Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0272523**
Facility Type	**Industrial**	APS ID	**1126292**
Major / Minor	**Minor**	Authorization ID	**1507531**

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

Applicant and Facility Information

Applicant Name	**Symmco Inc.**	Facility Name	**Symmco Manufacturing**
Applicant Address	40 S Park Street	Facility Address	40 S Park Street
	Sykesville, PA 15865-1130		Sykesville, PA 15865-1130
Applicant Contact	Bill Zimmerman	Facility Contact	
Applicant Phone	(814) 894-2461	Facility Phone	
Client ID	352392	Site ID	457034
SIC Code	3499	Municipality	Sykesville Borough
SIC Description	Manufacturing - Fabricated Metal Products, Nec	County	Jefferson
Date Application Received	November 20, 2024	EPA Waived?	No
Date Application Accepted	January 20, 2026	If No, Reason	DEP Discretion

Purpose of Application: Renewal application for a minor industrial waste discharge

Summary of Review

The Department received a renewal application for Individual NPDES Permit No PA0272523 on November 20, 2024 which expired on June 30, 2025. The facility manufacturers sintered metals parts by pressing metal powders into green shape parts using dies. The green parts are then sintered into finished solid metal parts by high temperature sintering and then controlled cooling. This discharge permit renewal application is for emergency discharge of one pass non-contact cooling water during power outages (Sykesville City Water) or cooling to weir system failures. The emergency cooling water is non-contact and is supplied from the borough of Skyesville potable water supply. There has been no discharge from Outfall 001 or 002 during the past five years.

The site was last inspected on July 21, 2022. A compliance evaluation was conducted, and no violation was noted. Based on the inspection report, the facility qualifies for a no exposure certification for stormwater, meaning all industrial activities and materials take place/are stored indoors or under roof. During the inspection, these conditions were being met.

Act 14 notifications were submitted and received.

There are no open violations in WMS for the subject Client ID (352392) as of January 20, 2026.

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		Adebayo Olude Adebayo Olude / Civil Engineer Trainee	January 20, 2026
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	April 3, 2026

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)	.3
Latitude	41º 2' 56.58"	Longitude	-78º 49' 11.43"
Quad Name		Quad Code	
Wastewater Description:	Noncontact Cooling Water (NCCW), Stormwater		
Receiving Waters	Stump Creek (CWF)	Stream Code	47922
NHD Com ID	123857377	RMI	0.1700
Drainage Area	15	Yield (cfs/mi^2)	0.0478
Q_{7-10} Flow (cfs)	0.717	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1337	Slope (ft/ft)	-
Watershed No.	17-D	Chapter 93 Class.	CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired		
Cause(s) of Impairment	SILTATION, SILTATION		
Source(s) of Impairment	ACID MINE DRAINAGE, ACID MINE DRAINAGE		
TMDL Status	Final	Name	Stump Creek Watershed

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

Nearest Downstream Public Water Supply Intake	Kittanning Suburban Joint Water Authority		
PWS Waters	Allegheny River	Flow at Intake (cfs)	987
PWS RMI	45.6	Distance from Outfall (mi)	>10miles

Changes Since Last Permit Issuance: None

Other Comments: -

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	.3
Latitude	41º 2' 59.61"	Longitude	-78º 49' 7.19"
Quad Name	Du Bois	Quad Code	41078A7
Wastewater Description:	Noncontact Cooling Water (NCCW), Stormwater		

Receiving Waters	Stump Creek (CWF)	Stream Code	47922
NHD Com ID	123857377	RMI	0.2600
Drainage Area	15	Yield (cfs/mi^2)	0.0478
Q_{7-10} Flow (cfs)	0.717	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1338	Slope (ft/ft)	-
Watershed No.	17-D	Chapter 93 Class.	CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired		
Cause(s) of Impairment	SILTATION, SILTATION		
Source(s) of Impairment	ACID MINE DRAINAGE, ACID MINE DRAINAGE		
TMDL Status	Final	Name	Stump Creek Watershed

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

Nearest Downstream Public Water Supply Intake	Kittanning Suburban Joint Water Authority		
PWS Waters	Allegheny River	Flow at Intake (cfs)	987
PWS RMI	45.6	Distance from Outfall (mi)	>10miles

Changes Since Last Permit Issuance: Elevation is revised.

Other Comments: -

Treatment Facility Summary				
Treatment Facility Name: Symmco Manufacturing				
WQM Permit No.	**Issuance Date**			
-	-			
-	-			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial				
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**

Changes Since Last Permit Issuance: Nil

Other Comments: -

Compliance History	
Summary of DMRs:	DMR has been submitted for the past five years
Summary of Inspections:	The site was last inspected on July 21, 2022. A compliance evaluation was conducted, and no violation was noted. Based on the inspection report, the facility qualifies for a no exposure certification for stormwater, meaning all industrial activities and materials take place/are stored indoors or under roof. During the inspection, these conditions were being met.

Other Comments: **-**

Development of Effluent Limitations

Outfall No. 001, 002 **Design Flow (MGD)** .3
Latitude 41º 2' 56.76", 41º 2' 59.61" **Longitude** -78º 49' 11.64", -78º 49' 7.19"
Wastewater Description: Noncontact Cooling Water (NCCW), No Exposure industrial Stormwater

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
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Water Quality-Based Limitations

The Non-Contact Cooling Water was modeled using the DEPs Thermal Limits Spreadsheet. This spreadsheet takes into consideration the cooling water discharge rate, Q_{7-10} of the receiving stream, stream designated uses, and thermal water quality criteria in 25 PA Code Chapter 93 to create a mass balance equation and calculate allowable thermal limits for Non-Contact Cooling Water and other heated discharges. Due to the proximity of Outfalls 001 and 002, the TRC Evaluation Spreadsheet and Thermal Discharge Analysis Spreadsheet used a combined discharge flow rate of 0.6 MGD. The following limitations were calculated with the Thermal Limits Spreadsheet and will be imposed at both outfalls.

Semi-Monthly Increment	Daily WLA (ºF)
Jan 1-31	47.9
Feb 1-29	46.1
Mar 1-31	58.2
April 1-15	62.4
April 16-30	60.2
May 1-15	59.9
May 16-31	63.9
Jun 1-15	66.3
Jun 16-30	70.3
Jul 1-31	73.3
Aug 1-15	72.1
Aug 16-31	72.1
Sep 1-15	67.8
Sep 16-30	61.8
Oct 1-15	56.9
Oct 16-31	52.9
Nov 1-15	48.2
Nov 16-30	44.5
Dec 1-31	49.3

Comments: Temperature limits will be imposed per the Department's "*Implementation Guidance for Temperature Criteria*." As a policy, DEP normally imposes a maximum temperature limit of 110°F on discharges that contain residual heat. The limit is intended as a safety measure to protect sampling personnel or anyone who may come into contact with the heated discharge where it enters the receiving water.

According to 25 PA Code Chapter 96.6(b), heated wastewater discharges may not cause a change of surface water temperature of more than 2 ºF during any 1-hour period therefore the Part C condition, "Temperature 2 Degree Hourly Change" will be implemented to make sure this facility stays in compliance with the heated wastewater regulations. Additionally, the "No Net Addition of Pollutants to NCCW" Part C condition will be implemented as the Department has not taken into consideration additional pollutants when modeling the heated wastewater discharge and additional pollutants may cause an excursion above water quality standards.

Other comments: Stormwater is also discharged at these outfalls but were identified being “no exposure” in the application. Therefore, no additional requirements will be placed in the permit related to stormwater.

Best Professional Judgment (BPJ) Limitations

Comments: None

Anti-Backsliding

Outfall 001 & 002, 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		
Flow (MGD)	XXX	Report Daily Max	XXX	XXX	XXX	XXX	Daily when Discharging	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	Daily when Discharging	Grab
TRC	XXX	XXX	XXX	0.12	XXX	0.40	Daily when Discharging	Grab
Temperature (ºF) Apr 16 - 30	XXX	XXX	XXX	XXX	60.2 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Apr 1 - 15	XXX	XXX	XXX	XXX	62.4 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Jan 1 - 31	XXX	XXX	XXX	XXX	47.9 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) May 1 - 15	XXX	XXX	XXX	XXX	59.9 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) May 16 - 31	XXX	XXX	XXX	XXX	63.9 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Feb 1 - 28	XXX	XXX	XXX	XXX	46.1 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Mar 1 - 31	XXX	XXX	XXX	XXX	58.2 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Jun 1 - 15	XXX	XXX	XXX	XXX	66.3 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Jun 16 - 30	XXX	XXX	XXX	XXX	70.3 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Jul 1 - 31	XXX	XXX	XXX	XXX	73.3 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Aug 16 - 31	XXX	XXX	XXX	XXX	72.1 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Aug 1 - 15	XXX	XXX	XXX	XXX	72.1 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Sep 1 - 15	XXX	XXX	XXX	XXX	67.8 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Sep 16 - 30	XXX	XXX	XXX	XXX	61.8 Daily Max	XXX	Daily when Discharging	I-S

Outfall 001 & 002, 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		
Temperature (ºF) Dec 1 - 31	XXX	XXX	XXX	XXX	49.3 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Oct 1 - 15	XXX	XXX	XXX	XXX	56.9 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Oct 16 - 31	XXX	XXX	XXX	XXX	52.9 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Nov 1 - 15	XXX	XXX	XXX	XXX	48.2 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Nov 16 - 30	XXX	XXX	XXX	XXX	44.5 Daily Max	XXX	Daily when Discharging	I-S

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	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	XXX	Report Daily Max	XXX	XXX	XXX	XXX	Daily when Discharging	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	Daily when Discharging	Grab
TRC	XXX	XXX	XXX	0.12	XXX	0.40	Daily when Discharging	Grab
Temperature (ºF) Apr 16 - 30	XXX	XXX	XXX	XXX	60.2 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Apr 1 - 15	XXX	XXX	XXX	XXX	62.4 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Jan 1 - 31	XXX	XXX	XXX	XXX	47.9 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) May 1 - 15	XXX	XXX	XXX	XXX	59.9 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) May 16 - 31	XXX	XXX	XXX	XXX	63.9 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Feb 1 - 28	XXX	XXX	XXX	XXX	46.1 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Mar 1 - 31	XXX	XXX	XXX	XXX	58.2 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Jun 1 - 15	XXX	XXX	XXX	XXX	66.3 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Jun 16 - 30	XXX	XXX	XXX	XXX	70.3 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Jul 1 - 31	XXX	XXX	XXX	XXX	73.3 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Aug 16 - 31	XXX	XXX	XXX	XXX	72.1 Daily Max	XXX	Daily when Discharging	I-S

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		
Temperature (ºF) Aug 1 - 15	XXX	XXX	XXX	XXX	72.1 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Sep 1 - 15	XXX	XXX	XXX	XXX	67.8 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Sep 16 - 30	XXX	XXX	XXX	XXX	61.8 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Dec 1 - 31	XXX	XXX	XXX	XXX	49.3 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Oct 1 - 15	XXX	XXX	XXX	XXX	56.9 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Oct 16 - 31	XXX	XXX	XXX	XXX	52.9 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Nov 1 - 15	XXX	XXX	XXX	XXX	48.2 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Nov 16 - 30	XXX	XXX	XXX	XXX	44.5 Daily Max	XXX	Daily when Discharging	I-S

Compliance Sampling Location: Outfall 001

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 002, 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)	XXX	Report Daily Max	XXX	XXX	XXX	XXX	Daily when Discharging	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	Daily when Discharging	Grab
TRC	XXX	XXX	XXX	0.12	XXX	0.40	Daily when Discharging	Grab
Temperature (ºF) Apr 16 - 30	XXX	XXX	XXX	XXX	60.2 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Apr 1 - 15	XXX	XXX	XXX	XXX	62.4 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Jan 1 - 31	XXX	XXX	XXX	XXX	47.9 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) May 1 - 15	XXX	XXX	XXX	XXX	59.9 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) May 16 - 31	XXX	XXX	XXX	XXX	63.9 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Feb 1 - 28	XXX	XXX	XXX	XXX	46.1 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Mar 1 - 31	XXX	XXX	XXX	XXX	58.2 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Jun 1 - 15	XXX	XXX	XXX	XXX	66.3 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Jun 16 - 30	XXX	XXX	XXX	XXX	70.3 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Jul 1 - 31	XXX	XXX	XXX	XXX	73.3 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Aug 16 - 31	XXX	XXX	XXX	XXX	72.1 Daily Max	XXX	Daily when Discharging	I-S

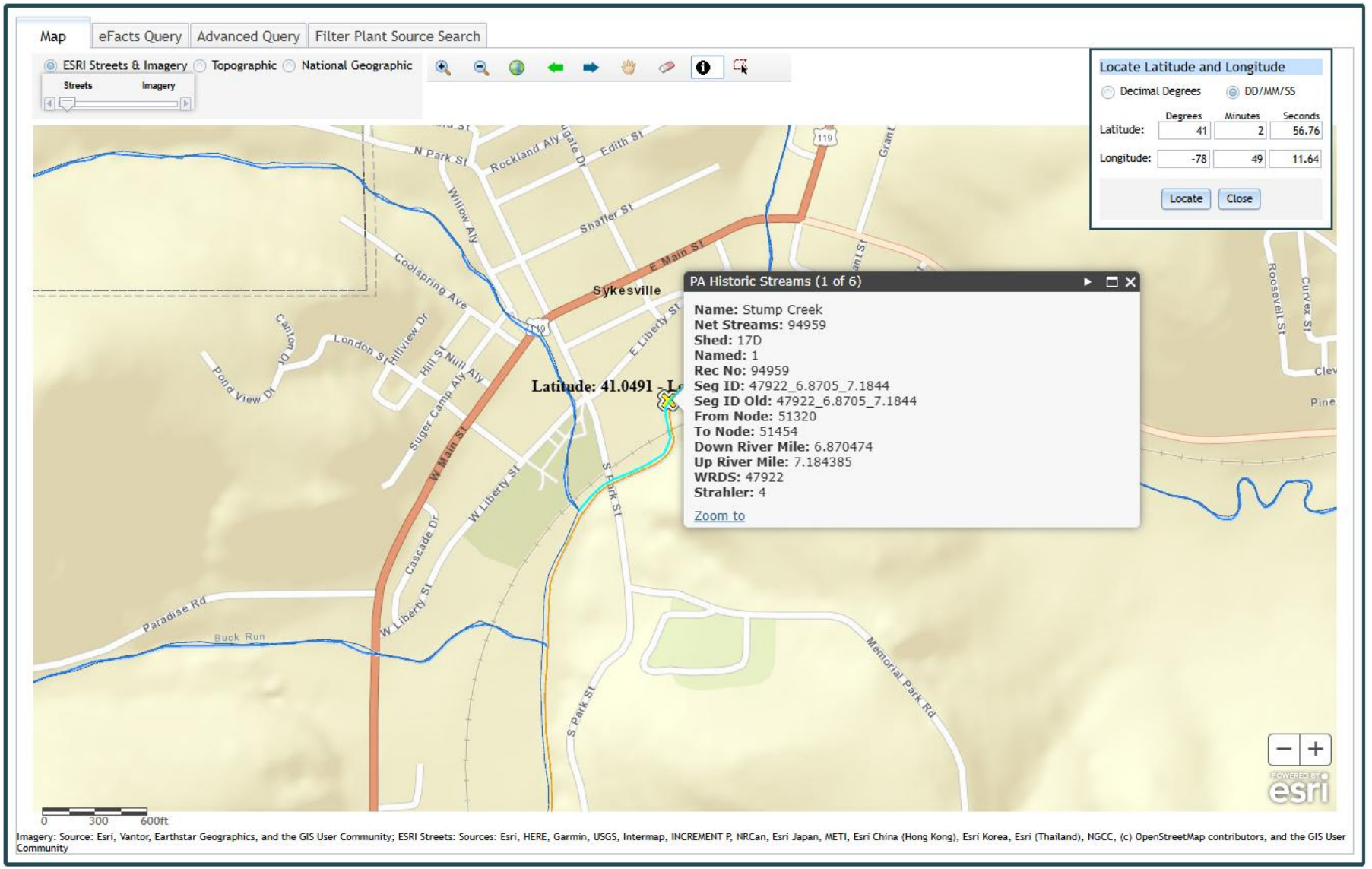
Outfall 002 , Continued (from Permit Effective Date through Permit Expiration Date)

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		
Temperature (ºF) Aug 1 - 15	XXX	XXX	XXX	XXX	72.1 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Sep 1 - 15	XXX	XXX	XXX	XXX	67.8 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Sep 16 - 30	XXX	XXX	XXX	XXX	61.8 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Dec 1 - 31	XXX	XXX	XXX	XXX	49.3 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Oct 1 - 15	XXX	XXX	XXX	XXX	56.9 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Oct 16 - 31	XXX	XXX	XXX	XXX	52.9 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Nov 1 - 15	XXX	XXX	XXX	XXX	48.2 Daily Max	XXX	Daily when Discharging	I-S
Temperature (ºF) Nov 16 - 30	XXX	XXX	XXX	XXX	44.5 Daily Max	XXX	Daily when Discharging	I-S

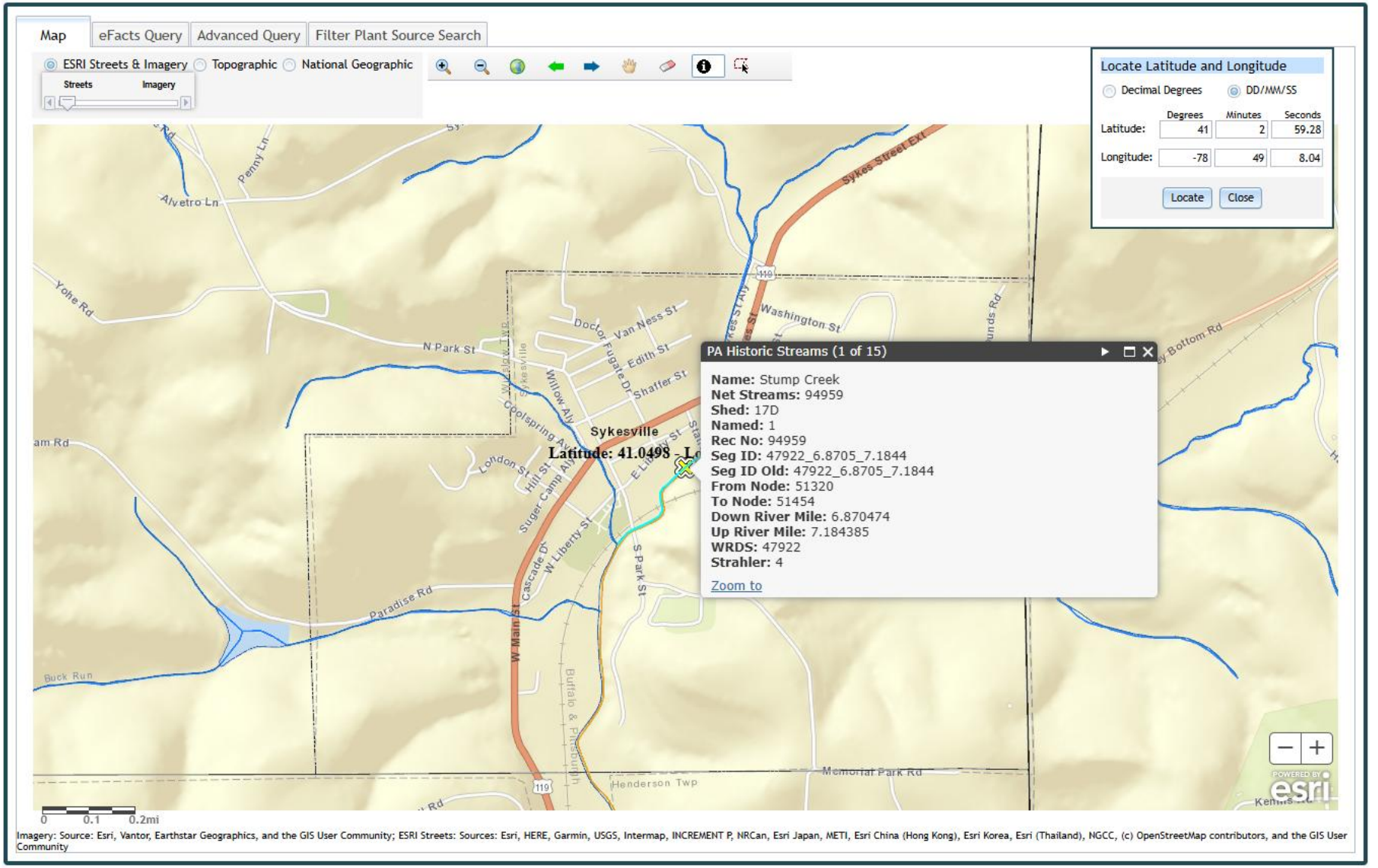
Compliance Sampling Location: Outfall 002

Other Comments: -

Attachment 1 (Outfall 001)
eMAP– Receiving Streams Information



Attachment 1 (Outfall 002)
eMAP– Receiving Streams Information

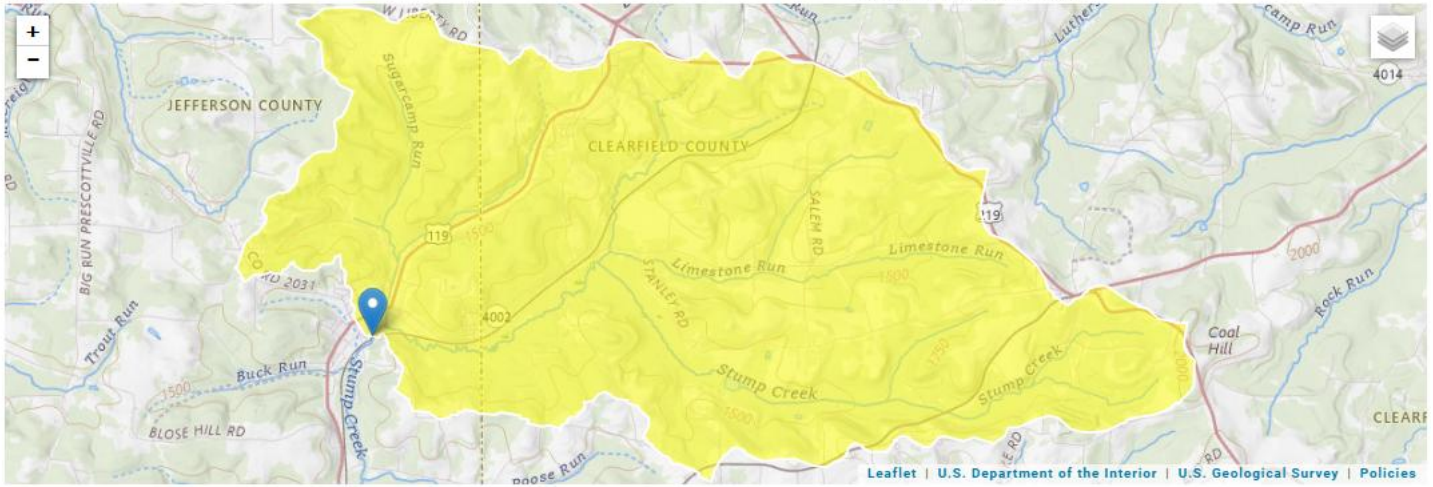


Attachment 2
Google Earth - Imagery

Attachment 3 (Outfall 001 & 002)

StreamStats Report

Region ID:	PA
Clicked Point (Latitude, Longitude):	41.04897, -78.81991
Time:	2026-01-20 10:52:06 -0500



StreamStats Update

Starting with version 4.30.0, the StreamStats application uses services that were redeveloped with open-source software components. Users may observe minor variations in computed results when compared to those from previous versions. These differences are expected and do not reflect errors in the underlying data or analytical methods. Users are advised to consider these potential variations when interpreting or comparing results generated across different versions of StreamStats. Please email streamstats@usgs.gov with any questions or concerns. A full list of changes can be found at https://www.usgs.gov/streamstats/news/streamstats-data-updates-open-source-code-release .

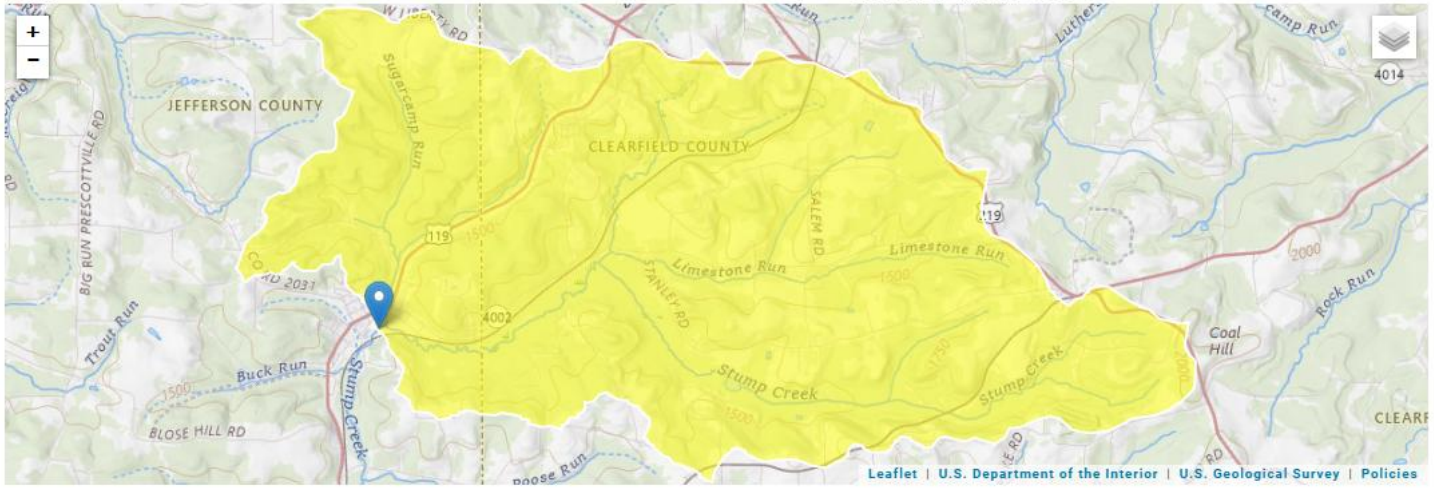
Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	15	square miles
ELEV	Mean Basin Elevation	1558.2	feet
PRECIP	Mean Annual Precipitation	43	inches

StreamStats Report

Region ID:	PA
Clicked Point (Latitude, Longitude):	41.04970, -78.81899
Time:	2026-01-20 11:07:00 -0500



StreamStats Update

Starting with version 4.30.0, the StreamStats application uses services that were redeveloped with open-source software components. Users may observe minor variations in computed results when compared to those from previous versions. These differences are expected and do not reflect errors in the underlying data or analytical methods. Users are advised to consider these potential variations when interpreting or comparing results generated across different versions of StreamStats. Please email streamstats@usgs.gov with any questions or concerns. A full list of changes can be found at https://www.usgs.gov/streamstats/news/streamstats-data-updates-open-source-code-release .

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	15	square miles
ELEV	Mean Basin Elevation	1558.7	feet
PRECIP	Mean Annual Precipitation	43	inches

TRC_CALC

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.717	= Q stream (cfs)	0.5	= CV Daily
0.6	= Q discharge (MGD)	0.5	= 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 = 0.265	1.3.2.iii	WLA cfc = 0.251
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.099	5.1d	LTA_cfc = 0.146

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.122	AFC
		INST MAX LIMIT (mg/l) = 0.398	

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)**

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Instructions | *Inputs*

Facility: **Symmco MFG**

Permit No.: **PA0272523**

Stream Name: **Stump Creek**

Analyst/Engineer: **Adebayo Olude**

Stream Q7-10 (cfs)*: **0.7**

Outfall No.: **001**

Analysis Type*: **CWF**

Facility Flows

Semi-Monthly Increment	Intake (Stream) (MGD)*	Intake (External) (MGD)*	Consumptive Loss (MGD)*	Discharge Flow (MGD)
Jan 1-31		0.6		0.6
Feb 1-29		0.6		0.6
Mar 1-31		0.6		0.6
Apr 1-15		0.6		0.6
Apr 16-30		0.6		0.6
May 1-15		0.6		0.6
May 16-31		0.6		0.6
Jun 1-15		0.6		0.6
Jun 16-30		0.6		0.6
Jul 1-31		0.6		0.6
Aug 1-15		0.6		0.6
Aug 16-31		0.6		0.6
Sep 1-15		0.6		0.6
Sep 16-30		0.6		0.6
Oct 1-15		0.6		0.6
Oct 16-31		0.6		0.6
Nov 1-15		0.6		0.6
Nov 16-30		0.6		0.6
Dec 1-31		0.6		0.6

Stream Flows

Q7-10 Multipliers (Default Shown)	PMF	Seasonal Stream Flow (cfs)	Downstream Stream Flow (cfs)
3.2	1.00	2.29	3.22
3.5	1.00	2.51	3.44
7	1.00	5.02	5.95
9.3	1.00	6.67	7.60
9.3	1.00	6.67	7.60
5.1	1.00	3.66	4.58
5.1	1.00	3.66	4.58
3	1.00	2.15	3.08
3	1.00	2.15	3.08
1.7	1.00	1.22	2.15
1.4	1.00	1.00	1.93
1.4	1.00	1.00	1.93
1.1	1.00	0.79	1.72
1.1	1.00	0.79	1.72
1.2	1.00	0.86	1.79
1.2	1.00	0.86	1.79
1.6	1.00	1.15	2.08
1.6	1.00	1.15	2.08
2.4	1.00	1.72	2.65

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Thermal Limits Spreadsheet
Version 1.0, April 2024

Instructions | *CWF Results*

Recommended Limits for Case 1 or Case 2

Semi-Monthly Increment	**CWF** Target Maximum Stream Temp. (ºF)	**Case 1** Daily WLA (Million BTUs/day)	**Case 2** Daily WLA (ºF)
Jan 1-31	38	N/A -- Case 2	47.9
Feb 1-29	38	N/A -- Case 2	46.1
Mar 1-31	42	N/A -- Case 2	58.2
Apr 1-15	48	N/A -- Case 2	62.4
Apr 16-30	53	N/A -- Case 2	60.2
May 1-15	56	N/A -- Case 2	59.9
May 16-31	60	N/A -- Case 2	63.9
Jun 1-15	64	N/A -- Case 2	66.3
Jun 16-30	68	N/A -- Case 2	70.3
Jul 1-31	72	N/A -- Case 2	73.3
Aug 1-15	71	N/A -- Case 2	72.1
Aug 16-31	71	N/A -- Case 2	72.1
Sep 1-15	67	N/A -- Case 2	67.8
Sep 16-30	61	N/A -- Case 2	61.8
Oct 1-15	56	N/A -- Case 2	56.9
Oct 16-31	52	N/A -- Case 2	52.9
Nov 1-15	47	N/A -- Case 2	48.2
Nov 16-30	42	N/A -- Case 2	44.5
Dec 1-31	40	N/A -- Case 2	49.3