

Application Type New
Facility Type Industrial
Major / Minor Minor

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

Application No. PA0263664
APS ID 1001969
Authorization ID 1288854

Applicant and Facility Information

Applicant Name	<u>Tri County Landfill, Inc.</u>	Facility Name	<u>Tri County Landfill</u>
Applicant Address	<u>159 TCI Park Drive</u> <u>Grove City, PA 16127-4347</u>	Facility Address	<u>159 TCI Park Drive</u> <u>Grove City, PA 16127-4347</u>
Applicant Contact	<u>Edward Vogel</u>	Facility Contact	
Applicant Phone	<u>(724) 625-9000</u>	Facility Phone	
Client ID	<u>1514</u>	Site ID	<u>239595</u>
SIC Code	<u>4953</u>	Municipality	<u>Liberty Township</u>
SIC Description	<u>Trans. & Utilities - Refuse Systems</u>	County	<u>Mercer</u>
Date Application Received	<u>September 18, 2019</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>September 24, 2019</u>	If No, Reason	
Purpose of Application	<u>New NPDES Permit for discharges from a proposed municipal solid waste landfill.</u>		

Summary of Review

The proposed facility plans to reopen an existing onsite landfill by constructing a municipal solid waste landfill lined with a high-density polyethylene liner. Waste from the existing landfill will be relocated to the new lined facility and new waste will also be received for disposal at the new facility. This permit is for the discharge of treated landfill leachate from the proposed landfill, truck wash water, and sanitary wastewater. Stormwater associated with landfill operations will also be discharged at two separate outfalls under this permit.

The permittee currently has an existing NPDES General Permit for stormwater associated with industrial activities (PAR808328) at the existing site which they wish to retain.

The permittee is concurrently considering alternatives for handling the facility's process water such as tie-in to an off-site Publicly Operated Treatment Plant (POTW). If these plans do not materialize in timely manner, the permittee plans to construct a wastewater treatment facility onsite for discharge.

In the event that the facility opts to haul the leachate to an off-site treatment facility (either interim or permanently), the permittee should be aware that the receiving facility is required to make all proper notifications and receive any related approvals in accordance with their NPDES permit prior to accepting the wastewater.

There are currently no open violations for this permittee listed in EFACTS (10/30/2020).

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

Approve	Deny	Signatures	Date
X		Adam Pesek Adam J. Pesek, E.I.T. / Environmental Engineering Specialist	October 30, 2020
X		Justin C. Dickey Justin C. Dickey, P.E. / Environmental Engineer Manager	November 2, 2020

Summary of Review

significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	<u>004</u>	Design Flow (MGD)	<u>0</u>
Latitude	<u>41° 8' 17"</u>	Longitude	<u>-80° 14' 42"</u>
Outfall No.	<u>005</u>	Design Flow (MGD)	<u>0</u>
Latitude	<u>41° 8' 12"</u>	Longitude	<u>-80° 14' 43"</u>
Quad Name	<u>Mercer</u>	Quad Code	<u>04034</u>
Wastewater Description: <u>Stormwater runoff from construction of landfill cells and from earth berms.</u>			
Receiving Waters	<u>Unnamed Tributary to Black Run (34291)</u>	Stream Code	<u>--</u>
NHD Com ID	<u>126220699</u>	RMI	<u>1.45 (004); 1.42 (005)</u>
Drainage Area	<u></u>	Yield (cfs/mi ²)	<u></u>
Q ₇₋₁₀ Flow (cfs)	<u></u>	Q ₇₋₁₀ Basis	<u></u>
Elevation (ft)	<u></u>	Slope (ft/ft)	<u></u>
Watershed No.	<u>20-C</u>	Chapter 93 Class.	<u>CWF</u>
Existing Use	<u></u>	Existing Use Qualifier	<u></u>
Exceptions to Use	<u></u>	Exceptions to Criteria	<u></u>
Assessment Status	<u>Impaired</u>		
Cause(s) of Impairment	<u>CAUSE UNKNOWN</u>		
Source(s) of Impairment	<u>SOURCE UNKNOWN</u>		
TMDL Status	<u></u>	Name	<u></u>
Background/Ambient Data		Data Source	
pH (SU)	<u>7.39</u>		<u>5/24/11 Point of First Use Study on the UNT to Black Run</u>
Temperature (°C)	<u>20</u>		<u>Default (CWF)</u>
Hardness (mg/L)	<u>270</u>		<u>2019 NPDES Permit Application</u>
Other:	<u></u>		<u></u>
Nearest Downstream Public Water Supply Intake	<u>PA American Water Company – Ellwood District</u>		
PWS Waters	<u>Connoquenessing Creek</u>	Flow at Intake (cfs)	<u>67</u>
PWS RMI	<u>0.2</u>	Distance from Outfall (mi)	<u></u>

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information

Outfall No.	<u>006</u>	Design Flow (MGD)	<u>0.085</u>
Latitude	<u>41° 8' 13"</u>	Longitude	<u>-80° 8' 20"</u>
Quad Name	<u>Mercer</u>	Quad Code	<u>04034</u>
Wastewater Description:	<u>Landfill leachate, transfer station wastewater, truck wash, contaminated stormwater runoff, and sanitary wastewater.</u>		
Receiving Waters	<u>Unnamed Tributary to Black Run</u>	Stream Code	<u>34302</u>
NHD Com ID	<u>126220666</u>	RMI	<u>1.6</u>
Drainage Area	<u>1.03</u>	Yield (cfs/mi ²)	<u>0.0107</u>
Q ₇₋₁₀ Flow (cfs)	<u>0.01102</u>	Q ₇₋₁₀ Basis	<u>Muddy Creek Near Portersville*</u>
Elevation (ft)	<u>1236</u>	Slope (ft/ft)	<u>0.00355</u>
Watershed No.	<u>20-C</u>	Chapter 93 Class.	<u>CWF</u>
Existing Use	<u></u>	Existing Use Qualifier	<u></u>
Exceptions to Use	<u></u>	Exceptions to Criteria	<u></u>
Assessment Status	<u>Impaired</u>		
Cause(s) of Impairment	<u>CAUSE UNKNOWN</u>		
Source(s) of Impairment	<u>SOURCE UNKNOWN</u>		
TMDL Status	<u></u>	Name	<u></u>
Background/Ambient Data		Data Source	
pH (SU)	<u>7.39</u>		<u>5/24/11 Point of First Use Study on the UNT to Black Run</u>
Temperature (°F)	<u>20</u>		<u>Default (CWF)</u>
Hardness (mg/L)	<u>270</u>		<u>2019 NPDES Permit Application</u>
Other: NH ₃ -N	<u>0.1</u>		<u>Default</u>
Nearest Downstream Public Water Supply Intake	<u>PA American Water Company – Ellwood District</u>		
PWS Waters	<u>Connoquenessing Creek</u>	Flow at Intake (cfs)	<u>67</u>
PWS RMI	<u>0.2</u>	Distance from Outfall (mi)	<u>35.4</u>

Other Comments: * - pre-regulation data of streamflow by the Lake Arthur dam.

A Point of First Use (POFU) Study was conducted on this unnamed tributary on May 24, 2011. The study determined that the stream was perennial at the discharge point and was capable of supporting existing and designated uses as defined in 25 Pa. Code Chapter 93.

Treatment Facility Summary				
Treatment Facility Name: Tri County Ind Landfill				
WQM Permit No.		Issuance Date		
N/A				
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Industrial				
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal

Other Comments: Treatment plant design will be based on effluent limits in this NPDES Permit when it is issued.

However, the permittee's consultant indicated in a 10/15/2020 email to the Department that chlorine disinfection would be utilized as part of the proposed treatment.

The permittee will be required to obtain a WQM Permit for construction and operation of a wastewater treatment plant prior to its construction and discharging via Outfall 006.

Stormwater discharging through Outfall 004 and 005 will be from overflows from a sedimentation basin

Development of Effluent Limitations

Outfall No.	<u>004</u>	Design Flow (MGD)	<u>0</u>
Latitude	<u>41° 8' 17.00"</u>	Longitude	<u>-80° 14' 42.00"</u>
Outfall No.	<u>005</u>	Design Flow (MGD)	<u>0</u>
Latitude	<u>41° 8' 12.00"</u>	Longitude	<u>-80° 14' 43.00"</u>
Wastewater Description: <u>Stormwater runoff from construction of landfill cells and from earth berms.</u>			

Technology-Based Limitations

Comments: N/A

Water Quality-Based Limitations

Comments: N/A

Best Professional Judgment (BPJ) Limitations

Comments: In accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Industrial Permits," effluent limits, monitoring requirements and benchmark values from the NPDES PAG-03 General Permit (Stormwater) Appendix C will be placed in the permit for these outfalls. These In general, DEP develops individual NPDES stormwater permit in a way that the permit requirements would align with the requirements developed for DEP's NPDES PAG-03 General Permit for industrial stormwater.

Anti-Backsliding

N/A

Development of Effluent Limitations

Outfall No. 006
Latitude 41° 8' 13.00"
Design Flow (MGD) 0.085
Longitude -80° 8' 20.00"
Wastewater Description: Landfill leachate, transfer station wastewater, truck wash, contaminated stormwater runoff, and sanitary wastewater

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Given the type of industrial activities performed at the site, the facility is subject to federal effluent limitations and guidelines (ELGs) found in 40 CFR Part 445 Subpart B – ELGs for RCRA Subtitle D Non-Hazardous Waste Landfill. The effluent limitations are listed under this ELG (40 CFR §445.21) as follows:

Regulated parameter	Concentrations (mg/L)	
	Maximum Daily	Maximum Monthly Avg.
BOD	140	37
TSS	88	27
Ammonia (as N)	10	4.9
α-Terpineol	0.033	0.016
Benzoic acid	0.12	0.071
p-Cresol	0.025	0.014
Phenol	0.026	0.015
Zinc	0.20	0.11
pH (SU)	6.0 – 9.0 (minimum-maximum)	

Regulatory Effluent Standards and Monitoring Requirements

Parameter	Limit (mg/l)	SBC	Federal Regulation	State Regulation
Flow (MGD)	Report	Report		921.61(d)(1)
CBOD ₅	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Weekly Average	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Weekly Average	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)
Oil and Grease				95.2(2)(II)
Oil and Grease				
Dissolved Iron	7.0	IMAX		95.2(4)
Total Dissolved Solids	2,000	Average Monthly		95.10*
Total Dissolved Solids	4,000	Daily Maximum		95.10*

Comments: * - The discharge falls under the classification "Non-Exempt – Other" in the Department's *Policy and Procedure for NPDES Permitting of Discharges of Total Dissolved Solids (TDS)* -- 25 Pa. Code §95.10 (DEP-ID: 385-2100-002). The Department has determined that the proposed discharge has reasonable potential to discharge concentrations and mass loadings that exceed the levels of concern found in Chapter 95.10(c) and it has not secured a variance.

The advanced treatment requirements in DEP's *Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers* (391-2000-014) related to oxygen-consuming wastewater were not implemented in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Industrial Permits" due to the stream still having some assimilative capacity in the stream and the understanding that all the parameters except phosphorus are already limited by developed ELGs, regulatory standards, and/or WQBELs which should ensure protection of instream existing water uses.

Per 40 CFR 122.45(d)(1), all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works.

Water Quality-Based Limitations

WQM 7.0

WQM 7.0 Version 1.0b is a water quality model designed to assist DEP to determine appropriate effluent limits for CBOD₅, NH₃-N and DO. The model simulates two basic processes. In the NH₃-N module, the model simulates the mixing and degradation of NH₃-N in the stream and compares calculated instream NH₃-N concentrations to NH₃-N water quality criteria. In the D.O. module, the model simulates the mixing and consumption of D.O. in the stream due to the degradation of CBOD₅ and NH₃-N and compares calculated instream D.O. concentrations to D.O. water quality criteria. The model was utilized for this permit by using Q₇₋₁₀ and current background water quality levels of the stream.

TRC Evaluation Spreadsheet (TRC_CALC)

To determine if WQBELs are required for discharges containing total residual chlorine (TRC), a discharge evaluation is performed using a DEP program called TRC_CALC created with Microsoft Excel for Windows. TRC_CALC calculates TRC Waste Load Allocations (WLAs) through the application of a mass balance model which considers TRC losses due to stream and discharge chlorine demands and first-order chlorine decay. Input values for the program include flow rates and discharge chlorine demands for the receiving stream, the number of samples taken per month, coefficients of TRC variability, partial mix factors, and an optional factor of safety. The mass balance model calculates WLAs for acute and chronic criteria that are then converted to long term averages using calculated multipliers. The multipliers are functions of the number of samples taken per month and the TRC variability coefficients (normally kept at default values unless site specific information is available). The most stringent limitation between the acute and chronic long-term averages is converted to an average monthly limit for comparison to the BAT average monthly limit of 0.5 mg/L from 25 Pa. Code § 92a.48(b)(2). The more stringent of these average monthly TRC limitations is then proposed.

The following limitations were determined through WQM 7.0 and TRC_CALC modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
CBOD ₅	34	Average Monthly	WQM 7.0 Version 1.0b
Ammonia Nitrogen (5/01-10/31)	1.5	Average Monthly	WQM 7.0 Version 1.0b
Ammonia Nitrogen (5/01-10/31)	3.0	IMAX	WQM 7.0 Version 1.0b
Dissolved Oxygen	6.0	Minimum	WQM 7.0 Version 1.0b
Total Residual Chlorine	0.021	Average Monthly	TRC Evaluation Spreadsheet
Total Residual Chlorine	0.069	IMAX	TRC Evaluation Spreadsheet

Toxics Management Analysis

The Department of Environmental Protection (DEP) has developed the DEP Toxics Management Spreadsheet ("TMS") to facilitate calculations necessary for completing a reasonable potential (RP) analysis and determining water quality-based effluent limitations for discharges of toxic pollutants. The Toxics Management Spreadsheet is a macro-enabled Excel binary file that combines the functions of the PENTOXSD model and the Toxics Screening Analysis spreadsheet to evaluate the reasonable potential for discharges to cause excursions above water quality standards and to determine WQBELs. The Toxics Management Spread Sheet is a single discharge, mass-balance water quality calculation spread sheet that includes consideration for mixing, first-order decay and other factors to determine recommended WQBELs for

toxic substances and several non-toxic substances. Required input data including stream code, river mile index, elevation, drainage area, discharge name, NPDES permit number, discharge flow rate and the discharge concentrations for parameters in the permit application or in DMRs, which are entered into the spread sheet to establish site-specific discharge conditions. Other data such as low flow yield, reach dimensions and partial mix factors may also be entered to further characterize the conditions of the discharge and receiving water. Discharge concentrations for the parameters are chosen to represent the "worst case" quality of the discharge (i.e., maximum reported discharge concentrations). The spread sheet then evaluates each parameter by computing a Waste Load Allocation for each applicable criterion, determining a recommended maximum WQBEL and comparing that recommended WQBEL with the input discharge concentration to determine which is more stringent. Based on this evaluation, the Toxics Management Spread Sheet recommends average monthly and maximum daily WQBELs.

Reasonable Potential Analysis and WQBEL Development for 006

The Toxics Management Spread Sheet uses the discharge concentration from Outfall 006 to determine the reasonable potential of toxic pollutants and to determine the water quality-based effluent limits. The maximum reported value of the parameters from the application form (influent and effluent) are used as the input concentrations in the Toxics Management Spread Sheet. All toxic pollutants whose maximum concentrations, as reported in the permit application or on DMRs, are greater than the most stringent applicable water quality criterion are pollutants of concern. [This includes pollutants reported as "Not Detectable" or as "<MDL" where the method detection limit for the analytical method used by the applicant is greater than the most stringent water quality criterion]. For IW discharges, the design flow used in modeling is the projected flow during production or operation taken from the permit application. Pollutants for which water quality standards have not been promulgated (e.g., TSS, oil and grease) are excluded from the analysis. All the parameters are run in the model to determine the water quality-based effluent limits applicable to the discharge and the receiving stream. The spread sheet then compares the reported discharge concentrations with the calculated water quality-based effluent limitations to determine the reasonable potential to exceed the WQBELs. Limitations are established in the draft permit where the maximum reported concentration equals or exceeds 50% of the WQBEL. For non-conservative pollutants, monitoring requirements are established where the maximum reported concentration is between 25% - 50% of the WQBEL. For conservative pollutants, monitoring requirements are established where the maximum reported concentration is between 10% - 50% of the WQBEL. The information described above including the maximum reported discharge concentrations, the most stringent water quality criteria, the pollutant-of-concern (reasonable potential) determinations, the calculated WQBELs, and the WQBEL/monitoring recommendations are displayed in the Toxics Management Spread Sheet attached to this Fact Sheet.

The TMS recommended the following parameters receive effluent limits based on having reasonable potential to exceed calculated WQBELs: total aluminum, total antimony, total arsenic, total barium, total boron, total cadmium, total chromium (III), total cobalt, total copper, free available cyanide, dissolved iron, total iron, total lead, total manganese, total nickel, total phenols (phenolics), total selenium, total thallium, total zinc, benzene, 1,2-dichloroethane, methylene chloride, vinyl chloride, bis(2-ethylhexyl)phthalate, naphthalene, phenanthrene, alpha-endosulfan, and color. The TMS recommended monitoring for ethylbenzene and toluene because the discharge was more than the recommended threshold for monitoring. Please refer to the attached TMS spreadsheet for the calculated WQBELs for these toxic parameters.

Comments: Effluent limitations were rounded in accordance with the Department's *Technical Guidance for the Development and Specification of Effluent Limitations* ("Permit Writer's Manual") (362-0400-001).

A seasonal multiplier of 3 is applied for ammonia nitrogen in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits."

Since this proposed discharge is not considered a thermally elevated process water, the need for thermal limits was not evaluated.

Best Professional Judgment (BPJ) Limitations

Comments: Monitoring for total nitrogen was placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Industrial Permits" due to the potential for daily discharge quantities that may exceed 75 lbs/day.

Anti-Backsliding

Not applicable due to this being a new discharge.

Stream Impairment

The cause of the stream impairment on the unnamed tributary to Black Run is unknown. Therefore, no additional monitoring was placed in the permit related to the stream impairment.

Antidegradation Requirements

All proposed effluent limits and monitoring requirements mentioned in this fact sheet have been developed to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses are maintained and protected.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 004, Effective Period: **Permit Effective Date** through **Permit Expiration Date**.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
COD	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Ammonia	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Iron	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Compliance Sampling Location: Outfall 004 (prior to mixing with any other waters)

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 005, Effective Period: **Permit Effective Date** through **Permit Expiration Date**.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
COD	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Ammonia	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Iron	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Compliance Sampling Location: Outfall 005 (prior to mixing with any other waters)

Other Comments:

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 006, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0	XXX	Continuous	Measured
DO	XXX	XXX	6.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.021	XXX	0.069	1/day	Grab
Color (Pt-Co Units)	XXX	XXX	XXX	80	125	200	1/week	24-Hr Composite
CBOD5	17.0	28.0	XXX	25.0	40.0	50	1/week	24-Hr Composite
BOD5	Report	Report	XXX	37.0	140.0	175	1/week	24-Hr Composite
TSS	19.0	31.0	XXX	27.0	45.0	60	1/week	24-Hr Composite
Total Dissolved Solids	1415	2835	XXX	2000.0	4000.0	5000	2/month	24-Hr Composite
Oil and Grease	XXX	XXX	XXX	15	XXX	30.0	1/week	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
Total Nitrogen	XXX	Report	XXX	XXX	Report	XXX	1/month	24-Hr Composite
Ammonia Nov 1 - Apr 30	3.0	6.0	XXX	4.5	9.0	9	1/week	24-Hr Composite

Outfall 006, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Ammonia May 1 - Oct 31	1.0	2.0	XXX	1.5	3.0	3	1/week	24-Hr Composite
Total Aluminum	0.53	0.58	XXX	0.75	0.81	0.81	1/week	24-Hr Composite
Total Antimony	0.004	0.007	XXX	0.006	0.0094	0.015	1/week	24-Hr Composite
Total Arsenic	0.008	0.012	XXX	0.010	0.016	0.027	1/week	24-Hr Composite
Total Barium	1.84	2.88	XXX	2.60	4.05	6.5	1/week	24-Hr Composite
Total Boron	1.23	1.92	XXX	1.73	2.70	4.33	1/week	24-Hr Composite
Total Cadmium	0.0009	0.001	XXX	0.0012	0.0019	0.0031	1/week	24-Hr Composite
Total Chromium (III)	0.33	0.52	XXX	0.47	0.73	1.17	1/week	24-Hr Composite
Total Cobalt	0.015	0.023	XXX	0.020	0.032	0.051	1/week	24-Hr Composite
Total Copper	0.039	0.06	XXX	0.054	0.085	0.13	1/week	24-Hr Composite
Free Cyanide	0.004	0.006	XXX	0.0056	0.0087	0.014	1/week	24-Hr Composite
Dissolved Iron	0.23	0.36	XXX	0.32	0.50	0.81	2/month	24-Hr Composite
Total Iron	1.15	1.8	XXX	1.62	2.53	4.06	1/week	24-Hr Composite
Total Lead	0.03	0.047	XXX	0.042	0.066	0.106	1/week	24-Hr Composite
Total Manganese	0.77	1.2	XXX	1.08	1.69	2.71	1/week	24-Hr Composite
Total Nickel	0.21	0.33	XXX	0.30	0.46	0.75	1/week	24-Hr Composite
Total Selenium	0.004	0.006	XXX	0.0054	0.0084	0.013	1/week	24-Hr Composite
Total Thallium (ug/L)	0.0002	0.0003	XXX	0.26	0.41	0.65	1/week	24-Hr Composite
Total Zinc	0.45	0.49	XXX	0.11	0.20	0.28	1/week	24-Hr Composite

Outfall 006, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Phenol	Report	Report	XXX	0.015	0.026	0.37	2/month	24-Hr Composite
alpha-Endosulfan (ug/L)	0.00004	0.00007	XXX	0.061	0.095	0.15	1/week	Grab
a-Terpineol	Report	Report	XXX	0.016	0.33	0.04	2/month	24-Hr Composite
Ethylbenzene	Report	Report	XXX	Report	Report	XXX	2/month	Grab
Benzene	0.002	0.003	XXX	0.0025	0.0039	0.0063	1/week	Grab
Benzoic Acid	Report	Report	XXX	0.071	0.12	0.18	2/month	24-Hr Composite
1,2-Dichloroethane (ug/L)	0.0006	0.0009	XXX	0.8	1.24	1.99	1/week	Grab
Bis(2-Ethyl-hexyl)Phthalate	0.002	0.003	XXX	0.0025	0.0039	0.0063	1/week	24-Hr Composite
Methylene Chloride	0.007	0.011	XXX	0.0096	0.015	0.024	1/week	Grab
Naphthalene	0.033	0.052	XXX	0.046	0.072	0.11	1/week	24-Hr Composite
p-Cresol	Report	Report	XXX	0.014	0.025	0.035	2/month	24-Hr Composite
Phenanthrene	0.0008	0.001	XXX	0.0010	0.0016	0.0027	1/week	24-Hr Composite
Total Phenolics	1.81	2.82	XXX	2.55	3.98	6.38	1/week	24-Hr Composite
Toluene	Report	Report	XXX	Report	Report	XXX	2/month	Grab
Vinyl Chloride (ug/L)	0.00004	0.00006	XXX	0.052	0.082	0.13	1/week	Grab

Compliance Sampling Location: Outfall 006 (after disinfection)

Other Comments: The monitoring frequency and sample type of compliance monitoring for existing parameters are recommended by DEP's SOP and Permit Writers Manual and/or on a case-by-case basis using best professional judgment (BPJ).

Discharge Information

Instructions

Discharge

Stream

Facility: **Tri County Landfill**

NPDES Permit No.: **PA0263664**

Outfall No.: **006**

Evaluation Type **Major Sewage / Industrial Waste**

Wastewater Description: **Landfill Leachate**

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
0.085	757	7.5						

	Discharge Pollutant	Units	Max Discharge Conc	0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
				Trib Conc	Stream Conc	Daily CV	Hourly CV	Strea m CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		12600								
	Chloride (PWS)	mg/L		3640								
	Bromide	mg/L		37.4								
	Sulfate (PWS)	mg/L		147								
	Fluoride (PWS)	mg/L		79.4								
Group 2	Total Aluminum	µg/L		10300								
	Total Antimony	µg/L		21.4								
	Total Arsenic	µg/L		310								
	Total Barium	µg/L		61910								
	Total Beryllium	µg/L		6.2								
	Total Boron	µg/L		25300								
	Total Cadmium	µg/L		12.2								
	Total Chromium (III)	µg/L		300								
	Hexavalent Chromium	µg/L	<	0.5								
	Total Cobalt	µg/L		807								
	Total Copper	µg/L		70								
	Free Cyanide	µg/L		112								
	Total Cyanide	µg/L		112								
	Dissolved Iron	µg/L		20400								
	Total Iron	µg/L		93300								
	Total Lead	µg/L		337								
	Total Manganese	µg/L		6738								
	Total Mercury	µg/L	<	0.2								
	Total Nickel	µg/L		630								
	Total Phenols (Phenolics) (PWS)	µg/L		4800								
	Total Selenium	µg/L		30								
	Total Silver	µg/L	<	1								
	Total Thallium	µg/L		2.2								
	Total Zinc	µg/L		870								
	Total Molybdenum	µg/L		108								
	Acrolein	µg/L	<	2								
	Acrylamide	µg/L	<									
	Acrylonitrile	µg/L	<	5								
	Benzene	µg/L		30								
	Bromoform	µg/L	<	1								

Page 2

Group 6

Stream / Surface Water Information

Tri County Landfill, NPDES Permit No. PA0263664, Outfall 006

Instructions

Discharge

Stream

Receiving Surface Water Name: **Unnamed Tributary to Black Run**

No. Reaches to Model: **1**

- ☒ Statewide Criteria
☐ Great Lakes Criteria
☐ ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	034302	1.6	1236	1.03			Yes
End of Reach 1	034025	0.2	695	839		0.1	Yes

Q₇₋₁₀

Location	RMI	LFY (cfs/mi²)*	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	1.6	0.0107										270	7.39		
End of Reach 1	0.2	0.1	67									270	7.39		

Q_h

Location	RMI	LFY (cfs/mi²)	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	1.6														
End of Reach 1	0.2														

Model Results

Tri County Landfill, NPDES Permit No. PA0263664, Outfall 006

Instructions

Results

RETURN TO INPUTS

SAVE AS PDF

PRINT

☐ All

☐ Inputs

☐ Results

☒ Limits

☒ Hydrodynamics

Q_{7-10}

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)
1.6	0.01		0.01	0.131	0.073	0.419	3.884	9.273	0.088	0.977	0.002
0.2	67.00	0.155	66.8453								

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)
1.6	0.14		0.14	0.131	0.073	0.56	3.884	6.933	0.127	0.675	0.05
0.2	293.075	0.155	292.92								

☒ Wasteload Allocations

☒ AFC

CCT (min): 0.002

PMF: 1

Analysis Hardness (mg/l): 719.34

Analysis pH: 7.49

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	813	
Total Antimony	0	0		0	1,100	1,100	1,192	
Total Arsenic	0	0		0	340	340	368	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	22,760	
Total Boron	0	0		0	8,100	8,100	8,779	
Total Cadmium	0	0		0	13.659	15.9	17.2	Chem Translator of 0.861 applied
Total Chromium (III)	0	0		0	2867.632	9,075	9,835	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	17.7	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	103	

Total Copper	0	0		0	86.253	89.8	97.4	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	23.8	
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	506.753	1,006	1,091	Chem Translator of 0.503 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	1.79	Chem Translator of 0.85 applied
Total Nickel	0	0		0	2485.597	2,491	2,699	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	95.795	113	122	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	70.4	
Total Zinc	0	0		0	623.642	638	691	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	3.25	
Acrylonitrile	0	0		0	650	650	704	
Benzene	0	0		0	640	640	694	
Bromoform	0	0		0	1,800	1,800	1,951	
Carbon Tetrachloride	0	0		0	2,800	2,800	3,035	
Chlorobenzene	0	0		0	1,200	1,200	1,301	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	19,509	
Chloroform	0	0		0	1,900	1,900	2,059	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	16,257	
1,1-Dichloroethylene	0	0		0	7,500	7,500	8,129	
1,2-Dichloropropane	0	0		0	11,000	11,000	11,922	
1,3-Dichloropropylene	0	0		0	310	310	336	
Ethylbenzene	0	0		0	2,900	2,900	3,143	
Methyl Bromide	0	0		0	550	550	596	
Methyl Chloride	0	0		0	28,000	28,000	30,347	
Methylene Chloride	0	0		0	12,000	12,000	13,006	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	1,084	
Tetrachloroethylene	0	0		0	700	700	759	
Toluene	0	0		0	1,700	1,700	1,842	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	7,370	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	3,251	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	3,685	
Trichloroethylene	0	0		0	2,300	2,300	2,493	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	607	
2,4-Dichlorophenol	0	0		0	1,700	1,700	1,842	
2,4-Dimethylphenol	0	0		0	660	660	715	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	86.7	
2,4-Dinitrophenol	0	0		0	660	660	715	
2-Nitrophenol	0	0		0	8,000	8,000	8,671	
4-Nitrophenol	0	0		0	2,300	2,300	2,493	
p-Chloro-m-Cresol	0	0		0	160	160	173	

Pentachlorophenol	0	0		0	14.280	14.3	15.5	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	499	
Acenaphthene	0	0		0	83	83.0	90.0	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	325	
Benzo(a)Anthracene	0	0		0	0.5	0.5	0.54	
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	32,514	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	4,877	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	293	
Butyl Benzyl Phthalate	0	0		0	140	140	152	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthracene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	820	820	889	
1,3-Dichlorobenzene	0	0		0	350	350	379	
1,4-Dichlorobenzene	0	0		0	730	730	791	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	4,335	
Dimethyl Phthalate	0	0		0	2,500	2,500	2,710	
Di-n-Butyl Phthalate	0	0		0	110	110	119	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	1,734	
2,6-Dinitrotoluene	0	0		0	990	990	1,073	
1,2-Diphenylhydrazine	0	0		0	15	15.0	16.3	
Fluoranthene	0	0		0	200	200	217	
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	10.8	
Hexachlorocyclopentadiene	0	0		0	5	5.0	5.42	
Hexachloroethane	0	0		0	60	60.0	65.0	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	10,838	
Naphthalene	0	0		0	140	140	152	
Nitrobenzene	0	0		0	4,000	4,000	4,335	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	18,425	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	325	
Phenanthrene	0	0		0	5	5.0	5.42	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	141	
Aldrin	0	0		0	3	3.0	3.25	
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	1.03	
Chlordane	0	0		0	2.4	2.4	2.6	
4,4-DDT	0	0		0	1.1	1.1	1.19	
4,4-DDE	0	0		0	1.1	1.1	1.19	
4,4-DDD	0	0		0	1.1	1.1	1.19	
Dieldrin	0	0		0	0.24	0.24	0.26	
alpha-Endosulfan	0	0		0	0.22	0.22	0.24	
beta-Endosulfan	0	0		0	0.22	0.22	0.24	
Endrin	0	0		0	0.086	0.086	0.093	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.52	0.52	0.56	
Heptachlor Epoxide	0	0		0	0.5	0.5	0.54	
PCBs, Total	0	0		0	N/A	N/A	N/A	
Toxaphene	0	0		0	0.73	0.73	0.79	
2,3,7,8-TCDD	0	0		0	N/A	N/A	N/A	
Color	0	0		0	N/A	N/A	N/A	

☒ **CFC**

CCT (min): 0.002

PMF: 1

Analysis Hardness (mg/l): 719.34

Analysis pH: 7.49

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	238	
Total Arsenic	0	0		0	150	150	163	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	4,444	
Total Boron	0	0		0	1,600	1,600	1,734	
Total Cadmium	0	0		0	0.965	1.17	1.27	Chem Translator of 0.826 applied
Total Chromium (III)	0	0		0	373.020	434	470	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	11.3	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	20.6	
Total Copper	0	0		0	48.345	50.4	54.6	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	5.2	5.2	5.64	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	1,626	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	19.747	39.2	42.5	Chem Translator of 0.503 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	0.98	Chem Translator of 0.85 applied
Total Nickel	0	0		0	276.073	277	300	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	5.41	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	14.1	

Total Zinc	0	0		0	628.743	638	691	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	3.25	
Acrylonitrile	0	0		0	130	130	141	
Benzene	0	0		0	130	130	141	
Bromoform	0	0		0	370	370	401	
Carbon Tetrachloride	0	0		0	560	560	607	
Chlorobenzene	0	0		0	240	240	260	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	3,793	
Chloroform	0	0		0	390	390	423	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	3,360	
1,1-Dichloroethylene	0	0		0	1,500	1,500	1,626	
1,2-Dichloropropane	0	0		0	2,200	2,200	2,384	
1,3-Dichloropropylene	0	0		0	61	61.0	66.1	
Ethylbenzene	0	0		0	580	580	629	
Methyl Bromide	0	0		0	110	110	119	
Methyl Chloride	0	0		0	5,500	5,500	5,961	
Methylene Chloride	0	0		0	2,400	2,400	2,601	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	228	
Tetrachloroethylene	0	0		0	140	140	152	
Toluene	0	0		0	330	330	358	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	1,517	
1,1,1-Trichloroethane	0	0		0	610	610	661	
1,1,2-Trichloroethane	0	0		0	680	680	737	
Trichloroethylene	0	0		0	450	450	488	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	119	
2,4-Dichlorophenol	0	0		0	340	340	368	
2,4-Dimethylphenol	0	0		0	130	130	141	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	17.3	
2,4-Dinitrophenol	0	0		0	130	130	141	
2-Nitrophenol	0	0		0	1,600	1,600	1,734	
4-Nitrophenol	0	0		0	470	470	509	
p-Chloro-m-Cresol	0	0		0	30	30.0	32.5	
Pentachlorophenol	0	0		0	10.956	11.0	11.9	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	98.6	
Acenaphthene	0	0		0	17	17.0	18.4	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	63.9	
Benzo(a)Anthracene	0	0		0	0.1	0.1	0.11	
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	6,503	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	986	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	58.5	
Butyl Benzyl Phthalate	0	0		0	35	35.0	37.9	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthracene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	160	160	173	
1,3-Dichlorobenzene	0	0		0	69	69.0	74.8	
1,4-Dichlorobenzene	0	0		0	150	150	163	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	867	
Dimethyl Phthalate	0	0		0	500	500	542	
Di-n-Butyl Phthalate	0	0		0	21	21.0	22.8	
2,4-Dinitrotoluene	0	0		0	320	320	347	
2,6-Dinitrotoluene	0	0		0	200	200	217	
1,2-Diphenylhydrazine	0	0		0	3	3.0	3.25	
Fluoranthene	0	0		0	40	40.0	43.4	
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	2.17	
Hexachlorocyclopentadiene	0	0		0	1	1.0	1.08	
Hexachloroethane	0	0		0	12	12.0	13.0	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	2,276	
Naphthalene	0	0		0	43	43.0	46.6	
Nitrobenzene	0	0		0	810	810	878	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	3,685	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	63.9	
Phenanthrene	0	0		0	1	1.0	1.08	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	28.2	
Aldrin	0	0		0	0.1	0.1	0.11	
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	0.005	
4,4-DDT	0	0		0	0.001	0.001	0.001	
4,4-DDE	0	0		0	0.001	0.001	0.001	
4,4-DDD	0	0		0	0.001	0.001	0.001	
Dieldrin	0	0		0	0.056	0.056	0.061	
alpha-Endosulfan	0	0		0	0.056	0.056	0.061	
beta-Endosulfan	0	0		0	0.056	0.056	0.061	

Endrin	0	0		0	0.036	0.036	0.039	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.0038	0.004	0.004	
Heptachlor Epoxide	0	0		0	0.0038	0.004	0.004	
PCBs, Total	0	0		0	0.014	0.014	0.015	
Toxaphene	0	0		0	0.0002	0.0002	0.0002	
2,3,7,8-TCDD	0	0		0	N/A	N/A	N/A	
Color	0	0		0	N/A	N/A	N/A	

☒ **THH**

CCT (min):

THH PMF:

Analysis Hardness (mg/l):

Analysis pH:

PWS PMF:

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	#####	WQC applied at RMI 0.2 with a design stream flow of 67 cfs
Chloride (PWS)	0	0		0	250,000	250,000	#####	WQC applied at RMI 0.2 with a design stream flow of 67 cfs
Sulfate (PWS)	0	0		0	250,000	250,000	#####	WQC applied at RMI 0.2 with a design stream flow of 67 cfs
Fluoride (PWS)	0	0		0	2,000	2,000	1,021,050	WQC applied at RMI 0.2 with a design stream flow of 67 cfs
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	6.07	
Total Arsenic	0	0		0	10	10.0	10.8	
Total Barium	0	0		0	2,400	2,400	2,601	
Total Boron	0	0		0	3,100	3,100	3,360	
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	
Free Cyanide	0	0		0	140	140	152	
Dissolved Iron	0	0		0	300	300	325	
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	1,084	
Total Mercury	0	0		0	0.050	0.05	0.054	
Total Nickel	0	0		0	610	610	661	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	2,553	WQC applied at RMI 0.2 with a design stream flow of 67 cfs
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	0.26	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	6	6.0	6.5	
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	130	130	141	

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	N/A	N/A	N/A	
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	35.8	
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	530	530	574	
Methyl Bromide	0	0		0	47	47.0	50.9	
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	1,300	1,300	1,409	
1,2-trans-Dichloroethylene	0	0		0	140	140	152	
1,1,1-Trichloroethane	0	0		0	N/A	N/A	N/A	
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	81	81.0	87.8	
2,4-Dichlorophenol	0	0		0	77	77.0	83.5	
2,4-Dimethylphenol	0	0		0	380	380	412	
4,6-Dinitro-o-Cresol	0	0		0	13	13.0	14.1	
2,4-Dinitrophenol	0	0		0	69	69.0	74.8	
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	10,400	10,400	11,272	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	670	670	726	
Anthracene	0	0		0	8,300	8,300	8,996	
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	1,400	1,400	1,517	
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	150	150	163	
2-Chloronaphthalene	0	0		0	1,000	1,000	1,084	
Chrysene	0	0		0	N/A	N/A	N/A	

Dibenzo(a,h)Anthracene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	420	420	455	
1,3-Dichlorobenzene	0	0		0	420	420	455	
1,4-Dichlorobenzene	0	0		0	420	420	455	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	17,000	17,000	18,425	
Dimethyl Phthalate	0	0		0	270,000	270,000	292,630	
Di-n-Butyl Phthalate	0	0		0	2,000	2,000	2,168	
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	130	130	141	
Fluorene	0	0		0	1,100	1,100	1,192	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	N/A	N/A	N/A	
Hexachlorocyclopentadiene	0	0		0	40	40.0	43.4	
Hexachloroethane	0	0		0	N/A	N/A	N/A	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.0038	0.004	0.004	
Isophorone	0	0		0	35	35.0	37.9	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	17	17.0	18.4	
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	830	830	900	
1,2,4-Trichlorobenzene	0	0		0	35	35.0	37.9	
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	0.098	0.098	0.11	
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	62	62.0	67.2	
beta-Endosulfan	0	0		0	62	62.0	67.2	
Endrin	0	0		0	0.059	0.059	0.064	
Endrin Aldehyde	0	0		0	0.29	0.29	0.31	
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	0.00028	0.0003	0.0003	
2,3,7,8-TCDD	0	0		0	N/A	N/A	N/A	

Color	0	0		0	75	75.0	81.3	
-------	---	---	--	---	----	------	------	--

☒ **CRL**

CCT (min): 0.050

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	
Free Cyanide	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	
Acrylonitrile	0	0		0	0.051	0.051	0.11	
Benzene	0	0		0	1.2	1.2	2.52	
Bromoform	0	0		0	4.3	4.3	9.03	
Carbon Tetrachloride	0	0		0	0.23	0.23	0.48	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.4	0.4	0.84	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	12.0	
Dichlorobromomethane	0	0		0	0.55	0.55	1.15	
1,2-Dichloroethane	0	0		0	0.38	0.38	0.8	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	

1,3-Dichloropropylene	0	0		0	0.34	0.34	0.71	
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	4.6	4.6	9.66	
1,1,2,2-Tetrachloroethane	0	0		0	0.17	0.17	0.36	
Tetrachloroethylene	0	0		0	0.69	0.69	1.45	
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	0.59	0.59	1.24	
Trichloroethylene	0	0		0	2.5	2.5	5.25	
Vinyl Chloride	0	0		0	0.025	0.025	0.052	
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	0.270	0.27	0.57	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.4	1.4	2.94	
Acenaphthene	0	0		0	N/A	N/A	N/A	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	0.000086	0.00009	0.0002	
Benzo(a)Anthracene	0	0		0	0.0038	0.004	0.008	
Benzo(a)Pyrene	0	0		0	0.0038	0.004	0.008	
3,4-Benzofluoranthene	0	0		0	0.0038	0.004	0.008	
Benzo(k)Fluoranthene	0	0		0	0.0038	0.004	0.008	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	0.063	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	1.2	1.2	2.52	
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	0.0038	0.004	0.008	
Dibenzo(a,h)Anthracene	0	0		0	0.0038	0.004	0.008	
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	0.021	0.021	0.044	
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	0.1	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	0.1	
1,2-Diphenylhydrazine	0	0		0	0.036	0.036	0.076	
Fluoranthene	0	0		0	N/A	N/A	N/A	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	0.00028	0.0003	0.0006	
Hexachlorobutadiene	0	0		0	0.44	0.44	0.92	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	1.4	1.4	2.94	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
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	0.00069	0.0007	0.001	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.01	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	6.93	
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	0.000049	0.00005	0.0001	
alpha-BHC	0	0		0	0.0026	0.003	0.005	
beta-BHC	0	0		0	0.0091	0.009	0.019	
gamma-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	0.0008	0.0008	0.002	
4,4-DDT	0	0		0	0.00022	0.0002	0.0005	
4,4-DDE	0	0		0	0.00022	0.0002	0.0005	
4,4-DDD	0	0		0	0.00031	0.0003	0.0007	
Dieldrin	0	0		0	0.000052	0.00005	0.0001	
alpha-Endosulfan	0	0		0	N/A	N/A	N/A	
beta-Endosulfan	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	0.000079	0.00008	0.0002	
Heptachlor Epoxide	0	0		0	0.000039	0.00004	0.00008	
PCBs, Total	0	0		0	0.000064	0.00006	0.0001	
Toxaphene	0	0		0	0.00028	0.0003	0.0006	
2,3,7,8-TCDD	0	0		0	5E-09	5.00E-09	1.05E-08	
Color	0	0		0	N/A	N/A	N/A	

☒ **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	0.53	0.58	750	813	813	µg/L	750	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Antimony	0.004	0.007	6.07	9.47	15.2	µg/L	6.07	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Arsenic	0.008	0.012	10.8	16.9	27.1	µg/L	10.8	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Barium	1.84	2.88	2,601	4,058	6,503	µg/L	2,601	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Boron	1.23	1.92	1,734	2,705	4,335	µg/L	1,734	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Cadmium	0.0009	0.001	1.27	1.97	3.16	µg/L	1.27	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Chromium (III)	0.33	0.52	470	733	1,175	µg/L	470	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Cobalt	0.015	0.023	20.6	32.1	51.5	µg/L	20.6	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Copper	0.039	0.06	54.6	85.2	136	µg/L	54.6	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Free Cyanide	0.004	0.006	5.64	8.79	14.1	µg/L	5.64	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Dissolved Iron	0.23	0.36	325	507	813	µg/L	325	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Iron	1.15	1.8	1,626	2,536	4,064	µg/L	1,626	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Lead	0.03	0.047	42.5	66.3	106	µg/L	42.5	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Manganese	0.77	1.2	1,084	1,691	2,710	µg/L	1,084	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Nickel	0.21	0.33	300	468	750	µg/L	300	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Phenols (Phenolics) (PWS)	1.81	2.82	2,553	3,983	6,382	µg/L	2,553	THH-PWS	Discharge Conc ≥ 50% WQBEL (RP)
Total Selenium	0.004	0.006	5.41	8.44	13.5	µg/L	5.41	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Thallium	0.0002	0.0003	0.26	0.41	0.65	µg/L	0.26	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	0.45	0.49	638	691	691	µg/L	638	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Benzene	0.002	0.003	2.52	3.93	6.3	µg/L	2.52	CRL	Discharge Conc ≥ 50% WQBEL (RP)
1,2-Dichloroethane	0.0006	0.0009	0.8	1.24	1.99	µg/L	0.8	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Ethylbenzene	Report	Report	Report	Report	Report	µg/L	574	THH	Discharge Conc > 25% WQBEL (no RP)
Methylene Chloride	0.007	0.011	9.66	15.1	24.1	µg/L	9.66	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Toluene	Report	Report	Report	Report	Report	µg/L	358	CFC	Discharge Conc > 25% WQBEL (no RP)
Vinyl Chloride	0.00004	0.00006	0.052	0.082	0.13	µg/L	0.052	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Bis(2-Ethylhexyl)Phthalate	0.002	0.003	2.52	3.93	6.3	µg/L	2.52	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Naphthalene	0.033	0.052	46.6	72.7	117	µg/L	46.6	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Phenanthrene	0.0008	0.001	1.08	1.69	2.71	µg/L	1.08	CFC	Discharge Conc ≥ 50% WQBEL (RP)
alpha-Endosulfan	0.00004	0.00007	0.061	0.095	0.15	µg/L	0.061	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Color	XXX	XXX	81.3	127	203	Pt-Co	81.3	THH	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)	255,263	mg/L	Discharge Conc ≤ 10% WQBEL
Chloride (PWS)	127,631	mg/L	Discharge Conc ≤ 10% WQBEL
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	127,631	mg/L	Discharge Conc ≤ 10% WQBEL
Fluoride (PWS)	1,021	mg/L	Discharge Conc ≤ 10% WQBEL

Total Beryllium	N/A	N/A	No WQS
Hexavalent Chromium	N/A	N/A	Discharge Conc < TQL
Total Cyanide	N/A	N/A	No WQS
Total Mercury	0.054	µg/L	Discharge Conc < TQL
Total Silver	113	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	3.0	µg/L	Discharge Conc < TQL
Acrylonitrile	0.11	µg/L	Discharge Conc < TQL
Bromoform	9.03	µg/L	Discharge Conc ≤ 25% WQBEL
Carbon Tetrachloride	0.48	µg/L	Discharge Conc < TQL
Chlorobenzene	141	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorodibromomethane	0.84	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	3,793	µg/L	Discharge Conc < TQL
Chloroform	12.0	µg/L	Discharge Conc ≤ 25% WQBEL
Dichlorobromomethane	1.15	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,1-Dichloroethylene	35.8	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-Dichloropropane	2,384	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichloropropylene	0.71	µg/L	Discharge Conc < TQL
Methyl Bromide	50.9	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Chloride	5,961	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2,2-Tetrachloroethane	0.36	µg/L	Discharge Conc < TQL
Tetrachloroethylene	1.45	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	152	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,1-Trichloroethane	661	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2-Trichloroethane	1.24	µg/L	Discharge Conc < TQL
Trichloroethylene	5.25	µg/L	Discharge Conc ≤ 25% WQBEL
2-Chlorophenol	87.8	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	83.5	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	141	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	14.1	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	74.8	µg/L	Discharge Conc < TQL
2-Nitrophenol	1,734	µg/L	Discharge Conc < TQL
4-Nitrophenol	509	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	32.5	µg/L	Discharge Conc < TQL
Pentachlorophenol	0.57	µg/L	Discharge Conc < TQL
Phenol	11,272	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	2.94	µg/L	Discharge Conc < TQL
Acenaphthene	18.4	µg/L	Discharge Conc ≤ 25% WQBEL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	8,996	µg/L	Discharge Conc ≤ 25% WQBEL
Benzidine	0.0002	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.008	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.008	µg/L	Discharge Conc < TQL

3,4-Benzofluoranthene	0.008	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.008	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	0.063	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	1,517	µg/L	Discharge Conc ≤ 25% WQBEL
4-Bromophenyl Phenyl Ether	58.5	µg/L	Discharge Conc ≤ 25% WQBEL
Butyl Benzyl Phthalate	37.9	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	1,084	µg/L	Discharge Conc ≤ 25% WQBEL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	0.008	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthracene	0.008	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	173	µg/L	Discharge Conc < TQL
1,3-Dichlorobenzene	74.8	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	163	µg/L	Discharge Conc ≤ 25% WQBEL
3,3-Dichlorobenzidine	0.044	µg/L	Discharge Conc < TQL
Diethyl Phthalate	867	µg/L	Discharge Conc ≤ 25% WQBEL
Dimethyl Phthalate	542	µg/L	Discharge Conc ≤ 25% WQBEL
Di-n-Butyl Phthalate	22.8	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	0.1	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	0.1	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	0.076	µg/L	Discharge Conc < TQL
Fluoranthene	43.4	µg/L	Discharge Conc ≤ 25% WQBEL
Fluorene	1,192	µg/L	Discharge Conc ≤ 25% WQBEL
Hexachlorobenzene	0.0006	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.92	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	1.08	µg/L	Discharge Conc < TQL
Hexachloroethane	2.94	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.004	µg/L	Discharge Conc < TQL
Isophorone	37.9	µg/L	Discharge Conc < TQL
Nitrobenzene	18.4	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.001	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.01	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	6.93	µg/L	Discharge Conc < TQL
Pyrene	900	µg/L	Discharge Conc ≤ 25% WQBEL
1,2,4-Trichlorobenzene	28.2	µg/L	Discharge Conc < TQL
Aldrin	0.0001	µg/L	Discharge Conc < TQL
alpha-BHC	0.005	µg/L	Discharge Conc < TQL
beta-BHC	0.019	µg/L	Discharge Conc < TQL
gamma-BHC	0.11	µg/L	Discharge Conc < TQL
delta BHC	N/A	N/A	No WQS
Chlordane	0.002	µg/L	Discharge Conc < TQL
4,4-DDT	0.0005	µg/L	Discharge Conc < TQL
4,4-DDE	0.0005	µg/L	Discharge Conc < TQL

4,4-DDD	0.0007	µg/L	Discharge Conc < TQL
Dieldrin	0.0001	µg/L	Discharge Conc < TQL
beta-Endosulfan	0.061	µg/L	Discharge Conc < TQL
Endosulfan Sulfate	N/A	N/A	No WQS
Endrin	0.039	µg/L	Discharge Conc < TQL
Endrin Aldehyde	0.31	µg/L	Discharge Conc < TQL
Heptachlor	0.0002	µg/L	Discharge Conc < TQL
Heptachlor Epoxide	0.00008	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	0.0001	µg/L	Discharge Conc < TQL
Toxaphene	0.0002	µg/L	Discharge Conc < TQL
2,3,7,8-TCDD	0.00001	ng/L	Discharge Conc < TQL

Input Data WQM 7.0

		Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC			
		34302 Trib	34302 to Black Run	1.600	1236.00	1.03	0.00000	0.00	☒			
		Stream Data										
Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary Temp	pH	Stream Temp	pH
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)	
Q7-10	0.011	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.39	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing	Permitted	Design	Reserve Factor	Disc	Disc
		Disc Flow (mgd)	Disc Flow (mgd)	Disc Flow (mgd)		Temp (°C)	pH
Tri County Ldfl	PA0263664	0.0850	0.0000	0.0000	0.000	20.00	7.50

Parameter Data

Parameter Name	Disc Conc	Trib Conc	Stream Conc	Fate Coef
	(mg/L)	(mg/L)	(mg/L)	(1/days)
CBOD5	37.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	4.90	0.10	0.00	0.70

Input Data WQM 7.0

		Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
		34302 Trib	34302 to Black Run	0.001	1206.00	3.00	0.00000	0.00	☒
		Stream Data							

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary		Stream	
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.011	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.39	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing	Permitted	Design	Reserve Factor	Disc	Disc
		Disc Flow (mgd)	Disc Flow (mgd)	Disc Flow (mgd)		Temp (°C)	pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc	Trib Conc	Stream Conc	Fate Coef
	(mg/L)	(mg/L)	(mg/L)	(1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

<u>SWP Basin</u>		<u>Stream Code</u>				<u>Stream Name</u>						
20C		34302				Trib 34302 to Black Run						
RMI	Stream Flow	PWS With	Net Stream Flow	Disc Analysis Flow	Reach Slope	Depth	Width	W/D Ratio	Velocity	Reach Trav Time	Analysis Temp	Analysis pH
	(cfs)	(cfs)	(cfs)	(cfs)	(ft/ft)	(ft)	(ft)		(fps)	(days)	(°C)	
Q7-10 Flow												
1.600	0.01	0.00	0.01	.1315	0.00355	.377	5.55	14.71	0.07	1.434	20.00	7.49
Q1-10 Flow												
1.600	0.01	0.00	0.01	.1315	0.00355	NA	NA	NA	0.07	1.457	20.00	7.49
Q30-10 Flow												
1.600	0.01	0.00	0.01	.1315	0.00355	NA	NA	NA	0.07	1.412	20.00	7.49

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☒
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☒
D.O. Saturation	90.00%	Use Balanced Technology	☒
D.O. Goal	6		

WQM 7.0 Wasteload Allocations

SWP Basin

Stream Code

Stream Name

20C

34302

Trib 34302 to Black Run

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
1.600	Tri County Ldfl	5.9	6.22	5.9	6.22	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
1.600	Tri County Ldfl	1.44	1.6	1.44	1.6	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	<u>CBOD5</u>		<u>NH3-N</u>		<u>Dissolved Oxygen</u>		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
1.60	Tri County Ldfl	34.91	34.91	1.6	1.6	6	6	0	0

WQM 7.0 D.O.Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>			
20C	34302	Trib 34302 to Black Run			
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>		<u>Analysis pH</u>	
1.600	0.085	20.000		7.490	
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>		<u>Reach Velocity (fps)</u>	
5.546	0.377	14.710		0.068	
<u>Reach CBOD5 (mg/L)</u>	<u>Reach Kc (1/days)</u>	<u>Reach NH3-N (mg/L)</u>		<u>Reach Kn (1/days)</u>	
32.36	1.475	1.48		0.700	
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>		<u>Reach DO Goal (mg/L)</u>	
6.173	21.803	Owens		6	
<u>Reach Travel Time (days)</u>	Subreach Results				
1.434	TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)	
	0.143	26.19	1.34	6.14	
	0.287	21.20	1.21	6.67	
	0.430	17.16	1.10	7.13	
	0.574	13.89	0.99	7.50	
	0.717	11.24	0.90	7.80	
	0.860	9.10	0.81	8.05	
	1.004	7.36	0.73	8.24	
	1.147	5.96	0.66	8.24	
	1.291	4.82	0.60	8.24	
	1.434	3.90	0.54	8.24	

WQM 7.0 Effluent Limits

<u>SWP Basin</u>		<u>Stream Code</u>	<u>Stream Name</u>				
20C		34302	Trib 34302 to Black Run				
RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
1.600	Tri County Ldfl	PA0263664	0.085	CBOD5	34.91		
				NH3-N	1.6	3.2	
				Dissolved Oxygen			6

1A	B	C	D	E	F	G
2	TRC EVALUATION					
3	Tri County Landfill					
4	Input appropriate values in B4:B8 and E4:E7					
5	0.011021	= Q stream (cfs)	0.5	= CV Daily		
6	0.085	= Q discharge (MGD)	0.5	= CV Hourly		
7	30	= no. samples	1	= AFC_Partial Mix Factor		
8	0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor		
9	0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)		
10	0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)		
11	0	= % Factor of Safety (FOS)	0	= Decay Coefficient (K)		
12	Source	Reference	AFC Calculations	Reference	CFC Calculations	
13	TRC	1.3.2.iii	WLA afc = 0.046	1.3.2.iii	WLA cfc = 0.037	
14	PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581	
15	PENTOXSD TRG	5.1b	LTA_afc = 0.017	5.1d	LTA_cfc = 0.022	
16	Source	Effluent Limit Calculations				
17	PENTOXSD TRG	5.1f	AML MULT = 1.231			
18	PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.021	AFC		
			INST MAX LIMIT (mg/l) = 0.069			
	WLA afc	$(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))... \\ ...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)$				
	LTAMULT afc	$EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)$				
	LTA_afc	wla_afc*LTAMULT_afc				
	WLA_cfc	$(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))... \\ ...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)$				
	LTAMULT_cfc	$EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)$				
	LTA_cfc	wla_cfc*LTAMULT_cfc				
	AML MULT	$EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))$				
	AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)				
	INST MAX LIMIT	1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)				