Pennsylvania Department of Environmental Protection

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0009326**
Facility Type	**Industrial**	APS ID	**275256**
Major / Minor	**Minor**	Authorization ID	**1533374**

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

Applicant and Facility Information

Applicant Name	**Motts LLP**	Facility Name	**Motts LLP**
Applicant Address	45 Aspers North Road Aspers, PA 17304-9486	Facility Address	45 Aspers North Road Aspers, PA 17304-9486
Applicant Contact	Jason Shenk	Facility Contact	Mark Smith
Applicant Phone	(717) 677-7121	Facility Phone	(717) 321-4236
Client ID	129964	Site ID	252196
SIC Code	2033,2037	Municipality	Menallen Township
SIC Description	Manufacturing - Canned Fruits And Vegetables, Manufacturing - Frozen Fruits And Vegetables	County	Adams
Date Application Received	July 3, 2025	EPA Waived?	No
Date Application Accepted	July 9, 2025	If No, Reason	Significant CB Discharge
Purpose of Application	NPDES Permit Renewal.		

Summary of Review

The current NPDES permit was issued on December 1, 2020, and became effective on January 1, 2021. On July 3, 2025, the facility submitted a renewal application for the current NPDES permit. The permit will expire on December 31, 2025.

The permittee currently operates an onsite industrial wastewater treatment facility with a design flow of 1.04 MGD. This is an Industrial Waste (IW) Process Effluent without Effluent Limitation Guideline (ELG).

The Department issued two (2) Water Quality Management (WQM) permits (Nos. 0189201 & 0107203) for the construction and operation of the existing units. The WQM permit No. 0189201 allowed the permittee to spray treated wastewater on the company owned property. The WQM permit No. 0107203 was issued on 11/19/2007 to authorize the construction and operation of this centrifuge.

Sludge use and disposal description and location(s): None indicated on the application.

Changes from the previous permit: The weekly monitor and report requirements of TDS, Sulfate, Chloride, and Bromide will be removed from the proposed permit.

Based on the review outlined in this fact sheet, it is recommended that the permit be drafted and published in the *Pennsylvania Bulletin* for public comments.

Approve	Deny	Signatures	Date
X		*Hilaryle* Hilary H. Le / Environmental Engineering Specialist	October 10, 2025
X		*Daniel W. Martin* Daniel W. Martin, P.E. / Environmental Engineer Manager	November 18, 2025

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	1.04
Latitude	39º 58' 15.36"	Longitude	-77º 13' 29.22"
Quad Name	Biglerville	Quad Code	
Wastewater Description:	IW Process Effluent without ELG		
Receiving Waters	Opossum Creek (TSF)	Stream Code	09057
NHD Com ID	57470355	RMI	4.35 miles
Drainage Area	18.4 mi.^{2}	Yield (cfs/mi^2)	0.3
Q_{7-10} Flow (cfs)	5.48	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	605	Slope (ft/ft)	
Watershed No.	7-F	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Tentative	Name	Opossum Creek
Nearest Downstream Public Water Supply Intake	Wrightsville Water Supply Company,		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI	43.54 miles	Distance from Outfall (mi)	Approximate 77.0 miles

Changes Since Last Permit Issuance:

Drainage Area
The discharge is Opossum Creek at RMI 4.35 miles. A drainage area upstream of the discharge is estimated to be 18.4 mi.^{2}, according to USGS PA StreamStats available at https://streamstats.usgs.gov/ss/.

Stream Flow
According to USGS StreamStats, the point of first use at the confluence with Opossum Creek (Stream Code 09057) has a Q_{7-10} of 5.48 cfs and a drainage area of 18.4 mi.^{2}, which results in a Q_{7-10} low flow yield of 0.03 cfs/ mi.^{2}. This information is used to obtain a chronic or 30-day (Q_{30-10}), and an acute or 1-day (Q_{1-10}) exposure stream flow for the discharge point as follows (Guidance No. 391-2000-023):

Q_{7-10} = 5.48 cfs
Low Flow Yield = 5.48 cfs / 18.4 mi.^{2} = 0.3 cfs/ mi.^{2}
Q_{30-10} = 1.36 * 5.48 cfs = 7.45 cfs
Q_{1-10} = 0.64 * 5.48 cfs = 3.5 cfs

The resulting Q_{7-10} dilution ratio is: Qstream / Qdischarge = 5.48 cfs / [1.04 MGD * (1.55 cfs/MGD)] = 3.37:1

Opossum Creek
25 Pa. Code § 93.9o classifies Opossum Creek as Trout Stocking Fishes (TSF) surface water which is described as *Maintenance of stocked trout from February 15 to July 31 and maintenance and propagation of fish species and additional flora and fauna which are indigenous to a warm water habitat* (25 Pa. Code § 93.3). Based on the 2024 Integrated Report, Opossum Creek, assessment unit ID 13022, is not impaired. A TMDL currently does not exist for this stream segment, therefore, no TMDL has been taken into consideration during this review.

Public Water Supply
The closest water supply intake located downstream from the discharge in the Wrightsville Water Supply Company, Susquehanna River approximately 77.0 miles from the point of discharge. Given the nature and dilution, the discharge is not expected to significantly impact the water supply.

Treatment Facility Summary				
Treatment Facility Name: Motts Juice Proc				
WQM Permit No.	**Issuance Date**			
0189021				
0107023	11/19/2007			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial	Biological (Industrial Waste)	Activated Sludge	Gas Chlorine	1.04
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
		Not Overloaded	Aerobic Digestion	Land Application

Changes Since Last Permit Issuance:

Other Comments:
The treatment process, according to the revised application, is as follows:

Pump Station → Grit Removal → Aeration lagoon (1) → Final Clarifier (1) → 1st polishing lagoon → 2nd polishing lagoon → Outfall 001

Lime is used as need. Poly aluminum chloride is for clarifier feed pipe. Polymer used for flocculation.

Compliance History	
Summary of DMRs:	DMRs reported last 12 months are summarized in the Table below.
Summary of Inspections:	2/7/2023: Mr. Hoy, DEP WQS, conducted a compliance evaluation inspection. Sludge is led from the digesters towards the centrifuge where solids are then transported by truck for land application as food processing waste. Solids are currently hauled to three separate farms and the facility is looking into a fourth farm. Recommendation is establishing an alarm testing frequency. The outfall, upstream, and downstream appeared to be clear. Field test results were within the permit limits.
Other Comments:	There are no open violations associated with the permittee or the facility.

Other Comments:

Compliance History

DMR Data for Outfall 001 (from September 1, 2024 to August 31, 2025)

Parameter	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24
Flow (MGD) Average Monthly	0.45	0.46	0.39	0.45	0.39	0.39	0.35	0.35	0.32	0.32	0.36	0.33
Flow (MGD) Daily Maximum	0.55	0.66	0.67	0.68	0.55	0.53	0.47	0.48	0.61	0.54	0.58	0.51
pH (S.U.) Daily Minimum	7.8	7.8	7.6	7.6	7.6	7.6	7.6	7.6	7.5	7.7	8.0	8.1
pH (S.U.) Instantaneous Maximum	8.2	8.4	8.2	8.0	8.1	8.1	8.1	8.5	8.3	8.4	8.5	8.5
DO (mg/L) Daily Minimum	7.5	7.0	6.8	6.8	7.7	8.2	9.3	9.3	8.7	9.0	8.8	7.3
CBOD5 (lbs/day) Average Monthly	< 11	< 11	< 10	< 11	< 10	< 9	< 8	15	22	< 8	< 9	< 8
CBOD5 (lbs/day) Daily Maximum	13	15	15	< 14	12	11	< 9	21	34	< 10	< 10	< 10
CBOD5 (mg/L) Average Monthly	< 3	< 3	< 3	< 2	< 3	< 3	< 2	5	9	< 2	< 2	< 2
CBOD5 (mg/L) Daily Maximum	3.4	3.1	3.7	2.5	3	3	2.5	6.8	9.7	< 2.4	2.4	< 2.4
TSS (lbs/day) Average Monthly	9	11	5	13	8	9	10	31	27	14	17	10
TSS (lbs/day) Daily Maximum	13	30	11	40	16	13	15	37	49	22	27	13
TSS (mg/L) Average Monthly	2	3	2	3	2	3	3	10	10	4	5	3
TSS (mg/L) Daily Maximum	3	6	2	7	4	4	5	13	15	7	7	4
Total Dissolved Solids (lbs/day) Average Monthly	3109	2721	2441	3661	3155	3034	2981	3257	4943	7386	8999	8295
Total Dissolved Solids (lbs/day) Daily Maximum	3561	3643	3726	4786	3410	3517	3512	3679	7968	10408	9815	10475
Total Dissolved Solids (mg/L) Average Monthly	812	690	655	832	818	878	911	976	1839	2340	2420	2434
Total Dissolved Solids (mg/L) Daily Maximum	984	728	710	844	870	1004	1016	1026	2654	2496	2584	2548

Nitrate-Nitrite (mg/L) Average Monthly	< 0.81	< 3.95	< 0.63	< 0.8	< 0.77	< 1.1	< 0.88	< 0.88	< 0.71	< 0.8	< 0.8	< 0.82
Nitrate-Nitrite (lbs) Total Monthly	< 94.8	< 457.6	< 69.7	< 98.1	< 84.6	< 112.8	< 82.6	< 85.5	< 61.7	< 69.8	< 86	< 80.1
Total Nitrogen (mg/L) Average Monthly	< 1.56	< 5.85	< 1.16	< 1.3	< 1.31	< 1.84	< 1.52	< 1.92	< 1.76	< 1.43	< 1.41	< 1.41
Total Nitrogen (lbs) Effluent Net Total Monthly	< 185.1	< 599.6	< 126.6	< 159.5	< 144.8	< 186.8	< 142.1	< 186.6	< 149.2	< 121.5	< 151.5	< 137.7
Total Nitrogen (lbs) Total Monthly	< 185.1	< 599.6	< 126.6	< 159.5	< 144.8	< 186.8	< 142.1	< 186.6	< 149.2	< 121.5	< 151.5	< 137.7
Total Nitrogen (lbs) Effluent Net Total Annual												< 2107
Total Nitrogen (lbs) Total Annual												< 2107
Ammonia (lbs/day) Average Monthly	< 0.4	< 2	< 0.4	< 0.4	< 0.4	< 0.4	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Ammonia (lbs/day) Daily Maximum	< 0.4	13	1	1	< 0.5	1	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Ammonia (mg/L) Average Monthly	< 0.1	< 1.0	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ammonia (mg/L) Daily Maximum	0.11	6.9	0.27	0.18	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ammonia (lbs) Total Monthly	< 12	< 51.9	< 13.1	< 13.8	< 11.1	< 13	< 9	< 9.8	< 8.4	< 8.7	< 10.7	< 10
Ammonia (lbs) Total Annual												< 140
TKN (mg/L) Average Monthly	< 0.76	< 1.9	< 0.53	< 0.5	< 0.54	< 0.73	< 0.64	1.04	< 1.04	< 0.63	< 0.61	< 0.59
TKN (lbs) Total Monthly	< 90.3	< 142	< 56.9	< 61.3	< 60.2	< 73.9	< 59.5	101.2	< 87.4	< 51.6	< 65.6	< 57.6
Total Phosphorus (mg/L) Average Monthly	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.17	< 0.1	< 0.1	< 0.1
Total Phosphorus (mg/L) Daily Maximum	< 0.1	< 0.1	0.22	< 0.1	0.1	0.1	0.11	0.22	0.3	1.2	< 0.1	< 0.1
Total Phosphorus (lbs) Effluent Net Total Monthly	< 11.7	< 11	< 12	< 12.3	< 11	< 10	< 9	< 13.5	< 14	< 8.7	< 10.7	< 9.8
Total Phosphorus (lbs) Total Monthly	< 11.7	< 11	< 12	< 12.3	< 11	< 10	< 9	< 13.5	< 14	< 8.7	< 10.7	< 9.8
Total Phosphorus (lbs) Effluent Net Total Annual												< 192

Total Phosphorus (lbs) Total Annual												< 192
Sulfate (lbs/day) Average Monthly	914	514	573	813	681	729	484	445	370	478	529	627
Sulfate (lbs/day) Daily Maximum	1126	751	782	907	780	1191	588	534	525	817	789	867
Sulfate (mg/L) Average Monthly	238	128	155	190	176	210	148	135	146	148	142	188
Sulfate (mg/L) Daily Maximum	270	150	210	230	190	340	160	160	160	200	220	260
Chloride (lbs/day) Average Monthly	535	541	538	648	634	744	678	853	2037	4059	4834	4245
Chloride (lbs/day) Daily Maximum	626	951	801	851	734	1121	784	1004	4203	6130	5313	5004
Chloride (mg/L) Average Monthly	138	136	145	148	164	215	208	258	732	1275	1300	1250
Chloride (mg/L) Daily Maximum	150	190	150	150	180	320	230	300	1400	1500	1400	1400
Bromide (lbs/day) Average Monthly	< 2	4	6	6	9	11	9	9	7	12	17	10
Bromide (lbs/day) Daily Maximum	3	6	10	8	12	14	12	15	10	20	22	13
Bromide (mg/L) Average Monthly	< 0.5	1.17	1.52	1.4	2.2	3.3	2.7	2.8	2.8	3.8	4.7	2.9
Bromide (mg/L) Daily Maximum	0.6	1.4	1.8	1.5	3.1	4.5	4.1	4.3	3.3	4.8	5.5	3.9

Existing Effluent Limitations and Monitoring Requirements

Outfall 001,

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
D.O.	XXX	XXX	6.0	XXX	XXX	XXX	1/day	Grab
$CBOD_5$ May 1 - Oct 31	104	208	XXX	12.0	24.0	30.0	1/week	24-Hr Composite
$CBOD_5$ Nov 1 - Apr 30	217	434	XXX	25.0	50.0	62.5	1/week	24-Hr Composite
TSS	260	520	XXX	30.0	60.0	75.0	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	13.0	26.0	XXX	1.5	3.0	3.75	2/week	24-Hr Composite
Ammonia Nov 1 - Apr 30	22.0	43.0	XXX	2.5	5.0	6.25	2/week	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	2.0	4.0	5.0	2/week	24-Hr Composite
Total Dissolved Solids	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Sulfate	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Chloride	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Bromide	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite

Existing Effluent Limitations and Monitoring Requirements

Outfall 001, Chesapeake Bay

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia--N	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Net Total Nitrogen (lbs)	Report	18,645	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus (lbs)	Report	729	XXX	XXX	XXX	XXX	1/month	Calculation

Proposed Effluent Limitations and Monitoring Requirements

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

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	6.0	XXX	XXX	XXX	1/day	Grab
$CBOD_5$ Nov 1 - Apr 30	217.0	434.0	XXX	25.0	50.0	62.5	1/week	24-Hr Composite
$CBOD_5$ May 1 - Oct 31	104.0	208.0	XXX	12.0	24.0	30.0	1/week	24-Hr Composite
TSS	260.0	520.0	XXX	30.0	60.0	75.0	1/week	24-Hr Composite
Ammonia Nov 1 - Apr 30	22.0	43.0	XXX	2.5	5.0	6.25	2/week	24-Hr Composite
Ammonia May 1 - Oct 31	13.0	26.0	XXX	1.5	3.0	3.75	2/week	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	2.0	4.0	5.0	2/week	24-Hr Composite

Compliance Sampling Location:

Other Comments:

Proposed Effluent Limitations and Monitoring Requirements

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

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia--N	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Net Total Nitrogen (lbs)	Report	18,645	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus (lbs)	Report	729	XXX	XXX	XXX	XXX	1/month	Calculation

Compliance Sampling Location:

Other Comments:

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 1.04
Latitude 39º 58' 15.36" **Longitude** -77º 13' 29.22"
Wastewater Description: IW Process Effluent with ELG

Technology-Based Limitations

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

Parameter	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Water Quality-Based Limitations

Flow
Flow monitoring requirements will remain in the permit. These requirements are consistent with other typical industrial wastewater discharges throughout the region and are recommended by Table 6-4 of the permit guidance, Technical Guidance for the Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits (385-0400-001).

pH
25 Pa. Code § 95.2(1) requires industrial wastes to control a pH effluent level of not less than 6.0 and not greater than 9.0 standard units (S.U.). These pH limits are currently specified in the existing permit. Sample results reported on past Discharge Monitoring Reports (DMRs) indicate that the effluent pH has ranged from 7.5 to 8.8 S.U. Accordingly, existing pH limits will remain unchanged.

Total Suspended Solids (TSS)
Accordingly, existing TSS limits of 30.0 mg/L (average monthly), 60.0 mg/L (daily maximum), and 75.0 mg/L (instantaneous maximum) will remain unchanged in the proposed permit. The average monthly limit is based on traditional secondary treatment standards found in 40 CFR § 133.102. The daily maximum and instantaneous maximum limits were previously determined using multipliers of 2 and 2.5, respectively.

$CBOD_5$, Dissolved Oxygen (D.O.), and Ammonia-Nitrogen (NH_3-N)
The following are limitations that are included in the current NPDES permit.

Table1. Existing Limitations for $CBOD_5$, D.O. and NH_3-N

	$CBOD_5$ (Summer)	$CBOD_5$ (Winter)	D.O.	NH_3-N (Summer)	NH_3-N (Winter)
Average Monthly Concentration	12 mg/L	25 mg/L	6.0 mg/L Minimum	1.5 mg/L	2.5 mg/L
Maximum Daily Concentration	24 mg/L	50 mg/L		3.0 mg/L	5.0 mg/L
Instantaneous Concentration	30 mg/L	62.5 mg/L		3.75 mg/L	6.25 mg/L
Average Monthly Mass	104 lbs/day	217 lbs/day		13.0 lbs/day	22.0 lbs/day
Maximum Daily Mass	208 lbs/day	434 lbs/day		26.0 lbs/day	43.0 lbs/day

$CBOD_5$ and Ammonia-Nitrogen (NH_3-N) are common pollutants for any fruit processing facilities as these facilities use fresh fruits (i.e., washing, sorting, and peeling processes) for their products on a daily basis. Limitations displayed on Table 1 are water quality-based that were previously recommended by WQM 7.0, a water quality model for $CBOD_5$, NH_3-N, and Dissolved Oxygen (D.O.).

WQM 7.0 model was re-utilized for this permit renewal. Based on the modeling results, the Department is able to determine if existing WQBELs for these pollutants are still protective of water quality. Using existing limits, new Q_{7-10}, and the design flow of the facility, the model was utilized and recommended that existing limits are still appropriate to protect water quality standards in the receiving stream. The permittee has been consistently meeting these limits; accordingly, existing limits will remain in the proposed permit. Seasonal limits were previously established based on achieving the "target" instream $CBOD_5$ concentration of 10 mg/L to prevent or reduce the impacts of filamentous bacteria which has a direct relationship with floc (i.e., settleability, floc structure/abundance, etc.). Due to this reason, seasonal limits will be maintained in the proposed permit. Seasonal limitation strategies were derived from Table 8-1 of the Department's guidance, Determining Water Quality-Based Effluent Limits (391-2000-003).

Total Phosphorus (TP)

TP limits were previously included in the permit on a case-by-case basis using best professional judgment (BPJ). As determined previously, the discharge of phosphorus from this facility is of concern as facilities with lagoons are generally having issues with algal growth. It is well known that the level of phosphorus is directly related to algal growth in the steam which may cause adverse environmental impacts on aquatic life and potential nutrient enrichment in the stream. In order to prevent or minimize these issues, the effluent phosphorus level must be controlled in accordance with 25 Pa Code § 96.5(c). The Department has determined that limits specified in the existing permit are appropriate (i.e., 2.0 mg/L (average monthly), 4.0 mg/L (daily maximum), 5.0 mg/L (instantaneous maximum)) as these limits have been assigned to other facilities with similar technology. Accordingly, existing TP limits will remain in the proposed permit. See the EPA guidance, Nutrient Criteria Technical Guidance Manual – Rivers and Streams, 07/2000 EPA-822-B-00-002, for more information about nutrient impacts on streams.

Oil and Grease

Oil and Grease can also be of concern if facilities utilize or store any oil-based materials for their products at the place that may potentially come in contact with stormwater. 25 Pa. Code § 95.2 (2) requires all oil-bearing wastewaters must achieve less than 15 mg/L for average monthly and 30 mg/L for instantaneous maximum. However, the sample results reported in the renewal application detected no Oil and Grease (6.0 mg/L). The Department's SOP also states that no monitoring or limitation is necessary if the sample result is less than 4 mg/L. At this time, the facility historically had no issues in regard to the presence of Oil and Grease in the effluent (also no visible film on the surface of the receiving water). Accordingly, no monitoring of Oil and Grease is necessary.

Total Residual Chlorine (TRC)

The facility currently utilizes UV disinfection for their well water but uses chlorine-based chemical (i.e., Sodium Hypochlorite 12.5%) for sanitizing purposes (i.e., tank cleaning). Nevertheless, the application indicates that this chemical will not be expected to be present in the effluent. Accordingly, water quality modeling for TRC is not necessary as it is not a parameter of concern.

Toxic

Toxic pollutants are not generally considered pollutants of concern for facilities involved with fruits and vegetables processing. The wastewater treatment facility currently receives "brine waste" from the company's reverse osmosis (RO) system for their water use. Also, the facility has been utilizing wastewater treatment additives that may contain toxic chemicals. Based on these facts, the Department needs to evaluate toxic pollutants of concern for water quality modeling and to facilitate determinations of reasonable potential to cause an excursion above water quality standards by using the "Toxic Screening Analysis" spreadsheet. The maximum effluent concentrations of pollutants reported in the application (i.e., Pages # 13) were entered in the spreadsheet. The results are as follows:

☑ *Recommended WQBELs & Monitoring Requirements*

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments

There are no pollutants recommended & monitoring requirements, therefore, no pollutants monitor, and report requirements include in the proposed permit.

Temperature
Previously, non-contact cooling water (NCCW) was discharged via two (2) different outfalls; Outfalls 001 and 002. The permittee has decided to convey this flow directly into the treatment facility. The volume of this NCCW is insignificant as opposed to another wastewater. Also, the discharge of NCCW is to the existing aeration lagoon where significant cooling can be expected. Accordingly, temperature is not of concern at this time and no monitoring or limitation is necessary.

Total Maximum Daily Loads (TMDLs)
A TMDL was developed in 2013 to address impairments noted in 303(d) list as well as other nonpoint sources such as agriculture. Although it has not been finalized yet, this document contains wasteload allocations (WLAs) for the following point source dischargers in the Opossum Creek watershed:

Table 2. Opossum Creek TMDL (Reference: page # 13: Opossum Creek Watershed TMDL)

Name	NPDES Permit #	Sediment WLA (lb/yr)	Sediment WLA (lb/day)	Basis
Motts Incorporated	PA0009326	79,194.0500	216.9700	25.0 mg/L
Rice Foods	PA0088455	3,655.1100	10.0140	30.0 mg/L
Opossum Valley Municipal Authority	PA0247154	19,965.3300	30.0420	30.0 mg/L
Bulk Reserve	-	83,146.4160	227.7984	-
Total	-	**176,960.906**	484.8244	-

It is unknown as to when this TMDL document will be finalized or approved by the U.S. Environmental Protection Agency (US-EPA). Consequently, the permit will be drafted without including the TMDL requirement. The permit, during the permit term, can be modified or reopened to include requirements/conditions based on new information that was not available at the time of permit issuance (40 CFR § 122.62 (a)). Accordingly, it is recommended that the following reopener clause be included in Part C of the permit:

“On April 30, 2013, the Total Maximum Daily Load (TMDL) was developed to provide a full picture of and solution to water quality problems identified in the Opossum Creek watershed. Once the Opossum Creek Watershed TMDL is finalized, the Department may reopen the permit to reflect the allocated Total Suspended Solids loading addressed in the TMDL.”

Whole Effluent Toxicity (WET)
This is not applicable to the subject facility.

Total Dissolved Solids (TDS)
Total Dissolved Solids and its major constituents including Bromide, Chloride, and Sulfate have become statewide pollutants of concern and threats to DEP’s mission to prevent violations of water quality standards of Public Water System (PWS). However, this is an industrial waste facility, therefore the existing permit has a minimum monitoring TDS, Bromide, Chloride, and Sulfate frequency of 1/week and sample type of “24-Hr Composite” are not applicable and will remove from the proposed permit.

“Free Cyanide” report requirement in Group 2 table for Industrial Wastewater & Industrial Stormwater application
The facility is indicated pollutant identification and analysis in “Group 1”. Therefore, this requirement is not applied to this facility.

FW: Free Cyanide

Martin, Daniel
To EP-SCCWPermits

Reply | Reply All | Forward | ...
Tue 7/22/2025 8:01 AM

From: Hawley, Harmonie <hhawley@pa.gov>
Sent: Tuesday, July 22, 2025 7:39 AM
To: EP-WQM Permits Chiefs <EP-wqmpermitschiefs@pa.gov>
Cc: Steckler, Zachary <zsteckler@pa.gov>
Subject: Free Cyanide

Good Morning
Just letting everyone know that the applications for Industrial Wastewater and Industrial Stormwater were updated to add Free Cyanide to the Group 2 pollutant table. The updated forms on available on eLibrary.
Harmonie

Harmonie Hawley, PhD, PE | Environmental Engineer Manager
Department of Environmental Protection
Bureau of Clean Water | NPDES Permitting Division
2 East Main Street | Norristown, PA 19401
Phone: 484-250-5191 | Fax: 484.250.5971
www.dep.pa.gov

Chesapeake Bay

In the Phase 3 WIP Wastewater Supplement revised on July 29, 2022, Table 7 of this document shows that Motts LLP has been allocated 18,645 lbs/year of TN and 729 lbs/year of TP. This approach is consistent with the Chesapeake Bay TMDL was based on the actual performance data previously evaluated by the Department. Since the permittee is easily capable of achieving compliance with these loads, the Department determines that no "compliance schedule" for the requirements associated with the Chesapeake Bay Strategy is necessary. Accordingly, the Chesapeake Bay nutrient existing limitations and monitoring requirements will remain in the proposed permit.

NPDES Permit No.	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0007498	Wise Foods Inc.	4/12/18	4/30/23	10/1/13	19,957	898	0.805	0.483
PA0007552	Empire Kosher Poultry	1/23/17	1/31/22	10/1/15	21,928	740	0.812	0.401
PA0007919	Cascades Tissue Group	12/24/13	10/31/18	11/1/13	40,569	1,941	0.758	0.432
PA0008231	Guilford Mills Inc.	8/3/11	8/31/16	10/1/11	7,065	271	0.501	0.403
PA0008265	Appvion Inc.	2/23/17	2/28/22	10/1/17	61,666	7,367	0.763	0.519
PA0008419	Cherokee Pharmaceutical	9/8/16	9/30/21	10/1/16	64,884	11,748	0.802	0.459
PA0008591	Gold Bond Building Products, LLC	10/8/2021	10/31/22	10/1/12	2,758	132	0.766	0.448
PA0008885	Proctor & Gamble Paper Products	8/25/17	8/31/22	10/1/11	100,360	5,441	0.797	0.592
PA0009024	Global Tungsten (Osram)	9/18/17	9/30/22	10/1/12	600,515	1,577	0.770	0.492
PA0009229	Norfolk Southern Railway Co,	9/26/19	9/30/24	10/1/13	2,539	93	0.788	0.365
PA0009270	Del Monte Corp.	4/24/14	9/30/17	10/1/14	33,196	1,492	0.805	0.483
PA0009326	Motts Inc.	12/1/2020	12/31/2025	10/1/15	18,645	729	0.621	0.189
PA0009911	Papetti's Acquisition Inc.	12/29/16	12/31/21	10/1/13	8,104	532	0.574	0.429
PA0055328	New Morgan Landfill Co. Inc.	11/22/16	7/31/20	10/1/15	12,500	64	0.551	0.309
PA0266345	Keystone Protein	9/27/2018	10/31/2022	10/26/2017	19,786	380.5	0.749	0.517
PA0024228	Hain Pure Protein	7/19/18	7/31/23	10/1/14	18,982	766	0.680	0.467
PA0035092	Tyson Foods	6/27/2022	6/30/2027	10/1/14	54,794	559	0.548	0.571
PA0035157	Farmer's Pride Inc.	7/8/2021	7/31/2026	10/1/15	16,438	1,370	0.680	0.467
PA0044741	Hanover Foods Corp.	9/22/15	9/30/20	10/1/17	26,385	979	0.634	0.411
PA0046680	Republic Services of PA LLC	4/21/17	1/31/22	10/1/17	50,803	300	0.631	0.387
PA0110540	Furman Foods	3/19/18	3/31/23	10/1/12	45,450	1,624	0.768	0.447
PA0111759	Cargill Meat Solutions	12/3/18	12/31/23	10/1/13	19,483	1,218	0.795	0.418
PA0008443	PPL Montour LLC	6/11/2021	8/31/23	10/1/18	72,749	1,200	0.698	0.415
				TOTALS:	**1,319,556**	**41,422**		

Mass Loading Limitations

The current NPDES permit contains average monthly and maximum daily mass loading limitations for $CBOD_5$ and Total Suspended Solids as recommended by Table 5-2 of the permit guidance. These limitations were previously established based on the formula: The design flow (MGD) x concentration at the design flow (mg/L) x 8.34 (conversion factor). For this renewal, it is recommended to include mass loading limitations for NH_3-N as recommended Table 5-2 of the permit guidance.

Antidegradation (93.4)

The effluent limits for this discharge have been developed to ensure that existing in-stream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High-Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

303d Listed Streams
The discharge is not located on a 303d listed stream segment. The stream segment that receives the discharge is listed as attaining its used for aquatic life and fish consumption.

Class A Wild Trout Fisheries
No Class A Wild Trout Fisheries are impacted by this discharge.

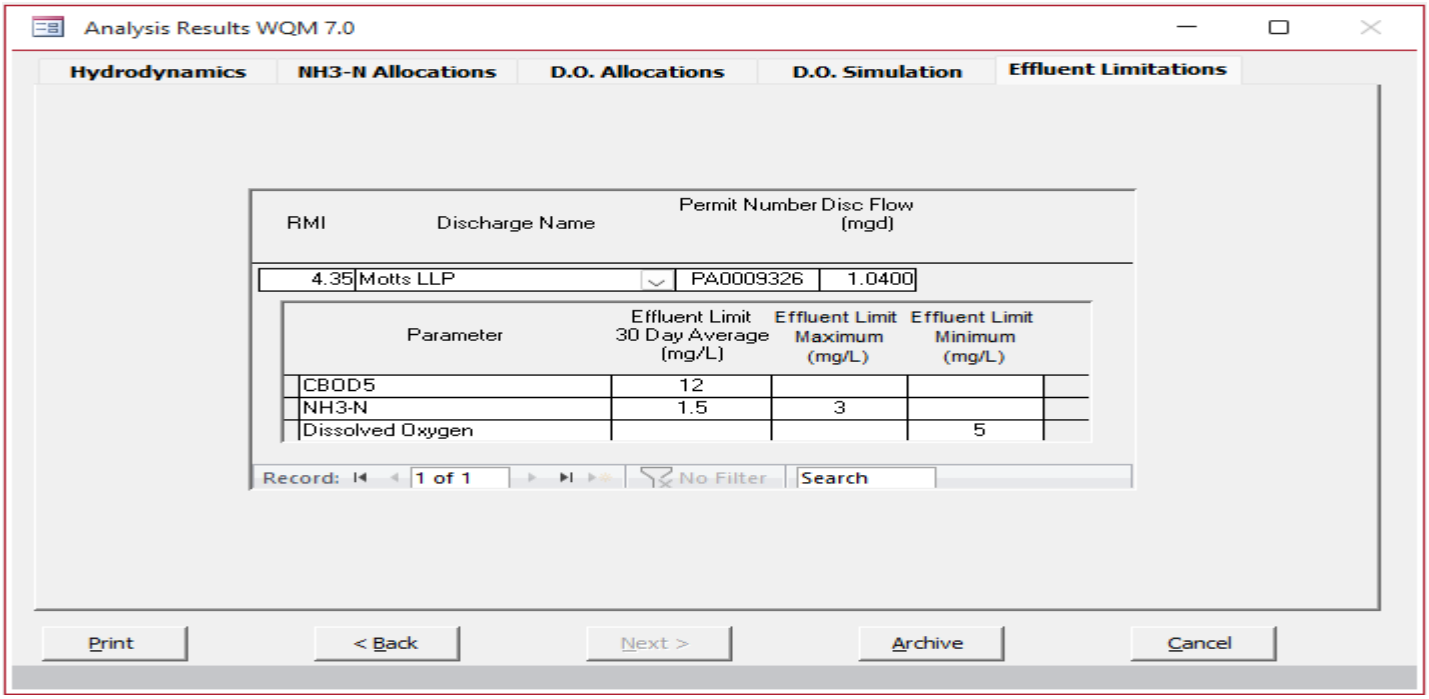
Anti-Backsliding
All proposed limitations and monitoring requirements established based on BPJ, water quality, and state/federal effluent standards meet the anti-backsliding requirements found in 40 CFR § 122.44(l)(1) and (2). These proposed limitations and monitoring requirements specified in the draft permit are at least as stringent as requirements/conditions specified in the current NPDES permit.

WQM7.0
The following two nodes were used in the modeling effort.

Discharge pH	=	7.0	(Default)
Discharge Temperature	=	20°C	(Default)
Stream pH	=	7.0	(Default)
Stream Temperature	=	20°C	(Default)
Background NH_3-N	=	0	(Default)

Node 1: Outfall 001 on UNT Opossum Creek (09057)
Elevation: 605 ft (USGS National Map Viewer)
Drainage Area: 18.4 $mi.^2$ (USGS PA StreamStats)
River Mile Index: 4.35 (PA DEP eMapPA)
Low Flow Yield: 0.3 $cfs/mi.^2$
Discharge Flow: 1.04 MGD

Node 2: Just before confluence with UNT 09097 of Opossum Creek
Elevation: 598 ft (USGS National Map Viewer)
Drainage Area: 19.5 $mi.^2$ (USGS PA StreamStats)
River Mile Index: 4.2 (PA DEP eMapPA)
Low Flow Yield: 0.3 $cfs/mi.^2$
Discharge Flow: 0.0 MGD



rptEffLimits

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
07F	9057	OPOSSUM CREEK

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
4.350	Motts LLP*	PA0009326	1.040	CBOD5	12		
				NH3-N	1.5	3	
				Dissolved Oxygen			5

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rpt_WLA

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
07F	9057	OPOSSUM CREEK

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
4.350	Motts LLP*	16.76	3	16.76	3	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
4.350	Motts LLP*	1.89	1.5	1.89	1.5	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
4.35	Motts LLP*	12	12	1.5	1.5	5	5	0	0

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rptDOSim

WQM 7.0 D.O. Simulation

SWP Basin	Stream Code	Stream Name
07F	9057	OPOSSUM CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
4.350	1.040	20.000	7.000
Reach Width (ft)	Reach Depth (ft)	Reach W/D Ratio	Reach Velocity (fps)
29.921	0.892	43.892	0.348
Reach CBOD5 (mg/L)	Reach Kc (1/days)	Reach NH3-N (mg/L)	Reach Kn (1/days)
4.27	0.950	0.34	0.700
Reach DO (mg/L)	Reach Kr (1/days)	Kr Equation	Reach DO Goal (mg/L)
7.567	25.187	Tsivoglou	6
Reach Travel Time (days)			
0.026			

Subreach Results

Travtime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.003	4.26	0.34	7.61
0.005	4.25	0.34	7.71
0.008	4.24	0.34	7.80
0.011	4.23	0.34	7.88
0.013	4.22	0.34	7.96
0.016	4.21	0.34	8.03
0.018	4.20	0.34	8.09
0.021	4.18	0.34	8.15
0.024	4.17	0.33	8.21
0.026	4.16	0.33	8.24

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rptModelSpecs

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputed Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputed W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputed Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	6		

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rptHydro

WQM 7.0 Hydrodynamic Outputs

SWP Basin: 07F | Stream Code: 9057 | Stream Name: OPOSSUM CREEK

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	WD Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
4.350	5.48	0.00	5.48	1.8089	0.00894	.682	29.92	43.89	0.35	0.026	20.00	7.00
Q1-10 Flow												
4.350	3.51	0.00	3.51	1.8089	0.00894	NA	NA	NA	0.29	0.032	20.00	7.00
Q30-10 Flow												
4.350	7.45	0.00	7.45	1.8089	0.00894	NA	NA	NA	0.40	0.023	20.00	7.00

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rptGeneral

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
07F	9057	OPOSSUM CREEK	4.350	605.00	18.40	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Trib Temp (°C)	Trib pH	Stream Temp (°C)	Stream pH
Q7-10	0.300	0.00	5.48	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Motts LLP	PA0009326	1.0400	1.0400	1.0400	0.000	20.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	12.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	1.50	0.00	0.00	0.70

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rptGeneral

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
07F	9057	OPOSSUM CREEK	4.200	598.00	19.50	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Trib Temp (°C)	Trib pH	Stream Temp (°C)	Stream pH
Q7-10	0.300	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Motts LLP	PA0009326	0.0000	0.0000	0.0000	0.000	20.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

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Toxic

- Discharge pH = 8.15 (average 2025 renewal application)
- Discharge Hardness = 531 mg/L (2025 renewal application)
- Stream pH = 7.0 (Default)
- Stream Hardness = 19 mg/L (2025 renewal application)
- Background NH_3-N = 0 mg/L (Default)

Node 1: Outfall 001 on UNT Opossum Creek (09057)
Elevation: 605 ft (USGS National Map Viewer)
Drainage Area: 18.4 mi.^{2} (USGS PA StreamStats)
River Mile Index: 4.35 (PA DEP eMapPA)
Low Flow Yield: 0.3 cfs/mi.^{2}
Discharge Flow: 1.04 MGD

Node 2: Just before confluence with UNT 09097 of Opossum Creek
Elevation: 598 ft (USGS National Map Viewer)
Drainage Area: 19.5 mi.^{2} (USGS PA StreamStats)
River Mile Index: 4.2 (PA DEP eMapPA)
Low Flow Yield: 0.3 cfs/mi.^{2}
Discharge Flow: 0.0 MGD

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Motts LLP** NPDES Permit No.: **PA0009326** Outfall No.: **001**

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

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
1.04	531	8.15						

	Discharge Pollutant	Units	Max Discharge Conc		0 if left blank: Trib Conc	0 if left blank: Stream Conc	0.5 if left blank: Daily CV	0.5 if left blank: Hourly CV	0 if left blank: Strea m CV	0 if left blank: Fate Coeff	0 if left blank: FOS	1 if left blank: Criteri a Mod	1 if left blank: Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		2654									
	Chloride (PWS)	mg/L		1500									
	Bromide	mg/L		9.8									
	Sulfate (PWS)	mg/L		260									
	Fluoride (PWS)	mg/L		0.2									
Group 2	Total Aluminum	µg/L											
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L											
	Total Beryllium	µg/L											
	Total Boron	µg/L											
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L											
	Hexavalent Chromium	µg/L											
	Total Cobalt	µg/L											
	Total Copper	mg/L											
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L											
	Total Iron	µg/L											
	Total Lead	µg/L											
	Total Manganese	µg/L											
	Total Mercury	µg/L											
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L											
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	mg/L											
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

Group 3	Carbon Tetrachloride	µg/L	<											
	Chlorobenzene	µg/L												
	Chlorodibromomethane	µg/L	<											
	Chloroethane	µg/L	<											
	2-Chloroethyl Vinyl Ether	µg/L	<											
	Chloroform	µg/L	<											
	Dichlorobromomethane	µg/L	<											
	1,1-Dichloroethane	µg/L	<											
	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	<											
	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	<											
	Toluene	µg/L	<											
	1,2-trans-Dichloroethylene	µg/L	<											
	1,1,1-Trichloroethane	µg/L	<											
	1,1,2-Trichloroethane	µg/L	<											
	Trichloroethylene	µg/L	<											
	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	<											
	Benzidine	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)Anthrancene	µg/L	<											
	1,2-Dichlorobenzene	µg/L	<											
	1,3-Dichlorobenzene	µg/L	<											
	1,4-Dichlorobenzene	µg/L	<											
	3,3-Dichlorobenzidine	µg/L	<											
	Diethyl Phthalate	µg/L	<											
	Dimethyl Phthalate	µg/L	<											
	Di-n-Butyl Phthalate	µg/L	<											
	2,4-Dinitrotoluene	µg/L	<											

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

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Motts LLP, NPDES Permit No. PA0009326, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: Opossum Creek

No. Reaches to Model: 1

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	009057	4.35	605	18.4			Yes
End of Reach 1	009057	4.2	598	19.5			Yes

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

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	4.35	0.3	5.48									19	7		
End of Reach 1	4.2	0.3													

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	4.35														
End of Reach 1	4.2														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Motts LLP, NPDES Permit No. PA0009326, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | (●) All ( ) Inputs ( ) Results ( ) Limits

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 13.858 PMF: 1 Analysis Hardness (mg/l): 135.2 Analysis pH: 7.10

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

☑ ***CFC*** CCT (min): 13.858 PMF: 1 Analysis Hardness (mg/l): 135.2 Analysis pH: 7.10

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

☑ ***THH*** CCT (min): 13.858 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Fluoride (PWS)	0	0		0	2,000	2,000	N/A	

☑ ***CRL*** CCT (min): 7.421 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

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

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

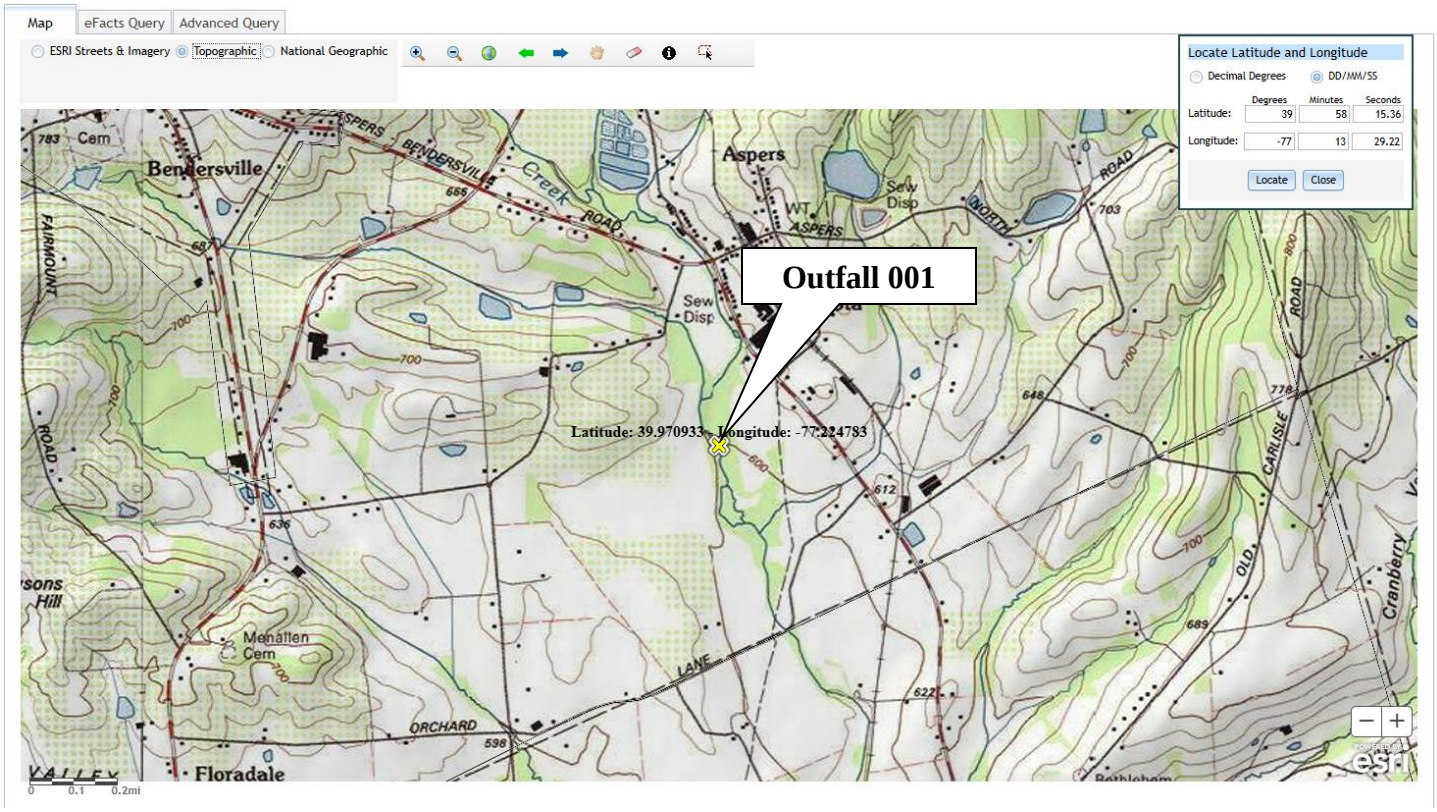
No. Samples/Month: 4

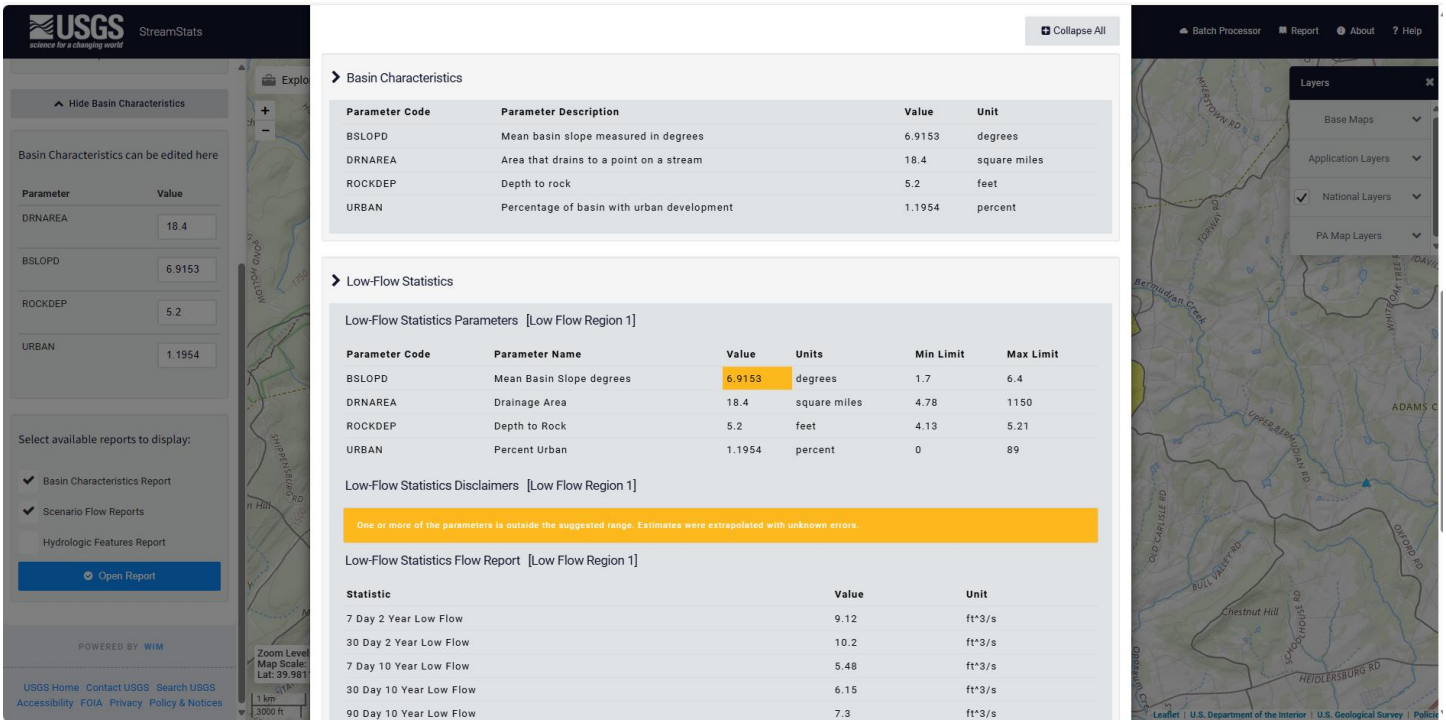
Pollutants	*Mass Limits* AML (lbs/day)	*Mass Limits* MDL (lbs/day)	*Concentration Limits* AML	*Concentration Limits* MDL	*Concentration Limits* IMAX	*Concentration Limits* Units	Governing WQBEL	WQBEL Basis	Comments

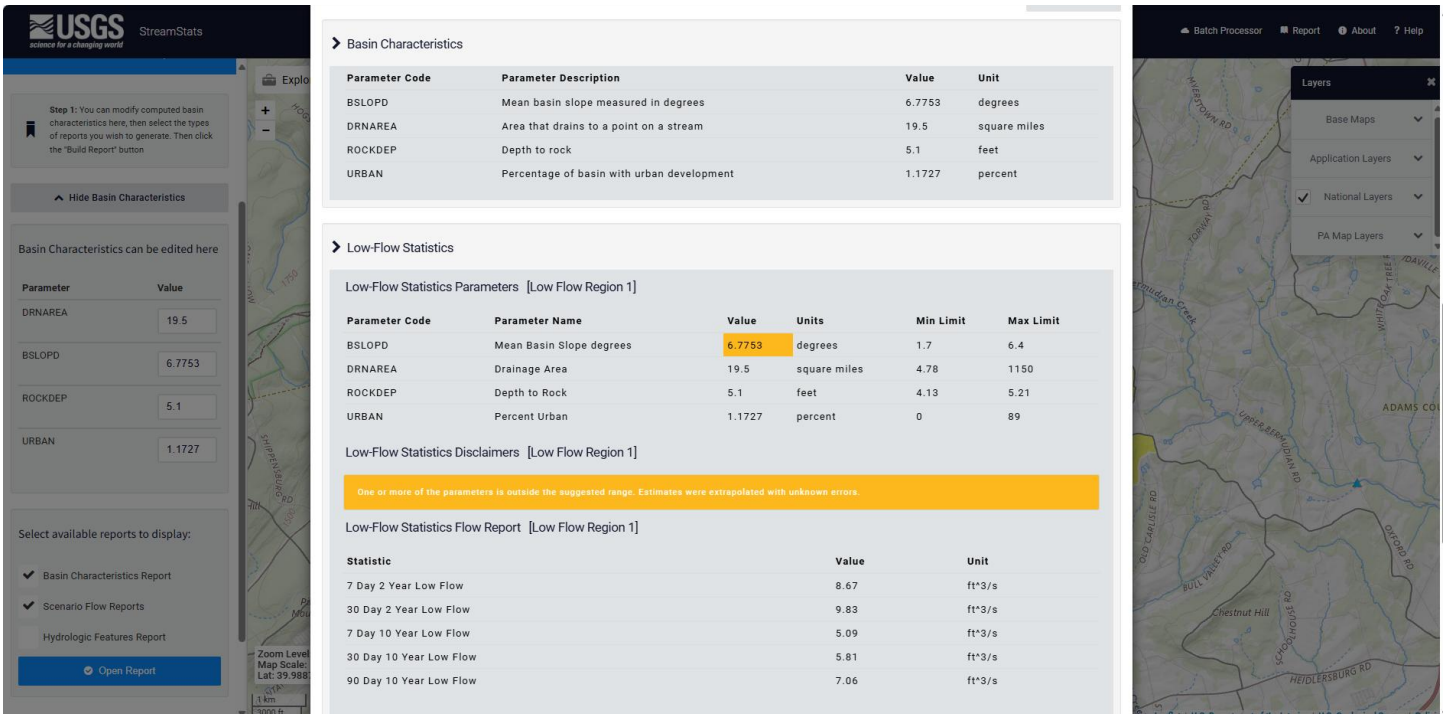
☑ ***Other Pollutants without Limits or Monitoring***

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	PWS Not Applicable




USGS StreamStats
Collapse All
Basin Characteristics
Parameter Code | Parameter Description | Value | Unit
BSLOPD | Mean basin slope measured in degrees | 6.9153 | degrees
DRNAREA | Area that drains to a point on a stream | 18.4 | square miles
ROCKDEP | Depth to rock | 5.2 | feet
URBAN | Percentage of basin with urban development | 1.1954 | percent
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 | 6.9153 | degrees | 1.7 | 6.4
DRNAREA | Drainage Area | 18.4 | square miles | 4.78 | 1150
ROCKDEP | Depth to Rock | 5.2 | feet | 4.13 | 5.21
URBAN | Percent Urban | 1.1954 | 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 | 9.12 | ft^3/s
30 Day 2 Year Low Flow | 10.2 | ft^3/s
7 Day 10 Year Low Flow | 5.48 | ft^3/s
30 Day 10 Year Low Flow | 6.15 | ft^3/s
90 Day 10 Year Low Flow | 7.3 | ft^3/s
Hide Basin Characteristics
Basin Characteristics can be edited here
Parameter | Value
DRNAREA 18.4
BSLOPD 6.9153
ROCKDEP 5.2
URBAN 1.1954
Select available reports to display:
Basin Characteristics Report
Scenario Flow Reports
Hydrologic Features Report
Open Report
Batch Processor | Report | About | Help
Layers
Base Maps
Application Layers
National Layers
PA Map Layers


USGS StreamStats
Basin Characteristics
Parameter Code | Parameter Description | Value | Unit
BSLOPD | Mean basin slope measured in degrees | 6.7753 | degrees
DRNAREA | Area that drains to a point on a stream | 19.5 | square miles
ROCKDEP | Depth to rock | 5.1 | feet
URBAN | Percentage of basin with urban development | 1.1727 | percent
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 | 6.7753 | degrees | 1.7 | 6.4
DRNAREA | Drainage Area | 19.5 | square miles | 4.78 | 1150
ROCKDEP | Depth to Rock | 5.1 | feet | 4.13 | 5.21
URBAN | Percent Urban | 1.1727 | 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 | 8.67 | ft^3/s
30 Day 2 Year Low Flow | 9.83 | ft^3/s
7 Day 10 Year Low Flow | 5.09 | ft^3/s
30 Day 10 Year Low Flow | 5.81 | ft^3/s
90 Day 10 Year Low Flow | 7.06 | ft^3/s
Hide Basin Characteristics
Basin Characteristics can be edited here
Parameter | Value
DRNAREA 19.5
BSLOPD 6.7753
ROCKDEP 5.1
URBAN 1.1727
Select available reports to display:
Basin Characteristics Report
Scenario Flow Reports
Hydrologic Features Report
Open Report
Batch Processor | Report | About | Help
Layers
Base Maps
Application Layers
National Layers
PA Map Layers

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