pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Amendment, Major**
Facility Type	**Industrial**
Major / Minor	**Minor**

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

Application No.	**PA0000906 A-1**
APS ID	**1068475**
Authorization ID	**1405014**

Applicant and Facility Information

Applicant Name	**Westinghouse Electric Co. LLC**	Facility Name	**Waltz Mill Service Center**
Applicant Address	PO Box 158 Waltz Mill Facility	Facility Address	680 Waltz Mill Road
	Madison, PA 15663-0158		Madison, PA 15663-0410
Applicant Contact	William Hardy	Facility Contact	Same as Applicant
Applicant Phone	(724) 722-5913	Facility Phone	Same as Applicant
Client ID	133865	Site ID	462028
SIC Code	8731	Municipality	Sewickley Township
SIC Description	Services - Commercial Physical Research	County	Westmoreland
Date Application Received	August 1, 2022	EPA Waived?	Yes
Date Application Accepted	August 3, 2022	If No, Reason	

Purpose of Application: Amendment application to remove IMP 301 and relocate other discharge

Summary of Review

The Department received an NPDES permit amendment application from Westinghouse Electric Company, LLC for the Waltz Mill Site on August 1, 2022.

Westinghouse conducts research and development activities involving power systems. The Outage and Maintenance Service Business Unit performs maintenance and repair work at nuclear power plants. The site SIC code is 8731, Commercial, Physical and Biological Research. In addition, the Waltz Mill facility refurbishes and decontaminates service equipment used in maintenance.

The amendment application is to eliminate IMP 601, reroute the discharge of IMP 301, and change the discharge location for groundwater from IMP 601 and Outfall 001 to Outfall 002.

Discharge from the site's sanitary wastewater to the Municipal Authority of Westmoreland County POTW commenced on February 16, 2022. The onsite sanitary collection and treatment system has been removed from operation and IMP 601 is no longer in use. IMP 601 should be eliminated from the existing permit.

IMP 301 previously fed into IMP 601 which has been eliminated. Water from IMP 601 will be rerouted to a portable tank and batch discharged to Outfall 001. The anticipated volume and rate of discharge is approximately 5,000 gallons (0.005 MGD) per discharge at a frequency of once per month.

Accumulated groundwater infiltration in the retired facilities previously fed into IMP 601 and discharged through Outfall 001. This water will now discharge to Outfall 002. It is expected that 25,000 gallons per week (0.0036 MGD) of uncontaminated groundwater will be intermittently pumped form the G-Annex Canal area to Outfall 002. Water will be discharged intermittently into the adjacent storm catch basin. The amount is a considerable increase versus the one-year average flow

Approve	Deny	Signatures	Date
X		Adam Olesnanik / Project Manager	February 17, 2023
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	February 17, 2023

Summary of Review

of 0.0009 MGD for Outfall 002, however, existing stormwater infrastructure will prevent erosion and/or flooding. The flow path to Outfall 002 from the existing catch basin is via a 10-inch storm drain line flowing approximately 150 meters, through two catch basins, until daylighting at the Outfall 002 sampling location. Beyond the outfall sampling location, flow discharges from the pipe and enters a concrete stormwater diversion channel before it eventually discharges to the unnamed tributary of Sewickley Creek.

Outfall 001 also receives the discharge from IMP 101. IMP 101 discharges treated groundwater. Contaminated groundwater from groundwater remediation wells is treated via ion exchange units and filtration units prior to discharge. IMP 101 received monitoring requirements based on WQBELs that Outfall 001 received. This IMP will be reviewed along with the other IMPs to Outfall 001.

Outfall 001, IMP 101, IMP 301, IMP 601 and Outfall 002 are the only outfalls being evaluated as part of this amendment due to the changes to the site. All of the IMPs and Outfalls limitations will remain what is currently permitted.

Summary of changes that have been made to the Amended Permit:

The limitations in Part A for Outfall 001 have changed due to the review of the process change.

The limitations in Part A for IMP 101 have changed due to the review of the process change.

The limitations in Part A for IMP 301 have changed due to the review of the process change.

The limitations in Part A for IMP 601 have been removed due to the review of the process change.

The limitations in Part A for Outfall 002 have changed due to the review of the process change.

Part C II Schedule of Compliance – Outfall 001 has been revised to only reference the WQBEL for Total Copper due to changes to the limitations imposed at Outfall 001.

Part C IV Requirements for Total Residual Chloride (TRC) has been removed because it is no longer applicable.

The review of the process changes and the changes to the permit are discussed in more detail below in this fact sheet.

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.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001 (IMPs 101 and 301)	Design Flow (MGD)	0.0073
Latitude	40º 12' 51.44"	Longitude	-79º 39' 30.08"
Quad Name	Smithton	Quad Code	1708
Wastewater Description:	Treated groundwater, and treated equipment decontamination wastewater		
Receiving Waters	Unnamed Tributary to Sewickley Creek	Stream Code	37648
NHD Com ID	69913439	RMI	0.6900
Drainage Area	5.05	Yield (cfs/mi^2)	0.0115
Q_{7-10} Flow (cfs)	0.0581	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	932	Slope (ft/ft)	0.0001
Watershed No.	19-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Road Runoff		
TMDL Status	Final	Name	Sewickley Creek Watershed
Nearest Downstream Public Water Supply Intake	Westmoreland County Municipal Authority - McKeesport		
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	510
PWS RMI	1.38	Distance from Outfall (mi)	31.41

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0.0045
Latitude	40º 13' 5.6"	Longitude	-79º 39' 48.3"
Quad Name	Smithton	Quad Code	1708
Wastewater Description:	Boiler Blowdown, cooling tower blowdown, compressor condensate, groundwater and stormwater		
Receiving Waters	Unnamed Tributary to Sewickley Creek	Stream Code	37641
NHD Com ID	69913367	RMI	1.02
Drainage Area	0.37	Yield (cfs/mi^2)	0.0062
Q_{7-10} Flow (cfs)	0.0023	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	955	Slope (ft/ft)	0.0001
Watershed No.	19-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	Sewickley Creek Watershed
Nearest Downstream Public Water Supply Intake	Westmoreland County Municipal Authority - McKeesport		
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	510
PWS RMI	1.38	Distance from Outfall (mi)	30.278

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.0073
Latitude 40º 12' 51.44" **Longitude** -79º 39' 30.08"
Wastewater Description: Effluent from IMP 101 and 301

Technology Based Limitations

Regulatory Effluent Standards and Monitoring Requirements

Flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1).

As oil-bearing wastewaters, discharges from Outfall 001 are subject to effluent standards for oil and grease from 25 Pa. Code § 95.2(2).

Industrial waste discharges shall not contain more than 7 milligrams per liter of dissolved iron per 25 Pa. Code § 95.2(4).

Pennsylvania regulations at 25 Pa. Code § 92a.48(b) require the imposition of technology-based TRC limits for facilities that use chlorination and that are not already subject to TRC limits based on applicable federal ELGs or a facility-specific BPJ evaluation.

Effluent standards for pH are also imposed on industrial wastes by 25 Pa. Code § 95.2(1) as indicated in Table 1.

Table 1: Regulatory Effluent Standards and Monitoring Requirements for Outfall 001

Parameter	Monthly Average	Daily Maximum	IMAX	Units
Flow	Monitor and Report		XXX	MGD
Dissolved Iron	-	XXX	7.0	mg/L
Oil & Grease	15	30	XXX	mg/L
Total Residual Chlorine	0.5	1.0	XXX	mg/L
pH	Not less than 6.0 nor greater than 9.0			S.U.

Water Quality-Based Limitations

Toxics Management Spread Sheet

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 Outfall 001

Discharges from Outfall 001 are evaluated based on concentrations reported on the application and on DMRs; data from those sources are entered into the Toxics Management Spread Sheet. The maximum reported value of the parameters from the application form or from previous DMRs is used as the input concentration 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 considered to be 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]. The Toxics Management Spread Sheet is run with the discharge and receiving stream characteristics shown in Table 2. For IW discharges, the design flow used in modeling is the average 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 evaluated using the model to determine the water quality-based effluent limits applicable to the discharge and the receiving stream. The spreadsheet then compares the reported discharge concentrations to the calculated water quality-based effluent limitations to determine if a reasonable potential exists to exceed the calculated WQBELs. Effluent limitations are established in the draft permit where a pollutant's maximum reported discharge 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 in Attachment B of this Fact Sheet. The Toxics Management Spread Sheet recommend WQBELs for Outfall 001 and they are displayed below in Table 3.

Table 2: TMS Inputs

Parameter	**Value**
River Mile Index	0.69
Discharge Flow (MGD)	0.0073
Basin/Stream Characteristics	
Parameter	**Value**
Area in Square Miles	5.05
$Q_{7\text{-}10}$ (cfs)	0.0581
Low-flow yield (cfs/mi^2)	0.0115
Elevation (ft)	932
Slope	0.0001

Table 3: Water Quality Based Effluent Limitations at Outfall 001

Parameters	**Average Monthly (µg/L)**	**Daily Maximum (µg/L)**
Total Cadmium	Report	Report
Total Copper	35.5	55.4
Total Lead	Report	Report
Total Manganese	Report	Report
Total Silver	Report	Report
Total Zinc	Report	Report

Total Residual Chlorine

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 chlorine demands for the receiving stream and the discharge, 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 imposed in the permit. The results of the modeling, included in Attachment C, indicate that no WQBELs are required for TRC.

Anti-backsliding

Previous effluent limits and monitoring requirements can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 4.

Table 4. Current Limitations at Outfall 001

Parameter	Instant. Minimum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow (MGD)	XXX	Monitor	Monitor	2/Month	Measure
Oil and Grease (mg/L)	XXX	15.0	30.0	2/Month	Grab
Ammonia Nitrogen (mg/L) May 1 to Oct 31 Nov 1 to Apr 30	 XXX XXX	 2.5 7.5	 5.0 15.0	2/Month	Grab
Dissolved Oxygen (mg/L)	4.0	XXX	XXX	2/Month	Grab
Total Residual Chlorine (TRC) (mg/L)	XXX	0.29	0.68	2/Month	Grab
Lead (µg/L)	XXX	7.5	11.7	2/Month	Grab
Zinc (mg/L)	XXX	Monitor	Monitor	2/Month	Grab
Iron, Dissolved (mg/L)	XXX	0.71	1.1	2/Month	Grab
Iron, Total (mg/L)	XXX	Monitor	Monitor	2/Month	Grab
Copper (µg/L)	XXX	21.1	32.9	2/Month	Grab
Aluminum (mg/L)	XXX	Monitor	Monitor	2/Month	Grab
Manganese (mg/L)	XXX	2.3	3.7	2/Month	Grab
Hexavalent Chromium (mg/L)	XXX	Monitor	Monitor	2/Month	Grab
pH (S.U.)	Not less than 6.0 nor greater than 9.0			2/Month	Grab

Proposed Effluent Limitations for Outfall 001

The proposed effluent limitations and monitoring requirements for Outfall 001 are shown below in Table 5. The limits are the most stringent values from the above limitation analysis. The effluent limits for Dissolved Oxygen and Ammonia Nitrogen will be removed from the permit because based new information and the removal of IMP 601, these are no longer pollutants of concern. The monitoring requirements or limitations in the previous permit for Dissolved Iron, Total Iron, Aluminum, and Hexavalent Chromium were imposed because Outfall 001 received new WQBELs for these parameters, after the removal of IMP 601 the discharge of Outfall 001 has decrease significantly. Therefore, based on new information, these pollutants are no longer pollutants of concern and the monitoring requirements or limits for Dissolved Iron, Total Iron, Aluminum, and Hexavalent Chromium have been removed. Total Copper, Total Lead, Total Manganese, and Total Zinc are still pollutants of concerns, however, because of the decrease in flow from the removal of IMP 601, the total Copper limitation will be relaxed. Only monitor and report will be imposed for Total Lead, Total Manganese, and Total Zinc. Outfall 002 received monitoring requirements for Total Cadmium and Total Silver because of the reporting limit that was used during the analytical testing. The reporting limit used is less stringent that the quantitation limitation that the Department requires, therefore, it is uncertain if the parameters are at concentrations above the Department QLs. During the 30-day public comment period, Westinghouse may resample Outfall 001 for Total Cadmium and Total Silver at the Department's QL to verify that they are not present in the discharge. If it is determined that Total Cadmium and Total Silver are not present in the discharge at the Department's QLs, Total Cadmium and Total Silver may be removed from the Final Permit. The TRC WQBEL in the previous permit, based on new information, is no longer a pollutant of concern; therefore, only the BAT TRC limitations will be imposed.

Table 5. Proposed Final Limitations at Outfall 001

Parameter	Instant. Minimum	Monthly Average	Daily Maximum	Instant Maximum	Measurement Frequency	Sample Type
Flow (MGD)	XXX	Monitor	Monitor	XXX	2/Month	Measure
Oil and Grease (mg/L)	XXX	15.0	30.0	XXX	2/Month	Grab
Dissolved Iron (mg/L)	XXX	XXX	XXX	7.0	2/Month	Grab
Total Cadmium (µg/L)	XXX	Monitor	Monitor	XXX	2/Month	Grab
Total Copper (µg/L)	XXX	35.5	55.4	XXX	2/Month	Grab
Total Lead (µg/L)	XXX	Monitor	Monitor	XXX	2/Month	Grab
Total Manganese (µg/L)	XXX	Monitor	Monitor	XXX	2/Month	Grab
Total Silver (µg/L)	XXX	Monitor	Monitor	XXX	2/Month	Grab
Total Zinc (µg/L)	XXX	Monitor	Monitor	XXX	2/Month	Grab
Total Residual Chlorine (TRC) (mg/L)	XXX	0.5	1.0	XXX	2/Month	Grab
pH (S.U.)	6.0	XXX	XXX	9.0	2/Month	Grab

Development of Effluent Limitations

IMP No. 101 **Design Flow (MGD)** 0.0023
Latitude 40º 12' 45" **Longitude** -79º 39' 30"
Wastewater Description: Treated groundwater

Existing Effluent Limitations for IMP 101

Table 6. Current Limitations at IMP 101

Parameter	Monthly Average	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Monitor	Monitor	XXX	2/Month	Measure
Oil and Grease	15.0	30.0	XXX	2/Month	Grab
Lead (µg/L)	Monitor	Monitor	XXX	2/Month	Grab
Zinc	Monitor	Monitor	XXX	2/Month	Grab
Iron, Dissolved	Monitor	XXX	7.0	2/Month	Grab
Iron, Total	Monitor	Monitor	XXX	2/Month	Grab
Copper (µg/L)	Monitor	Monitor	XXX	2/Month	Grab
Aluminum	Monitor	Monitor	XXX	2/Month	Grab
Manganese	Monitor	Monitor	XXX	2/Month	Grab
Hexavalent Chromium	Monitor	Monitor	XXX	2/Month	Grab
pH (S.U.)	Not less than 6.0 nor greater than 9.0			2/Month	Grab

Proposed Effluent Limitations for IMP 101

The IMP currently monitors for Lead, Zinc, Dissolved Iron, Total Iron, Copper, Aluminum, Manganese, and Hexavalent Chromium, which were originally imposed because the discharge point, Outfall 001, received new WQBELs for these parameters. However, because of the removal of IMP 601, which also discharged to Outfall 001, the discharge flow from Outfall 001 has drastically decreased. This decrease has led to the reduction in the need for WQBELs for some of these parameters at the discharge from Outfall 001. Therefore, based on new information, the monitoring requirements for some these parameters can be removed from IMP 101 as well, as they are no longer pollutants of concern at Outfall 001. Total Lead, Total Zinc, Total Manganese and Total Copper monitoring will still be imposed at IMP 101 because these parameters are still pollutants of concern at Outfall 001. Total Cadmium and Total Silver monitoring will be now be imposed at IMP 101 because these parameters are new pollutants of concern at Outfall 001.

Table 7. Proposed Final Limitations at IMP 101

Parameter	Monthly Average	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Monitor	Monitor	XXX	2/Month	Measure
Oil and Grease	15.0	30.0	XXX	2/Month	Grab
Iron, Dissolved	XXX	XXX	7.0	2/Month	Grab
Total Cadmium (µg/L)	Report	Report	XXX	2/Month	Grab
Total Copper (µg/L)	Report	Report	XXX	2/Month	Grab
Total Lead (µg/L)	Report	Report	XXX	2/Month	Grab
Total Manganese (µg/L)	Report	Report	XXX	2/Month	Grab
Total Silver (µg/L)	Report	Report	XXX	2/Month	Grab
Total Zinc (µg/L)	Report	Report	XXX	2/Month	Grab
pH (S.U.)	Not less than 6.0 nor greater than 9.0			2/Month	Grab

Development of Effluent Limitations

IMP No. 301 **Design Flow (MGD)** 0.005
Latitude 40º 12' 45" **Longitude** -79º 39' 30"
Wastewater Description: Treated equipment decontamination water and groundwater

Existing Effluent Limitations for IMP 301

Table 8. Current Limitations at IMP 301

Parameter	Monthly Average	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Monitor	Monitor	XXX	2/Month	Measure
Oil and Grease	15.0	30.0	XXX	2/Month	Grab
Total Residual Chlorine (TRC)	0.5	1.0	XXX	2/Month	Grab
Lead (µg/L)	Monitor	Monitor	XXX	2/Month	Grab
Zinc	Monitor	Monitor	XXX	2/Month	Grab
Iron, Dissolved	Monitor	XXX	7.0	2/Month	Grab
Iron, Total	Monitor	Monitor	XXX	2/Month	Grab
Copper (µg/L)	Monitor	Monitor	XXX	2/Month	Grab
Aluminum	Monitor	Monitor	XXX	2/Month	Grab
Manganese	Monitor	Monitor	XXX	2/Month	Grab
Hexavalent Chromium	Monitor	Monitor	XXX	2/Month	Grab
pH (S.U.)	Not less than 6.0 nor greater than 9.0			2/Month	Grab

Proposed Effluent Limitations for IMP 301

The IMP currently monitors for Lead, Zinc, Dissolved Iron, Total Iron, Copper, Aluminum, Manganese, and Hexavalent Chromium, which were originally imposed because the discharge point, Outfall 001, received new WQBELs for these parameters. However, because of the removal of IMP 601, which also discharged to Outfall 001, the discharge flow from Outfall 001 has drastically decreased. This decrease has led to the reduction in the need for WQBELs for some of these parameters at the discharge from Outfall 001. Therefore, based on new information, the monitoring requirements for some these parameters can be removed from IMP 301 as well, as they are no longer pollutants of concern at Outfall 001. Total Lead, Total Zinc, Total Manganese and Total Copper monitoring will still be imposed at IMP 301 because these parameters are still pollutants of concern at Outfall 001. Total Cadmium and Total Silver monitoring will be now be imposed at IMP 301 because these parameters are new pollutants of concern at Outfall 001. The Measurement Frequency has changed to 2/Discharge due to the operational change of the re-rerouting and how the batch discharge operates.

Table 8. Proposed Limitations at IMP 301

Parameter	Monthly Average	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Monitor	Monitor	XXX	2/Discharge	Measure
Oil and Grease (mg/L)	15.0	30.0	XXX	2/Discharge	Grab
Iron, Dissolved	Monitor	XXX	7.0	2/Discharge	Grab
Total Cadmium (µg/L)	Report	Report	XXX	2/Discharge	Grab
Total Copper (µg/L)	Report	Report	XXX	2/Discharge	Grab
Total Lead (µg/L)	Report	Report	XXX	2/Discharge	Grab
Total Manganese (µg/L)	Report	Report	XXX	2/Discharge	Grab
Total Silver (µg/L)	Report	Report	XXX	2/Discharge	Grab
Total Zinc (µg/L)	Report	Report	XXX	2/Discharge	Grab
Total Residual Chlorine (TRC) (mg/L)	0.5	1.0	XXX	2/Discharge	Grab
pH (S.U.)	Not less than 6.0 nor greater than 9.0			2/Discharge	Grab

Development of Effluent Limitations

Outfall No. 002 **Design Flow (MGD)** 0.0045
Latitude 40º 13' 5.60" **Longitude** -79º 39' 48.30"
Wastewater Description: Boiler Blowdown, Cooling Tower Blowdown, Groundwater, Compressor Condensate and stormwater

Technology-Based Limitations

Federal Effluent Limitations Guidelines (ELGs)

Boiler blowdown is considered a low volume waste source and will be subject to 40 CFR 423.12 and will have effluent limitations for TSS and Oil and Grease, as shown in Table 9 below. Cooling tower blowdown is subject to 40 CFR 423.12 and will have effluent limitations for free available chlorine, as shown in Table 10 below.

Table 9. Boiler Blowdown Limitations

Parameter	BPT effluent Limitations (mg/l)	
	Monthly Average	Daily Maximum
Total Suspended Solids	30.0	100.0
Oil and Grease	15.0	20.0

Table 10. Cooling Tower Blowdown Limitations

Parameter	BPT effluent Limitations (mg/l)	
	Monthly Average	Daily Maximum
Free available chlorine	0.2	0.5

Regulatory Effluent Standards and Monitoring Requirements

25 PA Code Chapter 92 requires pH requirements to be a minimum of 6.0 and a maximum of 9.0 S.U. for all industrial waste process and non-process discharges.

Flow Reporting requirements is in accordance with the 25 PA Code Chapter 92 regulations.

Temperature limits will be imposed per the Department's "*Implementation Guidance for Temperature Criteria*." As a policy, DEP normally imposes a maximum temperature limit of 110°F on discharges that contain residual heat. The limit is intended as a safety measure to protect sampling personnel or anyone who may come into contact with the heated discharge where it enters the receiving water.

Pennsylvania regulations at 25 Pa. Code § 92a.48(b) require the imposition of technology-based TRC limits for facilities that use chlorination and that are not already subject to TRC limits based on applicable federal ELGs or a facility-specific BPJ evaluation.

Table 11: Regulatory Effluent Standards and Monitoring Requirements for Outfall 002

Parameter	Monthly Average	Daily Maximum	IMAX	Units
Flow	Monitor and Report		XXX	MGD
Temperature	-	XXX	110	°F
Total Residual Chlorine	0.5	1.0	XXX	mg/L
pH	Not less than 6.0 nor greater than 9.0			S.U.

Water Quality-Based Limitations

The discharge from Outfall 002, now with the addition of the retired facilities groundwater flow, will be modeled to see if the unnamed tributary to Sewickley Creek can accomodate the toxics in the groundwater and to see if there will need to be any WQBELs for those toxics. The TRC model will not be run for the additional flow contribution from the groundwater because it is believed that there will be no residual chloride concentrations in the discharge from the groundwater. The Thermal WQBELs model for heated discharges will not be run for the additional flow contribution from the groundwater because it is believed that the groundwater will not contribute to the elevation of the temperature in the discharge.

Toxics Management Spread Sheet

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 Outfall 002

Discharges from Outfall 002 are evaluated based on concentrations reported on the application and on DMRs; data from those sources are entered into the Toxics Management Spread Sheet. The maximum reported value of the parameters from the application form or from previous DMRs is used as the input concentration 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 considered to be 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]. The Toxics Management Spread Sheet is run with the discharge and receiving stream characteristics shown in Table 12. For IW discharges, the design flow used in modeling is the average 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 evaluated using the model to determine the water quality-based effluent limits applicable to the discharge and the receiving stream. The spreadsheet then compares the reported discharge concentrations to the calculated water quality-based effluent limitations to determine if a reasonable potential exists to exceed the calculated WQBELs. Effluent limitations are established in the draft permit where a pollutant's maximum reported discharge 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 in Attachment G of this Fact Sheet. The Toxics Management Spread Sheet recommended WQBELs for Outfall 002 and they are displayed below in Table 13.

Table 12: TMS Inputs

Parameter	**Value**
River Mile Index	1.02
Discharge Flow (MGD)	0.0045
Basin/Stream Characteristics	
Parameter	**Value**
Area in Square Miles	0.37
Q_{7-10} (cfs)	0.0023
Low-flow yield (cfs/mi^2)	0.0062
Elevation (ft)	955
Slope	0.0001

Table 13: Water Quality Based Effluent Limitations at Outfall 002

Parameters	**Average Monthly (µg/L)**	**Daily Maximum (µg/L)**
Total Cadmium	0.78	1.21
Hexavalent Chromium	Report	Report
Total Silver	Report	Report
Total Strontium	Report	Report

Anti-backsliding

Previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 14.

Table 14. Existing Limitations at Outfall 002

Parameter	Monthly Average	Daily Maximum	Instantaneous Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Monitor	Monitor	XXX	2/Month	Measure
Temperature (°F) Jan 1 – 31 Feb 1 – 29 Mar 1 – Oct 15 Oct 16 – 31 Nov 1 – 15 Nov 16 – 30 Dec 1 – 31	XXX	XXX	 87.1 91.5 110.0 108.4 105.1 87.7 77.3	2/Month	I-S
TSS	30	XXX	60	2/Month	Grab
Oil and Grease (mg/L)	15.0	20.0	XXX	2/Month	Grab
Total Residual Chlorine (TRC) (mg/L)	0.5	1.0	XXX	2/Month	Grab
Free Available Chlorine (mg/L)	0.2	0.5	XXX	2/Month	Grab
pH (S.U.)	Not less than 6.0 nor greater than 9.0			2/Month	Grab

Proposed Effluent Limitations for Outfall 002

The proposed effluent limitations and monitoring requirements for Outfall 002 are shown below in Table 15. The limits are the most stringent values from the above limitation analysis. Outfall 002 received new WQBELs for Total Cadmium and monitoring requirements for Hexavalent Chromium and Total Silver due to the reporting limit that was used during the analytical testing. The reporting limit used is less stringent that the minimum quantitation limitation that the Department requires, therefore, it is uncertain if the parameter discharges at concentrations above the Department QLs. During the 30-day public comment period, Westinghouse may resample Outfall 002 for Total Cadmium, Hexavalent Chromium, and Total Silver at the Department's QL to verify that it is not present in the discharge. If it is determined that Total Cadmium, Hexavalent Chromium, and Total Silver are not present in the discharge at the Department's QLs, Total Cadmium, Hexavalent Chromium, and Total Silver may be removed from the Final Permit.

Table 15. Proposed Limitations at Outfall 002

Parameter	Monthly Average	Daily Maximum	Instantaneous Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Monitor	Monitor	XXX	2/Month	Measure
Temperature (°F) Jan 1 – 31 Feb 1 – 29 Mar 1 – Oct 15 Oct 16 – 31 Nov 1 – 15 Nov 16 – 30 Dec 1 – 31	XXX	XXX	 87.1 91.5 110.0 108.4 105.1 87.7 77.3	2/Month	i-s
TSS	30	XXX	60	2/Month	Grab
Oil and Grease (mg/L)	15.0	20.0	XXX	2/Month	Grab
Total Residual Chlorine (TRC) (mg/L)	0.5	1.0	XXX	2/Month	Grab
Free Available Chlorine (mg/L)	0.2	0.5	XXX	2/Month	Grab
Total Cadmium (µg/L)	0.78	1.21	XXX	2/Month	Grab
Hexavalent Chromium (µg/L)	Report	Report	XXX	2/Month	Grab
Total Silver (µg/L)	Report	Report	XXX	2/Month	Grab
Total Strontium (µg/L)	Report	Report	XXX	2/Month	Grab
pH (S.U.)	Not less than 6.0 nor greater than 9.0			2/Month	Grab

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment **B, E**)
☐	TRC Model Spreadsheet (see Attachment **C**)
☐	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, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 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, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 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, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other:

Attachments

Attachment A: Outfall 001 StreamStats Report

Attachment B: Outfall 001 Toxics Management Spreadsheet

Attachment C: Outfall 001 Total Residual Chlorine Evaluation

Attachment D: Outfall 002 StreamStats Report

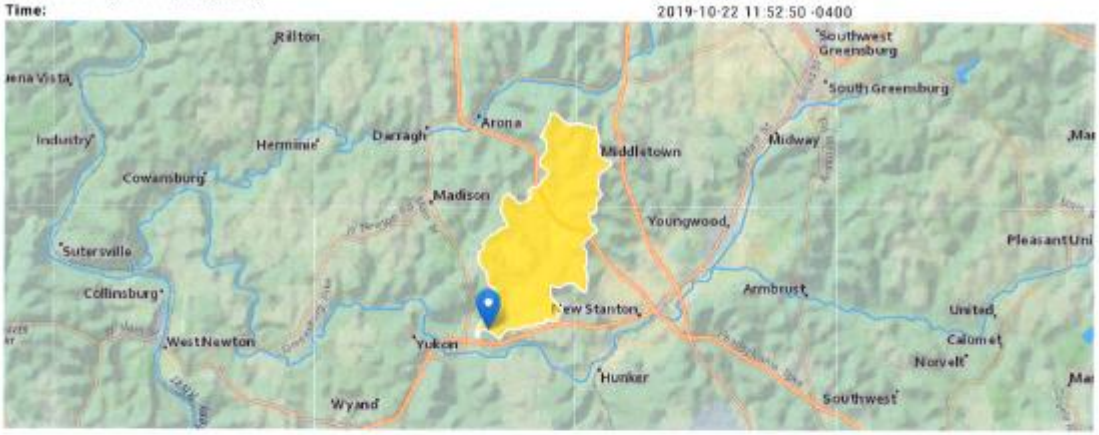
Attachment E: Outfall 002 Toxics Management Spreadsheet

Attachment A:

Outfall 001 StreamStats Report

Outfall 001 StreamStats Report

Region ID:	PA
Workspace ID:	PA20191022155232912000
Clicked Point (Latitude, Longitude):	40.21424, -79.65839
Time:	2019-10-22 11:52:50 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	5.05	square miles
ELEV	Mean Basin Elevation	1114.8	feet

Low-Flow Statistics Parameters[Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5.05	square miles	2.26	1400
ELEV	Mean Basin Elevation	1114.8	feet	1050	2580

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

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	SEp
7 Day 2 Year Low Flow	0.167	ft^3/s	43	43
30 Day 2 Year Low Flow	0.298	ft^3/s	38	38
7 Day 10 Year Low Flow	0.0581	ft^3/s	66	66
30 Day 10 Year Low Flow	0.109	ft^3/s	54	54
90 Day 10 Year Low Flow	0.203	ft^3/s	41	41

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

Attachment B:

Outfall 001 Toxics Management Spread Sheet

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Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Waltz Mill Service Center** NPDES Permit No.: **PA0000906A-1** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Treated Groundwater, treated equipment de**

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
0.0073	141	7	0.5	0.5	0.5	0.5		

	Discharge Pollutant	Units	Max Discharge Conc		0 if left blank: Trib Conc	0 if left blank: Stream Conc	0.5 if left blank: Daily CV	0.5 if left blank: Hourly CV	0 if left blank: Strea m CV	0 if left blank: Fate Coeff	0 if left blank: FOS	1 if left blank: Criteri a Mod	1 if left blank: Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		189									
	Chloride (PWS)	mg/L		108									
	Bromide	mg/L		0.041									
	Sulfate (PWS)	mg/L		5.3									
	Fluoride (PWS)	mg/L		0.1									
Group 2	Total Aluminum	µg/L		130									
	Total Antimony	µg/L	<	0.5									
	Total Arsenic	µg/L	<	2.5									
	Total Barium	µg/L		68.8									
	Total Beryllium	µg/L	<	0.5									
	Total Boron	µg/L	<	50									
	Total Cadmium	µg/L	<	0.5									
	Total Chromium (III)	µg/L	<	2.5									
	Hexavalent Chromium	µg/L		2.02									
	Total Cobalt	µg/L	<	2.5									
	Total Copper	µg/L		38.6									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	0.01									
	Dissolved Iron	µg/L	<	50									
	Total Iron	µg/L		583									
	Total Lead	µg/L		2									
	Total Manganese	µg/L		430									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L	<	2.5									
	Total Phenols (Phenolics) (PWS)	µg/L	<	50									
	Total Selenium	µg/L	<	2.5									
	Total Silver	µg/L	<	2.5									
	Total Thallium	µg/L	<	0.5									
	Total Zinc	µg/L		32									
	Total Molybdenum	µg/L	<	2.5									
Group 7	Gross Alpha	pCi/L		2.67									
	Total Beta	pCi/L		1.61									
	Radium 226/228	pCi/L		1.86									
	Total Strontium	µg/L		191									
	Total Uranium	µg/L		0.323									
	Osmotic Pressure	mOs/kg											

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Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Waltz Mill Service Center, NPDES Permit No. PA0000906A-1, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **UNT to Sewickley 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	037648	0.96	932	5.05			Yes
End of Reach 1	037648	0.06	930	5.06			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	0.96	0.1	0.0581									100	7		
End of Reach 1	0.06	0.1	0.0582												

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	0.96														
End of Reach 1	0.06														

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Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

Waltz Mill Service Center, NPDES Permit No. PA0000906A-1, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 9.836 PMF: 0.500 Analysis Hardness (mg/l): 111.48 Analysis pH: 7.00

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	2,679	
Total Antimony	0	0		0	1,100	1,100	3,930	
Total Arsenic	0	0		0	340	340	1,215	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	75,020	
Total Boron	0	0		0	8,100	8,100	28,936	
Total Cadmium	0	0		0	2.238	2.38	8.51	Chem Translator of 0.939 applied
Total Chromium (III)	0	0		0	622.787	1,971	7,041	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	58.2	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	339	
Total Copper	0	0		0	14.888	15.5	55.4	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	72.676	93.8	335	Chem Translator of 0.775 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	5.88	Chem Translator of 0.85 applied
Total Nickel	0	0		0	513.314	514	1,837	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	3.878	4.56	16.3	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	232	
Total Zinc	0	0		0	128.480	131	469	Chem Translator of 0.978 applied
Total Strontium	0	0		0	N/A	N/A	N/A	

☑ *CFC* CCT (min): 9.836 PMF: 0.500 Analysis Hardness (mg/l): 111.48 Analysis pH: 7.00

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	786	
Total Arsenic	0	0		0	150	150	536	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	14,647	
Total Boron	0	0		0	1,600	1,600	5,716	
Total Cadmium	0	0		0	0.265	0.29	1.05	Chem Translator of 0.904 applied
Total Chromium (III)	0	0		0	81.012	94.2	337	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	37.1	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	67.9	
Total Copper	0	0		0	9.827	10.2	36.6	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	9,217	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.832	3.65	13.1	Chem Translator of 0.775 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	3.24	Chem Translator of 0.85 applied
Total Nickel	0	0		0	57.013	57.2	204	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	17.8	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	46.4	
Total Zinc	0	0		0	129.531	131	469	Chem Translator of 0.986 applied
Total Strontium	0	0		0	N/A	N/A	N/A	

☑ *THH* CCT (min): 9.836 PMF: 0.500 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	20.0	
Total Arsenic	0	0		0	10	10.0	35.7	
Total Barium	0	0		0	2,400	2,400	8,574	
Total Boron	0	0		0	3,100	3,100	11,074	

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	1,072	
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	3,572	
Total Mercury	0	0		0	0.050	0.05	0.18	
Total Nickel	0	0		0	610	610	2,179	
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	0.86	
Total Zinc	0	0		0	N/A	N/A	N/A	
Total Strontium	0	0		0	4,000	4,000	14,289	

☑ *CRL* CCT (min): 3.158 PMF: 0.500 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	
Total Strontium	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 Cadmium	Report	Report	Report	Report	Report	µg/L	1.05	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Copper	0.002	0.003	35.5	55.4	88.8	µg/L	35.5	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Lead	Report	Report	Report	Report	Report	µg/L	13.1	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Manganese	Report	Report	Report	Report	Report	µg/L	3,572	THH	Discharge Conc > 10% WQBEL (no RP)
Total Silver	Report	Report	Report	Report	Report	µg/L	10.4	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	Report	Report	Report	Report	µg/L	301	AFC	Discharge Conc > 10% WQBEL (no 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 Aluminum	1,717	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	8,574	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	5,716	µg/L	Discharge Conc < TQL
Total Chromium (III)	337	µg/L	Discharge Conc < TQL
Hexavalent Chromium	37.1	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	67.9	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	1,072	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	9,217	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.18	µg/L	Discharge Conc < TQL
Total Nickel	204	µg/L	Discharge Conc < TQL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	17.8	µg/L	Discharge Conc < TQL

Total Thallium	0.86	µg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS
Gross Alpha	N/A	N/A	No WQS
Total Beta	N/A	N/A	No WQS
Radium 226/228	N/A	N/A	No WQS
Total Strontium	14,289	µg/L	Discharge Conc ≤ 10% WQBEL
Total Uranium	N/A	N/A	No WQS

Attachment C:

Outfall 001 Total Residual Chlorine Evaluation

TRC EVALUATION

0.0581	= Q stream (cfs)	0.5	= CV Daily
0.0073	= Q discharge (MGD)	0.5	= CV Hourly
4	= no. samples	0.5	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	0.5	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
	= %Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	**1.3.2.iii**	WLA afc =	0.840	**1.3.2.iii**	WLA cfc =	0.811
PENTOXSD TRG	**5.1a**	LTAMULT afc =	0.373	**5.1c**	LTAMULT cfc =	0.581
PENTOXSD TRG	**5.1b**	LTA_afc=	0.313	**5.1d**	LTA_cfc =	0.471

Source		Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML MULT =	1.720	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) =	1.170	

WLA afc	**(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...**
	...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	**(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...**
	...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	**1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)**

Attachment D:

Outfall 002 StreamStats Report

Outfall 002 StreamStats Report

Region ID:	PA
Workspace ID:	PA20191022160218224000
Clicked Point (Latitude, Longitude):	40.21683, -79.66465
Time:	2019-10-22 12:02:38 -0400

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.37	square miles
ELEV	Mean Basin Elevation	1106.3	feet

Low-Flow Statistics Parameters[Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.37	square miles	2.26	1400
ELEV	Mean Basin Elevation	1106.3	feet	1050	2580

Low-Flow Statistics Disclaimers[Low Flow Region 4]

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

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

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.00845	ft^3/s
30 Day 2 Year Low Flow	0.017	ft^3/s
7 Day 10 Year Low Flow	0.0023	ft^3/s
30 Day 10 Year Low Flow	0.00527	ft^3/s
90 Day 10 Year Low Flow	0.0111	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

Attachment E:

Outfall 002 Toxics Management Spread Sheet

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Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Waltz Mill Service Center** NPDES Permit No.: **PA0000906A-1** Outfall No.: **002**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Boiler blowdown, cooling tower blowdown,**

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
0.0045	342	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		936									
	Chloride (PWS)	mg/L		409									
	Bromide	mg/L		0.14									
	Sulfate (PWS)	mg/L		41.6									
	Fluoride (PWS)	mg/L		0.24									
Group 2	Total Aluminum	µg/L	<	20									
	Total Antimony	µg/L	<	0.5									
	Total Arsenic	µg/L	<	2.5									
	Total Barium	µg/L		153									
	Total Beryllium	µg/L	<	0.5									
	Total Boron	µg/L		63.5									
	Total Cadmium	µg/L	<	0.5									
	Total Chromium (III)	µg/L	<	2.5									
	Hexavalent Chromium	µg/L	<	2									
	Total Cobalt	µg/L	<	2.5									
	Total Copper	µg/L	<	2.5									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	0.01									
	Dissolved Iron	µg/L	<	20									
	Total Iron	µg/L	<	20									
	Total Lead	µg/L	<	0.5									
	Total Manganese	µg/L		36.6									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L	<	2.5									
	Total Phenols (Phenolics) (PWS)	µg/L	<	2.5									
	Total Selenium	µg/L	<	2.5									
	Total Silver	µg/L	<	2.5									
	Total Thallium	µg/L	<	0.5									
	Total Zinc	µg/L	<	5									
	Total Molybdenum	µg/L		11.4									
Group 7	Gross Alpha	pCi/L		3.11									
	Total Beta	pCi/L		1.67									
	Radium 226/228	pCi/L		1.5									
	Total Strontium	µg/L		901									
	Total Uranium	µg/L		0.323									
	Osmotic Pressure	mOs/kg											

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Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Waltz Mill Service Center, NPDES Permit No. PA0000906A-1, Outfall 002

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **UNT to Sewickley Creek**

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	037641	1.02	955	0.37			Yes
End of Reach 1	037641	0.5	954	0.38			Yes

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

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	1.02	0.0062	0.0023									100	7		
End of Reach 1	0.5		0.0023												

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	1.02														
End of Reach 1	0.5														

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Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

Waltz Mill Service Center, NPDES Permit No. PA0000906A-1, Outfall 002

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | (●) All ( ) Inputs ( ) Results ( ) Limits

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.167 PMF: 1 Analysis Hardness (mg/l): 281.9 Analysis pH: 7.00

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	998	
Total Antimony	0	0		0	1,100	1,100	1,463	
Total Arsenic	0	0		0	340	340	452	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	27,938	
Total Boron	0	0		0	8,100	8,100	10,776	
Total Cadmium	0	0		0	5.510	6.12	8.14	Chem Translator of 0.901 applied
Total Chromium (III)	0	0		0	1331.449	4,213	5,606	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	21.7	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	126	
Total Copper	0	0		0	35.682	37.2	49.4	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	195.468	305	406	Chem Translator of 0.64 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	2.19	Chem Translator of 0.85 applied
Total Nickel	0	0		0	1125.246	1,128	1,500	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	19.124	22.5	29.9	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	86.5	
Total Zinc	0	0		0	281.983	288	384	Chem Translator of 0.978 applied
Total Strontium	0	0		0	N/A	N/A	N/A	

☑ *CFC* CCT (min): 0.167 PMF: 1 Analysis Hardness (mg/l): 281.9 Analysis pH: 7.00

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	293	
Total Arsenic	0	0		0	150	150	200	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	5,455	
Total Boron	0	0		0	1,600	1,600	2,129	
Total Cadmium	0	0		0	0.505	0.58	0.78	Chem Translator of 0.866 applied
Total Chromium (III)	0	0		0	173.194	201	268	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	13.8	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	25.3	
Total Copper	0	0		0	21.713	22.6	30.1	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	1,996	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	7.617	11.9	15.8	Chem Translator of 0.64 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	1.21	Chem Translator of 0.85 applied
Total Nickel	0	0		0	124.980	125	167	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	6.64	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	17.3	
Total Zinc	0	0		0	284.290	288	384	Chem Translator of 0.986 applied
Total Strontium	0	0		0	N/A	N/A	N/A	

☑ *THH* CCT (min): 0.167 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	7.45	
Total Arsenic	0	0		0	10	10.0	13.3	
Total Barium	0	0		0	2,400	2,400	3,193	
Total Boron	0	0		0	3,100	3,100	4,124	

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	399	
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	1,330	
Total Mercury	0	0		0	0.050	0.05	0.067	
Total Nickel	0	0		0	610	610	812	
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	0.32	
Total Zinc	0	0		0	N/A	N/A	N/A	
Total Strontium	0	0		0	4,000	4,000	5,322	

☑ *CRL* CCT (min): 0.687 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	
Total Strontium	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 Cadmium	0.00003	0.00005	0.78	1.21	1.94	µg/L	0.78	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Hexavalent Chromium	Report	Report	Report	Report	Report	µg/L	13.8	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Silver	Report	Report	Report	Report	Report	µg/L	22.5	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Strontium	Report	Report	Report	Report	Report	µg/L	5,322	THH	Discharge Conc > 10% WQBEL (no 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 Aluminum	750	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	3,193	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	2,129	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	268	µg/L	Discharge Conc < TQL
Total Cobalt	25.3	µg/L	Discharge Conc ≤ 10% WQBEL
Total Copper	30.1	µg/L	Discharge Conc < TQL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	399	µg/L	Discharge Conc < TQL
Total Iron	1,996	µg/L	Discharge Conc < TQL
Total Lead	15.8	µg/L	Discharge Conc < TQL
Total Manganese	1,330	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.067	µg/L	Discharge Conc < TQL
Total Nickel	167	µg/L	Discharge Conc < TQL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Selenium	6.64	µg/L	Discharge Conc < TQL
Total Thallium	0.32	µg/L	Discharge Conc < TQL
Total Zinc	288	µg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS
Gross Alpha	N/A	N/A	No WQS
Total Beta	N/A	N/A	No WQS
Radium 226/228	N/A	N/A	No WQS
Total Uranium	N/A	N/A	No WQS