pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0044326**
Facility Type	**Industrial**	APS ID	**1109844**
Major / Minor	**Minor**	Authorization ID	**1477519**

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

Applicant and Facility Information

Applicant Name	**MAX Environmental Technologies, Inc.**	Facility Name	**Bulger Facility**
Applicant Address	5700 Corporate Drive, Suite 425	Facility Address	Road 1 State Route 4019
	Pittsburgh, PA 15237-5861		Bulger, PA 15019
Applicant Contact	Carl Spadaro, Envir. General Manager	Facility Contact	***same as applicant***
Applicant Phone	(412) 343-4900	Facility Phone	***same as applicant***
Applicant Email	cspadaro@maxenvironmental.com	Facility Email	***same as applicant***
Client ID	121054	Site ID	243979
SIC Code	4953	Municipality	Smith Township
SIC Description	Trans. & Utilities - Refuse Systems	County	Washington
Date Application Received	March 20, 2024	EPA Waived?	Yes
Date Application Accepted		If No, Reason	Minor Facility

Purpose of Application: Renewal of an NPDES permit for discharges of storm water and treated industrial waste.

Summary of Review

MAX Environmental Technologies, Inc. ("MAX") submitted an application dated March 19, 2024 and received by the Department on March 20, 2024 to renew NPDES Permit PA0044326 for discharges from MAX's Bulger Facility. MAX's current permit was issued on September 17, 2019 with an October 1, 2019 effective date and an expiration date of September 30, 2024. MAX's renewal application was timely because it was received at least 180 days prior to expiration (*i.e.,* before April 3, 2024). Therefore, the permit will be administratively extended beyond the expiration date.

EPA Region III provided the following summary of the Bulger Facility ("Facility"), its site history, and cleanup and closure activities in a "Statement of Basis" prepared in July 2021. The purpose of the Statement of Basis was to solicit public comment on EPA's proposed remedy for the site that includes property and groundwater use restrictions, installation and maintenance of caps on disposed waste, continued operation of the existing pump-and-treat system, and monitored natural attenuation.

The Facility is located approximately ½ mile northwest of Bulger, PA, in Smith Township, Washington County, Pennsylvania. The Facility is surrounded by agricultural, wooded, and residential properties. Residual waste operations are permitted on 129 acres of the 202-acre Facility. Mill Service, Inc. began waste treatment and disposal operations in 1958 at the Facility in the location of a former strip mine. In 2002, Mill Service, Inc. changed its corporate name to MAX Environmental Technologies, Inc., which currently operates the Facility as a nonhazardous residual waste treatment facility. The Facility has operated under the Solid Waste Permit [301359] and [Consent Order and Agreements] COAs that direct the disposal operations, unit closures, environmental investigations, and environmental remediation at the Facility. From approximately 1981 to 1987, the Facility operated as a hazardous waste treatment and disposal facility. The Facility accepted wastes in liquid and semi-solid form generated primarily from the iron/steel and metal finishing industries. Treatment included neutralization/precipitation, hexavalent chromium reduction for chromium-bearing wastes, cyanide destruction/oxidation for cyanide-bearing wastes, or no treatment for non-hazardous wastes already at the proper pH for disposal. The treated slurry was then placed in disposal impoundments.

Approve	Deny	Signatures	Date
✓		Ryan C. Decker, P.E. / Environmental Engineer	September 27, 2024
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	September 30, 2024

Summary of Review

In accordance with the provisions of the May 24, 1985 COA, disposal operations at the facility ceased in June 1987. Since the 1990s, residual wastes received at the Facility for treatment are primarily solids, including slag, electric arc furnace dust, metal-impacted soils, and drill cuttings from the oil and gas industry. Since the early 2000s, PADEP has allowed the Facility to dispose of some treated residual wastes onsite in order to maintain grade requirements as part of impoundment closures. Sludge generated at the facility's wastewater treatment plant was included in this onsite disposal allowance; however, onsite disposal of the Facility's wastewater sludge ceased in 2011 when EPA determined that the sludge should be classified as a listed hazardous waste (F039).

The Facility currently operates under the following enforcement documents:

- The February 3, 2014 Solid Waste Permit issued by PADEP, which authorizes residual waste processing operations.
- The May 24, 1985 order issued by the Pennsylvania Department of Environmental Resources (predecessor to the PADEP), which primarily concerns closure of Impoundment 2.
- The September 11, 2006 COA issued and amended on February 3, 2014 by PADEP, which primarily concerns re-closure of Impoundments 1 and 1A.
- The April 6, 2018 COA issued by PADEP concerning management of F039 waste from Impoundment 2.

Waste management units at the Facility include three closed impoundments, a proposed residual waste landfill, waste storage tanks and containers, waste treatment tanks, and a leachate management-wastewater treatment system. The waste management units and monitoring locations are described as follows:

Closed Disposal Impoundments

- Impoundments 1 and 1A: The two adjacent disposal impoundments collectively cover approximately 30 acres. The unlined impoundments operated from 1958 to 1981, prior to RCRA regulatory requirements. A perimeter leachate collection and treatment system was installed in the late 1970s. The impoundments received treated industrial waste and were initially closed in 1979 (Impoundment 1A) and 1981 (Impoundment 1) with waste left in place.

- Impoundment 2: The 16-acre impoundment operated from 1981 to 1988 and was constructed with a bentonite-clay liner and a leachate collection system. MAX capped and closed the impoundment in 2008 in accordance with RCRA closure requirements under oversight of PADEP.

Proposed Landfill

- MAX submitted an application for a new residual waste landfill, also known as Landfill 3, to PADEP in December 2017, which was revised and resubmitted in November 2020. Landfill 3 would be approximately 21 acres and located directly to the east of Impoundment 1 (see Figure 2). The application is currently under review by PADEP.

Waste Treatment and Storage Units

- Residual wastes are chemically and physically treated in tanks to render them stabilized or otherwise adequately processed for either beneficial use in re-closure of Impoundments 1 and 1A or for off-site disposal. Treatment processes include neutralization/precipitation, chemical reduction/oxidation, oil separation, solidification, and dewatering. Waste is stored in approved tanks, storage units, or solid waste storage areas prior to and after treatment.

Leachate Management/Wastewater Treatment Plant

- Leachate from the treatment and disposal units, surface water runoff from the impoundments, and contaminated groundwater are treated at the Facility's wastewater treatment plant. The effluent is discharged to [Raccoon Creek and] Little Raccoon Run under National Pollutant Discharge and Elimination System (NPDES) Permit No. PA0044326.

- The sludge generated at the wastewater treatment plant was previously considered a residual waste and disposed in the Facility's impoundment closures/re-closures to maintain grade requirements. In 2011, EPA determined that the sludge should be classified as a listed hazardous waste (F039). The sludge is currently

Summary of Review

being managed and taken off-site as a listed hazardous waste until it is specifically delisted by PADEP. In compliance with the April 2018 COA, MAX submitted a delisting petition for the sludge to PADEP and the PA Environmental Quality Board on May 30, 2018, which is under review.

MAX further described its activities at the Bulger Facility in its Pollution Prevention and Contingency Plan:

> Through a system of drains installed in and around the surface impoundments and pumps installed in wells adjacent to the impoundments, the facility collects leachate and contaminated groundwater. These wastewaters are conveyed to the wastewater treatment facility by means of pump stations and are stored/treated in a series of tanks. The treated wastewaters are ultimately discharged to Raccoon Creek. The sludge generated from the wastewater treatment process is dewatered on-site prior to disposal on-site. […]
>
> Virtually all waste, wastewater and chemical handling is conducted outdoors. All waste receipt, storage, processing and treatment activities and all leachate treatment activities are conducted in a two-acre area toward the northern end of the facility. Leachate collection and storage activities are conducted at remote locations around the site. Access roadways are provided within the facility to facilitate the movement of plant and emergency equipment to all waste and wastewater management locations.
>
> The plant areas are designed to minimize the possibility of pollution incidents due to releases of materials or the transport of spilled materials off the plant site. Vehicle unloading areas are paved, curbed and sloped so that any spillage can be easily removed from the surface or hosed into the designated holding tanks or reactors. Dust handling areas are equipped with controls to minimize emissions. Run-on to and runoff from the various units at the facility are controlled by means of curbing and diversion structures.
>
> Those operations, which are conducted at remote locations at the facility, are fully automated and the systems are inspected and maintained at frequent intervals. In particular, the remote pump stations used to collect and transfer leachate from the inactive disposal units are inspected daily. Battery-operated high-level alarms are provided to alert plant personnel of potential overflow conditions at Pump Station No. 1 and Pump Station No. 2.

Effluent Limitations Rationale

The current NPDES permit authorizes discharges from eight outfalls: 001, 004, 005, 006, 007, 013, 014, and 015. Outfall 001 is for discharges of treated leachate, groundwater, and storm water. The treated effluent is piped 3.8 miles through an 8" diameter PVC pipe from the Bulger Facility to Raccoon Creek. Outfalls 004, 005, 006, 007, 013, 014, and 015 are for discharges of storm water to Little Raccoon Run and unnamed tributaries to Little Raccoon Run.

Discharges from Outfall 001 are not subject to Federal Effluent Limitations Guidelines. Therefore, case-by-case TBELs are imposed based on the Department's best professional judgement and anti-backsliding requirements. TMDL WQBELs apply, but WQBELs based on local water quality will not be imposed pursuant to 25 Pa. Code § 95.5(a) (regarding treatment requirements for discharges to waters affected by abandoned mine drainage). Storm water outfalls will be identified in the permit but will not be subject to routine monitoring requirements. As with the previous permit, the renewed permit will not authorize overflows from the wastewater treatment system.

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.

Major/Minor Downgrade

DEP submitted an updated Permit Rating Sheet to EPA on March 20, 2024 (see **Attachment C**). EPA informed DEP on March 21, 2024 that the facility would be downgraded in ICIS from a Major to a Minor as of that date.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.227; 0.195 (avg.)
Latitude	40° 23' 27.38"	Longitude	-80° 22' 25.73"
Quad Name	Clinton	Quad Code	1503
Wastewater Description:	Treated leachate, groundwater, and storm water from Impoundment Nos. 1 and 2		

Receiving Waters	Raccoon Creek	Stream Code	33564
NHD Com ID	99689622	RMI	37.58
Drainage Area	37.5	Yield (cfs/mi^2)	0.01888
Q_{7-10} Flow (cfs)	0.708	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	955	Slope (ft/ft)	0.011
Watershed No.	20-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Metals, pH		
Source(s) of Impairment	Acid Mine Drainage		
TMDL Status	Final	Name	Raccoon Creek Watershed TMDL

Background/Ambient Data		Data Source
pH (SU)	8.08	https://www.datashed.org/water_quality_report/project-raccoon-creek/standard#3482360
Temperature (°F)	46.8	
Hardness (mg/L)	444	[Keys Road Sample Point]
Alkalinity (mg/L)	202	"
Acidity (mg/L)	-159.9	"
Conductivity (µmhos/cm)	632	"
Iron, Total (mg/L)	4.49	"
Manganese, Total (mg/L)	0.2	"
Aluminum, Total (mg/L)	0.27	"
Sulfate (mg/L)	124.5	"

Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS Waters	Ohio River	Flow at Intake (cfs)	4,730
PWS RMI	945.38	Distance from Outfall (mi)	43.62

Changes Since Last Permit Issuance: None

Other Comments:

Discharge, Receiving Waters and Water Supply Information

Outfall No.	004	Design Flow (MGD)	Variable
Latitude	40° 22' 52.00"	Longitude	-80° 18' 32.02"
Quad Name	Clinton	Quad Code	1503
Wastewater Description:	Storm water		

Receiving Waters	Little Raccoon Run	Stream Code	33804
NHD Com ID	99689738	RMI	5.69
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-D	Chapter 93 Class.	WWF
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	Final	Name	Raccoon Creek Watershed TMDL

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

Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS Waters	Ohio River	Flow at Intake (cfs)	4,730
PWS RMI	945.38	Distance from Outfall (mi)	44.15

Changes Since Last Permit Issuance: None

Discharge, Receiving Waters and Water Supply Information

Outfall No.	005	Design Flow (MGD)	Variable
Latitude	40° 23' 2.06"	Longitude	-80° 18' 30.56"
Quad Name	Clinton	Quad Code	1503
Wastewater Description:	Storm water		

Receiving Waters	Little Raccoon Run	Stream Code	33804
NHD Com ID	99689738	RMI	5.43
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-D	Chapter 93 Class.	WWF
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	Final	Name	Raccoon Creek Watershed TMDL

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

Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS Waters	Ohio River	Flow at Intake (cfs)	4,730
PWS RMI	945.38	Distance from Outfall (mi)	43.89

Changes Since Last Permit Issuance: None

Discharge, Receiving Waters and Water Supply Information

Outfall No.	006	Design Flow (MGD)	Variable
Latitude	40° 23' 17.21"	Longitude	-80° 18' 47.69"
Quad Name	Clinton	Quad Code	1503
Wastewater Description:	Storm water		

Receiving Waters	Little Raccoon Run	Stream Code	33804
NHD Com ID	99689436	RMI	5.00
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-D	Chapter 93 Class.	WWF
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	Final	Name	Raccoon Creek Watershed TMDL

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

Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS Waters	Ohio River	Flow at Intake (cfs)	4,730
PWS RMI	945.38	Distance from Outfall (mi)	43.46

Changes Since Last Permit Issuance: None

Discharge, Receiving Waters and Water Supply Information

Outfall No.	007	Design Flow (MGD)	Variable
Latitude	40° 23' 16.53"	Longitude	-80° 19' 2.68"
Quad Name	Clinton	Quad Code	1503
Wastewater Description:	Storm water		
Receiving Waters	Unnamed tributary to Little Raccoon Run	Stream Code	N/A
NHD Com ID	99689426	RMI	0.05
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-D	Chapter 93 Class.	WWF
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	Final	Name	Raccoon Creek Watershed TMDL

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

Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS Waters	Ohio River	Flow at Intake (cfs)	4,730
PWS RMI	945.38	Distance from Outfall (mi)	43.30

Changes Since Last Permit Issuance: None

Discharge, Receiving Waters and Water Supply Information

Outfall No.	013	Design Flow (MGD)	Variable
Latitude	40° 23' 18.43"	Longitude	-80° 19' 10.39"
Quad Name	Clinton	Quad Code	1503
Wastewater Description:	Storm water		
Receiving Waters	Unnamed tributary to Little Raccoon Run	Stream Code	N/A
NHD Com ID	99689426	RMI	0.21
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-D	Chapter 93 Class.	WWF
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	Final	Name	Raccoon Creek Watershed TMDL

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

Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS Waters	Ohio River	Flow at Intake (cfs)	4,730
PWS RMI	945.38	Distance from Outfall (mi)	43.46

Changes Since Last Permit Issuance: None

Discharge, Receiving Waters and Water Supply Information

Outfall No.	014	Design Flow (MGD)	Variable
Latitude	40° 23' 11.88"	Longitude	-80° 18' 39.54"
Quad Name	Clinton	Quad Code	1503
Wastewater Description:	Storm water		
Receiving Waters	Unnamed tributary to Little Raccoon Run	Stream Code	N/A
NHD Com ID	99689738	RMI	0.06
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-D	Chapter 93 Class.	WWF
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	Final	Name	Raccoon Creek Watershed TMDL

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

Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS Waters	Ohio River	Flow at Intake (cfs)	4,730
PWS RMI	945.38	Distance from Outfall (mi)	43.76

Changes Since Last Permit Issuance: None

Discharge, Receiving Waters and Water Supply Information

Outfall No.	015	Design Flow (MGD)	Variable
Latitude	40° 22' 39.76"	Longitude	-80° 18' 43.92"
Quad Name	Clinton	Quad Code	1503
Wastewater Description:	Storm water		

Receiving Waters	Little Raccoon Run	Stream Code	33804
NHD Com ID	99689738	RMI	5.92
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-D	Chapter 93 Class.	WWF
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	Final	Name	Raccoon Creek Watershed TMDL

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

Nearest Downstream Public Water Supply Intake	Midland Borough Municipal Authority		
PWS Waters	Ohio River	Flow at Intake (cfs)	4,730
PWS RMI	945.38	Distance from Outfall (mi)	44.38

Changes Since Last Permit Issuance: None

Raccoon Creek-99689622

Assessment Unit ID: PA-SCR-99689622

Waterbody Condition: Impaired (Issues Identified)

Existing Plans for Restoration: Yes

303(d) Listed: No

Year Reported: 2024

Other Years Reported: 2016, 2018, 2020, 2022 (opens new browser tab)

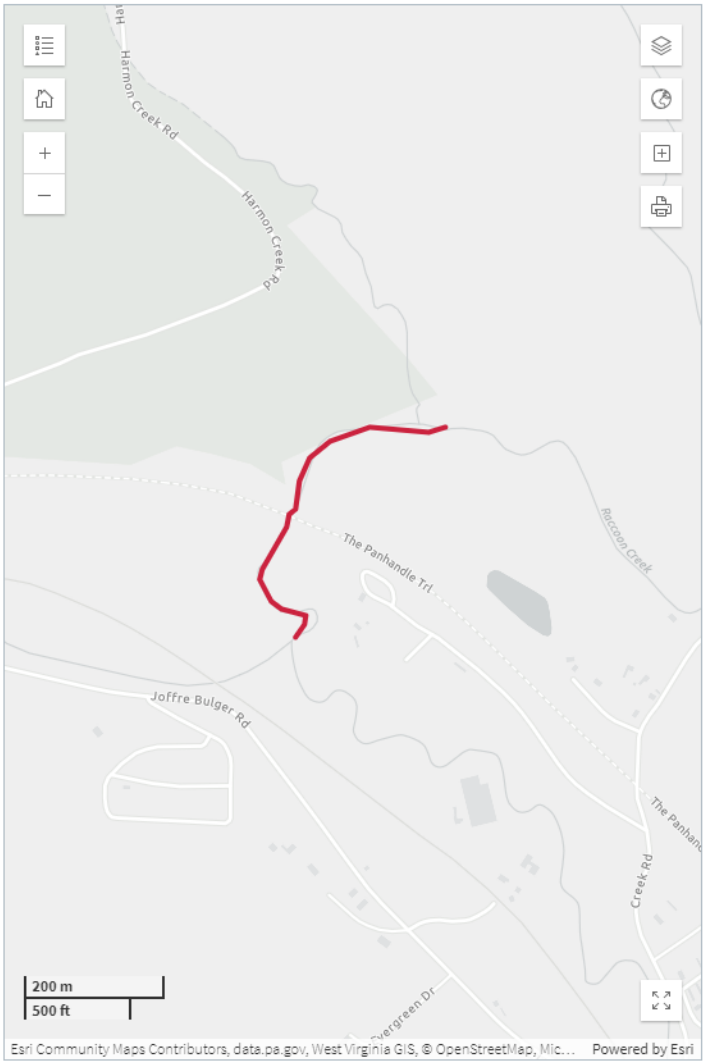
Organization Name (ID): Pennsylvania (21PA)

What type of water is this?

Stream/creek/river (0.3231 Miles)

Where is this water located?

SMITH TWP, 15021 (county: Washington)



Assessment Information from 2024

State or Tribal Nation specific designated uses:

Information on Water Quality Standards — Expand All

Warm Water Fishes — Impaired

Identified Issues for Use

Impaired Parameters	Plan in Place
Metals	Yes
pH	Yes

Other Water Quality Parameters Evaluated

No other parameters evaluated for this use.

Probable sources contributing to impairment from 2024:

Click a column heading to sort... Clear Filters

Source	Parameter	Confirmed
Filter...	Filter...	Filter...
Acid Mine Drainage	Metals	Yes
Acid Mine Drainage	pH	Yes

Click a column heading to sort... Clear Filters

Assessment Documents

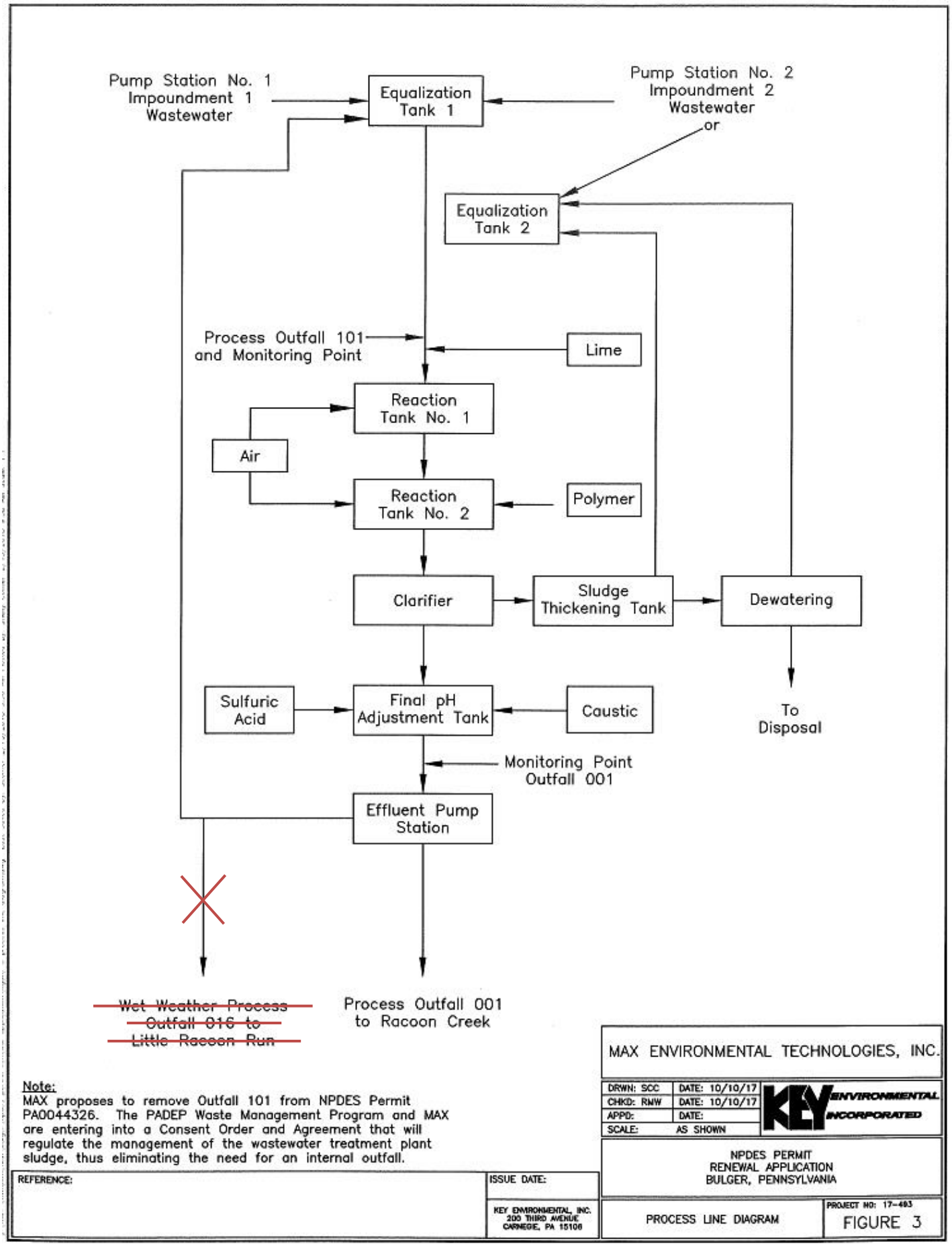
No documents are available

Plans to Restore Water Quality

What plans are in place to protect or restore water quality?

Links below open in a new browser tab.

Plan	Impairments	Type	Completion Date
Raccoon Creek Watershed	Metals, pH	TMDL	2005-01-31



Note:
MAX proposes to remove Outfall 101 from NPDES Permit PA0044326. The PADEP Waste Management Program and MAX are entering into a Consent Order and Agreement that will regulate the management of the wastewater treatment plant sludge, thus eliminating the need for an internal outfall.

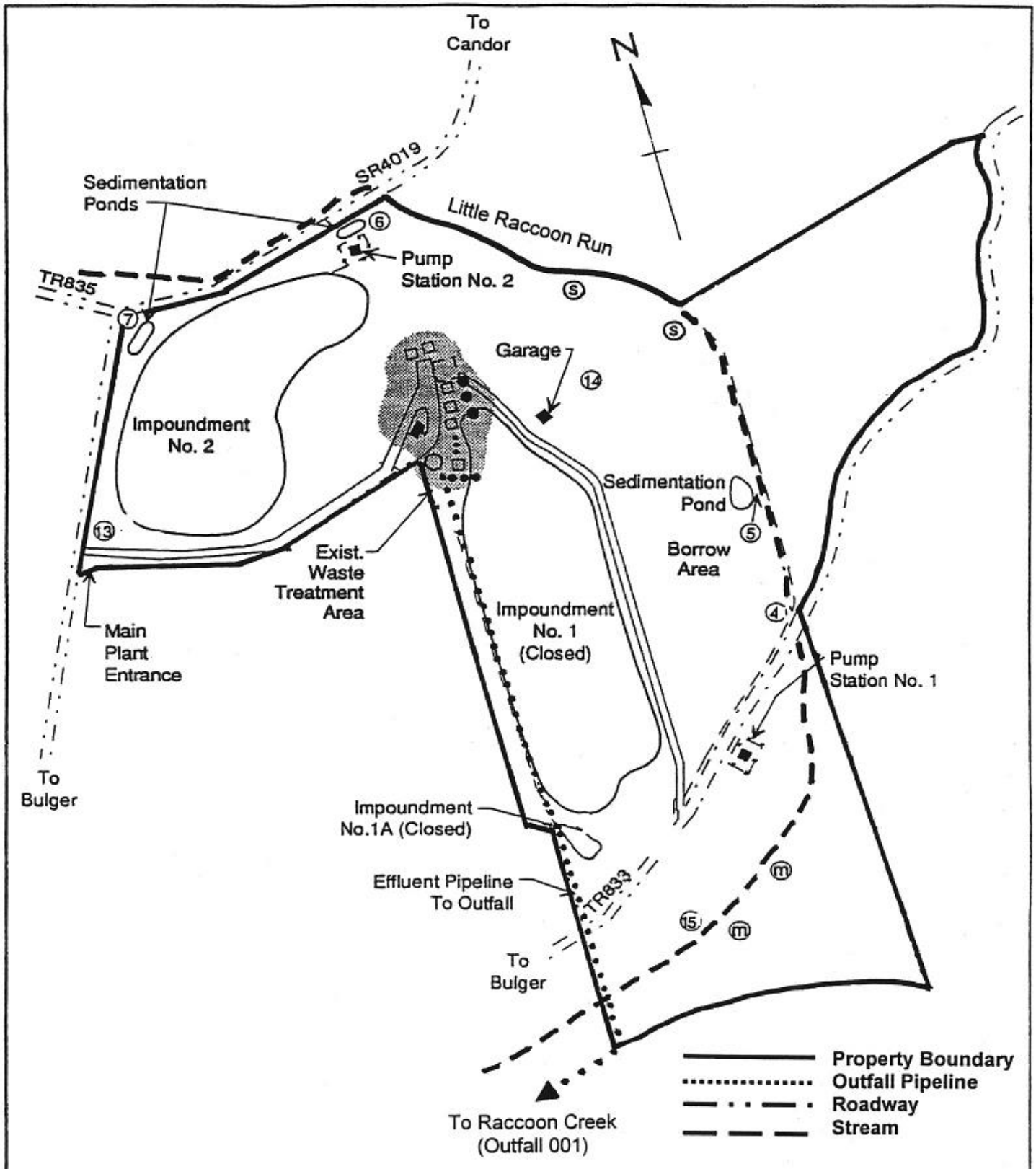


Figure 5

Mill Service Inc.
Bulger Plant
Stormwater Outfall Locations

Image Source and Date: Google Earth Pro, May 22, 2023. Impaired/attaining stream layer by EPA (Viewing WATERS Data using Google Earth | US EPA**). Other annotations by DEP.**

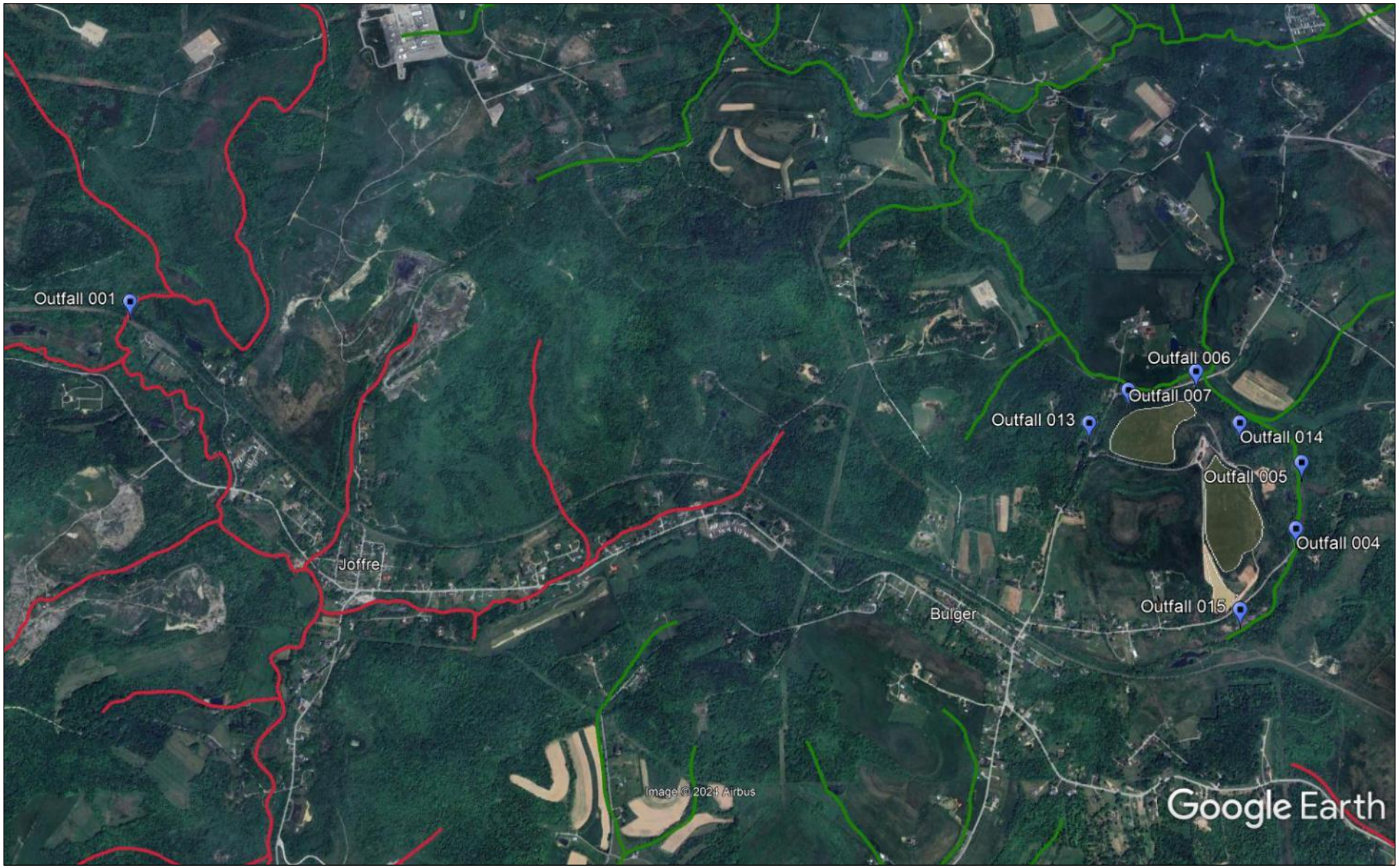
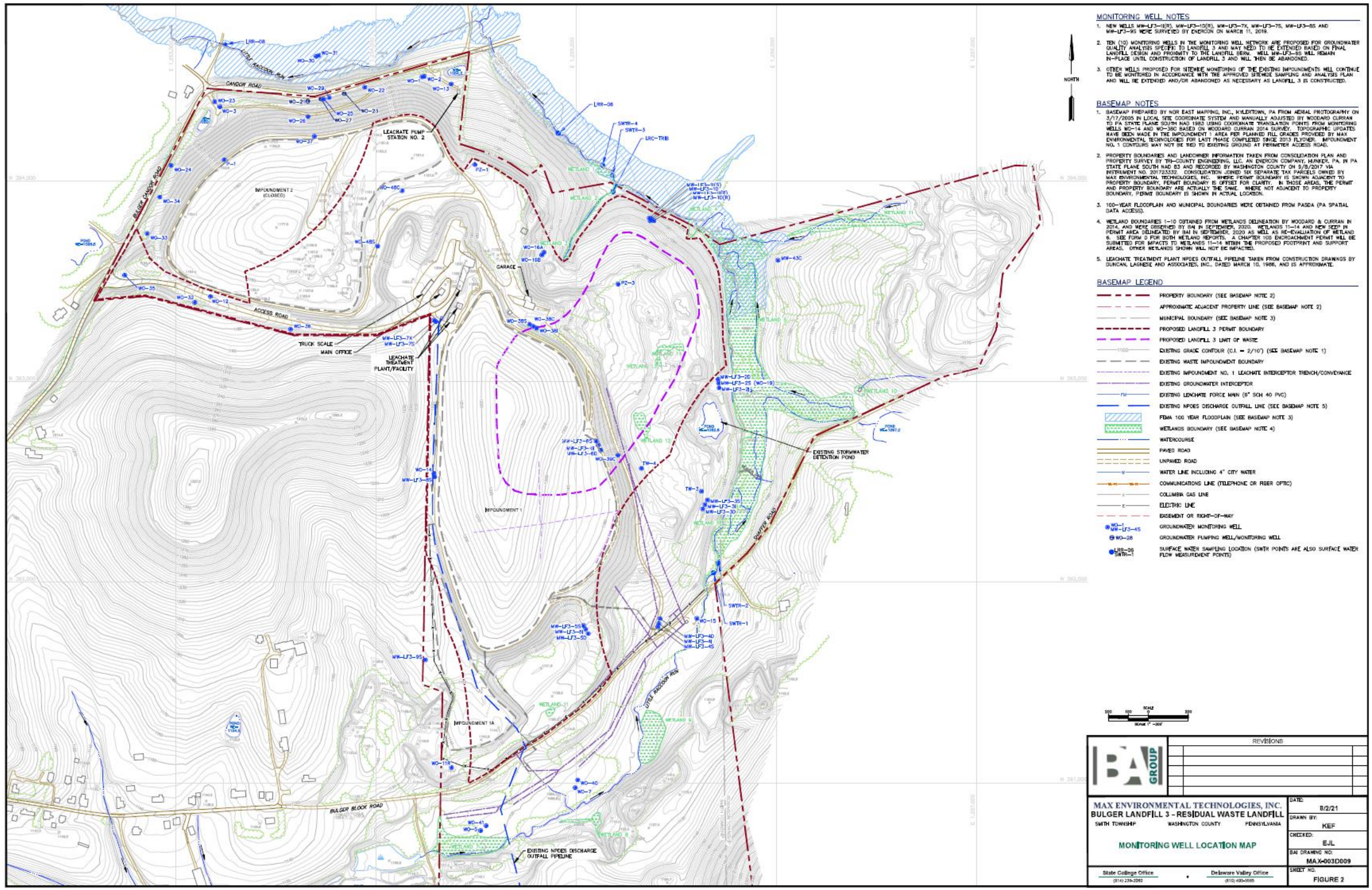


Image Source and Date: Google Earth Pro, May 22, 2023. Impaired/attaining stream layer by EPA (Viewing WATERS Data using Google Earth | US EPA**). Other annotations by DEP.**


LRR-06
LITTLE RACCOON RUN
CANDOR ROAD
LEACHATE PUMP STATION NO. 2
IMPOUNDMENT 2 (CLOSED)
BULGER CHAPIN ROAD
ACCESS ROAD
TRUCK SCALE
MAIN OFFICE
LEACHATE TREATMENT PLANT/FACILITY
GARAGE
SWTR-4
SWTR-5
LRC-TRIB
EXISTING STORMWATER DETENTION POND
SWTR-2
SWTR-1
SAWMILL ROAD
IMPOUNDMENT 1
IMPOUNDMENT 1A
BULGER BLOCK ROAD
EXISTING NPDES DISCHARGE OUTFALL PIPELINE
NORTH
SCALE
MONITORING WELL NOTES
1. NEW WELLS MW-LF3-11(R), MW-LF3-10(R), MW-LF3-7X, MW-LF3-7S, MW-LF3-6S AND MW-LF3-9S WERE SURVEYED BY ENDECON ON MARCH 11, 2019.
2. TEN (10) MONITORING WELLS IN THE MONITORING WELL NETWORK ARE PROPOSED FOR GROUNDWATER QUALITY ANALYSIS SPECIFIC TO LANDFILL 3 AND MAY NEED TO BE EXTENDED BASED ON FINAL LANDFILL DESIGN AND PROXIMITY TO THE LANDFILL BERM. WELL MW-LF3-6S WILL REMAIN IN-PLACE UNTIL CONSTRUCTION OF LANDFILL 3 AND WILL THEN BE ABANDONED.
3. OTHER WELLS PROPOSED FOR SITEWIDE MONITORING OF THE EXISTING IMPOUNDMENTS WILL CONTINUE TO BE MONITORED IN ACCORDANCE WITH THE APPROVED SITEWIDE SAMPLING AND ANALYSES PLAN AND WILL BE EXTENDED AND/OR ABANDONED AS NECESSARY AS LANDFILL 3 IS CONSTRUCTED.
BASEMAP NOTES
1. BASEMAP PREPARED BY NOR EAST MAPPING, INC., KYLERTOWN, PA FROM AERIAL PHOTOGRAPHY ON 3/17/2005 IN LOCAL SITE COORDINATE SYSTEM AND MANUALLY ADJUSTED BY WOODARD CURRAN TO PA STATE PLANE SOUTH NAD 1983 USING COORDINATE TRANSLATION POINTS FROM MONITORING WELLS WO-14 AND WO-38C BASED ON WOODARD CURRAN 2014 SURVEY. TOPOGRAPHIC UPDATES HAVE BEEN MADE IN THE IMPOUNDMENT 1 AREA PER PLANNED FILL GRADES PROVIDED BY MAX ENVIRONMENTAL TECHNOLOGIES FOR LAST PHASE COMPLETED SINCE 2013 FLYOVER. IMPOUNDMENT NO. 1 CONTOURS MAY NOT BE TIED TO EXISTING GROUND AT PERIMETER ACCESS ROAD.
2. PROPERTY BOUNDARIES AND LANDOWNER INFORMATION TAKEN FROM CONSOLIDATION PLAN AND PROPERTY SURVEY BY TRI-COUNTY ENGINEERING, LLC, AN ENDECON COMPANY, HUNKER, PA, IN PA STATE PLANE SOUTH NAD 83 AND RECORDED BY WASHINGTON COUNTY ON 2/9/2017 VIA INSTRUMENT NO. 201723332. CONSOLIDATION JOINED SIX SEPARATE TAX PARCELS OWNED BY MAX ENVIRONMENTAL TECHNOLOGIES, INC. WHERE PERMIT BOUNDARY IS SHOWN ADJACENT TO PROPERTY BOUNDARY, PERMIT BOUNDARY IS OFFSET FOR CLARITY. IN THOSE AREAS, THE PERMIT AND PROPERTY BOUNDARY ARE ACTUALLY THE SAME. WHERE NOT ADJACENT TO PROPERTY BOUNDARY, PERMIT BOUNDARY IS SHOWN IN ACTUAL LOCATION.
3. 100-YEAR FLOODPLAIN AND MUNICIPAL BOUNDARIES WERE OBTAINED FROM PASDA (PA SPATIAL DATA ACCESS).
4. WETLAND BOUNDARIES 1-10 OBTAINED FROM WETLANDS DELINEATION BY WOODARD & CURRAN IN 2014, AND WERE OBSERVED BY BAI IN SEPTEMBER, 2020. WETLANDS 11-14 AND NEW SEEP IN PERMIT AREA DELINEATED BY BAI IN SEPTEMBER, 2020 AS WELL AS RE-EVALUATION OF WETLAND 6. SEE FORM D FOR BOTH WETLAND REPORTS. A CHAPTER 105 ENCROACHMENT PERMIT WILL BE SUBMITTED FOR IMPACTS TO WETLANDS 11-14 WITHIN THE PROPOSED FOOTPRINT AND SUPPORT AREAS. OTHER WETLANDS SHOWN WILL NOT BE IMPACTED.
5. LEACHATE TREATMENT PLANT NPDES OUTFALL PIPELINE TAKEN FROM CONSTRUCTION DRAWINGS BY DUNCAN, LAGNESE AND ASSOCIATES, INC., DATED MARCH 10, 1988, AND IS APPROXIMATE.
BASEMAP LEGEND
PROPERTY BOUNDARY (SEE BASEMAP NOTE 2)
APPROXIMATE ADJACENT PROPERTY LINE (SEE BASEMAP NOTE 2)
MUNICIPAL BOUNDARY (SEE BASEMAP NOTE 3)
PROPOSED LANDFILL 3 PERMIT BOUNDARY
PROPOSED LANDFILL 3 LIMIT OF WASTE
EXISTING GRADE CONTOUR (C.I. = 2/10') (SEE BASEMAP NOTE 1)
EXISTING WASTE IMPOUNDMENT BOUNDARY
EXISTING IMPOUNDMENT NO. 1 LEACHATE INTERCEPTOR TRENCH/CONVEYANCE
EXISTING GROUNDWATER INTERCEPTOR
EXISTING LEACHATE FORCE MAIN (8" SCH 40 PVC)
EXISTING NPDES DISCHARGE OUTFALL LINE (SEE BASEMAP NOTE 5)
FEMA 100 YEAR FLOODPLAIN (SEE BASEMAP NOTE 3)
WETLANDS BOUNDARY (SEE BASEMAP NOTE 4)
WATERCOURSE
PAVED ROAD
UNPAVED ROAD
WATER LINE INCLUDING 4" CITY WATER
COMMUNICATIONS LINE (TELEPHONE OR FIBER OPTIC)
COLUMBIA GAS LINE
ELECTRIC LINE
EASEMENT OR RIGHT-OF-WAY
GROUNDWATER MONITORING WELL
GROUNDWATER PUMPING WELL/MONITORING WELL
SURFACE WATER SAMPLING LOCATION (SWTR POINTS ARE ALSO SURFACE WATER FLOW MEASUREMENT POINTS)
REVISIONS
BAI GROUP
MAX ENVIRONMENTAL TECHNOLOGIES, INC.
BULGER LANDFILL 3 - RESIDUAL WASTE LANDFILL
SMITH TOWNSHIP WASHINGTON COUNTY PENNSYLVANIA
MONITORING WELL LOCATION MAP
DATE: 8/2/21
DRAWN BY: KEF
CHECKED: EJL
BAI DRAWING NO: MAX-003D009
SHEET NO. FIGURE 2
State College Office (814) 235-2062
Delaware Valley Office (610) 490-0665

Treatment Facility Summary

Treatment Facility: Wastewater Treatment Plant

WQM Permit No.	Issuance Date	Purpose
6377205	03/31/1978	Permit issued to Mill Service, Inc. for construction and operation of the industrial wastewater treatment plant.
6377205 T-1	11/13/2002	Permit transferred from Mill Service, Inc. to MAX Environmental Technologies, Inc.
6385201	02/26/1987	Permit issued to Mill Service, Inc. for the addition of air stripping (not installed) and breakpoint chlorination systems for ammonia-nitrogen removal; also for outfall relocation to Raccoon Creek.
6385201 T-1	11/13/2002	Permit transferred from Mill Service, Inc. to MAX Environmental Technologies, Inc.
468I006	10/24/1968	Permit from Dept. of Health Sanitary Water Board for treatment systems, discharges, and effluent limits; replaced by WQM Permit No. 6377205 and NPDES Permit No. PA0044326.

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Industrial	Primary	Equalization, Neutralization, Chemical Precipitation, Flocculation, Sedimentation, Neutralization	No Disinfection	0.089

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.09	N/A	N/A	N/A	N/A

Changes Since Last Permit Issuance:

Other Comments:

Compliance History

DMR Data for Outfall 001 (from August 1, 2023 to July 31, 2024)

Parameter	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23
Flow (MGD) Average Monthly	0.008	0.026	0.034	0.072	0.114	0.104	0.103	0.062	0.024	0.011	0.006	0.016
Flow (MGD) Daily Maximum	0.041	0.053	0.136	0.157	0.339	0.305	0.240	0.119	0.068	0.045	0.032	0.072
pH (S.U.) Instantaneous Minimum	7.79	7.63	7.94	7.84	7.98	7.98	7.64	7.64	7.82	7.62	7.63	7.72
pH (S.U.) Instantaneous Maximum	7.83	7.82	7.96	7.91	8.01	8.01	7.82	7.89	7.96	7.93	7.77	7.88
TRC (mg/L) Average Monthly	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
TRC (mg/L) Daily Maximum	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
TSS (mg/L) Average Monthly	< 4.0	< 4.0	< 4.0	< 4.5	< 4.0	4.0	< 4.0	< 4.0	< 4.0	< 4.0	4.0	< 4.0
TSS (mg/L) Daily Maximum	< 4.0	< 4.0	< 4.0	< 5.0	< 4.0	4.0	< 4.0	< 4.0	< 4.0	< 4.0	4.0	< 4.0
Total Dissolved Solids (mg/L) Daily Maximum	2610	3140	1510	3290	1510	2980	360	3580	10	10	1360	2340
Oil and Grease (mg/L) Average Monthly	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.15	< 5.0	< 4.9
Oil and Grease (mg/L) Daily Maximum	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.3	< 5.0	< 4.9
Ammonia (mg/L) Average Monthly	4.20	9.0	7.75	7.75	5.60	10.15	18.2	15.05	10.20	8.35	6.25	6.90
Ammonia (mg/L) Daily Maximum	4.20	12.1	7.80	8.0	6.70	10.70	30.2	16.20	13.20	8.70	9.70	8.00
Total Aluminum (mg/L) Average Monthly	0.031	< 0.02	0.097	0.128	0.177	0.179	0.040	0.090	0.492	0.038	0.112	0.242
Total Aluminum (mg/L) Daily Maximum	0.042	< 0.02	0.101	0.128	0.200	0.326	0.047	0.097	0.630	0.039	0.175	0.244
Total Arsenic (mg/L) Average Monthly	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Total Arsenic (mg/L) Daily Maximum	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Total Iron (mg/L) Average Monthly	< 0.05	0.05	0.055	< 0.02	< 0.035	0.064	0.0725	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Parameter	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23
Total Iron (mg/L) Daily Maximum	< 0.05	0.05	0.06	< 0.02	< 0.05	0.107	0.095	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Nickel (mg/L) Average Monthly	0.01	0.007	0.012	0.011	0.010	0.019	0.021	0.090	0.124	0.066	0.070	0.049
Total Nickel (mg/L) Daily Maximum	0.01	0.007	0.012	0.011	0.011	0.020	0.024	0.160	0.160	0.066	0.112	0.054
Sulfate (mg/L) Daily Maximum	111	0.543	434	443	381	385	512	667	129	19	310	532
Total Thallium (mg/L) Average Monthly	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total Thallium (mg/L) Daily Maximum	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloride (mg/L) Daily Maximum	617	0.893	478	1000	651	943	1560	1820	561	5.6	340	730
Bromide (mg/L) Daily Maximum	< 0.5	< 0.58	< 5	< 5	< 5	< 5	< 5.0	< 5	< 5	< 5	< 5	< 5
Dichlorobromo-methane (mg/L) Average Monthly	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001
Dichlorobromo-methane (mg/L) Daily Maximum	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.227; 0.195 (avg.)
Latitude 40° 23' 27.00" **Longitude** -80° 22' 25.00"
Wastewater Description: Treated leachate, groundwater, and storm water from Impoundment Nos. 1 and 2

Discharges from Outfall 001 are currently subject to the following effluent limits and monitoring requirements.

Table 1. Current Effluent Limits and Monitoring Requirements at Outfall 001

Parameter	Mass (pounds)		Concentration (mg/L)			Sample Type	Basis
	Avg. Mo.	Daily Max	Avg. Mo.	Daily Max	IMAX		
Flow (MGD)	Report	Report	—	—	—	Continuous	25 Pa. Code § 92a.61(d)(1)
pH (S.U.)	—	—	6.0 (IMIN)	—	9.0	2/month	25 Pa. Code § 95.2(1)
Total Residual Chlorine (TRC) †	—	—	0.5	1.0	—	2/month	25 Pa. Code § 92a.48(b)(2)
Total Suspended Solids	—	—	30.0	60.0	75.0	2/month	TBELs; 25 Pa. Code § 92a.48(a)(3)
Total Dissolved Solids	—	—	—	Report	—	1/month	25 Pa. Code § 92a.61(b)
Oil and Grease	—	—	15.0	30.0	—	2/month	25 Pa. Code § 95.2(2)
Ammonia-Nitrogen	—	—	45.0	90.0	—	2/month	TBELs; 25 Pa. Code § 92a.48(a)(3)
Aluminum, Total	—	—	0.75	0.75	0.75	2/month	TMDL WQBELs; 40 CFR § 122.44(d)(1)(vii)(B)
Arsenic, Total	—	—	Report	Report	—	2/month	25 Pa. Code § 92a.61(b)
Iron, Total	—	—	1.5	3.0	3.75	2/month	TMDL WQBELs; 40 CFR § 122.44(d)(1)(vii)(B)
Nickel, Total	—	—	1.0	2.0	2.5	2/month	TBELs; 25 Pa. Code § 92a.48(a)(3)
Sulfate, Total	—	—	—	Report	—	1/month	25 Pa. Code § 92a.61(b)
Thallium, Total	—	—	Report	Report	—	2/month	Reasonable Potential; § 92a.61(b)
Chloride	—	—	—	Report	—	1/month	25 Pa. Code § 92a.61(b)
Bromide	—	—	—	Report	—	1/month	25 Pa. Code § 92a.61(b)
Dichlorobromomethane †	—	—	Report	Report	—	2/month	25 Pa. Code § 92a.61(b)

† The TRC and dichlorobromomethane requirements are conditional on the use of chlorine in the treatment process.

The effluent limits and monitoring requirements in **Table 1** will remain in effect at Outfall 001 in the renewed permit pursuant to anti-backsliding requirements under Section 402(o) of the Clean Water Act and/or 40 CFR § 122.44(l) (incorporated by reference at 25 Pa. Code § 92a.44) [1], unless the limits are superseded by more stringent limits developed for this renewal or are relaxed pursuant to the anti-backsliding exceptions listed in Section 402(o) of the Clean Water Act or 40 CFR § 122.44(l).

001.A. Technology-Based Effluent Limitations (TBELs)

There are no Federal Effluent Limitations Guidelines ("ELGs") that apply to Outfall 001. Below are applicability evaluations for two ELGs that are potentially relevant to MAX's operations, but which DEP determined are (currently) inapplicable: 1) 40 CFR Part 437 – The Centralized Waste Treatment ELGs; and 2) 40 CFR Part 445 – Landfills ELGs.

Centralized Waste Treatment ("CWT") Point Source Category ELGs

Pursuant to 40 CFR § 437.1(a), the CWT ELGs apply to the following:

[1] *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.)

(a) Except as provided in paragraphs (b), (c), or (d) of this section, this part applies to that portion of wastewater discharges from a centralized waste treatment (CWT) facility that results from any of the following activities:

(1) Treatment and recovery of hazardous or non-hazardous industrial metal-bearing wastes, oily wastes and organic-bearing wastes received from off-site; and

(2) The treatment of CWT wastewater.

A "CWT facility" is defined in 40 CFR § 437.2(c) as: "any facility that treats (for disposal, recycling or recovery of material) any hazardous or non-hazardous industrial wastes, hazardous or non-hazardous industrial wastewater, and/or used material received from off-site. "CWT facility" includes both a facility that treats waste received exclusively from off-site and a facility that treats wastes generated on-site as well as waste received from off-site."

Integral of the applicability of Part 437 is the treatment of wastes and wastewaters generated offsite, whether alone or in combination with wastes and wastewaters generated onsite. The only wastes processed through the Bulger Facility's wastewater treatment system are leachate from the Bulger Facility's disposal impoundments, recovered groundwater, and storm water, which are wastewaters generated exclusively onsite. Since the CWT ELGs apply to facilities that treat offsite wastewaters, Part 437 does not apply to the Bulger Facility.

Landfill Point Source Category ELGs

Pursuant to 40 CFR § 445.1(a), the Landfill ELGs apply to discharges of wastewater from landfill units. A "landfill unit" is defined in § 445.2(e) as "an area of land or an excavation in which wastes are placed for permanent disposal, that is not a land application or land treatment unit, surface impoundment, underground injection well, waste pile, salt dome formation, a salt bed formation, an underground mine or a cave as these terms are defined in 40 CFR 257.2, 258.2 and 264.10."

The Bulger Facility's disposal activities involved the placement of wastes in three surface impoundments: Impoundments 1, 1A, and 2. Based on the definition of "landfill unit", the leachate MAX collects from the impoundments is not wastewater from a landfill unit. Therefore, Part 445 does not apply to the Bulger Facility. Even if the Bulger Facility passed the general applicability description of Part 445, there are only two subparts to Part 445, Subpart A and Subpart B, which apply to RCRA Subtitle C and RCRA Subtitle D landfills, respectively. The impoundments at the Bulger Facility were not constructed as RCRA Subtitle C or D landfills (they pre-date RCRA), so the Bulger Facility would not be subject to Part 445 pursuant to the subpart-specific applicability criteria.

MAX is planning to construct another disposal unit at the Bulger Facility (Landfill No. 3), which would be permitted as a residual waste landfill (*i.e.*, a "landfill unit"). If Landfill No. 3 is constructed and placed into service, then leachate generated by that unit will be subject to Part 445.

Regulatory Effluent Standards and Monitoring Requirements

Flow monitoring will be required in accordance with 25 Pa. Code § 92a.61(b). Effluent standards for pH (6.0 instantaneous minimum and 9.0 instantaneous maximum) also are imposed based on 25 Pa. Code § 95.2(1). Oil and Grease is rarely detected at Outfall 001 (once during the last permit cycle). Oil-bearing wastewaters are subject to effluent limits for Oil and Grease (15 mg/L average monthly, 30 mg/L instantaneous maximum) pursuant to 25 Pa. Code § 95.2(2); those limits are the same as those in the current permit and will be maintained in the renewed permit.

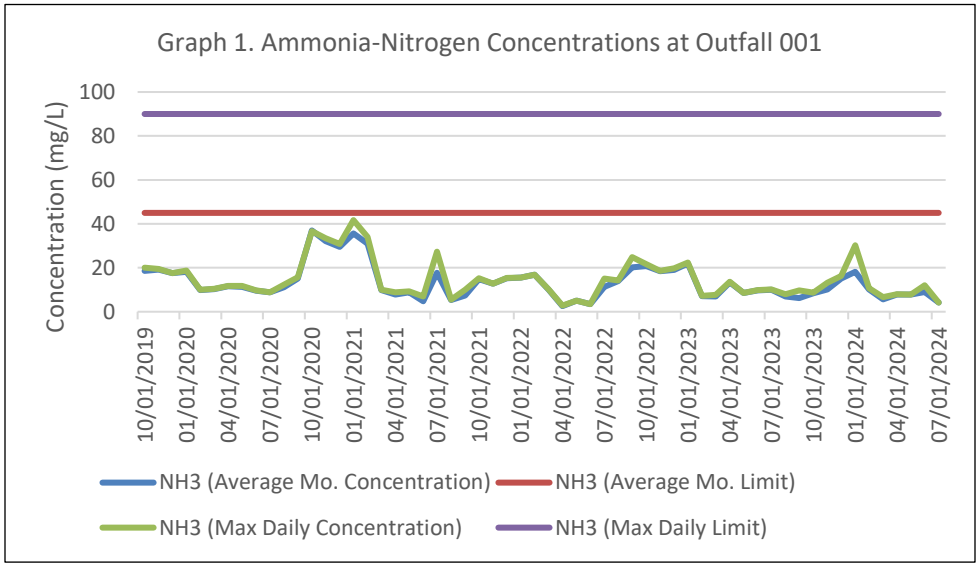
TBELs Based on Best Professional Judgement ("BPJ") of BAT

TBELs for Total Aluminum, Total Iron, TSS, and Total Nickel are retained from the previous permit based on anti-backsliding (40 CFR § 122.44). Those parameters serve as indicator parameters such that the level of treatment necessary to comply with TBELs for those parameters should adequately control other parameters present in the wastewater. In addition, reporting for nitrate will be required pursuant to 25 Pa. Code § 92a.61(b). As EPA stated in its July 2021 Statement of Basis for its proposed remedial alternative, "[c]hloride and nitrate are established as indicator parameters for release detection because they are primary contaminants associated with the disposal impoundments, and they are not associated with past coal mining impacts". Reporting for chloride is required already at Outfall 001.

Ammonia-Nitrogen and Total Residual Chlorine ("TRC")

DEP previously imposed TBELs for ammonia-nitrogen based on the identification of breakpoint chlorination as the Best Available Technology (BAT). Refer to **Attachment A** for DEP's previous rationale for ammonia-nitrogen TBELs. The rationale has not changed, so those TBELs will be maintained in the renewed permit.

DEP notes that the determination that breakpoint chlorination is BAT for ammonia-nitrogen removal does not obligate MAX to use breakpoint chlorination for such removal. MAX currently does not use breakpoint chlorination because such treatment is not necessary to comply with current effluent limits.



Based on the Department's previous determination that breakpoint chlorination is BAT for ammonia-nitrogen removal, TBELs for TRC were imposed in the previous permit in accordance with 25 Pa. Code § 92a.48(b)(2), which requires a monthly average TBEL of 0.5 mg/L for discharges from facilities using chlorination. A maximum daily TRC limit of 1.0 mg/L also was imposed in accordance with 40 CFR § 122.45(d), which requires effluent limits for continuous discharges to be expressed as both maximum daily and average monthly limits. The 1.0 mg/L limit is calculated using an average monthly limit multiplier of 2.0 consistent with the Department's procedure for converting average monthly effluent limitations to maximum daily effluent limitations as described in Chapter 2, Section C of the Department's "Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits" [Doc. No. 386-0400-001]. A condition of the permit requires sample analyses to determine compliance with the TRC limits only when chlorine is used. DMR data indicate that MAX complies with the existing TBELs for ammonia-nitrogen (see Graph 1).

Dichlorobromomethane

The Department calculated dichlorobromomethane WQBELs for the Bulger Facility's NPDES permit issued in 1995. The application for that permit indicated that all chlorinated organics present in the effluent were a byproduct of breakpoint chlorination used at that time. The dichlorobromomethane WQBELs were removed from the permit issued in 2001 because MAX had discontinued use of breakpoint chlorination by that time. As an indicator of the presence of chlorination byproducts that may be present due to the potential use of breakpoint chlorination as BPJ of BAT for ammonia-nitrogen removal, dichlorobromomethane monitoring was required by the permit, but only when chlorine is used. Such reporting will be maintained in the renewed permit.

Per- and Polyfluoroalkyl Substances (PFAS)

In February 2024, DEP implemented a new monitoring initiative for PFAS. PFAS are a family of thousands of synthetic organic chemicals that contain a chain of strong carbon-fluorine bonds. Many PFAS are highly stable, water- and oil-resistant, and exhibit other properties that make them useful in a variety of consumer products and industrial processes. PFAS are resistant to biodegradation, photooxidation, direct photolysis, and hydrolysis and do not readily degrade naturally; thus, many PFAS accumulate over time. According to the United States Department of Health and Human Services, Agency for Toxic Substances and Disease Registry (ATSDR), the environmental persistence and mobility of some PFAS, combined with decades of widespread use, have resulted in their presence in surface water, groundwater, drinking water, rainwater, soil, sediment, ice caps, outdoor and indoor air, plants, animal tissue, and human blood serum across the globe. ATSDR also reported that exposure to certain PFAS can lead to adverse human health impacts.[2] Due to their durability, toxicity, persistence, and pervasiveness, PFAS have emerged as significant pollutants of concern.

In accordance with Section II.I of DEP's "Standard Operating Procedure (SOP) for Clean Water Program – Establishing Effluent Limitations for Individual Industrial Permits" [SOP No. BCW-PMT-032] and under the authority of 25 Pa. Code § 92a.61(b), DEP has determined that monitoring for a subset of common/well-studied PFAS including Perfluorooctanoic acid (PFOA), Perfluorooctanesulfonic acid (PFOS), Perfluorobutanesulfonic acid (PFBS), and Hexafluoropropylene oxide dimer acid (HFPO-DA) is necessary to help understand the extent of environmental contamination by PFAS in the Commonwealth

[2] ATSDR, "Toxicological Profile for Perfluoroalkyls". Patrick N. Breysse, Ph.D., CIH Director, National Center for Environmental Health and Agency for Toxic Substances and Disease Registry Centers for Disease Control and Prevention, May 2021.

and the extent to which point source dischargers are contributors. SOP BCW-PMT-032 directs permit writers to consider special monitoring requirements for PFOA, PFOS, PFBS, and HFPO-DA in the following instances:

a. If sampling that is completed as part of the permit renewal application reveals a detection of PFOA, PFOS, HFPO-DA or PFBS (any of these compounds), the application manager will establish a quarterly monitoring requirement for PFOA, PFOS, HFPO-DA and PFBS (all of these compounds) in the permit.

b. If sampling that is completed as part of the permit renewal application demonstrates non-detect values at or below the Target QLs for PFOA, PFOS, HFPO-DA and PFBS (all of these compounds in a minimum of 3 samples), the application manager will establish an annual monitoring requirement for PFOA, PFOS, HFPO-DA and PFBS in the permit.

c. In all cases the application manager will include a condition in the permit that the permittee may cease monitoring for PFOA, PFOS, HFPO-DA and PFBS when the permittee reports non-detect values at or below the Target QL for four consecutive monitoring periods for each PFAS parameter that is analyzed. Use the following language: The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive monitoring periods indicate non-detects at or below Quantitation Limits of 4.0 ng/L for PFOA, 3.7 ng/L for PFOS, 3.5 ng/L for PFBS and 6.4 ng/L for HFPO-DA. When monitoring is discontinued, permittees should enter a No Discharge Indicator (NODI) Code of "GG" on DMRs.

MAX conducted its sampling before the NPDES permit application forms were updated to require sampling for PFOA, PFOS, PFBS, and HFPO-DA, so there are no PFAS data to evaluate. However, the potential for PFAS to be present can be estimated based on studies of various industries by EPA. The Bulger Facility operates in one of the industries EPA expects to be a source for PFAS: landfilling. In addition, the facility generally received wastes from the iron/steel and metal finishing industries. Metal finishing is another industry EPA expects to be a source for PFAS.[3] Therefore, quarterly reporting of PFOA, PFOS, PFBS, and HFPO-DA will be required consistent with Section II.I.b of SOP BCW-PMT-032.

As stated in Section II.I.c of the SOP, if non-detect values at or below DEP's Target QLs are reported for four consecutive monitoring periods (*i.e.*, four consecutive quarterly results in MAX's case), then the monitoring may be discontinued.

Table 2. TBELs, Effluent Standards, and Monitoring Requirements for Outfall 001

Parameter	Average Monthly (mg/L)	Maximum Daily (mg/L)	Instant Maximum (mg/L)
Flow (MGD)	Report	Report	—
Total Suspended Solids	30.0	60.0	75.0
Ammonia-Nitrogen	45.0	90.0	—
Oil and Grease	15.0	30.0	—
Total Residual Chlorine	0.5	1.0	—
Dichlorobromomethane	Report	Report	—
Iron, Total	3.5	7.0	8.75
Aluminum, Total	2.0	4.0	5.0
Nickel, Total	1.0	2.0	2.5
pH (s.u.)	6.0 (Instant. Min)	—	9.0
Perfluorooctanoic acid (PFOA)	—	Report (ng/L)	—
Perfluorooctanesulfonic acid (PFOS)	—	Report (ng/L)	—
Perfluorobutanesulfonic acid (PFBS)	—	Report (ng/L)	—
Hexafluoropropylene oxide dimer acid (HFPO-DA)	—	Report (ng/L)	—

001.B. Water Quality-Based Effluent Limitations (WQBELs)

Treatment Requirements for Discharges to Waters Affected by Abandoned Mine Drainage

[3] USEPA, "Memorandum to EPA Regional Water Division Directors, Regions 1-10: Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs". Radhika Fox, Assistant Administrator, Office of Water, December 5, 2022.

The Department previously determined that Raccoon Creek does not support aquatic life near Outfall 001 due to significant adverse impacts caused by acid mine drainage. Streams impacted by acid mine drainage are exempt from certain water quality considerations except in certain circumstances. The relevant regulation, 25 Pa. Code § 95.5(a), states the following:

(a) For wastes discharged to waters polluted by abandoned coal mine drainage, so that the applicable water quality criteria are not being met and designated water uses are not being achieved to the extent that aquatic communities are essentially excluded, and where the pollution cannot be remedied by controlling known, active discharges, the following degrees of treatment shall be provided: […]

(2) Industrial waste as defined in The Clean Streams Law (35 P. S. §§ 691.1—691.1001), shall achieve one of the following degrees of treatment, as appropriate, which are defined under 33 U.S.C.A. §§ 1314(b) and 1316(b):

(i) Best Conventional Pollutant Control Technology (BCT).
(ii) Best Available Technology Economically Achievable (BAT).
(iii) Standards of performance for new sources.

The intent of § 95.5(a) is for discharges to AMD-impacted streams with impaired aquatic life uses to be controlled based on technology considerations. Exceptions to this requirement are given by § 95.5(b), which states:

(b) A greater degree of treatment will be required to the waters where one of the following exists:

(1) The water quality of the receiving water has or is expected to improve significantly.
(2) The minimum degree of treatment required would cause pollution in downstream waters, so that designated stream uses in these downstream waters would not be achievable.

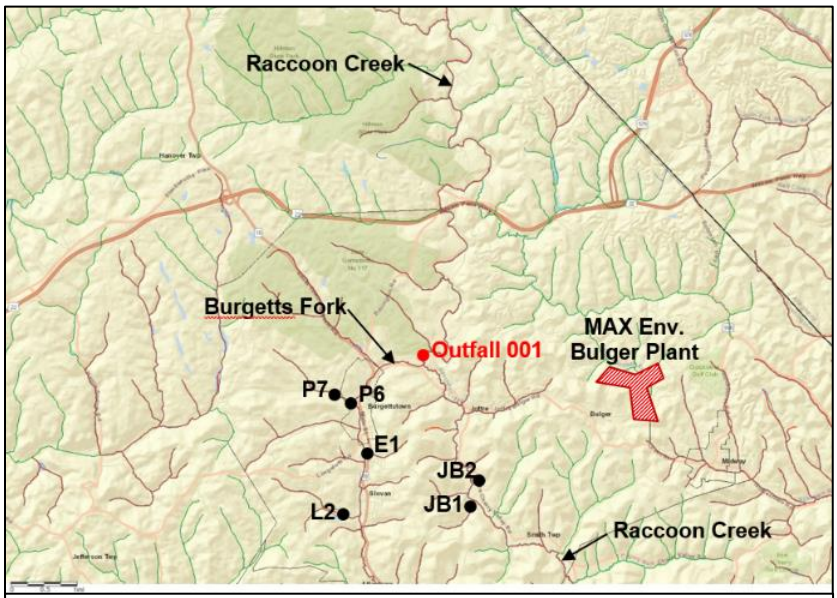


Figure 1. Mine Drainage Discharges in the Upper Raccoon Creek Watershed

Section 95.5 does not preclude the imposition of TMDL WQBELs because the only way for an impaired stream to be restored is for the causes of a stream's impairment to be addressed. In the case of Raccoon Creek, the impairment causes are abandoned deep mine discharges that contribute hundreds of tons of aluminum, iron, and manganese to the Raccoon Creek watershed each year. Many of those discharges are located upstream of Outfall 001 including the East Plum Run (P6) and West Plum Run (P7), Erie Mine (E1), and Langeloth Borehole (L2) discharges to Burgetts Fork, a tributary to Raccoon Creek; and the discharges from Joffre Boreholes 1 and 2 (JB1 and JB2) to Raccoon Creek. Outfall 001 is located about 0.15 miles downstream of the mouth of Burgetts Fork on Raccoon Creek (see Figure 1).

To date, three passive treatment systems have been installed for the L2, JB1, and JB2 discharges. The L2 system is an aerobic wetland system that was installed in 1999. Phase 1 of the JB1 system is an aerobic wetland system that was installed in 2006 and provides partial treatment of the largest AMD discharge in the Raccoon Creek watershed. Phase 2 of the JB1 treatment system would be needed to fully treat JB1. The JB2 system is a vertical flow wetland and settling pond that was installed in 2004. A comprehensive multi-discharge system is being considered to combine and relocate AMD discharges from various locations in the Burgetts Fork subwatershed through "inter-mine pool transfer" to one discharge point for treatment by one system. This proposed system, referred to as the "ELF System" for the Erie Mine (E1), Langeloth Mine (L2), and Francis-Patterson Mines (P7A) has undergone initial feasibility studies, but is not constructed. The ELF System also may reduce the degree of additional treatment needed for JB1 Phase 2.

The passive treatment systems are removing significant concentrations of AMD pollutants. However, the effluent concentrations for aluminum, iron, and manganese from those systems all exceed applicable water quality criteria—in some cases by one-to-two orders of magnitude. Furthermore, the P6, P7, and E1 discharges remain unaddressed. Therefore, the Department concludes that significant improvement in the quality of Raccoon Creek is not expected during the permit term—at least until several projects currently in development are completed (i.e., the proposed ELF System and Phase 2

of the JB1 System) and the remaining discharge that will not be addressed by the proposed ELF System (P6 – East Plum Run) are treated.

Evaluation of a "Greater Degree of Treatment"

Even though Outfall 001 is subject to BAT TBELs pursuant to 25 Pa. Code § 95.5(a), additional requirements are considered pursuant to 25 Pa. Code § 95.5(b)(2). As mentioned previously in this Fact Sheet, 25 Pa. Code § 95.5(b)(2) states that: "A greater degree of treatment will be required to the waters where […] the minimum degree of treatment required would cause pollution in downstream waters, so that designated stream uses in these downstream waters would not be achievable."

The Department interprets this to mean that if BAT TBELs will not assure attainment of designated stream uses downstream, then "a greater degree of treatment" than BAT may be necessary. To determine whether BAT TBELs are enough to prevent pollution downstream, Outfall 001 is modeled as a discharge to Raccoon Creek at river mile index 18.32. The location of that river mile index (about nineteen river miles downstream of Outfall 001) is not the point of first use (i.e., the point at which Raccoon Creek supports two taxa), but it is the point at which the Department determined that Raccoon Creek is attaining its designated uses. Recall that if a stream supports at least two taxa (among other criteria), then a use exists, but that use can be impaired or unimpaired. The allowance in § 95.5(a) for BAT TBELs for discharges to AMD-impacted waters limits that allowance to waters where aquatic life is essentially excluded; § 95.5(b)(2) requires further controls if a discharge would cause an impairment of a stream's designated use.

Toxics Management Spreadsheet Water Quality Modeling Program and Procedures for Evaluating Reasonable Potential

WQBELs are developed pursuant to Section 301(b)(1)(C) of the Clean Water Act and, per 40 CFR § 122.44(d)(1)(i), are imposed to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) that are or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality." The Department of Environmental Protection developed the DEP Toxics Management Spreadsheet (TMS) to facilitate calculations necessary to complete a reasonable potential (RP) analysis and determine WQBELs for discharges of toxic and nonconventional pollutants.

The TMS is a single discharge, mass-balance water quality modeling program for Microsoft Excel® that considers mixing, first-order decay, and other factors to determine WQBELs for toxic and nonconventional pollutants. Required input data including stream code, river mile index, elevation, drainage area, discharge flow rate, low-flow yield, and the hardness and pH of both the discharge and the receiving stream are entered into the TMS to establish site-specific discharge conditions. Other data such as reach dimensions, partial mix factors, and the background concentrations of pollutants in the stream also may be entered to further characterize the discharge and receiving stream. The pollutants to be analyzed by the model are identified by inputting the maximum concentration reported in the permit application or Discharge Monitoring Reports, or by inputting an Average Monthly Effluent Concentration (AMEC) calculated using DEP's TOXCONC.xls spreadsheet for datasets of 10 or more effluent samples. Pollutants with no entered concentration data and pollutants for which numeric water quality criteria in 25 Pa. Code Chapter 93 have not been promulgated are excluded from the modeling. If warranted, ammonia-nitrogen, CBOD-5, and dissolved oxygen are analyzed separately using DEP's WQM 7.0 model.

The TMS evaluates each pollutant by computing a wasteload allocation for each applicable criterion, determining the most stringent governing WQBEL, and comparing that governing WQBEL to the input discharge concentration to determine whether permit requirements apply in accordance with the following RP thresholds:

- Establish limits in the permit where the maximum reported effluent concentration or calculated AMEC equals or exceeds 50% of the WQBEL. Use the average monthly, maximum daily, and instantaneous maximum (IMAX) limits for the permit as recommended by the TMS (or, if appropriate, use a multiplier of 2 times the average monthly limit for the maximum daily limit and 2.5 times the average monthly limit for IMAX).
- For non-conservative pollutants, establish monitoring requirements where the maximum reported effluent concentration or calculated AMEC is between 25% - 50% of the WQBEL.
- For conservative pollutants, establish monitoring requirements where the maximum reported effluent concentration or calculated AMEC is between 10% - 50% of the WQBEL.

In most cases, pollutants with effluent concentrations that are not detectable at the level of DEP's Target Quantitation Limits are eliminated as candidates for WQBELs and water quality-based monitoring requirements.

Reasonable Potential Analysis and WQBEL Development for Outfall 001

Table 3. TMS Inputs for Outfall 001

Discharge Characteristics		
Parameter	**Value**	
Discharge Flow (MGD)	0.147	
Hardness (mg/L)	2,550	
Receiving Stream Characteristics		
Parameter	**Outfall 001**	**End of Segment**
Stream Code	33564	33564
River Mile Index	18.32	18.00
Drainage Area (mi^2)	133.00	133.50
Q_{7-10} (cfs)	3.31	3.32
Low-flow Yield (cfs/mi^2)	0.02488	0.02488
Elevation (ft)	905	904.5
Slope (ft/ft)	0.001	0.001

Discharges from Outfall 001 are evaluated based on the maximum concentrations reported on the permit renewal application or on DMRs. The TMS model is run for Outfall 001 with the modeled discharge and receiving stream characteristics shown in Table 3. Pollutants for which water quality criteria have not been promulgated (e.g., TSS, Oil and Grease, etc.) are excluded from the modeling.

Output from the TMS model is included in **Attachment B** to this Fact Sheet. As explained previously, the TMS compares the input discharge concentrations to the calculated WQBELs using DEP's Reasonable Potential thresholds to evaluate the need to impose WQBELs or monitoring requirements in the permit. The results of the modeling indicate that the water quality-based reporting requirements in Table 4 are needed for Outfall 001.

WQBELs for ammonia-nitrogen are not evaluated. As discussed in Section IV of DEP's "Implementation Guidance of Section 93.7 Ammonia Criteria" [Doc. No. 386-2000-022], ammonia toxicity is critical just below a discharge, so only mass balance (*i.e.*, dilution) variables are of concern for setting single discharge effluent limits. Based on that guidance, 25 Pa. Code § 95.5(a) and the impairment of Raccoon Creek indicate that ammonia-nitrogen WQBELs are not necessary because there is no expectation of near-field toxic effects in the impaired water and far-field modeling such as that conducted for toxics (nineteen river miles downstream at the point of use attainment) would not apply given that ammonia toxicity is generally a near-field effect.

Table 4. Water Quality-Based Effluent Limits for Outfall 001

Parameter	**Permit Limits**					**Maximum Reported Result (µg/L)** †	**Governing WQBEL**	**Target QL (µg/L)**
	Mass (lbs/day)		**Concentration (µg/L)**					
	Avg Mo.	**Max Daily**	**Avg Mo.**	**Max Daily**	**IMAX**			
Aluminum, Total	4.09	6.38	3,336	5,205	8.341	1,880	3,336	10
Arsenic, Total	Report	Report	Report	Report	Report	20	156	3
Mercury, Total	Report	Report	Report	Report	Report	0.138	0.78	0.2
Thallium, Total	0.005	0.007	3.73	5.82	9.33	10	3.73	2
~~Acrylamide~~	~~0.008~~	~~0.013~~	~~6.58~~	~~10.3~~	~~16.4~~	~~<10000~~	~~6.58~~	~~N/A~~

† Maximum concentration as reported on MAX's renewal application

MAX reported results for Acrylamide using an analytical reporting limit of 10000 µg/L. For modeling purposes, the TMS uses a Target QL of 0.1 µg/L for Acrylamide. The permit application instructions do not identify a Target QL for Acrylamide, so applicants are not held to the TMS's Target QL for Acrylamide. Also, according to the application, chemical additives containing Acrylamide are not used at the Bulger Facility. Therefore, the TMS's WQBELs for Acrylamide are not imposed.

The WQBELs and water quality-based reporting requirements for Total Aluminum, Total Arsenic, Total Mercury, and Total Thallium are based on detected results. Aluminum is subject to more stringent limits that are already in effect and will be maintained in the renewed permit based on the Raccoon Creek Watershed TMDL. Total Thallium is reported monthly under MAX's current permit and, out of 58 monthly results reported between from October 2019 through July 2023, thallium was detected three times. Total Thallium is evidently not characteristic of MAX's effluent since it is usually not present in the effluent, but the detected results all exceed the calculated WQBELs and, with respect to the results where thallium was not detected, MAX's lab used a reporting limit of 10 µg/L that is higher than both the calculated WQBELs and DEP's Target QL for Thallium (2 µg/L). Since it is unknown whether MAX can routinely comply with the WQBELs for Total Thallium, a schedule of compliance will be included in the permit in accordance with 25 Pa. Code § 92a.51. Under 25 Pa. Code § 92a.51(a), schedules of compliance are permissible when an existing discharge is not in compliance with effluent limitations.

The Department has adopted a new approach to determine the need for, and duration of, schedules of compliance by sending a survey to applicants prior to publishing a draft permit. In this case, because sampling using lower reporting limits may demonstrate that MAX will routinely comply with WQBELs for Total Thallium given that Total Thallium is normally not detected in the effluent but at a higher reporting limit than DEP's Target QL, the survey will accompany the draft permit. A default schedule of two years will be included in the draft permit with continued reporting for Total Thallium during the interim two-year period before the WQBELs take effect. The proposed schedule may be adjusted depending on MAX's survey

responses. The Department notes that § 92a.51(a) requires compliance with final enforceable effluent limits "as soon as practicable", which may be less than two years, but in no case longer than five years. Consistent with § 92a.51(a), the permit will require MAX to take specific steps to address potential effluent violations in the shortest, reasonable period of time.

Total Dissolved Solids (TDS), Chloride, Bromide, and Sulfate

DEP ended its monitoring initiative for TDS, chloride, bromide, and sulfate in early 2021 after approximately seven years after determining that enough data were collected to evaluate the effects of point source discharges of those pollutants on waters of the Commonwealth.

Consistent with DEP's ceased monitoring initiative, the TMS no longer recommends reporting for TDS, chloride, bromide, and sulfate unless reasonable potential exists. As the modeling results in **Attachment B** show, there is no reasonable potential for discharges of TDS, chloride, bromide, and sulfate from Outfall 001 to cause or contribute to an in-stream excursion above water quality criteria. Therefore, reporting requirements for TDS, bromide, and sulfate will be removed from Outfall 001. The removal of those reporting requirements is consistent with 40 CFR §§ 122.44(l)(1) and 122.62(a)(2) regarding the allowance for backsliding based on new information.

Reporting for chloride will continue to be required because chloride is one of the primary contaminants associated with the disposal impoundments as reported in EPA's July 2021 "Statement of Basis" for its proposed remedial alternative.

Raccoon Creek Watershed TMDL

MAX's Bulger Facility was not assigned waste load allocations by the Raccoon Creek Watershed TMDL. Discharges that do not have TMDL waste load allocations can be accommodated by permitting the discharges at criteria levels or by revising the TMDL to assign waste load allocations. In the case of the latter option, it is likely that a discharge's waste load allocations would be equivalent to water quality criteria because load available to allocate to MAX was already allocated to other point and non-point sources.

As explained previously, 25 Pa. Code § 95.5 does not preclude the imposition of WQBELs if treatment to comply with BAT is insufficient to prevent downstream pollution. Effluent data show that discharges from Outfall 001 do not contribute to the impairment of Raccoon Creek because effluent concentrations of the TMDL's metals are generally less than water quality criteria. Nevertheless, 40 CFR § 122.44(d)(1)(vii)(B) requires that:

> (vii) When developing water quality-based effluent limits under this paragraph the permitting authority shall ensure that: […]
>
> (B) Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7 [regarding TMDL development].

To comply with 40 CFR § 122.44(d)(1)(vii)(B) and given that there are no waste load allocations for Outfall 001 in the TMDL, effluent limits equivalent to water quality criteria were previously imposed at Outfall 001 for the TMDL's pollutants of concern (aluminum, iron, and manganese).

The methods used to implement water quality criteria are described in 25 Pa. Code §§ 96.3 and 96.4. In addition, DEP's "Water Quality Toxics Management Strategy" [Doc. No. 361-2000-003] addresses design conditions in detail (Table 1 in that document), including the appropriate durations to assign to water quality criteria. The design duration for Criteria Maximum Concentration (CMC) criteria is 1 hour (acute). The design duration for Criteria Continuous Concentration (CCC) criteria is 4 days (chronic). The design duration for Threshold Human Health (THH) criteria is 30 days (chronic). The design duration for Cancer Risk Level (CRL) criteria is 70 years (chronic).

The 750 µg/L aluminum criterion in 25 Pa. Code § 93.8c is a CMC (acute) criterion. Therefore, 750 µg/L is imposed as a maximum daily effluent limit. There is no CCC criterion for aluminum necessitating the imposition of a more stringent average monthly limit. Imposing 750 µg/L as both a maximum daily and average monthly limit is protective of water quality uses.

The 1.5 mg/L iron criterion is given as a 30-day average in 25 Pa. Code § 93.7(a). Therefore, 1.5 mg/L is imposed as an average monthly limit and the maximum daily effluent limit is calculated using a multiplier of two times the average monthly

limit based on DEP's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits*.

The 1 mg/L potable water supply criterion for manganese in 25 Pa. Code § 93.7(a) is a human health criterion (chronic). Per Table 1 of the *Water Quality Toxics Management Strategy*, the duration for a THH criterion is 30 days. Therefore, an average monthly effluent limit of 1 mg/L is imposed, and the maximum daily effluent limit is calculated using a multiplier of two times the average monthly limit consistent with the technical guidance cited above.

The TMDL limits are summarized in Table 5.

Table 5. TMDL WQBELs for Outfall 001

Parameter	Average Monthly (mg/L)	Maximum Daily (mg/L)	Instant. Maximum (mg/L)
Aluminum, Total	0.75	0.75	0.75
Iron, Total	1.5	3.0	3.75
Manganese, Total	1.0	2.0	2.5

IMAX limits are calculated using an average monthly limit multiplier of 2.5.

Only aluminum, iron, and manganese limits are imposed because the TMDL does not directly limit sediment and pH. The TMDL used a surrogate approach for both of those constituents by which reductions of in-stream concentrations of aluminum, iron, and manganese will result in acceptable reductions of sediment and mitigation of acidic pH.

MAX's long-term average aluminum concentration is 0.165 mg/L and long-term average iron concentration is 0.07 mg/L. Manganese is not limited as a requirement of the current permit (apparently in error because TMDL WQBELs for manganese equivalent to those in Table 5 were derived in the fact sheet for the previous permit, but were not included in the issued permit) but the average and maximum manganese concentrations reported on the permit renewal application—0.689 mg/L and 1.520 mg/L, respectively—comply with the TMDL WQBELs for manganese. Based on those results, there will be no schedule of compliance for the total manganese WQBELs.

001.C. Effluent Limitations and Monitoring Requirements for Outfall 001

In accordance with 25 Pa. Code §§ 92a.12 and 92a.61 and anti-backsliding requirements under 40 CFR § 122.44(l) (incorporated by reference in Pennsylvania regulations at 25 Pa. Code § 92a.44), effluent limits at Outfall 001 are the more stringent of TBELs, WQBELs, regulatory effluent standards, and monitoring requirements developed for this permit renewal; and effluent limits and monitoring requirements from the previous permit, subject to any exceptions to anti-backsliding discussed previously in this Fact Sheet. Applicable effluent limits and monitoring requirements are summarized in the table below.

Table 6. Effluent Limits and Monitoring Requirements for Outfall 001

Parameter	Mass (pounds)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	Report	Report	—	—	—	25 Pa. Code § 92a.61(d)(1)
pH (S.U.)	—	—	6.0 (Inst. Min)	—	9.0	25 Pa. Code § 92a.48(a)(2) & 95.2(1)
Total Residual Chlorine †	—	—	0.5	1.0	1.25	25 Pa. Code § 92a.48(b)(2)
Total Suspended Solids	—	—	30.0	60.0	75.0	TBELs; 25 Pa. Code § 92a.48(a)(3)
Oil and Grease	—	—	15.0	30.0	—	25 Pa. Code § 95.2(2)
Ammonia-Nitrogen	—	—	45.0	90.0	—	TBELs; 25 Pa. Code § 92a.48(a)(3); 40 CFR § 122.44(l)
Nitrate as N	—	—	—	Report	—	25 Pa. Code § 92a.61(b)
Aluminum, Total	—	—	0.75	0.75	0.75	TMDL WQBELs; 40 CFR § 122.44(d)(1)(vii)(B)
Arsenic, Total	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Iron, Total	—	—	1.5	3.0	3.75	TMDL WQBELs; 40 CFR § 122.44(d)(1)(vii)(B)

Table 6 (cont'd). Effluent Limits and Monitoring Requirements for Outfall 001

Parameter	Mass (pounds)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Manganese, Total	—	—	1.0	2.0	2.5	TMDL WQBELs; 40 CFR § 122.44(d)(1)(vii)(B)
Mercury, Total	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Nickel, Total	—	—	1.0	2.0	2.5	TBELs; 25 Pa. Code § 92a.48(a)(3); 40 CFR § 122.44(l)
Thallium, Total †† (µg/L)	—	—	3.73	5.82	9.33	WQBELs; 25 Pa. Code §§ 92a.12(a)(1) & 96.4(b)
Chloride	—	—	—	Report	—	25 Pa. Code § 92a.61(b)
Dichlorobromomethane †	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Perfluorooctanoic acid (PFOA) (ng/L)	—	—	—	Report	—	25 Pa. Code § 92a.61(b)
Perfluorooctanesulfonic acid (PFOS) (ng/L)	—	—	—	Report	—	25 Pa. Code § 92a.61(b)
Perfluorobutanesulfonic acid (PFBS) (ng/L)	—	—	—	Report	—	25 Pa. Code § 92a.61(b)
Hexafluoropropylene oxide dimer acid (HFPO-DA) (ng/L)	—	—	—	Report	—	25 Pa. Code § 92a.61(b)

† Sampling is conditional on the use of chlorine in the treatment process.
†† Parameter is subject to interim two-year monitoring and reporting.

Monitoring frequencies and sample types are imposed based on Chapter 6, Table 6-4 "Self-Monitoring Requirements for Industrial Dischargers" in DEP's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* and those specified in the current permit. Ammonia-Nitrogen, Oil and Grease, TRC, dichlorobromomethane, and pH will require grab sampling 2/month (conditionally for TRC and dichlorobromomethane). Chloride and Nitrate will require grab sampling 1/month. TSS, Total Aluminum, Total Iron, Total Manganese, Total Mercury, Total Nickel, and Total Thallium will require 24-hour composite sampling 2/month. PFAS parameters will require 1/quarter grab sampling. Flow should be measured continuously.

Development of Effluent Limitations

Outfall Nos. 004, 005, 006, 007, 013, 014, & 015 **Design Flow (MGD)** Variable
Wastewater Description: Storm water

Discharges from Outfalls 004, 005, 006, 007, 013, 014, and 015 are currently permitted as consisting solely of "uncontaminated storm water runoff." "Uncontaminated" is not a term of art in DEP's regulations, but a discharge's status as "uncontaminated" generally corresponds to EPA's conditional exclusion for 'no exposure' of industrial activities and materials to storm water (40 CFR 122.26(g)).[4]

SWO.A. Technology-Based Effluent Limitations (TBELs)

For this permit renewal, MAX certified that storm water discharges from Outfalls 004, 005, 006, 007, 013, 014, and 015 are not exposed to industrial activities consistent with EPA's conditional exclusion for "no exposure" under 40 CFR § 122.26(g) (incorporated by reference at 25 Pa. Code § 92a.32(a)) and DEP's requirements under 25 Pa. Code § 92a.32(b). Pursuant to 40 CFR § 122.26(g)(3)(ii), the conditional exclusion from the requirement for an NPDES permit is only available on a facility-wide basis but § 122.26(g)(3)(ii) acknowledges that if a facility has some discharges of storm water that would otherwise be "no exposure" discharges, then the requirements of an individual permit can be adjusted accordingly.

Storm water analytical results from that application are summarized in Table 7.

Table 7. Storm Water Analytical Results for the Bulger Facility's Storm Water Outfalls

Parameter	004	005	006	007	013	014	015	No Exposure Threshold (mg/L)	PAG-03 Benchmark (mg/L)
Oil and Grease	<5.05	<5.15	<4.90	<4.95	<4.95	<5.25	<5.00	≤ 5.0	N/A
BOD_5	<3.00	<3.00	19.3	<3.00	13.9	17.5	<3.00	≤ 10.0	30
COD	49.6	22.5	33.8	22.5	90.1	22.5	18.0	≤ 30.0	120
TSS	72.0	12.0	4.80	<2.00	170	2.80	25.0	≤ 30.0	100
Total Nitrogen	<1.000	<0.5000	0.7274	<0.5000	1.074	<0.5000	<0.5000	≤ 2.0 (Tot. N)	N/A
Total Phosphorus	0.192	0.0330	0.118	0.0300	0.742	0.0610	0.0950	≤ 1.0	2.0
pH (s.u.)	7.36	7.78	8.04	7.66	8.15	7.05	7.27	6.0 – 9.0 s.u.	6.0 – 9.0 s.u.

DEP observes that some of the parameters at some of the outfalls exceed No Exposure thresholds and that TSS at Outfall 013 exceeds the PAG-03 benchmark that would apply to storm water discharges that are exposed to industrial activities. However, there are few industrial activities occurring at the site now that the impoundments have been re-closed. Module 1 of the permit application does not identify any materials or activities that are exposed to precipitation at any of the outfalls except Outfall 014, which encompasses a garage and tanks/containers for heating oil, kerosene, waste oil, and related maintenance materials (gasoline, oils, paint). As aerial imagery of the site shows, most storm water discharges are in remote wooded areas. MAX should ensure that BMPs are implemented to control pollutants in the discharges—whether runoff is exposed to industrial activities or not.

Additionally, the application instructions require storm water analyses for all pollutants listed in the current permit at a process wastewater outfall and any pollutants that are considered the cause of impaired waters. Based on those criteria, analyses for all parameters listed at Outfall 001 also are required for MAX's storm water discharges. Since results for additional parameters were not provided with the application, analytical results for those pollutants will be required by a condition of the permit.

[4] 40 CFR 122.26(g): *Conditional exclusion for "no exposure" of industrial activities and materials to storm water*. Discharges composed entirely of storm water are not storm water discharges associated with industrial activity if there is "no exposure" of industrial materials and activities to rain, snow, snowmelt and/or runoff, and the discharger satisfies the conditions in paragraphs (g)(1) through (g)(4) of this section. "No exposure" means that all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product.

SWO.B. Water Quality-Based Effluent Limitations (WQBELs)

DEP does not develop WQBELs for storm water discharges except in limited circumstances (e.g., WQBELs based on a TMDL's waste load allocation). Even though no mathematical modeling is performed, conditions in Part C of the permit will ensure compliance with water quality standards through a combination of best management practices including pollution prevention and exposure minimization, good housekeeping, erosion and sediment control, and spill prevention and response.

SWO.C. Effluent Limitations and Monitoring Requirements for Storm Water Outfalls

No effluent limits or monitoring requirements will be imposed for Outfalls 004, 005, 006, 007, 013, 014, and 015. Those outfalls will be listed in the permit as authorized discharges and will be subject to the Part C conditions described in Sections SWO.A and SWO.B, above.

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment B)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☐	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☒	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
☐	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, 386-2000-020, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
☐	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, 386-2000-010, 3/1999.
☐	Design Stream Flows, 386-2000-003, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP: Standard Operating Procedure for Clean Water Program New and Reissuance Industrial Waste and Industrial Stormwater Individual NPDES Permit Applications, SOP No. BCW-PMT-001, February 5, 2024, Version 1.7.
☒	SOP: Standard Operating Procedure for Clean Water Program Establishing Effluent Limitations for Individual Industrial Permits, SOP No. BCW-PMT-032, February 5, 2024, Version 1.7.
☐	Other:

ATTACHMENT A

BPJ of BAT for Ammonia-Nitrogen

The following rationale was used to develop the Ammonia-Nitrogen TBELs:

The NPDES permit issued on February 2, 2001 ("2001 Permit") imposed as the effluent limitation for ammonia-nitrogen the following: monitor and report the Average Monthly concentration and 125 mg/L as an Instantaneous Maximum limit. Those requirements were re-imposed based on the NPDES permit issued on September 29, 1995 ("1995 Permit"). It was determined during the Department's review of the application for the 1995 Permit that water quality limits for ammonia-nitrogen were not necessary since Raccoon Creek, at the point of discharge, does not support aquatic life. The modeling conducted during review of the permit indicated ammonia-nitrogen decays sufficiently at the point of first use. Therefore, it was determined that Mill Service (now MAX Environmental), was no longer required to operate the breakpoint chlorination system. That decision was justified based on the following:

- It was not necessary to operate the system to comply with the ammonia-nitrogen limits. The previous water quality limits were no longer valid.
- Breakpoint chlorination generates chlorinated organics that must be regulated.
- At the time, it was determined that it was not practical to add chlorine and then dechlorinate prior to discharge.
- Breakpoint chlorination would have caused a buildup of TDS in the effluent. Based on the chemical used in the breakpoint chlorination system (calcium oxide), the reduction in TDS per unit of ammonia-nitrogen consumed by not using breakpoint chlorination was about 12:1.

DEP reversed its determination for the previous permit for the following reasons:

- As required by 25 Pa. Code § 92a.12, the Department is required to impose the more stringent of water quality-based or technology-based effluent limitations. Past NPDES permits imposed ammonia-nitrogen TBELs based on BPJ of BAT, which control in the permit irrespective of the need for water quality-based effluent limits.
- 40 CFR § 122.44 requires the Department to issue a permit with effluent limits that are at least as stringent in those in the previous permit. Previous permits contained ammonia-nitrogen limits more stringent than those contained in the 1995 Permit.
- Dechlorination is a practical treatment technology for chlorinated wastewaters.
- TDS is a concern at potable water supply intakes. In past permits, an evaluation was conducted on the need to impose TDS limits on the discharge. Based on the Department's review of that information, it is unlikely that enough TDS would be generated from operation of a breakpoint chlorination system to result in a TDS criteria excursion at the first downstream potable water intake (on the Ohio River).

As indicated above, a historical file review of the facility was conducted. The following information was discovered:

- The permittee was authorized by Water Quality Management Permit No. 6377205 to construct the current treatment system at the facility, which included breakpoint chlorination.
- The permittee was originally authorized to discharge to Little Raccoon Run.
- Water Quality Management Permit No. 6377205 limited the discharge of the Ammonia-Nitrogen to 7.5 lbs/day as an Average Monthly limit and 15 lbs/day as a Maximum Daily limit.
- On July 5, 1985, the Department issued NPDES Permit No. PA0044326, which imposed ammonia-nitrogen limits of 15 mg/l and 45 mg/l as the average monthly and instantaneous maximum, respectively. According to the May 9, 1984 Fact Sheet/Statement of Basis, these limits were imposed as BPJ TBELs based on the summer limits from Water Quality Management Permit No. 6377205. The April 2, 1985 Addendum to the Fact Sheet/Statement of Basis further indicates that the discharge point was relocated from Little Raccoon Run to Raccoon Creek. The effluent limitations for ammonia-nitrogen are based on BPJ of BAT (similar to MAX's Yukon facility, NPDES Permit No. PA0027715). Also, due to the wide variations in the discharge flow, no mass limitations were imposed since concentration limits will ensure a better means of regulatory control.

- The February 1, 1990 Fact Sheet/Statement of Basis re-imposed the ammonia-nitrogen limits as BPJ TBELs based on the use of breakpoint chlorination.

- The permittee's draft comment letter, dated March 19, 1990, indicated that the permittee believed the ammonia-nitrogen limits were established to satisfy water quality criteria rather than BAT.

- The May 16, 1990 Addendum to the Fact Sheet/Statement of Basis stated that the permittee was able to meet the limits for ammonia-nitrogen and therefore, in accordance with EPA's anti-backsliding policy, the ammonia-nitrogen limits were not changed.

- The permit file contains stream evaluations conducted in the 1980s that indicated Raccoon Creek did not support aquatic life.

As is evident from the information found in the historical file review, the original imposition of ammonia-nitrogen limits contained in the NPDES permit was based on BPJ of BAT. It is also evident that the permittee did not agree that the limits were technology-based. Therefore, given the history of this issue and the requirements to evaluate technology-based effluent limitations, the Department is revisiting the need for ammonia-nitrogen limitations.

40 CFR § 125.3(c) provides the Department with the authority to impose technology-based limits by applying EPA-promulgated effluent limitations developed under Section 304 of the Clean Water Act or on a case-by-case basis pursuant to the Department's Best Professional Judgement. As previously stated, EPA has not promulgated effluent limitations for this type of facility. Therefore, technology-based limits for this facility were evaluated using a case-by-case approach or BPJ.

In order to evaluate BPJ limits, the company's sister facility, Yukon, was reviewed. The Yukon facility is very similar to the Bulger facility. Both facilities accept or accepted spent pickle liquor from iron and steel, glass manufacturing wastes, and other facilities' wastes for treatment and disposal at the site. Both facilities collect leachate and contaminated storm water runoff for treatment and discharge. Both facilities discharge to streams that do not require water quality-based effluent limitations for ammonia-nitrogen. A difference between the two sites is that the Yukon facility is required to pump and treat mine pool water.

The Yukon facility discharges to a stream that does not require the imposition of water quality-based effluent limitations for ammonia-nitrogen. The Department had historically required the treatment of ammonia-nitrogen at the Yukon facility. However, over the years, there was disagreement between the Department and Mill Service over the need for treatment and, subsequently, the level of treatment required. Eventually, after years of negotiations, in 1990, the Department and Mill Service entered into a Consent Order and Agreement ("CO&A") to address numerous issues at the site including the ammonia-nitrogen effluent limitations. Based on the requirements of the CO&A, the Yukon NPDES permit imposes BPJ effluent limitations for ammonia-nitrogen of 45 mg/l and 90 mg/l for average monthly and instantaneous maximum, respectively.

40 CFR §§ 125.3(c)(2) and (d)(3) contains the requirements for imposing BPJ of BAT effluent limitations. Based on information made available to the Department, the Department has determined that a monthly ammonia-nitrogen effluent limitation of 45 mg/l and an instantaneous maximum effluent limitation of 90 mg/l are BPJ of BAT. The following will provide justification for BPJ of BAT effluent limitations for ammonia-nitrogen.

- Mill Service conducted a treatability study in 1990 and in the early 1980s for ammonia-nitrogen at both the Bulger and Yukon facilities. It was determined at those times that the best technology for reduction of ammonia-nitrogen at these sites was breakpoint chlorination. It was proven that both air stripping and biological treatment was not feasible.

- In development of the effluent limitation, the age of equipment and facilities involved were considered. The process employed was considered. The engineering aspects of the application of various types of control techniques were considered. Process changes were considered. The cost of achieving such effluent reduction was considered. Non-water quality environmental impacts (including energy requirements) were considered.

- Since a breakpoint chlorination system was installed and was operated at the facility in the past, the requirement for MAX to operate the system should not be a burden. Further, since the system is currently operated at another facility owned and operated by MAX that has very similar wastewaters characteristics, it is not overly burdensome to require the same level of treatment for this facility.

ATTACHMENT B

Toxics Management Spreadsheet Results for Outfall 001

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **MAX Environmental - Bulger Facility** NPDES Permit No.: **PA0044326** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Leachate, groundwater, and storm water**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.147	2550	7.7						

					0 if left blank		*0.5 if left blank*		*0 if left blank*			*1 if left blank*	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		4840									
	Chloride (PWS)	mg/L		2170									
	Bromide	mg/L		0.523									
	Sulfate (PWS)	mg/L		749									
	Fluoride (PWS)	mg/L		2.36									
Group 2	Total Aluminum	µg/L		1880									
	Total Antimony	µg/L	<	0.348									
	Total Arsenic	µg/L		20									
	Total Barium	µg/L		79.1									
	Total Beryllium	µg/L	<	0.676									
	Total Boron	µg/L		117									
	Total Cadmium	µg/L		0.651									
	Total Chromium (III)	µg/L		8.93									
	Hexavalent Chromium	µg/L		1.6									
	Total Cobalt	µg/L		16.3									
	Total Copper	µg/L		4.62									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	6									
	Dissolved Iron	µg/L		20									
	Total Iron	µg/L		195									
	Total Lead	µg/L		1.17									
	Total Manganese	µg/L		1520									
	Total Mercury	µg/L		0.138									
	Total Nickel	µg/L		160									
	Total Phenols (Phenolics) (PWS)	µg/L	<	25									
	Total Selenium	µg/L		2.5									
	Total Silver	µg/L	<	1.37									
	Total Thallium	µg/L		10									
	Total Zinc	µg/L		55.7									
	Total Molybdenum	µg/L		1.93									
	Acrolein	µg/L	<	1.95									
	Acrylamide	µg/L	<	10000									
	Acrylonitrile	µg/L	<	0.51									
	Benzene	µg/L	<	0.43									
	Bromoform	µg/L	<	0.34									

Group 3	Carbon Tetrachloride	µg/L	<	0.51										
	Chlorobenzene	µg/L		0.21										
	Chlorodibromomethane	µg/L	<	0.39										
	Chloroethane	µg/L	<	0.42										
	2-Chloroethyl Vinyl Ether	µg/L	<	4										
	Chloroform	µg/L	<	0.51										
	Dichlorobromomethane	µg/L	<	1										
	1,1-Dichloroethane	µg/L	<	0.42										
	1,2-Dichloroethane	µg/L	<	0.39										
	1,1-Dichloroethylene	µg/L	<	0.33										
	1,2-Dichloropropane	µg/L	<	0.42										
	1,3-Dichloropropylene	µg/L	<	0.33										
	1,4-Dioxane	µg/L	<	3										
	Ethylbenzene	µg/L	<	0.27										
	Methyl Bromide	µg/L	<	0.46										
	Methyl Chloride	µg/L	<	0.36										
	Methylene Chloride	µg/L	<	0.45										
	1,1,2,2-Tetrachloroethane	µg/L	<	0.36										
	Tetrachloroethylene	µg/L	<	0.39										
	Toluene	µg/L	<	0.33										
	1,2-trans-Dichloroethylene	µg/L	<	0.39										
	1,1,1-Trichloroethane	µg/L	<	0.38										
	1,1,2-Trichloroethane	µg/L	<	0.24										
	Trichloroethylene	µg/L	<	0.46										
	Vinyl Chloride	µg/L	<	0.46										
Group 4	2-Chlorophenol	µg/L		0.21										
	2,4-Dichlorophenol	µg/L	<	0.25										
	2,4-Dimethylphenol	µg/L	<	0.26										
	4,6-Dinitro-o-Cresol	µg/L	<	0.9										
	2,4-Dinitrophenol	µg/L	<	0.86										
	2-Nitrophenol	µg/L	<	0.25										
	4-Nitrophenol	µg/L	<	0.19										
	p-Chloro-m-Cresol	µg/L		0.75										
	Pentachlorophenol	µg/L	<	0.97										
	Phenol	µg/L		0.68										
	2,4,6-Trichlorophenol	µg/L	<	0.24										
Group 5	Acenaphthene	µg/L	<	0.26										
	Acenaphthylene	µg/L	<	0.22										
	Anthracene	µg/L	<	0.13										
	Benzidine	µg/L	<	0.35										
	Benzo(a)Anthracene	µg/L	<	0.21										
	Benzo(a)Pyrene	µg/L	<	0.29										
	3,4-Benzofluoranthene	µg/L	<	0.31										
	Benzo(ghi)Perylene	µg/L	<	0.32										
	Benzo(k)Fluoranthene	µg/L	<	0.4										
	Bis(2-Chloroethoxy)Methane	µg/L	<	0.15										
	Bis(2-Chloroethyl)Ether	µg/L	<	0.25										
	Bis(2-Chloroisopropyl)Ether	µg/L	<	0.34										
	Bis(2-Ethylhexyl)Phthalate	µg/L		1.1										
	4-Bromophenyl Phenyl Ether	µg/L	<	0.19										
	Butyl Benzyl Phthalate	µg/L	<	0.38										
	2-Chloronaphthalene	µg/L	<	0.28										
	4-Chlorophenyl Phenyl Ether	µg/L	<	0.29										
	Chrysene	µg/L	<	0.45										
	Dibenzo(a,h)Anthrancene	µg/L	<	0.28										
	1,2-Dichlorobenzene	µg/L	<	0.32										
	1,3-Dichlorobenzene	µg/L		0.25										
	1,4-Dichlorobenzene	µg/L		0.29										
	3,3-Dichlorobenzidine	µg/L	<	0.13										
	Diethyl Phthalate	µg/L	<	0.27										
	Dimethyl Phthalate	µg/L	<	0.23										
	Di-n-Butyl Phthalate	µg/L		0.5										
	2,4-Dinitrotoluene	µg/L	<	0.77										

	2,6-Dinitrotoluene	µg/L	<	0.32										
	Di-n-Octyl Phthalate	µg/L	<	0.28										
	1,2-Diphenylhydrazine	µg/L	<	0.2										
	Fluoranthene	µg/L	<	0.35										
	Fluorene	µg/L	<	0.25										
	Hexachlorobenzene	µg/L	<	0.25										
	Hexachlorobutadiene	µg/L	<	0.27										
	Hexachlorocyclopentadiene	µg/L	<	0.22										
	Hexachloroethane	µg/L		0.26										
	Indeno(1,2,3-cd)Pyrene	µg/L	<	0.25										
	Isophorone	µg/L	<	0.23										
	Naphthalene	µg/L	<	0.25										
	Nitrobenzene	µg/L	<	0.26										
	n-Nitrosodimethylamine	µg/L	<	0.4										
	n-Nitrosodi-n-Propylamine	µg/L	<	0.31										
	n-Nitrosodiphenylamine	µg/L	<	0.27										
	Phenanthrene	µg/L	<	0.21										
	Pyrene	µg/L	<	0.16										
	1,2,4-Trichlorobenzene	µg/L	<	0.17										
Group 6	Aldrin	µg/L	<	0.0175										
	alpha-BHC	µg/L	<	0.0305										
	beta-BHC	µg/L	<	0.0565										
	gamma-BHC	µg/L	<	0.0135										
	delta BHC	µg/L	<	0.0302										
	Chlordane	µg/L	<	0.626										
	4,4-DDT	µg/L	<	0.0165										
	4,4-DDE	µg/L	<	0.0245										
	4,4-DDD	µg/L	<	0.0165										
	Dieldrin	µg/L	<	0.018										
	alpha-Endosulfan	µg/L	<	0.084										
	beta-Endosulfan	µg/L	<	0.0085										
	Endosulfan Sulfate	µg/L	<	0.0185										
	Endrin	µg/L	<	0.031										
	Endrin Aldehyde	µg/L	<	0.065										
	Heptachlor	µg/L	<	0.0278										
	Heptachlor Epoxide	µg/L	<	0.0132										
	PCB-1016	µg/L	<	0.0522										
	PCB-1221	µg/L	<	0.166										
	PCB-1232	µg/L	<	0.115										
	PCB-1242	µg/L	<	0.119										
	PCB-1248	µg/L	<	0.0758										
	PCB-1254	µg/L	<	0.129										
	PCB-1260	µg/L	<	0.221										
	PCBs, Total	µg/L	<	0.878										
	Toxaphene	µg/L	<	0.104										
	2,3,7,8-TCDD	ng/L	<											
Group 7	Gross Alpha	pCi/L												
	Total Beta	pCi/L	<											
	Radium 226/228	pCi/L	<											
	Total Strontium	µg/L	<											
	Total Uranium	µg/L	<											
	Osmotic Pressure	mOs/kg												

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

MAX Environmental - Bulger Facility, NPDES Permit No. PA0044326, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Raccoon Creek**

No. Reaches to Model: **1**

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	033564	18.32	905	133	0.001		Yes
End of Reach 1	033564	18	904.5	133.5	0.001		Yes

$Q_{7\text{-}10}$

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	18.32	0.02488										100	7		
End of Reach 1	18	0.02488													

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	18.32														
End of Reach 1	18														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

MAX Environmental - Bulger Facility, NPDES Permit No. PA0044326, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☑ ***Hydrodynamics***

$Q_{7\text{-}10}$

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
18.32	3.31		3.31	0.227	0.001	0.726	38.305	52.759	0.127	0.154	90.004
18	3.32		3.32148								

Q_h

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
18.32	21.15		21.15	0.227	0.001	1.602	38.305	23.907	0.348	0.056	30.694
18	21.214		21.21								

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.408 Analysis Hardness (mg/l): 453.01 Analysis pH: 7.05

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	5,205	
Total Antimony	0	0		0	1,100	1,100	7,634	
Total Arsenic	0	0		0	340	340	2,360	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	145,746	
Total Boron	0	0		0	8,100	8,100	56,216	
Total Cadmium	0	0		0	8.728	9.91	68.8	Chem Translator of 0.881 applied
Total Chromium (III)	0	0		0	1963.575	6,214	43,126	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	113	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	659	
Total Copper	0	0		0	55.790	58.1	403	Chem Translator of 0.96 applied

Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	318.927	559	3,877	Chem Translator of 0.571 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	11.4	Chem Translator of 0.85 applied
Total Nickel	0	0		0	1680.863	1,684	11,689	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	43.244	50.9	353	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	451	
Total Zinc	0	0		0	421.479	431	2,991	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	20.8	
Acrylamide	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	650	650	4,511	
Benzene	0	0		0	640	640	4,442	
Bromoform	0	0		0	1,800	1,800	12,493	
Carbon Tetrachloride	0	0		0	2,800	2,800	19,433	
Chlorobenzene	0	0		0	1,200	1,200	8,328	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	124,925	
Chloroform	0	0		0	1,900	1,900	13,187	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	104,104	
1,1-Dichloroethylene	0	0		0	7,500	7,500	52,052	
1,2-Dichloropropane	0	0		0	11,000	11,000	76,343	
1,3-Dichloropropylene	0	0		0	310	310	2,151	
Ethylbenzene	0	0		0	2,900	2,900	20,127	
Methyl Bromide	0	0		0	550	550	3,817	
Methyl Chloride	0	0		0	28,000	28,000	194,328	
Methylene Chloride	0	0		0	12,000	12,000	83,284	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	6,940	
Tetrachloroethylene	0	0		0	700	700	4,858	
Toluene	0	0		0	1,700	1,700	11,799	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	47,194	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	20,821	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	23,597	
Trichloroethylene	0	0		0	2,300	2,300	15,963	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	3,887	
2,4-Dichlorophenol	0	0		0	1,700	1,700	11,799	
2,4-Dimethylphenol	0	0		0	660	660	4,581	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	555	
2,4-Dinitrophenol	0	0		0	660	660	4,581	
2-Nitrophenol	0	0		0	8,000	8,000	55,522	
4-Nitrophenol	0	0		0	2,300	2,300	15,963	
p-Chloro-m-Cresol	0	0		0	160	160	1,110	
Pentachlorophenol	0	0		0	9.203	9.2	63.9	
Phenol	0	0		0	N/A	N/A	N/A	

2,4,6-Trichlorophenol	0	0		0	460	460	3,193	
Acenaphthene	0	0		0	83	83.0	576	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	2,082	
Benzo(a)Anthracene	0	0		0	0.5	0.5	3.47	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	30,000	30,000	208,209	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	31,231	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	1,874	
Butyl Benzyl Phthalate	0	0		0	140	140	972	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	820	820	5,691	
1,3-Dichlorobenzene	0	0		0	350	350	2,429	
1,4-Dichlorobenzene	0	0		0	730	730	5,066	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	27,761	
Dimethyl Phthalate	0	0		0	2,500	2,500	17,351	
Di-n-Butyl Phthalate	0	0		0	110	110	763	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	11,104	
2,6-Dinitrotoluene	0	0		0	990	990	6,871	
1,2-Diphenylhydrazine	0	0		0	15	15.0	104	
Fluoranthene	0	0		0	200	200	1,388	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	10	10.0	69.4	
Hexachlorocyclopentadiene	0	0		0	5	5.0	34.7	
Hexachloroethane	0	0		0	60	60.0	416	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	69,403	
Naphthalene	0	0		0	140	140	972	
Nitrobenzene	0	0		0	4,000	4,000	27,761	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	117,985	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	2,082	
Phenanthrene	0	0		0	5	5.0	34.7	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	902	
Aldrin	0	0		0	3	3.0	20.8	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	0.95	0.95	6.59	
Chlordane	0	0		0	2.4	2.4	16.7	
4,4-DDT	0	0		0	1.1	1.1	7.63	

4,4-DDE	0	0		0	1.1	1.1	7.63	
4,4-DDD	0	0		0	1.1	1.1	7.63	
Dieldrin	0	0		0	0.24	0.24	1.67	
alpha-Endosulfan	0	0		0	0.22	0.22	1.53	
beta-Endosulfan	0	0		0	0.22	0.22	1.53	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.086	0.086	0.6	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.52	0.52	3.61	
Heptachlor Epoxide	0	0		0	0.5	0.5	3.47	
PCBs, Total	0	0		0	N/A	N/A	N/A	
Toxaphene	0	0		0	0.73	0.73	5.07	

☑ ***CFC*** CCT (min): 90.004 PMF: 1 Analysis Hardness (mg/l): 257.55 Analysis pH: 7.02

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	3,421	
Total Arsenic	0	0		0	150	150	2,333	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	63,759	
Total Boron	0	0		0	1,600	1,600	24,882	
Total Cadmium	0	0		0	0.474	0.55	8.48	Chem Translator of 0.869 applied
Total Chromium (III)	0	0		0	160.840	187	2,908	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	162	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	295	
Total Copper	0	0		0	20.099	20.9	326	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	23,327	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	6.929	10.6	165	Chem Translator of 0.653 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	14.1	Chem Translator of 0.85 applied
Total Nickel	0	0		0	115.782	116	1,806	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	77.6	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	202	
Total Zinc	0	0		0	263.336	267	4,153	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	46.7	
Acrylamide	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	130	130	2,022	
Benzene	0	0		0	130	130	2,022	

Bromoform	0	0		0	370	370	5,754	
Carbon Tetrachloride	0	0		0	560	560	8,709	
Chlorobenzene	0	0		0	240	240	3,732	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	54,429	
Chloroform	0	0		0	390	390	6,065	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	48,208	
1,1-Dichloroethylene	0	0		0	1,500	1,500	23,327	
1,2-Dichloropropane	0	0		0	2,200	2,200	34,212	
1,3-Dichloropropylene	0	0		0	61	61.0	949	
Ethylbenzene	0	0		0	580	580	9,020	
Methyl Bromide	0	0		0	110	110	1,711	
Methyl Chloride	0	0		0	5,500	5,500	85,531	
Methylene Chloride	0	0		0	2,400	2,400	37,323	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	3,266	
Tetrachloroethylene	0	0		0	140	140	2,177	
Toluene	0	0		0	330	330	5,132	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	21,771	
1,1,1-Trichloroethane	0	0		0	610	610	9,486	
1,1,2-Trichloroethane	0	0		0	680	680	10,575	
Trichloroethylene	0	0		0	450	450	6,998	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	1,711	
2,4-Dichlorophenol	0	0		0	340	340	5,287	
2,4-Dimethylphenol	0	0		0	130	130	2,022	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	249	
2,4-Dinitrophenol	0	0		0	130	130	2,022	
2-Nitrophenol	0	0		0	1,600	1,600	24,882	
4-Nitrophenol	0	0		0	470	470	7,309	
p-Chloro-m-Cresol	0	0		0	500	500	7,776	
Pentachlorophenol	0	0		0	7.060	7.06	110	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	1,415	
Acenaphthene	0	0		0	17	17.0	264	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	918	
Benzo(a)Anthracene	0	0		0	0.1	0.1	1.56	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	6,000	6,000	93,306	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	14,151	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	840	

Butyl Benzyl Phthalate	0	0		0	35	35.0	544	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	160	160	2,488	
1,3-Dichlorobenzene	0	0		0	69	69.0	1,073	
1,4-Dichlorobenzene	0	0		0	150	150	2,333	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	12,441	
Dimethyl Phthalate	0	0		0	500	500	7,776	
Di-n-Butyl Phthalate	0	0		0	21	21.0	327	
2,4-Dinitrotoluene	0	0		0	320	320	4,976	
2,6-Dinitrotoluene	0	0		0	200	200	3,110	
1,2-Diphenylhydrazine	0	0		0	3	3.0	46.7	
Fluoranthene	0	0		0	40	40.0	622	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	2	2.0	31.1	
Hexachlorocyclopentadiene	0	0		0	1	1.0	15.6	
Hexachloroethane	0	0		0	12	12.0	187	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	32,657	
Naphthalene	0	0		0	43	43.0	669	
Nitrobenzene	0	0		0	810	810	12,596	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	52,874	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	918	
Phenanthrene	0	0		0	1	1.0	15.6	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	404	
Aldrin	0	0		0	0.1	0.1	1.56	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	0.0043	0.004	0.067	
4,4-DDT	0	0		0	0.001	0.001	0.016	
4,4-DDE	0	0		0	0.001	0.001	0.016	
4,4-DDD	0	0		0	0.001	0.001	0.016	
Dieldrin	0	0		0	0.056	0.056	0.87	
alpha-Endosulfan	0	0		0	0.056	0.056	0.87	
beta-Endosulfan	0	0		0	0.056	0.056	0.87	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.036	0.036	0.56	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.0038	0.004	0.059	

Heptachlor Epoxide	0	0		0	0.0038	0.004	0.059	
PCBs, Total	0	0		0	0.014	0.014	0.22	
Toxaphene	0	0		0	0.0002	0.0002	0.003	

☑ ***THH*** CCT (min): 90.004 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Fluoride (PWS)	0	0		0	2,000	2,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	87.1	
Total Arsenic	0	0		0	10	10.0	156	
Total Barium	0	0		0	2,400	2,400	37,323	
Total Boron	0	0		0	3,100	3,100	48,208	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	300	300	4,665	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	15,551	
Total Mercury	0	0		0	0.050	0.05	0.78	
Total Nickel	0	0		0	610	610	9,486	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	3.73	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	46.7	
Acrylamide	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	N/A	N/A	N/A	
Benzene	0	0		0	N/A	N/A	N/A	
Bromoform	0	0		0	N/A	N/A	N/A	
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A	
Chlorobenzene	0	0		0	100	100.0	1,555	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	88.6	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	N/A	N/A	N/A	

1,1-Dichloroethylene	0	0		0	33	33.0	513	
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	
1,3-Dichloropropylene	0	0		0	N/A	N/A	N/A	
Ethylbenzene	0	0		0	68	68.0	1,057	
Methyl Bromide	0	0		0	100	100.0	1,555	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	N/A	N/A	N/A	
1,1,2,2-Tetrachloroethane	0	0		0	N/A	N/A	N/A	
Tetrachloroethylene	0	0		0	N/A	N/A	N/A	
Toluene	0	0		0	57	57.0	886	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	1,555	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	155,511	
1,1,2-Trichloroethane	0	0		0	N/A	N/A	N/A	
Trichloroethylene	0	0		0	N/A	N/A	N/A	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	30	30.0	467	
2,4-Dichlorophenol	0	0		0	10	10.0	156	
2,4-Dimethylphenol	0	0		0	100	100.0	1,555	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	31.1	
2,4-Dinitrophenol	0	0		0	10	10.0	156	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	N/A	N/A	N/A	
Phenol	0	0		0	4,000	4,000	62,204	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	1,089	
Anthracene	0	0		0	300	300	4,665	
Benzidine	0	0		0	N/A	N/A	N/A	
Benzo(a)Anthracene	0	0		0	N/A	N/A	N/A	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroisopropyl)Ether	0	0		0	200	200	3,110	
Bis(2-Ethylhexyl)Phthalate	0	0		0	N/A	N/A	N/A	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	0.1	0.1	1.56	
2-Chloronaphthalene	0	0		0	800	800	12,441	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	1,000	1,000	15,551	
1,3-Dichlorobenzene	0	0		0	7	7.0	109	
1,4-Dichlorobenzene	0	0		0	300	300	4,665	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	

Diethyl Phthalate	0	0		0	600	600	9,331	
Dimethyl Phthalate	0	0		0	2,000	2,000	31,102	
Di-n-Butyl Phthalate	0	0		0	20	20.0	311	
2,4-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
2,6-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
1,2-Diphenylhydrazine	0	0		0	N/A	N/A	N/A	
Fluoranthene	0	0		0	20	20.0	311	
Fluorene	0	0		0	50	50.0	778	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	N/A	N/A	N/A	
Hexachlorocyclopentadiene	0	0		0	4	4.0	62.2	
Hexachloroethane	0	0		0	N/A	N/A	N/A	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	34	34.0	529	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	156	
n-Nitrosodimethylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	N/A	N/A	N/A	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	20	20.0	311	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	1.09	
Aldrin	0	0		0	N/A	N/A	N/A	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	4.2	4.2	65.3	
Chlordane	0	0		0	N/A	N/A	N/A	
4,4-DDT	0	0		0	N/A	N/A	N/A	
4,4-DDE	0	0		0	N/A	N/A	N/A	
4,4-DDD	0	0		0	N/A	N/A	N/A	
Dieldrin	0	0		0	N/A	N/A	N/A	
alpha-Endosulfan	0	0		0	20	20.0	311	
beta-Endosulfan	0	0		0	20	20.0	311	
Endosulfan Sulfate	0	0		0	20	20.0	311	
Endrin	0	0		0	0.03	0.03	0.47	
Endrin Aldehyde	0	0		0	1	1.0	15.6	
Heptachlor	0	0		0	N/A	N/A	N/A	
Heptachlor Epoxide	0	0		0	N/A	N/A	N/A	
PCBs, Total	0	0		0	N/A	N/A	N/A	
Toxaphene	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 30.694 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments

Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylamide	0	0		0	0.07	0.07	6.58	
Acrylonitrile	0	0		0	0.06	0.06	5.64	
Benzene	0	0		0	0.58	0.58	54.5	
Bromoform	0	0		0	7	7.0	658	
Carbon Tetrachloride	0	0		0	0.4	0.4	37.6	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	75.2	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	N/A	N/A	N/A	
Dichlorobromomethane	0	0		0	0.95	0.95	89.3	
1,2-Dichloroethane	0	0		0	9.9	9.9	930	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	84.6	
1,3-Dichloropropylene	0	0		0	0.27	0.27	25.4	
Ethylbenzene	0	0		0	N/A	N/A	N/A	
Methyl Bromide	0	0		0	N/A	N/A	N/A	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	20	20.0	1,880	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	18.8	

Tetrachloroethylene	0	0		0	10	10.0	940	
Toluene	0	0		0	N/A	N/A	N/A	
1,2-trans-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,1,1-Trichloroethane	0	0		0	N/A	N/A	N/A	
1,1,2-Trichloroethane	0	0		0	0.55	0.55	51.7	
Trichloroethylene	0	0		0	0.6	0.6	56.4	
Vinyl Chloride	0	0		0	0.02	0.02	1.88	
2-Chlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dichlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dimethylphenol	0	0		0	N/A	N/A	N/A	
4,6-Dinitro-o-Cresol	0	0		0	N/A	N/A	N/A	
2,4-Dinitrophenol	0	0		0	N/A	N/A	N/A	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	0.030	0.03	2.82	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	141	
Acenaphthene	0	0		0	N/A	N/A	N/A	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	0.0001	0.0001	0.009	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.094	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.009	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.094	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.94	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	2.82	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	30.1	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	N/A	N/A	N/A	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	0.12	0.12	11.3	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.009	
1,2-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,3-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,4-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
3,3-Dichlorobenzidine	0	0		0	0.05	0.05	4.7	
Diethyl Phthalate	0	0		0	N/A	N/A	N/A	
Dimethyl Phthalate	0	0		0	N/A	N/A	N/A	
Di-n-Butyl Phthalate	0	0		0	N/A	N/A	N/A	
2,4-Dinitrotoluene	0	0		0	0.05	0.05	4.7	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	4.7	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	2.82	
Fluoranthene	0	0		0	N/A	N/A	N/A	
Fluorene	0	0		0	N/A	N/A	N/A	

Hexachlorobenzene	0	0		0	0.00008	0.00008	0.008	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.94	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	9.4	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.094	
Isophorone	0	0		0	N/A	N/A	N/A	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	N/A	N/A	N/A	
n-Nitrosodimethylamine	0	0		0	0.0007	0.0007	0.066	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.47	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	310	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	N/A	N/A	N/A	
Aldrin	0	0		0	0.0000008	8.00E-07	0.00008	
alpha-BHC	0	0		0	0.0004	0.0004	0.038	
beta-BHC	0	0		0	0.008	0.008	0.75	
gamma-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	0.0003	0.0003	0.028	
4,4-DDT	0	0		0	0.00003	0.00003	0.003	
4,4-DDE	0	0		0	0.00002	0.00002	0.002	
4,4-DDD	0	0		0	0.0001	0.0001	0.009	
Dieldrin	0	0		0	0.000001	0.000001	0.00009	
alpha-Endosulfan	0	0		0	N/A	N/A	N/A	
beta-Endosulfan	0	0		0	N/A	N/A	N/A	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	N/A	N/A	N/A	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.000006	0.000006	0.0006	
Heptachlor Epoxide	0	0		0	0.00003	0.00003	0.003	
PCBs, Total	0	0		0	0.000064	0.00006	0.006	
Toxaphene	0	0		0	0.0007	0.0007	0.066	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Aluminum	4.09	6.38	3,336	5,205	8,341	µg/L	3,336	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Arsenic	Report	Report	Report	Report	Report	µg/L	156	THH	Discharge Conc > 10% WQBEL (no RP)
Total Mercury	Report	Report	Report	Report	Report	µg/L	0.78	THH	Discharge Conc > 10% WQBEL (no RP)
Total Thallium	0.005	0.007	3.73	5.82	9.33	µg/L	3.73	THH	Discharge Conc ≥ 50% WQBEL (RP)
Acrylamide	0.008	0.013	6.58	10.3	16.4	µg/L	6.58	CRL	Discharge Conc ≥ 50% WQBEL (RP)

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Barium	37,323	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	24,882	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	8.48	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	2,908	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	72.5	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	295	µg/L	Discharge Conc ≤ 10% WQBEL
Total Copper	259	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	4,665	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	23,327	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	165	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	15,551	µg/L	Discharge Conc ≤ 10% WQBEL
Total Nickel	1,806	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	77.6	µg/L	Discharge Conc ≤ 10% WQBEL
Total Silver	226	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	1,917	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	13.3	µg/L	Discharge Conc < TQL
Acrylonitrile	5.64	µg/L	Discharge Conc < TQL
Benzene	54.5	µg/L	Discharge Conc < TQL
Bromoform	658	µg/L	Discharge Conc < TQL
Carbon Tetrachloride	37.6	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorobenzene	1,555	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorodibromomethane	75.2	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	54,429	µg/L	Discharge Conc < TQL
Chloroform	88.6	µg/L	Discharge Conc ≤ 25% WQBEL
Dichlorobromomethane	89.3	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethane	N/A	N/A	No WQS

1,2-Dichloroethane	930	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	513	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	84.6	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	25.4	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	1,057	µg/L	Discharge Conc < TQL
Methyl Bromide	1,555	µg/L	Discharge Conc < TQL
Methyl Chloride	85,531	µg/L	Discharge Conc < TQL
Methylene Chloride	1,880	µg/L	Discharge Conc < TQL
1,1,2,2-Tetrachloroethane	18.8	µg/L	Discharge Conc < TQL
Tetrachloroethylene	940	µg/L	Discharge Conc < TQL
Toluene	886	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	1,555	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	9,486	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	51.7	µg/L	Discharge Conc < TQL
Trichloroethylene	56.4	µg/L	Discharge Conc < TQL
Vinyl Chloride	1.88	µg/L	Discharge Conc < TQL
2-Chlorophenol	467	µg/L	Discharge Conc ≤ 25% WQBEL
2,4-Dichlorophenol	156	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	1,555	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	31.1	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	156	µg/L	Discharge Conc < TQL
2-Nitrophenol	24,882	µg/L	Discharge Conc < TQL
4-Nitrophenol	7,309	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	712	µg/L	Discharge Conc ≤ 25% WQBEL
Pentachlorophenol	2.82	µg/L	Discharge Conc < TQL
Phenol	62,204	µg/L	Discharge Conc ≤ 25% WQBEL
2,4,6-Trichlorophenol	141	µg/L	Discharge Conc < TQL
Acenaphthene	264	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	4,665	µg/L	Discharge Conc < TQL
Benzidine	0.009	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.094	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.009	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.094	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.94	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	2.82	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	3,110	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	30.1	µg/L	Discharge Conc ≤ 25% WQBEL
4-Bromophenyl Phenyl Ether	840	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	1.56	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	12,441	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS

Chrysene	11.3	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.009	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	2,488	µg/L	Discharge Conc < TQL
1,3-Dichlorobenzene	109	µg/L	Discharge Conc ≤ 25% WQBEL
1,4-Dichlorobenzene	2,333	µg/L	Discharge Conc ≤ 25% WQBEL
3,3-Dichlorobenzidine	4.7	µg/L	Discharge Conc < TQL
Diethyl Phthalate	9,331	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	7,776	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	311	µg/L	Discharge Conc ≤ 25% WQBEL
2,4-Dinitrotoluene	4.7	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	4.7	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	2.82	µg/L	Discharge Conc < TQL
Fluoranthene	311	µg/L	Discharge Conc < TQL
Fluorene	778	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.008	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.94	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	15.6	µg/L	Discharge Conc < TQL
Hexachloroethane	9.4	µg/L	Discharge Conc ≤ 25% WQBEL
Indeno(1,2,3-cd)Pyrene	0.094	µg/L	Discharge Conc < TQL
Isophorone	529	µg/L	Discharge Conc < TQL
Naphthalene	623	µg/L	Discharge Conc < TQL
Nitrobenzene	156	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.066	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.47	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	310	µg/L	Discharge Conc < TQL
Phenanthrene	15.6	µg/L	Discharge Conc < TQL
Pyrene	311	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	1.09	µg/L	Discharge Conc < TQL
Aldrin	0.00008	µg/L	Discharge Conc < TQL
alpha-BHC	0.038	µg/L	Discharge Conc < TQL
beta-BHC	0.75	µg/L	Discharge Conc ≤ 25% WQBEL
gamma-BHC	4.23	µg/L	Discharge Conc < TQL
delta BHC	N/A	N/A	No WQS
Chlordane	0.028	µg/L	Discharge Conc < TQL
4,4-DDT	0.003	µg/L	Discharge Conc < TQL
4,4-DDE	0.002	µg/L	Discharge Conc < TQL
4,4-DDD	0.009	µg/L	Discharge Conc < TQL
Dieldrin	0.00009	µg/L	Discharge Conc < TQL
alpha-Endosulfan	0.87	µg/L	Discharge Conc ≤ 25% WQBEL
beta-Endosulfan	0.87	µg/L	Discharge Conc < TQL
Endosulfan Sulfate	311	µg/L	Discharge Conc < TQL
Endrin	0.38	µg/L	Discharge Conc < TQL
Endrin Aldehyde	15.6	µg/L	Discharge Conc ≤ 25% WQBEL
Heptachlor	0.0006	µg/L	Discharge Conc < TQL

Heptachlor Epoxide	0.003	µg/L	Discharge Conc < TQL
PCB-1016	N/A	N/A	No WQS
PCB-1221	N/A	N/A	No WQS
PCB-1232	N/A	N/A	No WQS
PCB-1242	N/A	N/A	No WQS
PCB-1248	N/A	N/A	No WQS
PCB-1254	N/A	N/A	No WQS
PCB-1260	N/A	N/A	No WQS
PCBs, Total	0.006	µg/L	Discharge Conc < TQL
Toxaphene	0.003	µg/L	Discharge Conc < TQL

ATTACHMENT C

Permit Rating Sheet for Downgrade from Major to Minor

NPDES Permit Rating Work Sheet

☐ Regular Addition
☐ Discretionary Addition
☐ Score change, but no status change
☑ Deletion

NPDES No.: PA0044326

Facility Name: MAX Environmental Technologies, Inc. - Bulger Plant

City: 200 Max Drive

Receiving Water: Raccoon Creek

Reach Number: 5030101000049

Is this facility a steam electric power plant (SIC=4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate

☐ YES; score is 600 (**stop here**) ☑ NO (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

☐ YES; score is 700 (**stop here**)
☑ NO (continue)

FACTOR 1:Toxic Pollutant Potential

PCS SIC Code: _____ Primary SIC Code: 4953

Other SIC Codes: _____ _____ _____ _____

Industrial Subcategory Code: 1 (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. *(Be sure to use the TOTAL toxicity potential column and* ***check one****)*

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
☐ No process waste streams	0	0	☐ 3.	3	15	☑ 7	7	35
☐ 1.	1	5	☐ 4.	4	20	☐ 8.	8	40
☐ 2.	2	10	☐ 5.	5	25	☐ 9.	9	45
			☐ 6.	6	30	☐ 10.	10	50

Code Number Checked: 7

Total Points Factor 1: 35

FACTOR 2: Flow/Stream Flow Volume *(Complete either Section A or Section B; check only one)*

Section A - Wastewater Flow Only Considered

Wastewater type (See Instructions)			Code	Points
Type I:	Flow < 5 MGD	☐	11	0
	Flow 5 to 10 MGD	☐	12	10
	Flow>10 to 50 MGD	☐	13	20
	Flow> 50 MGD	☐	14	30
Type II:	Flow<1 MGD	☑	21	10
	Flow 1 to 5 MGD	☐	22	20
	Flow >5 to 10 MGD	☐	23	30
	Flow>10 MGD	☐	24	50
Type III:	Flow <1 MGD	☐	31	0
	Flow 1 to 5 MGD	☐	32	10
	Flow >5 to 10 MGD	☐	33	20
	Flow >10 MGD	☐	34	30

Section B - Wastewater and Stream Flow Considered

Wastewater type (See Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow		Code	Points
Type I/III:	<10%	☐	41	0
	≥10% to <50%	☐	42	10
	≥50%	☐	43	20
Type II	<10%	☐	51	0
	≥10% to <50%	☐	52	20
	≥50%	☐	53	30

Code Checked from Section A or B: 21

Total Points Factor 2: 10

1

NPDES Permit Rating Work Sheet

FACTOR 3: Conventional Pollutants

NPDES No.: PA0044326

(only when limited by the permit)

A. Oxygen Demanding Pollutants (check one) ☐ BOD ☐ COD ☐ OTHER:

Permit Limits (**check one**)		Code	Points
☐	<100 lbs/day	1	0
☐	100 to 1000 lbs/day	2	5
☐	>1000 to 3000 lbs/day	3	15
☐	>3000 lbs/day	4	20

Code Checked:

Points Scored: 0

B. Total Suspended Solids (TSS)

Permit Limits (**check one**)		Code	Points
☑	<100 lbs/day	1	0
☐	100 to 1000 lbs/day	2	5
☐	>1000 to 5000 lbs/day	3	15
☐	>5000 lbs/day	4	20

Code Checked: 1

Points Scored: 0

C. Nitrogen Pollutants (check one) ☑ Ammonia ☐ OTHER:

Permit Limits (**check one**)	Nitrogen Equivalent	Code	Points
☑	<300 lbs/day	1	0
☐	300 to 1000 lbs/day	2	5
☐	>1000 to 3000 lbs/day	3	15
☐	>3000 lbs/day	4	20

Code Checked: 1

Points Scored: 0

Total Points Factor 3: 0

FACTOR 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this includes any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above referenced supply.

☑ YES (if yes, check toxicity potential number below)

☐ NO (**if no, go to Factor 5**)

*Determine the human health toxicity potential from Appendix A. Use the same SIC Code and subcategory reference as in Factor 1. (Be sure to use the human health toxicity group column and **check one below**)*

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
☐ No process waste streams	0	0	☐ 3.	3	0	☑ 7.	7	15
☐ 1.	1	0	☐ 4.	4	0	☐ 8.	8	20
☐ 2.	2	0	☐ 5.	5	5	☐ 9.	9	25
			☐ 6.	6	10	☐ 10.	10	30

Code Number Checked:

Total Points Factor 4: 15

NPDES Permit Rating Work Sheet

FACTOR 5: Water Quality Factors

NPDES No.: PA0044326

A. Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines, or technology-based state effluent guidelines), or has a wasteload allocation been assigned to the discharge?

	Code	Points
☑ YES	1	10
☐ NO	2	0

B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

	Code	Points
☐ YES	1	0
☑ NO	2	5

C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

	Code	Points
☐ YES	1	10
☑ NO	2	0

Code Number Checked: *A.* *B.* *C.*

Total Points Factor 5 *A.* 10 +*B.* 5 +*C.* 0 = 15

FACTOR 6: Proximity to Near Coastal Waters

A. Base Score: Enter flow code here (from Factor 2): 21

Enter the multiplication factor that corresponds to the flow code: 0.0

Check appropriate facility HPRI Code (from PCS):

HPRI#	Code	HPRI Score
☐ 1	1	20
☐ 2	2	0
☐ 3	3	30
☐ 4	4	0
☐ 5	5	20

Flow code	Multiplication Factor
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

HPRI Code Checked:

Base Score (HPRI Score) 0 x (Multiplication Factor) 0.0 = 0 (Total Points)

B. Additional Points – NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

	Code	Points
☐ YES	1	10
☐ NO	2	0

C. Additional Points – Great Lakes Area of Concern

For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern (see instructions)?

	Code	Points
☐ YES	1	10
☐ NO	2	0

Code Number Checked: *A.* *B.* *C.*

Total Points Factor 6 *A.* 0 +*B.* 0 +*C.* 0 = 0

NPDES Permit Rating Work Sheet

Score Summary

NPDES No.: PA0044326

Factor	Description	Total Points
1.	Toxic Pollutant Potential	35
2.	Flow/Streamflow Volume	10
3.	Conventional Pollutants	0
4.	Public Health Impacts	15
5.	Water Quality Factors	15
6.	Proximity to Near Coastal Waters	0
	TOTAL (Factors 1 through 6)	75

S1. Is the total score equal to or greater than 80? ☐ YES (Facility is a major) ☑ NO

S2. If the answer to the above question is no, would you like this facility to be discretionary major?

☑ NO

☐ YES (Add 500 points to the above score and provide reason below:

Reason:

NEW SCORE: 75

OLD SCORE:

Ryan Decker
Permit Reviewer's Name

(412) 442-4144
Phone Number

03/20/2024
Date

Reset Form