

Application Type Renewal
Facility Type Industrial
Major / Minor Minor

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

Application No. PA0088056
APS ID 38002
Authorization ID 1255119

Applicant and Facility Information

Applicant Name	<u>Gettysburg Borough Municipal Authority Adams County</u>	Facility Name	<u>Gettysburg Municipal Authority Water System</u>
Applicant Address	<u>601 East Middle Street, PO Box 3307 Gettysburg, PA 17325-3307</u>	Facility Address	<u>Off Black Horse Tavern Road Cumberland Twp, PA 17325</u>
Applicant Contact	<u>Mark Guise</u>	Facility Contact	<u>Mark Guise</u>
Applicant Phone	<u>(717) 334-6738</u>	Facility Phone	<u>(717) 334-6738</u>
Client ID	<u>78262</u>	Site ID	<u>239068</u>
SIC Code	<u>4941</u>	Municipality	<u>Cumberland Township</u>
SIC Description	<u>Trans. & Utilities - Water Supply</u>	County	<u>Adams</u>
Date Application Received	<u>November 30, 2018</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>December 13, 2018</u>	If No, Reason	<u></u>
Purpose of Application	<u>NPDES permit Renewal.</u>		

Summary of Review

Gettysburg Municipal Authority has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES permit. The permit No. PA008056 was last reissued on May 23, 2014 and became effective on June 1, 2014. The permit expired on May 31, 2019 but the terms and conditions of the permit have been extended since that time.

This is the third renewal of this permit. During the initial permitting, it was decided that an NPDES permit was necessary for this discharge. A Water Supply permit was not needed because the water from the well would not be used for direct consumption. However, Water Supply Management agreed to review the hydrogeologic data associated with the development of the well and associated local impacts from the well.

This environmental protection report has been developed for the existing discharge of untreated well water to UNT Marsh Creek in Cumberland Township, Adams County. The purpose of the discharge is to pump well water into Marsh Creek during periods of drought to supplement stream flows at the Gettysburg Municipal Authority intake located approximately 3.4 miles downstream.

A prior review of the permittee's Hydrogeologic Report determined that the well could be pumped at 900 gpm (1.3 MGD) for up to 90 days per year. A condition in the permit restricts the use of the well to 117 MG per year.

Changes from the previous permit: Total Volume monitoring frequency changed from 1/month to 1/year.

Based on the review outline in this fact sheet, it is recommended that the permit be drafted and publish in the Pennsylvania Bulletin for public comments for 30 days.

Approve	Deny	Signatures	Date
X		Hilary H. Le / Environmental Engineering Specialist	December 20, 2019
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria D. Bebenek, P.E. / Clean Water Program Manager	

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>001</u>	Design Flow (MGD)	<u>1.3</u>
Latitude	<u>39° 49' 28"</u>	Longitude	<u>-77° 17' 15"</u>
Quad Name	<u>Fairfield</u>	Quad Code	<u></u>
Wastewater Description: <u>Untreated well water</u>			
Receiving Waters	<u>UNT Marsh Creek (CWF)</u>	Stream Code	<u>58956</u>
NHD Com ID	<u>53320236</u>	RMI	<u>0.09 mile</u>
Drainage Area	<u>0.34 mi.²</u>	Yield (cfs/mi ²)	<u>NA</u>
Q ₇₋₁₀ Flow (cfs)	<u></u>	Q ₇₋₁₀ Basis	<u>USGS StreamStats</u>
Elevation (ft)	<u></u>	Slope (ft/ft)	<u></u>
Watershed No.	<u>13-D</u>	Chapter 93 Class.	<u>CWF</u>
Existing Use	<u></u>	Existing Use Qualifier	<u></u>
Exceptions to Use	<u></u>	Exceptions to Criteria	<u></u>
Assessment Status	<u>Attaining Use(s)</u>		
Cause(s) of Impairment	<u></u>		
Source(s) of Impairment	<u></u>		
TMDL Status	<u></u>	Name	<u></u>
Nearest Downstream Public Water Supply Intake	<u>Gettysburg Municipal Authority, Adams County</u>		
PWS Waters	<u>Marsh Creek</u>	Flow at Intake (cfs)	<u></u>
PWS RMI	<u>8.14 miles</u>	Distance from Outfall (mi)	<u>Approximate 3.4 miles</u>

Secondary Waters: Marsh Creek (Stream Code 58903) at RMI 11.44 miles. Drainage Area: 49.5 mi.²; Q₇₋₁₀ Flow: 2.66 cfs; Chapter 93 Class.: CWF

Other Comments: No treatment facility exists for this discharge of well water.

Compliance History	
Summary of DMRs:	DMRs reported last 12 months from November 1, 2018 to October 31, 2019 are summarized in the Table below (Page # 3).
Summary of Inspections:	<p>10/30/2017: Mr. Boven, DEP WQS, conducted compliance evaluation inspection. The comments were as follows.</p> <ol style="list-style-type: none"> 1. If there are 2 or more days of discharge during a month, 2 effluent grab samples need to be collected. 2. pH results from the contract laboratory reports are reported on the monthly DMR. Please analyze pH using the WYP pH meter within 15 minutes of sample collection to meet holding time requirements. 3. Please submit an effluent monitoring supplemental form with the monthly DMR any month effluent samples are collected. <p>There were no violations noted during inspection.</p>
Other Comments:	There are no open violations associated with this facility or permittee.

Other Comments: The past year of DMR data does not indicate any limit exceedances. A review of recent daily temperature data indicates satisfactory compliance with permit requirements for temperature changes in Marsh Creek.

Compliance History

DMR Data for Outfall 001 (from November 1, 2018 to October 31, 2019)

Parameter	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19	JAN-19	DEC-18	NOV-18
Flow (MGD) Average Monthly	0.631	0.593	0.584									
Flow (MGD) Daily Maximum	0.688	0.799	0.681									
Total Flow (M Gal) Total Annual											13.2180 00	
pH (S.U.) Minimum	7.6	7.6	7.5									
pH (S.U.) Maximum	7.7	7.8	7.8									
Temperature (°F) Minimum	15	59	59									
Temperature (°F) Average Monthly	15.5	59.75	59									
Temperature (°F) Maximum	16	60.5	59									
Total Dissolved Solids (mg/L) Average Monthly	767	629	886									
Total Dissolved Solids (mg/L) Maximum	874	634	1118									
Total Iron (mg/L) Average Monthly	0.3	0.3	0.5									
Total Iron (mg/L) Maximum	0.3	0.4	0.8									
Total Manganese (mg/L) Average Monthly	0.07	0.07	0.105									
Total Manganese (mg/L) Maximum	0.07	0.07	0.14									
Sulfate (mg/L) Average Monthly	335	275	430									
Sulfate (mg/L) Maximum	360	300	660									

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)

Water Quality-Based Limitations

Stream Flow:

According to the previous protection report, the receiving stream is dry, except for during rain events. Therefore, the streamflow was calculated at the point of confluence with Marsh Creek. According to USGS StreamStats, the point of first use at the confluence with Marsh Creek (Stream Code 58903) has a Q₇₋₁₀ of 2.66 cfs and a drainage area of 49.5 mi.², which results in a Q₇₋₁₀ low flow yield of 0.054 cfs/mi.². This information is used to obtain a chronic or 30-day (Q₃₀₋₁₀), and an acute or 1-day (Q₁₋₁₀) exposure stream flow for the discharge point as follows (Guidance No. 391-2000-023):

$$\begin{aligned}
 Q_{7-10} &= 2.66 \text{ cfs} \\
 \text{Low Flow Yield} &= 2.66 \text{ cfs} / 49.5 \text{ mi}^2 = 0.054 \text{ cfs/mi}^2 \\
 Q_{30-10} &= 1.36 * 2.66 \text{ cfs} = 3.62 \text{ cfs} \\
 Q_{1-10} &= 0.64 * 2.66 \text{ cfs} = 1.70 \text{ cfs}
 \end{aligned}$$

The resulting Q₇₋₁₀ dilution ratio is: $Q_{\text{stream}} / Q_{\text{discharge}} = 2.66 \text{ cfs} / [1.3 \text{ MGD} * (1.55 \text{ cfs/MGD})] = 1.3:1$

Public Water Supply:

The nearest downstream public water supply intake is for the Gettysburg Municipal Authority in Adams County, approximately 3.4 miles downstream of this discharge.

This distance was determined as follows:

	RMI of UNT Marsh Creek at Outfall 001	0.09 mi
+	RMI of Marsh Creek at confluence with UNT Marsh Creek	11.44 mi
-	RMI of Marsh Creek at Gettysburg Municipal Authority intake	<u>8.14 mi</u>
		3.39 mi

Considering distance and dilution, the discharge is not expected to impact the water supply.

Well Usage:

Total annual discharge, as stated on DMRs (Page # 3): there were 13.218 million gallons in 2018.

Effluent Limitations Evaluation:

A thorough evaluation of potential parameters of concern was conducted during the initial permitting of this discharge. Because the discharge is clean, untreated well water, there are no toxic parameters of concern. Reporting requirements have been in place for total iron, manganese, & sulfate; and TDS. The permittee is also required to sample these parameters in the private wells as part of an ongoing private well monitoring program. All existing requirements will remain in the proposed permit.

pH:

The effluent discharge pH should remain above 6.0 and below 9.0 standard units according to 25 Pa Code § 95.2(1).

Temperature:

There have been no changes since the last permit was issued. Utilization of the Department’s thermal discharge spreadsheet indicates that no limits are needed. The results (displayed for both WWF and CWF cases) (Pages # 6-7) indicate limits that are well above any of the discharge temperatures that have been indicated on recent DMRs.

The permittee is required to sample Marsh Creek 100 yards upstream of the confluence with the unnamed tributary and 400 yards downstream of the confluence with the unnamed tributary. The existing permit included the special condition that the discharge shall not change the temperature of the receiving stream by more than 2°F during any one-hour period. Based on the above information, the existing temperature monitoring requirements will remain in the proposed permit.

Chesapeake Bay Strategy:

The Supplement to Phase II Watershed Implementation Plan states the following (Pages # 19): “For non-significant IW facilities, monitoring and reporting of TN and TP will be required throughout the permit term in renewed or amended permits anytime the facility has the potential to introduce a net TN or TP increase to the load contained within the intake water used in processing. In general, facilities that discharge groundwater and cooling water with no addition of chemicals containing N or P do not require monitoring.”

This is a non-significant industrial discharge facility that will not need a phosphorus or nitrogen loading cap. TN and TP “Monitor & Report” requirement will not be necessary since this facility discharges groundwater without any chemical additives containing nitrogen or phosphorus.

Other:

The below Part C requirements are included in the existing permit, and they will remain in the proposed permit.

- The maximum instantaneous rate of discharge from Stream Well No. 2 shall not exceed 900 gallons per minute at any time. The total volume of water pumped from Stream Well No. 2 during any calendar year shall not exceed 117 million gallons.
- The permittee shall provide to the Department within 24 hours of receipt, all information pertaining to water supply difficulties occurring at any residence or other property located in close proximity to Stream Well No. 2. The permittee shall provide at a minimum, the name of the property owner or resident, their telephone number, the address where the problem has occurred, a description of the problem encountered, and whether Stream Well No. 2 had been in use prior to the occurrence of the problem. This information shall be submitted to:

Clean Water Program
Department of Environmental Protection
Southcentral Region
909 Elmerton Avenue
Harrisburg, PA 17110-8200

- The March 2006 plan to monitor private wells in the vicinity of Stream Well No. 2 shall be implemented when Stream Well No. 2 is in use.
- The permittee shall maintain and utilize data loggers on Stream Well No. 2 and at least one private residential well in the vicinity of Stream Well No. 2. The permittee shall provide written documentation of any problems with the private residential well. If the data loggers malfunction, the permittee shall revert to manually measuring and recording well water level data.
- The permittee shall provide an annual report to the Department on the anniversary date of permit issuance. The report shall analyze trends in data, discuss any problems encountered during use of Stream Well No. 2 and provide recommendations for future monitoring or changes to the monitoring plan.
- The Department retains the right to modify the terms and conditions of this permit if, in its determination, operation of Stream Well No. 2 has a significant detrimental impact on adjacent private water supplies and/or Marsh Creek, or causes adverse dewatering of the aquifer.

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.

Class A Wild Trout Fisheries

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

NPDES Permit Fact Sheet
Gettysburg Municipal Authority Water System
Temperature Model

NPDES Permit No. PA0088056

Facility: Gettysburg Municipal Authority (stream Well # 2)						
Permit Number: PA0088056						
Stream Name: UNT Marsh Creek						
Analyst/Engineer:						
Stream Q7-10 (cfs): 2.66						
	Facility Flows¹				Stream Flows	
	Stream (Intake) (MGD)	External (Intake) (MGD)	Consumptive (Loss) (MGD)	Discharge (MGD)	Adj. Q7-10 Stream Flow (cfs)	Downstream ² Stream Flow (cfs)
Jan 1-31	0	1.3	0	1.3	8.5	10.5
Feb 1-29	0	1.3	0	1.3	9.3	11.3
Mar 1-31	0	1.3	0	1.3	18.6	20.6
Apr 1-15	0	1.3	0	1.3	24.7	26.7
Apr 16-30	0	1.3	0	1.3	24.7	26.7
May 1-15	0	1.3	0	1.3	13.6	15.6
May 16-30	0	1.3	0	1.3	13.6	15.6
Jun 1-15	0	1.3	0	1.3	8.0	10.0
Jun 16-30	0	1.3	0	1.3	8.0	10.0
Jul 1-31	0	1.3	0	1.3	4.5	6.5
Aug 1-15	0	1.3	0	1.3	3.7	5.7
Aug 16-31	0	1.3	0	1.3	3.7	5.7
Sep 1-15	0	1.3	0	1.3	2.9	4.9
Sep 16-30	0	1.3	0	1.3	2.9	4.9
Oct 1-15	0	1.3	0	1.3	3.2	5.2
Oct 16-31	0	1.3	0	1.3	3.2	5.2
Nov 1-15	0	1.3	0	1.3	4.3	6.3
Nov 16-30	0	1.3	0	1.3	4.3	6.3
Dec 1-31	0	1.3	0	1.3	6.4	8.4
¹ Facility flows are not required (and will not affect the permit limits) if all intake flow is from the receiving stream (Case 1), consumptive losses are small, and permit limits will be expressed as Million BTUs/day. ² Downstream Stream Flow includes the discharge flow. Please forward all comments to Tom Starosta at 717-787-4317, tstarosta@state.pa.us. Version 1.0 – 08/01/2004 Reference: Implementation Guidance for Temperature Criteria, DEP-ID: 391-2000-017 NOTE: The user can only edit fields that are blue. NOTE: MGD x 1.547 = cfs.						

Facility: Gettysburg Municipal Authority (stream Well # 2)						
Permit Number: PA0088056						
Stream: UNT Marsh Creek						
	WWF Criteria	CWF Criteria	TSF Criteria	316 Criteria	Q7-10 Multipliers	Q7-10 Multipliers
	(°F)	(°F)	(°F)	(°F)	(Used in Analysis)	(Default - Info Only)
Jan 1-31	40	38	40	0	3.2	3.2
Feb 1-29	40	38	40	0	3.5	3.5
Mar 1-31	46	42	46	0	7	7
Apr 1-15	52	48	52	0	9.3	9.3
Apr 16-30	58	52	58	0	9.3	9.3
May 1-15	64	54	64	0	5.1	5.1
May 16-30	72	58	68	0	5.1	5.1
Jun 1-15	80	60	70	0	3	3
Jun 16-30	84	64	72	0	3	3
Jul 1-31	87	66	74	0	1.7	1.7
Aug 1-15	87	66	80	0	1.4	1.4
Aug 16-31	87	66	87	0	1.4	1.4
Sep 1-15	84	64	84	0	1.1	1.1
Sep 16-30	78	60	78	0	1.1	1.1
Oct 1-15	72	54	72	0	1.2	1.2
Oct 16-31	66	50	66	0	1.2	1.2
Nov 1-15	58	46	58	0	1.6	1.6
Nov 16-30	50	42	50	0	1.6	1.6
Dec 1-31	42	40	42	0	2.4	2.4
NOTES: WWF= Warm water fishes CWF= Cold water fishes TSF= Trout stocking						

Temperature Model cont.

Facility:	Gettysburg Municipal Authority (stream Well # 2)					
Permit Number:	PA0088056					
Stream:	UNT Marsh Creek					
	WWF			WWF	WWF	
	Ambient Stream	Ambient Stream	Target Maximum	Daily	Daily	
	Temperature (°F)	Temperature (°F)	Stream Temp. ¹	WLA ²	WLA ³	at Discharge
	(Default)	(Site-specific data)	(°F)	(Million BTUs/day)	(°F)	Flow (MGD)
Jan 1-31	35	0	40	N/A -- Case 2	61.2	1.3
Feb 1-29	35	0	40	N/A -- Case 2	63.1	1.3
Mar 1-31	40	0	46	N/A -- Case 2	101.6	1.3
Apr 1-15	47	0	52	N/A -- Case 2	110.0	1.3
Apr 16-30	53	0	58	N/A -- Case 2	110.0	1.3
May 1-15	58	0	64	N/A -- Case 2	104.5	1.3
May 16-30	62	0	72	N/A -- Case 2	110.0	1.3
Jun 1-15	67	0	80	N/A -- Case 2	110.0	1.3
Jun 16-30	71	0	84	N/A -- Case 2	110.0	1.3
Jul 1-31	75	0	87	N/A -- Case 2	110.0	1.3
Aug 1-15	74	0	87	N/A -- Case 2	110.0	1.3
Aug 16-31	74	0	87	N/A -- Case 2	110.0	1.3
Sep 1-15	71	0	84	N/A -- Case 2	102.9	1.3
Sep 16-30	65	0	78	N/A -- Case 2	96.9	1.3
Oct 1-15	60	0	72	N/A -- Case 2	91.0	1.3
Oct 16-31	54	0	66	N/A -- Case 2	85.0	1.3
Nov 1-15	48	0	58	N/A -- Case 2	79.2	1.3
Nov 16-30	42	0	50	N/A -- Case 2	66.9	1.3
Dec 1-31	37	0	42	N/A -- Case 2	57.9	1.3
¹ This is the maximum of the WWF WQ criterion or the ambient temperature. The ambient temperature may be either the design (median) temperature for WWF, or the ambient stream temperature based on site-specific data entered by the user. A minimum of 1°F above ambient stream temperature is allocated.						
² The WLA expressed in Million BTUs/day is valid for Case 1 scenarios, and disabled for Case 2 scenarios.						
³ The WLA expressed in °F is valid only if the limit is tied to a daily discharge flow limit (may be used for Case 1 or Case 2). WLAs greater than 110°F are displayed as 110°F.						

Facility:	Gettysburg Municipal Authority (stream Well # 2)					
Permit Number:	PA0088056					
Stream:	UNT Marsh Creek					
	CWF			CWF	CWF	
	Ambient Stream	Ambient Stream	Target Maximum	Daily	Daily	
	Temperature (°F)	Temperature (°F)	Stream Temp. ¹	WLA ²	WLA ³	at Discharge
	(Default)	(Site-specific data)	(°F)	(Million BTUs/day)	(°F)	Flow (MGD)
Jan 1-31	34	0	38	N/A -- Case 2	54.9	1.3
Feb 1-29	35	0	38	N/A -- Case 2	51.9	1.3
Mar 1-31	39	0	42	N/A -- Case 2	69.8	1.3
Apr 1-15	46	0	48	N/A -- Case 2	72.6	1.3
Apr 16-30	52	0	53	N/A -- Case 2	65.3	1.3
May 1-15	55	0	56	N/A -- Case 2	62.7	1.3
May 16-30	59	0	60	N/A -- Case 2	66.7	1.3
Jun 1-15	63	0	64	N/A -- Case 2	68.0	1.3
Jun 16-30	67	0	68	N/A -- Case 2	72.0	1.3
Jul 1-31	71	0	72	N/A -- Case 2	74.2	1.3
Aug 1-15	70	0	71	N/A -- Case 2	72.9	1.3
Aug 16-31	70	0	71	N/A -- Case 2	72.9	1.3
Sep 1-15	66	0	67	N/A -- Case 2	68.5	1.3
Sep 16-30	60	0	61	N/A -- Case 2	62.5	1.3
Oct 1-15	55	0	56	N/A -- Case 2	57.6	1.3
Oct 16-31	51	0	52	N/A -- Case 2	53.6	1.3
Nov 1-15	46	0	47	N/A -- Case 2	49.1	1.3
Nov 16-30	40	0	42	N/A -- Case 2	46.2	1.3
Dec 1-31	35	0	40	N/A -- Case 2	55.9	1.3
¹ This is the maximum of the CWF WQ criterion or the ambient temperature. The ambient temperature may be either the design (median) temperature for CWF, or the ambient stream temperature based on site-specific data entered by the user. A minimum of 1°F above ambient stream temperature is allocated.						
² The WLA expressed in Million BTUs/day is valid for Case 1 scenarios, and disabled for Case 2 scenarios.						
³ The WLA expressed in °F is valid only if the limit is tied to a daily discharge flow limit (may be used for Case 1 or Case 2). WLAs greater than 110°F are displayed as 110°F.						

Existing Effluent Limitations and Monitoring Requirements

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Total Annual	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	1.3 Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
Total Volume (MG)	XXX	117	XXX	XXX	XXX	XXX	1/month	Calculation
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	2/month	Grab
Temperature (°F)	XXX	XXX	Report	Report	Report	XXX	2/month	I-S
Temperature (°F) Upstream Monitoring	XXX	XXX	Report	Report	Report	XXX	1/hour	I-S
Temperature (°F) Downstream Monitoring	XXX	XXX	Report	Report	Report	XXX	1/hour	I-S
Total Dissolved Solids	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Total Iron	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Total Manganese	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Sulfate	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab

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	Total Annual	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	1.3 Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
Total Volume (MG)	XXX	117	XXX	XXX	XXX	XXX	1/year	Calculation
Temperature (°F) Upstream Monitoring	XXX	XXX	Report	Report	Report	XXX	1/hour	I-S
Temperature (°F) Downstream Monitoring	XXX	XXX	Report	Report	Report	XXX	1/hour	I-S
Temperature (°F)	XXX	XXX	Report	Report	Report	XXX	2/month	I-S
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	2/month	Grab
Total Dissolved Solids	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Total Iron	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Total Manganese	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Total Sulfate	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab

Compliance Sampling Location:

Other Comments:

Tools and References Used to Develop Permit	
<input type="checkbox"/>	WQM for Windows Model (see Attachment [redacted])
<input type="checkbox"/>	PENTOXSD for Windows Model (see Attachment [redacted])
<input type="checkbox"/>	TRC Model Spreadsheet (see Attachment [redacted])
<input checked="" type="checkbox"/>	Temperature Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Toxics Screening Analysis Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
<input type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 385-2000-011, 9/08.
<input type="checkbox"/>	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
<input type="checkbox"/>	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
<input type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
<input type="checkbox"/>	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
<input type="checkbox"/>	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
<input type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
<input type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
<input type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
<input type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
<input checked="" type="checkbox"/>	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
<input type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
<input type="checkbox"/>	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
<input type="checkbox"/>	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
<input type="checkbox"/>	Design Stream Flows, 391-2000-023, 9/98.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
<input checked="" type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input type="checkbox"/>	SOP: [redacted]
<input type="checkbox"/>	Other: [redacted]