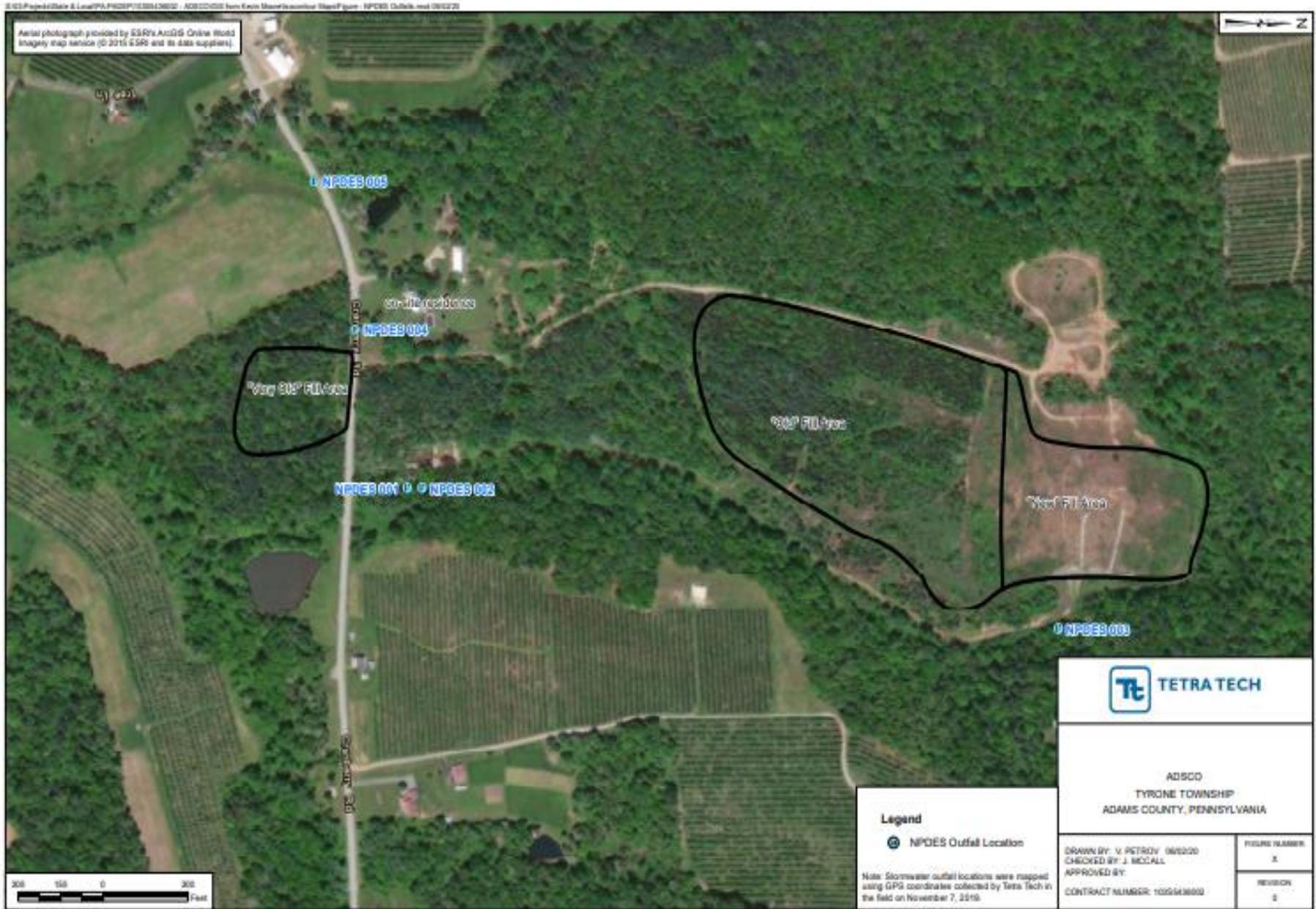
Total Nitrogen is the sum of Total Kjeldahl-N (TKN) plus Nitrite-Nitrate as N (NO<sub>2</sub>+NO<sub>3</sub>-N), where TKN and NO<sub>2</sub>+NO<sub>3</sub>-N are measured in the same sample.

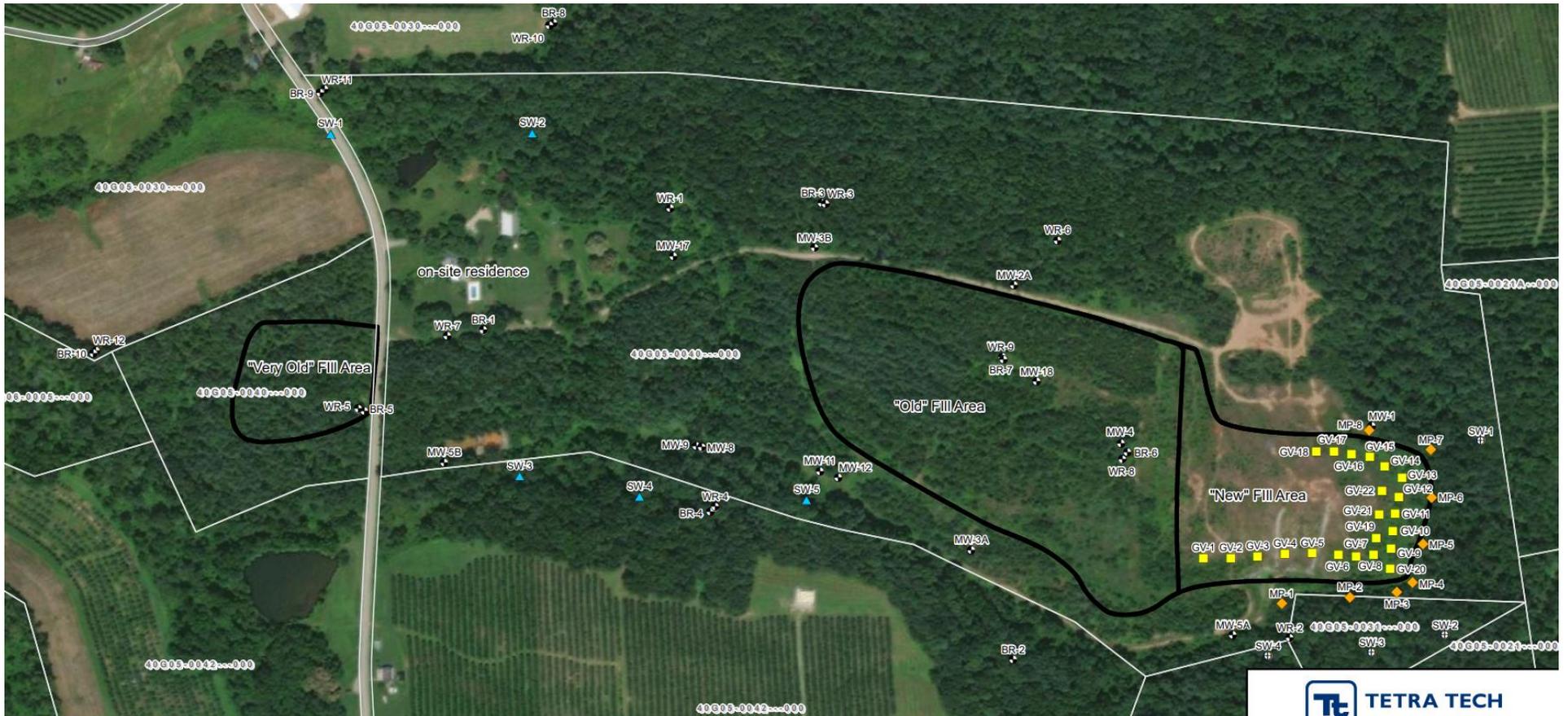
Tools and References Used to Develop Permit	
<input checked="" type="checkbox"/>	WQM for Windows Model (see Attachment)
<input checked="" type="checkbox"/>	Toxics Management Spreadsheet (see Attachment)
<input type="checkbox"/>	TRC Model Spreadsheet (see Attachment)
<input type="checkbox"/>	Temperature Model Spreadsheet (see Attachment)
<input checked="" type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input checked="" type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
<input type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 386-2000-002, 9/08.
<input type="checkbox"/>	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
<input type="checkbox"/>	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
<input checked="" type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
<input checked="" type="checkbox"/>	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
<input checked="" type="checkbox"/>	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.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
<input checked="" type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
<input checked="" type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
<input checked="" type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
<input type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
<input type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
<input type="checkbox"/>	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.
<input checked="" type="checkbox"/>	Design Stream Flows, 386-2000-003, 9/98.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
<input checked="" type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input checked="" type="checkbox"/>	SOP: New and Reissuance Industrial Waste and Industrial Stormwater Individual NPDES Permit Applications, Version 1.7, Revised December 9, 2025.
<input checked="" type="checkbox"/>	SOP: Establishing Effluent Limitations for Individual Industrial Permits, Version 1.7, Revised February 5, 2024.
<input checked="" type="checkbox"/>	SOP: Establishing Water-Quality Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants in NPDES Permits for Existing Dischargers, Version 1.7, December 18, 2025.
<input checked="" type="checkbox"/>	DEP's general permit PAG-03 Stormwater Associated With Industrial Activity, effective March 24, 2023.



Imagery: Source: Esri, Vantor, Earthstar Geographics, and the GIS User Community; ESRI Streets: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community







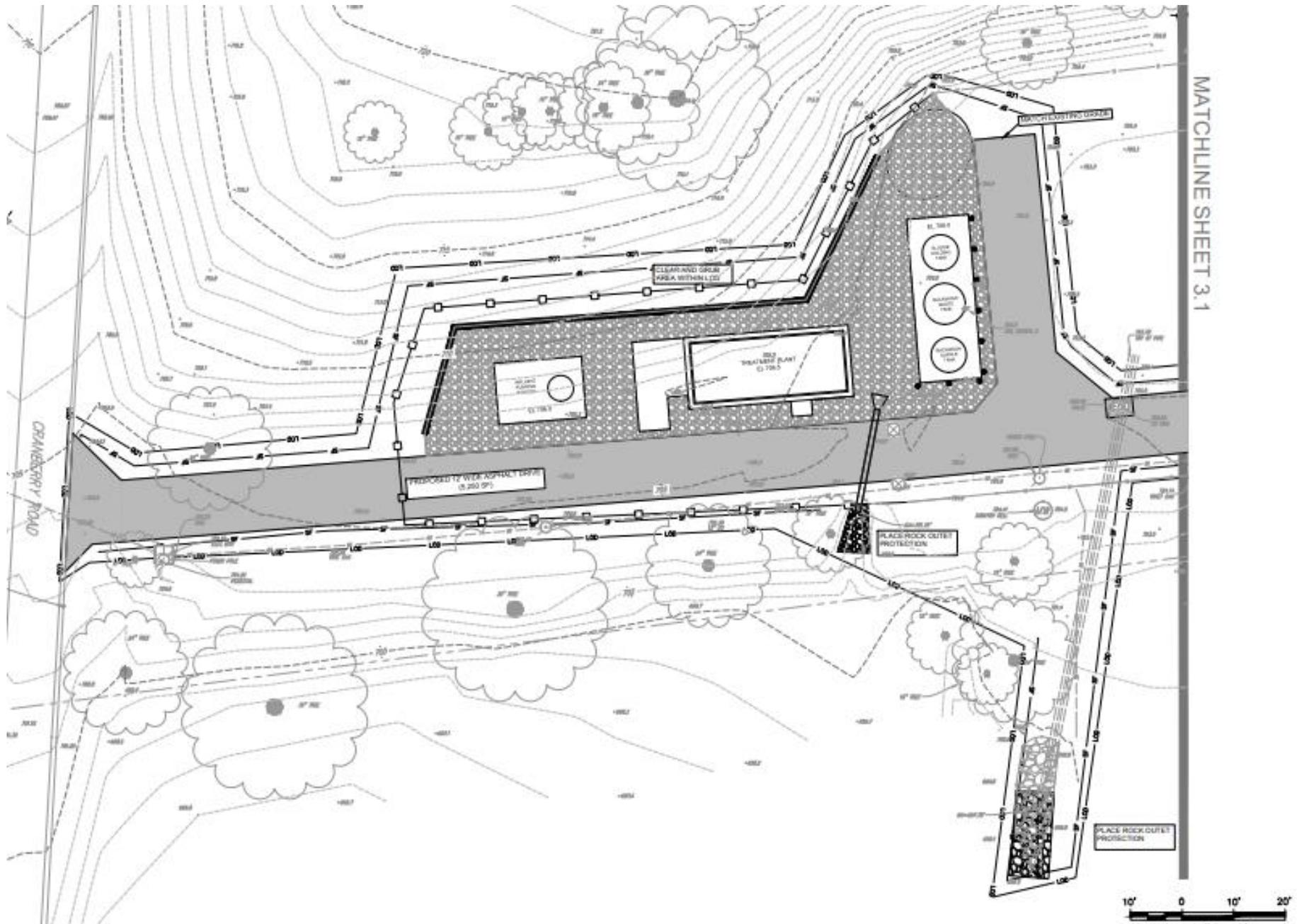
**Tt TETRA TECH**

SITE LAYOUT  
ADSCO  
TYRONE TOWNSHIP  
ADAMS COUNTY, PENNSYLVANIA

PREPARED BY: K. ORZADA 03/17/23	FIGURE NUMBER
REVIEWED BY: H. MARTIN	2
APPROVED BY: J. MCCALL	REVISION
CONTRACT NUMBER: 10388471002	0

DMR DATA:

PERMIT	MONITOR.START	MONITOR.END	OUTFALL	PARAMETER	LOAD_UNITS	LOAD_1_V	LOAD_1	LOAD_1_SBC	LOAD_2_V	LOAD_2	LOAD_2_SMPLE_FREQUEN	SAMPLE_TYPE	
PA0081604	1/1/2023	1/31/2023	001	Flow	MGD	0.01819	Monitor	Average Monthly	0.0446	Monitor	Daily Maxim	1/day	Measured
PA0081604	2/1/2023	2/28/2023	001	Flow	MGD	0.00863	Monitor	Average Monthly	0.02224	Monitor	Daily Maxim	1/day	Measured
PA0081604	3/1/2023	3/31/2023	001	Flow	MGD	0.02415	Monitor	Average Monthly	0.14431	Monitor	Daily Maxim	1/day	Measured
PA0081604	4/1/2023	4/30/2023	001	Flow	MGD	0.02627	Monitor	Average Monthly	0.25921	Monitor	Daily Maxim	1/day	Measured
PA0081604	5/1/2023	5/31/2023	001	Flow	MGD	0.02563	Monitor	Average Monthly	0.23004	Monitor	Daily Maxim	1/day	Measured
PA0081604	6/1/2023	6/30/2023	001	Flow	MGD	0.01406	Monitor	Average Monthly	0.03438	Monitor	Daily Maxim	1/day	Measured
PA0081604	7/1/2023	7/31/2023	001	Flow	MGD	0.01366	Monitor	Average Monthly	0.05382	Monitor	Daily Maxim	1/day	Measured
PA0081604	8/1/2023	8/31/2023	001	Flow	MGD	0.0104	Monitor	Average Monthly	0.01623	Monitor	Daily Maxim	1/day	Measured
PA0081604	9/1/2023	9/30/2023	001	Flow	MGD	0.01115	Monitor	Average Monthly	0.05814	Monitor	Daily Maxim	1/day	Measured
PA0081604	10/1/2023	10/31/2023	001	Flow	MGD	0.01069	Monitor	Average Monthly	0.04014	Monitor	Daily Maxim	1/day	Measured
PA0081604	11/1/2023	11/30/2023	001	Flow	MGD	0.01064	Monitor	Average Monthly	0.44766	Monitor	Daily Maxim	1/day	Measured
PA0081604	12/1/2023	12/31/2023	001	Flow	MGD	0.02979	Monitor	Average Monthly	0.57582	Monitor	Daily Maxim	1/day	Measured
PA0081604	1/1/2024	1/31/2024	001	Flow	MGD	0.05976	Monitor	Average Monthly	0.57564	Monitor	Daily Maxim	1/day	Measured
PA0081604	2/1/2024	2/29/2024	001	Flow	MGD	0.043	Monitor	Average Monthly	0.12942	Monitor	Daily Maxim	1/day	Measured
PA0081604	3/1/2024	3/31/2024	001	Flow	MGD	0.04678	Monitor	Average Monthly	0.31374	Monitor	Daily Maxim	1/day	Measured
PA0081604	4/1/2024	4/30/2024	001	Flow	MGD	0.06371	Monitor	Average Monthly	0.39384	Monitor	Daily Maxim	1/day	Measured
PA0081604	5/1/2024	5/31/2024	001	Flow	MGD	0.02754	Monitor	Average Monthly	0.1485	Monitor	Daily Maxim	1/day	Measured
PA0081604	6/1/2024	6/30/2024	001	Flow	MGD	0.01947	Monitor	Average Monthly	0.1422	Monitor	Daily Maxim	1/day	Measured
PA0081604	7/1/2024	7/31/2024	001	Flow	MGD	0.01247	Monitor	Average Monthly	0.18072	Monitor	Daily Maxim	1/day	Measured
PA0081604	8/1/2024	8/31/2024	001	Flow	MGD	0.02519	Monitor	Average Monthly	0.57582	Monitor	Daily Maxim	1/day	Measured
PA0081604	9/1/2024	9/30/2024	001	Flow	MGD	0.01008	Monitor	Average Monthly	0.10584	Monitor	Daily Maxim	1/day	Measured
PA0081604	10/1/2024	10/31/2024	001	Flow	MGD	0.00928	Monitor	Average Monthly	0.04788	Monitor	Daily Maxim	1/day	Measured
PA0081604	11/1/2024	11/30/2024	001	Flow	MGD	0.00576	Monitor	Average Monthly	0.10728	Monitor	Daily Maxim	1/day	Measured
PA0081604	12/1/2024	12/31/2024	001	Flow	MGD	0.01041	Monitor	Average Monthly	0.1278	Monitor	Daily Maxim	1/day	Measured
PA0081604	1/1/2025	1/31/2025	001	Flow	MGD	0.0071	Monitor	Average Monthly	0.05094	Monitor	Daily Maxim	1/day	Measured
PA0081604	2/1/2025	2/28/2025	001	Flow	MGD	0.00999	Monitor	Average Monthly	0.14742	Monitor	Daily Maxim	1/day	Measured
PA0081604	3/1/2025	3/31/2025	001	Flow	MGD	0.01427	Monitor	Average Monthly	0.23184	Monitor	Daily Maxim	1/day	Measured
PA0081604	4/1/2025	4/30/2025	001	Flow	MGD	0.0123	Monitor	Average Monthly	0.10998	Monitor	Daily Maxim	1/day	Measured
PA0081604	5/1/2025	5/31/2025	001	Flow	MGD	0.03439	Monitor	Average Monthly	0.198	Monitor	Daily Maxim	1/day	Measured
PA0081604	6/1/2025	6/30/2025	001	Flow	MGD	0.02366	Monitor	Average Monthly	0.12744	Monitor	Daily Maxim	1/day	Measured
PA0081604	7/1/2025	7/31/2025	001	Flow	MGD	0.01276	Monitor	Average Monthly	0.04481	Monitor	Daily Maxim	1/day	Measured
PA0081604	8/1/2025	8/31/2025	001	Flow	MGD	0.00509	Monitor	Average Monthly	0.01126	Monitor	Daily Maxim	1/day	Measured
PA0081604	9/1/2025	9/30/2025	001	Flow	MGD	0.00433	Monitor	Average Monthly	0.01089	Monitor	Daily Maxim	1/day	Measured
PA0081604	10/1/2025	10/31/2025	001	Flow	MGD	0.00428	Monitor	Average Monthly	0.01184	Monitor	Daily Maxim	1/day	Measured
PA0081604	11/1/2025	11/30/2025	001	Flow	MGD	0.00329	Monitor	Average Monthly	0.00483	Monitor	Daily Maxim	1/day	Measured
PA0081604	12/1/2025	12/31/2025	001	Flow	MGD	0.00322	Monitor	Average Monthly	0.01602	Monitor	Daily Maxim	1/day	Measured
				Avg		0.0186			0.1595				
				Max		0.0637	(3.4 times the avg)		0.5758	(3.6 times the avg)			
				Median		0.0126			0.1187				





AT OUTFALL 001:

StreamStats Report

Region ID:

PA

Clicked Point (Latitude, Longitude):

39.97492, -77.19097

Time:

2026-02-05 15:26:31 -0500



Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLOPD	Mean Basin Slope degrees	5.8212	degrees	1.7	6.4
DRNAREA	Drainage Area	0.18	square miles	4.78	1150
ROCKDEP	Depth to Rock	5.2	feet	4.13	5.21
URBAN	Percent Urban	0	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]

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

Low-Flow Statistics Flow Report [Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0678	ft <sup>3</sup> /s
30 Day 2 Year Low Flow	0.0815	ft <sup>3</sup> /s
7 Day 10 Year Low Flow	0.0308	ft <sup>3</sup> /s
30 Day 10 Year Low Flow	0.0391	ft <sup>3</sup> /s
90 Day 10 Year Low Flow	0.0548	ft <sup>3</sup> /s

Low-Flow Statistics Citations

[Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p.](#)

Application Version: 4.31.0

SSHidro Services Version: 1.1.0

SSDelineate Services Version: 1.0

NSS Services Version: 2.2.1

GageStats Services Version: 1.2.1

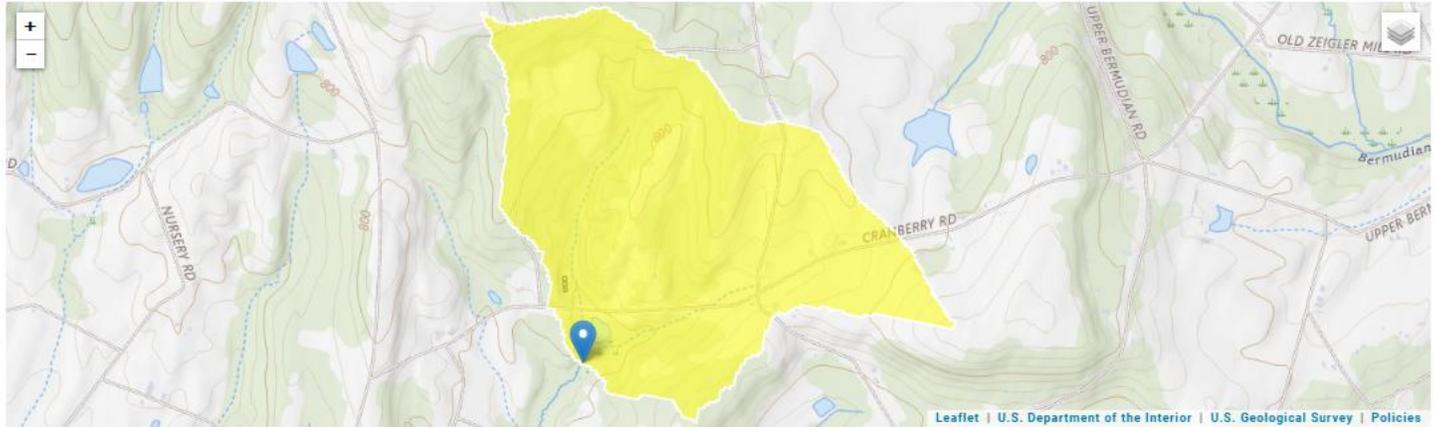
Pourpoint Services Version: 1.2.0

Batch Processor Version: 1.6.1

StreamStats Report

Region ID:  
Clicked Point (Latitude, Longitude):  
Time:

PA  
39.97307, -77.19099  
2026-02-03 10:02:09 -0500



Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLOPD	Mean Basin Slope degrees	5.1388	degrees	1.7	6.4
DRNAREA	Drainage Area	0.48	square miles	4.78	1150
ROCKDEP	Depth to Rock	5.2	feet	4.13	5.21
URBAN	Percent Urban	0.1459	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]

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

Low-Flow Statistics Flow Report [Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.156	ft <sup>3</sup> /s
30 Day 2 Year Low Flow	0.191	ft <sup>3</sup> /s
7 Day 10 Year Low Flow	0.071	ft <sup>3</sup> /s
30 Day 10 Year Low Flow	0.0911	ft <sup>3</sup> /s
90 Day 10 Year Low Flow	0.133	ft <sup>3</sup> /s

Low-Flow Statistics Citations

[Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p.](#)

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

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USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

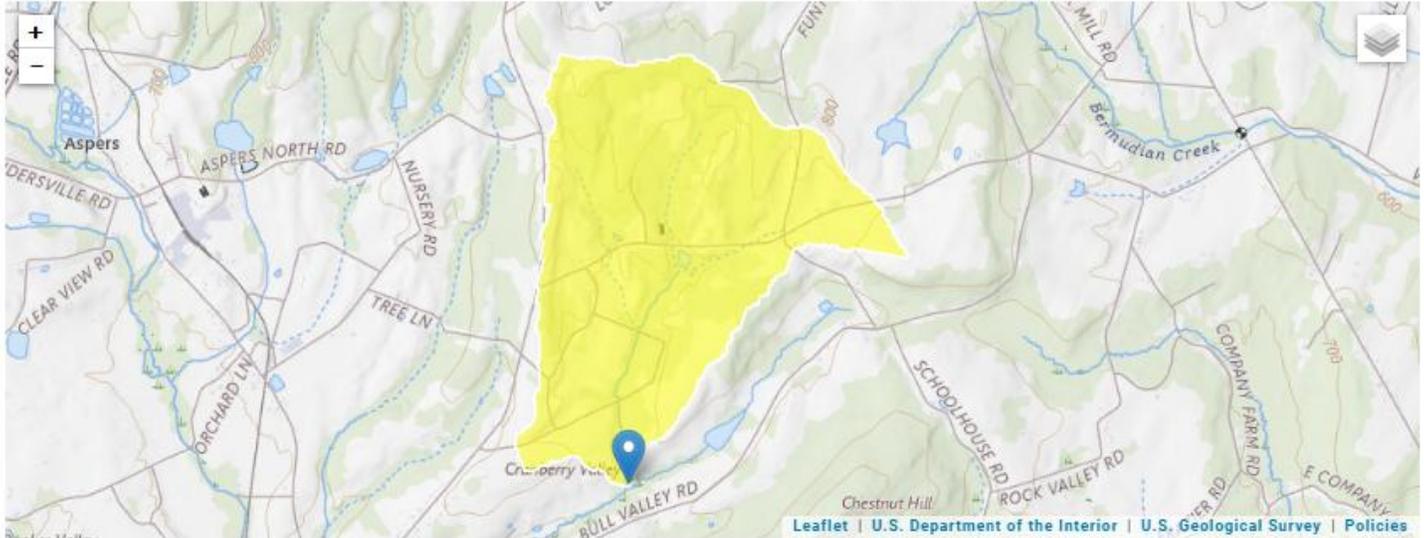
Application Version: 4.31.0  
SSHidro Services Version: 1.1.0  
SSDelineate Services Version: 1.0.1  
NSS Services Version: 2.2.1  
GageStats Services Version: 1.2.1  
Pourpoint Services Version: 1.2.0  
Batch Processor Version: 1.6.1

Downstream.....

### StreamStats Report

Region ID:  
Clicked Point (Latitude, Longitude):  
Time:

PA  
39.96299, -77.19387  
2026-02-03 10:13:47 -0500



#### Low-Flow Statistics

##### Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLOPD	Mean Basin Slope degrees	4.9489	degrees	1.7	6.4
DRNAREA	Drainage Area	1.05	square miles	4.78	1150
ROCKDEP	Depth to Rock	5.18	feet	4.13	5.21
URBAN	Percent Urban	0.0998	percent	0	89

##### Low-Flow Statistics Disclaimers [Low Flow Region 1]

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

##### Low-Flow Statistics Flow Report [Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.321	ft <sup>3</sup> /s
30 Day 2 Year Low Flow	0.396	ft <sup>3</sup> /s
7 Day 10 Year Low Flow	0.149	ft <sup>3</sup> /s
30 Day 10 Year Low Flow	0.191	ft <sup>3</sup> /s
90 Day 10 Year Low Flow	0.281	ft <sup>3</sup> /s

##### Low-Flow Statistics Citations

Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p.

Input Data WQM 7.0

### General Data

General	Stream	Discharge and Parameters																																
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Stream Code</th> <th>RMI</th> <th>Elevation (ft)</th> <th>Drainage Area (sq mi)</th> <th>LFY (cfsm)</th> <th>Slope (ft/ft)</th> <th>PWS With (mgd)</th> <th>Apply FC</th> </tr> </thead> <tbody> <tr> <td>▶ 9066</td> <td>1.950</td> <td>695</td> <td>0.18</td> <td>0.17</td> <td>0</td> <td>0</td> <td><input type="checkbox"/></td> </tr> <tr> <td>9066</td> <td>1.800</td> <td>685</td> <td>0.48</td> <td>0.15</td> <td>0</td> <td>0</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>9066</td> <td>1.010</td> <td>610</td> <td>1.05</td> <td>0.14</td> <td>0</td> <td>0</td> <td><input checked="" type="checkbox"/></td> </tr> </tbody> </table>	Stream Code	RMI	Elevation (ft)	Drainage Area (sq mi)	LFY (cfsm)	Slope (ft/ft)	PWS With (mgd)	Apply FC	▶ 9066	1.950	695	0.18	0.17	0	0	<input type="checkbox"/>	9066	1.800	685	0.48	0.15	0	0	<input checked="" type="checkbox"/>	9066	1.010	610	1.05	0.14	0	0	<input checked="" type="checkbox"/>	<div style="text-align: right; margin-bottom: 10px;"> <input type="button" value="Add Record"/> </div> <input type="button" value="Delete Record"/>
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Input Data WQM 7.0

### Stream Data

General	Stream	Discharge and Parameters																																																
	<b>Design Condition</b> <input checked="" type="radio"/> Q7-10 <input type="radio"/> Q1-10 <input type="radio"/> Q30-10																																																	
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>RMI</th> <th>Trib Flow (cfs)</th> <th>Stream Flow (cfs)</th> <th>Rich Trav Time (days)</th> <th>Rich Velocity (fps)</th> <th>WD Ratio</th> <th>Rich Width (ft)</th> <th>Rich Depth (ft)</th> <th>Tributary Temp (°C)</th> <th>pH</th> <th>Stream Temp (°C)</th> <th>pH</th> </tr> </thead> <tbody> <tr> <td>▶ 1.950</td> <td>0.00</td> <td>0.00</td> <td>0.000</td> <td>0.00</td> <td>0</td> <td>0.00</td> <td>0.00</td> <td>20.00</td> <td>7.00</td> <td>0.000</td> <td>0.00</td> </tr> <tr> <td>1.800</td> <td>0.00</td> <td>0.00</td> <td>0.000</td> <td>0.00</td> <td>0</td> <td>0.00</td> <td>0.00</td> <td>20.00</td> <td>7.00</td> <td>0.000</td> <td>0.00</td> </tr> <tr> <td>1.010</td> <td>0.00</td> <td>0.00</td> <td>0.000</td> <td>0.00</td> <td>0</td> <td>0.00</td> <td>0.00</td> <td>20.00</td> <td>7.00</td> <td>0.000</td> <td>0.00</td> </tr> </tbody> </table>	RMI	Trib Flow (cfs)	Stream Flow (cfs)	Rich Trav Time (days)	Rich Velocity (fps)	WD Ratio	Rich Width (ft)	Rich Depth (ft)	Tributary Temp (°C)	pH	Stream Temp (°C)	pH	▶ 1.950	0.00	0.00	0.000	0.00	0	0.00	0.00	20.00	7.00	0.000	0.00	1.800	0.00	0.00	0.000	0.00	0	0.00	0.00	20.00	7.00	0.000	0.00	1.010	0.00	0.00	0.000	0.00	0	0.00	0.00	20.00	7.00	0.000	0.00	
RMI	Trib Flow (cfs)	Stream Flow (cfs)	Rich Trav Time (days)	Rich Velocity (fps)	WD Ratio	Rich Width (ft)	Rich Depth (ft)	Tributary Temp (°C)	pH	Stream Temp (°C)	pH																																							
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1.010	0.00	0.00	0.000	0.00	0	0.00	0.00	20.00	7.00	0.000	0.00																																							

Input Data WQM 7.0

### Discharge and Parameter Data

General	Stream	Discharge and Parameters																				
	<b>Discharge Data</b>																					
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>RMI</th> <th>Name</th> <th>Permit Number</th> <th>Existing Disc (mgd)</th> <th>Permitted Disc Flow (mgd)</th> <th>Design Disc Flow (mgd)</th> <th>Reserve Factor</th> <th>Disc Temp (°C)</th> <th>Disc pH</th> </tr> </thead> <tbody> <tr> <td>1.950</td> <td>ADSCO LF</td> <td>PA0081604</td> <td>0.0000</td> <td>0.1400</td> <td>0.0000</td> <td>0.000</td> <td>20.00</td> <td>7.00</td> </tr> </tbody> </table>	RMI	Name	Permit Number	Existing Disc (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH	1.950	ADSCO LF	PA0081604	0.0000	0.1400	0.0000	0.000	20.00	7.00			
RMI	Name	Permit Number	Existing Disc (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH														
1.950	ADSCO LF	PA0081604	0.0000	0.1400	0.0000	0.000	20.00	7.00														
	<b>Parameter Data</b>																					
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Parameter Name</th> <th>Disc Conc (mg/L)</th> <th>Trib Conc (mg/L)</th> <th>Stream Conc (mg/L)</th> <th>Fate Coef (1/day)</th> </tr> </thead> <tbody> <tr> <td>▶ CBOD5</td> <td>47.00</td> <td>2.00</td> <td>0.00</td> <td>1.50</td> </tr> <tr> <td>NH3-N</td> <td>2.50</td> <td>0.00</td> <td>0.00</td> <td>0.70</td> </tr> <tr> <td>Dissolved Oxygen</td> <td>5.00</td> <td>8.24</td> <td>0.00</td> <td>0.00</td> </tr> </tbody> </table>	Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/day)	▶ CBOD5	47.00	2.00	0.00	1.50	NH3-N	2.50	0.00	0.00	0.70	Dissolved Oxygen	5.00	8.24	0.00	0.00	
Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/day)																		
▶ CBOD5	47.00	2.00	0.00	1.50																		
NH3-N	2.50	0.00	0.00	0.70																		
Dissolved Oxygen	5.00	8.24	0.00	0.00																		
Record: 1 of 3 <input type="button" value="No Filter"/> <input type="text" value="Search"/>																						

Input Data WQM 7.0

### Discharge and Parameter Data

General			Stream		Discharge and Parameters					
<b>Discharge Data</b>										
RMI	Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH		
1.800	conf 9071/9066		0.0000	0.0000	0.0000	0.000	20.00	7.00		
<b>Parameter Data</b>										
Parameter Name		Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/day)					
<input checked="" type="checkbox"/>	CBOD5	47.00	2.00	0.00	1.50					
<input type="checkbox"/>	NH3-N	4.90	0.00	0.00	0.70					
<input type="checkbox"/>	Dissolved Oxygen	5.00	8.24	0.00	0.00					

Record: 2 of 3    No Filter    Search

Input Data WQM 7.0

### Discharge and Parameter Data

General			Stream		Discharge and Parameters					
<b>Discharge Data</b>										
RMI	Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH		
1.010	conf 9066/9069		0.0000	0.0000	0.0000	0.000	20.00	7.00		
<b>Parameter Data</b>										
Parameter Name		Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/day)					
<input checked="" type="checkbox"/>	CBOD5	47.00	2.00	0.00	1.50					
<input type="checkbox"/>	NH3-N	4.90	0.00	0.00	0.70					
<input type="checkbox"/>	Dissolved Oxygen	5.00	8.24	0.00	0.00					

Record: 3 of 3    No Filter    Search

Modeling Specifications WQM 7.0

**Select Parameters**

NH3-N

Dissolved Oxygen

Both

**Select WLA Method**

Uniform Treatment

EMPR

D.O. Simulation

**Q1-10 and Q30-10 Data**

Use input Q1-10 and Q30-10 data

Q1-10/Q7-10 ratio:

Q30-10/Q7-10 ratio:

**WQAM 6.3 Comparison**

Input reach W/D ratios \*     Input reach travel times \*

Temperature Adjust Kr\*\*

\* Check to duplicate WQAM 6.3 results  
\*\* Uncheck to duplicate WQAM 6.3 results

**Dissolved Oxygen**

DO Goal:

DO Saturation Percent:

Use Balanced Technology

Analysis Results WQM 7.0

Hydrodynamics	NH3-N Allocations	D.O. Allocations	D.O. Simulation	Effluent Limitations
<u>RMI</u> 1.950	<u>Total Discharge Flow (mgd)</u> 0.140	<u>Analysis Temperature (°C)</u> 20.000	<u>Analysis pH</u> 7.000	
<u>Reach Width (ft)</u> 3.749	<u>Reach Depth (ft)</u> 0.436	<u>Reach WD Ratio</u> 8.600	<u>Reach Velocity (fps)</u> 0.151	
<u>Reach C-BOD5 (mg/L)</u> 41.43	<u>Reach Kc (1/days)</u> 1.491	<u>Reach NH3-N (mg/L)</u> 2.19	<u>Reach Kn (1/days)</u> 0.700	
<u>Reach DO (mg/L)</u> 6.278	<u>Reach Kr (1/days)</u> 28.444	<u>Kr Equation</u> Owens	<u>Reach DO Goal (mg/L)</u> NA	
<u>Reach Travel Time (days)</u> 0.061	<b>Subreach Results</b>			
	<u>TravTime (days)</u>	<u>CBOD5 (mg/L)</u>	<u>NH3-N (mg/L)</u>	<u>D.O. (mg/L)</u>
	0.006	41.06	2.18	6.18
	0.012	40.69	2.17	6.11
	0.018	40.32	2.16	6.05
	0.024	39.96	2.15	6.00
	0.030	39.60	2.14	5.97
	0.036	39.24	2.14	5.94
	0.042	38.89	2.13	5.93
	0.048	38.54	2.12	5.92
	0.055	38.19	2.11	5.92
	0.061	37.85	2.10	5.92

Record: 1 of 2 No Filter Search

Analysis Results WQM 7.0

Hydrodynamics	NH3-N Allocations	D.O. Allocations	D.O. Simulation	Effluent Limitations
<u>RMI</u> 1.800	<u>Total Discharge Flow (mgd)</u> 0.140	<u>Analysis Temperature (°C)</u> 20.000	<u>Analysis pH</u> 7.000	
<u>Reach Width (ft)</u> 4.986	<u>Reach Depth (ft)</u> 0.425	<u>Reach WD Ratio</u> 11.729	<u>Reach Velocity (fps)</u> 0.138	
<u>Reach C-BOD5 (mg/L)</u> 32.33	<u>Reach Kc (1/days)</u> 1.469	<u>Reach NH3-N (mg/L)</u> 1.78	<u>Reach Kn (1/days)</u> 0.700	
<u>Reach DO (mg/L)</u> 6.279	<u>Reach Kr (1/days)</u> 28.003	<u>Kr Equation</u> Owens	<u>Reach DO Goal (mg/L)</u> 6	
<u>Reach Travel Time (days)</u> 0.350	<b>Subreach Results</b>			
	<u>TravTime (days)</u>	<u>CBOD5 (mg/L)</u>	<u>NH3-N (mg/L)</u>	<u>D.O. (mg/L)</u>
	0.035	30.71	1.73	6.41
	0.070	29.17	1.69	6.54
	0.105	27.71	1.65	6.67
	0.140	26.32	1.61	6.79
	0.175	25.00	1.57	6.90
	0.210	23.75	1.53	7.01
	0.245	22.56	1.50	7.11
	0.280	21.42	1.46	7.21
	0.315	20.35	1.42	7.30
	0.350	19.33	1.39	7.39

Record: 2 of 2 No Filter Search

DO has recovered

Analysis Results WQM 7.0

Hydrodynamics | NH3-N Allocations | D.O. Allocations | D.O. Simulation | **Effluent Limitations**

RMI	Discharge Name	Permit Number	Disc Flow (mgd)
1.95	ADSCO LF	PA0081604	0.0000

Parameter	Effluent Limit 30 Day Average (mg/L)	Effluent Limit Maximum (mg/L)	Effluent Limit Minimum (mg/L)
CBOD5	47		
NH3-N	2.5	5	
Dissolved Oxygen			6

Record: 1 of 1 | No Filter | Search

The model defaulted to the TBEL of 47 mg/l as a monthly average for CBOD<sub>5</sub> signifying that a more stringent WQBEL is not needed to protect aquatic life.

CBOD<sub>5</sub> of 47 mg/l is the estimated equivalent of 56 mg/l BOD<sub>5</sub>, the ELG:  
 $56 \text{ BOD} \times (25 \text{ CBOD}/30 \text{ BOD}) = 47 \text{ mg/l CBOD}$ .

Because limits for both BOD<sub>5</sub> and CBOD<sub>5</sub> are not needed, only limits for BOD<sub>5</sub> will be imposed consistent with the ELG.

Discrete data from Daily Effluent Supplemental form, eDMR system:

(all units in mg/l)	T.Arsenic	T. Chromium	Total Iron	Manganese	1,4-Dioxane
Dec-25	< 0.005	< 0.0025	0.3	0.011	0.0019 J
	< 0.005	< 0.0025	0.21	0.011	0.0025 J
Nov-25	< 0.005	< 0.0025	0.065	0.12	0.0016 J
	< 0.005	< 0.0025	< 0.030	0.019	0.0014 J
Oct-25	< 0.005	< 0.0025	0.095	0.62	< 0.0030
	< 0.005	< 0.0025	0.030	0.0025	0.0018 J
Sep-25	< 0.005	0.00085 J	0.11	0.057	< 0.0030
	< 0.005	< 0.0025	0.075	1.3	< 0.0030
Aug-25	< 0.005	< 0.0025	0.013 J	0.056	< 0.0030
	< 0.005	< 0.0025	0.027 J	0.24	< 0.0030
Jul-25	< 0.005	< 0.0025	0.040	0.28	< 0.0030
	< 0.005	< 0.0025	0.014 J	0.099	< 0.0030
Jun-25	< 0.005	< 0.0025	0.24	0.0040	< 0.0030
	< 0.005	< 0.0025	0.13 J	0.0023 J	< 0.0030
May-25	< 0.025	< 0.013	0.075 J	0.047	0.0020 J
	< 0.005	< 0.0025	0.20	0.057	< 0.0030
Apr-25	< 0.005	< 0.0025	< 0.030	0.041	< 0.0030
	0.0023 J	< 0.0025	< 0.030	0.019	0.0020 J
Mar-25	< 0.005	< 0.0025	< 0.030	0.01	0.0021 J
	< 0.005	< 0.0025	< 0.030	0.016	0.0023 J
Feb-25	< 0.005	< 0.0025	0.34	0.061	< 0.0030
	< 0.005	< 0.0025	1.4	1.8	< 0.0030
			1.4	1.8	
			1.4	1.3	
Jan-25	0.0021 J	< 0.0025	0.018 J	0.065	0.0017 J
	< 0.005	< 0.0025	0.21	0.014	0.0027 J
Dec-24	< 0.005	< 0.0025	0.20	0.013	0.0021 J
	< 0.005	< 0.0025	0.23	0.0071	< 0.0030
Nov-24	< 0.005	< 0.0025	0.038	0.098	0.0022 J
	< 0.005	< 0.0025	< 0.030	0.0038	0.0032
Oct-24	< 0.005	< 0.0025	0.17	0.020	0.0018 J
	< 0.005	< 0.0025	0.26	0.021	0.0018 J
Sep-24	< 0.005	< 0.0025	0.012 J	0.59	0.0023 J
	< 0.005	< 0.0025	< 0.030	1.4	< 0.0030
Aug-24	< 0.005	0.0045	0.020 J	0.35	0.0021 J
	< 0.005	0.0044	0.020 J	0.34	0.0026 J
Jul-24	< 0.005	< 0.0025	0.67	1.5	0.0020 J
	< 0.005	< 0.0025	0.65	1.4	0.0022 J
Jun-24	< 0.005	< 0.0025	1.0	3.1	0.0030
	< 0.005	< 0.0025	1.8	2.9	0.0023 J
May-24	0.0017 J	< 0.0025	1.2	5.1	0.0027 J
	< 0.005	< 0.0025	1.0	5.0	0.0019 J
Apr-24	< 0.005	0.00085 J	4.7	3.9	0.00096 J
	< 0.005	0.0031	4.3	1.6	< 0.0030
Mar-24	0.0021 J	0.058	2.6	3.5	< 0.0075
	< 0.005	< 0.0025	2.9	3.0	< 0.0150
Feb-24	0.0022	0.0015 J	1.9	3.3	< 0.0030
	< 0.005	0.0015 J	1.8	3.2	< 0.0030
Jan-24	< 0.005	0.00085 J	1.5	1.6	0.0014 J
	< 0.005	0.0011 J	3.1	1.9	< 0.0030
Median	< 0.005	< 0.0025	< 0.20	0.18	< 0.0027

Neglected to do same analysis for Total Zinc.

NPDES Permit Fact Sheet  
ADSCO Landfill

NPDES Permit No. PA0081604

MONITORING_E	OUTFALL	MONITORING_LC	PARAMETER	CONC_UNITS	CONC_2	CONC_2_I	CONC_2_SBC	CONC_3	CONC_3_I	CONC_3_S	SAMPLE_F	SAMPLE_TYPE
1/31/2023	001	Final Effluent	Zinc, Total	mg/L	0.018	0.296	Average Monthly	0.024	0.535	Daily Maxir	2/month	Grab
2/28/2023	001	Final Effluent	Zinc, Total	mg/L	0.013	0.296	Average Monthly	0.018	0.535	Daily Maxir	2/month	Grab
3/31/2023	001	Final Effluent	Zinc, Total	mg/L	0.012	0.296	Average Monthly	0.014	0.535	Daily Maxir	2/month	Grab
4/30/2023	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
5/31/2023	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
6/30/2023	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
7/31/2023	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
8/31/2023	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
9/30/2023	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
10/31/2023	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
11/30/2023	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
12/31/2023	001	Final Effluent	Zinc, Total	mg/L	0.018	0.296	Average Monthly	0.026	0.535	Daily Maxir	2/month	Grab
1/31/2024	001	Final Effluent	Zinc, Total	mg/L	0.021	0.296	Average Monthly	0.029	0.535	Daily Maxir	2/month	Grab
2/29/2024	001	Final Effluent	Zinc, Total	mg/L	0.0045	0.296	Average Monthly	0.0053	0.535	Daily Maxir	2/month	Grab
3/31/2024	001	Final Effluent	Zinc, Total	mg/L	0.012	0.296	Average Monthly	0.012	0.535	Daily Maxir	2/month	Grab
4/30/2024	001	Final Effluent	Zinc, Total	mg/L	0.011	0.296	Average Monthly	0.016	0.535	Daily Maxir	2/month	Grab
5/31/2024	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
6/30/2024	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
7/31/2024	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
8/31/2024	001	Final Effluent	Zinc, Total	mg/L	0.0072	0.296	Average Monthly	0.0074	0.535	Daily Maxir	2/month	Grab
9/30/2024	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
10/31/2024	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
11/30/2024	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
12/31/2024	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
1/31/2025	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
2/28/2025	001	Final Effluent	Zinc, Total	mg/L	< 0.013	0.296	Average Monthly	0.016	0.535	Daily Maxir	2/month	Grab
3/31/2025	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
4/30/2025	001	Final Effluent	Zinc, Total	mg/L	< 0.044	0.296	Average Monthly	0.077	0.535	Daily Maxir	2/month	Grab
5/31/2025	001	Final Effluent	Zinc, Total	mg/L	< 0.027	0.296	Average Monthly	0.0034	0.535	Daily Maxir	2/month	Grab
6/30/2025	001	Final Effluent	Zinc, Total	mg/L	< 0.030	0.296	Average Monthly	< 0.050	0.535	Daily Maxir	2/month	Grab
7/31/2025	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
8/31/2025	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
9/30/2025	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
10/31/2025	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
11/30/2025	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
12/31/2025	001	Final Effluent	Zinc, Total	mg/L	< 0.010	0.296	Average Monthly	< 0.010	0.535	Daily Maxir	2/month	Grab
								0.077	Max			
								< 0.010	Median			



## Discharge Information

Instructions Discharge Stream

Facility: **ADSCO-max appl/DMRs or median of Suppl DM** NPDES Permit No.: **PA0081604** Outfall No.: **001**

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

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q <sub>7-10</sub>	Q <sub>h</sub>
0.14	308	7						

Discharge Pollutant	Units	Max Discharge Conc	0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
			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	354								
	Chloride (PWS)	mg/L	61.8								
	Bromide	mg/L	1								
	Sulfate (PWS)	mg/L	4.3								
	Fluoride (PWS)	mg/L	< 0.2								
Group 2	Total Aluminum	µg/L	< 10								
	Total Antimony	µg/L	< 1								
	Total Arsenic	µg/L	< 5								
	Total Barium	µg/L	96								
	Total Beryllium	µg/L	< 0.5								
	Total Boron	µg/L	54								
	Total Cadmium	µg/L	< 0.2								
	Total Chromium (III)	µg/L	< 2.5								
	Hexavalent Chromium	µg/L	< 2.5								
	Total Cobalt	µg/L	< 2.5								
	Total Copper	mg/L	< 0.0025								
	Free Cyanide	µg/L									
	Total Cyanide	µg/L	4								
	Dissolved Iron	µg/L	< 20								
	Total Iron	µg/L	< 200								
	Total Lead	µg/L	< 1								
	Total Manganese	µg/L	180								
	Total Mercury	µg/L	< 0.2								
	Total Nickel	µg/L	1.5								
	Total Phenols (Phenolics) (PWS)	µg/L	< 2								
	Total Selenium	µg/L	< 2.5								
	Total Silver	µg/L	< 1								
	Total Thallium	µg/L	< 0.5								
Total Zinc	mg/L	< 0.01									
Total Molybdenum	µg/L	0.38									
Acrolein	µg/L	< 2									
Acrylamide	µg/L	<									
Acrylonitrile	µg/L	< 5									
Benzene	µg/L	< 0.5									
Bromoform	µg/L	< 0.5									

Group 3	Carbon Tetrachloride	µg/L	<	0.5																		
	Chlorobenzene	µg/L	<	0.5																		
	Chlorodibromomethane	µg/L	<	0.5																		
	Chloroethane	µg/L	<	1																		
	2-Chloroethyl Vinyl Ether	µg/L	<	5																		
	Chloroform	µg/L	<	0.5																		
	Dichlorobromomethane	µg/L	<	0.5																		
	1,1-Dichloroethane	µg/L	<	0.5																		
	1,2-Dichloroethane	µg/L	<	0.5																		
	1,1-Dichloroethylene	µg/L	<	0.5																		
	1,2-Dichloropropane	µg/L	<	0.5																		
	1,3-Dichloropropylene	µg/L	<	0.5																		
	1,4-Dioxane	µg/L	<	2.7																		
	Ethylbenzene	µg/L	<	0.5																		
	Methyl Bromide	µg/L	<	1																		
	Methyl Chloride	µg/L	<	1																		
	Methylene Chloride	µg/L	<	1																		
	1,1,2,2-Tetrachloroethane	µg/L	<	0.5																		
	Tetrachloroethylene	µg/L	<	0.5																		
	Toluene	µg/L	<	0.5																		
	1,2-trans-Dichloroethylene	µg/L	<	0.5																		
1,1,1-Trichloroethane	µg/L	<	0.5																			
1,1,2-Trichloroethane	µg/L	<	0.5																			
Trichloroethylene	µg/L	<	0.5																			
Vinyl Chloride	µg/L	<	0.5																			
Group 4	2-Chlorophenol	µg/L	<	3																		
	2,4-Dichlorophenol	µg/L	<	3																		
	2,4-Dimethylphenol	µg/L	<	3																		
	4,6-Dinitro-o-Cresol	µg/L	<	6																		
	2,4-Dinitrophenol	µg/L	<	6																		
	2-Nitrophenol	µg/L	<	3																		
	4-Nitrophenol	µg/L	<	3																		
	p-Chloro-m-Cresol	µg/L	<	3																		
	Pentachlorophenol	µg/L	<	6																		
	Phenol	µg/L	<	10																		
	2,4,6-Trichlorophenol	µg/L	<	3																		
Group 5	Acenaphthene	µg/L	<	1.5																		
	Acenaphthylene	µg/L	<	1.5																		
	Anthracene	µg/L	<	1.5																		
	Benzidine	µg/L	<	4																		
	Benzo(a)Anthracene	µg/L	<	1.5																		
	Benzo(a)Pyrene	µg/L	<	1.5																		
	3,4-Benzofluoranthene	µg/L	<	1.5																		
	Benzo(ghi)Perylene	µg/L	<	1.5																		
	Benzo(k)Fluoranthene	µg/L	<	1.5																		
	Bis(2-Chloroethoxy)Methane	µg/L	<	3																		
	Bis(2-Chloroethyl)Ether	µg/L	<	3																		
	Bis(2-Chloroisopropyl)Ether	µg/L	<	3																		
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	3																		
	4-Bromophenyl Phenyl Ether	µg/L	<	3																		
	Butyl Benzyl Phthalate	µg/L	<	3																		
	2-Chloronaphthalene	µg/L	<	3																		
	4-Chlorophenyl Phenyl Ether	µg/L	<	3																		
	Chrysene	µg/L	<	1.5																		
	Dibenzo(a,h)Anthracene	µg/L	<	1.5																		
	1,2-Dichlorobenzene	µg/L	<	1																		
	1,3-Dichlorobenzene	µg/L	<	1																		
	1,4-Dichlorobenzene	µg/L	<	1																		
	3,3-Dichlorobenzidine	µg/L	<	5																		
	Diethyl Phthalate	µg/L	<	3																		
Dimethyl Phthalate	µg/L	<	3																			
Di-n-Butyl Phthalate	µg/L	<	3																			
2,4-Dinitrotoluene	µg/L	<	3																			





## Stream / Surface Water Information

ADSCO-max appl/DMRs or median of Suppl DMRs, NPDES Permit No. PA0081604, Outfall 001

Instructions Discharge **Stream**

Receiving Surface Water Name: **UNT Opossum Creek**

No. Reaches to Model: **1**

- Statewide Criteria
- Great Lakes Criteria
- ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi <sup>2</sup> )*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	009071	0.15	695	0.18			No
End of Reach 1	009071	0	685	0.48			Yes

**Q<sub>7-10</sub>**

Location	RMI	LFY (cfs/mi <sup>2</sup> )*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	0.15	0.2										100	7		
End of Reach 1	0	0.2										100	7		

**Q<sub>h</sub>**

Location	RMI	LFY (cfs/mi <sup>2</sup> )*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	0.15														
End of Reach 1	0														

**Recommended WQBELs & Monitoring Requirements**

No. Samples/Month: 4

Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			
Total Arsenic	Report	Report	Report	Report	Report	µg/L	11.7	THH	Discharge Conc > 10% WQBEL (no RP)
Hexavalent Chromium	Report	Report	Report	Report	Report	µg/L	15.0	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Manganese	Report	Report	Report	Report	Report	µg/L	1,166	THH	Discharge Conc > 10% WQBEL (no RP)

**Other Pollutants without Limits or Monitoring**

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	Discharge Conc < TQL
Total Aluminum	N/A	N/A	Discharge Conc < TQL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Barium	2,799	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	2,309	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	0.83	µg/L	Discharge Conc < TQL
Total Chromium (III)	288	µg/L	Discharge Conc < TQL
Total Cobalt	27.4	µg/L	Discharge Conc ≤ 10% WQBEL

Total Copper	0.032	mg/L	Discharge Conc < TQL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	350	µg/L	Discharge Conc < TQL
Total Iron	2,165	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	16.9	µg/L	Discharge Conc < TQL
Total Mercury	0.058	µg/L	Discharge Conc < TQL
Total Nickel	179	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Selenium	7.2	µg/L	Discharge Conc < TQL
Total Silver	22.0	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	0.28	µg/L	Discharge Conc < TQL
Total Zinc	0.29	mg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	3.0	µg/L	Discharge Conc < TQL
Acrylonitrile	0.17	µg/L	Discharge Conc < TQL
Benzene	1.67	µg/L	Discharge Conc < TQL
Bromoform	20.1	µg/L	Discharge Conc < TQL
Carbon Tetrachloride	1.15	µg/L	Discharge Conc < TQL
Chlorobenzene	117	µg/L	Discharge Conc < TQL
Chlorodibromomethane	2.3	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	5,051	µg/L	Discharge Conc < TQL
Chloroform	6.65	µg/L	Discharge Conc < TQL
Dichlorobromomethane	2.73	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	28.5	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	38.5	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	2.59	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	0.78	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	79.3	µg/L	Discharge Conc < TQL
Methyl Bromide	117	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Chloride	7,938	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	57.5	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2,2-Tetrachloroethane	0.58	µg/L	Discharge Conc < TQL
Tetrachloroethylene	28.8	µg/L	Discharge Conc < TQL
Toluene	66.5	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	117	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	880	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	1.58	µg/L	Discharge Conc < TQL
Trichloroethylene	1.73	µg/L	Discharge Conc < TQL
Vinyl Chloride	0.058	µg/L	Discharge Conc < TQL
2-Chlorophenol	35.0	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	11.7	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	117	µg/L	Discharge Conc < TQL

4,6-Dinitro-o-Cresol	2.33	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	11.7	µg/L	Discharge Conc < TQL
2-Nitrophenol	2,309	µg/L	Discharge Conc < TQL
4-Nitrophenol	678	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	160	µg/L	Discharge Conc < TQL
Pentachlorophenol	0.086	µg/L	Discharge Conc < TQL
Phenol	4,665	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	4.32	µg/L	Discharge Conc < TQL
Acenaphthene	24.5	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	350	µg/L	Discharge Conc < TQL
Benzidine	0.0003	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.003	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.0003	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.003	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.029	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	0.086	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	233	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	0.92	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	77.9	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	0.12	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	933	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	0.35	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthracene	0.0003	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	231	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichlorobenzene	8.16	µg/L	Discharge Conc ≤ 25% WQBEL
1,4-Dichlorobenzene	216	µg/L	Discharge Conc ≤ 25% WQBEL
3,3-Dichlorobenzidine	0.14	µg/L	Discharge Conc < TQL
Diethyl Phthalate	700	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	722	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	23.3	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	0.14	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	0.14	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	0.086	µg/L	Discharge Conc < TQL
Fluoranthene	23.3	µg/L	Discharge Conc < TQL
Fluorene	58.3	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.0002	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.029	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	1.44	µg/L	Discharge Conc < TQL
Hexachloroethane	0.29	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.003	µg/L	Discharge Conc < TQL

Isophorone	39.7	µg/L	Discharge Conc < TQL
Naphthalene	62.1	µg/L	Discharge Conc ≤ 25% WQBEL
Nitrobenzene	11.7	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.002	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.014	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	9.5	µg/L	Discharge Conc < TQL
Phenanthrene	1.44	µg/L	Discharge Conc < TQL
Pyrene	23.3	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	0.082	µg/L	Discharge Conc < TQL
Aldrin	0.000002	µg/L	Discharge Conc < TQL
alpha-BHC	0.001	µg/L	Discharge Conc < TQL
beta-BHC	0.023	µg/L	Discharge Conc < TQL
gamma-BHC	0.95	µg/L	Discharge Conc < TQL
delta BHC	N/A	N/A	No WQS
Chlordane	0.0009	µg/L	Discharge Conc < TQL
4,4-DDT	0.00009	µg/L	Discharge Conc < TQL
4,4-DDE	0.00006	µg/L	Discharge Conc < TQL
4,4-DDD	0.0003	µg/L	Discharge Conc < TQL
Dieldrin	0.000003	µg/L	Discharge Conc < TQL
alpha-Endosulfan	0.081	µg/L	Discharge Conc < TQL
beta-Endosulfan	0.081	µg/L	Discharge Conc < TQL
Endosulfan Sulfate	23.3	µg/L	Discharge Conc < TQL
Endrin	0.035	µg/L	Discharge Conc < TQL
Endrin Aldehyde	1.17	µg/L	Discharge Conc < TQL
Heptachlor	0.00002	µg/L	Discharge Conc < TQL
Heptachlor Epoxide	0.00009	µg/L	Discharge Conc < TQL
PCB-1016	N/A	N/A	No WQS
PCB-1221	N/A	N/A	No WQS
PCB-1232	N/A	N/A	No WQS
PCB-1242	N/A	N/A	No WQS
PCB-1248	N/A	N/A	No WQS
PCB-1254	N/A	N/A	No WQS
PCB-1260	N/A	N/A	No WQS
Toxaphene	0.0003	µg/L	Discharge Conc < TQL

Pollutant	BPI Type	AML	AME	MDL	MDL	Type	Notes	Source 1	Source 2	Source 3
Aluminum	General BPI Recommended Starting Point	1-2	mg/L	N/A	N/A	Chemical Precipitation	Precipitation as Al(OH) <sub>3</sub> . Minimum solubility at pH 6.5, except minimum solubility for aged system, gibbsite at pH 5.5. At higher pH (>8) Al(OH) <sub>3</sub> increased solubility. Competing ligand effect with presence of phosphate.	Water Chemistry, Snoeyink and Jenkins, 1980. Chapter 6	The Passive Treatment of Coal Mine Drainage, DOE/NETL-2004/1202. Watzlaf, et al. 2004	
Arsenic	General BPI Recommended Starting Point	200	µg/L	N/A	N/A	Chemical Precipitation	Arsenite oxidized to arsenate; lime precipitation, or iron or alum co-precipitation; gravity clarification	Industrial Water Quality, Fourth Edition. Eckenfelder, Ford, and Engle, 2009. Chapter 4.	Guidance for BAT-Equivalent Control of Selected Toxic Pollutants, EPA-905/2-81-003. Patterson, J.W. May 1981	
Barium	General BPI Recommended Starting Point	1	mg/L	N/A	N/A	Chemical Precipitation	Sulfite precipitation; coagulation; barium sulfate precipitate; gravity clarification	Industrial Water Quality, Fourth Edition. Eckenfelder, Ford, and Engle, 2009. Chapter 4.	Guidance for BAT-Equivalent Control of Selected Toxic Pollutants, EPA-905/2-81-003. Patterson, J.W. May 1981	
Cadmium	General BPI Recommended Starting Point	100	µg/L	N/A	N/A	Chemical Precipitation	1. High-pH precipitation; 50 µg/L; pH 10-11 co-ppt Fe(OH) <sub>3</sub> ; 8µg/l at pH 6.5 2. Gravity clarification for lime or filtration for caustic; sulfide ppt; 5-10 µg/L	Industrial Water Quality, Fourth Edition. Eckenfelder, Ford, and Engle, 2009. Chapter 4.	Guidance for BAT-Equivalent Control of Selected Toxic Pollutants, EPA-905/2-81-003. Patterson, J.W. May 1981	
Chromium, Hexavalent	General BPI Recommended Starting Point	50	µg/L	N/A	N/A	Chemical Precipitation	Acidic reduction for trivalent chromium or iron exchange at pH below 6.0; pH 2-3	Industrial Water Quality, Fourth Edition. Eckenfelder, Ford, and Engle, 2009. Chapter 4.	Guidance for BAT-Equivalent Control of Selected Toxic Pollutants, EPA-905/2-81-003. Patterson, J.W. May 1981	
Chromium, Total	General BPI Recommended Starting Point	500	µg/L	N/A	N/A	Chemical Precipitation	Precipitation (OH ppt); gravity clarification for lime or filtration for caustic; lime produces better settling	Industrial Water Quality, Fourth Edition. Eckenfelder, Ford, and Engle, 2009. Chapter 4.	Guidance for BAT-Equivalent Control of Selected Toxic Pollutants, EPA-905/2-81-003. Patterson, J.W. May 1981	
Copper	General BPI Recommended Starting Point	400	µg/L	N/A	N/A	Chemical Precipitation	Precipitation (OH ppt); pH 8.5; sulfide ppt 10 µg/L; gravity clarification	Industrial Water Quality, Fourth Edition. Eckenfelder, Ford, and Engle, 2009. Chapter 4.	Guidance for BAT-Equivalent Control of Selected Toxic Pollutants, EPA-905/2-81-003. Patterson, J.W. May 1981	
Fluoride	General BPI Recommended Starting Point	10	mg/L	N/A	N/A	Chemical Precipitation	High-pH lime precipitation; gravity clarification	Industrial Water Quality, Fourth Edition. Eckenfelder, Ford, and Engle, 2009. Chapter 4.	Guidance for BAT-Equivalent Control of Selected Toxic Pollutants, EPA-905/2-81-003. Patterson, J.W. May 1981	
Iron	General BPI Recommended Starting Point	1.5	mg/L	N/A	N/A	Chemical Precipitation	Oxidation at neutral pH of ferrous to ferric iron; precipitation; gravity clarification or filtration	Industrial Water Quality, Fourth Edition. Eckenfelder, Ford, and Engle, 2009. Chapter 4.	Guidance for BAT-Equivalent Control of Selected Toxic Pollutants, EPA-905/2-81-003. Patterson, J.W. May 1981	
Lead	General BPI Recommended Starting Point	150	µg/L	N/A	N/A	Chemical Precipitation	High-pH precipitation (OH ppt); pH 11.5; carbonate pH 9-9.5; 10-30 µg/L; sulfide 10 µg/L; gravity clarification for lime or filtration for caustic	Industrial Water Quality, Fourth Edition. Eckenfelder, Ford, and Engle, 2009. Chapter 4.	Guidance for BAT-Equivalent Control of Selected Toxic Pollutants, EPA-905/2-81-003. Patterson, J.W. May 1981	
Manganese	General BPI Recommended Starting Point	2	mg/L	4	mg/L	Chemical Precipitation	Chemical oxidants used to convert manganese ion to insoluble MnO <sub>2</sub> or manganese hydroxides and coagulation, filtration. Simple aeration normally not effective especially if organic matter is present. Oxidized manganese solids are not stable in the presence of ferrous iron.	Industrial Water Quality, Fourth Edition. Eckenfelder, Ford, and Engle, 2009. Chapter 4.	The Passive Treatment of Coal Mine Drainage, DOE/NETL-2004/1202. Watzlaf, et al. 2004	Federal Effluent Limits, Coal Mine Drainage.

TMS, Influent Concentrations:



Toxics Management Spreadsheet  
Version 1.4, May 2025

## Discharge Information

Instructions Discharge Stream

Facility: ADSCO LF NPDES Permit No.: PA0081604 Outfall No.: INFL  
 Evaluation Type: Major Sewage / Industrial Waste Wastewater Description: influent at treatment system, detects

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q <sub>7-10</sub>	Q <sub>h</sub>
0.14	300	7						

Discharge Pollutant	Units	Max Discharge Conc	0 if left blank		0.5 if left blank		0 if left blank		1 if left blank		
			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	370								
	Chloride (PWS)	mg/L									
	Bromide	mg/L									
	Sulfate (PWS)	mg/L									
	Fluoride (PWS)	mg/L									
Group 2	Total Aluminum	µg/L	6								
	Total Antimony	µg/L									
	Total Arsenic	µg/L	0.56								
	Total Barium	µg/L	290								
	Total Beryllium	µg/L									
	Total Boron	µg/L	47								
	Total Cadmium	µg/L									
	Total Chromium (III)	µg/L									
	Hexavalent Chromium	µg/L	220								
	Total Cobalt	µg/L	12								
	Total Copper	mg/L									
	Free Cyanide	µg/L									
	Total Cyanide	µg/L	4								
	Dissolved Iron	µg/L	3300								
	Total Iron	µg/L	7200								
	Total Lead	µg/L									
	Total Manganese	µg/L	7200								
	Total Mercury	µg/L									
	Total Nickel	µg/L	8.9								
	Total Phenols (Phenolics) (PWS)	µg/L									
Total Selenium	µg/L										
Total Silver	µg/L										
Total Thallium	µg/L	0.5									
Total Zinc	mg/L	4.5									
Total Molybdenum	µg/L										
Acrolein	µg/L	<									
Acrylamide	µg/L	<									
Acrylonitrile	µg/L	<									
Benzene	µg/L	0.64									
Bromoform	µg/L	<									

Group 3	Carbon Tetrachloride	µg/L	<																			
	Chlorobenzene	µg/L	<	13.4																		
	Chlorodibromomethane	µg/L	<																			
	Chloroethane	µg/L	<																			
	2-Chloroethyl Vinyl Ether	µg/L	<																			
	Chloroform	µg/L	<																			
	Dichlorobromomethane	µg/L	<																			
	1,1-Dichloroethane	µg/L	<	3.7																		
	1,2-Dichloroethane	µg/L	<																			
	1,1-Dichloroethylene	µg/L	<																			
	1,2-Dichloropropane	µg/L	<																			
	1,3-Dichloropropylene	µg/L	<																			
	1,4-Dioxane	µg/L	<	4.5																		
	Ethylbenzene	µg/L	<																			
	Methyl Bromide	µg/L	<																			
	Methyl Chloride	µg/L	<																			
	Methylene Chloride	µg/L	<																			
	1,1,2,2-Tetrachloroethane	µg/L	<																			
	Tetrachloroethylene	µg/L	<	0.98																		
	Toluene	µg/L	<																			
1,2-trans-Dichloroethylene	µg/L	<																				
1,1,1-Trichloroethane	µg/L	<																				
1,1,2-Trichloroethane	µg/L	<																				
Trichloroethylene	µg/L	<	0.97																			
Vinyl Chloride	µg/L	<																				
Group 4	2-Chlorophenol	µg/L	<																			
	2,4-Dichlorophenol	µg/L	<																			
	2,4-Dimethylphenol	µg/L	<																			
	4,6-Dinitro-o-Cresol	µg/L	<																			
	2,4-Dinitrophenol	µg/L	<																			
	2-Nitrophenol	µg/L	<																			
	4-Nitrophenol	µg/L	<																			
	p-Chloro-m-Cresol	µg/L	<																			
	Pentachlorophenol	µg/L	<																			
	Phenol	µg/L	<																			
2,4,6-Trichlorophenol	µg/L	<																				
Group 5	Acenaphthene	µg/L	<																			
	Acenaphthylene	µg/L	<																			
	Anthracene	µg/L	<																			
	Benidine	µg/L	<																			
	Benzo(a)Anthracene	µg/L	<																			
	Benzo(a)Pyrene	µg/L	<																			
	3,4-Benzofluoranthene	µg/L	<																			
	Benzo(ghi)Perylene	µg/L	<																			
	Benzo(k)Fluoranthene	µg/L	<																			
	Bis(2-Chloroethoxy)Methane	µg/L	<																			
	Bis(2-Chloroethyl)Ether	µg/L	<																			
	Bis(2-Chloroisopropyl)Ether	µg/L	<																			
	Bis(2-Ethylhexyl)Phthalate	µg/L	<																			
	4-Bromophenyl Phenyl Ether	µg/L	<																			
	Butyl Benzyl Phthalate	µg/L	<																			
	2-Chloronaphthalene	µg/L	<																			
	4-Chlorophenyl Phenyl Ether	µg/L	<																			
	Chrysene	µg/L	<																			
	Dibenzo(a,h)Anthracene	µg/L	<																			
	1,2-Dichlorobenzene	µg/L	<	0.82																		
1,3-Dichlorobenzene	µg/L	<																				
1,4-Dichlorobenzene	µg/L	<	6.7																			
3,3-Dichlorobenzidine	µg/L	<																				
Diethyl Phthalate	µg/L	<																				
Dimethyl Phthalate	µg/L	<																				
Di-n-Butyl Phthalate	µg/L	<																				
2,4-Dinitrotoluene	µg/L	<																				



## Stream / Surface Water Information

ADSCO LF, NPDES Permit No. PA0081604, Outfall INFL

Instructions Discharge **Stream**

Receiving Surface Water Name: **UNT Opossum Creek**

No. Reaches to Model: **1**

- Statewide Criteria
- Great Lakes Criteria
- ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi <sup>2</sup> )*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	009071	0.15	695	0.18			No
End of Reach 1	009071	0	685	0.48			Yes

**Q<sub>7-10</sub>**

Location	RMI	LFY (cfs/mi <sup>2</sup> )*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	0.15	0.2										100	7		
End of Reach 1	0	0.2										100	7		

**Q<sub>h</sub>**

Location	RMI	LFY (cfs/mi <sup>2</sup> )*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	0.15														
End of Reach 1	0														

**Recommended WQBELs & Monitoring Requirements**

No. Samples/Month: 4

Pollutants	Mass Limits		Concentration Limits			Units	Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX				
Total Barium	Report	Report	Report	Report	Report	µg/L	2,799	THH	Discharge Conc > 10% WQBEL (no RP)
Hexavalent Chromium	0.018	0.027	15.0	23.4	37.5	µg/L	15.0	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Cobalt	Report	Report	Report	Report	Report	µg/L	27.4	CFC	Discharge Conc > 10% WQBEL (no RP)
Dissolved Iron	0.41	0.64	350	546	875	µg/L	350	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Iron	2.53	3.94	2,165	3,378	5,412	µg/L	2,165	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Manganese	1.36	2.12	1,166	1,819	2,916	µg/L	1,166	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Thallium	0.0003	0.0005	0.28	0.44	0.7	µg/L	0.28	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	0.33	0.47	0.28	0.4	0.4	mg/L	0.28	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Benzene	Report	Report	Report	Report	Report	µg/L	1.67	CRL	Discharge Conc > 25% WQBEL (no RP)
Trichloroethylene	0.002	0.003	1.73	2.69	4.32	µg/L	1.73	CRL	Discharge Conc ≥ 50% WQBEL (RP)

**Other Pollutants without Limits or Monitoring**

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

Pollutants	Governing WQBEL	Units	Comments

Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	750	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	11.7	µg/L	Discharge Conc ≤ 10% WQBEL
Total Boron	2,309	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Total Nickel	175	µg/L	Discharge Conc ≤ 10% WQBEL
Chlorobenzene	117	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethane	N/A	N/A	No WQS
1,4-Dioxane	N/A	N/A	No WQS
Tetrachloroethylene	28.8	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-Dichlorobenzene	231	µg/L	Discharge Conc ≤ 25% WQBEL
1,4-Dichlorobenzene	216	µg/L	Discharge Conc ≤ 25% WQBEL

Permit already includes limits for Total Iron (TBEL BPJ), Total Mn (WQBEL), Zinc (ELG). Thallium was indicated as RP but maximum influent concentration was 0.5 ug/l whereas DEP's TQL is 2.0 ug/l and Thallium is not a pollutant in concern in site remedy. There were no detected samples of Thallium in the effluent. For Hexavalent Chromium and TCE, there is the potential for a discharge at concentrations of concern such as if there is a bypass or failure or suspension of the treatment system.