Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0102181**
Facility Type	**Non-Municipal**	APS ID	**1136088**
Major / Minor	**Minor**	Authorization ID	**1524770**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Venango County**	Facility Name	**Two Mile Run County Park**
Applicant Address	471 Beach Road	Facility Address	471 Beach Road
	Franklin, PA 16323-7519		Franklin, PA 16323-7519
Applicant Contact	Luke Kauffman	Facility Contact	Luke Kauffman
Applicant Phone	(814) 676-6116	Facility Phone	(814) 676-6116
Client ID	24051	Site ID	450406
Ch 94 Load Status	Not Overloaded	Municipality	Sugarcreek Borough
Connection Status	No Limitations	County	Venango
Date Application Received	April 4, 2025	EPA Waived?	Yes
Date Application Accepted		If No, Reason	---

Purpose of Application: Renewal Application for a Minor Sewage Facility

Summary of Review

The permittee is requesting reissuance of Individual NPDES Permit No. PA0102181. This is an existing discharge with a design flow of 0.02 MGD. A total plant replacement is being proposed for 2025/2026.

Act 14 notifications were submitted and received.

This facility is currently using the eDMR system.

The addition of monitoring E. coli is the only change to the effluent limitations in this permit renewal.

SPECTIAL CONDITIONS: NONE

The EPA waiver is in effect.

There are no open violations for the subject Client ID (24051) as of May 7, 2025.

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		Carlee Wilson Carlee Wilson / Environmental Engineering Trainee	May 7, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	May 12, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.02
Latitude	41º 27' 56.43"	Longitude	-79º 46' 17.56"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		

Receiving Waters	Twomile Run (CWF)	Stream Code	54094
NHD Com ID	100475937	RMI	0.4500
Drainage Area	8.63	Yield (cfs/mi^2)	0.04
Q_{7-10} Flow (cfs)	0.372	Q_{7-10} Basis	USGS – StreamStats
Elevation (ft)	1172	Slope (ft/ft)	---
Watershed No.	16-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	**---**	Name	**---**

Background/Ambient Data		Data Source
pH (SU)	7.0	Default
Temperature (°F)	68	Default
Hardness (mg/L)	---	---
Other:	---	---

Nearest Downstream Public Water Supply Intake	Aqua Pa (Emlenton Water Co)		
PWS Waters	Allegheny River	Flow at Intake (cfs)	NA
PWS RMI	90.57	Distance from Outfall (mi)	32

Changes Since Last Permit Issuance: None

Other Comments: None

Treatment Facility Summary				
Treatment Facility Name: Two Mile Run County Park				
WQM Permit No.	**Issuance Date**			
6172414	September 3, 2004			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary	Activated Sludge	Hypochlorite	0.02
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.02	90	Not Overloaded	Aerobic Digestion	

Changes Since Last Permit Issuance: N/A

Other Comments: The existing technology and processes consist of (WQM Permit No. 6172414): The influent flows into an aeration tank, travels into the first of two settling clarifiers with surface skimmers, returns sludge to the bottom, and is then returned to aeration. The clarifiers flow into the chlorine contact tank for disinfection before going into the pump tank.

Compliance History

DMR Data for Outfall 001 (from April 1, 2024, to March 31, 2025)

Parameter	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24
Flow (MGD) Average Monthly	0.0045	0.008	0.0022	0.0015	0.0014	0.0015	0.0048	0.003	0.0013	0.0009	0.001	0.0229
pH (S.U.) Instantaneous Minimum	7.41	7.43	7.41	7.46	7.45	7.40	7.1	7.45	7.44	7.44	7.34	7.39
pH (S.U.) Instantaneous Maximum	7.72	7.58	7.58	7.55	7.56	7.61	7.6	7.59	7.62	7.52	7.52	7.96
DO (mg/L) Daily Minimum	9.05	9.15	9.11	9.08	9.2	9.18	9.2	9.22	9.28	9.3	9.27	9.28
TRC (mg/L) Average Monthly	0.1	0.1	0.1	0.1	0.1	0.1	0.10	0.1	0.1	0.1	0.1	0.1
CBOD5 (mg/L) Average Monthly	3.0	< 3.0	< 2.0	< 3.0	< 2.0	< 2.0	< 2.0	< 4.0	< 3.0	3.0	6.0	< 2.0
TSS (mg/L) Average Monthly	11.0	30.0	< 8.0	< 5.0	< 7.0	< 7.0	< 7.0	10.0	< 7.0	8.0	9.0	15.0
Fecal Coliform (No./100 ml) Geometric Mean	< 1.0	< 3.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Fecal Coliform (No./100 ml) Instantaneous Maximum	1.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Total Nitrogen (mg/L) Annual Average				2.73								
Ammonia (mg/L) Annual Average				0.2								
Total Phosphorus (mg/L) Annual Average				3.74								

Compliance History	
Summary of DMRs:	There have been no effluent violations in the last 5 years.
Summary of Inspections:	The last facility inspection was conducted on April 20, 2022. No violations were noted.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .02
Latitude 41º 27' 55.86" **Longitude** -79º 46' 18.73"
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)
E. Coli	Report (No./100 ml)	IMAX	-	§ 92a.61
Total Phosphorus	Report	Average Monthly	-	§92a.61
Total Nitrogen	Report	Average Monthly	-	§92a.61

Comments: Monitoring for E. Coli is placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits."

Water Quality-Based Limitations

CBOD5, Ammonia, and DO are evaluated using WQM 7.0 (Attachment 4). TRC is evaluated using the Department's TRC evaluation spreadsheet (Attachment 5).

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

Parameter	Limit (mg/l)	SBC	Model
CBOD5	25	Average Monthly	WQM 7.0
	50	IMAX	
NH3-N	25	Average Monthly	WQM 7.0
	50	IMAX	
DO	4.0	Daily Minimum	WQM 7.0
TRC	0.5	Average Monthly	TRC Spreadsheet
	1.6	IMAX	

Comments: The limits from the previous permit cycle are retained.

Best Professional Judgment (BPJ) Limitations

Comments: Monitoring for dissolved oxygen, total nitrogen, total phosphorus and raw sewage influent monitoring for $CBOD_5$ and TSS are placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits."

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" (386-0400-001), SOPs and/or BPJ.

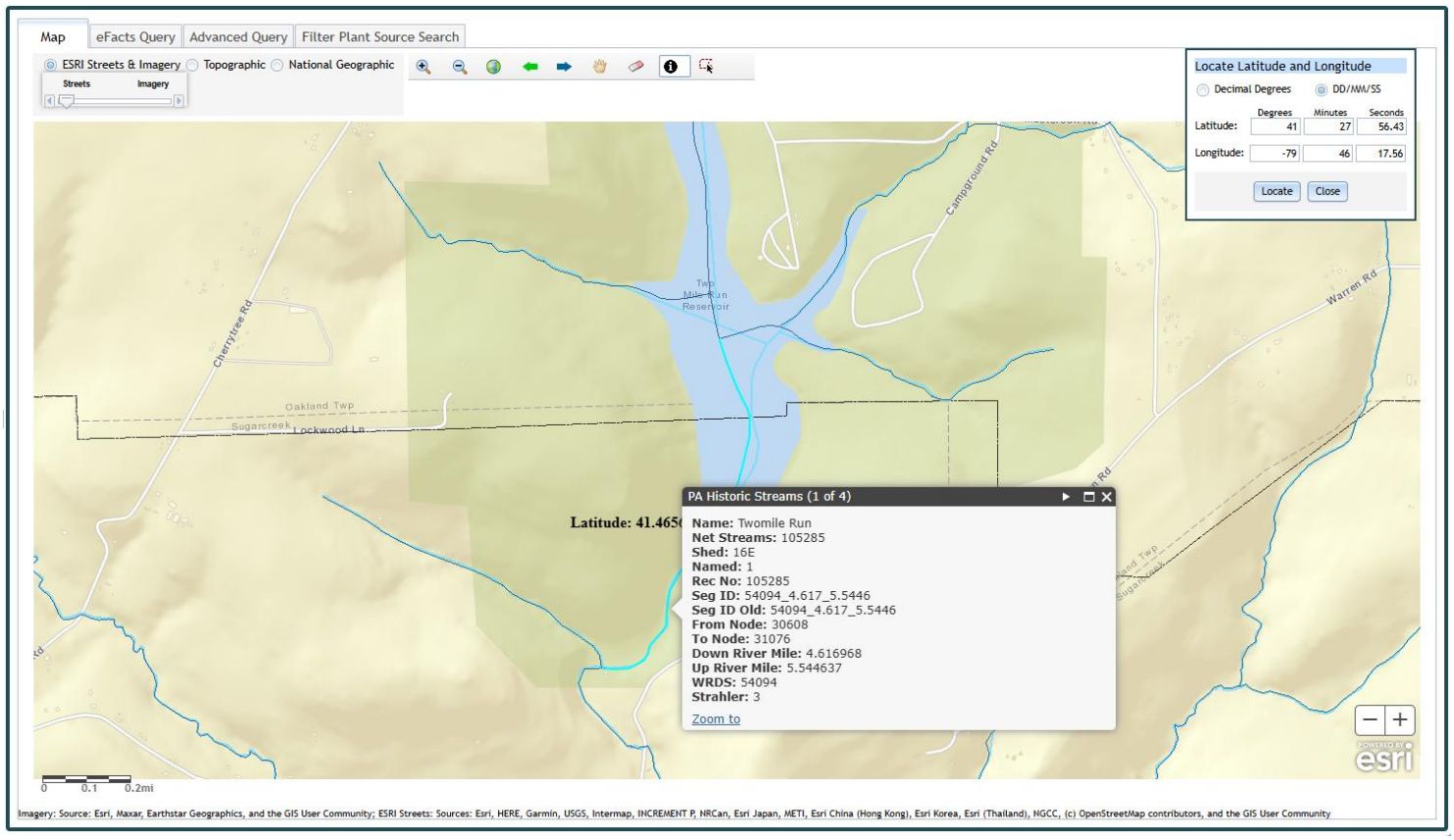
Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

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)	Report	XXX	XXX	XXX	XXX	XXX	1/week	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30.0	XXX	60	2/month	8-Hr Composite
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	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Ammonia	XXX	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite

Compliance Sampling Location: Outfall 001 – after disinfection

Other Comments: According to the Permit Writers' Manual, the sampling frequency for total nitrogen, ammonia, and total phosphorus is recommended at 2/month however, since the facility is meeting limits, the 1/year sampling frequency is retained. Additionally, the sample type for CBOD5, TSS, total nitrogen, total phosphorus, and ammonia is recommended as "grab", but will be retained as 8-Hr Composite.

Attachment 1
eMapPA – Receiving Stream Location and Data



Attachment 2
Google Earth – Aerial Site View

Attachment 3
StreamStats – Drainage Area Data

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	8.63	square miles
ELEV	Mean Basin Elevation	1448	feet
PRECIP	Mean Annual Precipitation	43	inches

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	8.63	square miles	2.33	1720
ELEV	Mean Basin Elevation	1448	feet	898	2700
PRECIP	Mean Annual Precipitation	43	inches	38.7	47.9

Low-Flow Statistics Flow Report [Low Flow Region 3]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.857	ft^3/s	43	43
30 Day 2 Year Low Flow	1.23	ft^3/s	38	38
7 Day 10 Year Low Flow	0.373	ft^3/s	54	54
30 Day 10 Year Low Flow	0.528	ft^3/s	49	49
90 Day 10 Year Low Flow	0.779	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

Attachment 4
WQM 7.0 Modeling

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
16E	54094	TWOMILE RUN	5.540	1172.00	8.62	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	0.040	0.00	0.37	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Outfall 001	PA0102181	0.0200	0.0000	0.0200	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	4.00	8.24	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
16E	54094	TWOMILE RUN	4.610	1158.00	8.72	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	0.040	0.00	0.38	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		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
16E	54094	TWOMILE RUN

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												
5.540	0.37	0.00	0.37	.0309	0.00285	.457	11.75	25.72	0.08	0.757	20.38	7.00
Q1-10 Flow												
5.540	0.24	0.00	0.24	.0309	0.00285	NA	NA	NA	0.06	0.950	20.58	7.00
Q30-10 Flow												
5.540	0.51	0.00	0.51	.0309	0.00285	NA	NA	NA	0.09	0.645	20.29	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
16E	54094	TWOMILE RUN

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
5.540	Outfall 001	15.98	50	15.98	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
5.540	Outfall 001	1.85	25	1.85	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)		
5.54	Outfall 001	25	25	25	25	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
16E	54094	TWOMILE RUN

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
5.540	0.020	20.384	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
11.751	0.457	25.717	0.075
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
3.77	0.558	1.92	0.721
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.917	16.448	Owens	6
Reach Travel Time (days)			
0.757			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.076	3.61	1.82	8.18
0.151	3.46	1.72	8.18
0.227	3.31	1.63	8.18
0.303	3.17	1.54	8.18
0.379	3.04	1.46	8.18
0.454	2.91	1.38	8.18
0.530	2.79	1.31	8.18
0.606	2.67	1.24	8.18
0.682	2.56	1.17	8.18
0.757	2.45	1.11	8.18

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
16E	54094	TWOMILE RUN

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)
5.540	Outfall 001	PA0102181	0.020	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

Attachment 5
TRC Spreadsheet

TRC EVALUATION

0.372	= Q stream (cfs)	0.5	= CV Daily
0.02	= 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)
	= %Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	**1.3.2.iii**	WLA afc =	3.854	**1.3.2.iii**	WLA cfc =	3.750
PENTOXSD TRG	**5.1a**	LTAMULT afc =	0.373	**5.1c**	LTAMULT cfc =	0.581
PENTOXSD TRG	**5.1b**	LTA_afc=	1.436	**5.1d**	LTA_cfc =	2.180

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	