pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PASouthwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0094099 A-1**
Facility Type	**Non-Municipal**	APS ID	**1029591**
Major / Minor	**Minor**	Authorization ID	**1338146**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Camp Peniel Of Meyersdale Inc.**	Facility Name	**Camp Peniel STP**
Applicant Address	620 Main Street	Facility Address	294 Peniel Drive
	Berlin, PA 15530-1346		Meyersdale, PA 15552-8222
Applicant Contact	Richard Ringler	Facility Contact	Same as Applicant
Applicant Phone	814-279-4399	Facility Phone	Same as Applicant
Client ID	72762	Site ID	719321
Ch 94 Load Status	Not Overloaded	Municipality	Greenville Township
Connection Status		County	Somerset
Date Application Received	December 16, 2020	EPA Waived?	Yes
Date Application Accepted	January 5, 2021	If No, Reason	

Purpose of Application: Application for renewal and transfer of NPDES Permit for treated sewage effluent.

Summary of Review

The permittee has applied for a renewal and transfer of NPDES Permit No. PA0094099 on December 16, 2020. NPDES Permit No. PA0094099 was previously issued by the PA Department of Environmental Protection (DEP) on May 13, 2016 and expired on May 31, 2021.

This permit is being transferred from North East Division of the Brethren Church to Camp Peniel of Meyersdale. The associated WQM Permit No. 5609402 is also pending transfer upon approval from the Department.

Sewage from this facility is treated with three septic tanks in series, sand filtration, and chlorine disinfection before discharging to a dry swale through Outfall 001. The Point of First use is Miller Run (ID 39226) which is classified as a Cold-Water Fishery (CWF) per Chapter 93 Designated Use.

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

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

Biosolids produced by this facility are pumped by Piles Concrete and disposed of at the Johnstown STP.

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-

Approve	Deny	Signatures	Date
X		Stephanie Conrad / Environmental Engineering Specialist	May 12, 2021
x		Mahbuba Iasmin, Ph.D., P.E. / Environmental Program Manager	August 12, 2022

Summary of Review
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.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.006
Latitude	39º 45' 20"	Longitude	-79º 0' 25"
Quad Name	Meyersdale	Quad Code	2013
Wastewater Description:	Sewage Effluent		
Receiving Waters	Trib 39232 of Miller Run	Stream Code	39232
NHD Com ID	134770263	RMI	0.36
Drainage Area	0.3	Yield (cfs/mi^2)	0.0095
Q_{7-10} Flow (cfs)	0.00285	Q_{7-10} Basis	USGS Stream Stats
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-F	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)		
Temperature (°F)		
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake	Indian Creek Valley Water Authority		
PWS Waters	Ohiopyle Yough River	Flow at Intake (gpd)	259,200
PWS RMI	62.5	Distance from Outfall (mi)	54.23

Changes Since Last Permit Issuance:

Other Comments:

Treatment Facility Summary

Treatment Facility Name: Camp Peniel

WQM Permit No.	Issuance Date
5609402	August 13, 2009

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Septic Tank Sand Filter	Chlorine	0.006

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.006	10.0	Not Overloaded	Hauled Offsite	Other WWTP

Changes Since Last Permit Issuance: None

Other Comments: This facility was originally permitted under WQM Permit No. 4675046 on July 3, 1967. When the facility was replaced in 2010, it was done under new WQM Permit No. 5609402.

Compliance History	
Summary of DMRs:	**Between May 2016 and May 2021, the facility has complied with submittal of Discharge Maintenance Reports. During the review period, no effluent limit violations were issued, however, six exceedances did occur. Exceedances for flow, $CBOD_5$, fecal coliform, and ammonia-nitrogen occurred in 2018, 2019, and/or 2020. Exceedances in 2020 are reported in the table below.**
Summary of Inspections:	**During the review period, one compliance evaluation and three routine inspections were completed. This evaluation did not result in any violations.**

Other Comments:

Effluent Violations for Outfall 001, from: May 1, 2020 To: March 31, 2021

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Fecal Coliform	08/31/20	Geo Mean	399	CFU/100 ml	200	CFU/100 ml

Summary of Inspections:

Other Comments:

Compliance History

DMR Data for Outfall 001 (from July 1, 2021 to June 30, 2022)

Parameter	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21
Flow (MGD) Average Monthly	0.0004								0.0004	0.0004	0.0004	0.0004
pH (S.U.) Minimum	7.5								6.8	6.8	6.9	6.8
pH (S.U.) Maximum	7.9								6.9	6.9	7.2	6.9
DO (mg/L) Minimum	6.9								6.5	6.7	6.6	6.4
TRC (mg/L) Average Monthly	< 0.03								0.02	0.02	0.03	0.04
CBOD5 (mg/L) Average Monthly	< 5.2								3.2	5.0	< 4.0	9.4
TSS (mg/L) Average Monthly	7.5								6.0	8.0	< 5.0	9.0
Fecal Coliform (CFU/100 ml) Geometric Mean	8.1								2.5	2.9	< 9.0	737
Total Nitrogen (mg/L) Daily Maximum							21					
Ammonia (mg/L) Average Monthly	< 0.8								< 0.8	< 0.8	< 1.6	11.8
Total Phosphorus (mg/L) Daily Maximum							1.7					

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .006
Latitude 39º 45' 20" **Longitude** -79º 0' 25"
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)

Comments:

Previous effluent limitations were based on 1983 pollution report which can be found on microfiche for NPDES Permit PA0094009 issued on February 2, 1983.

Advanced Treatment Requirements

The Department issued the guidance document, *Policy and Procedure for Evaluating Wastewater Dischargers to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers (391-2000-014),* on April 12, 2008. The guidance document established Advanced Treatment Requirements for facilities that discharge to a dry swale.

Camp Peniel STP was originally permitted with NPDES Permit No. PA0094099 on February 2, 1983. Therefore, the facility predates the department guidance and is considered an “existing discharge”. In accordance with the Department’s standard operating procedures, when evaluating existing discharge, if the advanced treatment requirements cannot be achieved, the standards in DEP guidance (391-2000-014) do not apply unless the receiving stream is impaired and the point source discharge contributes to the impairment. The receiving stream, UNT of Miller Run (39232) is not impaired. Therefore, the advanced treatment requirements will not be imposed on this facility.

Water Quality-Based Limitations (WQBELs)

In accordance with Department Policy for facilities that discharge to a dry swale, water quality-based effluents will be evaluated at the point of first use. This facility pre-dates the 1987 guidance document, *Implementation Guidance for Evaluating Wastewater Discharges to Drainage Swales and Ditches.* At the time of original issuance (Feb 2, 1983), the Point of First Use (POFU) was defined as being at the “point where the stream is first shown as full flowing” and was documented as being the confluence of Trib 39232 of Miller Run and Miller Run (ID 39226). Trib 39232 to Miller Run is documented as a perennial stream on USGS Topo Map Quadrant Meyersdale (Code 2013). Miller Run is documented on the same map as being perennial. Based on the previous pollution report and the documentation of Miller Run as a perennial stream, the POFU was assumed to still occur at the confluence of Trib 39232 of Miller Run and Miller Run. This point occurs at a RMI of 3.26on Miller Run. A Point of First Use Study will be conducted prior to the next permit renewal to confirm where POFU occurs.

The existing treatment requirements, the minimum technology-based and BPJ limits, and water quality-based effluent limits will be compared, and the most stringent limits will be applied.

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 22, 2020, new water quality criteria for ammonia-nitrogen apply to waters of the Commonwealth. Therefore, WQBELs for Outfall 001 were re-evaluated even though there have been no changes to the STP.

The effluent was modeled using WQM 7.0 to evaluate the $CBOD_5$, Ammonia-Nitrogen and Dissolved Oxygen (DO) parameters. Modeling confirmed that technology-based limits are appropriate for DO, however, water quality-based limits for Ammonia-Nitrogen and $CBOD_5$ are necessary to meet in-stream water quality criteria. In accordance with the SOP's, winter ammonia-nitrogen limits are assessed by comparing the Winter WQM 7.0 output value with the one calculated from the summer limit using a seasonal multiplier of three. The more restrictive of the two values is then imposed. For this facility, the winter ammonia-nitrogen limit to be imposed is the same for both methods and will be imposed as 24 mg/L, WQM 7.0 output files are provided in Attachment A.

Total Residual Chlorine (TRC) was re-modeled with the TRC Spreadsheet, and it was determined that a stricter limit should be imposed. TRC Spreadsheet output files are provided in Attachment B.

The facility is receiving a new, more restrictive limit for TRC. Based on eDMR data they should be able to meet the new limit as currently operating.

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

Parameter	Limit (mg/l)	SBC	Model
Ammonia-Nitrogen (Summer)	8.0	Average Monthly	WQM 7.0
Ammonia-Nitrogen (Winter)	24.0	Average Monthly	WQM 7.0
$CBOD_5$	10	Average Monthly	WQM 7.0
Total Residual Chlorine	0.382	Average Monthly	TRC_CALC

Comments:

The facility is receiving a new, more restrictive TRC limit which the facility is able to meet as currently operating based on eDMR data. This limit will become effective on the final permit effective date.

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 standard.

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 to revise the previously permitted effluent limits.

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.

Monitoring frequency for the proposed effluent limits are based upon Table 6-3, Self-Monitoring Requirements for Sewage Dischargers, from the Departments Technical Guidance for the Development and Specification of Effluent Limitations. Please note that Monitoring Requirements were changed for Flow to 1/week Metered to be consistent with the guidance.

An annual sampling frequency for total phosphorus and total nitrogen will again be imposed per 25 PA Code §92a.61.

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)	0.006	XXX	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	Daily when Discharging	Grab
DO	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	Daily when Discharging	Grab
TRC	XXX	XXX	XXX	0.38	XXX	1.25	Daily when Discharging	Grab
$CBOD_5$	XXX	XXX	XXX	10.0	XXX	20.0	2/month	Grab
TSS	XXX	XXX	XXX	25.0	XXX	50.0	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	Report Daily Max	XXX	XXX	1/year	Grab
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	24.0	XXX	48.0	2/month	Grab
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	8.0	XXX	16.0	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	Grab

Compliance Sampling Location: Outfall 001

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
19F	39226	MILLER RUN	3.260	2338.00	1.68	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	0.014	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
Camp Peniel	PA0094099	0.0000	0.0060	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	10.00	2.00	0.00	1.50
Dissolved Oxygen	4.00	9.01	0.00	0.00
NH3-N	8.00	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
19F	39226	MILLER RUN	1.920	2320.00	2.65	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	0.014	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
19F	39226	MILLER 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												
3.260	0.02	0.00	0.02	.0093	0.00254	.302	4.15	13.76	0.03	3.132	20.00	7.00
Q1-10 Flow												
3.260	0.02	0.00	0.02	.0093	0.00254	NA	NA	NA	0.02	3.702	20.00	7.00
Q30-10 Flow												
3.260	0.03	0.00	0.03	.0093	0.00254	NA	NA	NA	0.03	2.754	20.00	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
19F	39226	MILLER 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
3.260	Camp Peniel	16.76	16	16.76	16	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
3.260	Camp Peniel	1.89	8	1.89	8	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)		
3.26	Camp Peniel	10	10	8	8	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19F	39226	MILLER RUN

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
3.260	0.006	20.000	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
4.154	0.302	13.755	0.026
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
4.26	0.242	2.26	0.700
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.592	17.301	Owens	6
Reach Travel Time (days)			
3.132			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.313	3.95	1.82	8.24
0.626	3.66	1.46	8.24
0.940	3.40	1.17	8.24
1.253	3.15	0.94	8.24
1.566	2.92	0.76	8.24
1.879	2.71	0.61	8.24
2.192	2.51	0.49	8.24
2.506	2.33	0.39	8.24
2.819	2.16	0.31	8.24
3.132	2.00	0.25	8.24

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19F	39226	MILLER RUN

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)
3.260	Camp Peniel	PA0094099	0.000	CBOD5	10		
				NH3-N	8	16	
				Dissolved Oxygen			4

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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
19F	39226	MILLER RUN	3.260	2338.00	1.68	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	0.028	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
Camp Peniel	PA0094099	0.0000	0.0060	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	10.00	2.00	0.00	1.50
Dissolved Oxygen	4.00	12.51	0.00	0.00
NH3-N	24.00	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
19F	39226	MILLER RUN	1.920	2320.00	2.65	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	0.028	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
19F	39226	MILLER 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												
3.260	0.05	0.00	0.05	.0093	0.00254	.329	4.84	14.73	0.04	2.314	6.65	7.00
Q1-10 Flow												
3.260	0.03	0.00	0.03	.0093	0.00254	NA	NA	NA	0.03	2.827	7.36	7.00
Q30-10 Flow												
3.260	0.06	0.00	0.06	.0093	0.00254	NA	NA	NA	0.04	1.997	6.27	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
19F	39226	MILLER 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
3.260	Camp Peniel	24.1	48	24.1	48	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
3.260	Camp Peniel	4.36	24	4.36	24	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)		
3.26	Camp Peniel	10	10	24	24	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19F	39226	MILLER RUN

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
3.260	0.006	6.648	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
4.842	0.329	14.731	0.035
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
3.32	0.404	3.96	0.251
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
11.108	13.201	Owens	6
Reach Travel Time (days)			
2.314			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.231	3.15	3.73	10.98
0.463	3.00	3.52	10.98
0.694	2.85	3.32	10.98
0.926	2.71	3.14	10.98
1.157	2.58	2.96	10.98
1.388	2.45	2.79	10.98
1.620	2.33	2.64	10.98
1.851	2.21	2.49	10.98
2.083	2.10	2.35	10.98
2.314	2.00	2.22	10.98

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19F	39226	MILLER 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)
3.260	Camp Peniel	PA0094099	0.000	CBOD5	10		
				NH3-N	24	48	
				Dissolved Oxygen			4

ATTACHMENT B

TRC Modeling Results

TRC_CALC_PA0094099

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.0237	= Q stream (cfs)	0.5	= CV Daily
0.006	= 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 =	0.834	1.3.2.iii	WLA cfc =	0.805
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	0.311	5.1d	LTA_cfc =	0.468

Source		Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML MULT =	1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.382	AFC
		INST MAX LIMIT (mg/l) =	1.250	

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

USGS Stream Stats Output

Point of Discharge

StreamStats Report

Region ID: PA
Workspace ID: PA20210511192818321000
Clicked Point (Latitude, Longitude): 39.75598, -79.00740
Time: 2021-05-11 15:28:34 -0400

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.3	square miles
ELEV	Mean Basin Elevation	2567	feet

Point of First Use

StreamStats Report

Region ID: PA
Workspace ID: PA20220414130617835000
Clicked Point (Latitude, Longitude): 39.76154, -78.99528
Time: 2022-04-14 09:06:37 -0400

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.68	square miles	2.26	1400
ELEV	Mean Basin Elevation	2534	feet	1050	2580

Low-Flow Statistics Disclaimers [Low Flow Region 4]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 4]

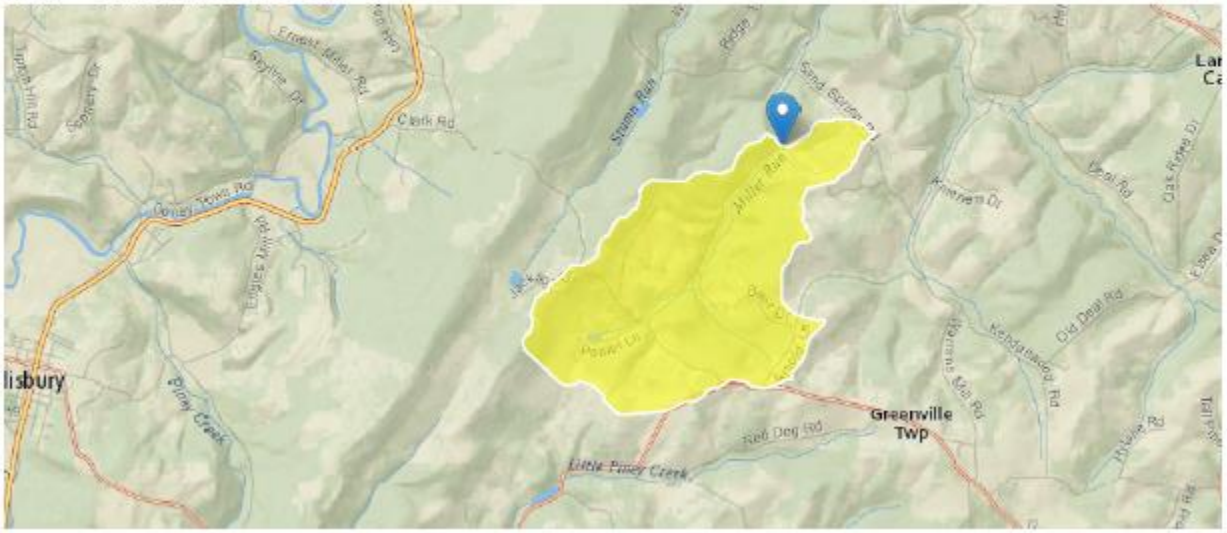
Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0946	ft^3/s
30 Day 2 Year Low Flow	0.186	ft^3/s
7 Day 10 Year Low Flow	0.0237	ft^3/s
30 Day 10 Year Low Flow	0.0524	ft^3/s
90 Day 10 Year Low Flow	0.124	ft^3/s

Low-Flow Statistics Citations

Down Stream Point

StreamStats Report

Region ID: PA
Workspace ID: PA20220414132007185000
Clicked Point (Latitude, Longitude): 39.77498, -78.98353
Time: 2022-04-14 09:20:26 -0400



Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2.65	square miles	2.26	1400
ELEV	Mean Basin Elevation	2511	feet	1050	2580