pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0204048**
Facility Type	**Municipal**	APS ID	**1008446**
Major / Minor	**Minor**	Authorization ID	**1300097**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Conemaugh Township Municipal Water & Sewer Authority**	Facility Name	**Tunnelton STP**
Applicant Address	16980 Route 286 Highway W Saltsburg, PA 15681-8023	Facility Address	Tunnelton Road (SR 3003) Tunnelton, PA 15725
Applicant Contact	Scott Corbin	Facility Contact	Chuck Ishman
Applicant Phone	(724) 639-9024	Facility Phone	(724) 801-8169 Ext. 12
Client ID	114983	Site ID	259187
Ch 94 Load Status	Not Overloaded	Municipality	Conemaugh Township
Connection Status	No Connection Prohibitions	County	Indiana
Date Application Received	December 11, 2019	EPA Waived?	Yes
Date Application Accepted	December 31, 2019	If No, Reason	

Purpose of Application: Renewal of a NPDES Permit for an existing discharge to treated domestic sewage from a POTW.

Summary of Review

No changes to discharge quantity or quality were proposed as part of this permit renewal.

Permittee began using eDMR system for reporting in January 2016.

There are currently no open violations listed in EFACTS for this permittee (2/22/2021).

Chapter 94 reports have been incomplete or not submitted. The Department's permitting section will follow up with the compliance section prior to final permit issuance.

Sludge use and disposal description and location(s): Biosolids are land applied at Adam Skokut Farm, South Huntington Township, Westmoreland County under NPDES Permit PAG 09-6113

Public Participation

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

Approve	Deny	Signatures	Date
X		Adam Pesek Adam J. Pesek, E.I.T. / Environmental Engineering Specialist	February 24, 2021
X		Justin C. Dickey Justin C. Dickey, P.E. / Environmental Engineer Manager	February 26, 2021

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.0095
Latitude	40º 27' 19"	Longitude	-79º 23' 30"
Quad Name	Saltsburg	Quad Code	01510
Wastewater Description:	Treated Sewage Effluent		

Receiving Waters	Conemaugh River	Stream Code	43832
NHD Com ID	123722194	RMI	5.57
Drainage Area	1358	Yield (cfs/mi^2)	0.2069
Q_{7-10} Flow (cfs)	281	Q_{7-10} Basis	USGS #03041500 ('92-'17)
Elevation (ft)	846	Slope (ft/ft)	
Watershed No.	18-C	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	DEWATERING, FLOW REGIME MODIFICATION, METALS		
Source(s) of Impairment	ACID MINE DRAINAGE, DAM OR IMPOUNDMENT, IMPACTS FROM HYDROSTRUCTURE FLOW REGULATION/MODIFICATION		
TMDL Status	Final	Name	Kiskiminetas-Conemaugh River Watersheds TMDL

Background/Ambient Data		Data Source
pH (SU)	7.49	8/17/2020 stream sample at SR 3003 Bridge in Tunnelton
Temperature (°C)	25	Default WWF
Hardness (mg/L)	281	8/17/2020 stream sample at SR 3003 Bridge in Tunnelton
Other: NH_3-N	0.04	8/17/2020 stream sample at SR 3003 Bridge in Tunnelton

Nearest Downstream Public Water Supply Intake		Buffalo Township Municipal Authority, Freeport, PA	
PWS Waters	Allegheny River	Flow at Intake (cfs)	2,390
PWS RMI	29.4	Distance from Outfall (mi)	31.4

Changes Since Last Permit Issuance: Stream yield rate was updated based on newer gage flow data. The Saltsburg Municipal WTP Plant PWS Intake is no longer operational.

Other Comments: As was previously implemented, only 5% of the total streamflow was allocated for this discharge as a conservative measure for modeling considerations. There the streamflow at the discharge point is 0.05 x 281 = 15.05 cfs.

Available dilution ratio is therefore 15.05 cfs : 0.0146 7 cfs (0.0095 MGD) = 956 to 1.

Past experience indicates a dilution ratio of 500:1 or greater, water quality modeling should indicate secondary limits are appropriate. WQM 7.0 modeling will still be conducted to verify this statement.

Treatment Facility Summary

Treatment Facility Name: Tunnelton STP

WQM Permit No.	Issuance Date
3289406	11/20/1989

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Chlorination	0.0095

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0095	16	Unknown		Land Application

Changes Since Last Permit Issuance: N/A

Other Comments: Treatment system consists of an equalization basin, two aeration chambers, two clarifiers, sludge holding tank, chlorination, and chlorine contact tank.

Compliance History	
Summary of DMRs:	Permittee has been consistently meeting existing limits
Summary of Inspections:	No inspections conducted in the previous 5 years.

Other Comments: Status of Chapter 94 reports is unknown.

Compliance History

DMR Data for Outfall 001 (from January 1, 2020 to December 31, 2020)

Parameter	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20	JAN-20
Flow (MGD) Average Monthly	0.0049	0.001795	0.002297	0.004732	0.00458	0.00322	0.00275	0.00341	0.00557	0.009261	0.008	0.004606
pH (S.U.) Minimum	7.0	6.9	6.8	6.6	6.5	6.5	6.3	6.7	6.6	6.5	7.0	6.8
pH (S.U.) Maximum	7.3	7.4	7.6	7.5	7.6	7.4	7.4	7.4	7.6	7.4	7.4	7.5
DO (mg/L) Minimum	4.5	7.2	6.79	6.00	7.27	6.8	6.0	6.13	5.85	5.94	7.0	7.1
TRC (mg/L) Average Monthly	0.27	0.23	0.16	0.32	0.34	0.30	0.17	0.13	0.18	0.26	0.25	0.22
TRC (mg/L) Instantaneous Maximum	0.5	0.43	0.47	0.50	0.52	0.62	0.41	0.4	0.47	0.45	0.49	0.48
CBOD5 (mg/L) Average Monthly	< 3.0	4.25	< 4.01	< 5.7	< 3.0	< 9.4	3.7	< 3.92	6.11	< 3.0	3.38	< 3.0
CBOD5 (mg/L) Instantaneous Maximum	< 3.0	5.12	5.01	8.39	< 3.0	15.7	4.3	4.83	9.01	< 3.0	3.68	< 3.0
TSS (mg/L) Average Monthly	3.8	2.6	2.4	< 1.6	< 3.4	< 3.0	4.0	< 1.2	< 3.0	< 2.1	4.71	6.2
TSS (mg/L) Instantaneous Maximum	6.8	3.8	3.2	< 1.6	6.0	4.4	6.00	< 1.6	4.4	3.4	8.22	6.8
Fecal Coliform (CFU/100 ml) Geometric Mean	< 1	< 2	< 1	< 1	< 1.0	< 1	< 1	< 2	9	29	97	3.0
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	< 1	4.1	< 1	< 1	< 1.0	< 1	< 1	3.1	40.4	51.2	435	5.2
Ammonia (mg/L) Average Monthly	< 0.1	< 1.612	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	1.382	< 0.1	< 3	< 0.1
Ammonia (mg/L) Instantaneous Maximum	< 0.1	3.124	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	1.471	< 0.1	5.9	< 0.1

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .0095
Latitude 40º 27' 19.00" **Longitude** -79º 23' 31.00"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

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

Parameter	Limit (mg/l)	SBC	Model
N/A			

Comments: WQM 7.0 modeling and the TRC calc spreadsheet determined secondary treatment limits were protective of the receiving stream.

Best Professional Judgment (BPJ) Limitations

Comments: A dissolved oxygen limit of a minimum of 4.0 mg/l, a TRC IMAX limit of 1.6, and monitoring for ammonia nitrogen, total nitrogen and total phosphorus was placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits."

Influent monitoring for TSS and BOD5 was placed in the permit in accordance with the Department's SOP entitled "New and Reissuance of Sewage Individual NPDES Permit Applications (SOP No. BCW-PMT-002)."

The requirement to monitor Iron, Manganese and Aluminum once per year is being continued in this permit renewal in accordance with the Conemaugh River Basin TMDL.

Flow monitoring is being retained as authorized under Chapter 92a.61.

Anti-Backsliding

N/A

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)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	3/week	Grab
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	3/week	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	3/week	Grab
CBOD5	1.9	XXX	XXX	25.0	XXX	50	2/month	Grab
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	Grab
TSS	2.3	XXX	XXX	30.0	XXX	60	2/month	Grab
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	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
Total Nitrogen	XXX	Report Daily Max	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Ammonia Nov 1 - Apr 30	Report	XXX	XXX	Report	XXX	XXX	2/month	Grab
Ammonia May 1 - Oct 31	Report	XXX	XXX	Report	XXX	XXX	2/month	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 Phosphorus	XXX	Report Daily Max	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Total Aluminum	XXX	Report Daily Max	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Total Iron	XXX	Report Daily Max	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Total Manganese	XXX	Report Daily Max	XXX	XXX	Report Daily Max	XXX	1/year	Grab

Compliance Sampling Location: Outfall 001 (after disinfection)

Other Comments: As part of a permit amendment in the previous permit cycle, the Authority requested that the Department amend their NPDES Permit to decrease the monitoring frequency for dissolved oxygen, TRC and pH from 1/day to 3/week due to the additional cost of testing. The Authority had stated that it only has 37 customers and is a lower income community. The Authority further claimed that the additional cost will increase the customer's monthly bill to an unreasonable and unaffordable amount and will put its customers in hardship to pay for service. This may result in more delinquent payments and actually jeopardize funding to keep the plant operating. A review of the eDMR data for these three parameters since 2016 indicates they are meeting the existing limits. Therefore, 3/week sampling frequency for dissolved oxygen, TRC and pH will be retained in this permit renewal.

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
18C	43832	CONEMAUGH RIVER	**5.570**	846.00	1358.00	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	0.207	15.05	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.49	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
Tunnelton STP	PA0204048	0.0095	0.0000	0.0000	0.000	20.00	6.80

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	7.54	0.00	0.00
NH3-N	25.00	0.04	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
18C	43832	CONEMAUGH RIVER	**4.180**	841.00	1370.00	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	0.207	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.49	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
18C	43832	CONEMAUGH RIVER

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												
5.570	15.05	0.00	15.05	.0147	0.00068	1.025	88.29	86.12	0.17	0.510	25.00	7.49
Q1-10 Flow												
5.570	9.63	0.00	9.63	.0147	0.00068	NA	NA	NA	0.13	0.655	24.99	7.49
Q30-10 Flow												
5.570	20.47	0.00	20.47	.0147	0.00068	NA	NA	NA	0.20	0.430	25.00	7.49

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	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
18C	43832	CONEMAUGH RIVER

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
5.570	Tunnelton STP	4.18	50	4.18	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
5.570	Tunnelton STP	1.01	25	1.01	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)		
5.57	Tunnelton STP	25	25	25	25	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
18C	43832	CONEMAUGH RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
5.570	0.009	24.995	7.488
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
88.289	1.025	86.123	0.166
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.02	0.012	0.06	1.028
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.537	0.871	Tsivoglou	5
Reach Travel Time (days)			
0.510			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.051	2.02	0.06	7.54
0.102	2.02	0.06	7.54
0.153	2.02	0.05	7.54
0.204	2.02	0.05	7.54
0.255	2.01	0.05	7.54
0.306	2.01	0.05	7.54
0.357	2.01	0.04	7.54
0.408	2.01	0.04	7.54
0.459	2.01	0.04	7.54
0.510	2.01	0.04	7.54

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
18C	43832	CONEMAUGH RIVER

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)
5.570	Tunnelton STP	PA0204048	0.009	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

TRC EVALUATION	Girard Boro STP - Outfall 001		
Input appropriate values in B4:B8 and E4:E7			
281.00	**= Q stream (cfs)**	**0.5**	**= CV Daily**
0.010	**= Q discharge (MGD)**	**0.5**	**= CV Hourly**
30	**= no. samples**	**0.066**	**= AFC_Partial Mix Factor**
0.3	**= Chlorine Demand of Stream**	**0**	**= 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)**	**0**	**=Decay Coefficient (K)**

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC PENTOXSD	**1.3.2.iii 5.1a**	WLA afc = 0.643 LTAMULT	**1.3.2.iii 5.1c**	WLA cfc = 0.863 LTAMULT cfc =
TRG PENTOXSD	**5.1b**	afc = 0.373	**5.1d**	0.581
TRG		LTA_afc= 0.240		LTA_cfc = 0.502

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231 AVG MON LIMIT (mg/l) =	AFC
PENTOXSD TRG	5.1g	0.295 INST MAX LIMIT (mg/l) = 0.964	

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

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Tunnelton STP
Conemaugh Township, Indiana County
NPDES# PA0204048

Date	pH min	pH max	10^ -pH min	10^ -pH max	Ave (10^pH min & pH max)	-Log (Ave pH)
Jul-18	6.1	7.2	7.94E-07	6.31E-08	4.29E-07	**6.4**
Aug-18	6.5	7.3	3.16E-07	5.01E-08	1.83E-07	**6.7**
Sep-18	6.8	7.7	1.58E-07	2E-08	8.92E-08	**7.0**
Jul-19	6.6	7.4	2.51E-07	3.98E-08	1.45E-07	**6.8**
Aug-19	6.5	7.5	3.16E-07	3.16E-08	1.74E-07	**6.8**
Sep-19	6.7	7.1	2E-07	7.94E-08	1.39E-07	**6.9**
Jul-20	6.5	7.4	3.16E-07	3.98E-08	1.78E-07	**6.7**
Aug-20	6.5	7.6	3.16E-07	2.51E-08	1.71E-07	**6.8**
Sep-20	6.6	7.5	2.51E-07	3.16E-08	1.41E-07	**6.8**
					Median:	**6.8**