pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0093378**
Facility Type	**Non-Municipal**	APS ID	**1045372**
Major / Minor	**Minor**	Authorization ID	**1365101**

Applicant and Facility Information

Applicant Name	**Assoc Ceramics & Tech Inc.**	Facility Name	**Assoc Ceramics & Tech**
Applicant Address	400 N Pike Road	Facility Address	400 N Pike Road
	Sarver, PA 16055-1109		Sarver, PA 16055-1109
Applicant Contact	Patti-Ann Kanterman	Facility Contact	
Applicant Phone	(724) 353-1585	Facility Phone	
Client ID	24923	Site ID	240273
Ch 94 Load Status	Not Overloaded	Municipality	Winfield Township
Connection Status	No Limitations	County	Butler
Date Application Received	August 3, 2021	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: Minor Sewage Treatment Facility Renewal.

Summary of Review

The subject NPDES permit (PA0093378) renewal is for a discharge consisting of treated washroom (domestic sewage) and untreated stormwater (roof drains).

Monitoring for pH, DO, and TRC have been set to a frequency of 1/day *(during the days the facility is in operation, which is 5 per week) CWY*, per the Summary of Review on Fact Sheet of the prior permit amendment dated October 27, 2017.

Monitoring for Nitrogen and Total Phosphorus of 1/quarter will be retained per the Summary of Review on Fact Sheet of the prior permit amendment dated October 27, 2017.

There are no open violations listed in WMS for the subject Client ID (24923) as of 11/22/2022. *9/22/2023 CWY*

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		Jordan A. Frey, E.I.T. Jordan A. Frey, E.I.T. / Project Manager	November 22, 2022
X		Chad W. Yurisic Chad W. Yurisic, P.E. / Environmental Engineer Manager	9/22/2023

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.004
Latitude	40º 44' 11.22"	Longitude	-79º 45' 56.94"
Quad Name	Curtisville	Quad Code	40079F7
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Sarver Run (HQ-TSF)	Stream Code	42577
NHD Com ID	123971219	RMI	0.8300
Drainage Area	0.044	Yield (cfs/mi^2)	0.1
Q_{7-10} Flow (cfs)	0.004	Q_{7-10} Basis	Default
Elevation (ft)	1282	Slope (ft/ft)	---
Watershed No.	18-F	Chapter 93 Class.	HQ-TSF
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)	20	Default
Hardness (mg/L)	100	Default
Other:		

Nearest Downstream Public Water Supply Intake		Allegheny County Sanitary Authority (ALCOSAN)	
PWS Waters	Allegheny River	Flow at Intake (cfs)	1407
PWS RMI	1.0	Distance from Outfall (mi)	>25

Changes Since Last Permit Issuance: None.

Other Comments: None.

Treatment Facility Summary

Treatment Facility Name: Associated Ceramics

WQM Permit No.	Issuance Date
N/A	N/A

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary With Ammonia Reduction	Extended Aeration	Hypochlorite	0.004

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.004	9.7	Not Overloaded	Aerobic Digestion	Other WWTP

Changes Since Last Permit Issuance: None.

Other Comments: Existing treatment facility: bar screen, aeration tank & clarifier, dosing pump, sand filters, chlorine contact tank, then outfall.

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	0.002	0.001	0.0015	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
pH (S.U.) Instantaneous Minimum	6.82	7.46	6.87	7.22	6.56	6.74	6.55	6.73	6.51	6.83	6.59	6.55
pH (S.U.) Instantaneous Maximum	7.22	7.69	7.45	7.87	7.30	7.31	8.52	7.41	6.89	7.21	7.21	7.75
DO (mg/L) Minimum	7.41	6.65	6.34	6.71	7.43	6.20	8.71	6.79	6.09	6.43	6.12	6.50
TRC (mg/L) Average Monthly	0.02	0.01	0.02	0.04	0.04	0.03	0.03	0.04	0.04	0.02	0.04	0.04
TRC (mg/L) Instantaneous Maximum	0.05	0.03	0.05	0.11	0.11	0.07	0.07	0.09	0.08	0.05	0.14	0.09
CBOD5 (mg/L) Average Monthly	< 2.0	< 2.00	3.07	4.37	< 6.00	< 6.00	4.02	< 2.0	< 2.0	4.65	4.12	< 2.0
CBOD5 (mg/L) Instantaneous Maximum	< 2.00	< 2.00	4.14	6.74	< 6.00	< 6.00	6.04	< 2.0	< 2.0	7.31	6.25	< 2.0
TSS (mg/L) Average Monthly	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
TSS (mg/L) Instantaneous Maximum	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Fecal Coliform (No./100 ml) Geometric Mean	101	21.9	13.60	62.35	< 5	< 5.0	< 5.0	< 5	< 5	< 5.0	< 2	< 5.0
Fecal Coliform (No./100 ml) Instantaneous Maximum	140	30	37	81	< 5	< 5.0	< 5.0	< 5	< 5	< 5.0	< 2	< 5.0
Total Nitrogen (mg/L) Average Quarterly	21.8			24.0			63.0			81.4		
Ammonia (mg/L) Average Monthly	< 0.800	0.800	< 0.800	< 0.800	< 0.800	< 0.800	0.800	< 0.008	< 0.800	< 0.800	< 0.800	< 0.800

Total Phosphorus (mg/L) Average Quarterly	1.6			1.3			3.3			5.4		

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .004
Latitude 40º 44' 51.80" **Longitude** -79º 46' 17.50"
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)

Comments: Effluent limitations from prior permit term are to be retained.

Water Quality-Based Limitations

A “Reasonable Potential Analysis” determined the following parameters were candidates for limitations: Ammonia-Nitrogen

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

Parameter	Limit (mg/l)	SBC	Model
NH3-N	3.15	Average Monthly	WQM 7.0 v1.1
	6.3	IMAX	WQM 7.0 v1.1
TRC	0.1	Average Monthly	TRC Spreadsheet
	0.3	IMAX	TRC Spreadsheet

Comments: The existing May 1-Oct 31 Ammonia limitations of 2.1 mg/l average monthly and 4.2 mg/l instantaneous maximum, and Total Residual Chlorine (TRC) are more stringent and shall be retained due to Anti-Backsliding provisions.

Best Professional Judgment (BPJ) Limitations

Comments: Monitoring frequencies for Dissolved Oxygen, pH, and Total Residual Chlorine will be increased to 1/day *(during the days the facility is in use, which is 5 per week) CWY* in congruence with the Department’s SOP entitled “Establishing Effluent Limitations for Individual Sewage Permits” (SOP No. BPNPSM-PMT-033, dated November 9, 2012, Revised August 23, 2013.

Anti-Backsliding

Ammonia and TRC effluent limits will be retained due to Anti-Backsliding provisions.

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.

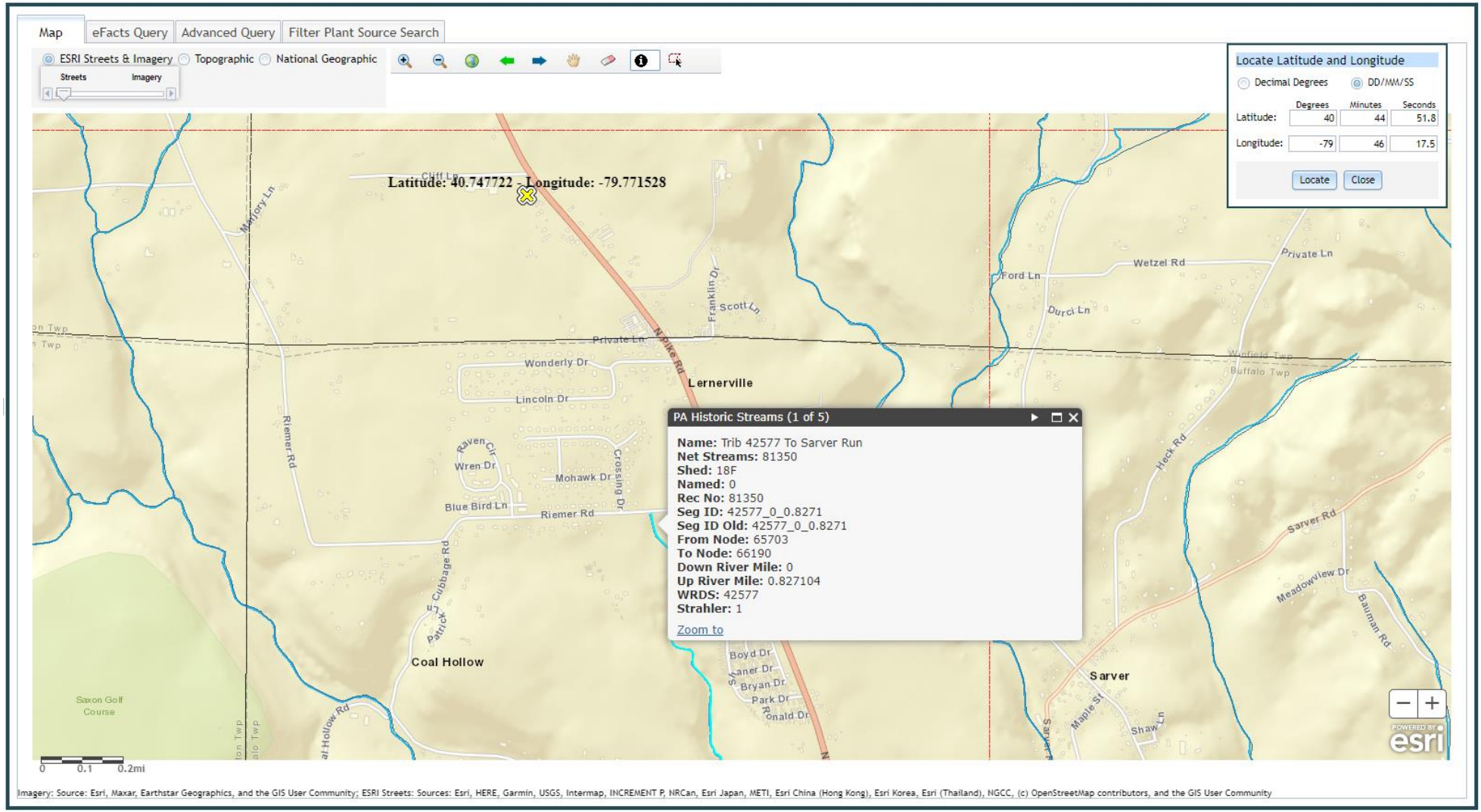
Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

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	XXX	XXX	XXX	XXX	XXX	1/week	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	5/week	Grab
DO	XXX	XXX	6.0 Inst Min	XXX	XXX	XXX	5/week	Grab
TRC	XXX	XXX	XXX	0.05	XXX	0.15	5/week	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50.0	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30.0	XXX	60.0	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 Avg Qrtly	XXX	XXX	1/quarter	8-Hr Composite
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	6.3	XXX	12.5	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	XXX	XXX	XXX	2.1	XXX	4.2	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	8-Hr Composite

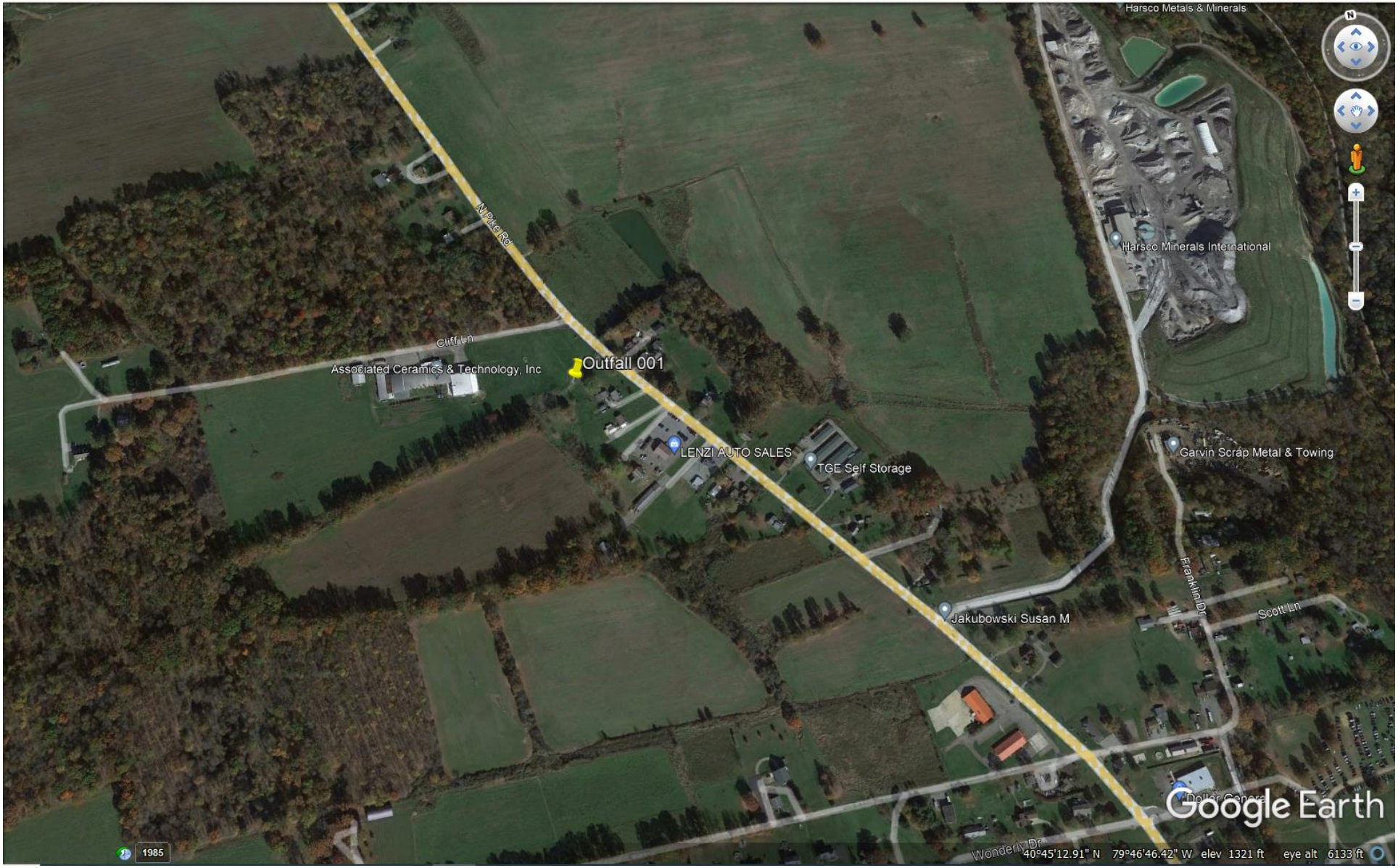
Compliance Sampling Location: Outfall 001, after disinfection.

Other Comments: None.

Attachment 1
eMap – Location Map



Attachment 2
Google Earth Imagery


Harsco Metals & Minerals
N Pike Rd
Harsco Minerals International
Cliff Ln
Associated Ceramics & Technology, Inc
Outfall 001
LENZI AUTO SALES
TGE Self Storage
Garvin Scrap Metal & Towing
Franklin Dr
Scott Ln
Jakubowski Susan M
Google Earth
1985
40°45'12.91" N 79°46'46.42" W elev 1321 ft eye alt 6133 ft

TRC Spreadsheet

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.004	= Q stream (cfs)	0.5	= CV Daily
0.004	= 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 =	0.225	1.3.2.iii	WLA cfc =	0.212
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	0.084	5.1d	LTA_cfc =	0.123

Source		Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML MULT =	1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.103	AFC
		INST MAX LIMIT (mg/l) =	0.338	

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)**

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
18F	42577	Trib 42577 to Sarver 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
0.830	Outfall 001	12.61	18.34	12.61	18.34	1	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
0.830	Outfall 001	1.6	3.15	1.6	3.15	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)		
0.83	Outfall 001	25	25	3.15	3.15	6	6	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
18F	42577	Trib 42577 to Sarver Run

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.830	0.004	22.922	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
0.971	0.273	3.553	0.040
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
15.44	1.260	1.84	0.877
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.932	29.582	Owens	6
Reach Travel Time (days)			
1.257			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.126	12.88	1.65	7.46
0.251	10.75	1.48	7.65
0.377	8.97	1.32	7.81
0.503	7.48	1.19	7.82
0.628	6.24	1.06	7.82
0.754	5.21	0.95	7.82
0.880	4.34	0.85	7.82
1.005	3.63	0.76	7.82
1.131	3.02	0.68	7.82
1.257	2.52	0.61	7.82

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
18F	42577	Trib 42577 to Sarver 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)
0.830	Outfall 001	PA0093378	0.002	CBOD5	25		
				NH3-N	3.15	6.3	
				Dissolved Oxygen			6

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
18F	42577	Trib 42577 to Sarver Run	**0.830**	1282.00	0.04	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	0.100	0.00	0.00	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	PA0093378	0.0020	0.0040	0.0040	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	6.00	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
18F	42577	Trib 42577 to Sarver Run	**0.010**	1047.00	0.17	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	0.100	0.00	0.00	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
18F	42577	Trib 42577 to Sarver 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												
0.830	0.00	0.00	0.00	.0062	0.05428	.273	.97	3.55	0.04	1.257	22.92	7.00
Q1-10 Flow												
0.830	0.00	0.00	0.00	.0062	0.05428	NA	NA	NA	0.04	1.376	23.44	7.00
Q30-10 Flow												
0.830	0.01	0.00	0.01	.0062	0.05428	NA	NA	NA	0.04	1.162	22.54	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		