pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0110302**
Facility Type	**Non-Municipal**	APS ID	**1055890**
Major / Minor	**Minor**	Authorization ID	**1383602**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**North American Hoganas Inc.**	Facility Name	**North American Hoganas**
Applicant Address	111 Hoganas Way	Facility Address	111 Hoganas Way
	Hollsopple, PA 15935-6416		Hollsopple, PA 15935-6416
Applicant Contact	David Johnson	Facility Contact	Same as Applicant
Applicant Phone	(814) 479-3520	Facility Phone	Same as Applicant
Client ID	79754	Site ID	239583
Ch 94 Load Status	Not Overloaded	Municipality	Quemahoning Township
Connection Status	No Limitations	County	Somerset
Date Application Received	February 1, 2022	EPA Waived?	Yes
Date Application Accepted	February 3, 2022	If No, Reason	

Purpose of Application: Application for renewal of an NPDES permit for treated sewage.

Summary of Review

The permittee has applied for renewal of NPDES Permit No. PA0110302. NPDES Permit No. PA0204625 was previously issued by the PA Department of Environmental Protection (DEP) on July 19, 2017 and expires July 31, 2022.

Sewage at this facility is treated with a comminutor, equalization, aeration, settling, aerobic sludge digestion, and chlorine disinfection prior to discharge through Outfall 001 to Quemahoning Creek which is classified as a Cold-Water Fishery (CWF) per Chapter 93 Designated Use.

The permittee is currently enrolled in and will continue to use eDMR.

The applicant complied with Act 14 Notification and no comments were received.

Sludge produced at this facility is pumped by Kamzik and hauled to the Johnstown Sewage Plant.

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*

Approve	Deny	Signatures	Date
X		Stephanie Conrad / Environmental Engineering Specialist	April 28, 2022
x		Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineer Manager	May 16, 2022

Summary of Review
Bulletin at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.02
Latitude	40º 11' 38.65"	Longitude	-78º 56' 10.48"
Quad Name	Hooversville	Quad Code	1714
Wastewater Description:	Sewage Effluent		

Receiving Waters	Quemahoning Creek (CWF)	Stream Code	45371
NHD Com ID	123719512	RMI	0.2800
Drainage Area	99.1	Yield (cfs/mi^2)	0.06303
Q_{7-10} Flow (cfs)	6.24	Q_{7-10} Basis	USGS Stream Stats
Elevation (ft)	1620	Slope (ft/ft)	
Watershed No.	18-E	Chapter 93 Class.	CWF
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	Final	Name	Kiskiminetas-Conemaugh River Watersheds TMDL

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

Nearest Downstream Public Water Supply Intake: Saltsburg Muni Waterworks

PWS Waters	Conemaugh River	Flow at Intake (cfs)	0.602
PWS RMI	27.4	Distance from Outfall (mi)	68.9

Changes Since Last Permit Issuance: None

Other Comments:

Treatment Facility Summary

Treatment Facility Name: North American Hoganas

WQM Permit No.	Issuance Date
5679402	August 3, 1979
5679402-T1	July 27, 2004
5679402-T2	November 8, 2006

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Activated Sludge	Chlorine	0.02

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.02	20	Not Overloaded	Aerobic Digestion	Other WWTP

Changes Since Last Permit Issuance: None

Other Comments:

Compliance History

Operations Compliance Check Summary Report

Facility: Quemahoning Industrial Park STP

NPDES Permit No.: PA0110302

Compliance Review Period: 3/2017 – 3/2022

Inspection Summary:

INSP ID	INSPECTED DATE	INSP TYPE	AGENCY	INSPECTION RESULT DESC
3299642	12/06/2021	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted
3299643	12/06/2021	Administrative/File Review	PA Dept of Environmental Protection	No Violations Noted
3046503	06/18/2020	Routine/Partial Inspection	PA Dept of Environmental Protection	No Violations Noted
2973004	12/09/2019	Compliance Evaluation	PA Dept of Environmental Protection	Violation(s) Noted
2614494	06/01/2017	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted

Violation Summary:

VIOL ID	VIOLATION DATE	VIOLATION TYPE	VIOLATION TYPE DESC	RESOLVED DATE
871344	12/09/2019	92A.44	NPDES - Violation of effluent limits in Part A of permit	12/09/2019

Open Violations by Client ID:

No open violations for Client ID 79754

Enforcement Summary:

ENF ID	ENF TYPE	EXECUTED DATE	VIOLATIONS	ENF FINALSTATUS	ENF CLOSED DATE
381997	NOV	12/09/2019	92A.44	Administrative Close Out	03/25/2022

DMR Violation Summary:

END	PARAMETER	CODE	PERMIT	SAMPLE	UNIT
9/30/20	Fecal Coliform	Geometric Mean	200	2471	No./100 ml
9/30/20	Fecal Coliform	Instantaneous Maximum	1000	3448	No./100 ml
8/31/19	Fecal Coliform	Geometric Mean	200	1639	No./100 ml
8/31/19	Fecal Coliform	Instantaneous Maximum	1000	2723	No./100 ml
2/28/19	Ammonia-Nitrogen	Average Monthly	25	26	mg/L
2/28/19	Ammonia-Nitrogen	Weekly Average	50	59.6	mg/L
2/28/19	Fecal Coliform	Instantaneous Maximum	10000	14136	No./100 ml

Compliance Status:

Permittee has some exceedances. Operation will monitor

Completed by: John Murphy

Completed date: 3/25/2022

Compliance History

DMR Data for Outfall 001 (from February 1, 2021 to January 31, 2022)

Parameter	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21
Flow (MGD) Average Monthly	0.00829	0.008	0.00673	0.00755	0.00858 5	0.00773	0.00923	0.00947	0.0124	0.00805	0.00915 5	0.00924
pH (S.U.) Minimum	6.59	6.32	6.36	6.12	6.004	6.0	6.01	6.39	6.09	6.8	6.85	7.10
pH (S.U.) Maximum	7.95	7.56	7.48	7.71	7.108	6.99	7.24	7.89	8.26	7.8	7.52	7.83
DO (mg/L) Minimum	7.482	6.319	8.11	5.631	5.378	5.66	4.52	4.07	4.04	4.05	6.4	6.74
TRC (mg/L) Average Monthly	0.004	0.003	0.045	0.2228	0.10	0.014	0.003	0.039	0.024	0.159	0.261	0.104
TRC (mg/L) Instantaneous Maximum	0.016	0.012	0.587	1.545	0.617	0.247	0.006	0.446	0.60	1.00	0.61	1.025
$CBOD_5$ (mg/L) Average Monthly	3	3	3	< 2	< 2	2	< 2	< 2	< 3	3.0	7	5
$CBOD_5$ (mg/L) Instantaneous Maximum	4	3	3	< 2	< 2	2	< 2	2	4	4.0	7	6
TSS (mg/L) Average Monthly	25	16	16	7	6	4	5	4	6	8	15	11
TSS (mg/L) Instantaneous Maximum	31	18	20	10	6	6	5	6	6	9	19	13
Fecal Coliform (No./100 ml) Geometric Mean	39	43	3	26	1	6	< 3	< 1	11	6	< 2	1
Fecal Coliform (No./100 ml) Instantaneous Maximum	299.8	45.7	4.1	330.2	2	6.3	9.9	< 1	17.3	178	5.2	2
Total Nitrogen (mg/L) Daily Maximum		15.71										
Ammonia-Nitrogen (mg/L) Average Monthly	0.10	< 0.11	< 0.12	0.31	0.27	0.30	0.96	0.92	2.93	7.56	10.17	23.8

Ammonia-Nitrogen (mg/L) Weekly Average	0.10	0.11	0.13	0.32	0.34	0.32	1.79	1.43	5.31	14.4	11.40	31.7
Total Phosphorus (mg/L) Daily Maximum		0.417										
Total Aluminum (mg/L) Daily Maximum		< 0.1										
Total Iron (mg/L) Daily Maximum		0.55										
Total Manganese (mg/L) Daily Maximum		0.04										

Summary of Inspections: The facility was last inspected by PADEP as a Compliance Evaluation on December 6, 2021. There were no violations noted.

Other Comments:

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .02
Latitude 40º 11' 38.65" **Longitude** -78º 56' 10.48"
Wastewater Description: Sewage Effluent

Technology-Based Limitations (TBELs)

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

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

Water Quality-Based Limitations (WQBELs)

Pursuant to EPA's approval of Pennsylvania's 2017 Triennial Review of Water Quality Standards and corresponding regulatory change published in *Pennsylvania Bulletin* on July 11, 2020, new water quality criteria for ammonia-nitrogen apply for waters of the commonwealth. Therefore, WQBELs for Outfall 001 are being re-evaluated even though there have been no changes to the STP.

The effluent was modeled using WQM 7.0 to evaluate $CBOD_5$, ammonia-nitrogen, and Dissolved Oxygen (DO) parameters. Modeling confirmed that technology based effluent limits are appropriate for $CBOD_5$ and DO. The modeling also confirmed that water-quality based effluent limits are necessary to meet instream criteria for summer ammonia-nitrogen. In accordance with the SOP's. winter ammonia-nitrogen limits are assessed by comparing the winter WQM 7.0 output value with one calculated from the summer limit using a seasonal multiplier of three. The more restrictive of the two values will then be imposed. For this facility, the winter ammonia-nitrogen limit to be imposed is the WQM 7.0 winter model output value. WQM 7.0 output files are provided in Attachment A.

Total Residual Chlorine (TRC) was modeled with PA DEP's TRC Spreadsheet. Modeling confirmed that Best Available Technology (BAT) limits are sufficient to meet in-stream water quality criterion. TRC Spreadsheet output files are provided in Attachment B.

No water quality based effluent limits are becoming more restrictive this permit cycle.

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
Ammonia-Nitrogen (summer)	20.0	Average Monthly	WQM 7.0

Kiskiminetas-Conemaugh River Watershed TMDL

Section 303(d) of the Clean Water Act and the U.S. Environmental Protection Agency's Water Quality Planning and Management Regulations (codified at Title 40 of the Code of Federal Regulations Part 130) require states to develop a TMDL for impaired water bodies. A TMDL establishes the amount of a pollutant that a water body can assimilate without exceeding water quality criteria for the pollutant. TMDLs also provide a scientific basis for states to establish water quality-based controls for reducing pollution from both point and non-point sources in order to restore and maintain the quality of the state's water resources (EPA 1991a). Stream reaches within the Kiskiminetas-Conemaugh River Watershed are included in the state's 2008 Section 303(d) list because of various impairments including metals, pH, and sediment.

North American Hoganas (PA0110302) discharges to the Kiskiminetas-Conemaugh River Watershed, for which a TMDL was finalized on January 29, 2010. The TMDL addresses metals, pH, and sediment impairments associated with abandoned mine drainage. This facility is not listed in the TMDL.

The previous permit imposed a monitor and report requirement for aluminum, iron, and manganese. The highest reported values for the last five years of eDMR data are reported below along with the in-stream water quality criteria for each pollutant of concern.

Parameter	Highest Reported Value (mg/l)	Criteria (mg/L)
Aluminum, Total	0.2	0.75
Iron, Total	1.44	1.5
Manganese, Total	0.128	1.0

A "Reasonable Potential Analysis" was conducted using PA DEP's Toxic Management Spreadsheet Version 1.3. Toxic Management Spreadsheet Output files are provided in Attachment C.

The maximum reported value for the last five years and each pollutant of concern were input into the TMS Spreadsheet. The analysis determined that no reasonable potential to exceed in-stream water quality criteria exists.

In accordance with 25 PA Code §92a.61, a 1/year monitoring requirement for iron, manganese, and aluminum will again be imposed in the permit to continue verification that the sewage discharge is not contributing to stream impairment.

Best Professional Judgment (BPJ) Limitations

A DO minimum limitation of 4.0 mg/L will be imposed based on the standard in 25 PA Code Chapter 93 and best professional judgement.

Anti-Backsliding

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

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

The facility is not seeking backsliding during the current renewal.

Additional Considerations

Pursuant to EPA's approval of Pennsylvania's 2017 Triennial Review of Water Quality Standards and corresponding regulatory changes published in the *Pennsylvania Bulletin* on July 11, 2020, sewage discharges will include monitoring, at a minimum for *E.coli* , in new and reissued permits, with a monitoring frequency of 1/year for design flows of 0.002 – 0.05 MGD.

Annual monitoring for Total Nitrogen and Phosphorus is being imposed per 25 PA Code §92a.61.

Monitoring frequency for the proposed effluent limits are based upon Table 6.3, Self-Monitoring Requirements for Sewage Dischargers, from the Department's Technical Guidance for the *Development and Specification of Effluent Limitations.* Please note that sampling frequency is not changing for any parameter during this permit cycle.

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" (362-0400-001), 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	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	0.02	XXX	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
$CBOD_5$	XXX	XXX	XXX	25	XXX	50	2/month	Grab
TSS	XXX	XXX	XXX	30	XXX	60	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	25.0	50.0 Wkly Avg	XXX	2/month	Grab
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	20.0	40.0 Wkly Avg	XXX	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Total Aluminum	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Total Iron	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Total Manganese	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

Compliance Sampling Location: Outfall 001.

Other Comments: None.

ATTACHMENT A

WQM 7.0 Modeling Results

Summer

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
18E	45371	QUEMAHONING CREEK	0.280	1620.00	99.10	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.063	0.00	0.00	0.000	0.000	10.0	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
Quemahoning Ind	PA0110302	0.0000	0.0200	0.0000	0.000	20.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	4.00	9.01	0.00	0.00
NH3-N	20.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
18E	45371	QUEMAHONING CREEK	0.010	1600.00	99.60	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.063	0.00	0.00	0.000	0.000	10.0	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
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
18E	45371	QUEMAHONING CREEK

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
0.260	6.25	0.00	6.25	.0309	0.01403	.756	35.66	47.2	0.23	0.071	20.00	7.00
Q1-10 Flow												
0.260	4.00	0.00	4.00	.0309	0.01403	NA	NA	NA	0.18	0.091	20.00	7.00
Q30-10 Flow												
0.260	8.49	0.00	8.49	.0309	0.01403	NA	NA	NA	0.28	0.060	20.00	7.00

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WQM 7.0 Modeling Specifications

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

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
18E	45371	QUEMAHONING 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
0.280	Quemahoning Ind	16.76	40	16.76	40	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
0.280	Quemahoning Ind	1.89	20	1.89	20	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)		
0.28	Quemahoning Ind	25	25	20	20	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
18E	45371	QUEMAHONING CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.280	0.020	20.000	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
35.664	0.756	47.196	0.233
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.11	0.083	0.10	0.700
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.985	31.050	Tsivoglou	6
Reach Travel Time (days)			
0.071			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.007	2.11	0.10	8.24
0.014	2.11	0.10	8.24
0.021	2.11	0.10	8.24
0.028	2.11	0.10	8.24
0.035	2.11	0.10	8.24
0.043	2.11	0.10	8.24
0.050	2.10	0.10	8.24
0.057	2.10	0.09	8.24
0.064	2.10	0.09	8.24
0.071	2.10	0.09	8.24

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WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
18E	45371	QUEMAHONING CREEK

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Eff. Limit 30-day Ave. (mg/L)	Eff. Limit Maximum (mg/L)	Eff. Limit Minimum (mg/L)
0.280	Quemahoning Ind	PA0110302	0.000	CBOD5	25		
				NH3-N	20	40	
				Dissolved Oxygen			4

Winter

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
18E	45371	QUEMAHONING CREEK	0.280	1620.00	99.10	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.126	0.00	0.00	0.000	0.000	10.0	0.00	0.00	5.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Quemahoning Ind	PA0110302	0.0000	0.0200	0.0000	0.000	15.00	7.00

Parameter Data

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

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
18E	45371	QUEMAHONING CREEK	0.010	1600.00	99.60	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.126	0.00	0.00	0.000	0.000	10.0	0.00	0.00	5.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
18E	45371	QUEMAHONING CREEK

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
0.280	12.49	0.00	12.49	.0309	0.01403	.82	44.55	54.35	0.34	0.048	5.02	7.00
Q1-10 Flow												
0.280	8.00	0.00	8.00	.0309	0.01403	NA	NA	NA	0.27	0.062	5.04	7.00
Q30-10 Flow												
0.280	16.99	0.00	16.99	.0309	0.01403	NA	NA	NA	0.41	0.041	5.02	7.00

WQM 7.0 Modeling Specifications

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

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
18E	45371	QUEMAHONING 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
0.280	Quemahoning Ind	24.1	50	24.1	50	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
0.280	Quemahoning Ind	4.36	25	4.36	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
0.28	Quemahoning Ind	25	25	25	25	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
18E	45371	QUEMAHONING CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.260	0.020	5.025	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WD Ratio**	**Reach Velocity (fps)**
44.552	0.820	54.352	0.343
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.06	0.044	0.06	0.221
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
12.489	23.016	Tsivoglou	6
Reach Travel Time (days)			
0.048			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.005	2.06	0.06	11.45
0.010	2.06	0.06	11.45
0.014	2.06	0.06	11.45
0.019	2.06	0.06	11.45
0.024	2.06	0.06	11.45
0.029	2.06	0.06	11.45
0.034	2.06	0.06	11.45
0.038	2.06	0.06	11.45
0.043	2.05	0.06	11.45
0.048	2.05	0.06	11.45

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
18E	45371	QUEMAHONING 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)
0.280	Quemahoning Ind	PA0110302	0.000	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

ATTACHMENT B

TRC Modeling Results

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

6.24	= Q stream (cfs)	0.5	= CV Daily
0.02	= Q discharge (MGD)	0.6	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 64.355	1.3.2.iii	WLA cfc = 62.734
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 23.980	5.1d	LTA_cfc = 36.470

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

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

ATTACHMENT C

Toxic Management Spreadsheet Output File

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **North American Hoganas** NPDES Permit No.: **PA0110302** Outfall No.: **001**

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

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.02	100	7						

					0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Strea m CV	Fate Coeff	FOS	Criteri a Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L											
	Chloride (PWS)	mg/L											
	Bromide	mg/L											
	Sulfate (PWS)	mg/L											
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		200									
	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	µg/L											
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L											
	Total Iron	µg/L		1440									
	Total Lead	µg/L											
	Total Manganese	µg/L		128									
	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	µg/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 1.3, March 2021

Stream / Surface Water Information

North American Hoganas, NPDES Permit No. PA0110302, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Quemahoning Creek**

No. Reaches to Model: **1**

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	045371	0.28	1620	99.1			Yes
End of Reach 1	045371	0.01	1600	99.6			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	0.28	0.1				35.66	0.756	0.23				100	7		
End of Reach 1	0.01	0.1													

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	0.28														
End of Reach 1	0.01														

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Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

North American Hoganas, NPDES Permit No. PA0110302, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.821 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Aluminum	0	0		0	750	750	198,001	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	

☑ ***CFC*** CCT (min): 22.248 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	481,946	WQC = 30 day average; PMF = 1
Total Manganese	0	0		0	N/A	N/A	N/A	

☑ ***THH*** CCT (min): 22.248 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 Aluminum	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	321,297	

☑ ***CRL*** CCT (min): 7.215 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 Aluminum	0	0		0	N/A	N/A	N/A	

Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	

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

No. Samples/Month: 4

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

☑ ***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 Aluminum	126,910	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	481,946	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	321,297	µg/L	Discharge Conc ≤ 10% WQBEL

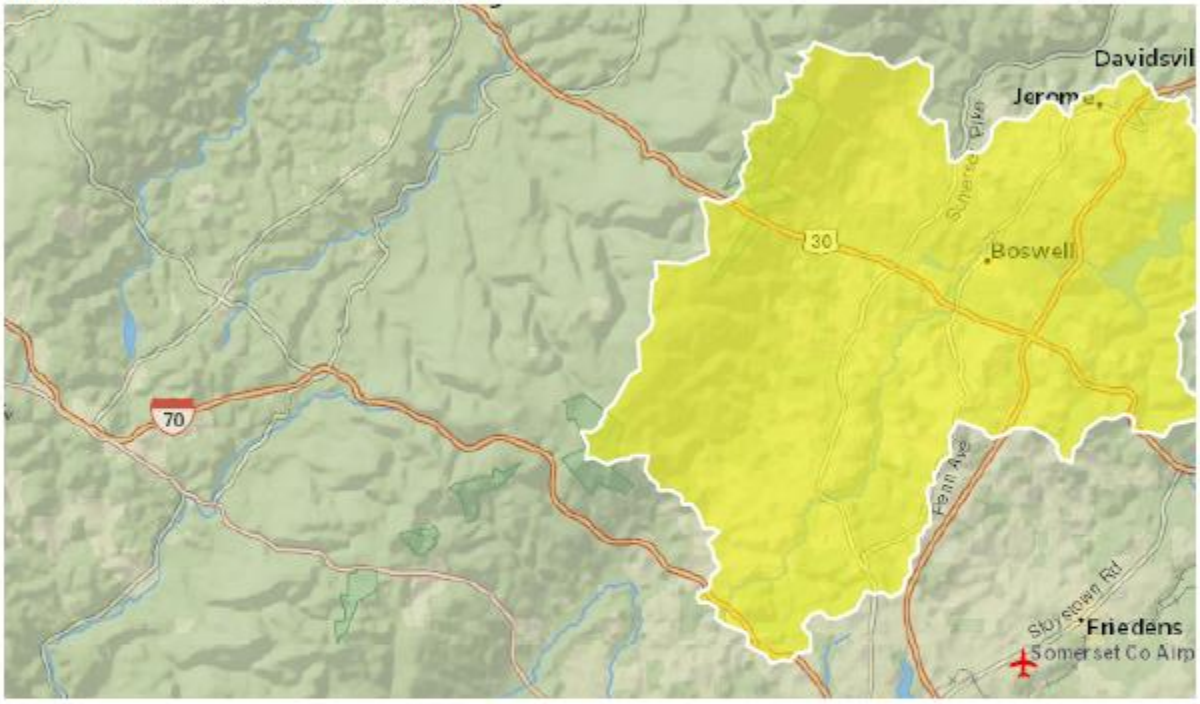
ATTACHMENT D

USGS Stream Stats Output

Discharge Point

StreamStats Report

Region ID: PA
Workspace ID: PA20220318153112751000
Clicked Point (Latitude, Longitude): 40.19391, -78.93659
Time: 2022-03-18 11:31:35 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	99.1	square miles
ELEV	Mean Basin Elevation	2042	feet
PRECIP	Mean Annual Precipitation	42	inches

Low-Flow Statistics Flow Report [100.0 Percent (99 square miles) Low Flow Region 3]

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

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	12.7	ft^3/s	43	43
30 Day 2 Year Low Flow	17	ft^3/s	38	38
7 Day 10 Year Low Flow	6.24	ft^3/s	54	54
30 Day 10 Year Low Flow	7.99	ft^3/s	49	49
90 Day 10 Year Low Flow	11.5	ft^3/s	41	41

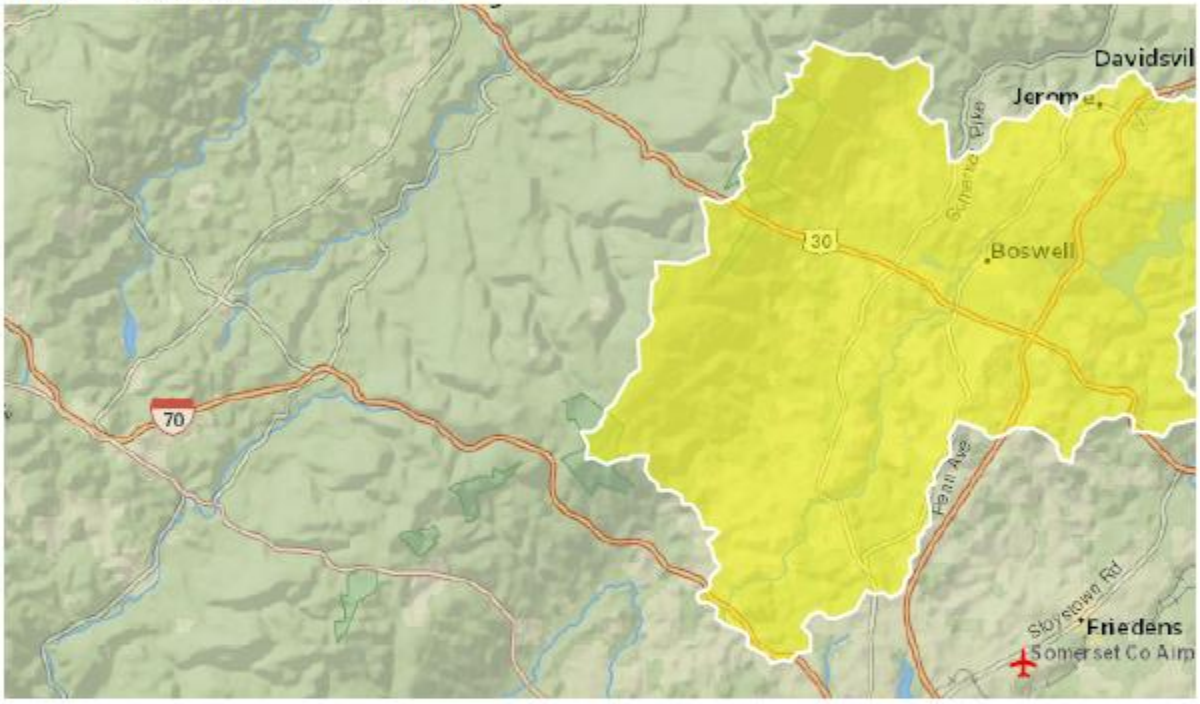
Low-Flow Statistics Citations

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

Downstream of Discharge Point

StreamStats Report

Region ID: PA
Workspace ID: PA20220318153354843000
Clicked Point (Latitude, Longitude): 40.19774, -78.93590
Time: 2022-03-18 11:34:15 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	99.6	square miles
ELEV	Mean Basin Elevation	2041	feet
PRECIP	Mean Annual Precipitation	42	inches