Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

| | | | |
|---|---|---|---|
| Application Type | **Renewal** | Application No. | **PA0000868** |
| Facility Type | **Industrial** | APS ID | **1002414** |
| Major / Minor | **Major** | Authorization ID | **1289647** |

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

## Applicant and Facility Information

| | | | |
|---|---|---|---|
| Applicant Name | **Zekelman Industries d/b/a Wheatland Tube Co.** | Facility Name | **Wheatland Tube - Council Avenue Plant** |
| Applicant Address | 1 Council Avenue PO Box 608<br>Wheatland, PA 16161-1162 | Facility Address | 1 Council Avenue<br>Wheatland, PA 16161 |
| Applicant Contact | Robert Werth, Environmental Manager | Facility Contact | Bryce Benic, Environmental Technician |
| Applicant Phone | (773) 346-8822 | Facility Phone | (724) 342-6851 ext. 1267 |
| Applicant Email | robert.werth@zekelman.com | Facility Email | bryce.benic@zekelman.com |
| Client ID | 352576 | Site ID | 241430 |
| SIC Code | 3317 & 3498 | Municipality | Wheatland Borough |
| SIC Description | Manufacturing - Steel Pipe and Tubes; Fabricated Pipe and Pipe Fittings | County | Mercer |
| Date Application Received | March 22, 2019 | EPA Waived? | No |
| Date Application Accepted | | If No, Reason | Major Facility |
| Purpose of Application | NPDES permit renewal for discharges of industrial waste, non-contact cooling water, groundwater, and storm water. | | |

## Summary of Review

On March 22, 2019, John Maneely Company d/b/a Wheatland Tube Co. (WTC) submitted an application dated March 11, 2019 (2019 Application) to the Department of Environmental Protection ("DEP") to renew NPDES Permit PA0000868 for discharges from Wheatland Tube's Council Avenue Plant. The renewal application was accompanied by an application to transfer the permit from John Maneely Company to Zekelman Industries (still d/b/a Wheatland Tube Co. as a division of Zekelman Industries).

WTC's current NPDES permit was issued on September 25, 2014 with an effective date of October 1, 2014 and an expiration date of September 30, 2019. The deadline to submit a renewal application was April 3, 2019. Pursuant to the receipt of WTC's timely application, DEP's inability to reissue the permit before the expiration date, and 25 Pa. Code § 92a.7(b), the terms and conditions of the 2014 Permit were automatically continued past the expiration date.

On July 17, 2025, DEP requested WTC to update the 2019 Application owing to the amount of time that had passed since that application was last submitted/revised. WTC submitted an updated application on August 29, 2025 (2025 Application Update). On December 11 and 12, 2025, WTC submitted updated information on the facility's cooling water intake structure. This Fact Sheet is based on both the 2019 Application and the 2025 Application Update and its revisions.

Facility Description

Zekelman Industries manufactures standard pipe, fence framework, fire sprinkler pipe, galvanized mechanical tube, and steel electrical conduit including hot-dip galvanized steel rigid metal conduit, steel intermediate metal conduit (IMC), steel electrical metallic tubing (EMT), rigid aluminum conduit, and a full line of elbows, couplings and nipples, and running thread pipe. The Council Avenue Plant manufactures standard pipe, fire sprinkler pipe, and fence framework products. Production lines at WTC include the Continuous Butt Weld (CW) Mill that hot-forms carbon steel strip into pipe and then straightens the pipe in a cold-

| Approve | Deny | Signatures | Date |
|---|---|---|---|
| ✓ | | Ryan C. Decker, P.E. / Environmental Engineer | December 16, 2025 |
| X | | Michael E. Fifth, P.E. / Environmental Engineer Manager | December 17, 2025 |

**Summary of Review**

forming step; and a new Hot-Dip Galvanizing (HDG) line that replaced the original galvanizing line that ceased production at the end of 2024 and was later decommissioned. The new HDG line performs the same operations as the original galvanizing line (alkaline cleaning, acid pickling, and hot coating) but at a smaller scale.

Wastewaters generated at the Council Avenue Plant include process wastewaters from the CW Mill (contact cooling water from the mill scale pit that contains mill scale and oil) and from the new HDG line (galvanizing, acid pickling, and alkaline cleaning wastewaters), boiler blowdown, non-contact cooling water, contaminated groundwater, and storm water associated with industrial activities. Process wastewaters from the CW Mill and HDG line are pumped to the facility's Water Treatment Plant for treatment. Contaminated groundwater and storm water from the coil yard and finishing areas of the mill collected in an 80,000-gallon "First Flush Tank" also are pumped to the Water Treatment Plant. The First Flush Tank is equipped with an oil skimmer for preliminary treatment of contaminated groundwater and storm water runoff. HDG wastewaters are directed to the No.1 and No. 2 Neutralization Tanks that operate in series. The neutralization tanks are dosed with magnesium hydroxide for pH neutralization and potassium hydroxide to increase the pH of the wastewater to precipitate metals (iron, zinc, chromate). The wastewaters then flow to the No. 1 Flocculation Tank where a coagulant is added, and then to Clarifier 301 for settling. Effluent from Clarifier 301 flows to the Sump for further treatment. The Sump also receives sludge tank decant and sludge press filtrate.

CW Mill wastewater flows to the Scale Pit containing three oil skimmers to remove oil, and then to the No. 2 Mix Tank, which also receives wastewaters from the Sump and groundwater and storm water pumped from the First Flush Tank. The No. 2 Mix Tank is dosed with an aluminum-based coagulant and potassium hydroxide. Wastewaters then flow to the No. 2 Flocculation Tank where coagulant is added, and then to Clarifier 302 for settling. Effluent from Clarifier 302 discharges to a lagoon for cooling and additional settling. Clarifier 301 also may discharge directly to the lagoon. The downstream side of the lagoon is lined with an absorbent boom to skim any remaining oil. Sludge wasted from the clarifiers is stored in Sludge Holding Tank 714 and is dewatered using a sludge filter press. Decant from the holding tank and filtrate from the sludge filter press are directed to the No. 2 Mix Tank via the Sump.

Treated effluent discharging to the lagoon is regulated at Suboutfall 101 (a.k.a. Internal Monitoring Point 101 or "IMP 101"). The lagoon overflows to Outfall 001 where the effluent mixes with non-contact cooling water and storm water from Outfall 007. Those effluents combine and discharge through a pipe to an unnamed tributary to the Shenango River on the east side of Council Avenue/State Route 718. Pumped flow from the First Flush Tank to the Water Treatment Plant is monitored for flow at Suboutfall 201 (a.k.a. Internal Monitoring Point 201 or "IMP 201").

Outfalls 002, 003, 004, and 005 discharge storm water associated with industrial activities. Suboutfall 104 (a manhole outside the old boiler house) was previously used to regulate water softener backwash, non-contact cooling water from compressors, and boiler blowdown discharging with storm water through Outfall 004. However, other than storm water, those sources were either eliminated or re-routed, so Suboutfall 104 will be removed from the permit as part of this permit renewal. Outfall 004 will regulate the remaining storm water discharges.

Outfall 006 is for overflows of storm water from the First Flush Tank, which discharges to a ditch to the Shenango River. The permit authorizes Outfall 006 to only discharge storm water and requires WTC to pump up to 90,000 gallons of collected runoff to the Water Treatment Plant before a discharge from Outfall 006 is allowed to occur on consecutive days. In this way, contaminated groundwater making up base flow to the tank and first flush storm water are conveyed to treatment.

<u>Cooling Water Intake Structure</u>

The Council Avenue Plant is supplied with cooling water from an intake structure on the Shenango River. Section 316(b) of the Clean Water Act requires the location, design, construction, and capacity of cooling water intake structures to reflect the best technology available (BTA) for minimizing adverse environmental impact. Pursuant to implementing regulations under 40 CFR part 125, Subpart J, adverse environmental impact for existing facilities is minimized through the implementation of BTA standards for impingement and entrainment mortality. Impingement mortality is the death of any life stages of fish and shellfish on the outer part of an intake structure or against a screening device during periods of intake water withdrawal. Entrainment mortality is the death of any life stages of fish and shellfish in the intake water flow entering and passing through a cooling water intake structure and into a cooling water system.

WTC was not subject to any 316(b) requirements in previous permits. In its 2025 Application Update, WTC supplied drawings of the intake structure and indicated that the intake pump is a vertical turbine centrifugal pump that operates at a constant pressure of 50 psig rather than a constant flowrate. The Design Intake Flow was reported on the 2025 Application Update as 2.9 MGD based on pressure ratings. However, to determine the Design Intake Flow of the cooling water intake structure, WTC

**Summary of Review**

installed a new flow meter in November 2025 and refined the reported operating parameters of the intake. In December 2025, WTC revised the Design Intake Flow to 1.55 MGD and the Actual Intake Flow to 1.10 MGD, which reduced the application requirements.

Based on regulations implementing section 316(b) in 40 CFR part 125, Subpart J and the characteristics of WTC's intake, WTC is not subject to the specific requirements listed in 40 CFR §§ 125.94 through 125.99. Therefore, pursuant to 40 CFR § 125.90(b), WTC must meet BTA requirements under section 316(b) of the CWA established by the Director on a case-by-case, best professional judgment (BPJ) basis.

In accordance with DEP's "Standard Operating Procedure (SOP) for Clean Water Program, Establishing Best Technology Available (BTA) Using Best Professional Judgement (BPJ) for Cooling Water Intake Structures at Existing NPDES Facilities" [SOP No. BCW-PMT-038, 12/7/2021], the permit identifies a 0.5 fps through-screen design velocity as BTA for impingement and the maintenance of actual intake flow of 1% or less of the mean annual flow of the surface waters as BTA for entrainment. DEP's evaluation to determine BTA for impingement and entrainment for WTC's intake structure is included in **Attachment D** to 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 | Design Flow (MGD) | 2.0; 1.0 avg. |
| Latitude | 41° 11' 34" | Longitude | -80° 29' 33" |
| Quad Name | Sharon East | Quad Code | 0902 |
| Wastewater Description: | Overflows from the cooling pond at the catch basin consisting of storm water and process wastewaters regulated at IMP 101 | | |
| Receiving Waters | Shenango River (WWF) | Stream Code | 35482 |
| NHD Com ID | 130033638 | RMI | 24.0 |
| Drainage Area | 706 | Yield (cfs/mi$^2$) | |
| $Q_{7-10}$ Flow (cfs) | 121.05 | $Q_{7-10}$ Basis | USGS Gage 03103500 |
| Elevation (ft) | | Slope (ft/ft) | 0.00042 |
| Watershed No. | 20-A | Chapter 93 Class. | WWF |
| Existing Use | | Existing Use Qualifier | |
| Exceptions to Use | | Exceptions to Criteria | |
| Assessment Status | Impaired | | |
| Cause(s) of Impairment | Metals, Polychlorinated Biphenyls (PCBs) | | |
| Source(s) of Impairment | Sources Unknown | | |
| TMDL Status | Final | Name | Shenango River |

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

| | | | |
|---|---|---|---|
| Nearest Downstream Public Water Supply Intake | | Pennsylvania American Water Company – New Castle | |
| PWS ID | 6370034 | PWS Withdrawal (MGD) | 8.4 |
| PWS Waters | Shenango River | Flow at Intake (cfs) | |
| PWS RMI | 5.05 | Distance from Outfall (mi) | 18.95 |

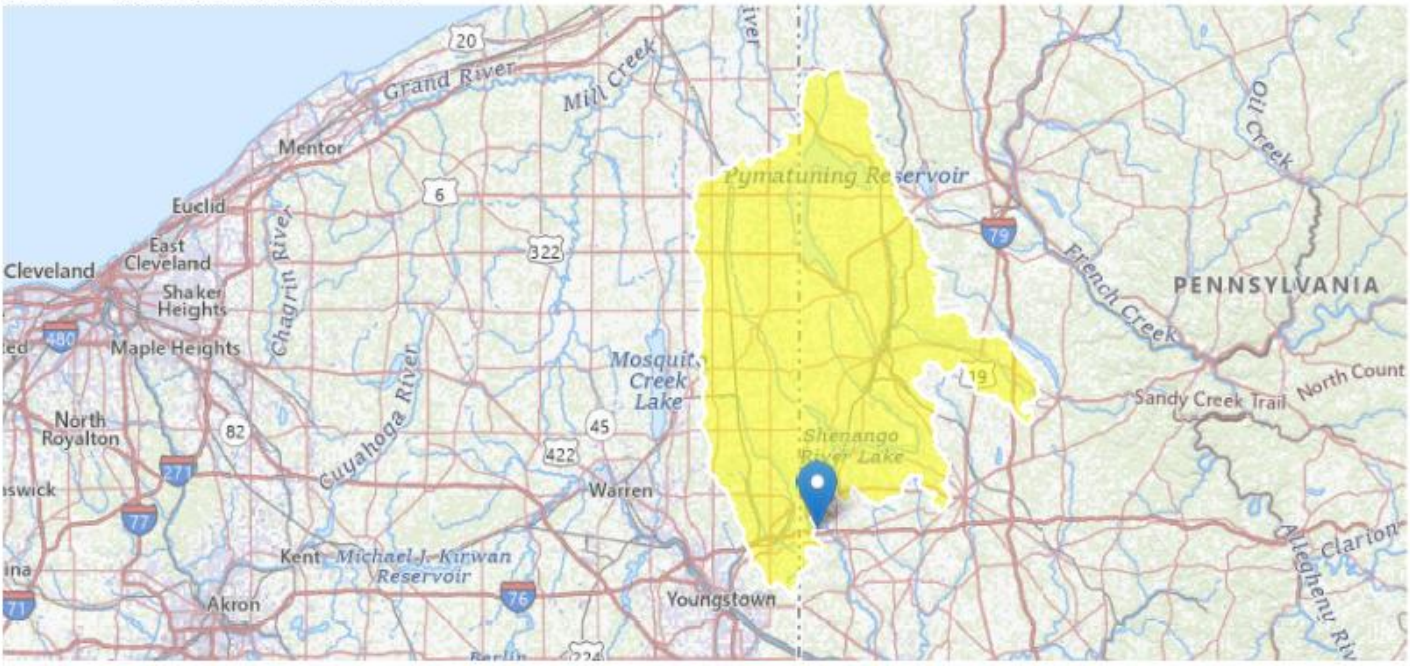
## Discharge, Receiving Waters and Water Supply Information

| | | | |
|---|---|---|---|
| Suboutfall | 101 | Design Flow (MGD) | 1.0 |
| Latitude | 41° 11' 37" | Longitude | -80° 29' 34" |
| Wastewater Description: | Wastewater from the Water Treatment Plant that receives process wastewater from the Continuous Weld Furnace Scale Pit, Galvanizing Dept., and contaminated groundwater and storm water pumped from the First Flush Tank | | |
| Receiving Waters | Shenango River via Outfall 001 | Stream Code | 35482 |

| | | | |
|---|---|---|---|
| Suboutfall | 201 | Design Flow (MGD) | 0.0158 (avg.) |
| Latitude | 41° 11' 36" | Longitude | 80° 29' 37" |
| Wastewater Description: | Contaminated groundwater and storm water pumped from the First Flush Tank | | |
| Receiving Waters | Shenango River via Outfall 001 | Stream Code | 35482 |

# StreamStats Report - Basin Delineation for Outfall 001

**Region ID:** PA
**Workspace ID:** PA20250731125854272000
**Clicked Point (Latitude, Longitude):** 41.18889, -80.49228
**Time:** 2025-07-31 08:59:18 -0400




Collapse All

## Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| DRNAREA | Area that drains to a point on a stream | 706 | square miles |
| ELEV | Mean Basin Elevation | 1096 | feet |

**Discharge, Receiving Waters and Water Supply Information**

| | | | |
|---|---|---|---|
| Outfall No. | 002 | Design Flow (MGD) | Variable |
| Latitude | 41° 11' 33" | Longitude | -80° 29' 33" |
| Quad Name | Sharon East | Quad Code | 0902 |
| Wastewater Description: | Storm water runoff from the eastern portion of the coil storage yard | | |
| Receiving Waters | Shenango River (WWF) | Stream Code | 35482 |
| NHD Com ID | 130033638 | RMI | 24.0 |
| Drainage Area | | Yield (cfs/mi$^2$) | |
| $Q_{7-10}$ Flow (cfs) | | $Q_{7-10}$ Basis | |
| Elevation (ft) | | Slope (ft/ft) | |
| Watershed No. | 20-A | Chapter 93 Class. | WWF |
| Existing Use | | Existing Use Qualifier | |
| Exceptions to Use | | Exceptions to Criteria | |
| Assessment Status | Impaired | | |
| Cause(s) of Impairment | Metals, Polychlorinated Biphenyls (PCBs) | | |
| Source(s) of Impairment | Sources Unknown | | |
| TMDL Status | Final | Name | Shenango River |

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

| | | | |
|---|---|---|---|
| Nearest Downstream Public Water Supply Intake | Pennsylvania American Water Company – New Castle | | |
| PWS ID | 6370034 | PWS Withdrawal (MGD) | 8.4 |
| PWS Waters | Shenango River | Flow at Intake (cfs) | |
| PWS RMI | 5.05 | Distance from Outfall (mi) | |

Changes Since Last Permit Issuance:

Other Comments:

## Discharge, Receiving Waters and Water Supply Information

| | | | |
|---|---|---|---|
| Outfall No. | 003 | Design Flow (MGD) | Variable |
| Latitude | 41° 11' 33" | Longitude | -80° 29' 33" |
| Quad Name | Sharon East | Quad Code | 0902 |
| Wastewater Description: | Storm water from a parking lot, plant roads, and building roofs | | |
| Receiving Waters | Shenango River (WWF) | Stream Code | 35482 |
| NHD Com ID | 130033638 | RMI | 24.0 |
| Drainage Area | | Yield (cfs/mi$^2$) | |
| $Q_{7-10}$ Flow (cfs) | | $Q_{7-10}$ Basis | |
| Elevation (ft) | | Slope (ft/ft) | |
| Watershed No. | 20-A | Chapter 93 Class. | WWF |
| Existing Use | | Existing Use Qualifier | |
| Exceptions to Use | | Exceptions to Criteria | |
| Assessment Status | Impaired | | |
| Cause(s) of Impairment | Metals, Polychlorinated Biphenyls (PCBs) | | |
| Source(s) of Impairment | Sources Unknown | | |
| TMDL Status | Final | Name | Shenango River |

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

| | | | |
|---|---|---|---|
| Nearest Downstream Public Water Supply Intake | Pennsylvania American Water Company – New Castle | | |
| PWS ID | 6370034 | PWS Withdrawal (MGD) | 8.4 |
| PWS Waters | Shenango River | Flow at Intake (cfs) | |
| PWS RMI | 5.05 | Distance from Outfall (mi) | |

Changes Since Last Permit Issuance:

Other Comments:

**Discharge, Receiving Waters and Water Supply Information**

| | | | |
|---|---|---|---|
| Outfall No. | 004 | Design Flow (MGD) | 0.001 |
| Latitude | 41° 11' 44" | Longitude | -80° 29' 39" |
| Quad Name | Sharon East | Quad Code | 0902 |
| Wastewater Description: | Storm water from building roofs and paved areas from the north end of the property | | |
| Receiving Waters | Shenango River (WWF) | Stream Code | 35482 |
| NHD Com ID | 130033638 | RMI | 24.0 |
| Drainage Area | | Yield (cfs/mi$^2$) | |
| $Q_{7-10}$ Flow (cfs) | | $Q_{7-10}$ Basis | |
| Elevation (ft) | | Slope (ft/ft) | |
| Watershed No. | 20-A | Chapter 93 Class. | WWF |
| Existing Use | | Existing Use Qualifier | |
| Exceptions to Use | | Exceptions to Criteria | |
| Assessment Status | Impaired | | |
| Cause(s) of Impairment | Metals, Polychlorinated Biphenyls (PCBs) | | |
| Source(s) of Impairment | Sources Unknown | | |
| TMDL Status | Final | Name | Shenango River |

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

| | | | |
|---|---|---|---|
| Nearest Downstream Public Water Supply Intake | Pennsylvania American Water Company – New Castle | | |
| PWS ID | 6370034 | PWS Withdrawal (MGD) | 8.4 |
| PWS Waters | Shenango River | Flow at Intake (cfs) | |
| PWS RMI | 5.05 | Distance from Outfall (mi) | |

**Discharge, Receiving Waters and Water Supply Information**

| | | | |
|---|---|---|---|
| Suboutfall | 104 | Design Flow (MGD) | |
| Latitude | 41° 11' 20.20" | Longitude | -80° 29' 30.43" |
| Wastewater Description: | | | |
| Receiving Waters | Shenango River via Outfall 004 | Stream Code | 37556 |

Changes Since Last Permit Issuance:

Other Comments:

**Discharge, Receiving Waters and Water Supply Information**

| | | | |
|---|---|---|---|
| Outfall No. | 005 | Design Flow (MGD) | Variable |
| Latitude | 41° 11' 34" | Longitude | -80° 29' 50" |
| Quad Name | Sharon East | Quad Code | 0902 |
| Wastewater Description: | Storm water from the western side of the property including parking lots and building roofs | | |
| Receiving Waters | Shenango River (WWF) | Stream Code | 35482 |
| NHD Com ID | 130034023 | RMI | 25.0 |
| Drainage Area | | Yield (cfs/mi$^2$) | |
| $Q_{7-10}$ Flow (cfs) | | $Q_{7-10}$ Basis | |
| Elevation (ft) | | Slope (ft/ft) | |
| Watershed No. | 20-A | Chapter 93 Class. | WWF |
| Existing Use | | Existing Use Qualifier | |
| Exceptions to Use | | Exceptions to Criteria | |
| Assessment Status | Impaired | | |
| Cause(s) of Impairment | Metals, Polychlorinated Biphenyls (PCBs) | | |
| Source(s) of Impairment | Sources Unknown | | |
| TMDL Status | Final | Name | Shenango River |

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

| | | | |
|---|---|---|---|
| Nearest Downstream Public Water Supply Intake | Pennsylvania American Water Company – New Castle | | |
| PWS ID | 6370034 | PWS Withdrawal (MGD) | 8.4 |
| PWS Waters | Shenango River | Flow at Intake (cfs) | |
| PWS RMI | 5.05 | Distance from Outfall (mi) | |

Changes Since Last Permit Issuance:

Other Comments:

**Discharge, Receiving Waters and Water Supply Information**

| | | | |
|---|---|---|---|
| Outfall No. | 006 | Design Flow (MGD) | Variable |
| Latitude | 41° 11' 30" | Longitude | -80° 29' 42" |
| Quad Name | Sharon East | Quad Code | 0902 |
| Wastewater Description: | Storm water from the coil yard and finishing areas of the mill | | |
| Receiving Waters | Shenango River (WWF) | Stream Code | 35482 |
| NHD Com ID | 130033638 | RMI | 24.14 |
| Drainage Area | | Yield (cfs/mi$^2$) | |
| $Q_{7-10}$ Flow (cfs) | | $Q_{7-10}$ Basis | |
| Elevation (ft) | | Slope (ft/ft) | |
| Watershed No. | 20-A | Chapter 93 Class. | WWF |
| Existing Use | | Existing Use Qualifier | |
| Exceptions to Use | | Exceptions to Criteria | |
| Assessment Status | Impaired | | |
| Cause(s) of Impairment | Metals, Polychlorinated Biphenyls (PCBs) | | |
| Source(s) of Impairment | Sources Unknown | | |
| TMDL Status | Final | Name | Shenango River |

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

| | | | |
|---|---|---|---|
| Nearest Downstream Public Water Supply Intake | Pennsylvania American Water Company – New Castle | | |
| PWS ID | 6370034 | PWS Withdrawal (MGD) | 8.4 |
| PWS Waters | Shenango River | Flow at Intake (cfs) | |
| PWS RMI | 5.05 | Distance from Outfall (mi) | |

Changes Since Last Permit Issuance:

Other Comments:

**Discharge, Receiving Waters and Water Supply Information**

| | | | |
|---|---|---|---|
| Outfall No. | 007 | Design Flow (MGD) | 0.119 (avg.); 0.5 (max) |
| Latitude | 41° 11' 35" | Longitude | -80° 29' 33" |
| Quad Name | Sharon East | Quad Code | 0902 |
| Wastewater Description: | Non-contact cooling water (NCCW) from the mill roof, storm water, and cooling pond overflow | | |
| Receiving Waters | Shenango River (WWF) | Stream Code | 35482 |
| NHD Com ID | 130033638 | RMI | 24.0 |
| Drainage Area | | Yield (cfs/mi$^2$) | |
| $Q_{7-10}$ Flow (cfs) | | $Q_{7-10}$ Basis | |
| Elevation (ft) | | Slope (ft/ft) | |
| Watershed No. | 20-A | Chapter 93 Class. | WWF |
| Existing Use | | Existing Use Qualifier | |
| Exceptions to Use | | Exceptions to Criteria | |
| Assessment Status | Impaired | | |
| Cause(s) of Impairment | Metals, Polychlorinated Biphenyls (PCBs) | | |
| Source(s) of Impairment | Sources Unknown | | |
| TMDL Status | Final | Name | Shenango River |

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

| | | | |
|---|---|---|---|
| Nearest Downstream Public Water Supply Intake | Pennsylvania American Water Company – New Castle | | |
| PWS ID | 6370034 | PWS Withdrawal (MGD) | 8.4 |
| PWS Waters | Shenango River | Flow at Intake (cfs) | |
| PWS RMI | 5.05 | Distance from Outfall (mi) | |

Changes Since Last Permit Issuance:

Other Comments:

## Shenango River-130033638

**Assessment Unit ID:** PA-SCR-130033638

**Waterbody Condition:** Impaired (Issues Identified)

**Existing Plans for Restoration:** Yes

**303(d) Listed:** Yes

**Year Reported:** 2024

**303(d) List Status:** EPA Final Action

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

**Organization Name (ID):** Pennsylvania (21PA)

**What type of water is this?**

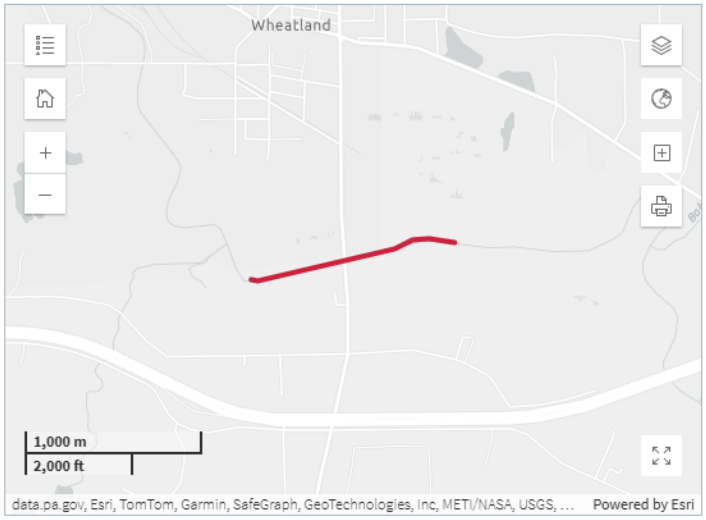
Stream/creek/river (0.7251 Miles)

**Where is this water located?**

WHEATLAND BORO, 16159 (county: Mercer)

Advanced Filtering (opens new browser tab)

**Download Waterbody Data (2024)**




## Assessment Information from 2024

**State or Tribal Nation specific designated uses:**

Information on Water Quality Standards — Expand All

| | |
|---|---|
| **Fishing** | Impaired |
| **Warm Water Fishes** | Impaired |

**Probable sources contributing to impairment from 2024:**

*Click a column heading to sort...* Clear Filters

| Source | Parameter | Confirmed |
|---|---|---|
| Filter... | Filter... | Filter... |
| Source Unknown | Metals | Yes |
| Source Unknown | Polychlorinated Biphenyls (Pcbs) | Yes |

*Click a column heading to sort...* Clear Filters

## Assessment Documents

No documents are available

## Plans to Restore Water Quality

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

*Links below open in a new browser tab.*

| Plan | Impairments | Type | Completion Date |
|---|---|---|---|
| Shenango River | Chlordane, Polychlorinated Biphenyls (Pcbs) | TMDL | 2000-11-27 |

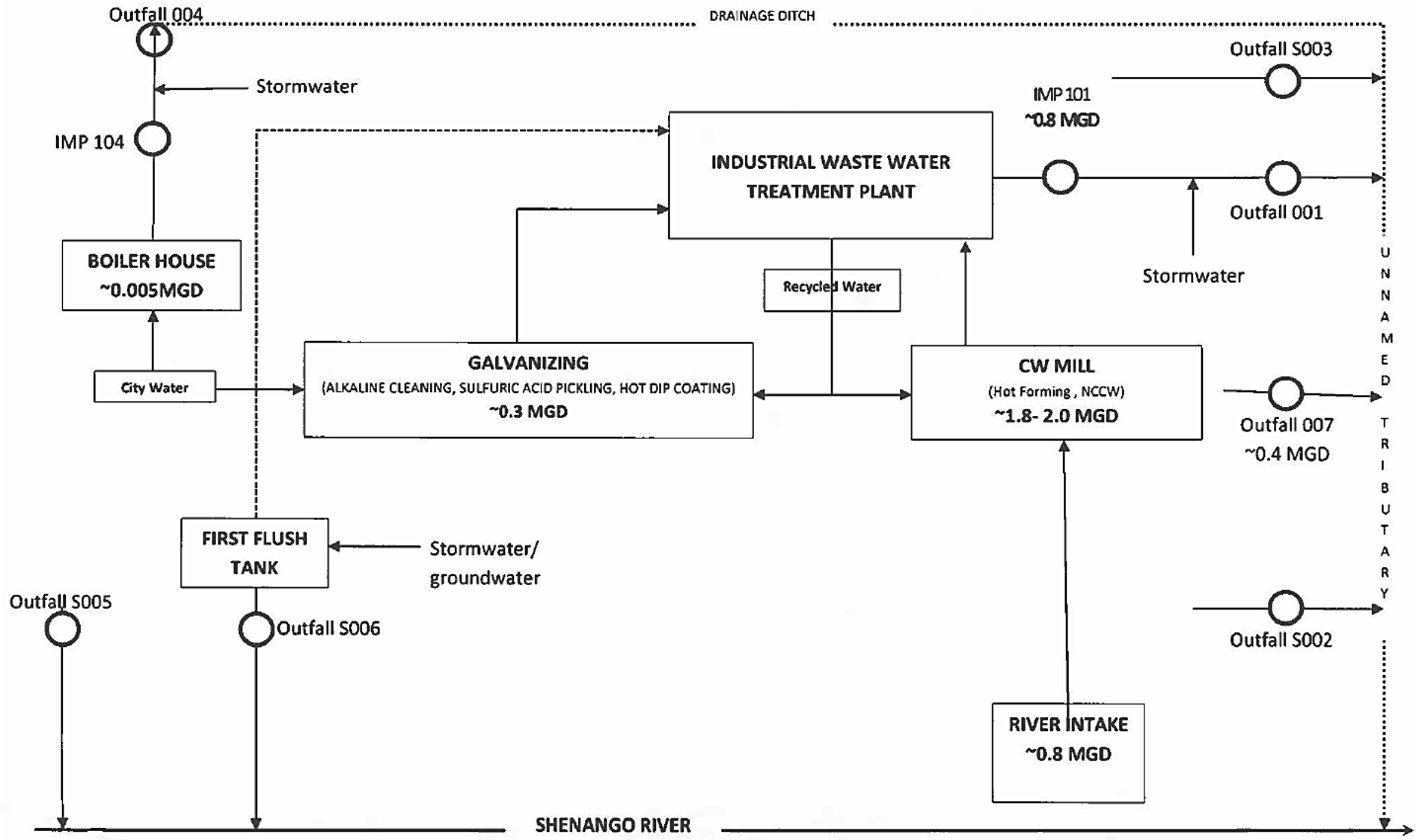
| Treatment Facility Summary | | |
|---|---|---|
| **Treatment Facility Name:** Continuous Weld Mill Treatment System; Hot Forming Treatment System; Heated Waste Treatment System | | |
| **WQM Permit No.** | **Issuance Date** | **Purpose** |
| 4387201 | August 26, 1987 | **Continuous Weld Mill Treatment System:** Settling, oil removal and cooling, and metals removal system including two-stage neutralization (using lime), flash mixing, polymer flocculation and clarification.<br><br>**Hot Forming Treatment System:** Alum and Polymer Addition, Flash Mixing, Flocculation and Clarification.<br><br>**Heated Waste Treatment System:** Lagoon |

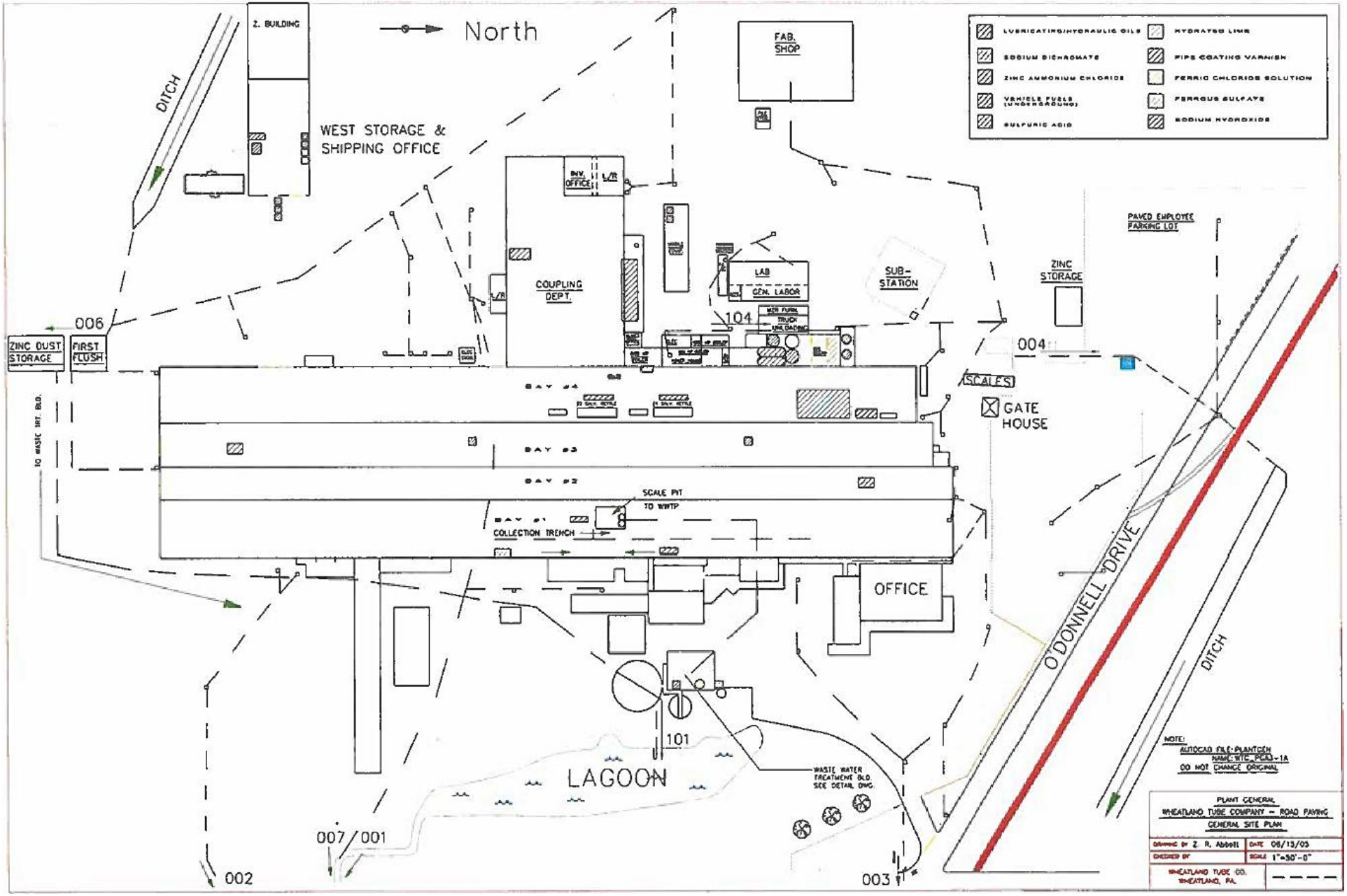
| Waste Type | Degree of Treatment | Process Type | Disinfection | Avg Annual Flow (MGD) |
|---|---|---|---|---|
| Industrial | Primary | Settling, oil/water separation, chemical precipitation, flocculation, clarification | None | |

***Zekelman Ind DBA WHEATLAND TUBE COMPANY – COUNCIL***

***NPDES PERMIT #PA0000868***

**FLOW DIAGRAM AND OUTFALLS**




North
DITCH
Z. BUILDING
WEST STORAGE & SHIPPING OFFICE
FAB. SHOP
LUBRICATING/HYDRAULIC OILS
SODIUM DICHROMATE
ZINC AMMONIUM CHLORIDE
VEHICLE FUELS (UNDERGROUND)
SULFURIC ACID
HYDRATED LIME
PIPE COATING VARNISH
FERRIC CHLORIDE SOLUTION
FERROUS SULFATE
SODIUM HYDROXIDE
INV. OFFICE
L/R
COUPLING DEPT.
LAB
GEN. LABOR
SUB-STATION
PAVED EMPLOYEE PARKING LOT
ZINC STORAGE
006
ZINC DUST STORAGE
FIRST FLUSH
104
004
SCALES
GATE HOUSE
TO WASTE TRT. BLD.
BAY #4
BAY #3
BAY #2
BAY #1
SCALE PIT TO WWTP
COLLECTION TRENCH
OFFICE
O'DONNELL DRIVE
DITCH
101
LAGOON
WASTE WATER TREATMENT BLD. SEE DETAIL DWG.
007
001
002
003
NOTE:
AUTOCAD FILE: PLANTGEN
NAME: WTC_PGEN-1A
DO NOT CHANGE ORIGINAL
PLANT GENERAL
WHEATLAND TUBE COMPANY – ROAD PAVING
GENERAL SITE PLAN
DRAWN BY Z. R. Abbott
DATE 08/13/03
CHECKED BY
SCALE 1"=50'-0"
WHEATLAND TUBE CO.
WHEATLAND, PA.

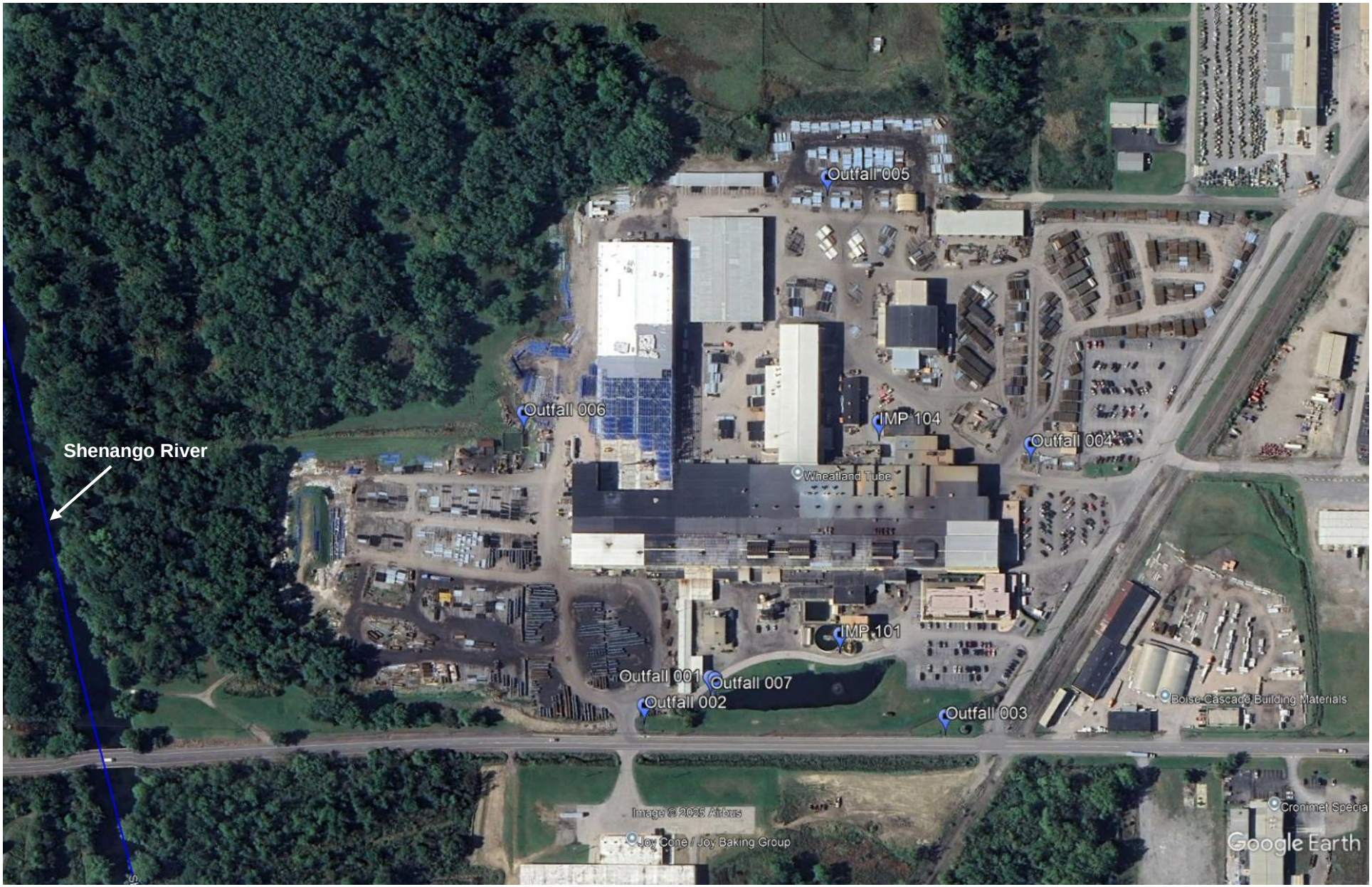



**Image Source and Date: Google Earth Pro; October 2, 2024. Annotations by DEP.**

## Compliance History

**DMR Data for Outfall 001 (from November 1, 2024 to October 31, 2025)**

| Parameter | OCT-25 | SEP-25 | AUG-25 | JUL-25 | JUN-25 | MAY-25 | APR-25 | MAR-25 | FEB-25 | JAN-25 | DEC-24 | NOV-24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| pH (S.U.) Minimum | 8.58 | 8.45 | 8.44 | 8.43 | 8.54 | 8.68 | 8.14 | 8.72 | 8.56 | 7.85 | 8.53 | 8.73 |
| pH (S.U.) Maximum | 8.86 | 8.81 | 8.82 | 8.77 | 8.97 | 8.82 | 8.86 | 8.98 | 8.98 | 8.91 | 8.95 | 8.82 |
| Oil and Grease (mg/L) Average Monthly | < 5.0 | < 5.0 | < 5.0 | 5.71 | < 5.0 | < 8.28 | < 5.0 | 9.85 | < 5.0 | < 5.0 | < 5.0 | 7.00 |
| Oil and Grease (mg/L) Instantaneous Maximum | < 5.0 | < 5.0 | < 5.0 | 8.53 | < 5.0 | 18.1 | < 5.0 | 24.4 | < 5.0 | < 5.0 | < 5.0 | 13.8 |

**DMR Data for Outfall 002 (from November 1, 2024 to October 31, 2025)**

| Parameter | OCT-25 | SEP-25 | AUG-25 | JUL-25 | JUN-25 | MAY-25 | APR-25 | MAR-25 | FEB-25 | JAN-25 | DEC-24 | NOV-24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow (MGD) Daily Maximum | | | | | | | | | | | 0.042 | |
| Total Iron (lbs/day) Daily Maximum | | | | | | | | | | | 0.729 | |
| Total Iron (mg/L) Daily Maximum | | | | | | | | | | | 2.09 | |
| Total Lead (lbs/day) Daily Maximum | | | | | | | | | | | < 0.0017 | |
| Total Lead (mg/L) Daily Maximum | | | | | | | | | | | < 0.005 | |

**DMR Data for Outfall 003 (from November 1, 2024 to October 31, 2025)**

| Parameter | OCT-25 | SEP-25 | AUG-25 | JUL-25 | JUN-25 | MAY-25 | APR-25 | MAR-25 | FEB-25 | JAN-25 | DEC-24 | NOV-24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow (MGD) Daily Maximum | | | | | | | | | | | 0.035 | |
| Total Iron (lbs/day) Daily Maximum | | | | | | | | | | | 0.561 | |
| Total Iron (mg/L) Daily Maximum | | | | | | | | | | | 1.92 | |
| Total Lead (lbs/day) Daily Maximum | | | | | | | | | | | 0.0023 | |
| Total Lead (mg/L) Daily Maximum | | | | | | | | | | | 0.008 | |

**DMR Data for Outfall 004 (from November 1, 2024 to October 31, 2025)**

| Parameter | OCT-25 | SEP-25 | AUG-25 | JUL-25 | JUN-25 | MAY-25 | APR-25 | MAR-25 | FEB-25 | JAN-25 | DEC-24 | NOV-24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow (MGD) Daily Maximum | | 0.013 | | | 0.034 | | | 0.013 | | | 0.018 | |
| Total Iron (lbs/day) Daily Maximum | | 0.03 | | | 0.17 | | | 0.36 | | | 0.12 | |
| Total Iron (mg/L) Daily Maximum | | 0.31 | | | 0.62 | | | 3.3 | | | 0.79 | |
| Total Lead (lbs/day) Daily Maximum | | < 0.0001 | | | 0.0006 | | | < 0.001 | | | 0.0008 | |
| Total Lead (mg/L) Daily Maximum | | < 0.001 | | | 0.002 | | | 0.007 | | | 0.005 | |

**DMR Data for Outfall 005 (from November 1, 2024 to October 31, 2025)**

| Parameter | OCT-25 | SEP-25 | AUG-25 | JUL-25 | JUN-25 | MAY-25 | APR-25 | MAR-25 | FEB-25 | JAN-25 | DEC-24 | NOV-24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow (MGD) Daily Maximum | | | | | | | | | | | 0.056 | |
| Total Iron (lbs/day) Daily Maximum | | | | | | | | | | | 0.206 | |
| Total Iron (mg/L) Daily Maximum | | | | | | | | | | | 0.44 | |
| Total Lead (lbs/day) Daily Maximum | | | | | | | | | | | < 0.0023 | |
| Total Lead (mg/L) Daily Maximum | | | | | | | | | | | < 0.005 | |

**DMR Data for Outfall 006 (from November 1, 2024 to October 31, 2025)**

| Parameter | OCT-25 | SEP-25 | AUG-25 | JUL-25 | JUN-25 | MAY-25 | APR-25 | MAR-25 | FEB-25 | JAN-25 | DEC-24 | NOV-24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow (MGD) Daily Maximum | | | | | | | | | | | 0.066 | |
| Total Iron (lbs/day) Daily Maximum | | | | | | | | | | | 7.932 | |
| Total Iron (mg/L) Daily Maximum | | | | | | | | | | | 14.4 | |
| Total Lead (lbs/day) Daily Maximum | | | | | | | | | | | 0.0303 | |
| Total Lead (mg/L) Daily Maximum | | | | | | | | | | | 0.055 | |

**DMR Data for Outfall 007 (from November 1, 2024 to October 31, 2025)**

| Parameter | OCT-25 | SEP-25 | AUG-25 | JUL-25 | JUN-25 | MAY-25 | APR-25 | MAR-25 | FEB-25 | JAN-25 | DEC-24 | NOV-24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow (MGD) Daily Maximum | | 0.009 | | | 0.022 | | | 0.008 | | | 0.012 | |
| pH (S.U.) Minimum | 7.59 | 7.70 | 7.67 | 7.48 | 7.57 | 7.52 | 7.75 | 7.47 | 7.65 | 7.61 | 7.65 | 7.46 |
| pH (S.U.) Maximum | 7.78 | 7.85 | 7.74 | 7.58 | 7.76 | 7.63 | 7.80 | 7.61 | 7.74 | 7.64 | 7.81 | 7.76 |
| Oil and Grease (mg/L) Average Monthly | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| Oil and Grease (mg/L) Instantaneous Maximum | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| Total Iron (lbs/day) Daily Maximum | | 0.019 | | | 0.075 | | | 0.055 | | | 0.143 | |
| Total Iron (mg/L) Daily Maximum | | 0.25 | | | 0.40 | | | 0.78 | | | 1.42 | |
| Total Lead (lbs/day) Daily Maximum | | < 0.0001 | | | 0.0002 | | | < 0.0001 | | | < 0.0005 | |
| Total Lead (mg/L) Daily Maximum | | < 0.001 | | | 0.001 | | | < 0.001 | | | < 0.005 | |

**DMR Data for Outfall 101 (from November 1, 2024 to October 31, 2025)**

| Parameter | OCT-25 | SEP-25 | AUG-25 | JUL-25 | JUN-25 | MAY-25 | APR-25 | MAR-25 | FEB-25 | JAN-25 | DEC-24 | NOV-24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow (MGD) Average Monthly | 0.44 | 0.39 | 0.35 | 0.29 | 0.29 | 0.45 | 0.55 | 0.52 | 0.61 | 0.54 | 0.4 | 0.48 |
| Flow (MGD) Daily Maximum | 0.69 | 0.63 | 0.61 | 0.64 | 0.62 | 0.70 | 0.86 | 0.86 | 0.80 | 0.79 | 0.8 | 0.70 |
| TSS (lbs/day) Average Monthly | < 12.0 | 22.43 | 15.15 | 18.0 | 14.95 | 33.22 | 38.57 | 30.68 | 38.46 | 32.43 | 47.81 | 44.13 |
| TSS (lbs/day) Daily Maximum | < 14.88 | 44.10 | 21.47 | 34.8 | 29.09 | 60.5 | 45.66 | 71.47 | 59.70 | 55.03 | 83.16 | 74.46 |
| TSS (mg/L) Average Monthly | < 3.0 | 5.25 | 3.75 | 6.8 | 4.5 | 6.6 | 6.75 | 8.50 | 7.60 | 7.25 | 9.75 | 8.40 |
| Oil and Grease (lbs/day) Average Monthly | < 20.01 | < 21.84 | < 20.32 | < 12.88 | < 16.46 | < 24.8 | 31.71 | < 18.1 | < 25.03 | < 23.45 | < 23.13 | < 25.85 |
| Oil and Grease (lbs/day) Daily Maximum | < 24.81 | < 26.27 | < 23.56 | < 19.33 | < 25.85 | < 27.99 | 34.70 | < 32.49 | < 27.45 | < 29.72 | < 33.24 | < 28.26 |
| Oil and Grease (mg/L) Instantaneous Maximum | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | 6.84 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |

| Parameter | OCT-25 | SEP-25 | AUG-25 | JUL-25 | JUN-25 | MAY-25 | APR-25 | MAR-25 | FEB-25 | JAN-25 | DEC-24 | NOV-24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Aluminum (lbs/day) Daily Maximum | | 1.67 | | | 0.09 | | | 0.26 | | | 0.17 | |
| Total Aluminum (mg/L) Daily Maximum | | 0.56 | | | 0.11 | | | 0.69 | | | 1.14 | |
| Total Iron (lbs/day) Average Monthly | 0.95 | 1.49 | 2.23 | 1.19 | 1.27 | 4.84 | 5.6 | 3.63 | 5.04 | 4.56 | 4.33 | 5.92 |
| Total Iron (lbs/day) Daily Maximum | 1.79 | 2.10 | 4.72 | 1.96 | 2.43 | 8.80 | 7.43 | 9.55 | 8.95 | 8.08 | 7.18 | 10.51 |
| Total Iron (mg/L) Instantaneous Maximum | 0.36 | 0.41 | 1.10 | 0.67 | 0.57 | 1.60 | 1.14 | 1.47 | 1.63 | 1.36 | 1.08 | 1.86 |
| Total Lead (lbs/day) Average Monthly | < 0.01 | < 0.02 | < 0.01 | < 0.01 | < 0.02 | < 0.01 | < 0.01 | < 0.01 | < 0.02 | < 0.02 | < 0.09 | < 0.10 |
| Total Lead (lbs/day) Daily Maximum | < 0.01 | < 0.04 | < 0.01 | < 0.01 | < 0.04 | < 0.02 | < 0.02 | < 0.02 | < 0.02 | < 0.04 | < 0.13 | < 0.11 |
| Total Lead (mg/L) Average Monthly | < 0.003 | < 0.004 | < 0.002 | < 0.003 | < 0.004 | < 0.003 | < 0.002 | < 0.003 | < 0.003 | < 0.007 | < 0.020 | < 0.020 |
| Total Lead (mg/L) Daily Maximum | < 0.003 | < 0.007 | < 0.003 | < 0.003 | < 0.007 | < 0.003 | < 0.003 | < 0.003 | < 0.003 | < 0.02 | < 0.02 | < 0.02 |
| Total Zinc (lbs/day) Average Monthly | 0.12 | 0.16 | 0.1 | 0.14 | 0.17 | 1.08 | 1.11 | 0.54 | 1.40 | 0.89 | 1.18 | 0.45 |
| Total Zinc (lbs/day) Daily Maximum | 0.30 | 0.24 | 0.17 | 0.27 | 0.29 | 1.54 | 1.56 | 1.43 | 2.2 | 2.08 | 2.53 | 0.85 |
| Total Zinc (mg/L) Average Monthly | 0.03 | 0.04 | 0.03 | 0.05 | 0.06 | 0.22 | 0.19 | 0.14 | 0.28 | 0.19 | 0.22 | 0.09 |

**DMR Data for Outfall 104 (from November 1, 2024 to October 31, 2025)**

| Parameter | OCT-25 | SEP-25 | AUG-25 | JUL-25 | JUN-25 | MAY-25 | APR-25 | MAR-25 | FEB-25 | JAN-25 | DEC-24 | NOV-24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow (MGD) Average Monthly | 0.0041 | 0.0022 | 0.0016 | 0.0026 | 0.0058 | 0.0051 | 0.0047 | 0.0022 | 0.0031 | 0.0015 | 0.0031 | 0.0017 |
| pH (S.U.) Minimum | 8.21 | 8.35 | 7.91 | 7.83 | 7.65 | 7.65 | 7.77 | 6.89 | 7.03 | 6.50 | 8.76 | 7.97 |
| pH (S.U.) Maximum | 8.25 | 8.55 | 8.31 | 8.13 | 7.69 | 7.71 | 8.47 | 8.33 | 7.70 | 8.35 | 8.97 | 8.03 |
| Oil and Grease (mg/L) Average Monthly | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | 10.53 | 89.25 | 60.13 | < 5.0 | < 5.0 | < 5.0 |
| Oil and Grease (mg/L) Instantaneous Maximum | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 | 15.8 | 159 | 115 | < 5.0 | < 5.0 | < 5.0 |

**DMR Data for Outfall 201 (from November 1, 2024 to October 31, 2025)**

| Parameter | OCT-25 | SEP-25 | AUG-25 | JUL-25 | JUN-25 | MAY-25 | APR-25 | MAR-25 | FEB-25 | JAN-25 | DEC-24 | NOV-24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow (MGD) Average Monthly | 0.016 | 0.01 | 0.004 | 0.013 | 0.009 | 00 | 0.016 | 0.015 | 0.007 | 0.00 | 00 | |

## Compliance History

**Effluent Violations for Outfall 104, from: December 1, 2024 To: October 31, 2025**

| Parameter | Date | SBC | DMR Value | Units | Limit Value | Units |
|---|---|---|---|---|---|---|
| Oil and Grease | 02/28/25 | Avg Mo | 60.13 | mg/L | 15 | mg/L |
| Oil and Grease | 03/31/25 | Avg Mo | 89.25 | mg/L | 15 | mg/L |
| Oil and Grease | 02/28/25 | IMAX | 115 | mg/L | 30 | mg/L |
| Oil and Grease | 03/31/25 | IMAX | 159 | mg/L | 30 | mg/L |

Summary of Inspections:

Other Comments:

**Development of Effluent Limitations**

**Suboutfall No.** 101 **Design Flow (MGD)** 1.0
**Latitude** 41° 11' 37" **Longitude** -80° 29' 34"
**Wastewater Description:** Wastewater from the Water Treatment Plant that receives process wastewater from the Continuous Weld Furnace Scale Pit, Galvanizing Dept., and contaminated groundwater and storm water pumped from the First Flush Tank

Internal Waste Streams

Effluent limits are imposed at Suboutfall/IMP 101 rather than another monitoring location because 40 CFR § 125.3(f) prohibits compliance with technology-based treatment requirements using "non-treatment" techniques such as flow augmentation (*i.e.*, dilution). Since the wastewaters monitored at IMP 101 combine with other wastewaters before the next downstream monitoring location (Outfall 001), IMP 101 is the only point at which compliance with applicable effluent limits can be determined without the interference of other wastewaters. This rationale is consistent with 40 CFR § 122.45(h)[1], which allows for the imposition of effluent limitations on internal waste streams in these circumstances.

Current Effluent Limits and Monitoring Requirements

Discharges regulated at IMP 101 are currently subject to the following effluent limits and monitoring requirements.

**Table 1. IMP 101's Current Effluent Limits and Monitoring Requirements**

| Parameter | Mass (lbs/day) | | Concentration (mg/L) | | | Minimum Measurement Frequency | Sample Type |
|---|---|---|---|---|---|---|---|
| | Avg. Mo. | Max Daily | Avg. Mo. | Max Daily | IMAX | | |
| Flow (MGD) | Report | Report | — | — | — | Continuous | Measured |
| TSS | 524 | 1,279 | Report | — | 60 | 1/week | 24-Hr Comp. |
| Oil and Grease | 119 | 468 | — | — | 30 | 1/week | Grab |
| Aluminum, Total | — | Report | — | Report | — | 1/quarter | Grab |
| Iron, Total | 72 | 143 | — | — | 15.4 | 1/week | 24-Hr Comp. |
| Lead, Total | 0.83 | 1.7 | 0.095 | 0.19 | 0.24 | 1/week | 24-Hr Comp. |
| Zinc, Total | 1.5 | 4.5 | Report | — | 0.5 | 1/week | 24-Hr Comp. |

The effluent limits and monitoring requirements in **Table 1** will remain in effect in the renewed permit pursuant to anti-backsliding requirements under Section 402(o) of the Clean Water Act (33 U.S.C. §1342(o)) and/or 40 CFR § 122.44(l) (incorporated by reference at 25 Pa. Code § 92a.44) unless the limits are superseded by more stringent limits developed for this renewal or are relaxed pursuant to the anti-backsliding exceptions listed in 33 U.S.C. § 1342(o) or 40 CFR § 122.44(l).[2]

### 101.A. Technology-Based Effluent Limitations (TBELs)

Federal Effluent Limitations Guidelines

Process wastewaters from WTC's pipe and tube manufacturing and galvanizing operations are subject to Federal Effluent Limitations Guidelines (ELGs) under 40 CFR Part 420 – Iron and Steel Manufacturing Point Source Category. Production lines at WTC include: 1) the Continuous Butt Weld (CW) Mill that hot-forms carbon steel strip into pipe and then straightens the pipe in a cold-forming step; and 2) a new Hot-Dip Galvanizing (HDG) line that replaced the original galvanizing line that ceased production at the end of 2024 and was later decommissioned. The new HDG line performs the same operations as the original galvanizing line (alkaline cleaning, acid pickling, and hot coating) but at a smaller scale. Subcategories of 40 CFR Part 420 applicable to WTC include the following:

- CW Mill: Subpart G – Hot Forming Subcategory and Subpart J – Cold Forming Subcategory
- HDG Line: Subpart I – Acid Pickling, Subpart K – Alkaline Cleaning, and Subpart L – Hot Coating

[1] 40 CFR § 122.45(h)(1): "When permit effluent limitations or standards imposed at the point of discharge are impractical or infeasible, effluent limitations or standards for discharges of pollutants may be imposed on internal waste streams before mixing with other waste streams or cooling water streams."

[2] 40 CFR § 122.44(l) *Reissued permits.* (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under § 122.62.)

The performance standards in 40 CFR Part 420 are production-based. Pursuant to 40 CFR § 122.45(b)(2)(i) and Section 5.2.2.5 of USEPA's NPDES Permit Writers' Manual (September 2010), the calculation of any permit limitations, standards, or prohibitions that are based on production shall be based, not on the designed production capacity, but on a reasonable measure of the permittee's actual long-term average daily production that can reasonably be expected to prevail during the next permit term. DEP previously calculated production-based mass limits for WTC using the highest monthly production rate reported during the previous permit term. When mass limits are imposed based on the highest monthly production rate reported during the previous permit term, those limits are typically accompanied by concentration limits to ensure that the ELG's performance standards are met when production is low. Concentration limits are discussed later in this fact sheet.

**Tables 2** through **6** identify the controlling performance standards from the applicable subparts of the ELGs and the production-based mass limits calculated using WTC's maximum monthly production rates from the last five years (or expected maximum production rates for the new HDG line since production history is limited for that new line). Controlling limits are highlighted in the tables in green. For the acid pickling process, consistent with performance standards under Subpart I, additional pollutant loadings are calculated for WTC's use of one (1) acid pickling fume scrubber (down from four acid pickling fume scrubbers and three hot coating fume scrubbers used to calculate additional pollutant loadings for WTC's current permit).

**Table 2. Production-Based TBELs for CW Mill under 40 CFR Part 420, Subpart G – Hot Forming**

| | | | | | |
|---|---|---|---|---|---|
| **Industrial Category & Subcategory:** Iron and Steel Manufacturing Point Source Category, Subpart G – Hot Forming | | | | | |
| **Regulatory Citation:** 40 CFR §§ 420.72(d) [BPT] & 420.77(d) [BCT] – Pipe and tube mills, carbon and specialty [1] | | | | | |
| **Production Line and Process Description:** Continuous Butt Weld Mill / Hot Forming of Carbon Steel Strip into Pipe | | | | | |
| **Production Rate:** 41,007,500 pounds/month [Five-Year Maximum Monthly Production from March 2023] ÷ 16.69 days/month [Average Number of Production Days/Month in 2023] = 2,457,010 pounds/day | | | | | |
| **Parameter** | **Controlling Performance Standard** | **Performance Standards** | | **Mass Limits** | |
| | | **Maximum for any 1 day** | **Average of daily values for 30 consecutive days** | **Average Monthly** | **Maximum Daily** |
| | | **pounds per 1,000 pounds of product** | | **pounds/day** | **pounds/day** |
| TSS | BCT | 0.212 | 0.0795 | 195.3 | 520.9 |
| Oil and Grease | BCT | 0.0530 | — | — | 130.2 |
| pH (S.U.) | BCT | within the range of 6.0 to 9.0 | | — | — |

[1] Per 40 CFR § 420.73, EPA determined that there are not significant quantities of toxic pollutants in hot forming wastewaters after compliance with applicable BPT limits. Consequently, EPA did not promulgate more stringent Best Available Technology Economically Achievable (BAT) limits for Hot Forming.

**Table 3. Production-Based TBELs for CW Mill under 40 CFR Part 420, Subpart J – Cold Forming**

| | | | | | |
|---|---|---|---|---|---|
| **Industrial Category & Subcategory:** Iron and Steel Manufacturing Point Source Category, Subpart J – Cold Forming | | | | | |
| **Regulatory Citation:** 40 CFR §§ 420.102(b)(1) [BPT], 420.103(b)(1) [BAT], 420.107(b)(1) [BCT] – Cold worked pipe and tube – Using water | | | | | |
| **Production Line and Process Description:** Continuous Butt Weld Mill / Hot Forming of Carbon Steel Strip into Pipe | | | | | |
| **Production Rate:** 41,007,500 pounds/month [Five-Year Maximum Monthly Production from March 2023] ÷ 16.69 days/month [Average Number of Production Days/Month in 2023] = 2,457,010 pounds/day — Cold Forming production is the same as Hot Forming production because all hot-formed pipe goes through a straightening (cold forming) process | | | | | |
| **Parameter** | **Controlling Performance Standard** | **Performance Standards** | | **Mass Limits** | |
| | | **Maximum for any 1 day** | **Average of daily values for 30 consecutive days** | **Average Monthly** | **Maximum Daily** |
| | | **pounds per 1,000 pounds of product** | | **pounds/day** | **pounds/day** |
| TSS | BCT | 0.00125 | 0.000626 | 1.5 | 3.1 |
| Oil and Grease | BCT | 0.000522 | 0.000209 | 0.5 | 1.3 |
| Chromium [1] | BAT | 0.0000209 | 0.0000084 | N/A [1] | N/A [1] |
| Lead | BAT | 0.0000094 | 0.0000031 | 0.008 | 0.023 |
| Nickel [1] | BAT | 0.0000188 | 0.0000063 | N/A [1] | N/A [1] |
| Zinc | BAT | 0.0000063 | 0.0000021 | 0.005 | 0.015 |
| pH (S.U.) | BCT | within the range of 6.0 to 9.0 | | — | — |

[1] The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold forming wastewaters are treated with descaling or combination acid pickling wastewaters.

**Table 4. Production-Based TBELs for HDG Line under 40 CFR Part 420, Subpart I – Acid Pickling**

| | | | | | |
|---|---|---|---|---|---|
| **Industrial Category & Subcategory:** Iron and Steel Manufacturing Point Source Category, Subpart I – Acid Pickling | | | | | |
| **Regulatory Citation:** 40 CFR §§ 420.92(a)(4) [BPT], 420.93(a)(4) [BAT], 420.97(a)(4) [BCT] – Sulfuric acid pickling (spent acid solutions and rinse waters) – Pipe, tube and other products | | | | | |
| **Production Line and Process Description:** HDG Hot-Dip Galvanizing / Sulfuric Acid Pickling | | | | | |
| **Production Rate:** 7,976,306 pounds/month [Maximum Monthly Production from November 2024] ÷ 9.42 days/month [Average Number of Production Days/Month in 2024] = 846,742 pounds/day [1] | | | | | |
| **Parameter** | **Controlling Performance Standard** | **Performance Standards** | | **Mass Limits** | |
| | | **Maximum for any 1 day** | **Average of daily values for 30 consecutive days** | **Average Monthly** | **Maximum Daily** |
| | | **pounds per 1,000 pounds of product** | | **pounds/day** | **pounds/day** |
| TSS | BCT | 0.146 | 0.0626 | 53.0 | 123.6 |
| Oil and Grease[2] | BCT | 0.0626 | 0.209 | 17.7 | 53.0 |
| Lead | BAT | 0.000939 | 0.000313 | 0.27 | 0.80 |
| Zinc | BAT | 0.00125 | 0.000417 | 0.35 | 1.06 |
| pH (S.U.) | BCT | within the range of 6.0 to 9.0 | | — | — |
| **Regulatory Citation:** 40 CFR §§ 420.92(a)(5) [BPT], 420.93(a)(5) [BAT], 420.97(a)(5) [BCT] – Sulfuric acid pickling – Fume scrubbers | | | | | |
| **Production Line and Process Description:** HDG Hot-Dip Galvanizing / Sulfuric Acid Pickling / Fume Scrubbers | | | | | |
| **Production Rate:** One (1) fume scrubber | | | | | |
| **Parameter** | **Controlling Performance Standard** | **Performance Standards** | | **Mass Limits** | |
| | | **Maximum for any 1 day** | **Average of daily values for 30 consecutive days** | **Average Monthly** | **Maximum Daily** |
| | | **kilograms per day (pounds per day) [3]** | | **pounds/day** | **pounds/day** |
| TSS | BCT | 5.72 (12.61) | 2.45 (5.401) | 5.4 | 12.6 |
| Oil and Grease[2] | BCT | 2.45 (5.401) | 0.819 (1.806) | 1.8 | 5.4 |
| Lead | BAT | 0.0368 (0.08113) | 0.0123 (0.02712) | 0.03 | 0.08 |
| Zinc | BAT | 0.0491 (0.1083) | 0.0164 (0.0362) | 0.04 | 0.11 |
| pH (S.U.) | BCT | within the range of 6.0 to 9.0 | | — | — |

[1] The old galvanizing department, including hot-dip galvanizing operations for Pot 1, Pot 2, and associated pickling processes, were decommissioned in 2024. WTC reported that it anticipates the new HDG line will reach 75% of its design production capacity within the next five years (about 90,000,000 pounds/year). An expected daily production rate (pounds/day) was not reported, so the production rate of the new automated HDG line is estimated using available data from operation of that line in 2024 (maximum monthly production divided by the average number of production days per month).

[2] The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

[3] Limitations apply to each fume scrubber associated with a sulfuric acid pickling operation.

**Table 5. Production-Based TBELs for HDG Line under 40 CFR Part 420, Subpart K – Alkaline Cleaning**

| | | | | | |
|---|---|---|---|---|---|
| **Industrial Category & Subcategory:** Iron and Steel Manufacturing Point Source Category, Subpart K – Alkaline Cleaning | | | | | |
| **Regulatory Citation:** 40 CFR §§ 420.112(a) [BPT] & 420.117(a) [BCT] – Batch [1] | | | | | |
| **Production Line and Process Description:** HDG Hot-Dip Galvanizing / Alkaline Cleaning | | | | | |
| **Production Rate:** 7,976,306 pounds/month [Maximum Monthly Production from November 2024] ÷ 9.42 days/month [Average Number of Production Days/Month in 2024] = 846,742 pounds/day | | | | | |
| **Parameter** | **Controlling Performance Standard** | **Performance Standards** | | **Mass Limits** | |
| | | **Maximum for any 1 day** | **Average of daily values for 30 consecutive days** | **Average Monthly** | **Maximum Daily** |
| | | **pounds per 1,000 pounds of product** | | **pounds/day** | **pounds/day** |
| TSS | BCT | 0.0730 | 0.0313 | 26.5 | 61.8 |
| Oil and Grease | BCT | 0.0313 | 0.0104 | 8.81 | 26.5 |
| pH (S.U.) | BCT | within the range of 6.0 to 9.0 | | — | — |

[1] Per 40 CFR § 420.113, EPA determined that there are not significant quantities of toxic pollutants in alkaline cleaning wastewaters after compliance with applicable BPT limitations. Consequently, EPA did not promulgate more stringent Best Available Technology Economically Achievable (BAT) limits for Alkaline Cleaning.

**Table 6. Production-Based TBELs for HDG Line under 40 CFR Part 420, Subpart L – Hot Coating**

| | | | | | |
|---|---|---|---|---|---|
| **Industrial Category & Subcategory:** Iron and Steel Manufacturing Point Source Category, Subpart L – Hot Coating | | | | | |
| **Regulatory Citation:** 40 CFR §§ 420.122(a)(1) [BPT], 420.123(a)(1) [BAT], 420.127(a)(1) [BCT] – Galvanizing, terne coatings, and other coatings – Strip, sheet, and miscellaneous products | | | | | |
| **Production Line and Process Description:** HDG Hot-Dip Galvanizing / Coating of Pipe with Molten Zinc | | | | | |
| **Production Rate:** 7,976,306 pounds/month [Maximum Monthly Production from November 2024] ÷ 9.42 days/month [Average Number of Production Days/Month in 2024] = 846,742 pounds/day | | | | | |
| **Parameter** | **Controlling Performance Standard** | **Performance Standards** | | **Mass Limits** | |
| | | **Maximum for any 1 day** | **Average of daily values for 30 consecutive days** | **Average Monthly** | **Maximum Daily** |
| | | **pounds per 1,000 pounds of product** | | **pounds/day** | **pounds/day** |
| TSS | BCT | 0.175 | 0.0751 | 63.6 | 148.2 |
| Oil and Grease | BCT | 0.0751 | 0.0250 | 21.2 | 63.6 |
| Lead | BAT | 0.00113 | 0.000376 | 0.32 | 0.96 |
| Zinc | BAT | 0.00150 | 0.000500 | 0.42 | 1.27 |
| Chromium, VI [1] | BAT | 0.000150 | 0.0000501 | N/A | N/A |
| pH (S.U.) | BCT | within the range of 6.0 to 9.0 | | — | — |

[1] The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewater from the chromate rinse step.

Groundwater and Storm Water

Groundwater from the coil yard and finishing areas of the mill is collected and combines with storm water in an 80,000-gallon "First Flush Tank". The combined wastewaters are pumped to the Water Treatment Plant intermittently at large volumes following the installation of a larger pump at the First Flush Tank within the last few years. The new pump keeps the tank level below the weir overflow to Outfall 006 in accordance with a permit condition that requires 90,000 gallons of water collected in the First Flush Tank to be pumped to the Water Treatment Plant before a discharge from Outfall 006 is allowed to occur on consecutive days. The average monthly volume of water pumped to the treatment plant from the First Flush Tank in 2025 is approximately 340,000 gallons, with the pump primarily triggered during storm events.

For the previous permit, DEP provided additional pollutant loading allowances at IMP 101 for TSS, lead, and zinc in wastewaters pumped from the First Flush Tank. Pursuant to DEP's best professional judgement, the load allowances were calculated using the BPT/BAT performance standards for those parameters from 40 CFR §§ 433.13(a) and 433.14(a) (Metal Finishing Point Source Category ELGs) and an estimated flow rate of 0.0012 MGD.

The previous permit imposed a flow monitoring requirement at IMP 201 to quantify the flow rate of groundwater and storm water pumped from the First Flush Tank to the Water Treatment Plant. Based on flow data collected at IMP 201, the five-year average flow rate of pumped groundwater and storm water is 0.0158 MGD. That flow rate will be used to calculate additional pollutant loading allowances for TSS, lead, and zinc for this permit renewal.

**Table 7. Additional TBELs for Groundwater and Stormwater from the First Flush Tank**

| | | | | | |
|---|---|---|---|---|---|
| **Industrial Category & Subcategory:** Metal Finishing Point Source Category, Subpart A – Metal Finishing Subcategory | | | | | |
| **Regulatory Citation:** 40 CFR §§ 433.13(a)(1) [BPT] & 433.14(a) [BAT]; 25 Pa. Code § 92a.48(a)(3) & 40 CFR § 125.3(c)(2) [BPJ] | | | | | |
| **Production Line and Process Description:** Groundwater and storm water from pumped from the First Flush Tank | | | | | |
| **Production Rate:** 0.0158 MGD [Five-year average pumped flow rate at IMP 102] | | | | | |
| **Parameter** | **Controlling Performance Standard** | **Performance Standards** | | **Mass Limits** | |
| | | **Maximum for any 1 day** | **Average of daily values for 30 consecutive days** | **Average Monthly** | **Maximum Daily** |
| | | **pounds per 1,000 pounds of product** | | **pounds/day** | **pounds/day** |
| TSS | BPT | 60 | 31 | 4.1 | 7.9 |
| Lead | BAT | 0.69 | 0.43 | 0.057 | 0.091 |
| Zinc | BAT | 2.61 | 1.48 | 0.20 | 0.34 |
| pH (S.U.) | BPT | within the range of 6.0 to 9.0 | | — | — |

When DEP prepared WTC's 2014 NPDES permit, DEP calculated loading allowances for total iron from coil yard and finishing area groundwater and storm water based on BAT TBELs for total iron from 40 CFR § 434.33. That regulation identifies BAT performance standards for acid or ferruginous mine drainage. However, TBELs for total iron were not imposed at IMP 101. The effluent limits for total iron currently in effect at IMP 101 are water quality-based mass limits and an instantaneous maximum (IMAX) concentration limit only (discussed in Section 101.B, below). Imposing TBELs for total iron at IMP 101 would require either the adoption of TBELs from another regulation (*e.g.*, § 434.33) based on technology transfer or an accounting for iron in WTC's process wastewaters and an evaluation of the treatability of iron in those wastewaters by BAT. While iron is present in significant/treatable concentrations in the various waste streams regulated by 40 CFR Part 420, EPA did not identify BPT/BAT treatability values for total iron in the corresponding Iron and Steel ELG Development Document and chose not to limit iron in 40 CFR 420 Subparts G, I, J, K, or L because iron is not a toxic priority pollutant. EPA concluded that limits for toxic indicator pollutants (lead and zinc) would result in the treatment and removal of other pollutants like iron. Available influent and effluent data summarized in **Table 8** support EPA's conclusion.

**Table 8. Influent and Effluent Concentrations and Percent Removals**

| Parameter | Influent (µg/L) | Effluent (µg/L) | Percent Removal |
|---|---|---|---|
| Aluminum, Total | 28,000 | 376†† | 98.6571% |
| Antimony, Total | 34 | 1.4 | 95.8824% |
| Arsenic, Total | 56 | 0.5 | 99.1071% |
| Barium, Total | 76 | 15 | 80.2632% |
| Beryllium, Total | <5 | 0.1 | 98.0000% |
| Boron, Total | 5110 | 78 | 98.4736% |
| Cadmium, Total | 143 | <2 | >98.6014% |
| Chromium, Total | 47,200 | 2.3 | 99.9951% |
| Chromium, Hexavalent | 11 | <5 | >54.5455% |
| Cobalt, Total | 264 | 0.4 | 99.8485% |
| Copper, Total | 903 | 29 | 96.7885% |
| Cyanide, Total | <5 | 8 | — |
| Iron, Total | 9,000,000 | 2,819†† | 99.9687% |
| Iron, Dissolved | 8,870,000 | 46.7 | 99.9995% |
| Lead, Total | 57 | <0.02†† | >99.9649% |
| Manganese, Total | 134,000 | 146 | 99.8910% |
| Mercury, Total | 1.3 | 0.067 | 94.8462% |
| Molybdenum, Total | 8190 | 12 | 99.8535% |
| Nickel, Total | 3340 | 4.7 | 99.8593% |
| Phenols, Total | 24 | 0.047 | 99.8042% |
| Selenium, Total | <500 | <5 | 99.0000% |
| Silver, Total | <0.5 | 0.2 | — |
| Thallium, Total | 2.3 | 5 | — |
| Zinc, Total | 290,000 | 167† | 99.9424% |

† Influent concentrations reported on WTC's 2019 Application.

†† Long-term average of maximum daily concentrations reported on DMRs (Oct. 2014 – May 2025).

The long-term average concentration of total iron in WTC's effluent is less than the average monthly TBEL for total iron from 40 CFR § 434.33 (3.5 mg/L). WTC's treatment process appears to remove metals from the facility's wastewaters effectively; although, influent data are limited. Based on the data on **Table 8**, no TBELs for other parameters are developed. However, due to their significant concentrations in the raw wastewaters and, to the extent that more stringent WQBELs do not apply, reporting will be required for aluminum, chromium, iron (total and dissolved), and manganese to confirm the removal of those pollutants by WTC's treatment process. The mass TBELs for IMP 101 are summarized in **Table 9**.

**Table 9. Summary of Technology-Based Mass Limits at IMP 101**

| Parameter | Average Monthly (pounds/day) | Maximum Daily (pounds/day) | Basis |
|---|---|---|---|
| Total Suspended Solids | 349.0 | 878.0 | 40 CFR 420, Subparts G, I, J, K, L + First Flush Loading |
| Oil and Grease | 50.0 | 280.0 | 40 CFR 420, Subparts G, I, J, K, L + First Flush Loading |
| Lead | 0.67 | 1.95 | 40 CFR 420, Subparts G, I, J, K, L + First Flush Loading |
| Zinc | 1.0 | 2.8 | 40 CFR 420, Subparts G, I, J, K, L + First Flush Loading |

Concentration-Based Limits for IMP 101

To supplement the production-based mass limits, DEP previously imposed IMAX concentration limits for TSS, oil and grease, zinc, and, nominally, lead, under the authority of 40 CFR § 122.45(f)(2).[3] The concentration TBEL for lead was superseded by WQBELs, which in turn resulted in more stringent mass limits for lead (discussed in Section 101.B). **Table 10** summarizes the concentration-based performance standards underlying the production-based performance standards in 40 CFR Part 420.

**Table 10. Concentration-Based Performance Standards for Part 420-Regulated Wastewaters**

| Parameter | BPT | | BCT | | BAT | |
|---|---|---|---|---|---|---|
| | Avg. Mo. (mg/L) | Max Daily (mg/L) | Avg. Mo. (mg/L) | Max Daily (mg/L) | Avg. Mo. (mg/L) | Max Daily (mg/L) |
| **Subpart G - Hot Forming** | | | | | | |
| TSS | 15 | 40 | 15 | 40 | — | — |
| Oil & Grease | — | 10 | — | 10 | — | — |
| Lead | — | — | — | — | — | — |
| Zinc | — | — | — | — | — | — |
| **Subpart J - Cold Forming** | | | | | | |
| TSS | 30 | 60 | 30 | 60 | — | — |
| Oil & Grease | 10 | 25 | 10 | 25 | — | — |
| Lead | 0.15 | 0.45 | 0.15 | 0.45 | 0.15 | 0.45 |
| Zinc | 0.1 | 0.3 | 0.1 | 0.3 | 0.1 | 0.3 |
| **Subpart I - Acid Pickling** | | | | | | |
| TSS | 30 | 70 | 30 | 70 | — | — |
| Oil & Grease | 10 | 30 | 10 | 30 | — | — |
| Lead | 0.15 | 0.45 | 0.15 | 0.45 | 0.15 | 0.45 |
| Zinc | 0.1 | 0.3 | 0.1 | 0.3 | 0.1 | 0.3 |
| **Subpart K - Alkaline Cleaning** | | | | | | |
| TSS | 30 | 70 | 30 | 70 | — | — |
| Oil & Grease | 10 | 30 | 10 | 30 | — | — |
| Lead | — | — | — | — | — | — |
| Zinc | — | — | — | — | — | — |
| **Subpart L - Hot Coating** | | | | | | |
| TSS | 30 | 70 | 30 | 70 | — | — |
| Oil & Grease | 10 | 30 | 10 | 30 | — | — |
| Lead | 0.15 | 0.45 | 0.15 | 0.45 | 0.15 | 0.45 |
| Zinc | 0.1 | 0.3 | 0.1 | 0.3 | 0.1 | 0.3 |

IMP 101 is currently subject to average monthly reporting for TSS, a TSS IMAX limit of 60 mg/L, an Oil and Grease IMAX limit of 30.0 mg/L, an average monthly reporting requirement for zinc, and a zinc IMAX limit of 0.5 mg/L. Other IMAX concentration limits imposed at IMP 101 are WQBELs that may be subject to change based on DEP's updated reasonable potential analysis for this permit renewal (see Section 101.B below). As imposed in the current permit, the TSS and zinc IMAX limits do not appear on WTC's DMRs as limits against which WTC must report effluent analytical results. The TSS and zinc IMAX limits would be used by DEP sampling personnel to allow a grab sample to be collected to determine compliance (*e.g.*, a grab sample collected during an inspection to readily assess treatment performance).

The current 60 mg/L IMAX limit for TSS corresponds to the maximum daily TSS concentration for Cold Forming based on BPT/BCT. The maximum daily TSS concentration for Hot Forming wastewaters is more stringent at 40 mg/L, but the maximum daily TSS concentration for the other subparts' wastewaters is less stringent at 70 mg/L. The proportional contributions of wastewaters from each of the production operations are unknown, so flow-weighted concentration limits cannot be calculated. However, 60 mg/L is more stringent than an unweighted arithmetic mean of the five subparts' maximum daily TSS concentrations ((40 mg/L + 60 mg/L + 70 mg/L + 70 mg/L + 70 mg/L) ÷ 5 = 62 mg/L).

WTC's long-term average effluent TSS concentration at IMP 101 is 9.0 mg/L with a maximum average monthly concentration of 36 mg/L reported in August 2019. Based on those values, WTC's treatment system performs at a level commensurate with the ELG's underlying concentrations. However, as discussed previously, when mass limits are based on the highest monthly production rate reported during the previous permit term, those limits are typically accompanied by concentration limits to ensure that the ELG's performance standards are met when production is low. Therefore, the 60

[3] 40 CFR 122.45(f)(2) states: "Pollutants limited in terms of mass additionally may be limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations."

mg/L limit will be imposed as a maximum daily concentration limit. The average monthly reporting requirement for TSS will remain in effect to maintain an allowance for operational flexibility.

The current 30 mg/L Oil and Grease limit at IMP 101 is the same as the maximum daily Oil and Grease concentration-based performance standard for all wastewaters regulated by Part 420 except those from Hot Forming and Cold Forming. The production-based performance standards for Hot Forming wastewaters are based on a maximum daily concentration of 10 mg/L and, for Cold Forming wastewaters, 25 mg/L. A concentration limit of 30 mg/L is a reasonable upper limit considering 25 Pa. Code § 95.2(2)(ii) limits Oil and Grease in oil-bearing wastewaters to a maximum of 30 mg/L. WTC's long-term average Oil and Grease concentration at IMP 101 is 4.12 mg/L with most results reported as "<5.0 mg/L", and the maximum concentration of Oil and Grease at IMP 101 was 10.6 mg/L reported in March 2020. The 30 mg/L Oil and Grease IMAX limit will remain in effect at IMP 101 with a reporting requirement added for the average monthly concentration.

The 0.5 mg/L zinc limit at IMP 101 is higher than the maximum daily concentration-based performance standard of 0.3 mg/L from 40 CFR Part 420, Subparts I, J, and L. According to 40 CFR §§ 420.73 and 420.113, Hot Forming and Alkaline Cleaning wastewaters do not contain significant concentrations of toxics after treatment for conventional pollutants, so WTC would be expected to achieve effluent concentrations of 0.3 mg/L or less assuming Hot Forming and Alkaline Cleaning wastewaters do not contribute zinc. WTC's long-term average effluent zinc concentration at IMP 101 is 0.167 mg/L with a maximum concentration of 0.62 mg/L reported in December 2016. Consistent with the rationale for imposing concentration limits discussed previously, the 0.5 mg/L limit for zinc will be imposed as a maximum daily concentration limit and the average monthly reporting requirement for zinc will remain in effect to maintain an allowance for operational flexibility.

Lead is not subject to concentration TBELs in the current permit. Consistent with the rationale for imposing concentration limits discussed previously, a maximum daily concentration limit of 0.45 mg/L will be imposed for lead (equivalent to the underlying maximum daily concentrations for Subparts I, J, and L) with average monthly concentration reporting. Concentration TBELs for IMP 101 are summarized in **Table 11**.

**Table 11. Summary of Technology-Based Concentration Limits at IMP 101**

| Parameter | Average Monthly (mg/L) | Maximum Daily (mg/L) |
|---|---|---|
| Total Suspended Solids | Report | 60.0 |
| Oil and Grease | Report | 30.0 |
| Lead | Report | 0.45 |
| Zinc | Report | 0.5 |

Consistent with the previous permit and the discretion allowed by 40 CFR § 420.07, monitoring for compliance with the pH limits is specified at the point of discharge to the receiving water: Outfall 001.

Per- and Polyfluoroalkyl Substances (PFAS)

In February 2024, DEP implemented a new monitoring initiative for PFAS. PFAS are a family of thousands of synthetic organic chemicals that contain a chain of strong carbon-fluorine bonds. Many PFAS are highly stable, water- and oil-resistant, and exhibit other properties that make them useful in a variety of consumer products and industrial processes. PFAS are resistant to biodegradation, photooxidation, direct photolysis, and hydrolysis and do not readily degrade naturally; thus, many PFAS accumulate over time. According to the United States Department of Health and Human Services, Agency for Toxic Substances and Disease Registry (ATSDR), the environmental persistence and mobility of some PFAS, combined with decades of widespread use, have resulted in their presence in surface water, groundwater, drinking water, rainwater, soil, sediment, ice caps, outdoor and indoor air, plants, animal tissue, and human blood serum across the world. ATSDR also reported that exposure to certain PFAS can lead to adverse human health impacts.[4] Due to their durability, toxicity, persistence, and pervasiveness, PFAS have emerged as potentially significant pollutants of concern.

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

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

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

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

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

WTC collected application samples before the NPDES permit application forms were updated to require sampling for PFOA, PFOS, PFBS, and HFPO-DA, so effluent data for PFAS are not available. However, according to EPA's guidance, WTC does not operate in one of the industries EPA expects to be a source for PFAS. Therefore, annual reporting of PFOA, PFOS, PFBS, and HFPO-DA will be required consistent with Section II.I.b of SOP BCW-PMT-032. As stated in Section II.I.c of the SOP, if non-detect values at or below DEP's Target QLs are reported for four consecutive monitoring periods (*i.e.*, four consecutive annual results in WTC's case), then the monitoring may be discontinued.

**101.B. Water Quality-Based Effluent Limitations (WQBELs)**

Total Iron

The Fact Sheet for the current NPDES permit (issued in 2014) states that IMP 101's effluent limits for total iron were derived from a water quality-based effluent limit (WQBEL) calculated for the facility's December 1995 NPDES permit. Water quality modeling from that time apparently calculated an average monthly effluent limit for total iron of 7.2 mg/L. Rather than impose that WQBEL, DEP granted the company's request to instead impose equivalent mass limits calculated as follows:

*Average Monthly Limit (AML):*

7.2 mg/L × 1.195 MGD × 8.34 [unit conversion factor] = 71.7 pounds/day

*Maximum Daily Limit (MDL):*

71.7 pounds/day × 2.0 [AML-to-MDL multiplier] = 143.0 pounds/day

An instantaneous maximum concentration limit also was calculated as follows:

72 pounds/day ÷ 8.34 [unit conversion factor] ÷ 1.4 MGD × 2.5 [AML-to-IMAX multiplier] = 15.4 mg/L

Water quality modeling by DEP in February 2014 identified a governing WQBEL of 7.2 mg/L for dissolved iron and a governing WQBEL of 45.1 mg/L for total iron. Those limits were calculated based on a discharge flow rate of 1.85 MGD, a $Q_{7\text{-}10}$ flow of 142.63 cfs for the Shenango River, and water quality criteria for iron in 25 Pa. Code Chapter 93 (1.5 mg/L total iron and 0.3 mg/L dissolved iron) that have not changed since initial promulgation in 1974. DEP remodeled the discharge in March 2014 using a lower flow rate, which resulted in less stringent WQBELs for dissolved iron. However, the previously imposed limits for iron were not changed. Notwithstanding the remodeling, it appears that DEP imposed a dissolved iron WQBEL calculated in 1995 as the WQBEL for total iron and maintained that limit through subsequent renewals. Influent characterization data in **Table 8** suggest that imposing a dissolved iron WQBEL as a total iron WQBEL was reasonable because total iron in the wastewater is predominantly present as dissolved iron, which is the more bioavailable form of iron.

Section II.A of DEP's Standard Operating Procedure (SOP) for Clean Water Program Establishing Water Quality-Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants in NPDES Permits for Existing Dischargers [SOP No. BCW-PMT-037] states: "Application managers will reestablish existing WQBELs in a renewed permit if [reasonable potential] RP is demonstrated based on the latest information, including site-specific data. If RP is not demonstrated, existing WQBELs may be relaxed or eliminated if one or more of the [statutory or regulatory] anti-backsliding exceptions

apply and are documented in the fact sheet." The need for iron WQBELs—whether new or maintained from the previous permit—is discussed below with the water quality modeling results for this permit renewal.

Total Lead

DEP's March 2014 remodeling resulted in the calculation of an average monthly WQBEL of 0.095 mg/L for lead with a maximum daily limit of 0.19 mg/L calculated using an average monthly multiplier of two (0.095 mg/L × 2 = 0.19 mg/L) and an IMAX limit of 0.24 mg/L calculated using an average monthly multiplier of 2.5 (0.095 mg/L × 2.5 ≈ 0.24 mg/L). Those limits will be maintained if responsible potential is demonstrated.

Water Quality Modeling

WQBELs generally are not imposed at internal monitoring points because internal waste streams do not need to comply with water quality standards until they discharge to waters of the Commonwealth. DEP's previous water quality modeling at IMP 101 may have been based on the fact that toxics are only expected to be present in significant concentrations in IMP 101's wastewaters; or on the expectation that dry weather discharges from Outfall 001 that would occur at $Q_{7\text{-}10}$ design stream flow conditions would be driven by process wastewater discharges from IMP 101 and not from other inputs to the lagoon (*e.g.*, storm water). DEP will continue to model discharges regulated at IMP 101 as if they were discharging at Outfall 001 and impose WQBELs at IMP 101 accordingly.

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

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

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

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

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

- For non-conservative pollutants, establish monitoring requirements where the maximum reported effluent concentration or calculated AMEC is between 25% - 50% of the WQBEL.

- For conservative pollutants, establish monitoring requirements where the maximum reported effluent concentration or calculated AMEC is between 10% - 50% of the WQBEL.

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

Reasonable Potential Analysis and WQBEL Development for IMP 101 at Outfall 001

Outfall 001 discharges to a tributary that flows along Council Avenue (SR 718). Modeling for IMP 101 was previously performed at the mouth of that tributary where it flows into the Shenango River (ostensibly the "point of first use"). Water quality modeling for this permit renewal will be performed at that location, but DEP may opt to perform a point of first use evaluation in the future to determine whether the tributary has a use.

**Figure 1. Site Features for IMP 101/Outfall 001 Water Quality Modeling**

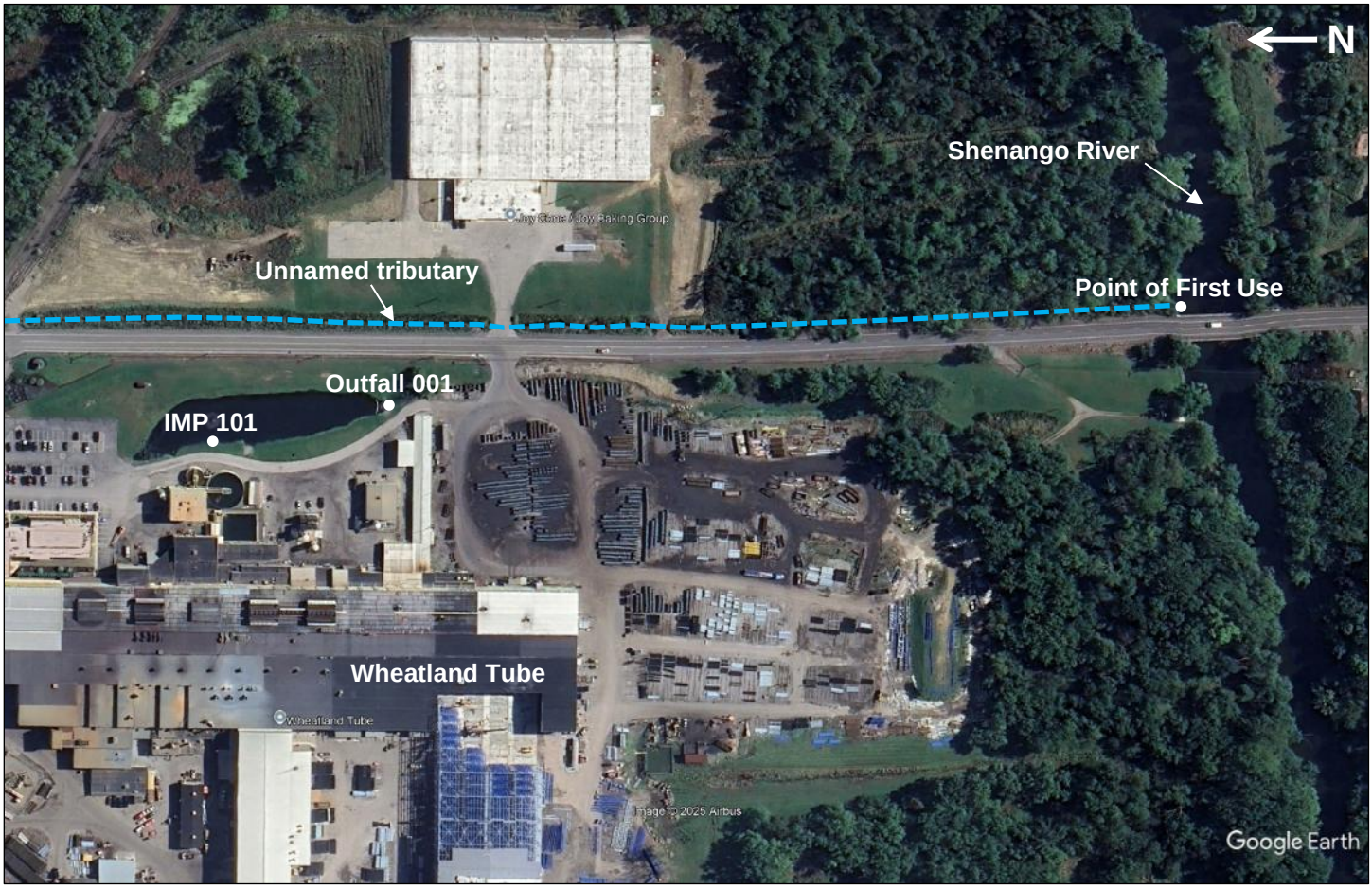


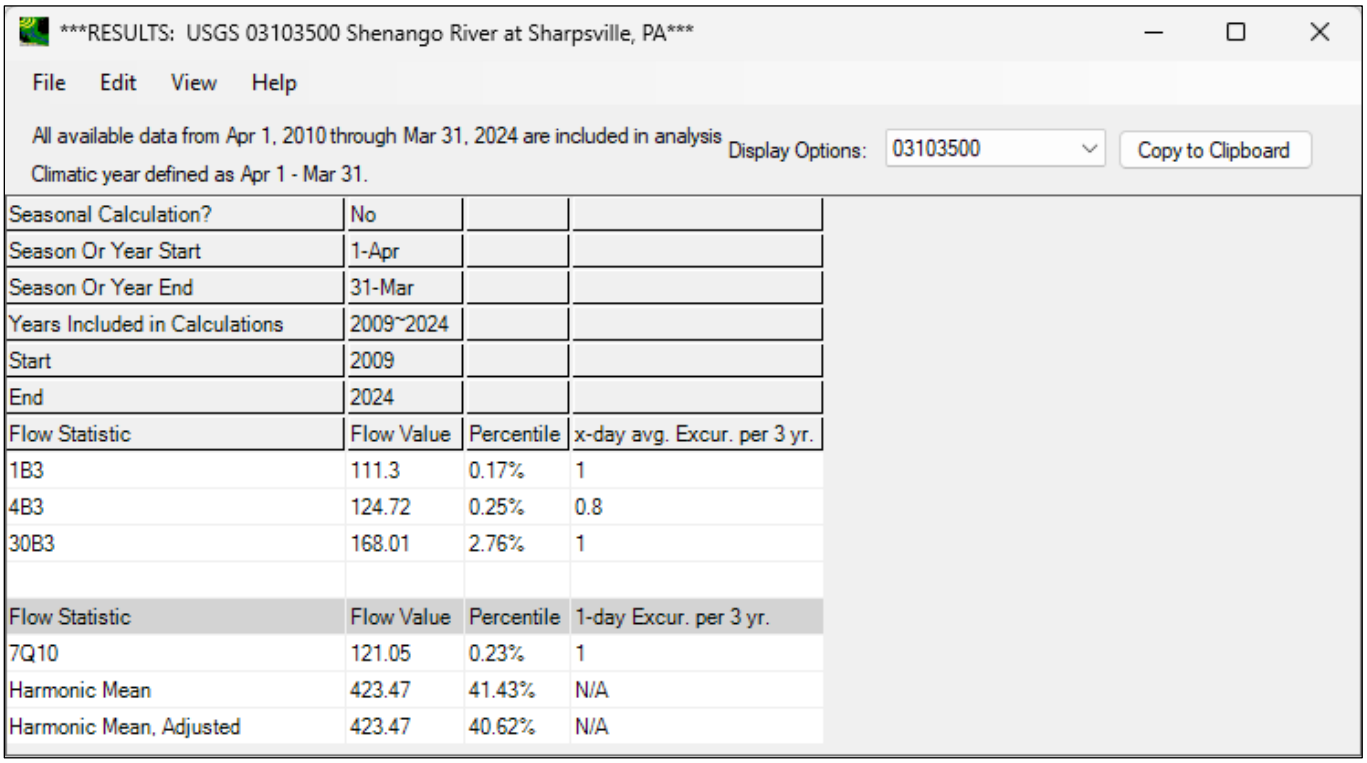

**Image Source and Date: Google Earth Pro; October 2, 2024.**

Pursuant to 25 Pa. Code § 96.4(g), mathematical modeling to develop WQBELs for point source discharges is based on $Q_{7\text{-}10}$ flow for aquatic life criteria and threshold human health criteria, and harmonic mean flow for non-threshold human health criteria (*i.e.*, carcinogens).[5] DEP used USGS's Hydrologic Toolbox v.1.1.0 software and data from USGS Gage 03103500 – Shenango River at Sharpsville, PA for the period of record lasting from 2009 through 2024 to calculate $Q_{7\text{-}10}$ flow and harmonic mean flow for the Shenango River. The results are shown in **Figure 2**. The period of record from 2009 through 2024 is used because there is a data gap in the period of record from October 1991 to October 2009 and data preceding October 1991 is less likely to be representative of current conditions.

[5] *$Q_{7\text{-}10}$ flow*: The actual or estimated lowest 7 consecutive-day average flow that occurs once in 10 years for a stream with unregulated flow, or the estimated minimum flow for a stream with regulated flow.

*Harmonic mean flow*: The flow that is determined by taking the reciprocal of the arithmetic mean of reciprocals of daily flow values.

**Figure 2. USGS Gage 03103500 Flow Statistics (2009-2024)**



***RESULTS: USGS 03103500 Shenango River at Sharpsville, PA***

File Edit View Help

All available data from Apr 1, 2010 through Mar 31, 2024 are included in analysis
Climatic year defined as Apr 1 - Mar 31.

Display Options: 03103500 Copy to Clipboard

| | | | |
|---|---|---|---|
| Seasonal Calculation? | No | | |
| Season Or Year Start | 1-Apr | | |
| Season Or Year End | 31-Mar | | |
| Years Included in Calculations | 2009~2024 | | |
| Start | 2009 | | |
| End | 2024 | | |
| Flow Statistic | Flow Value | Percentile | x-day avg. Excur. per 3 yr. |
| 1B3 | 111.3 | 0.17% | 1 |
| 4B3 | 124.72 | 0.25% | 0.8 |
| 30B3 | 168.01 | 2.76% | 1 |
| | | | |
| Flow Statistic | Flow Value | Percentile | 1-day Excur. per 3 yr. |
| 7Q10 | 121.05 | 0.23% | 1 |
| Harmonic Mean | 423.47 | 41.43% | N/A |
| Harmonic Mean, Adjusted | 423.47 | 40.62% | N/A |

**Table 12. TMS Inputs for IMP 101 at 001**

| **Discharge Characteristics** | | |
|---|---|---|
| **Parameter** | **Value** | |
| Discharge Flow (MGD) | 1.0 | |
| Hardness (mg/L) | 493 | |
| **Receiving Stream Characteristics** | | |
| **Parameter** | **Outfall 001** | **End of Segment** |
| Stream Code | 35482 | 35482 |
| River Mile Index | 24 | 4.75 |
| Drainage Area ($mi^2$) | 706 | 790 |
| $Q_{7-10}$ (cfs) | 121.05 | see output |
| Harmonic Mean Flow (cfs) | 423.47 | see output |
| Low-flow Yield ($cfs/mi^2$) | 0.171 | 0.171 |
| Elevation (ft) | 823.55 | 793.67 |
| Slope (ft/ft) | 0.00042 | 0.00042 |
| PWS Intake (MGD) | — | 8.4 |
| Width (ft) | 125.0 | 175.0 |
| Depth (ft) | 3.0 | see output |

Discharges from IMP 101 are evaluated based on the maximum concentrations reported on the permit renewal application except for lead and zinc, which are evaluated using the maximum daily concentration TBELs listed in **Table 11**. The TMS model is run with the modeled discharge and receiving stream characteristics shown in **Table 12**. Pollutants for which water quality criteria have not been promulgated (*e.g.*, TSS, Oil and Grease, etc.) are excluded from the modeling.

The width and depth of the river are estimated for $Q_{7-10}$ low-flow conditions. The width of the Shenango River at the outfall and at the nearest downstream potable water supply were determined by measuring the width of the river on a topographic map. The depth of the river at Outfall 001 was estimated based on DEP's best professional judgement. The slope of the river in the vicinity of Outfall 001 was estimated by measuring the length of the river between the nearest topographic contour lines that cross the Shenango River upstream and downstream of Outfall 001 and dividing the elevation difference between those contours (elev. 830 feet – elev. 820 feet) by the length of river between them (23,873.28 feet as shown in **Figure 3** measured using USGS's The National Map Viewer). The resulting slope is calculated as: 10 feet ÷ 23,873.28 feet ≈ 0.00042.

The drainage areas of the Shenango River at Outfall 001 and at the downstream end-of-reach are estimated using USGS StreamStats web application. USGS StreamStats also can be used to calculate stream flow statistics, but the flow statistics in StreamStats are calculated using regression equations and regionalized data that are not appropriate for gaged streams.

Output from the TMS model is included in **Attachment A** to this Fact Sheet. The results of the modeling identify WQBELs for total lead and acrylamide and reporting requirements for total cadmium, total copper, and total zinc as shown in **Table 13**.

**Figure 3. River Length Measurement for Slope Determination**


**Table 13. Water Quality-Based Effluent Limits for IMP 101 at Outfall 001**

| Parameter | Permit Limits | | | | | Discharge Conc. (µg/L) | Target QL (µg/L) | Governing WQBEL (µg/L) | Governing WQBEL Basis† |
|---|---|---|---|---|---|---|---|---|---|
| | Avg Mo. (lb/day) | Max Daily (lb/day) | Avg Mo. (µg/L) | Max Daily (µg/L) | IMAX (µg/L) | | | | |
| Cadmium | Report | Report | Report | Report | Report | <2 | 0.2 | 19.0 | CFC |
| Copper | Report | Report | Report | Report | Report | 36 | 4 | 200 | AFC |
| Lead | 1.72 | 2.68 | 206 | 321 | 514 | 450 | 1 | 206 | CFC |
| Zinc | Report | Report | Report | Report | Report | 500 | 5 | 1,713 | AFC |
| Acrylamide | 0.16 | 0.25 | 19.2 | 30.0 | 48.1 | 10000 | N/A | 19.2 | CRL |

† AFC: Acute Fish Criterion; CFC: Chronic Fish Criterion; CRL: Cancer Risk Level

WTC reported results for Acrylamide using an analytical reporting limit of 10 mg/L. For modeling purposes, the TMS uses a Target QL of 0.1 µg/L for Acrylamide. The permit application instructions do not identify a Target QL for Acrylamide, so applicants are not held to the TMS's Target QL for Acrylamide. Also, according to the application, chemical additives containing Acrylamide are not used by WTC. Therefore, the TMS's WQBELs for Acrylamide are not imposed at Outfall 001.

The concentration WQBELs for lead are more stringent than the concentration TBELs, so the WQBELs are imposed in combination with the production-based mass limits for lead that are more stringent than the mass WQBELs. The new concentration WQBELs for lead are less stringent than the concentration WQBELs for lead in the previous permit. Backsliding to the new limits is permissible in this case based on the exception to anti-backsliding given by Section 402(o)(2)(B)(i) of the Clean Water Act (33 U.S.C. § 1342(o)(2)(B)(i)) regarding new information that justifies that application of less stringent effluent limitations—in this case, updated modeling inputs that result in a determination that lead in IMP 101's effluent does not have reasonable potential to cause or contribute to excursions above water quality criteria at the previously calculated WQBELs.

Mass and concentration TBELs for zinc are more stringent than the water quality-based reporting requirements, so TBELs will control for zinc. Cadmium and copper will require 24-hour composite sampling 1/week.

Neither total iron nor dissolved iron exhibit a reasonable potential to cause or contribute to excursions above water quality criteria. The most stringent WQBELs calculated for total iron and dissolved iron are 118.9 mg/L and 23.8 mg/L, respectively. Based on those results, WQBELs for iron will be removed from IMP 101 based on the exception to anti-backsliding given by Section 402(o)(2)(B)(i) of the Clean Water Act (33 U.S.C. § 1342(o)(2)(B)(i)) regarding new information that justifies that application of less stringent effluent limitations—in this case, updated modeling inputs that result in a determination that total iron and dissolved iron in IMP 101's effluent do not have reasonable potential to cause or contribute to excursions above water quality criteria.

### 101.C. Effluent Limitations and Monitoring Requirements for Internal Monitoring Point 101

In accordance with 25 Pa. Code §§ 92a.12 and 92a.61 and anti-backsliding requirements under Section 402(o) of the Clean Water Act and 40 CFR § 122.44(l), effluent limits are the more stringent of TBELs, WQBELs, regulatory effluent standards, and monitoring requirements developed for this permit renewal; and effluent limits and monitoring requirements from the previous permit, subject to any exceptions to anti-backsliding discussed previously in this Fact Sheet. Applicable requirements are summarized in the following table.

**Table 14. Effluent Limits and Monitoring Requirements for IMP 101 (Suboutfall 101)**

| Pollutant | Mass (pounds/day) | | Concentration (mg/L) | | | Basis |
|---|---|---|---|---|---|---|
| | Average Monthly | Maximum Daily | Average Monthly | Maximum Daily | IMAX | |
| Flow (MGD) | Report | Report | — | — | — | 25 Pa. Code §92a.61(d)(1) |
| Total Suspended Solids | 349.0 | 878.0 | Report | 60.0 | — | 40 CFR §§ 420.77(d), 420.97(a)(4), 420.97(a)(5), 420.107(b)(1), 420.117(a), 420.127(a)(1), and BPJ |
| Oil and Grease | 50.0 | 280.0 | Report | — | 30.0 | 40 CFR §§ 420.77(d), 420.97(a)(4), 420.97(a)(5), 420.107(b)(1), 420.117(a), 420.127(a)(1), and BPJ |
| Aluminum, Total | Report | Report | Report | Report | — | 25 Pa. Code § 92a.61(b) |
| Cadmium, Total | Report | Report | Report | Report | — | 25 Pa. Code § 92a.61(b) |
| Chromium, Total | Report | Report | Report | Report | — | 25 Pa. Code § 92a.61(b) |
| Copper, Total | Report | Report | Report | Report | — | 25 Pa. Code § 92a.61(b) |
| Iron, Dissolved | Report | Report | Report | Report | — | 25 Pa. Code § 92a.61(b) |
| Iron, Total | Report | Report | Report | Report | — | 25 Pa. Code § 92a.61(b) |
| Lead, Total | 0.67 | 1.95 | 0.206 | 0.321 | 0.514 | 40 CFR §§ 420.93(a)(4), 420.93(a)(5), 420.103(b)(1), 420.123(a)(1), and WQBELs: 25 Pa. Code §§ 92a.12(a)(1) & 96.4(b) |
| Manganese, Total | Report | Report | Report | Report | — | 25 Pa. Code § 92a.61(b) |
| Zinc, Total | 1.0 | 2.8 | Report | 0.5 | — | 40 CFR §§ 420.93(a)(4), 420.93(a)(5), 420.103(b)(1), 420.123(a)(1), |
| Perfluorooctanoic acid (PFOA) (ng/L) | — | — | — | Report | — | 25 Pa. Code § 92a.61(b) |
| Perfluorooctanesulfonic acid (PFOS) (ng/L) | — | — | — | Report | — | 25 Pa. Code § 92a.61(b) |
| Perfluorobutanesulfonic acid (PFBS) (ng/L) | — | — | — | Report | — | 25 Pa. Code § 92a.61(b) |
| Hexafluoropropylene oxide dimer acid (HFPO-DA) (ng/L) | — | — | — | Report | — | 25 Pa. Code § 92a.61(b) |

Monitoring frequencies and sample types are imposed based on those given in the existing permit and on Chapter 6, Table 6-4 of DEP's "Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits". Flow must be measured continuously. TSS, aluminum, cadmium, chromium, copper, lead, and zinc must be sampled 1/week using 24-hour composite sampling. Oil and Grease must be sampled 1/week using grab sampling. PFOA, PFOS, PFBS, and HFPO-DA must be sampled 1/quarter using grab sampling.

## Development of Effluent Limitations

**Suboutfall No.** 201 **Design Flow (MGD)** 0.0158 (avg.)
**Latitude** N/A **Longitude** N/A
**Wastewater Description:** Contaminated groundwater and storm water pumped from the First Flush Tank

The previous permit imposed a flow monitoring requirement at IMP 201 to quantify the flow rate of groundwater and storm water pumped from the First Flush Tank to the Water Treatment Plant. As explained in Section 101.A of this Fact Sheet, the flow data collected at IMP 201 are used to calculate additional pollutant loading allowances for TSS, lead, and zinc from the pumped groundwater and storm water. The flow monitoring will be maintained in the renewed permit for that purpose.

**Table 15. Monitoring Requirements for IMP 201**

| Pollutant | Mass (pounds/day) | | Concentration (mg/L) | | | Basis |
|---|---|---|---|---|---|---|
| | Average Monthly | Maximum Daily | Average Monthly | Maximum Daily | IMAX | |
| Flow (MGD) | Report | — | — | — | — | 25 Pa. Code §92a.61(d)(1) |

Flow must be measured continuously.

**Development of Effluent Limitations**

| | | | |
|---|---|---|---|
| **Outfall No.** | 001 | **Design Flow (MGD)** | 2.0; 1.0 avg. |
| **Latitude** | 41° 11' 34" | **Longitude** | -80° 29' 33" |

**Wastewater Description:** Overflows from the cooling pond at the catch basin consisting of storm water and process wastewaters regulated at IMP 101

Current Effluent Limits and Monitoring Requirements

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

**Table 16. Outfall 001's Current Effluent Limits and Monitoring Requirements**

| Parameter | Mass (lbs/day) | | Concentration (mg/L) | | | Minimum Measurement Frequency | Sample Type |
|---|---|---|---|---|---|---|---|
| | Avg. Mo. | Daily Max | Avg. Mo. | Daily Max | IMAX | | |
| pH (S.U.) | — | — | 6.0 Inst. Min. | — | 9.0 | 2/month | Grab |
| Oil & Grease | — | — | 15 | — | 30 | 2/month | Grab |

The effluent limits and monitoring requirements in **Table 16** will remain in effect in the renewed permit pursuant to anti-backsliding requirements under Section 402(o) of the Clean Water Act (33 U.S.C. §1342(o)) and/or 40 CFR § 122.44(l) (incorporated by reference at 25 Pa. Code § 92a.44) unless the limits are superseded by more stringent limits developed for this renewal or are relaxed pursuant to the anti-backsliding exceptions listed in 33 U.S.C. §1342(o) or 40 CFR § 122.44(l).

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

Effluent limits that apply to process wastewaters discharging through Outfall 001 based on 40 CFR Part 420 are imposed at IMP 101. Therefore, no TBELs from the Federal ELGs are imposed at Outfall 001.

In accordance with 25 Pa. Code § 92a.48(a)(2) and 25 Pa. Code §§ 95.2(1) and 95.2(2), discharges of industrial waste from Outfall 001 were subject to effluent limits for pH and Oil & Grease in the previous permit. Section 95.2(1) states that industrial wastes must have a pH of not less than 6 and not greater than 9. Section 95.2(2) requires that oil-bearing wastewaters shall at no time cause a film or sheen upon or discoloration of the waters of this Commonwealth or adjoining shoreline and imposes the Oil & Grease limits shown in **Table 16**. Those requirements will be maintained in the renewed permit. Flow should be estimated at the time of sampling pursuant to 25 Pa. Code § 92a.61(d)(1).

Storm Water Associated with Industrial Activities

Outfall 001 also discharges storm water. WTC did not characterize the quality of storm water entering the lagoon separately from process wastewater contributions from IMP 101. Also, no drainage area was identified on Module 1 of the application for Outfall 001's storm water and there was no certification of a condition of "no exposure" for that storm water. Based on discussions with WTC on July 25, 2025, there are no piped storm water contributions to the lagoon from plant production/storage areas. WTC indicated that storm water contributions to Outfall 001 include runoff from the immediate area surrounding the lagoon and rainfall on the lagoon. The proximity of the lagoon to a plant roadway suggests that industrial impacts to storm water runoff flowing into the lagoon cannot be ruled out. Therefore, monitoring requirements applicable to storm water discharges associated with industrial activities are imposed at Outfall 001.

Consistent with 25 Pa. Code § 92a.61(h) and DEP's policy for permitting storm water discharges associated with industrial activities, minimum standards described in DEP's "PAG-03 NPDES General Permit for Discharges of Stormwater Associated with Industrial Activity" (PAG-03) are imposed on storm water discharges authorized by individual industrial waste NPDES permits.[6] Based on WTC's SIC Codes of 3317 and 3498, the facility would be classified under Appendix B – Primary Metals Industry Facilities and Appendix U – Fabricated Metal Products of the PAG-03 General Permit.[7] To ensure baseline consistency with other primary metals industry and fabricated metal products facilities in Pennsylvania that discharge storm water associated with their industrial activities, the monitoring requirements of Appendices B and U of the

[6] Standard Operating Procedure (SOP) for Clean Water Program, Establishing Effluent Limitations for Individual Industrial Permits, Section III.C. (SOP No. BCW-PMT-032, October 1, 2020, Version 1.6): "The applicable appendix of the PAG-03 General Permit should be considered the minimum standards for limits, benchmarks and monitoring requirements for individual industrial stormwater permits. The application manager may include other limits, benchmarks and monitoring requirements as justified in the fact sheet."

[7] The determination of which of the PAG-03 General Permit's appendices applies to a facility is based on a facility's SIC Code.

PAG-03 General Permit are imposed at Outfall 001. Also, the sector-specific Best Management Practices (BMPs) of those appendices will be included in the storm water conditions in Part C of the permit. The monitoring requirements of Appendices B and U are shown in **Tables 17** and **18**. The parameters listed in the appendices differ slightly, so reporting is required for all unique and overlapping parameters from both appendices.

**Table 17. PAG-03 Appendix B – Minimum Monitoring Requirements**

| Discharge Parameter | Units | Sample Type | Minimum Measurement Frequency | Benchmark Values |
|---|---|---|---|---|
| Total Nitrogen † | mg/L | 1 Grab | 1/6 months | XXX |
| Total Phosphorus | mg/L | 1 Grab | 1/6 months | XXX |
| Total Suspended Solids | mg/L | 1 Grab | 1/6 months | 100 |
| Oil & Grease | mg/L | 1 Grab | 1/6 months | 30 |
| Aluminum, Total | mg/L | 1 Grab | 1/6 months | XXX |
| Zinc, Total | mg/L | 1 Grab | 1/6 months | XXX |
| Copper, Total | mg/L | 1 Grab | 1/6 months | XXX |
| Iron, Total | mg/L | 1 Grab | 1/6 months | XXX |
| Lead, Total | mg/L | 1 Grab | 1/6 months | XXX |

† Total Nitrogen is the sum of Total Kjeldahl-N (TKN) plus Nitrite-Nitrate as N (NO2+NO3-N), where TKN and NO2+NO3-N are measured in the same sample.

**Table 18. PAG-03 Appendix U – Minimum Monitoring Requirements**

| Discharge Parameter | Units | Sample Type | Minimum Measurement Frequency | Benchmark Values |
|---|---|---|---|---|
| Total Nitrogen † | mg/L | 1 Grab | 1/6 months | XXX |
| Total Phosphorus | mg/L | 1 Grab | 1/6 months | XXX |
| pH | S.U. | 1 Grab | 1/6 months | 9.0 |
| Total Suspended Solids | mg/L | 1 Grab | 1/6 months | 100 |
| Oil & Grease | mg/L | 1 Grab | 1/6 months | 30 |
| Nitrate + Nitrite-Nitrogen | mg/L | 1 Grab | 1/6 months | 3.0 |
| Aluminum, Total | mg/L | 1 Grab | 1/6 months | XXX |
| Iron, Total | mg/L | 1 Grab | 1/6 months | XXX |
| Zinc, Total | mg/L | 1 Grab | 1/6 months | XXX |

† Total Nitrogen is the sum of Total Kjeldahl-N (TKN) plus Nitrite-Nitrate as N (NO2+NO3-N), where TKN and NO2+NO3-N are measured in the same sample.

Typically, monitoring requirements for additional pollutants are considered to the extent that baseline monitoring requirements from an applicable PAG-03 appendix(ces) do not capture the range of analytes present in the discharges. However, as stated above, WTC did not characterize Outfall 001's storm water quality separately from other wastewaters discharging through Outfall 001, so no reporting is required for additional pollutants.

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

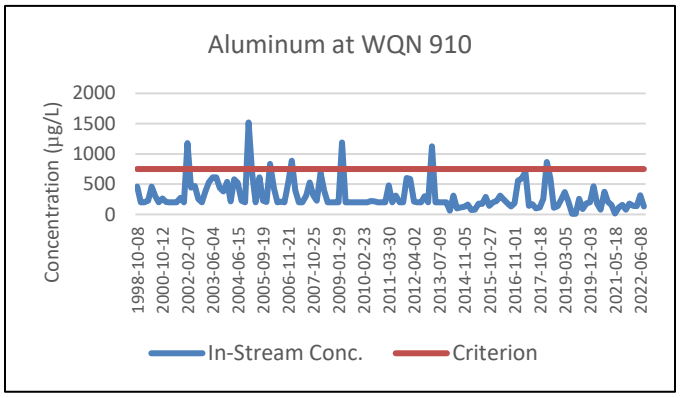
Water quality modeling for discharges from Outfall 001 was performed based on the characteristics of treated process wastewaters at IMP 101 (see Section 101.B of this Fact Sheet). The only other wastewater input to Outfall 001 downstream of IMP 101 is storm water. Based on those circumstances, modeling IMP 101 as the discharge at Outfall 001 was reasonable. That modeling was also conservative (aside from whether the point of first use is in the unnamed tributary rather than at the Shenango River) because the combination of treated process wastewaters and storm water in the cooling pond/lagoon would likely dilute treated process wastewaters and result in lower effluent concentrations at the point of discharge. To confirm, DEP modeled discharges from Outfall 001 with all the same inputs as the IMP 101 analysis except using Outfall 001's reported effluent concentrations instead of IMP 101's effluent concentrations. The results of the modeling (included in **Attachment B**) did not result in more stringent effluent limit recommendations.[8]

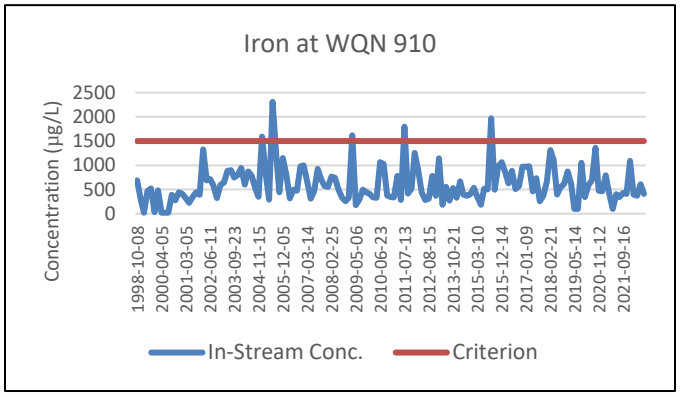
Shenango River Impairments

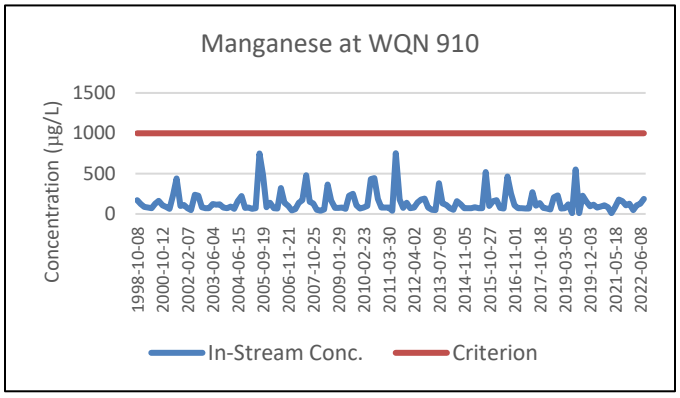
There is a fish consumption use impairment for the Shenango River caused by PCBs and chlordane. Section 303(d) of the Clean Water Act and the U.S. Environmental Protection Agency's Water Quality Planning and Management Regulations (40 CFR Part 130) require states to develop a Total Maximum Daily Load (TMDL) for impaired water bodies. A TMDL

[8] Discharge concentrations for lead and zinc were not input as the concentration TBELs from **Table 8** due to the expected dilution of treated process wastewaters with storm water in the lagoon. Inputting the TBELs as the discharge concentrations for Outfall 001 modeling results in slightly more stringent WQBELs recommended for lead because the hardness of Outfall 001's effluent is lower than at IMP 101. Higher hardness concentrations make some metals (like lead) less toxic and vice versa.

establishes the amount of a pollutant that a water body can assimilate without exceeding the water quality criteria for that pollutant. TMDLs provide the scientific basis for a state to establish water quality-based controls to reduce pollution from both point and non-point sources to restore and maintain the quality of the state's water resources. A TMDL considers each river and tributary within the target watershed and its impairment sources. Stream data and discharger data are used to calculate minimum pollutant reductions that are necessary to attain water quality criteria. To achieve those reductions, the TMDL prescribes allocations to all contributing pollutant sources in the target watershed to minimally achieve water quality criteria (*i.e.*, 100% use of a stream's assimilative capacity).




TMDL allocations include waste load allocations (WLA), load allocations (LA), and a margin of safety (MOS). The WLA is the portion of the allowable load assigned to point sources. The LA is the portion of the allowable load assigned to non-point sources. The MOS is applied to account for uncertainties in the computational process and may be expressed implicitly (documenting conservative processes in the computations) or explicitly (setting aside a portion of the allowable load). Absent a TMDL revision, loads included in the MOS cannot be reallocated to either the WLA or LA portion of the TMDL.

The Shenango River TMDL for PCBs and chlordane identifies five potential sources of PCBs and chlordane in the Shenango River including two Superfund sites and three sites listed under Pennsylvania's Hazardous Sites Cleanup Act. However, there are no known active point source discharges of PCBs or chlordane consistent with bans on their use. Therefore, TMDL WLAs for PCBs and chlordane are zero. To ensure the permit reflects the requirements of the TMDL with its 'zero' wasteload allocations for PCBs and chlordane, the following narrative limitation will be included as a condition in Part C of the permit: "There shall be no point source discharges of Polychlorinated Biphenyls (PCBs) or Chlordane to the Shenango River." This conclusion applies to all outfalls from the facility.

Apart from the fish consumption use impairment, the aquatic life use of the Shenango River is impaired by "Metals." The aquatic life impairment was first listed in 2002, but no TMDL has been developed. The specific metals associated with the impairment are not identified. A review of stream data from Water Quality Network Station 910 – Shenango River at Sharpsville, PA about nine miles upstream of WTC shows that long-term average concentrations of aluminum, iron, and manganese (metals associated with the most common source of metals-based aquatic life impairment in Pennsylvania—abandoned mine drainage) are less than the most stringent water quality criteria for those parameters (see graphs at left). Based on those data and the lack of a TMDL for the metals-based impairment, no additional requirements are imposed relating to that impairment.

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

In accordance with 25 Pa. Code §§ 92a.12 and 92a.61 and anti-backsliding requirements under Section 402(o) of the Clean Water Act and 40 CFR § 122.44(l), effluent limits are the more stringent of TBELs, WQBELs, regulatory effluent standards, and monitoring requirements developed for this permit renewal; and effluent limits and monitoring requirements from the previous permit, subject to any exceptions to anti-backsliding discussed previously in this Fact Sheet. Applicable requirements are summarized in the following table.

**Table 19. Effluent Limits and Monitoring Requirements for Outfall 001**

| Parameter | Mass (pounds) | | Concentration (mg/L) | | | Basis |
|---|---|---|---|---|---|---|
| | Average Monthly | Daily Maximum | Average Monthly | Daily Maximum | Instant Maximum | |
| Flow (MGD) | Report | Report | — | — | — | 25 Pa. Code § 92a.61(h) |
| pH (S.U.) | — | — | 6.0 (Inst. Min.) | — | 9.0 | 25 Pa. Code § 92a.48(a)(2) and 25 Pa. Code § 95.2(1) |
| Total Suspended Solids | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Oil and Grease | — | — | 15.0 | — | 30.0 | 25 Pa. Code § 92a.48(a)(2) and 25 Pa. Code § 95.2(2) |
| Nitrate-Nitrite as N | — | — | — | Report | — | § 92a.61(h); PAG-03, Appendix U |
| Nitrogen, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Phosphorus, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Aluminum, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Copper, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appendix B |
| Iron, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Lead, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appendix. B |
| Zinc, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |

Existing monitoring frequencies and sample types will be maintained in the renewed permit including: 2/month grab sampling for Oil and Grease and pH. The remaining storm water parameters will require grab sampling 1/6 months consistent with PAG-03 General Permit Appendices B and/or U. Total Nitrogen must be calculated as the sum of Total Kjeldahl Nitrogen (TKN) plus Nitrite-Nitrate as N ($NO_2$+$NO_3$-N), where TKN and $NO_2$+$NO_3$-N are measured in the same sample. Flow should be estimated 2/month at the time of sampling.

**Development of Effluent Limitations**

**Outfall Nos.** 002, 003, 004, 005 **Design Flow (MGD)** Variable
**Latitude** See pp. 6 through 9 **Longitude** See pp. 6 through 9
**Wastewater Description:** Storm water

Discharges monitored at storm water Outfalls ("SWO") 002, 003, 004, and 005 are currently subject to the following monitoring requirements.

**Table 20. Current Monitoring Requirements at Outfalls 002, 003, 004, and 005**

| Parameter | Mass (lbs/day) | | Concentration (mg/L) | | | Minimum Measurement Frequency | Sample Type |
|---|---|---|---|---|---|---|---|
| | Avg. Mo. | Daily Max | Avg. Mo. | Daily Max | IMAX | | |
| Flow (MGD) | — | Report | — | — | — | 1/year† | Estimate |
| Iron, Total | — | Report | — | Report | — | 1/year† | Grab |
| Lead, Total | — | Report | — | Report | — | 1/year† | Grab |

† Outfall 004 is subject to a minimum measurement frequency of 1/quarter.

The effluent limits and monitoring requirements in **Table 20** will remain in effect in the renewed permit pursuant to anti-backsliding requirements under Section 402(o) of the Clean Water Act (33 U.S.C. §1342(o)) and/or 40 CFR § 122.44(l) (incorporated by reference at 25 Pa. Code § 92a.44) unless the limits are superseded by more stringent limits developed for this renewal or are relaxed pursuant to the anti-backsliding exceptions listed in 33 U.S.C. §1342(o) or 40 CFR § 122.44(l).

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

There are no Federal ELGs that apply to storm water discharges from Outfalls 002, 003, 004, and 005. In the absence of ELGs, case-by-case TBELs, if warranted, are developed based on DEP's Best Professional Judgment (BPJ).

Consistent with 25 Pa. Code § 92a.61(h) and DEP's policy for permitting storm water discharges associated with industrial activities, minimum standards described in DEP's "PAG-03 NPDES General Permit for Discharges of Stormwater Associated with Industrial Activity" (PAG-03) are imposed on storm water discharges authorized by individual industrial waste NPDES permits. Based on WTC's SIC Codes of 3317 and 3498, the facility would be classified under Appendix B – Primary Metals Industry Facilities and Appendix U – Fabricated Metal Products of the PAG-03 General Permit. To ensure baseline consistency with other primary metals industry and fabricated metal products facilities in Pennsylvania that discharge storm water associated with their industrial activities, the monitoring requirements and sector-specific Best Management Practices (BMPs) of the PAG-03, Appendices B and U are imposed at Outfalls 002, 003, 004, and 005 (see **Tables 17** and **18** for applicable monitoring requirements). The parameters listed in the appendices differ, so reporting is required for all unique and overlapping parameters from both appendices. Monitoring requirements for additional pollutants are considered to the extent that baseline monitoring requirements from those appendices do not capture the range of analytes present in the discharges.

In accordance with 40 CFR § 122.44(k)(2), DEP considers the use of BMPs to be BAT for storm water discharges associated with industrial activities unless effluent concentrations indicate that BMPs provide inadequate pollution control. **Table 21** summarizes the effluent data reported for the general chemistry pollutants listed on Module 1 of the updated NPDES permit application and additional parameters regulated in WTC's process wastewaters. Highlighted concentrations are elevated.

**Table 21. Effluent Concentrations Reported for Outfalls 002, 003, 004, and 005**

| Parameter | Outfall 002 | Outfall 003 | Outfall 004 | Outfall 005 | Benchmark Value |
|---|---|---|---|---|---|
| Oil and Grease (mg/L) | <5 | <5 | <5 | <5 | 30 |
| $BOD_5$ (mg/L) | <3 | <3 | <3 | <3 | 30 |
| COD (mg/L) | 25.5 | <10 | 17 | <10 | 120 |
| TSS (mg/L) | 27 | 7 | 154 | 5 | 100 |
| Nitrogen, Total (mg/L) | 0.87 | 1.8 | <1.2 | 1.3 | — |
| Phosphorus, Total (mg/L) | <0.04 | 0.06 | 0.13 | 0.13 | 2.0 |
| pH (S.U.) | 7.62 | 7.72 | 7.72 | 7.77 | 6.0 to 9.0 |
| Lead, Total (mg/L) | <0.071 | 0.024 | 0.05 †† | 0.04 †† | 0.082 |

**Table 21. Effluent Concentrations Reported for Outfalls 002, 003, 004, and 005**

| Parameter | Outfall 002 | Outfall 003 | Outfall 004 | Outfall 005 | Benchmark Value |
|---|---|---|---|---|---|
| Iron, Total (mg/L) | 2.09 †† | 3.38 †† | 31.4 †† | 19.3 †† | — |
| Zinc, Total (mg/L) | <7.8 | 0.547 | 0.224 | 0.062 | 0.12 |

† Benchmarks from applicable appendices of DEP's PAG-03 General Permit or EPA's Multi-Sector General Permit, which is the federal equivalent of the PAG-03.

†† Result is the maximum result reported on DMRs under the previous permit

Based on the results in **Table 21**, no additional monitoring requirements are added to Outfalls 002, 003, 004, and 005. Parameters that are present in elevated concentrations will be subject to reporting requirements added to the permit with this renewal according to Appendices B and U of the PAG-03 General Permit.

Consistent with the PAG-03 General Permit, the benchmark values for pollutants in WTC's storm water discharges will be set at 9.0 s.u. for pH, 100 mg/L for TSS, 30 mg/L for Oil and Grease, 3.0 mg/L for Nitrate + Nitrite-Nitrogen. There is no benchmark value for Total Iron in the PAG-03, but the concentrations of Total Iron reported at Outfalls 002, 003, 004, and 005 are elevated. Therefore, a benchmark value of 3.75 mg/L will be specified for Total Iron based on the 30-day average water quality criterion for Total Iron from 25 Pa. Code § 93.7(a) and an average-monthly-to-instantaneous-maximum multiplier of 2.5 from Chapter 2, Section C of DEP's "Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits" [Doc. No. 386-0400-001] (*i.e.*, 1.5 mg/L × 2.5 = 3.75 mg/L).

DEP uses benchmark monitoring in the PAG-03 General Permit as an indicator of the effectiveness of a facility's BMPs. The benchmark values are not effluent limitations and exceedances do not constitute permit violations. However, if sampling demonstrates exceedances of benchmark values for two consecutive monitoring periods, then WTC must submit a Corrective Action Plan within 90 days of the end of the monitoring period triggering the plan. Continued exceedances of the benchmark values will require a graduated response. The Corrective Action Plan requirement and the benchmark values will be specified in a condition in Part C of the permit. Estimates of the storm water discharge flow rates will be required pursuant to 25 Pa. Code § 92a.61(h).

Observations of Drainage Areas

In the inspection report from DEP's February 27, 2025 inspection of WTC, DEP observed significant mud and multiple sheens in the driveway from Outfall 005, Suboutfall 104 (discussed later in the fact sheet), and Outfall 004. Sheen also was observed at Outfall 004/Suboutfall 104 (later determined to be from an equipment hydraulic leak) and Outfall 006 (apparently originating from an adjacent storage area). Outfall 004 is not monitored for TSS and Oil & Grease under the current permit, but elevated iron concentrations reported at Outfall 004 would positively correlate with sediment-laden waters. Suboutfall 104, which discharges through Outfall 004, is monitored for Oil and Grease. Oil and Grease is detected intermittently at Suboutfall 104. DEP's observations suggest that Outfalls 004 and 005 are relatively more susceptible to contamination by sediment and oils than other storm water outfalls. For this permit renewal, the semi-annual benchmark monitoring for TSS and Oil & Grease added to WTC's storm water outfalls and corresponding Corrective Action Plan requirements will control those observed pollutants.

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

No WQBELs are developed for the storm water outfalls. Pursuant to 25 Pa. Code § 96.4(g), mathematical modeling used to develop WQBELs must be performed at $Q_{7\text{-}10}$ low flow conditions. Precipitation-induced discharges generally do not occur at $Q_{7\text{-}10}$ design conditions because the precipitation that causes a storm water discharge also will increase the receiving stream's flow and that increased stream flow will provide additional assimilative capacity during a storm event.

Even though no mathematical modeling is performed, conditions in Part C of the permit will ensure compliance with water quality standards through a combination of best management practices including pollution prevention and exposure minimization, good housekeeping, erosion and sediment control, and spill prevention and response.

### SWO.C. Effluent Limitations and Monitoring Requirements for Outfalls 002, 003, 004, and 005

In accordance with 25 Pa. Code §§ 92a.12 and 92a.61 and anti-backsliding requirements under Section 402(o) of the Clean Water Act and 40 CFR § 122.44(l), effluent limits are the more stringent of TBELs, WQBELs, regulatory effluent standards, and monitoring requirements developed for this permit renewal; and effluent limits and monitoring requirements from the previous permit, subject to any exceptions to anti-backsliding discussed previously in this Fact Sheet. Applicable requirements are summarized in the following table.

**Table 22. Effluent Limits and Monitoring Requirements for Outfalls 002, 003, 004, and 005**

| Parameter | Mass (pounds) | | Concentration (mg/L) | | | Basis |
|---|---|---|---|---|---|---|
| | Average Monthly | Daily Maximum | Average Monthly | Daily Maximum | Instant Maximum | |
| Flow (MGD) | — | Report | — | — | — | 25 Pa. Code § 92a.61(h) |
| pH (S.U.) | — | — | — | Report | — | § 92a.61(h); PAG-03, Appendix U |
| Total Suspended Solids | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Oil and Grease | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Nitrate-Nitrite as N | — | — | — | Report | — | § 92a.61(h); PAG-03, Appendix U |
| Nitrogen, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Phosphorus, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Aluminum, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Copper, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appendix B |
| Iron, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Lead, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appendix B |
| Zinc, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |

The sampling frequency for all parameters will be 1/6 months based on the sampling frequencies in Appendices B and U of the PAG-03 General Permit. Grab sampling is required for all parameters except Total Nitrogen, which must be calculated as the sum of Total Kjeldahl Nitrogen (TKN) plus Nitrite-Nitrate as N ($NO_2$+$NO_3$-N), where TKN and $NO_2$+$NO_3$-N are measured in the same sample. Flow should be estimated at the time of sampling.

## Development of Effluent Limitations

**Suboutfall No.** 104 **Design Flow (MGD)** ____
**Latitude** 41° 11' 35.00" **Longitude** -80° 29' 33.00"
**Wastewater Description:** Storm water from paved areas and roofs from the north end of the property

Discharges monitored at Suboutfall 104 (a.k.a. Internal Monitoring Point 104 or IMP 104) are currently subject to the following monitoring requirements.

**Table 23. Current Monitoring Requirements at IMP 104**

| Parameter | Mass (lbs/day) | | Concentration (mg/L) | | | Minimum Measurement Frequency | Sample Type |
|---|---|---|---|---|---|---|---|
| | Avg. Mo. | Daily Max | Avg. Mo. | Daily Max | IMAX | | |
| Flow (MGD) | Report | — | — | — | — | 1/quarter | Estimate |
| pH (S.U.) | — | — | 6.0 Inst. Min. | Report | 9.0 | 2/month | Grab |
| Oil & Grease | — | — | 15 | — | 30 | 2/month | Grab |

Under the current permit, IMP 104 authorizes discharges of water softener backwash and boiler blowdown. The 2014 Application identified IMP 104's wastewater sources as non-contact cooling water from compressors, boiler blowdown, and storm water from paved areas and roofs from the north end of the property. In the 2025 Application Update, WTC reported that IMP 104 no longer receives non-contact cooling water and boiler blowdown. According to the inspection report from DEP's February 27, 2025 inspection of WTC, the boiler and water softener systems for the old galvanizing facility were decommissioned. The new boiler system blowdown discharges to the Scale Pit (IMP 101/Outfall 001) and the old scrubber system that discharged to the wastewater treatment plant (IMP 101/Outfall 001) was replaced with a new system that has no discharge. With the elimination or re-routing of non-process wastewaters, IMP 104 only discharges storm water from paved areas and roofs from the north end of the property.

IMP 104 was created pursuant to 40 CFR § 122.45(h) to regulate non-process wastewaters separately from storm water that combined with the non-process wastewaters downstream of the manhole outside the old boiler house (the designated monitoring location for IMP 104). With the elimination/re-routing of non-process wastewater sources, it is not necessary to maintain IMP 104 to regulate wastewaters other that storm water because storm water present at IMP 104 is subject to the same requirements as storm water that combines with IMP 104's storm water downstream of IMP 104. Therefore, IMP 104 will be removed from the permit. Any storm water flowing through IMP 104 will be regulated at Outfall 004. Notwithstanding the elimination of IMP 104, WTC should ensure that the manhole outside the old boiler house is included in facility inspections.

The elimination of IMP 104—and the reduction in monitoring frequencies from 1/quarter to 1/6 months for currently monitored parameters at Outfall 004 (see **Tables 20 and 22**)—is consistent with the exception to anti-backsliding given by Section 402(o)(2)(A) of the Clean Water Act regarding material and substantial alterations or additions to the permitted facility that justify the application of less stringent effluent limitations—in this case, physical and operational changes that eliminated non-storm water sources to IMP 104.

## Development of Effluent Limitations

**Outfall No.** 006 **Design Flow (MGD)** Variable
**Latitude** 41° 11' 30.00" **Longitude** -80° 29' 42.00"
**Wastewater Description:** Storm water from the coil yard and finishing areas of the mill

Discharges monitored at Outfall 006 are currently subject to the following monitoring requirements.

**Table 24. Current Monitoring Requirements at Outfall 006**

| Parameter | Mass (lbs/day) | | Concentration (mg/L) | | | Minimum Measurement Frequency | Sample Type |
|---|---|---|---|---|---|---|---|
| | Avg. Mo. | Daily Max | Avg. Mo. | Daily Max | IMAX | | |
| Flow (MGD) | — | Report | — | — | — | 1/year | Estimate |
| Iron, Total | — | Report | — | Report | — | 1/year | Grab |
| Lead, Total | — | Report | — | Report | — | 1/year | Grab |

The effluent limits and monitoring requirements in **Table 24** will remain in effect in the renewed permit pursuant to anti-backsliding requirements under Section 402(o) of the Clean Water Act (33 U.S.C. §1342(o)) and/or 40 CFR § 122.44(l) (incorporated by reference at 25 Pa. Code § 92a.44) unless the limits are superseded by more stringent limits developed for this renewal or are relaxed pursuant to the anti-backsliding exceptions listed in 33 U.S.C. §1342(o) or 40 CFR § 122.44(l).

### 006.A. Technology-Based Effluent Limitations (TBELs)

The NPDES permit application identifies the effluent sources for Outfall 006 as storm water runoff and groundwater from the coil yard and finishing areas of the mill. DEP's inspection report for its February 27, 2025 inspection of WTC clarifies that those sources include contaminated groundwater and runoff from the zinc dust storage area. Those sources collect in an 80,000-gallon "First Flush Tank" from which the wastewaters are pumped to the wastewater treatment plant. Overflows from the tank discharge through Outfall 006 to a ditch that flows to the Shenango River.

**Figure 4. First Flush Tank with oil skimmer**

**Image Source and Date: DEP Compliance Evaluation Inspection, Feb. 27, 2025.**

**Figure 5. Outfall 006, First Flush Tank weir overflow**

**Image Source and Date: DEP Compliance Evaluation Inspection, Feb. 27, 2025.**

The permit includes the following stipulation for Outfall 006:

> This discharge shall consist of stormwater runoff only. 90,000 gallons of collected runoff must be pumped to the wastewater treatment facility before a discharge is allowed to occur on consecutive days.
>
> [For flow estimation:] Report the calendar day that the overflow to 006 occurs on the DMR or a separate table.

Based on the permit requirements, contaminated first flush storm water that typically contains the highest pollutant loading and contaminated groundwater are treated by the onsite wastewater treatment plant (with preliminary oil removal via skimming at the First Flush Tank). Storm water overflows from the First Flush Tank that exceed 90,000 gallons will be subject to semi-annual reporting requirements based on Appendices B and U of the PAG-03, as discussed in Section SWO.A of this Fact Sheet. The discharge restriction imposed in the previous permit will be re-imposed in the renewed permit as a footnote to Part A. The footnote will state the following:

> Discharges from Outfall 006 shall consist of storm water runoff only. Ninety thousand (90,000) gallons of collected runoff must be pumped to the wastewater treatment facility before a discharge from Outfall 006 is allowed to occur on consecutive days. The permittee shall record the calendar days on which overflows to Outfall 006 occur within each semi-annual monitoring period and shall report those days to DEP in an attachment to semi-annual eDMRs or in the comment section of the semi-annual eDMR.

### 006.B. Water Quality-Based Effluent Limitations (WQBELs)

No WQBELs are developed for the storm water outfalls. Pursuant to 25 Pa. Code § 96.4(g), mathematical modeling used to develop WQBELs must be performed at $Q_{7-10}$ low flow conditions. Precipitation-induced discharges generally do not occur at $Q_{7-10}$ design conditions because the precipitation that causes a storm water discharge also will increase the receiving stream's flow and that increased stream flow will provide additional assimilative capacity during a storm event.

Even though no mathematical modeling is performed, conditions in Part C of the permit will ensure compliance with water quality standards through a combination of best management practices including pollution prevention and exposure minimization, good housekeeping, erosion and sediment control, and spill prevention and response.

### 006.C. Effluent Limitations and Monitoring Requirements for Outfall 006

In accordance with 25 Pa. Code §§ 92a.12 and 92a.61 and anti-backsliding requirements under Section 402(o) of the Clean Water Act and 40 CFR § 122.44(l), effluent limits are the more stringent of TBELs, WQBELs, regulatory effluent standards, and monitoring requirements developed for this permit renewal; and effluent limits and monitoring requirements from the previous permit, subject to any exceptions to anti-backsliding discussed previously in this Fact Sheet. Applicable requirements are summarized in the following table.

**Table 25. Effluent Limits and Monitoring Requirements for Outfall 006**

| Parameter | Mass (pounds) | | Concentration (mg/L) | | | Basis |
|---|---|---|---|---|---|---|
| | Average Monthly | Daily Maximum | Average Monthly | Daily Maximum | Instant Maximum | |
| Flow (MGD) | — | Report | — | — | — | 25 Pa. Code § 92a.61(h) |
| pH (S.U.) | — | — | — | Report | — | § 92a.61(h); PAG-03, Appendix U |
| Total Suspended Solids | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Oil and Grease | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Nitrate-Nitrite as N | — | — | — | Report | — | § 92a.61(h); PAG-03, Appendix U |
| Nitrogen, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Phosphorus, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Aluminum, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Copper, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appendix B |
| Iron, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Lead, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appendix B |
| Zinc, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |

Narrative limitations for Outfall 006 will be imposed as a footnote in Part A of the permit, as discussed in Section 006.A of this Fact Sheet.

The sampling frequency for all parameters will be 1/6 months based on the sampling frequencies in Appendices B and U of the PAG-03 General Permit. Grab sampling is required for all parameters except Total Nitrogen, which must be calculated as the sum of Total Kjeldahl Nitrogen (TKN) plus Nitrite-Nitrate as N ($NO_2$+$NO_3$-N), where TKN and $NO_2$+$NO_3$-N are measured in the same sample. Flow should be estimated at the time of sampling.

## Development of Effluent Limitations

**Outfall No.** 007 **Design Flow (MGD)** 0.119 (avg.); 0.5 (max)
**Latitude** 41° 11' 35" **Longitude** -80° 29' 33"
**Wastewater Description:** Non-contact cooling water (NCCW) from the mill roof, storm water, and cooling pond overflow

Discharges monitored at Outfall 007 are currently subject to the following monitoring requirements.

**Table 26. Current Monitoring Requirements at Outfall 007**

| Parameter | Mass (lbs/day) | | Concentration (mg/L) | | | Minimum Measurement Frequency | Sample Type |
|---|---|---|---|---|---|---|---|
| | Avg. Mo. | Daily Max | Avg. Mo. | Daily Max | IMAX | | |
| Flow (MGD) | Report | — | — | — | — | 1/quarter | Estimate |
| pH (S.U.) | — | — | 6.0 Inst. Min. | Report | 9.0 | 2/month | Grab |
| Oil & Grease | — | — | 15 | — | 30 | 2/month | Grab |
| Total Iron | — | Report | — | Report | — | 1/quarter | Grab |
| Total Lead | — | Report | — | Report | — | 1/quarter | Grab |

The effluent limits and monitoring requirements in **Table 26** will remain in effect in the renewed permit pursuant to anti-backsliding requirements under Section 402(o) of the Clean Water Act (33 U.S.C. §1342(o)) and/or 40 CFR § 122.44(l) (incorporated by reference at 25 Pa. Code § 92a.44) unless the limits are superseded by more stringent limits developed for this renewal or are relaxed pursuant to the anti-backsliding exceptions listed in 33 U.S.C. §1342(o) or 40 CFR § 122.44(l).

### 007.A. Technology-Based Effluent Limitations (TBELs)

Non-Contact Cooling Water (NCCW)

**Figure 6. Outfall 001 (lagoon overflow) and Outfall 007 (pipe at left)**


**Image Source and Date: DEP Compliance Evaluation Inspection, Sept. 7, 2023.**

In accordance with the recommendations given in Chapter 6, Table 6-4 of DEP's "Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits" [Doc. No. 386-0400-001], self-monitoring requirements for NCCW discharges generally include the following parameters: flow, pH, and temperature. Flow monitoring is required in accordance with 25 Pa. Code § 92a.61(b). Limits for pH (6.0 minimum and 9.0 maximum) are imposed at Outfall 007 based on 25 Pa. Code § 95.2(1). Temperature is normally identified as a parameter of concern for cooling waters. However, based on the outfall configuration (see **Figure 6**), temperature limits/monitoring will not be imposed at Outfall 007. Discharges from Outfall 007 immediately mix with cooled water overflowing the onsite lagoon (Outfall 001), which facilitates cooling of Outfall 007's NCCW. The piping runs from the facility to Outfall 007 and then from Outfall 007 to the receiving water also would dissipate heat. As described in Section 001.B, if DEP opts to perform a point of first use evaluation in the future to determine whether the unnamed tributary has a use upstream of the current point of first use at the Shenango River, then DEP may revisit the need for temperature limits at Outfall 007.

DEP previously imposed effluent limits for Oil & Grease at Outfall 007 based on 25 Pa. Code § 92a.48(a)(2) and 25 Pa. Code § 95.2(2). Those limits will be maintained.

The current application indicates that storm water contributes to Outfall 007. Outfall 007 was not listed on Module 1 of the NPDES permit renewal application and no drainage area was identified. It appears that Outfall 007 receives storm water runoff from an area localized to the outfall. Wet weather discharges from Outfall 007 will be subject to semi-annual reporting requirements based on Appendices B and U of the PAG-03, as discussed in Section SWO.A of this Fact Sheet.

### 007.B. Water Quality-Based Effluent Limitations (WQBELs)

**Table 27. TMS Inputs for Outfall 007**

| **Discharge Characteristics** | | |
|---|---|---|
| **Parameter** | **Value** | |
| Discharge Flow (MGD) | 0.50 | |
| Hardness (mg/L) | 73.3 | |
| **Receiving Stream Characteristics** | | |
| **Parameter** | **Outfall 001** | **End of Segment** |
| Stream Code | 35482 | 35482 |
| River Mile Index | 24 | 4.75 |
| Drainage Area ($mi^2$) | 706 | 790 |
| $Q_{7-10}$ (cfs) | 121.05 | see output |
| Harmonic Mean Flow (cfs) | 423.47 | see output |
| Low-flow Yield ($cfs/mi^2$) | 0.1 | 0.1 |
| Elevation (ft) | 823.55 | 793.67 |
| Slope (ft/ft) | 0.00042 | 0.00042 |
| PWS Intake (MGD) | — | 8.4 |
| Width (ft) | 125.0 | 175.0 |
| Depth (ft) | 3.0 | see output |

Discharges from Outfall 007 are evaluated based on the maximum concentrations reported on the permit renewal application, except for iron and lead, which are evaluated using the maximum concentrations reported on DMRs. The TMS model is run with the modeled discharge and receiving stream characteristics shown in **Table 27**. Pollutants for which water quality criteria have not been promulgated (*e.g.*, TSS, Oil and Grease, etc.) are excluded from the modeling. Except for the discharge flow rate and hardness, the modeling inputs are the same as those used for Outfall 001 because the point of first use for Outfalls 001 and 007 is the same.

Output from the TMS model is included in **Attachment C** to this Fact Sheet. The results of the modeling identify WQBELs acrylamide. WTC reported results for Acrylamide using an analytical reporting limit of 10 mg/L. For modeling purposes, the TMS uses a Target QL of 0.1 µg/L for Acrylamide. The permit application instructions do not identify a Target QL for Acrylamide, so applicants are not held to the TMS's Target QL for Acrylamide. Also, according to the application, chemical additives containing Acrylamide are not used by WTC. Therefore, the TMS's WQBELs for Acrylamide are not imposed at Outfall 007. No other WQBELs or water quality-based monitoring requirements apply.

### 007.C. Effluent Limitations and Monitoring Requirements for Outfall 007

In accordance with 25 Pa. Code §§ 92a.12 and 92a.61 and anti-backsliding requirements under Section 402(o) of the Clean Water Act and 40 CFR § 122.44(l), effluent limits are the more stringent of TBELs, WQBELs, regulatory effluent standards, and monitoring requirements developed for this permit renewal; and effluent limits and monitoring requirements from the previous permit, subject to any exceptions to anti-backsliding discussed previously in this Fact Sheet. Applicable requirements are summarized in the following table.

**Table 28. Effluent Limits and Monitoring Requirements for Outfall 007**

| **Parameter** | **Mass (pounds)** | | **Concentration (mg/L)** | | | **Basis** |
|---|---|---|---|---|---|---|
| | **Average Monthly** | **Daily Maximum** | **Average Monthly** | **Daily Maximum** | **Instant Maximum** | |
| Flow (MGD) | Report | Report | — | — | — | 25 Pa. Code § 92a.61(h) |
| pH (S.U.) | — | — | 6.0 (Inst. Min.) | — | 9.0 | 25 Pa. Code § 92a.48(a)(2) and 25 Pa. Code § 95.2(1) |
| Total Suspended Solids | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Oil and Grease | — | — | 15.0 | — | 30.0 | 25 Pa. Code § 92a.48(a)(2) and 25 Pa. Code § 95.2(2) |
| Nitrate-Nitrite as N | — | — | — | Report | — | § 92a.61(h); PAG-03, Appendix U |
| Nitrogen, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Phosphorus, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Aluminum, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Copper, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appendix B |
| Iron, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |
| Lead, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appendix. B |
| Zinc, Total | — | — | — | Report | — | § 92a.61(h); PAG-03, Appx. B & U |

Existing monitoring frequencies and sample types will be maintained in the renewed permit for pH and Oil and Grease: 2/month grab sampling. The remaining storm water parameters will require grab sampling 1/6 months consistent with PAG-03 General Permit Appendices B and/or U. Total Nitrogen must be calculated as the sum of Total Kjeldahl Nitrogen (TKN) plus Nitrite-Nitrate as N ($NO_2$+$NO_3$-N), where TKN and $NO_2$+$NO_3$-N are measured in the same sample. Flow should be estimated 2/month at the time of sampling.

| Tools and References Used to Develop Permit | |
|---|---|
| | |
| ☐ | WQM for Windows Model (see Attachment ) |
| ☒ | Toxics Management Spreadsheet (see Attachment A, B, and C) |
| ☐ | TRC Model Spreadsheet (see Attachment ) |
| ☐ | Temperature Model Spreadsheet (see Attachment ) |
| ☐ | Water Quality Toxics Management Strategy, 361-0100-003, 4/06. |
| ☐ | Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97. |
| ☐ | Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98. |
| ☐ | Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96. |
| ☐ | Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97. |
| ☐ | Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97. |
| ☐ | Pennsylvania CSO Policy, 386-2000-002, 9/08. |
| ☐ | Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03. |
| ☐ | Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97. |
| ☐ | Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97. |
| ☐ | Implementation Guidance Design Conditions, 386-2000-007, 9/97. |
| ☐ | Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004. |
| ☐ | Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997. |
| ☐ | Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99. |
| ☐ | Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004. |
| ☐ | Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97. |
| ☐ | Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008. |
| ☐ | Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994. |
| ☐ | Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09. |
| ☐ | Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97. |
| ☐ | Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 386-2000-020, 10/97. |
| ☐ | Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99. |
| ☐ | Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 386-2000-010, 3/1999. |
| ☐ | Design Stream Flows, 386-2000-003, 9/98. |
| ☐ | Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98. |
| ☐ | Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97. |
| ☐ | Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07. |
| ☒ | SOP: Standard Operating Procedure for Clean Water Program New and Reissuance Industrial Waste and Industrial Stormwater Individual NPDES Permit Applications, SOP No. BCW-PMT-001, February 5, 2024, Version 1.7. |
| ☒ | SOP: Standard Operating Procedure for Clean Water Program Establishing Effluent Limitations for Individual Industrial Permits, SOP No. BCW-PMT-032, February 5, 2024, Version 1.7. |
| ☒ | SOP: Standard Operating Procedure for Clean Water Program Establishing Best Technology Available (BTA) Using Best Professional Judgement (BPJ) for Cooling Water Intake Structures at Existing NPDES Facilities, SOP No. BCW-PMT-038, December 7, 2021, Version 1.0. |
| ☐ | Other: |

# ATTACHMENT A

# Toxics Management Spreadsheet Results for IMP 101 as Outfall 001

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

# Discharge Information

Instructions | Discharge | Stream

Facility: **Zekelman Industries d/b/a Wheatland Tube** NPDES Permit No.: **PA0000868** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Process wastewater**

| Discharge Characteristics | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Design Flow (MGD)* | Hardness (mg/l)* | pH (SU)* | Partial Mix Factors (PMFs) | | | | Complete Mix Times (min) | |
| | | | AFC | CFC | THH | CRL | $Q_{7-10}$ | $Q_h$ |
| 1 | 493 | 7.6 | | | | | | |

| | | | | | 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 | | 838 | | | | | | | | | |
| | Chloride (PWS) | mg/L | | 73.4 | | | | | | | | | |
| | Bromide | mg/L | < | 0.1 | | | | | | | | | |
| | Sulfate (PWS) | mg/L | | 447 | | | | | | | | | |
| | Fluoride (PWS) | mg/L | < | 0.2 | | | | | | | | | |
| Group 2 | Total Aluminum | µg/L | | 940 | | | 1.1247 | | | | | | |
| | Total Antimony | µg/L | | 1.5 | | | | | | | | | |
| | Total Arsenic | µg/L | | 0.9 | | | | | | | | | |
| | Total Barium | µg/L | | 17 | | | | | | | | | |
| | Total Beryllium | µg/L | | 0.05 | | | | | | | | | |
| | Total Boron | µg/L | | 113 | | | | | | | | | |
| | Total Cadmium | µg/L | < | 2 | | | | | | | | | |
| | Total Chromium (III) | µg/L | | 3 | | | | | | | | | |
| | Hexavalent Chromium | µg/L | | 0.17 | | | | | | | | | |
| | Total Cobalt | µg/L | | 0.5 | | | | | | | | | |
| | Total Copper | µg/L | | 36 | | | | | | | | | |
| | Free Cyanide | µg/L | | 7 | | | | | | | | | |
| | Total Cyanide | µg/L | | 11 | | | | | | | | | |
| | Dissolved Iron | µg/L | | 100 | | | | | | | | | |
| | Total Iron | µg/L | | 3262 | | | 0.42 | | | | | | |
| | Total Lead | µg/L | | 450 | | | | | | | | | |
| | Total Manganese | µg/L | | 186 | | | | | | | | | |
| | Total Mercury | µg/L | | 0.09 | | | | | | | | | |
| | Total Nickel | µg/L | | 6 | | | | | | | | | |
| | Total Phenols (Phenolics) (PWS) | µg/L | | 8 | | | | | | | | | |
| | Total Selenium | µg/L | < | 5 | | | | | | | | | |
| | Total Silver | µg/L | | 0.4 | | | | | | | | | |
| | Total Thallium | µg/L | | 0.5 | | | | | | | | | |
| | Total Zinc | µg/L | | 500 | | | | | | | | | |
| | Total Molybdenum | µg/L | | 19 | | | | | | | | | |
| | Acrolein | µg/L | < | 0.9 | | | | | | | | | |
| | Acrylamide | µg/L | < | 10000 | | | | | | | | | |
| | Acrylonitrile | µg/L | < | 0.3 | | | | | | | | | |
| | Benzene | µg/L | < | 0.04 | | | | | | | | | |
| | Bromoform | µg/L | < | 0.1 | | | | | | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Group 3 | Carbon Tetrachloride | µg/L | < | 0.1 | | | | | | | | | |
| | Chlorobenzene | µg/L | < | 0.07 | | | | | | | | | |
| | Chlorodibromomethane | µg/L | | 0.3 | | | | | | | | | |
| | Chloroethane | µg/L | | 0.3 | | | | | | | | | |
| | 2-Chloroethyl Vinyl Ether | µg/L | < | 0.1 | | | | | | | | | |
| | Chloroform | µg/L | | 0.3 | | | | | | | | | |
| | Dichlorobromomethane | µg/L | | 0.3 | | | | | | | | | |
| | 1,1-Dichloroethane | µg/L | < | 0.06 | | | | | | | | | |
| | 1,2-Dichloroethane | µg/L | | 0.4 | | | | | | | | | |
| | 1,1-Dichloroethylene | µg/L | < | 0.07 | | | | | | | | | |
| | 1,2-Dichloropropane | µg/L | < | 0.1 | | | | | | | | | |
| | 1,3-Dichloropropylene | µg/L | < | 0.06 | | | | | | | | | |
| | 1,4-Dioxane | µg/L | < | 0.1 | | | | | | | | | |
| | Ethylbenzene | µg/L | < | 0.06 | | | | | | | | | |
| | Methyl Bromide | µg/L | < | 0.1 | | | | | | | | | |
| | Methyl Chloride | µg/L | < | 0.09 | | | | | | | | | |
| | Methylene Chloride | µg/L | < | 0.1 | | | | | | | | | |
| | 1,1,2,2-Tetrachloroethane | µg/L | < | 0.1 | | | | | | | | | |
| | Tetrachloroethylene | µg/L | < | 0.09 | | | | | | | | | |
| | Toluene | µg/L | < | 0.06 | | | | | | | | | |
| | 1,2-trans-Dichloroethylene | µg/L | < | 0.1 | | | | | | | | | |
| | 1,1,1-Trichloroethane | µg/L | < | 0.06 | | | | | | | | | |
| | 1,1,2-Trichloroethane | µg/L | < | 0.08 | | | | | | | | | |
| | Trichloroethylene | µg/L | < | 0.1 | | | | | | | | | |
| | Vinyl Chloride | µg/L | < | 0.1 | | | | | | | | | |
| Group 4 | 2-Chlorophenol | µg/L | < | 0.101 | | | | | | | | | |
| | 2,4-Dichlorophenol | µg/L | < | 0.0911 | | | | | | | | | |
| | 2,4-Dimethylphenol | µg/L | < | 0.486 | | | | | | | | | |
| | 4,6-Dinitro-o-Cresol | µg/L | < | 0.131 | | | | | | | | | |
| | 2,4-Dinitrophenol | µg/L | < | 3.33 | | | | | | | | | |
| | 2-Nitrophenol | µg/L | < | 0.0567 | | | | | | | | | |
| | 4-Nitrophenol | µg/L | < | 0.0456 | | | | | | | | | |
| | p-Chloro-m-Cresol | µg/L | < | 0.11 | | | | | | | | | |
| | Pentachlorophenol | µg/L | < | 0.116 | | | | | | | | | |
| | Phenol | µg/L | < | 0.05 | | | | | | | | | |
| | 2,4,6-Trichlorophenol | µg/L | < | 0.11 | | | | | | | | | |
| Group 5 | Acenaphthene | µg/L | < | 0.114 | | | | | | | | | |
| | Acenaphthylene | µg/L | < | 0.103 | | | | | | | | | |
| | Anthracene | µg/L | < | 0.101 | | | | | | | | | |
| | Benzidine | µg/L | < | 5.56 | | | | | | | | | |
| | Benzo(a)Anthracene | µg/L | < | 0.0689 | | | | | | | | | |
| | Benzo(a)Pyrene | µg/L | < | 0.08 | | | | | | | | | |
| | 3,4-Benzofluoranthene | µg/L | < | 0.05 | | | | | | | | | |
| | Benzo(ghi)Perylene | µg/L | < | 0.0911 | | | | | | | | | |
| | Benzo(k)Fluoranthene | µg/L | < | 0.0922 | | | | | | | | | |
| | Bis(2-Chloroethoxy)Methane | µg/L | < | 0.0944 | | | | | | | | | |
| | Bis(2-Chloroethyl)Ether | µg/L | < | 0.0876 | | | | | | | | | |
| | Bis(2-Chloroisopropyl)Ether | µg/L | < | 0.0989 | | | | | | | | | |
| | Bis(2-Ethylhexyl)Phthalate | µg/L | | 1.68 | | | | | | | | | |
| | 4-Bromophenyl Phenyl Ether | µg/L | < | 0.12 | | | | | | | | | |
| | Butyl Benzyl Phthalate | µg/L | < | 0.0733 | | | | | | | | | |
| | 2-Chloronaphthalene | µg/L | < | 0.101 | | | | | | | | | |
| | 4-Chlorophenyl Phenyl Ether | µg/L | < | 0.106 | | | | | | | | | |
| | Chrysene | µg/L | < | 0.0811 | | | | | | | | | |
| | Dibenzo(a,h)Anthrancene | µg/L | < | 0.0596 | | | | | | | | | |
| | 1,2-Dichlorobenzene | µg/L | < | 0.09 | | | | | | | | | |
| | 1,3-Dichlorobenzene | µg/L | < | 0.05 | | | | | | | | | |
| | 1,4-Dichlorobenzene | µg/L | < | 0.08 | | | | | | | | | |
| | 3,3-Dichlorobenzidine | µg/L | < | 0.154 | | | | | | | | | |
| | Diethyl Phthalate | µg/L | < | 0.13 | | | | | | | | | |
| | Dimethyl Phthalate | µg/L | < | 0.13 | | | | | | | | | |
| | Di-n-Butyl Phthalate | µg/L | | 1.29 | | | | | | | | | |
| | 2,4-Dinitrotoluene | µg/L | < | 0.0933 | | | | | | | | | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2,6-Dinitrotoluene | µg/L | < | 0.122 | | | | | | | | | | |
| | Di-n-Octyl Phthalate | µg/L | < | 0.0844 | | | | | | | | | | |
| | 1,2-Diphenylhydrazine | µg/L | < | 0.131 | | | | | | | | | | |
| | Fluoranthene | µg/L | < | 0.0989 | | | | | | | | | | |
| | Fluorene | µg/L | < | 0.12 | | | | | | | | | | |
| | Hexachlorobenzene | µg/L | < | 0.0978 | | | | | | | | | | |
| | Hexachlorobutadiene | µg/L | < | 0.0911 | | | | | | | | | | |
| | Hexachlorocyclopentadiene | µg/L | < | 0.05 | | | | | | | | | | |
| | Hexachloroethane | µg/L | < | 0.0767 | | | | | | | | | | |
| | Indeno(1,2,3-cd)Pyrene | µg/L | < | 0.0644 | | | | | | | | | | |
| | Isophorone | µg/L | < | 0.109 | | | | | | | | | | |
| | Naphthalene | µg/L | < | 0.0711 | | | | | | | | | | |
| | Nitrobenzene | µg/L | < | 0.0689 | | | | | | | | | | |
| | n-Nitrosodimethylamine | µg/L | < | 0.0733 | | | | | | | | | | |
| | n-Nitrosodi-n-Propylamine | µg/L | < | 0.102 | | | | | | | | | | |
| | n-Nitrosodiphenylamine | µg/L | < | 0.233 | | | | | | | | | | |
| | Phenanthrene | µg/L | < | 0.11 | | | | | | | | | | |
| | Pyrene | µg/L | | 0.102 | | | | | | | | | | |
| | 1,2,4-Trichlorobenzene | µg/L | < | 0.103 | | | | | | | | | | |
| Group 6 | Aldrin | µg/L | < | | | | | | | | | | | |
| | alpha-BHC | µg/L | < | | | | | | | | | | | |
| | beta-BHC | µg/L | < | | | | | | | | | | | |
| | gamma-BHC | µg/L | < | | | | | | | | | | | |
| | delta BHC | µg/L | < | | | | | | | | | | | |
| | Chlordane | µg/L | < | | | | | | | | | | | |
| | 4,4-DDT | µg/L | < | | | | | | | | | | | |
| | 4,4-DDE | µg/L | < | | | | | | | | | | | |
| | 4,4-DDD | µg/L | < | | | | | | | | | | | |
| | Dieldrin | µg/L | < | | | | | | | | | | | |
| | alpha-Endosulfan | µg/L | < | | | | | | | | | | | |
| | beta-Endosulfan | µg/L | < | | | | | | | | | | | |
| | Endosulfan Sulfate | µg/L | < | | | | | | | | | | | |
| | Endrin | µg/L | < | | | | | | | | | | | |
| | Endrin Aldehyde | µg/L | < | | | | | | | | | | | |
| | Heptachlor | µg/L | < | | | | | | | | | | | |
| | Heptachlor Epoxide | µg/L | < | | | | | | | | | | | |
| | PCB-1016 | µg/L | < | | | | | | | | | | | |
| | PCB-1221 | µg/L | < | | | | | | | | | | | |
| | PCB-1232 | µg/L | < | | | | | | | | | | | |
| | PCB-1242 | µg/L | < | | | | | | | | | | | |
| | PCB-1248 | µg/L | < | | | | | | | | | | | |
| | PCB-1254 | µg/L | < | | | | | | | | | | | |
| | PCB-1260 | µg/L | < | | | | | | | | | | | |
| | PCBs, Total | µg/L | < | | | | | | | | | | | |
| | Toxaphene | µg/L | < | | | | | | | | | | | |
| | 2,3,7,8-TCDD | ng/L | < | | | | | | | | | | | |
| Group 7 | Gross Alpha | pCi/L | | | | | | | | | | | | |
| | Total Beta | pCi/L | < | | | | | | | | | | | |
| | Radium 226/228 | pCi/L | < | | | | | | | | | | | |
| | Total Strontium | µg/L | < | | | | | | | | | | | |
| | Total Uranium | µg/L | < | | | | | | | | | | | |
| | Osmotic Pressure | mOs/kg | | | | | | | | | | | | |
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pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

# Stream / Surface Water Information

**Zekelman Industries d/b/a Wheatland Tube, NPDES Permit No. PA0000868, Outfall 001**

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Shenango River**

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 | 035482 | 24 | 823.55 | 706 | 0.00042 | | Yes |
| End of Reach 1 | 035482 | 4.75 | 793.67 | 790 | 0.00042 | 8.4 | 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 | 24 | 0.171 | 121.05 | | | 125 | 3 | | | | | 80 | 7.7 | | |
| End of Reach 1 | 4.75 | 0.171 | | | | 175 | | | | | | | | | |

$Q_h$

| 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 | 24 | | 423.47 | | | | | | | | | | | | |
| End of Reach 1 | 4.75 | | | | | | | | | | | | | | |

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

# Model Results

**Zekelman Industries d/b/a Wheatland Tube, NPDES Permit No. PA0000868, Outfall 001**

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

☑ ***Hydrodynamics***

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

| RMI | Stream Flow (cfs) | PWS Withdrawal (cfs) | Net Stream Flow (cfs) | Discharge Analysis Flow (cfs) | Slope (ft/ft) | Depth (ft) | Width (ft) | W/D Ratio | Velocity (fps) | Travel Time (days) | Complete Mix Time (min) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 121.05 | | 121.05 | 1.547 | 0.00042 | 3. | 125. | 41.667 | 0.327 | 3.598 | 196.07 |
| 4.75 | 135.41 | 12.995 | 122.4192 | | | | | | | | |

$Q_h$

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 423.47 | | 423.47 | 1.547 | 0.00042 | 5.184 | 125. | 24.111 | 0.656 | 1.794 | 87.887 |
| 4.75 | 542.079 | 12.995 | 529.08 | | | | | | | | |

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.277 Analysis Hardness (mg/l): 98.24 Analysis pH: 7.70

| 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 | 16,982 | |
| Total Antimony | 0 | 0 | | 0 | 1,100 | 1,100 | 24,907 | |
| Total Arsenic | 0 | 0 | | 0 | 340 | 340 | 7,699 | Chem Translator of 1 applied |
| Total Barium | 0 | 0 | | 0 | 21,000 | 21,000 | 475,500 | |
| Total Boron | 0 | 0 | | 0 | 8,100 | 8,100 | 183,407 | |
| Total Cadmium | 0 | 0 | | 0 | 1.979 | 2.1 | 47.4 | Chem Translator of 0.945 applied |
| Total Chromium (III) | 0 | 0 | | 0 | 561.536 | 1,777 | 40,237 | Chem Translator of 0.316 applied |
| Hexavalent Chromium | 0 | 0 | | 0 | 16 | 16.3 | 369 | Chem Translator of 0.982 applied |
| Total Cobalt | 0 | 0 | | 0 | 95 | 95.0 | 2,151 | |
| Total Copper | 0 | 0 | | 0 | 13.216 | 13.8 | 312 | Chem Translator of 0.96 applied |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Free Cyanide | 0 | 0 | | 0 | 22 | 22.0 | 498 | |
| 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 | 63.344 | 79.8 | 1,807 | Chem Translator of 0.794 applied |
| Total Manganese | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Mercury | 0 | 0 | | 0 | 1.400 | 1.65 | 37.3 | Chem Translator of 0.85 applied |
| Total Nickel | 0 | 0 | | 0 | 461.253 | 462 | 10,465 | 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 | 3.120 | 3.67 | 83.1 | Chem Translator of 0.85 applied |
| Total Thallium | 0 | 0 | | 0 | 65 | 65.0 | 1,472 | |
| Total Zinc | 0 | 0 | | 0 | 115.430 | 118 | 2,672 | Chem Translator of 0.978 applied |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 67.9 | |
| Acrylamide | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acrylonitrile | 0 | 0 | | 0 | 650 | 650 | 14,718 | |
| Benzene | 0 | 0 | | 0 | 640 | 640 | 14,491 | |
| Bromoform | 0 | 0 | | 0 | 1,800 | 1,800 | 40,757 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 2,800 | 2,800 | 63,400 | |
| Chlorobenzene | 0 | 0 | | 0 | 1,200 | 1,200 | 27,171 | |
| Chlorodibromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | 18,000 | 18,000 | 407,571 | |
| Chloroform | 0 | 0 | | 0 | 1,900 | 1,900 | 43,021 | |
| Dichlorobromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 15,000 | 15,000 | 339,643 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | 7,500 | 7,500 | 169,821 | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 11,000 | 11,000 | 249,071 | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 310 | 310 | 7,019 | |
| Ethylbenzene | 0 | 0 | | 0 | 2,900 | 2,900 | 65,664 | |
| Methyl Bromide | 0 | 0 | | 0 | 550 | 550 | 12,454 | |
| Methyl Chloride | 0 | 0 | | 0 | 28,000 | 28,000 | 634,000 | |
| Methylene Chloride | 0 | 0 | | 0 | 12,000 | 12,000 | 271,714 | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 1,000 | 1,000 | 22,643 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 700 | 700 | 15,850 | |
| Toluene | 0 | 0 | | 0 | 1,700 | 1,700 | 38,493 | |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 6,800 | 6,800 | 153,971 | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 3,000 | 3,000 | 67,929 | |
| 1,1,2-Trichloroethane | 0 | 0 | | 0 | 3,400 | 3,400 | 76,986 | |
| Trichloroethylene | 0 | 0 | | 0 | 2,300 | 2,300 | 52,079 | |
| Vinyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chlorophenol | 0 | 0 | | 0 | 560 | 560 | 12,680 | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 1,700 | 1,700 | 38,493 | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 660 | 660 | 14,944 | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 80 | 80.0 | 1,811 | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 660 | 660 | 14,944 | |
| 2-Nitrophenol | 0 | 0 | | 0 | 8,000 | 8,000 | 181,143 | |
| 4-Nitrophenol | 0 | 0 | | 0 | 2,300 | 2,300 | 52,079 | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | 160 | 160 | 3,623 | |
| Pentachlorophenol | 0 | 0 | | 0 | 17.541 | 17.5 | 397 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 460 | 460 | 10,416 | |
| Acenaphthene | 0 | 0 | | 0 | 83 | 83.0 | 1,879 | |
| Anthracene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzidine | 0 | 0 | | 0 | 300 | 300 | 6,793 | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | 0.5 | 0.5 | 11.3 | |
| 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 | 679,286 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 4,500 | 4,500 | 101,893 | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | 270 | 270 | 6,114 | |
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | 140 | 140 | 3,170 | |
| 2-Chloronaphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chrysene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Dibenzo(a,h)Anthrancene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichlorobenzene | 0 | 0 | | 0 | 820 | 820 | 18,567 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 350 | 350 | 7,925 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 730 | 730 | 16,529 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 4,000 | 4,000 | 90,571 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 2,500 | 2,500 | 56,607 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 110 | 110 | 2,491 | |
| 2,4-Dinitrotoluene | 0 | 0 | | 0 | 1,600 | 1,600 | 36,229 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 990 | 990 | 22,416 | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 15 | 15.0 | 340 | |
| Fluoranthene | 0 | 0 | | 0 | 200 | 200 | 4,529 | |
| 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 | 226 | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | 5 | 5.0 | 113 | |
| Hexachloroethane | 0 | 0 | | 0 | 60 | 60.0 | 1,359 | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Isophorone | 0 | 0 | | 0 | 10,000 | 10,000 | 226,429 | |
| Naphthalene | 0 | 0 | | 0 | 140 | 140 | 3,170 | |
| Nitrobenzene | 0 | 0 | | 0 | 4,000 | 4,000 | 90,571 | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | 17,000 | 17,000 | 384,929 | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 300 | 300 | 6,793 | |
| Phenanthrene | 0 | 0 | | 0 | 5 | 5.0 | 113 | |
| Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 130 | 130 | 2,944 | |

☑ ***CFC*** CCT (min): ###### PMF: 1 Analysis Hardness (mg/l): 85.211 Analysis pH: 7.70

| 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 | 17,435 | |
| Total Arsenic | 0 | 0 | | 0 | 150 | 150 | 11,887 | Chem Translator of 1 applied |
| Total Barium | 0 | 0 | | 0 | 4,100 | 4,100 | 324,918 | |
| Total Boron | 0 | 0 | | 0 | 1,600 | 1,600 | 126,797 | |
| Total Cadmium | 0 | 0 | | 0 | 0.220 | 0.24 | 19.0 | Chem Translator of 0.916 applied |
| Total Chromium (III) | 0 | 0 | | 0 | 65.010 | 75.6 | 5,991 | Chem Translator of 0.86 applied |
| Hexavalent Chromium | 0 | 0 | | 0 | 10 | 10.4 | 824 | Chem Translator of 0.962 applied |
| Total Cobalt | 0 | 0 | | 0 | 19 | 19.0 | 1,506 | |
| Total Copper | 0 | 0 | | 0 | 7.811 | 8.14 | 645 | Chem Translator of 0.96 applied |
| Free Cyanide | 0 | 0 | | 0 | 5.2 | 5.2 | 412 | |
| Dissolved Iron | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Iron | 0 | 0 | | 0 | 1,500 | 1,500 | 118,872 | WQC = 30 day average; PMF = 1 |
| Total Lead | 0 | 0 | | 0 | 2.113 | 2.6 | 206 | Chem Translator of 0.814 applied |
| Total Manganese | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Mercury | 0 | 0 | | 0 | 0.770 | 0.91 | 71.8 | Chem Translator of 0.85 applied |
| Total Nickel | 0 | 0 | | 0 | 45.421 | 45.6 | 3,610 | 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 | 395 | 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 | 1,030 | |
| Total Zinc | 0 | 0 | | 0 | 103.158 | 105 | 8,291 | Chem Translator of 0.986 applied |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 238 | |
| Acrylamide | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acrylonitrile | 0 | 0 | | 0 | 130 | 130 | 10,302 | |
| Benzene | 0 | 0 | | 0 | 130 | 130 | 10,302 | |
| Bromoform | 0 | 0 | | 0 | 370 | 370 | 29,322 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 560 | 560 | 44,379 | |
| Chlorobenzene | 0 | 0 | | 0 | 240 | 240 | 19,020 | |
| Chlorodibromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | 3,500 | 3,500 | 277,369 | |
| Chloroform | 0 | 0 | | 0 | 390 | 390 | 30,907 | |
| Dichlorobromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 3,100 | 3,100 | 245,669 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | 1,500 | 1,500 | 118,872 | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 2,200 | 2,200 | 174,346 | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 61 | 61.0 | 4,834 | |
| Ethylbenzene | 0 | 0 | | 0 | 580 | 580 | 45,964 | |
| Methyl Bromide | 0 | 0 | | 0 | 110 | 110 | 8,717 | |
| Methyl Chloride | 0 | 0 | | 0 | 5,500 | 5,500 | 435,865 | |
| Methylene Chloride | 0 | 0 | | 0 | 2,400 | 2,400 | 190,196 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 210 | 210 | 16,642 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 140 | 140 | 11,095 | |
| Toluene | 0 | 0 | | 0 | 330 | 330 | 26,152 | |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 1,400 | 1,400 | 110,948 | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 610 | 610 | 48,341 | |
| 1,1,2-Trichloroethane | 0 | 0 | | 0 | 680 | 680 | 53,889 | |
| Trichloroethylene | 0 | 0 | | 0 | 450 | 450 | 35,662 | |
| Vinyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chlorophenol | 0 | 0 | | 0 | 110 | 110 | 8,717 | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 340 | 340 | 26,944 | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 130 | 130 | 10,302 | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 16 | 16.0 | 1,268 | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 130 | 130 | 10,302 | |
| 2-Nitrophenol | 0 | 0 | | 0 | 1,600 | 1,600 | 126,797 | |
| 4-Nitrophenol | 0 | 0 | | 0 | 470 | 470 | 37,247 | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | 500 | 500 | 39,624 | |
| Pentachlorophenol | 0 | 0 | | 0 | 13.458 | 13.5 | 1,066 | |
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 91 | 91.0 | 7,212 | |
| Acenaphthene | 0 | 0 | | 0 | 17 | 17.0 | 1,347 | |
| Anthracene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzidine | 0 | 0 | | 0 | 59 | 59.0 | 4,676 | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | 0.1 | 0.1 | 7.92 | |
| 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 | 475,489 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 910 | 910 | 72,116 | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | 54 | 54.0 | 4,279 | |
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | 35 | 35.0 | 2,774 | |
| 2-Chloronaphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chrysene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Dibenzo(a,h)Anthrancene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichlorobenzene | 0 | 0 | | 0 | 160 | 160 | 12,680 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 69 | 69.0 | 5,468 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 150 | 150 | 11,887 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 800 | 800 | 63,399 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 500 | 500 | 39,624 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 21 | 21.0 | 1,664 | |
| 2,4-Dinitrotoluene | 0 | 0 | | 0 | 320 | 320 | 25,359 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 200 | 200 | 15,850 | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 3 | 3.0 | 238 | |
| Fluoranthene | 0 | 0 | | 0 | 40 | 40.0 | 3,170 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 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 | 158 | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | 1 | 1.0 | 79.2 | |
| Hexachloroethane | 0 | 0 | | 0 | 12 | 12.0 | 951 | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Isophorone | 0 | 0 | | 0 | 2,100 | 2,100 | 166,421 | |
| Naphthalene | 0 | 0 | | 0 | 43 | 43.0 | 3,408 | |
| Nitrobenzene | 0 | 0 | | 0 | 810 | 810 | 64,191 | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | 3,400 | 3,400 | 269,444 | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 59 | 59.0 | 4,676 | |
| Phenanthrene | 0 | 0 | | 0 | 1 | 1.0 | 79.2 | |
| Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 26 | 26.0 | 2,060 | |

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

| 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 | 44,266,645 | WQC applied at RMI 4.75 with a design stream flow of 135.414 cfs |
| Chloride (PWS) | 0 | 0 | | 0 | 250,000 | 250,000 | 22,133,323 | WQC applied at RMI 4.75 with a design stream flow of 135.414 cfs |
| Sulfate (PWS) | 0 | 0 | | 0 | 250,000 | 250,000 | 22,133,323 | WQC applied at RMI 4.75 with a design stream flow of 135.414 cfs |
| Fluoride (PWS) | 0 | 0 | | 0 | 2,000 | 2,000 | 177,067 | WQC applied at RMI 4.75 with a design stream flow of 135.414 cfs |
| Total Aluminum | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Antimony | 0 | 0 | | 0 | 5.6 | 5.6 | 444 | |
| Total Arsenic | 0 | 0 | | 0 | 10 | 10.0 | 792 | |
| Total Barium | 0 | 0 | | 0 | 2,400 | 2,400 | 190,196 | |
| Total Boron | 0 | 0 | | 0 | 3,100 | 3,100 | 245,669 | |
| 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 | 4 | 4.0 | 317 | |
| Dissolved Iron | 0 | 0 | | 0 | 300 | 300 | 23,774 | |
| 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 | 79,248 | |
| Total Mercury | 0 | 0 | | 0 | 0.050 | 0.05 | 3.96 | |
| Total Nickel | 0 | 0 | | 0 | 610 | 610 | 48,341 | |
| Total Phenols (Phenolics) (PWS) | 0 | 0 | | 0 | 5 | 5.0 | 443 | WQC applied at RMI 4.75 with a design stream flow of 135.414 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 | 19.0 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Total Zinc | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 238 | |
| Acrylamide | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acrylonitrile | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bromoform | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Carbon Tetrachloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chlorobenzene | 0 | 0 | | 0 | 100 | 100.0 | 7,925 | |
| Chlorodibromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chloroform | 0 | 0 | | 0 | 5.7 | 5.7 | 452 | |
| 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 | 2,615 | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Ethylbenzene | 0 | 0 | | 0 | 68 | 68.0 | 5,389 | |
| Methyl Bromide | 0 | 0 | | 0 | 100 | 100.0 | 7,925 | |
| Methyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Methylene Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Tetrachloroethylene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Toluene | 0 | 0 | | 0 | 57 | 57.0 | 4,517 | |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 100 | 100.0 | 7,925 | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 10,000 | 10,000 | 792,482 | |
| 1,1,2-Trichloroethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Trichloroethylene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Vinyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chlorophenol | 0 | 0 | | 0 | 30 | 30.0 | 2,377 | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 10 | 10.0 | 792 | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 100 | 100.0 | 7,925 | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 2 | 2.0 | 158 | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 10 | 10.0 | 792 | |
| 2-Nitrophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 4-Nitrophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Pentachlorophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Phenol | 0 | 0 | | 0 | 4,000 | 4,000 | 316,993 | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acenaphthene | 0 | 0 | | 0 | 70 | 70.0 | 5,547 | |
| Anthracene | 0 | 0 | | 0 | 300 | 300 | 23,774 | |
| Benzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzo(a)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 3,4-Benzofluoranthene | 0 | 0 | | 0 | N/A | N/A | N/A | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Benzo(k)Fluoranthene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Chloroethyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | 200 | 200 | 15,850 | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | 0.1 | 0.1 | 7.92 | |
| 2-Chloronaphthalene | 0 | 0 | | 0 | 800 | 800 | 63,399 | |
| Chrysene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Dibenzo(a,h)Anthrancene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichlorobenzene | 0 | 0 | | 0 | 1,000 | 1,000 | 79,248 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 7 | 7.0 | 555 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 300 | 300 | 23,774 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 600 | 600 | 47,549 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 2,000 | 2,000 | 158,496 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 20 | 20.0 | 1,585 | |
| 2,4-Dinitrotoluene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Fluoranthene | 0 | 0 | | 0 | 20 | 20.0 | 1,585 | |
| Fluorene | 0 | 0 | | 0 | 50 | 50.0 | 3,962 | |
| Hexachlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachlorobutadiene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | 4 | 4.0 | 317 | |
| Hexachloroethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Isophorone | 0 | 0 | | 0 | 34 | 34.0 | 2,694 | |
| Naphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Nitrobenzene | 0 | 0 | | 0 | 10 | 10.0 | 792 | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Phenanthrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Pyrene | 0 | 0 | | 0 | 20 | 20.0 | 1,585 | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 0.07 | 0.07 | 5.55 | |

☑ ***CRL*** CCT (min): 87.887 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 | |
| Acrylamide | 0 | 0 | | 0 | 0.07 | 0.07 | 19.2 | |
| Acrylonitrile | 0 | 0 | | 0 | 0.06 | 0.06 | 16.5 | |
| Benzene | 0 | 0 | | 0 | 0.58 | 0.58 | 159 | |
| Bromoform | 0 | 0 | | 0 | 7 | 7.0 | 1,923 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 0.4 | 0.4 | 110 | |
| Chlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chlorodibromomethane | 0 | 0 | | 0 | 0.8 | 0.8 | 220 | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chloroform | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Dichlorobromomethane | 0 | 0 | | 0 | 0.95 | 0.95 | 261 | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 9.9 | 9.9 | 2,720 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 0.9 | 0.9 | 247 | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 0.27 | 0.27 | 74.2 | |
| Ethylbenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Methyl Bromide | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Methyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Methylene Chloride | 0 | 0 | | 0 | 20 | 20.0 | 5,495 | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 0.2 | 0.2 | 54.9 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 10 | 10.0 | 2,747 | |
| Toluene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | N/A | N/A | N/A | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloroethane | 0 | 0 | | 0 | 0.55 | 0.55 | 151 | |
| Trichloroethylene | 0 | 0 | | 0 | 0.6 | 0.6 | 165 | |
| Vinyl Chloride | 0 | 0 | | 0 | 0.02 | 0.02 | 5.49 | |
| 2-Chlorophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Nitrophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 4-Nitrophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Pentachlorophenol | 0 | 0 | | 0 | 0.030 | 0.03 | 8.24 | |
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 1.5 | 1.5 | 412 | |
| Acenaphthene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Anthracene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzidine | 0 | 0 | | 0 | 0.0001 | 0.0001 | 0.027 | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | 0.001 | 0.001 | 0.27 | |
| Benzo(a)Pyrene | 0 | 0 | | 0 | 0.0001 | 0.0001 | 0.027 | |
| 3,4-Benzofluoranthene | 0 | 0 | | 0 | 0.001 | 0.001 | 0.27 | |
| Benzo(k)Fluoranthene | 0 | 0 | | 0 | 0.01 | 0.01 | 2.75 | |
| Bis(2-Chloroethyl)Ether | 0 | 0 | | 0 | 0.03 | 0.03 | 8.24 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 0.32 | 0.32 | 87.9 | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chloronaphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chrysene | 0 | 0 | | 0 | 0.12 | 0.12 | 33.0 | |
| Dibenzo(a,h)Anthrancene | 0 | 0 | | 0 | 0.0001 | 0.0001 | 0.027 | |
| 1,2-Dichlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | 0.05 | 0.05 | 13.7 | |
| Diethyl Phthalate | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Dimethyl Phthalate | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4-Dinitrotoluene | 0 | 0 | | 0 | 0.05 | 0.05 | 13.7 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 0.05 | 0.05 | 13.7 | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 0.03 | 0.03 | 8.24 | |
| Fluoranthene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Fluorene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachlorobenzene | 0 | 0 | | 0 | 0.00008 | 0.00008 | 0.022 | |
| Hexachlorobutadiene | 0 | 0 | | 0 | 0.01 | 0.01 | 2.75 | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachloroethane | 0 | 0 | | 0 | 0.1 | 0.1 | 27.5 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | 0.001 | 0.001 | 0.27 | |
| Isophorone | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Naphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Nitrobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | 0.0007 | 0.0007 | 0.19 | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | 0.005 | 0.005 | 1.37 | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 3.3 | 3.3 | 907 | |
| 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 | |

☑ ***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 | 19.0 | CFC | Discharge Conc > 10% WQBEL (no RP) |
| Total Copper | Report | Report | Report | Report | Report | µg/L | 200 | AFC | Discharge Conc > 10% WQBEL (no RP) |
| Total Lead | 1.72 | 2.68 | 206 | 321 | 514 | µg/L | 206 | CFC | Discharge Conc ≥ 50% WQBEL (RP) |
| Total Zinc | Report | Report | Report | Report | Report | µg/L | 1,713 | AFC | Discharge Conc > 10% WQBEL (no RP) |
| Acrylamide | 0.16 | 0.25 | 19.2 | 30.0 | 48.1 | µg/L | 19.2 | CRL | Discharge Conc ≥ 50% WQBEL (RP) |
| | | | | | | | | | |

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

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

| Pollutants | Governing WQBEL | Units | Comments |
|---|---|---|---|
| Total Dissolved Solids (PWS) | 44,267 | mg/L | Discharge Conc ≤ 10% WQBEL |
| Chloride (PWS) | 22,133 | mg/L | Discharge Conc ≤ 10% WQBEL |
| Bromide | N/A | N/A | No WQS |
| Sulfate (PWS) | 22,133 | mg/L | Discharge Conc ≤ 10% WQBEL |
| Fluoride (PWS) | N/A | N/A | Discharge Conc < TQL |
| Total Aluminum | 18,668 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Antimony | 444 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Arsenic | 792 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Barium | 190,196 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Beryllium | N/A | N/A | No WQS |
| Total Boron | 117,557 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Chromium (III) | 5,991 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Hexavalent Chromium | 236 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Cobalt | 1,379 | µg/L | Discharge Conc ≤ 10% WQBEL |

| | | | |
|---|---|---|---|
| Free Cyanide | 317 | µg/L | Discharge Conc ≤ 25% WQBEL |
| Total Cyanide | N/A | N/A | No WQS |
| Dissolved Iron | 23,774 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Iron | 118,872 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Manganese | 79,248 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Mercury | 3.96 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Nickel | 3,610 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Phenols (Phenolics) (PWS) | 443 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Selenium | 395 | µg/L | Discharge Conc < TQL |
| Total Silver | 53.3 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Thallium | 19.0 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Molybdenum | N/A | N/A | No WQS |
| Acrolein | 43.5 | µg/L | Discharge Conc < TQL |
| Acrylonitrile | 16.5 | µg/L | Discharge Conc < TQL |
| Benzene | 159 | µg/L | Discharge Conc < TQL |
| Bromoform | 1,923 | µg/L | Discharge Conc < TQL |
| Carbon Tetrachloride | 110 | µg/L | Discharge Conc < TQL |
| Chlorobenzene | 7,925 | µg/L | Discharge Conc < TQL |
| Chlorodibromomethane | 220 | µg/L | Discharge Conc ≤ 25% WQBEL |
| Chloroethane | N/A | N/A | No WQS |
| 2-Chloroethyl Vinyl Ether | 261,237 | µg/L | Discharge Conc < TQL |
| Chloroform | 452 | µg/L | Discharge Conc ≤ 25% WQBEL |
| Dichlorobromomethane | 261 | µg/L | Discharge Conc ≤ 25% WQBEL |
| 1,1-Dichloroethane | N/A | N/A | No WQS |
| 1,2-Dichloroethane | 2,720 | µg/L | Discharge Conc ≤ 25% WQBEL |
| 1,1-Dichloroethylene | 2,615 | µg/L | Discharge Conc < TQL |
| 1,2-Dichloropropane | 247 | µg/L | Discharge Conc < TQL |
| 1,3-Dichloropropylene | 74.2 | µg/L | Discharge Conc < TQL |
| 1,4-Dioxane | N/A | N/A | No WQS |
| Ethylbenzene | 5,389 | µg/L | Discharge Conc < TQL |
| Methyl Bromide | 7,925 | µg/L | Discharge Conc < TQL |
| Methyl Chloride | 406,368 | µg/L | Discharge Conc < TQL |
| Methylene Chloride | 5,495 | µg/L | Discharge Conc < TQL |
| 1,1,2,2-Tetrachloroethane | 54.9 | µg/L | Discharge Conc < TQL |
| Tetrachloroethylene | 2,747 | µg/L | Discharge Conc < TQL |
| Toluene | 4,517 | µg/L | Discharge Conc < TQL |
| 1,2-trans-Dichloroethylene | 7,925 | µg/L | Discharge Conc < TQL |
| 1,1,1-Trichloroethane | 43,539 | µg/L | Discharge Conc < TQL |
| 1,1,2-Trichloroethane | 151 | µg/L | Discharge Conc < TQL |
| Trichloroethylene | 165 | µg/L | Discharge Conc < TQL |
| Vinyl Chloride | 5.49 | µg/L | Discharge Conc < TQL |
| 2-Chlorophenol | 2,377 | µg/L | Discharge Conc < TQL |
| 2,4-Dichlorophenol | 792 | µg/L | Discharge Conc < TQL |
| 2,4-Dimethylphenol | 7,925 | µg/L | Discharge Conc < TQL |
| 4,6-Dinitro-o-Cresol | 158 | µg/L | Discharge Conc < TQL |

| | | | |
|---|---|---|---|
| 2,4-Dinitrophenol | 792 | µg/L | Discharge Conc < TQL |
| 2-Nitrophenol | 116,105 | µg/L | Discharge Conc < TQL |
| 4-Nitrophenol | 33,380 | µg/L | Discharge Conc < TQL |
| p-Chloro-m-Cresol | 2,322 | µg/L | Discharge Conc < TQL |
| Pentachlorophenol | 8.24 | µg/L | Discharge Conc < TQL |
| Phenol | 316,993 | µg/L | Discharge Conc < TQL |
| 2,4,6-Trichlorophenol | 412 | µg/L | Discharge Conc < TQL |
| Acenaphthene | 1,205 | µg/L | Discharge Conc < TQL |
| Acenaphthylene | N/A | N/A | No WQS |
| Anthracene | 23,774 | µg/L | Discharge Conc < TQL |
| Benzidine | 0.027 | µg/L | Discharge Conc < TQL |
| Benzo(a)Anthracene | 0.27 | µg/L | Discharge Conc < TQL |
| Benzo(a)Pyrene | 0.027 | µg/L | Discharge Conc < TQL |
| 3,4-Benzofluoranthene | 0.27 | µg/L | Discharge Conc < TQL |
| Benzo(ghi)Perylene | N/A | N/A | No WQS |
| Benzo(k)Fluoranthene | 2.75 | µg/L | Discharge Conc < TQL |
| Bis(2-Chloroethoxy)Methane | N/A | N/A | No WQS |
| Bis(2-Chloroethyl)Ether | 8.24 | µg/L | Discharge Conc < TQL |
| Bis(2-Chloroisopropyl)Ether | 15,850 | µg/L | Discharge Conc < TQL |
| Bis(2-Ethylhexyl)Phthalate | 87.9 | µg/L | Discharge Conc ≤ 25% WQBEL |
| 4-Bromophenyl Phenyl Ether | 3,919 | µg/L | Discharge Conc < TQL |
| Butyl Benzyl Phthalate | 7.92 | µg/L | Discharge Conc < TQL |
| 2-Chloronaphthalene | 63,399 | µg/L | Discharge Conc < TQL |
| 4-Chlorophenyl Phenyl Ether | N/A | N/A | No WQS |
| Chrysene | 33.0 | µg/L | Discharge Conc < TQL |
| Dibenzo(a,h)Anthrancene | 0.027 | µg/L | Discharge Conc < TQL |
| 1,2-Dichlorobenzene | 11,901 | µg/L | Discharge Conc < TQL |
| 1,3-Dichlorobenzene | 555 | µg/L | Discharge Conc < TQL |
| 1,4-Dichlorobenzene | 10,595 | µg/L | Discharge Conc < TQL |
| 3,3-Dichlorobenzidine | 13.7 | µg/L | Discharge Conc < TQL |
| Diethyl Phthalate | 47,549 | µg/L | Discharge Conc < TQL |
| Dimethyl Phthalate | 36,283 | µg/L | Discharge Conc < TQL |
| Di-n-Butyl Phthalate | 1,585 | µg/L | Discharge Conc ≤ 25% WQBEL |
| 2,4-Dinitrotoluene | 13.7 | µg/L | Discharge Conc < TQL |
| 2,6-Dinitrotoluene | 13.7 | µg/L | Discharge Conc < TQL |
| Di-n-Octyl Phthalate | N/A | N/A | No WQS |
| 1,2-Diphenylhydrazine | 8.24 | µg/L | Discharge Conc < TQL |
| Fluoranthene | 1,585 | µg/L | Discharge Conc < TQL |
| Fluorene | 3,962 | µg/L | Discharge Conc < TQL |
| Hexachlorobenzene | 0.022 | µg/L | Discharge Conc < TQL |
| Hexachlorobutadiene | 2.75 | µg/L | Discharge Conc < TQL |
| Hexachlorocyclopentadiene | 72.6 | µg/L | Discharge Conc < TQL |
| Hexachloroethane | 27.5 | µg/L | Discharge Conc < TQL |
| Indeno(1,2,3-cd)Pyrene | 0.27 | µg/L | Discharge Conc < TQL |
| Isophorone | 2,694 | µg/L | Discharge Conc < TQL |

| | | | |
|---|---|---|---|
| Naphthalene | 2,032 | µg/L | Discharge Conc < TQL |
| Nitrobenzene | 792 | µg/L | Discharge Conc < TQL |
| n-Nitrosodimethylamine | 0.19 | µg/L | Discharge Conc < TQL |
| n-Nitrosodi-n-Propylamine | 1.37 | µg/L | Discharge Conc < TQL |
| n-Nitrosodiphenylamine | 907 | µg/L | Discharge Conc < TQL |
| Phenanthrene | 72.6 | µg/L | Discharge Conc < TQL |
| Pyrene | 1,585 | µg/L | Discharge Conc ≤ 25% WQBEL |
| 1,2,4-Trichlorobenzene | 5.55 | µg/L | Discharge Conc < TQL |
| | | | |
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# ATTACHMENT B

# Toxics Management Spreadsheet Results for Outfall 001

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

# Discharge Information

Instructions | Discharge | Stream

Facility: **Zekelman Industries d/b/a Wheatland Tube** NPDES Permit No.: **PA0000868** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Process wastewater**

| Discharge Characteristics | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Design Flow (MGD)* | Hardness (mg/l)* | pH (SU)* | Partial Mix Factors (PMFs) | | | | Complete Mix Times (min) | |
| | | | AFC | CFC | THH | CRL | $Q_{7-10}$ | $Q_h$ |
| 1 | 395 | 7.6 | | | | | | |

| | | | | | *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 | Strea m CV | Fate Coeff | FOS | Criteri a Mod | Chem Transl |
| Group 1 | Total Dissolved Solids (PWS) | mg/L | | 633 | | | | | | | | | |
| | Chloride (PWS) | mg/L | | 58.6 | | | | | | | | | |
| | Bromide | mg/L | < | 0.1 | | | | | | | | | |
| | Sulfate (PWS) | mg/L | | 388 | | | | | | | | | |
| | Fluoride (PWS) | mg/L | < | 0.2 | | | | | | | | | |
| Group 2 | Total Aluminum | µg/L | | 102 | | | | | | | | | |
| | Total Antimony | µg/L | | 1.4 | | | | | | | | | |
| | Total Arsenic | µg/L | | 0.7 | | | | | | | | | |
| | Total Barium | µg/L | | 18 | | | | | | | | | |
| | Total Beryllium | µg/L | | 0.05 | | | | | | | | | |
| | Total Boron | µg/L | | 71 | | | | | | | | | |
| | Total Cadmium | µg/L | < | 2 | | | | | | | | | |
| | Total Chromium (III) | µg/L | | 3 | | | | | | | | | |
| | Hexavalent Chromium | µg/L | < | 5 | | | | | | | | | |
| | Total Cobalt | µg/L | | 0.5 | | | | | | | | | |
| | Total Copper | µg/L | | 33 | | | | | | | | | |
| | Free Cyanide | µg/L | < | 5 | | | | | | | | | |
| | Total Cyanide | µg/L | < | 5 | | | | | | | | | |
| | Dissolved Iron | µg/L | < | 20 | | | | | | | | | |
| | Total Iron | µg/L | | 2310 | | | | | | | | | |
| | Total Lead | µg/L | | 0.3 | | | | | | | | | |
| | Total Manganese | µg/L | | 144 | | | | | | | | | |
| | Total Mercury | µg/L | | 0.2 | | | | | | | | | |
| | Total Nickel | µg/L | | 5 | | | | | | | | | |
| | Total Phenols (Phenolics) (PWS) | µg/L | | 6 | | | | | | | | | |
| | Total Selenium | µg/L | < | 5 | | | | | | | | | |
| | Total Silver | µg/L | | 0.06 | | | | | | | | | |
| | Total Thallium | µg/L | | 0.2 | | | | | | | | | |
| | Total Zinc | µg/L | | 236 | | | | | | | | | |
| | Total Molybdenum | µg/L | | 11 | | | | | | | | | |
| | Acrolein | µg/L | < | 0.9 | | | | | | | | | |
| | Acrylamide | µg/L | < | 10000 | | | | | | | | | |
| | Acrylonitrile | µg/L | < | 0.3 | | | | | | | | | |
| | Benzene | µg/L | < | 0.04 | | | | | | | | | |
| | Bromoform | µg/L | < | 0.1 | | | | | | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Group 3 | Carbon Tetrachloride | µg/L | < | 0.1 | | | | | | | | | |
| | Chlorobenzene | µg/L | < | 0.07 | | | | | | | | | |
| | Chlorodibromomethane | µg/L | | 0.3 | | | | | | | | | |
| | Chloroethane | µg/L | < | 0.06 | | | | | | | | | |
| | 2-Chloroethyl Vinyl Ether | µg/L | < | 0.1 | | | | | | | | | |
| | Chloroform | µg/L | | 0.2 | | | | | | | | | |
| | Dichlorobromomethane | µg/L | | 0.3 | | | | | | | | | |
| | 1,1-Dichloroethane | µg/L | < | 0.06 | | | | | | | | | |
| | 1,2-Dichloroethane | µg/L | < | 0.08 | | | | | | | | | |
| | 1,1-Dichloroethylene | µg/L | < | 0.07 | | | | | | | | | |
| | 1,2-Dichloropropane | µg/L | < | 0.1 | | | | | | | | | |
| | 1,3-Dichloropropylene | µg/L | < | 0.06 | | | | | | | | | |
| | 1,4-Dioxane | µg/L | < | 0.1 | | | | | | | | | |
| | Ethylbenzene | µg/L | < | 0.06 | | | | | | | | | |
| | Methyl Bromide | µg/L | < | 0.1 | | | | | | | | | |
| | Methyl Chloride | µg/L | < | 0.09 | | | | | | | | | |
| | Methylene Chloride | µg/L | < | 0.1 | | | | | | | | | |
| | 1,1,2,2-Tetrachloroethane | µg/L | < | 0.1 | | | | | | | | | |
| | Tetrachloroethylene | µg/L | < | 0.09 | | | | | | | | | |
| | Toluene | µg/L | < | 0.06 | | | | | | | | | |
| | 1,2-trans-Dichloroethylene | µg/L | < | 0.1 | | | | | | | | | |
| | 1,1,1-Trichloroethane | µg/L | < | 0.06 | | | | | | | | | |
| | 1,1,2-Trichloroethane | µg/L | < | 0.08 | | | | | | | | | |
| | Trichloroethylene | µg/L | < | 0.1 | | | | | | | | | |
| | Vinyl Chloride | µg/L | < | 0.1 | | | | | | | | | |
| Group 4 | 2-Chlorophenol | µg/L | < | 0.102 | | | | | | | | | |
| | 2,4-Dichlorophenol | µg/L | < | 0.0921 | | | | | | | | | |
| | 2,4-Dimethylphenol | µg/L | < | 0.491 | | | | | | | | | |
| | 4,6-Dinitro-o-Cresol | µg/L | < | 0.133 | | | | | | | | | |
| | 2,4-Dinitrophenol | µg/L | < | 3.37 | | | | | | | | | |
| | 2-Nitrophenol | µg/L | < | 0.0573 | | | | | | | | | |
| | 4-Nitrophenol | µg/L | < | 0.0461 | | | | | | | | | |
| | p-Chloro-m-Cresol | µg/L | < | 0.111 | | | | | | | | | |
| | Pentachlorophenol | µg/L | < | 0.117 | | | | | | | | | |
| | Phenol | µg/L | < | 0.0506 | | | | | | | | | |
| | 2,4,6-Trichlorophenol | µg/L | < | 0.111 | | | | | | | | | |
| Group 5 | Acenaphthene | µg/L | < | 0.116 | | | | | | | | | |
| | Acenaphthylene | µg/L | < | 0.104 | | | | | | | | | |
| | Anthracene | µg/L | < | 0.102 | | | | | | | | | |
| | Benzidine | µg/L | < | 5.62 | | | | | | | | | |
| | Benzo(a)Anthracene | µg/L | < | 0.0697 | | | | | | | | | |
| | Benzo(a)Pyrene | µg/L | < | 0.0809 | | | | | | | | | |
| | 3,4-Benzofluoranthene | µg/L | < | 0.0506 | | | | | | | | | |
| | Benzo(ghi)Perylene | µg/L | < | 0.0921 | | | | | | | | | |
| | Benzo(k)Fluoranthene | µg/L | < | 0.0933 | | | | | | | | | |
| | Bis(2-Chloroethoxy)Methane | µg/L | < | 0.0955 | | | | | | | | | |
| | Bis(2-Chloroethyl)Ether | µg/L | < | 0.0876 | | | | | | | | | |
| | Bis(2-Chloroisopropyl)Ether | µg/L | < | 0.1 | | | | | | | | | |
| | Bis(2-Ethylhexyl)Phthalate | µg/L | | 1.37 | | | | | | | | | |
| | 4-Bromophenyl Phenyl Ether | µg/L | < | 0.121 | | | | | | | | | |
| | Butyl Benzyl Phthalate | µg/L | < | 0.0742 | | | | | | | | | |
| | 2-Chloronaphthalene | µg/L | < | 0.102 | | | | | | | | | |
| | 4-Chlorophenyl Phenyl Ether | µg/L | < | 0.107 | | | | | | | | | |
| | Chrysene | µg/L | < | 0.082 | | | | | | | | | |
| | Dibenzo(a,h)Anthrancene | µg/L | < | 0.0596 | | | | | | | | | |
| | 1,2-Dichlorobenzene | µg/L | < | 0.09 | | | | | | | | | |
| | 1,3-Dichlorobenzene | µg/L | < | 0.05 | | | | | | | | | |
| | 1,4-Dichlorobenzene | µg/L | < | 0.08 | | | | | | | | | |
| | 3,3-Dichlorobenzidine | µg/L | < | 0.156 | | | | | | | | | |
| | Diethyl Phthalate | µg/L | < | 0.131 | | | | | | | | | |
| | Dimethyl Phthalate | µg/L | < | 0.102 | | | | | | | | | |
| | Di-n-Butyl Phthalate | µg/L | | 0.854 | | | | | | | | | |
| | 2,4-Dinitrotoluene | µg/L | < | 0.0944 | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2,6-Dinitrotoluene | µg/L | < | 0.124 | | | | | | | | | |
| | Di-n-Octyl Phthalate | µg/L | < | 0.0854 | | | | | | | | | |
| | 1,2-Diphenylhydrazine | µg/L | < | 0.133 | | | | | | | | | |
| | Fluoranthene | µg/L | < | 0.1 | | | | | | | | | |
| | Fluorene | µg/L | < | 0.121 | | | | | | | | | |
| | Hexachlorobenzene | µg/L | < | 0.0989 | | | | | | | | | |
| | Hexachlorobutadiene | µg/L | < | 0.0921 | | | | | | | | | |
| | Hexachlorocyclopentadiene | µg/L | < | 0.0506 | | | | | | | | | |
| | Hexachloroethane | µg/L | < | 0.0775 | | | | | | | | | |
| | Indeno(1,2,3-cd)Pyrene | µg/L | < | 0.0652 | | | | | | | | | |
| | Isophorone | µg/L | < | 0.11 | | | | | | | | | |
| | Naphthalene | µg/L | < | 0.0719 | | | | | | | | | |
| | Nitrobenzene | µg/L | < | 0.0697 | | | | | | | | | |
| | n-Nitrosodimethylamine | µg/L | < | 0.0742 | | | | | | | | | |
| | n-Nitrosodi-n-Propylamine | µg/L | < | 0.103 | | | | | | | | | |
| | n-Nitrosodiphenylamine | µg/L | < | 0.236 | | | | | | | | | |
| | Phenanthrene | µg/L | < | 0.111 | | | | | | | | | |
| | Pyrene | µg/L | | 0.103 | | | | | | | | | |
| | 1,2,4-Trichlorobenzene | µg/L | < | 0.104 | | | | | | | | | |
| Group 6 | Aldrin | µg/L | < | | | | | | | | | | |
| | alpha-BHC | µg/L | < | | | | | | | | | | |
| | beta-BHC | µg/L | < | | | | | | | | | | |
| | gamma-BHC | µg/L | < | | | | | | | | | | |
| | delta BHC | µg/L | < | | | | | | | | | | |
| | Chlordane | µg/L | < | | | | | | | | | | |
| | 4,4-DDT | µg/L | < | | | | | | | | | | |
| | 4,4-DDE | µg/L | < | | | | | | | | | | |
| | 4,4-DDD | µg/L | < | | | | | | | | | | |
| | Dieldrin | µg/L | < | | | | | | | | | | |
| | alpha-Endosulfan | µg/L | < | | | | | | | | | | |
| | beta-Endosulfan | µg/L | < | | | | | | | | | | |
| | Endosulfan Sulfate | µg/L | < | | | | | | | | | | |
| | Endrin | µg/L | < | | | | | | | | | | |
| | Endrin Aldehyde | µg/L | < | | | | | | | | | | |
| | Heptachlor | µg/L | < | | | | | | | | | | |
| | Heptachlor Epoxide | µg/L | < | | | | | | | | | | |
| | PCB-1016 | µg/L | < | | | | | | | | | | |
| | PCB-1221 | µg/L | < | | | | | | | | | | |
| | PCB-1232 | µg/L | < | | | | | | | | | | |
| | PCB-1242 | µg/L | < | | | | | | | | | | |
| | PCB-1248 | µg/L | < | | | | | | | | | | |
| | PCB-1254 | µg/L | < | | | | | | | | | | |
| | PCB-1260 | µg/L | < | | | | | | | | | | |
| | PCBs, Total | µg/L | < | | | | | | | | | | |
| | Toxaphene | µg/L | < | | | | | | | | | | |
| | 2,3,7,8-TCDD | ng/L | < | | | | | | | | | | |
| Group 7 | Gross Alpha | pCi/L | | | | | | | | | | | |
| | Total Beta | pCi/L | < | | | | | | | | | | |
| | Radium 226/228 | pCi/L | < | | | | | | | | | | |
| | Total Strontium | µg/L | < | | | | | | | | | | |
| | Total Uranium | µg/L | < | | | | | | | | | | |
| | Osmotic Pressure | mOs/kg | | | | | | | | | | | |
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pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

# Stream / Surface Water Information

**Zekelman Industries d/b/a Wheatland Tube, NPDES Permit No. PA0000868, Outfall 001**

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Shenango River**

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 | 035482 | 24 | 823.55 | 706 | 0.00042 | | Yes |
| End of Reach 1 | 035482 | 4.75 | 793.67 | 790 | 0.00042 | 8.4 | 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 | 24 | 0.171 | 121.05 | | | 125 | 3 | | | | | 80 | 7.7 | | |
| End of Reach 1 | 4.75 | 0.171 | | | | 175 | | | | | | | | | |

$Q_h$

| 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 | 24 | | 423.47 | | | | | | | | | | | | |
| End of Reach 1 | 4.75 | | | | | | | | | | | | | | |

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Toxics Management Spreadsheet
Version 1.4, May 2023

# Model Results

**Zekelman Industries d/b/a Wheatland Tube, NPDES Permit No. PA0000868, Outfall 001**

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

☑ ***Hydrodynamics***

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

| RMI | Stream Flow (cfs) | PWS Withdrawal (cfs) | Net Stream Flow (cfs) | Discharge Analysis Flow (cfs) | Slope (ft/ft) | Depth (ft) | Width (ft) | W/D Ratio | Velocity (fps) | Travel Time (days) | Complete Mix Time (min) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 121.05 | | 121.05 | 1.547 | 0.00042 | 3. | 125. | 41.667 | 0.327 | 3.598 | 196.07 |
| 4.75 | 135.41 | 12.995 | 122.4192 | | | | | | | | |

$Q_h$

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 423.47 | | 423.47 | 1.547 | 0.00042 | 5.184 | 125. | 24.111 | 0.656 | 1.794 | 87.887 |
| 4.75 | 542.079 | 12.995 | 529.08 | | | | | | | | |

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.277 Analysis Hardness (mg/l): 93.912 Analysis pH: 7.70

| 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 | 16,982 | |
| Total Antimony | 0 | 0 | | 0 | 1,100 | 1,100 | 24,907 | |
| Total Arsenic | 0 | 0 | | 0 | 340 | 340 | 7,699 | Chem Translator of 1 applied |
| Total Barium | 0 | 0 | | 0 | 21,000 | 21,000 | 475,500 | |
| Total Boron | 0 | 0 | | 0 | 8,100 | 8,100 | 183,407 | |
| Total Cadmium | 0 | 0 | | 0 | 1.894 | 2.0 | 45.3 | Chem Translator of 0.947 applied |
| Total Chromium (III) | 0 | 0 | | 0 | 541.193 | 1,713 | 38,779 | Chem Translator of 0.316 applied |
| Hexavalent Chromium | 0 | 0 | | 0 | 16 | 16.3 | 369 | Chem Translator of 0.982 applied |
| Total Cobalt | 0 | 0 | | 0 | 95 | 95.0 | 2,151 | |
| Total Copper | 0 | 0 | | 0 | 12.667 | 13.2 | 299 | Chem Translator of 0.96 applied |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Free Cyanide | 0 | 0 | | 0 | 22 | 22.0 | 498 | |
| 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 | 60.308 | 75.4 | 1,707 | Chem Translator of 0.8 applied |
| Total Manganese | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Mercury | 0 | 0 | | 0 | 1.400 | 1.65 | 37.3 | Chem Translator of 0.85 applied |
| Total Nickel | 0 | 0 | | 0 | 444.002 | 445 | 10,074 | 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 | 2.887 | 3.4 | 76.9 | Chem Translator of 0.85 applied |
| Total Thallium | 0 | 0 | | 0 | 65 | 65.0 | 1,472 | |
| Total Zinc | 0 | 0 | | 0 | 111.107 | 114 | 2,572 | Chem Translator of 0.978 applied |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 67.9 | |
| Acrylamide | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acrylonitrile | 0 | 0 | | 0 | 650 | 650 | 14,718 | |
| Benzene | 0 | 0 | | 0 | 640 | 640 | 14,491 | |
| Bromoform | 0 | 0 | | 0 | 1,800 | 1,800 | 40,757 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 2,800 | 2,800 | 63,400 | |
| Chlorobenzene | 0 | 0 | | 0 | 1,200 | 1,200 | 27,171 | |
| Chlorodibromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | 18,000 | 18,000 | 407,571 | |
| Chloroform | 0 | 0 | | 0 | 1,900 | 1,900 | 43,021 | |
| Dichlorobromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 15,000 | 15,000 | 339,643 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | 7,500 | 7,500 | 169,821 | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 11,000 | 11,000 | 249,071 | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 310 | 310 | 7,019 | |
| Ethylbenzene | 0 | 0 | | 0 | 2,900 | 2,900 | 65,664 | |
| Methyl Bromide | 0 | 0 | | 0 | 550 | 550 | 12,454 | |
| Methyl Chloride | 0 | 0 | | 0 | 28,000 | 28,000 | 634,000 | |
| Methylene Chloride | 0 | 0 | | 0 | 12,000 | 12,000 | 271,714 | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 1,000 | 1,000 | 22,643 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 700 | 700 | 15,850 | |
| Toluene | 0 | 0 | | 0 | 1,700 | 1,700 | 38,493 | |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 6,800 | 6,800 | 153,971 | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 3,000 | 3,000 | 67,929 | |
| 1,1,2-Trichloroethane | 0 | 0 | | 0 | 3,400 | 3,400 | 76,986 | |
| Trichloroethylene | 0 | 0 | | 0 | 2,300 | 2,300 | 52,079 | |
| Vinyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chlorophenol | 0 | 0 | | 0 | 560 | 560 | 12,680 | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 1,700 | 1,700 | 38,493 | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 660 | 660 | 14,944 | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 80 | 80.0 | 1,811 | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 660 | 660 | 14,944 | |
| 2-Nitrophenol | 0 | 0 | | 0 | 8,000 | 8,000 | 181,143 | |
| 4-Nitrophenol | 0 | 0 | | 0 | 2,300 | 2,300 | 52,079 | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | 160 | 160 | 3,623 | |
| Pentachlorophenol | 0 | 0 | | 0 | 17.541 | 17.5 | 397 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 460 | 460 | 10,416 | |
| Acenaphthene | 0 | 0 | | 0 | 83 | 83.0 | 1,879 | |
| Anthracene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzidine | 0 | 0 | | 0 | 300 | 300 | 6,793 | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | 0.5 | 0.5 | 11.3 | |
| 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 | 679,286 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 4,500 | 4,500 | 101,893 | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | 270 | 270 | 6,114 | |
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | 140 | 140 | 3,170 | |
| 2-Chloronaphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chrysene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Dibenzo(a,h)Anthrancene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichlorobenzene | 0 | 0 | | 0 | 820 | 820 | 18,567 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 350 | 350 | 7,925 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 730 | 730 | 16,529 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 4,000 | 4,000 | 90,571 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 2,500 | 2,500 | 56,607 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 110 | 110 | 2,491 | |
| 2,4-Dinitrotoluene | 0 | 0 | | 0 | 1,600 | 1,600 | 36,229 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 990 | 990 | 22,416 | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 15 | 15.0 | 340 | |
| Fluoranthene | 0 | 0 | | 0 | 200 | 200 | 4,529 | |
| 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 | 226 | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | 5 | 5.0 | 113 | |
| Hexachloroethane | 0 | 0 | | 0 | 60 | 60.0 | 1,359 | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Isophorone | 0 | 0 | | 0 | 10,000 | 10,000 | 226,429 | |
| Naphthalene | 0 | 0 | | 0 | 140 | 140 | 3,170 | |
| Nitrobenzene | 0 | 0 | | 0 | 4,000 | 4,000 | 90,571 | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | 17,000 | 17,000 | 384,929 | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 300 | 300 | 6,793 | |
| Phenanthrene | 0 | 0 | | 0 | 5 | 5.0 | 113 | |
| Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 130 | 130 | 2,944 | |

☑ ***CFC*** CCT (min): ###### PMF: 1 Analysis Hardness (mg/l): 83.975 Analysis pH: 7.70

| 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 | 17,435 | |
| Total Arsenic | 0 | 0 | | 0 | 150 | 150 | 11,887 | Chem Translator of 1 applied |
| Total Barium | 0 | 0 | | 0 | 4,100 | 4,100 | 324,918 | |
| Total Boron | 0 | 0 | | 0 | 1,600 | 1,600 | 126,797 | |
| Total Cadmium | 0 | 0 | | 0 | 0.218 | 0.24 | 18.8 | Chem Translator of 0.916 applied |
| Total Chromium (III) | 0 | 0 | | 0 | 64.236 | 74.7 | 5,919 | Chem Translator of 0.86 applied |
| Hexavalent Chromium | 0 | 0 | | 0 | 10 | 10.4 | 824 | Chem Translator of 0.962 applied |
| Total Cobalt | 0 | 0 | | 0 | 19 | 19.0 | 1,506 | |
| Total Copper | 0 | 0 | | 0 | 7.714 | 8.04 | 637 | Chem Translator of 0.96 applied |
| Free Cyanide | 0 | 0 | | 0 | 5.2 | 5.2 | 412 | |
| Dissolved Iron | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Iron | 0 | 0 | | 0 | 1,500 | 1,500 | 118,872 | WQC = 30 day average; PMF = 1 |
| Total Lead | 0 | 0 | | 0 | 2.080 | 2.55 | 202 | Chem Translator of 0.816 applied |
| Total Manganese | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Mercury | 0 | 0 | | 0 | 0.770 | 0.91 | 71.8 | Chem Translator of 0.85 applied |
| Total Nickel | 0 | 0 | | 0 | 44.863 | 45.0 | 3,566 | 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 | 395 | 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 | 1,030 | |
| Total Zinc | 0 | 0 | | 0 | 101.888 | 103 | 8,189 | Chem Translator of 0.986 applied |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 238 | |
| Acrylamide | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acrylonitrile | 0 | 0 | | 0 | 130 | 130 | 10,302 | |
| Benzene | 0 | 0 | | 0 | 130 | 130 | 10,302 | |
| Bromoform | 0 | 0 | | 0 | 370 | 370 | 29,322 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 560 | 560 | 44,379 | |
| Chlorobenzene | 0 | 0 | | 0 | 240 | 240 | 19,020 | |
| Chlorodibromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | 3,500 | 3,500 | 277,369 | |
| Chloroform | 0 | 0 | | 0 | 390 | 390 | 30,907 | |
| Dichlorobromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 3,100 | 3,100 | 245,669 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | 1,500 | 1,500 | 118,872 | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 2,200 | 2,200 | 174,346 | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 61 | 61.0 | 4,834 | |
| Ethylbenzene | 0 | 0 | | 0 | 580 | 580 | 45,964 | |
| Methyl Bromide | 0 | 0 | | 0 | 110 | 110 | 8,717 | |
| Methyl Chloride | 0 | 0 | | 0 | 5,500 | 5,500 | 435,865 | |
| Methylene Chloride | 0 | 0 | | 0 | 2,400 | 2,400 | 190,196 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 210 | 210 | 16,642 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 140 | 140 | 11,095 | |
| Toluene | 0 | 0 | | 0 | 330 | 330 | 26,152 | |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 1,400 | 1,400 | 110,948 | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 610 | 610 | 48,341 | |
| 1,1,2-Trichloroethane | 0 | 0 | | 0 | 680 | 680 | 53,889 | |
| Trichloroethylene | 0 | 0 | | 0 | 450 | 450 | 35,662 | |
| Vinyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chlorophenol | 0 | 0 | | 0 | 110 | 110 | 8,717 | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 340 | 340 | 26,944 | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 130 | 130 | 10,302 | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 16 | 16.0 | 1,268 | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 130 | 130 | 10,302 | |
| 2-Nitrophenol | 0 | 0 | | 0 | 1,600 | 1,600 | 126,797 | |
| 4-Nitrophenol | 0 | 0 | | 0 | 470 | 470 | 37,247 | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | 500 | 500 | 39,624 | |
| Pentachlorophenol | 0 | 0 | | 0 | 13.458 | 13.5 | 1,066 | |
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 91 | 91.0 | 7,212 | |
| Acenaphthene | 0 | 0 | | 0 | 17 | 17.0 | 1,347 | |
| Anthracene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzidine | 0 | 0 | | 0 | 59 | 59.0 | 4,676 | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | 0.1 | 0.1 | 7.92 | |
| 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 | 475,489 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 910 | 910 | 72,116 | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | 54 | 54.0 | 4,279 | |
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | 35 | 35.0 | 2,774 | |
| 2-Chloronaphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chrysene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Dibenzo(a,h)Anthrancene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichlorobenzene | 0 | 0 | | 0 | 160 | 160 | 12,680 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 69 | 69.0 | 5,468 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 150 | 150 | 11,887 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 800 | 800 | 63,399 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 500 | 500 | 39,624 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 21 | 21.0 | 1,664 | |
| 2,4-Dinitrotoluene | 0 | 0 | | 0 | 320 | 320 | 25,359 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 200 | 200 | 15,850 | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 3 | 3.0 | 238 | |
| Fluoranthene | 0 | 0 | | 0 | 40 | 40.0 | 3,170 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 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 | 158 | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | 1 | 1.0 | 79.2 | |
| Hexachloroethane | 0 | 0 | | 0 | 12 | 12.0 | 951 | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Isophorone | 0 | 0 | | 0 | 2,100 | 2,100 | 166,421 | |
| Naphthalene | 0 | 0 | | 0 | 43 | 43.0 | 3,408 | |
| Nitrobenzene | 0 | 0 | | 0 | 810 | 810 | 64,191 | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | 3,400 | 3,400 | 269,444 | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 59 | 59.0 | 4,676 | |
| Phenanthrene | 0 | 0 | | 0 | 1 | 1.0 | 79.2 | |
| Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 26 | 26.0 | 2,060 | |

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

| 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 | 44,266,645 | WQC applied at RMI 4.75 with a design stream flow of 135.414 cfs |
| Chloride (PWS) | 0 | 0 | | 0 | 250,000 | 250,000 | 22,133,323 | WQC applied at RMI 4.75 with a design stream flow of 135.414 cfs |
| Sulfate (PWS) | 0 | 0 | | 0 | 250,000 | 250,000 | 22,133,323 | WQC applied at RMI 4.75 with a design stream flow of 135.414 cfs |
| Fluoride (PWS) | 0 | 0 | | 0 | 2,000 | 2,000 | 177,067 | WQC applied at RMI 4.75 with a design stream flow of 135.414 cfs |
| Total Aluminum | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Antimony | 0 | 0 | | 0 | 5.6 | 5.6 | 444 | |
| Total Arsenic | 0 | 0 | | 0 | 10 | 10.0 | 792 | |
| Total Barium | 0 | 0 | | 0 | 2,400 | 2,400 | 190,196 | |
| Total Boron | 0 | 0 | | 0 | 3,100 | 3,100 | 245,669 | |
| 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 | 4 | 4.0 | 317 | |
| Dissolved Iron | 0 | 0 | | 0 | 300 | 300 | 23,774 | |
| 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 | 79,248 | |
| Total Mercury | 0 | 0 | | 0 | 0.050 | 0.05 | 3.96 | |
| Total Nickel | 0 | 0 | | 0 | 610 | 610 | 48,341 | |
| Total Phenols (Phenolics) (PWS) | 0 | 0 | | 0 | 5 | 5.0 | 443 | WQC applied at RMI 4.75 with a design stream flow of 135.414 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 | 19.0 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Total Zinc | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 238 | |
| Acrylamide | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acrylonitrile | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bromoform | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Carbon Tetrachloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chlorobenzene | 0 | 0 | | 0 | 100 | 100.0 | 7,925 | |
| Chlorodibromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chloroform | 0 | 0 | | 0 | 5.7 | 5.7 | 452 | |
| 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 | 2,615 | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Ethylbenzene | 0 | 0 | | 0 | 68 | 68.0 | 5,389 | |
| Methyl Bromide | 0 | 0 | | 0 | 100 | 100.0 | 7,925 | |
| Methyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Methylene Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Tetrachloroethylene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Toluene | 0 | 0 | | 0 | 57 | 57.0 | 4,517 | |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 100 | 100.0 | 7,925 | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 10,000 | 10,000 | 792,482 | |
| 1,1,2-Trichloroethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Trichloroethylene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Vinyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chlorophenol | 0 | 0 | | 0 | 30 | 30.0 | 2,377 | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 10 | 10.0 | 792 | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 100 | 100.0 | 7,925 | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 2 | 2.0 | 158 | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 10 | 10.0 | 792 | |
| 2-Nitrophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 4-Nitrophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Pentachlorophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Phenol | 0 | 0 | | 0 | 4,000 | 4,000 | 316,993 | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acenaphthene | 0 | 0 | | 0 | 70 | 70.0 | 5,547 | |
| Anthracene | 0 | 0 | | 0 | 300 | 300 | 23,774 | |
| Benzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzo(a)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 3,4-Benzofluoranthene | 0 | 0 | | 0 | N/A | N/A | N/A | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Benzo(k)Fluoranthene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Chloroethyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | 200 | 200 | 15,850 | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | 0.1 | 0.1 | 7.92 | |
| 2-Chloronaphthalene | 0 | 0 | | 0 | 800 | 800 | 63,399 | |
| Chrysene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Dibenzo(a,h)Anthrancene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichlorobenzene | 0 | 0 | | 0 | 1,000 | 1,000 | 79,248 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 7 | 7.0 | 555 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 300 | 300 | 23,774 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 600 | 600 | 47,549 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 2,000 | 2,000 | 158,496 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 20 | 20.0 | 1,585 | |
| 2,4-Dinitrotoluene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Fluoranthene | 0 | 0 | | 0 | 20 | 20.0 | 1,585 | |
| Fluorene | 0 | 0 | | 0 | 50 | 50.0 | 3,962 | |
| Hexachlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachlorobutadiene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | 4 | 4.0 | 317 | |
| Hexachloroethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Isophorone | 0 | 0 | | 0 | 34 | 34.0 | 2,694 | |
| Naphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Nitrobenzene | 0 | 0 | | 0 | 10 | 10.0 | 792 | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Phenanthrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Pyrene | 0 | 0 | | 0 | 20 | 20.0 | 1,585 | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 0.07 | 0.07 | 5.55 | |

☑ ***CRL*** CCT (min): 87.887 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 | |
| Acrylamide | 0 | 0 | | 0 | 0.07 | 0.07 | 19.2 | |
| Acrylonitrile | 0 | 0 | | 0 | 0.06 | 0.06 | 16.5 | |
| Benzene | 0 | 0 | | 0 | 0.58 | 0.58 | 159 | |
| Bromoform | 0 | 0 | | 0 | 7 | 7.0 | 1,923 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 0.4 | 0.4 | 110 | |
| Chlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chlorodibromomethane | 0 | 0 | | 0 | 0.8 | 0.8 | 220 | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chloroform | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Dichlorobromomethane | 0 | 0 | | 0 | 0.95 | 0.95 | 261 | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 9.9 | 9.9 | 2,720 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 0.9 | 0.9 | 247 | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 0.27 | 0.27 | 74.2 | |
| Ethylbenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Methyl Bromide | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Methyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Methylene Chloride | 0 | 0 | | 0 | 20 | 20.0 | 5,495 | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 0.2 | 0.2 | 54.9 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 10 | 10.0 | 2,747 | |
| Toluene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | N/A | N/A | N/A | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloroethane | 0 | 0 | | 0 | 0.55 | 0.55 | 151 | |
| Trichloroethylene | 0 | 0 | | 0 | 0.6 | 0.6 | 165 | |
| Vinyl Chloride | 0 | 0 | | 0 | 0.02 | 0.02 | 5.49 | |
| 2-Chlorophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Nitrophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 4-Nitrophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Pentachlorophenol | 0 | 0 | | 0 | 0.030 | 0.03 | 8.24 | |
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 1.5 | 1.5 | 412 | |
| Acenaphthene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Anthracene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzidine | 0 | 0 | | 0 | 0.0001 | 0.0001 | 0.027 | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | 0.001 | 0.001 | 0.27 | |
| Benzo(a)Pyrene | 0 | 0 | | 0 | 0.0001 | 0.0001 | 0.027 | |
| 3,4-Benzofluoranthene | 0 | 0 | | 0 | 0.001 | 0.001 | 0.27 | |
| Benzo(k)Fluoranthene | 0 | 0 | | 0 | 0.01 | 0.01 | 2.75 | |
| Bis(2-Chloroethyl)Ether | 0 | 0 | | 0 | 0.03 | 0.03 | 8.24 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 0.32 | 0.32 | 87.9 | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chloronaphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chrysene | 0 | 0 | | 0 | 0.12 | 0.12 | 33.0 | |
| Dibenzo(a,h)Anthrancene | 0 | 0 | | 0 | 0.0001 | 0.0001 | 0.027 | |
| 1,2-Dichlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | 0.05 | 0.05 | 13.7 | |
| Diethyl Phthalate | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Dimethyl Phthalate | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4-Dinitrotoluene | 0 | 0 | | 0 | 0.05 | 0.05 | 13.7 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 0.05 | 0.05 | 13.7 | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 0.03 | 0.03 | 8.24 | |
| Fluoranthene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Fluorene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachlorobenzene | 0 | 0 | | 0 | 0.00008 | 0.00008 | 0.022 | |
| Hexachlorobutadiene | 0 | 0 | | 0 | 0.01 | 0.01 | 2.75 | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachloroethane | 0 | 0 | | 0 | 0.1 | 0.1 | 27.5 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | 0.001 | 0.001 | 0.27 | |
| Isophorone | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Naphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Nitrobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | 0.0007 | 0.0007 | 0.19 | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | 0.005 | 0.005 | 1.37 | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 3.3 | 3.3 | 907 | |
| 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 | |

☑ ***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 | 18.8 | CFC | Discharge Conc > 10% WQBEL (no RP) |
| Total Copper | Report | Report | Report | Report | Report | µg/L | 191 | AFC | Discharge Conc > 10% WQBEL (no RP) |
| Total Zinc | Report | Report | Report | Report | Report | µg/L | 1,649 | AFC | Discharge Conc > 10% WQBEL (no RP) |
| Acrylamide | 0.16 | 0.25 | 19.2 | 30.0 | 48.1 | µg/L | 19.2 | CRL | Discharge Conc ≥ 50% WQBEL (RP) |
| | | | | | | | | | |
| | | | | | | | | | |

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

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

| Pollutants | Governing WQBEL | Units | Comments |
|---|---|---|---|
| Total Dissolved Solids (PWS) | 44,267 | mg/L | Discharge Conc ≤ 10% WQBEL |
| Chloride (PWS) | 22,133 | mg/L | Discharge Conc ≤ 10% WQBEL |
| Bromide | N/A | N/A | No WQS |
| Sulfate (PWS) | 22,133 | mg/L | Discharge Conc ≤ 10% WQBEL |
| Fluoride (PWS) | N/A | N/A | Discharge Conc < TQL |
| Total Aluminum | 10,885 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Antimony | 444 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Arsenic | 792 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Barium | 190,196 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Beryllium | N/A | N/A | No WQS |
| Total Boron | 117,557 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Chromium (III) | 5,919 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Hexavalent Chromium | 236 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Cobalt | 1,379 | µg/L | Discharge Conc ≤ 10% WQBEL |

| | | | |
|---|---|---|---|
| Free Cyanide | 317 | µg/L | Discharge Conc ≤ 25% WQBEL |
| Total Cyanide | N/A | N/A | No WQS |
| Dissolved Iron | 23,774 | µg/L | Discharge Conc < TQL |
| Total Iron | 118,872 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Lead | 202 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Manganese | 79,248 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Mercury | 3.96 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Nickel | 3,566 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Phenols (Phenolics) (PWS) | 443 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Selenium | 395 | µg/L | Discharge Conc < TQL |
| Total Silver | 49.3 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Thallium | 19.0 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Molybdenum | N/A | N/A | No WQS |
| Acrolein | 43.5 | µg/L | Discharge Conc < TQL |
| Acrylonitrile | 16.5 | µg/L | Discharge Conc < TQL |
| Benzene | 159 | µg/L | Discharge Conc < TQL |
| Bromoform | 1,923 | µg/L | Discharge Conc < TQL |
| Carbon Tetrachloride | 110 | µg/L | Discharge Conc < TQL |
| Chlorobenzene | 7,925 | µg/L | Discharge Conc < TQL |
| Chlorodibromomethane | 220 | µg/L | Discharge Conc ≤ 25% WQBEL |
| Chloroethane | N/A | N/A | No WQS |
| 2-Chloroethyl Vinyl Ether | 261,237 | µg/L | Discharge Conc < TQL |
| Chloroform | 452 | µg/L | Discharge Conc ≤ 25% WQBEL |
| Dichlorobromomethane | 261 | µg/L | Discharge Conc ≤ 25% WQBEL |
| 1,1-Dichloroethane | N/A | N/A | No WQS |
| 1,2-Dichloroethane | 2,720 | µg/L | Discharge Conc < TQL |
| 1,1-Dichloroethylene | 2,615 | µg/L | Discharge Conc < TQL |
| 1,2-Dichloropropane | 247 | µg/L | Discharge Conc < TQL |
| 1,3-Dichloropropylene | 74.2 | µg/L | Discharge Conc < TQL |
| 1,4-Dioxane | N/A | N/A | No WQS |
| Ethylbenzene | 5,389 | µg/L | Discharge Conc < TQL |
| Methyl Bromide | 7,925 | µg/L | Discharge Conc < TQL |
| Methyl Chloride | 406,368 | µg/L | Discharge Conc < TQL |
| Methylene Chloride | 5,495 | µg/L | Discharge Conc < TQL |
| 1,1,2,2-Tetrachloroethane | 54.9 | µg/L | Discharge Conc < TQL |
| Tetrachloroethylene | 2,747 | µg/L | Discharge Conc < TQL |
| Toluene | 4,517 | µg/L | Discharge Conc < TQL |
| 1,2-trans-Dichloroethylene | 7,925 | µg/L | Discharge Conc < TQL |
| 1,1,1-Trichloroethane | 43,539 | µg/L | Discharge Conc < TQL |
| 1,1,2-Trichloroethane | 151 | µg/L | Discharge Conc < TQL |
| Trichloroethylene | 165 | µg/L | Discharge Conc < TQL |
| Vinyl Chloride | 5.49 | µg/L | Discharge Conc < TQL |
| 2-Chlorophenol | 2,377 | µg/L | Discharge Conc < TQL |
| 2,4-Dichlorophenol | 792 | µg/L | Discharge Conc < TQL |
| 2,4-Dimethylphenol | 7,925 | µg/L | Discharge Conc < TQL |

| | | | |
|---|---|---|---|
| 4,6-Dinitro-o-Cresol | 158 | µg/L | Discharge Conc < TQL |
| 2,4-Dinitrophenol | 792 | µg/L | Discharge Conc < TQL |
| 2-Nitrophenol | 116,105 | µg/L | Discharge Conc < TQL |
| 4-Nitrophenol | 33,380 | µg/L | Discharge Conc < TQL |
| p-Chloro-m-Cresol | 2,322 | µg/L | Discharge Conc < TQL |
| Pentachlorophenol | 8.24 | µg/L | Discharge Conc < TQL |
| Phenol | 316,993 | µg/L | Discharge Conc < TQL |
| 2,4,6-Trichlorophenol | 412 | µg/L | Discharge Conc < TQL |
| Acenaphthene | 1,205 | µg/L | Discharge Conc < TQL |
| Acenaphthylene | N/A | N/A | No WQS |
| Anthracene | 23,774 | µg/L | Discharge Conc < TQL |
| Benzidine | 0.027 | µg/L | Discharge Conc < TQL |
| Benzo(a)Anthracene | 0.27 | µg/L | Discharge Conc < TQL |
| Benzo(a)Pyrene | 0.027 | µg/L | Discharge Conc < TQL |
| 3,4-Benzofluoranthene | 0.27 | µg/L | Discharge Conc < TQL |
| Benzo(ghi)Perylene | N/A | N/A | No WQS |
| Benzo(k)Fluoranthene | 2.75 | µg/L | Discharge Conc < TQL |
| Bis(2-Chloroethoxy)Methane | N/A | N/A | No WQS |
| Bis(2-Chloroethyl)Ether | 8.24 | µg/L | Discharge Conc < TQL |
| Bis(2-Chloroisopropyl)Ether | 15,850 | µg/L | Discharge Conc < TQL |
| Bis(2-Ethylhexyl)Phthalate | 87.9 | µg/L | Discharge Conc ≤ 25% WQBEL |
| 4-Bromophenyl Phenyl Ether | 3,919 | µg/L | Discharge Conc < TQL |
| Butyl Benzyl Phthalate | 7.92 | µg/L | Discharge Conc < TQL |
| 2-Chloronaphthalene | 63,399 | µg/L | Discharge Conc < TQL |
| 4-Chlorophenyl Phenyl Ether | N/A | N/A | No WQS |
| Chrysene | 33.0 | µg/L | Discharge Conc < TQL |
| Dibenzo(a,h)Anthrancene | 0.027 | µg/L | Discharge Conc < TQL |
| 1,2-Dichlorobenzene | 11,901 | µg/L | Discharge Conc < TQL |
| 1,3-Dichlorobenzene | 555 | µg/L | Discharge Conc < TQL |
| 1,4-Dichlorobenzene | 10,595 | µg/L | Discharge Conc < TQL |
| 3,3-Dichlorobenzidine | 13.7 | µg/L | Discharge Conc < TQL |
| Diethyl Phthalate | 47,549 | µg/L | Discharge Conc < TQL |
| Dimethyl Phthalate | 36,283 | µg/L | Discharge Conc < TQL |
| Di-n-Butyl Phthalate | 1,585 | µg/L | Discharge Conc ≤ 25% WQBEL |
| 2,4-Dinitrotoluene | 13.7 | µg/L | Discharge Conc < TQL |
| 2,6-Dinitrotoluene | 13.7 | µg/L | Discharge Conc < TQL |
| Di-n-Octyl Phthalate | N/A | N/A | No WQS |
| 1,2-Diphenylhydrazine | 8.24 | µg/L | Discharge Conc < TQL |
| Fluoranthene | 1,585 | µg/L | Discharge Conc < TQL |
| Fluorene | 3,962 | µg/L | Discharge Conc < TQL |
| Hexachlorobenzene | 0.022 | µg/L | Discharge Conc < TQL |
| Hexachlorobutadiene | 2.75 | µg/L | Discharge Conc < TQL |
| Hexachlorocyclopentadiene | 72.6 | µg/L | Discharge Conc < TQL |
| Hexachloroethane | 27.5 | µg/L | Discharge Conc < TQL |
| Indeno(1,2,3-cd)Pyrene | 0.27 | µg/L | Discharge Conc < TQL |

| | | | |
|---|---|---|---|
| Isophorone | 2,694 | µg/L | Discharge Conc < TQL |
| Naphthalene | 2,032 | µg/L | Discharge Conc < TQL |
| Nitrobenzene | 792 | µg/L | Discharge Conc < TQL |
| n-Nitrosodimethylamine | 0.19 | µg/L | Discharge Conc < TQL |
| n-Nitrosodi-n-Propylamine | 1.37 | µg/L | Discharge Conc < TQL |
| n-Nitrosodiphenylamine | 907 | µg/L | Discharge Conc < TQL |
| Phenanthrene | 72.6 | µg/L | Discharge Conc < TQL |
| Pyrene | 1,585 | µg/L | Discharge Conc ≤ 25% WQBEL |
| 1,2,4-Trichlorobenzene | 5.55 | µg/L | Discharge Conc < TQL |
| | | | |

# ATTACHMENT C

# Toxics Management Spreadsheet Results for Outfall 007

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

# Discharge Information

Instructions | Discharge | Stream

Facility: **Zekelman Industries d/b/a Wheatland Tube** NPDES Permit No.: **PA0000868** Outfall No.: **007**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Non-contact cooling water**

| Discharge Characteristics | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Design Flow (MGD)* | Hardness (mg/l)* | pH (SU)* | Partial Mix Factors (PMFs) | | | | Complete Mix Times (min) | |
| | | | AFC | CFC | THH | CRL | $Q_{7-10}$ | $Q_h$ |
| 0.5 | 73.3 | 7.7 | | | | | | |

| | | | | | 0 if left blank | | 0.5 if left blank | | 0 if left blank | | | 1 if left blank | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Discharge Pollutant | Units | Max Discharge Conc | | Trib Conc | Stream Conc | Daily CV | Hourly CV | Stream CV | Fate Coeff | FOS | Criteria Mod | Chem Transl |
| Group 1 | Total Dissolved Solids (PWS) | mg/L | | 148 | | | | | | | | | |
| | Chloride (PWS) | mg/L | | 16.4 | | | | | | | | | |
| | Bromide | mg/L | < | 0.1 | | | | | | | | | |
| | Sulfate (PWS) | mg/L | | 16.4 | | | | | | | | | |
| | Fluoride (PWS) | mg/L | < | 0.2 | | | | | | | | | |
| Group 2 | Total Aluminum | µg/L | | 438 | | | | | | | | | |
| | Total Antimony | µg/L | < | 0.2 | | | | | | | | | |
| | Total Arsenic | µg/L | | 0.9 | | | | | | | | | |
| | Total Barium | µg/L | | 20 | | | | | | | | | |
| | Total Beryllium | µg/L | < | 0.05 | | | | | | | | | |
| | Total Boron | µg/L | | 26 | | | | | | | | | |
| | Total Cadmium | µg/L | < | 2 | | | | | | | | | |
| | Total Chromium (III) | µg/L | | 1 | | | | | | | | | |
| | Hexavalent Chromium | µg/L | < | 5 | | | | | | | | | |
| | Total Cobalt | µg/L | | 0.3 | | | | | | | | | |
| | Total Copper | µg/L | | 2 | | | | | | | | | |
| | Free Cyanide | µg/L | | 8 | | | | | | | | | |
| | Total Cyanide | µg/L | | 8 | | | | | | | | | |
| | Dissolved Iron | µg/L | | 130 | | | | | | | | | |
| | Total Iron | µg/L | | 10800 | | | | | | | | | |
| | Total Lead | µg/L | | 20 | | | | | | | | | |
| | Total Manganese | µg/L | | 84 | | | | | | | | | |
| | Total Mercury | µg/L | | 0.2 | | | | | | | | | |
| | Total Nickel | µg/L | | 1 | | | | | | | | | |
| | Total Phenols (Phenolics) (PWS) | µg/L | < | 0.0495 | | | | | | | | | |
| | Total Selenium | µg/L | < | 5 | | | | | | | | | |
| | Total Silver | µg/L | < | 0.05 | | | | | | | | | |
| | Total Thallium | µg/L | | 0.00006 | | | | | | | | | |
| | Total Zinc | µg/L | | 24 | | | | | | | | | |
| | Total Molybdenum | µg/L | | 0.4 | | | | | | | | | |
| | Acrolein | µg/L | < | 0.9 | | | | | | | | | |
| | Acrylamide | µg/L | < | 10000 | | | | | | | | | |
| | Acrylonitrile | µg/L | < | 0.3 | | | | | | | | | |
| | Benzene | µg/L | < | 0.04 | | | | | | | | | |
| | Bromoform | µg/L | < | 0.1 | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Group 3 | Carbon Tetrachloride | µg/L | < | 0.1 | | | | | | | | | |
| | Chlorobenzene | µg/L | < | 0.07 | | | | | | | | | |
| | Chlorodibromomethane | µg/L | < | 0.08 | | | | | | | | | |
| | Chloroethane | µg/L | < | 0.06 | | | | | | | | | |
| | 2-Chloroethyl Vinyl Ether | µg/L | < | 0.1 | | | | | | | | | |
| | Chloroform | µg/L | < | 0.09 | | | | | | | | | |
| | Dichlorobromomethane | µg/L | < | 0.08 | | | | | | | | | |
| | 1,1-Dichloroethane | µg/L | < | 0.06 | | | | | | | | | |
| | 1,2-Dichloroethane | µg/L | < | 0.08 | | | | | | | | | |
| | 1,1-Dichloroethylene | µg/L | < | 0.07 | | | | | | | | | |
| | 1,2-Dichloropropane | µg/L | < | 0.1 | | | | | | | | | |
| | 1,3-Dichloropropylene | µg/L | < | 0.06 | | | | | | | | | |
| | 1,4-Dioxane | µg/L | < | 0.1 | | | | | | | | | |
| | Ethylbenzene | µg/L | < | 0.06 | | | | | | | | | |
| | Methyl Bromide | µg/L | < | 0.1 | | | | | | | | | |
| | Methyl Chloride | µg/L | < | 0.09 | | | | | | | | | |
| | Methylene Chloride | µg/L | < | 0.1 | | | | | | | | | |
| | 1,1,2,2-Tetrachloroethane | µg/L | < | 0.1 | | | | | | | | | |
| | Tetrachloroethylene | µg/L | < | 0.09 | | | | | | | | | |
| | Toluene | µg/L | < | 0.06 | | | | | | | | | |
| | 1,2-trans-Dichloroethylene | µg/L | < | 0.1 | | | | | | | | | |
| | 1,1,1-Trichloroethane | µg/L | < | 0.06 | | | | | | | | | |
| | 1,1,2-Trichloroethane | µg/L | < | 0.08 | | | | | | | | | |
| | Trichloroethylene | µg/L | < | 0.1 | | | | | | | | | |
| | Vinyl Chloride | µg/L | < | 0.1 | | | | | | | | | |
| Group 4 | 2-Chlorophenol | µg/L | < | 0.1 | | | | | | | | | |
| | 2,4-Dichlorophenol | µg/L | < | 0.0901 | | | | | | | | | |
| | 2,4-Dimethylphenol | µg/L | < | 0.48 | | | | | | | | | |
| | 4,6-Dinitro-o-Cresol | µg/L | < | 0.13 | | | | | | | | | |
| | 2,4-Dinitrophenol | µg/L | < | 3.3 | | | | | | | | | |
| | 2-Nitrophenol | µg/L | < | 0.056 | | | | | | | | | |
| | 4-Nitrophenol | µg/L | < | 0.0451 | | | | | | | | | |
| | p-Chloro-m-Cresol | µg/L | < | 0.109 | | | | | | | | | |
| | Pentachlorophenol | µg/L | < | 0.114 | | | | | | | | | |
| | Phenol | µg/L | < | 0.0495 | | | | | | | | | |
| | 2,4,6-Trichlorophenol | µg/L | < | 0.109 | | | | | | | | | |
| Group 5 | Acenaphthene | µg/L | < | 0.113 | | | | | | | | | |
| | Acenaphthylene | µg/L | < | 0.102 | | | | | | | | | |
| | Anthracene | µg/L | < | 0.1 | | | | | | | | | |
| | Benzidine | µg/L | < | 5.49 | | | | | | | | | |
| | Benzo(a)Anthracene | µg/L | < | 0.0691 | | | | | | | | | |
| | Benzo(a)Pyrene | µg/L | < | 0.0791 | | | | | | | | | |
| | 3,4-Benzofluoranthene | µg/L | < | 0.0495 | | | | | | | | | |
| | Benzo(ghi)Perylene | µg/L | < | 0.0901 | | | | | | | | | |
| | Benzo(k)Fluoranthene | µg/L | < | 0.0912 | | | | | | | | | |
| | Bis(2-Chloroethoxy)Methane | µg/L | < | 0.0934 | | | | | | | | | |
| | Bis(2-Chloroethyl)Ether | µg/L | < | 0.0857 | | | | | | | | | |
| | Bis(2-Chloroisopropyl)Ether | µg/L | < | 0.0978 | | | | | | | | | |
| | Bis(2-Ethylhexyl)Phthalate | µg/L | | 1.45 | | | | | | | | | |
| | 4-Bromophenyl Phenyl Ether | µg/L | < | 0.119 | | | | | | | | | |
| | Butyl Benzyl Phthalate | µg/L | < | 0.0725 | | | | | | | | | |
| | 2-Chloronaphthalene | µg/L | < | 0.1 | | | | | | | | | |
| | 4-Chlorophenyl Phenyl Ether | µg/L | < | 0.104 | | | | | | | | | |
| | Chrysene | µg/L | < | 0.0802 | | | | | | | | | |
| | Dibenzo(a,h)Anthrancene | µg/L | < | 0.0582 | | | | | | | | | |
| | 1,2-Dichlorobenzene | µg/L | < | 0.09 | | | | | | | | | |
| | 1,3-Dichlorobenzene | µg/L | < | 0.05 | | | | | | | | | |
| | 1,4-Dichlorobenzene | µg/L | < | 0.08 | | | | | | | | | |
| | 3,3-Dichlorobenzidine | µg/L | < | 0.153 | | | | | | | | | |
| | Diethyl Phthalate | µg/L | < | 0.129 | | | | | | | | | |
| | Dimethyl Phthalate | µg/L | < | 0.1 | | | | | | | | | |
| | Di-n-Butyl Phthalate | µg/L | | 0.868 | | | | | | | | | |
| | 2,4-Dinitrotoluene | µg/L | < | 0.0923 | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2,6-Dinitrotoluene | µg/L | < | 0.121 | | | | | | | | | |
| | Di-n-Octyl Phthalate | µg/L | < | 0.0835 | | | | | | | | | |
| | 1,2-Diphenylhydrazine | µg/L | < | 0.13 | | | | | | | | | |
| | Fluoranthene | µg/L | < | 0.0978 | | | | | | | | | |
| | Fluorene | µg/L | < | 0.119 | | | | | | | | | |
| | Hexachlorobenzene | µg/L | < | 0.0967 | | | | | | | | | |
| | Hexachlorobutadiene | µg/L | < | 0.0901 | | | | | | | | | |
| | Hexachlorocyclopentadiene | µg/L | < | 0.0495 | | | | | | | | | |
| | Hexachloroethane | µg/L | < | 0.0758 | | | | | | | | | |
| | Indeno(1,2,3-cd)Pyrene | µg/L | < | 0.0637 | | | | | | | | | |
| | Isophorone | µg/L | < | 0.108 | | | | | | | | | |
| | Naphthalene | µg/L | < | 0.0703 | | | | | | | | | |
| | Nitrobenzene | µg/L | < | 0.0681 | | | | | | | | | |
| | n-Nitrosodimethylamine | µg/L | < | 0.0725 | | | | | | | | | |
| | n-Nitrosodi-n-Propylamine | µg/L | < | 0.101 | | | | | | | | | |
| | n-Nitrosodiphenylamine | µg/L | < | 0.231 | | | | | | | | | |
| | Phenanthrene | µg/L | < | 0.109 | | | | | | | | | |
| | Pyrene | µg/L | < | 0.101 | | | | | | | | | |
| | 1,2,4-Trichlorobenzene | µg/L | < | 0.102 | | | | | | | | | |
| Group 6 | Aldrin | µg/L | < | | | | | | | | | | |
| | alpha-BHC | µg/L | < | | | | | | | | | | |
| | beta-BHC | µg/L | < | | | | | | | | | | |
| | gamma-BHC | µg/L | < | | | | | | | | | | |
| | delta BHC | µg/L | < | | | | | | | | | | |
| | Chlordane | µg/L | < | | | | | | | | | | |
| | 4,4-DDT | µg/L | < | | | | | | | | | | |
| | 4,4-DDE | µg/L | < | | | | | | | | | | |
| | 4,4-DDD | µg/L | < | | | | | | | | | | |
| | Dieldrin | µg/L | < | | | | | | | | | | |
| | alpha-Endosulfan | µg/L | < | | | | | | | | | | |
| | beta-Endosulfan | µg/L | < | | | | | | | | | | |
| | Endosulfan Sulfate | µg/L | < | | | | | | | | | | |
| | Endrin | µg/L | < | | | | | | | | | | |
| | Endrin Aldehyde | µg/L | < | | | | | | | | | | |
| | Heptachlor | µg/L | < | | | | | | | | | | |
| | Heptachlor Epoxide | µg/L | < | | | | | | | | | | |
| | PCB-1016 | µg/L | < | | | | | | | | | | |
| | PCB-1221 | µg/L | < | | | | | | | | | | |
| | PCB-1232 | µg/L | < | | | | | | | | | | |
| | PCB-1242 | µg/L | < | | | | | | | | | | |
| | PCB-1248 | µg/L | < | | | | | | | | | | |
| | PCB-1254 | µg/L | < | | | | | | | | | | |
| | PCB-1260 | µg/L | < | | | | | | | | | | |
| | PCBs, Total | µg/L | < | | | | | | | | | | |
| | Toxaphene | µg/L | < | | | | | | | | | | |
| | 2,3,7,8-TCDD | ng/L | < | | | | | | | | | | |
| Group 7 | Gross Alpha | pCi/L | | | | | | | | | | | |
| | Total Beta | pCi/L | < | | | | | | | | | | |
| | Radium 226/228 | pCi/L | < | | | | | | | | | | |
| | Total Strontium | µg/L | < | | | | | | | | | | |
| | Total Uranium | µg/L | < | | | | | | | | | | |
| | Osmotic Pressure | mOs/kg | | | | | | | | | | | |
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pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

# Stream / Surface Water Information

**Zekelman Industries d/b/a Wheatland Tube, NPDES Permit No. PA0000868, Outfall 007**

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Shenango River**

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 | 035482 | 24 | 823.55 | 706 | 0.00042 | | Yes |
| End of Reach 1 | 035482 | 4.75 | 793.67 | 790 | 0.00042 | 8.4 | 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 | 24 | 0.171 | 121.05 | | | 125 | 3 | | | | | 80 | 7.7 | | |
| End of Reach 1 | 4.75 | 0.171 | | | | 175 | | | | | | | | | |

$Q_h$

| 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 | 24 | | 423.47 | | | | | | | | | | | | |
| End of Reach 1 | 4.75 | | | | | | | | | | | | | | |

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Toxics Management Spreadsheet
Version 1.4, May 2023

# Model Results

**Zekelman Industries d/b/a Wheatland Tube, NPDES Permit No. PA0000868, Outfall 007**

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

☑ ***Hydrodynamics***

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

| RMI | Stream Flow (cfs) | PWS Withdrawal (cfs) | Net Stream Flow (cfs) | Discharge Analysis Flow (cfs) | Slope (ft/ft) | Depth (ft) | Width (ft) | W/D Ratio | Velocity (fps) | Travel Time (days) | Complete Mix Time (min) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 121.05 | | 121.05 | 0.774 | 0.00042 | 3. | 125. | 41.667 | 0.325 | 3.621 | 198.568 |
| 4.75 | 135.41 | 12.995 | 122.4192 | | | | | | | | |

$Q_h$

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 423.47 | | 423.47 | 0.774 | 0.00042 | 5.195 | 125. | 24.064 | 0.653 | 1.801 | 87.945 |
| 4.75 | 542.079 | 12.995 | 529.08 | | | | | | | | |

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.275 Analysis Hardness (mg/l): 79.848 Analysis pH: 7.70

| 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 | 33,009 | |
| Total Antimony | 0 | 0 | | 0 | 1,100 | 1,100 | 48,414 | |
| Total Arsenic | 0 | 0 | | 0 | 340 | 340 | 14,964 | Chem Translator of 1 applied |
| Total Barium | 0 | 0 | | 0 | 21,000 | 21,000 | 924,265 | |
| Total Boron | 0 | 0 | | 0 | 8,100 | 8,100 | 356,502 | |
| Total Cadmium | 0 | 0 | | 0 | 1.618 | 1.7 | 74.7 | Chem Translator of 0.953 applied |
| Total Chromium (III) | 0 | 0 | | 0 | 473.858 | 1,500 | 65,999 | Chem Translator of 0.316 applied |
| Hexavalent Chromium | 0 | 0 | | 0 | 16 | 16.3 | 717 | Chem Translator of 0.982 applied |
| Total Cobalt | 0 | 0 | | 0 | 95 | 95.0 | 4,181 | |
| Total Copper | 0 | 0 | | 0 | 10.871 | 11.3 | 498 | Chem Translator of 0.96 applied |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Free Cyanide | 0 | 0 | | 0 | 22 | 22.0 | 968 | |
| 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 | 50.504 | 61.3 | 2,698 | Chem Translator of 0.824 applied |
| Total Manganese | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Mercury | 0 | 0 | | 0 | 1.400 | 1.65 | 72.5 | Chem Translator of 0.85 applied |
| Total Nickel | 0 | 0 | | 0 | 387.061 | 388 | 17,070 | 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 | 2.184 | 2.57 | 113 | Chem Translator of 0.85 applied |
| Total Thallium | 0 | 0 | | 0 | 65 | 65.0 | 2,861 | |
| Total Zinc | 0 | 0 | | 0 | 96.837 | 99.0 | 4,358 | Chem Translator of 0.978 applied |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 132 | |
| Acrylamide | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acrylonitrile | 0 | 0 | | 0 | 650 | 650 | 28,608 | |
| Benzene | 0 | 0 | | 0 | 640 | 640 | 28,168 | |
| Bromoform | 0 | 0 | | 0 | 1,800 | 1,800 | 79,223 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 2,800 | 2,800 | 123,235 | |
| Chlorobenzene | 0 | 0 | | 0 | 1,200 | 1,200 | 52,815 | |
| Chlorodibromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | 18,000 | 18,000 | 792,227 | |
| Chloroform | 0 | 0 | | 0 | 1,900 | 1,900 | 83,624 | |
| Dichlorobromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 15,000 | 15,000 | 660,189 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | 7,500 | 7,500 | 330,095 | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 11,000 | 11,000 | 484,139 | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 310 | 310 | 13,644 | |
| Ethylbenzene | 0 | 0 | | 0 | 2,900 | 2,900 | 127,637 | |
| Methyl Bromide | 0 | 0 | | 0 | 550 | 550 | 24,207 | |
| Methyl Chloride | 0 | 0 | | 0 | 28,000 | 28,000 | 1,232,353 | |
| Methylene Chloride | 0 | 0 | | 0 | 12,000 | 12,000 | 528,151 | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 1,000 | 1,000 | 44,013 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 700 | 700 | 30,809 | |
| Toluene | 0 | 0 | | 0 | 1,700 | 1,700 | 74,821 | |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 6,800 | 6,800 | 299,286 | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 3,000 | 3,000 | 132,038 | |
| 1,1,2-Trichloroethane | 0 | 0 | | 0 | 3,400 | 3,400 | 149,643 | |
| Trichloroethylene | 0 | 0 | | 0 | 2,300 | 2,300 | 101,229 | |
| Vinyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chlorophenol | 0 | 0 | | 0 | 560 | 560 | 24,647 | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 1,700 | 1,700 | 74,821 | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 660 | 660 | 29,048 | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 80 | 80.0 | 3,521 | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 660 | 660 | 29,048 | |
| 2-Nitrophenol | 0 | 0 | | 0 | 8,000 | 8,000 | 352,101 | |
| 4-Nitrophenol | 0 | 0 | | 0 | 2,300 | 2,300 | 101,229 | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | 160 | 160 | 7,042 | |
| Pentachlorophenol | 0 | 0 | | 0 | 17.628 | 17.6 | 776 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 460 | 460 | 20,246 | |
| Acenaphthene | 0 | 0 | | 0 | 83 | 83.0 | 3,653 | |
| Anthracene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzidine | 0 | 0 | | 0 | 300 | 300 | 13,204 | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | 0.5 | 0.5 | 22.0 | |
| 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 | 1,320,378 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 4,500 | 4,500 | 198,057 | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | 270 | 270 | 11,883 | |
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | 140 | 140 | 6,162 | |
| 2-Chloronaphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chrysene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Dibenzo(a,h)Anthrancene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichlorobenzene | 0 | 0 | | 0 | 820 | 820 | 36,090 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 350 | 350 | 15,404 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 730 | 730 | 32,129 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 4,000 | 4,000 | 176,050 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 2,500 | 2,500 | 110,032 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 110 | 110 | 4,841 | |
| 2,4-Dinitrotoluene | 0 | 0 | | 0 | 1,600 | 1,600 | 70,420 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 990 | 990 | 43,572 | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 15 | 15.0 | 660 | |
| Fluoranthene | 0 | 0 | | 0 | 200 | 200 | 8,803 | |
| 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 | 440 | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | 5 | 5.0 | 220 | |
| Hexachloroethane | 0 | 0 | | 0 | 60 | 60.0 | 2,641 | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Isophorone | 0 | 0 | | 0 | 10,000 | 10,000 | 440,126 | |
| Naphthalene | 0 | 0 | | 0 | 140 | 140 | 6,162 | |
| Nitrobenzene | 0 | 0 | | 0 | 4,000 | 4,000 | 176,050 | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | 17,000 | 17,000 | 748,214 | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 300 | 300 | 13,204 | |
| Phenanthrene | 0 | 0 | | 0 | 5 | 5.0 | 220 | |
| Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 130 | 130 | 5,722 | |

☑ ***CFC*** CCT (min): ###### PMF: 1 Analysis Hardness (mg/l): 79.957 Analysis pH: 7.70

| 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 | 34,649 | |
| Total Arsenic | 0 | 0 | | 0 | 150 | 150 | 23,624 | Chem Translator of 1 applied |
| Total Barium | 0 | 0 | | 0 | 4,100 | 4,100 | 645,735 | |
| Total Boron | 0 | 0 | | 0 | 1,600 | 1,600 | 251,994 | |
| Total Cadmium | 0 | 0 | | 0 | 0.211 | 0.23 | 36.1 | Chem Translator of 0.918 applied |
| Total Chromium (III) | 0 | 0 | | 0 | 61.708 | 71.8 | 11,301 | Chem Translator of 0.86 applied |
| Hexavalent Chromium | 0 | 0 | | 0 | 10 | 10.4 | 1,637 | Chem Translator of 0.962 applied |
| Total Cobalt | 0 | 0 | | 0 | 19 | 19.0 | 2,992 | |
| Total Copper | 0 | 0 | | 0 | 7.398 | 7.71 | 1,214 | Chem Translator of 0.96 applied |
| Free Cyanide | 0 | 0 | | 0 | 5.2 | 5.2 | 819 | |
| Dissolved Iron | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Iron | 0 | 0 | | 0 | 1,500 | 1,500 | 236,245 | WQC = 30 day average; PMF = 1 |
| Total Lead | 0 | 0 | | 0 | 1.971 | 2.39 | 377 | Chem Translator of 0.824 applied |
| Total Manganese | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Mercury | 0 | 0 | | 0 | 0.770 | 0.91 | 143 | Chem Translator of 0.85 applied |
| Total Nickel | 0 | 0 | | 0 | 43.040 | 43.2 | 6,799 | 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 | 786 | 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 | 2,047 | |
| Total Zinc | 0 | 0 | | 0 | 97.743 | 99.1 | 15,613 | Chem Translator of 0.986 applied |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 472 | |
| Acrylamide | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acrylonitrile | 0 | 0 | | 0 | 130 | 130 | 20,475 | |
| Benzene | 0 | 0 | | 0 | 130 | 130 | 20,475 | |
| Bromoform | 0 | 0 | | 0 | 370 | 370 | 58,274 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 560 | 560 | 88,198 | |
| Chlorobenzene | 0 | 0 | | 0 | 240 | 240 | 37,799 | |
| Chlorodibromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | 3,500 | 3,500 | 551,238 | |
| Chloroform | 0 | 0 | | 0 | 390 | 390 | 61,424 | |
| Dichlorobromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 3,100 | 3,100 | 488,239 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | 1,500 | 1,500 | 236,245 | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 2,200 | 2,200 | 346,492 | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 61 | 61.0 | 9,607 | |
| Ethylbenzene | 0 | 0 | | 0 | 580 | 580 | 91,348 | |
| Methyl Bromide | 0 | 0 | | 0 | 110 | 110 | 17,325 | |
| Methyl Chloride | 0 | 0 | | 0 | 5,500 | 5,500 | 866,230 | |
| Methylene Chloride | 0 | 0 | | 0 | 2,400 | 2,400 | 377,991 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 210 | 210 | 33,074 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 140 | 140 | 22,050 | |
| Toluene | 0 | 0 | | 0 | 330 | 330 | 51,974 | |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 1,400 | 1,400 | 220,495 | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 610 | 610 | 96,073 | |
| 1,1,2-Trichloroethane | 0 | 0 | | 0 | 680 | 680 | 107,098 | |
| Trichloroethylene | 0 | 0 | | 0 | 450 | 450 | 70,873 | |
| Vinyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chlorophenol | 0 | 0 | | 0 | 110 | 110 | 17,325 | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 340 | 340 | 53,549 | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 130 | 130 | 20,475 | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 16 | 16.0 | 2,520 | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 130 | 130 | 20,475 | |
| 2-Nitrophenol | 0 | 0 | | 0 | 1,600 | 1,600 | 251,994 | |
| 4-Nitrophenol | 0 | 0 | | 0 | 470 | 470 | 74,023 | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | 500 | 500 | 78,748 | |
| Pentachlorophenol | 0 | 0 | | 0 | 13.524 | 13.5 | 2,130 | |
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 91 | 91.0 | 14,332 | |
| Acenaphthene | 0 | 0 | | 0 | 17 | 17.0 | 2,677 | |
| Anthracene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzidine | 0 | 0 | | 0 | 59 | 59.0 | 9,292 | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | 0.1 | 0.1 | 15.7 | |
| 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 | 944,979 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 910 | 910 | 143,322 | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | 54 | 54.0 | 8,505 | |
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | 35 | 35.0 | 5,512 | |
| 2-Chloronaphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chrysene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Dibenzo(a,h)Anthrancene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichlorobenzene | 0 | 0 | | 0 | 160 | 160 | 25,199 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 69 | 69.0 | 10,867 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 150 | 150 | 23,624 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 800 | 800 | 125,997 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 500 | 500 | 78,748 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 21 | 21.0 | 3,307 | |
| 2,4-Dinitrotoluene | 0 | 0 | | 0 | 320 | 320 | 50,399 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 200 | 200 | 31,499 | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 3 | 3.0 | 472 | |
| Fluoranthene | 0 | 0 | | 0 | 40 | 40.0 | 6,300 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 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 | 315 | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | 1 | 1.0 | 157 | |
| Hexachloroethane | 0 | 0 | | 0 | 12 | 12.0 | 1,890 | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Isophorone | 0 | 0 | | 0 | 2,100 | 2,100 | 330,743 | |
| Naphthalene | 0 | 0 | | 0 | 43 | 43.0 | 6,772 | |
| Nitrobenzene | 0 | 0 | | 0 | 810 | 810 | 127,572 | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | 3,400 | 3,400 | 535,488 | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 59 | 59.0 | 9,292 | |
| Phenanthrene | 0 | 0 | | 0 | 1 | 1.0 | 157 | |
| Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 26 | 26.0 | 4,095 | |

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

| 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 | 88,033,290 | WQC applied at RMI 4.75 with a design stream flow of 135.414 cfs |
| Chloride (PWS) | 0 | 0 | | 0 | 250,000 | 250,000 | 44,016,645 | WQC applied at RMI 4.75 with a design stream flow of 135.414 cfs |
| Sulfate (PWS) | 0 | 0 | | 0 | 250,000 | 250,000 | 44,016,645 | WQC applied at RMI 4.75 with a design stream flow of 135.414 cfs |
| Fluoride (PWS) | 0 | 0 | | 0 | 2,000 | 2,000 | 352,133 | WQC applied at RMI 4.75 with a design stream flow of 135.414 cfs |
| Total Aluminum | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Antimony | 0 | 0 | | 0 | 5.6 | 5.6 | 882 | |
| Total Arsenic | 0 | 0 | | 0 | 10 | 10.0 | 1,575 | |
| Total Barium | 0 | 0 | | 0 | 2,400 | 2,400 | 377,991 | |
| Total Boron | 0 | 0 | | 0 | 3,100 | 3,100 | 488,239 | |
| 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 | 4 | 4.0 | 630 | |
| Dissolved Iron | 0 | 0 | | 0 | 300 | 300 | 47,249 | |
| 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 | 157,496 | |
| Total Mercury | 0 | 0 | | 0 | 0.050 | 0.05 | 7.87 | |
| Total Nickel | 0 | 0 | | 0 | 610 | 610 | 96,073 | |
| Total Phenols (Phenolics) (PWS) | 0 | 0 | | 0 | 5 | 5.0 | 880 | WQC applied at RMI 4.75 with a design stream flow of 135.414 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 | 37.8 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Total Zinc | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 472 | |
| Acrylamide | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acrylonitrile | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bromoform | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Carbon Tetrachloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chlorobenzene | 0 | 0 | | 0 | 100 | 100.0 | 15,750 | |
| Chlorodibromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chloroform | 0 | 0 | | 0 | 5.7 | 5.7 | 898 | |
| 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 | 5,197 | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Ethylbenzene | 0 | 0 | | 0 | 68 | 68.0 | 10,710 | |
| Methyl Bromide | 0 | 0 | | 0 | 100 | 100.0 | 15,750 | |
| Methyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Methylene Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Tetrachloroethylene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Toluene | 0 | 0 | | 0 | 57 | 57.0 | 8,977 | |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 100 | 100.0 | 15,750 | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 10,000 | 10,000 | 1,574,964 | |
| 1,1,2-Trichloroethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Trichloroethylene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Vinyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chlorophenol | 0 | 0 | | 0 | 30 | 30.0 | 4,725 | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 10 | 10.0 | 1,575 | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 100 | 100.0 | 15,750 | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 2 | 2.0 | 315 | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 10 | 10.0 | 1,575 | |
| 2-Nitrophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 4-Nitrophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Pentachlorophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Phenol | 0 | 0 | | 0 | 4,000 | 4,000 | 629,986 | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acenaphthene | 0 | 0 | | 0 | 70 | 70.0 | 11,025 | |
| Anthracene | 0 | 0 | | 0 | 300 | 300 | 47,249 | |
| Benzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzo(a)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 3,4-Benzofluoranthene | 0 | 0 | | 0 | N/A | N/A | N/A | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Benzo(k)Fluoranthene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Chloroethyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | 200 | 200 | 31,499 | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | 0.1 | 0.1 | 15.7 | |
| 2-Chloronaphthalene | 0 | 0 | | 0 | 800 | 800 | 125,997 | |
| Chrysene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Dibenzo(a,h)Anthrancene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichlorobenzene | 0 | 0 | | 0 | 1,000 | 1,000 | 157,496 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 7 | 7.0 | 1,102 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 300 | 300 | 47,249 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 600 | 600 | 94,498 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 2,000 | 2,000 | 314,993 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 20 | 20.0 | 3,150 | |
| 2,4-Dinitrotoluene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Fluoranthene | 0 | 0 | | 0 | 20 | 20.0 | 3,150 | |
| Fluorene | 0 | 0 | | 0 | 50 | 50.0 | 7,875 | |
| Hexachlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachlorobutadiene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | 4 | 4.0 | 630 | |
| Hexachloroethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Isophorone | 0 | 0 | | 0 | 34 | 34.0 | 5,355 | |
| Naphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Nitrobenzene | 0 | 0 | | 0 | 10 | 10.0 | 1,575 | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Phenanthrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Pyrene | 0 | 0 | | 0 | 20 | 20.0 | 3,150 | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 0.07 | 0.07 | 11.0 | |

☑ ***CRL*** CCT (min): 87.945 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 | |
| Acrylamide | 0 | 0 | | 0 | 0.07 | 0.07 | 38.4 | |
| Acrylonitrile | 0 | 0 | | 0 | 0.06 | 0.06 | 32.9 | |
| Benzene | 0 | 0 | | 0 | 0.58 | 0.58 | 318 | |
| Bromoform | 0 | 0 | | 0 | 7 | 7.0 | 3,839 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 0.4 | 0.4 | 219 | |
| Chlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chlorodibromomethane | 0 | 0 | | 0 | 0.8 | 0.8 | 439 | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chloroform | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Dichlorobromomethane | 0 | 0 | | 0 | 0.95 | 0.95 | 521 | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 9.9 | 9.9 | 5,430 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 0.9 | 0.9 | 494 | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 0.27 | 0.27 | 148 | |
| Ethylbenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Methyl Bromide | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Methyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Methylene Chloride | 0 | 0 | | 0 | 20 | 20.0 | 10,969 | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 0.2 | 0.2 | 110 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 10 | 10.0 | 5,485 | |
| Toluene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | N/A | N/A | N/A | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloroethane | 0 | 0 | | 0 | 0.55 | 0.55 | 302 | |
| Trichloroethylene | 0 | 0 | | 0 | 0.6 | 0.6 | 329 | |
| Vinyl Chloride | 0 | 0 | | 0 | 0.02 | 0.02 | 11.0 | |
| 2-Chlorophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Nitrophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 4-Nitrophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Pentachlorophenol | 0 | 0 | | 0 | 0.030 | 0.03 | 16.5 | |
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 1.5 | 1.5 | 823 | |
| Acenaphthene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Anthracene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzidine | 0 | 0 | | 0 | 0.0001 | 0.0001 | 0.055 | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | 0.001 | 0.001 | 0.55 | |
| Benzo(a)Pyrene | 0 | 0 | | 0 | 0.0001 | 0.0001 | 0.055 | |
| 3,4-Benzofluoranthene | 0 | 0 | | 0 | 0.001 | 0.001 | 0.55 | |
| Benzo(k)Fluoranthene | 0 | 0 | | 0 | 0.01 | 0.01 | 5.48 | |
| Bis(2-Chloroethyl)Ether | 0 | 0 | | 0 | 0.03 | 0.03 | 16.5 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 0.32 | 0.32 | 176 | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chloronaphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chrysene | 0 | 0 | | 0 | 0.12 | 0.12 | 65.8 | |
| Dibenzo(a,h)Anthrancene | 0 | 0 | | 0 | 0.0001 | 0.0001 | 0.055 | |
| 1,2-Dichlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | 0.05 | 0.05 | 27.4 | |
| 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 | 27.4 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 0.05 | 0.05 | 27.4 | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 0.03 | 0.03 | 16.5 | |
| Fluoranthene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Fluorene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachlorobenzene | 0 | 0 | | 0 | 0.00008 | 0.00008 | 0.044 | |
| Hexachlorobutadiene | 0 | 0 | | 0 | 0.01 | 0.01 | 5.48 | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachloroethane | 0 | 0 | | 0 | 0.1 | 0.1 | 54.8 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | 0.001 | 0.001 | 0.55 | |
| Isophorone | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Naphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Nitrobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | 0.0007 | 0.0007 | 0.38 | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | 0.005 | 0.005 | 2.74 | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 3.3 | 3.3 | 1,810 | |
| 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 | |

☑ ***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 |
| Acrylamide | 0.16 | 0.25 | 38.4 | 59.9 | 96.0 | µg/L | 38.4 | CRL | Discharge Conc ≥ 50% WQBEL (RP) |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
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| | | | | | | | | | |

☑ ***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) | 88,033 | mg/L | Discharge Conc ≤ 10% WQBEL |
| Chloride (PWS) | 44,017 | mg/L | Discharge Conc ≤ 10% WQBEL |
| Bromide | N/A | N/A | No WQS |
| Sulfate (PWS) | 44,017 | mg/L | Discharge Conc ≤ 10% WQBEL |
| Fluoride (PWS) | N/A | N/A | Discharge Conc < TQL |
| Total Aluminum | 21,158 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Antimony | N/A | N/A | Discharge Conc < TQL |
| Total Arsenic | 1,575 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Barium | 377,991 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Beryllium | N/A | N/A | No WQS |
| Total Boron | 228,503 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Cadmium | 36.1 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Chromium (III) | 11,301 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Hexavalent Chromium | 460 | µg/L | Discharge Conc ≤ 10% WQBEL |

| | | | |
|---|---|---|---|
| Total Cobalt | 2,680 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Copper | 319 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Free Cyanide | 621 | µg/L | Discharge Conc ≤ 25% WQBEL |
| Total Cyanide | N/A | N/A | No WQS |
| Dissolved Iron | 47,249 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Iron | 236,245 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Lead | 377 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Manganese | 157,496 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Mercury | 7.87 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Nickel | 6,799 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Phenols (Phenolics) (PWS) | 880 | µg/L | Discharge Conc < TQL |
| Total Selenium | 786 | µg/L | Discharge Conc < TQL |
| Total Silver | 72.5 | µg/L | Discharge Conc < TQL |
| Total Thallium | 37.8 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Zinc | 2,793 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Molybdenum | N/A | N/A | No WQS |
| Acrolein | 84.6 | µg/L | Discharge Conc < TQL |
| Acrylonitrile | 32.9 | µg/L | Discharge Conc < TQL |
| Benzene | 318 | µg/L | Discharge Conc < TQL |
| Bromoform | 3,839 | µg/L | Discharge Conc < TQL |
| Carbon Tetrachloride | 219 | µg/L | Discharge Conc < TQL |
| Chlorobenzene | 15,750 | µg/L | Discharge Conc < TQL |
| Chlorodibromomethane | 439 | µg/L | Discharge Conc < TQL |
| Chloroethane | N/A | N/A | No WQS |
| 2-Chloroethyl Vinyl Ether | 507,786 | µg/L | Discharge Conc < TQL |
| Chloroform | 898 | µg/L | Discharge Conc < TQL |
| Dichlorobromomethane | 521 | µg/L | Discharge Conc < TQL |
| 1,1-Dichloroethane | N/A | N/A | No WQS |
| 1,2-Dichloroethane | 5,430 | µg/L | Discharge Conc < TQL |
| 1,1-Dichloroethylene | 5,197 | µg/L | Discharge Conc < TQL |
| 1,2-Dichloropropane | 494 | µg/L | Discharge Conc < TQL |
| 1,3-Dichloropropylene | 148 | µg/L | Discharge Conc < TQL |
| 1,4-Dioxane | N/A | N/A | No WQS |
| Ethylbenzene | 10,710 | µg/L | Discharge Conc < TQL |
| Methyl Bromide | 15,516 | µg/L | Discharge Conc < TQL |
| Methyl Chloride | 789,889 | µg/L | Discharge Conc < TQL |
| Methylene Chloride | 10,969 | µg/L | Discharge Conc < TQL |
| 1,1,2,2-Tetrachloroethane | 110 | µg/L | Discharge Conc < TQL |
| Tetrachloroethylene | 5,485 | µg/L | Discharge Conc < TQL |
| Toluene | 8,977 | µg/L | Discharge Conc < TQL |
| 1,2-trans-Dichloroethylene | 15,750 | µg/L | Discharge Conc < TQL |
| 1,1,1-Trichloroethane | 84,631 | µg/L | Discharge Conc < TQL |
| 1,1,2-Trichloroethane | 302 | µg/L | Discharge Conc < TQL |
| Trichloroethylene | 329 | µg/L | Discharge Conc < TQL |
| Vinyl Chloride | 11.0 | µg/L | Discharge Conc < TQL |

| | | | |
|---|---|---|---|
| 2-Chlorophenol | 4,725 | µg/L | Discharge Conc < TQL |
| 2,4-Dichlorophenol | 1,575 | µg/L | Discharge Conc < TQL |
| 2,4-Dimethylphenol | 15,750 | µg/L | Discharge Conc < TQL |
| 4,6-Dinitro-o-Cresol | 315 | µg/L | Discharge Conc < TQL |
| 2,4-Dinitrophenol | 1,575 | µg/L | Discharge Conc < TQL |
| 2-Nitrophenol | 225,682 | µg/L | Discharge Conc < TQL |
| 4-Nitrophenol | 64,884 | µg/L | Discharge Conc < TQL |
| p-Chloro-m-Cresol | 4,514 | µg/L | Discharge Conc < TQL |
| Pentachlorophenol | 16.5 | µg/L | Discharge Conc < TQL |
| Phenol | 629,986 | µg/L | Discharge Conc < TQL |
| 2,4,6-Trichlorophenol | 823 | µg/L | Discharge Conc < TQL |
| Acenaphthene | 2,341 | µg/L | Discharge Conc < TQL |
| Acenaphthylene | N/A | N/A | No WQS |
| Anthracene | 47,249 | µg/L | Discharge Conc < TQL |
| Benzidine | 0.055 | µg/L | Discharge Conc < TQL |
| Benzo(a)Anthracene | 0.55 | µg/L | Discharge Conc < TQL |
| Benzo(a)Pyrene | 0.055 | µg/L | Discharge Conc < TQL |
| 3,4-Benzofluoranthene | 0.55 | µg/L | Discharge Conc < TQL |
| Benzo(ghi)Perylene | N/A | N/A | No WQS |
| Benzo(k)Fluoranthene | 5.48 | µg/L | Discharge Conc < TQL |
| Bis(2-Chloroethoxy)Methane | N/A | N/A | No WQS |
| Bis(2-Chloroethyl)Ether | 16.5 | µg/L | Discharge Conc < TQL |
| Bis(2-Chloroisopropyl)Ether | 31,499 | µg/L | Discharge Conc < TQL |
| Bis(2-Ethylhexyl)Phthalate | 176 | µg/L | Discharge Conc ≤ 25% WQBEL |
| 4-Bromophenyl Phenyl Ether | 7,617 | µg/L | Discharge Conc < TQL |
| Butyl Benzyl Phthalate | 15.7 | µg/L | Discharge Conc < TQL |
| 2-Chloronaphthalene | 125,997 | µg/L | Discharge Conc < TQL |
| 4-Chlorophenyl Phenyl Ether | N/A | N/A | No WQS |
| Chrysene | 65.8 | µg/L | Discharge Conc < TQL |
| Dibenzo(a,h)Anthrancene | 0.055 | µg/L | Discharge Conc < TQL |
| 1,2-Dichlorobenzene | 23,132 | µg/L | Discharge Conc < TQL |
| 1,3-Dichlorobenzene | 1,102 | µg/L | Discharge Conc < TQL |
| 1,4-Dichlorobenzene | 20,594 | µg/L | Discharge Conc < TQL |
| 3,3-Dichlorobenzidine | 27.4 | µg/L | Discharge Conc < TQL |
| Diethyl Phthalate | 94,498 | µg/L | Discharge Conc < TQL |
| Dimethyl Phthalate | 70,526 | µg/L | Discharge Conc < TQL |
| Di-n-Butyl Phthalate | 3,103 | µg/L | Discharge Conc ≤ 25% WQBEL |
| 2,4-Dinitrotoluene | 27.4 | µg/L | Discharge Conc < TQL |
| 2,6-Dinitrotoluene | 27.4 | µg/L | Discharge Conc < TQL |
| Di-n-Octyl Phthalate | N/A | N/A | No WQS |
| 1,2-Diphenylhydrazine | 16.5 | µg/L | Discharge Conc < TQL |
| Fluoranthene | 3,150 | µg/L | Discharge Conc < TQL |
| Fluorene | 7,875 | µg/L | Discharge Conc < TQL |
| Hexachlorobenzene | 0.044 | µg/L | Discharge Conc < TQL |
| Hexachlorobutadiene | 5.48 | µg/L | Discharge Conc < TQL |

| | | | |
|---|---|---|---|
| Hexachlorocyclopentadiene | 141 | µg/L | Discharge Conc < TQL |
| Hexachloroethane | 54.8 | µg/L | Discharge Conc < TQL |
| Indeno(1,2,3-cd)Pyrene | 0.55 | µg/L | Discharge Conc < TQL |
| Isophorone | 5,355 | µg/L | Discharge Conc < TQL |
| Naphthalene | 3,949 | µg/L | Discharge Conc < TQL |
| Nitrobenzene | 1,575 | µg/L | Discharge Conc < TQL |
| n-Nitrosodimethylamine | 0.38 | µg/L | Discharge Conc < TQL |
| n-Nitrosodi-n-Propylamine | 2.74 | µg/L | Discharge Conc < TQL |
| n-Nitrosodiphenylamine | 1,810 | µg/L | Discharge Conc < TQL |
| Phenanthrene | 141 | µg/L | Discharge Conc < TQL |
| Pyrene | 3,150 | µg/L | Discharge Conc < TQL |
| 1,2,4-Trichlorobenzene | 11.0 | µg/L | Discharge Conc < TQL |

# ATTACHMENT D

# Cooling Water Intake Structure Evaluation and Drawings

## Clean Water Act Section 316(b) – Best Technology Available for Cooling Water Intake Structures

On August 15, 2014, EPA promulgated Clean Water Act Section 316(b) regulations that apply to cooling water intake structures at existing facilities. The regulations established best technology available (BTA) standards to reduce impingement mortality and entrainment of all life stages of fish and shellfish at existing power-generating and manufacturing facilities. The Final Rule took effect on October 14, 2014. Regulations implementing the 2014 Final Rule (and the previously promulgated Phase I Rule) are provided in 40 CFR part 125, Subparts I and J for new facilities and existing facilities, respectively. Associated NPDES permit application requirements for facilities with cooling water intake structures are provided in 40 CFR Part 122, Subpart B – Permit Application and Special NPDES Program Requirements (§ 122.21(r)).

Section 316(b) of the Clean Water Act (33 U.S.C. § 1326(b)) states:

> (b) Any standard established pursuant to section 301 or section 306 of this Act and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact.

EPA's "Technical Development Document for the Final Section 316(b) Existing Facilities Rule" [EPA-821-R-14-002] dated May 2014 explains Section 316(b) as follows:

> Section 316(b) addresses the adverse environmental impact caused specifically by the intake of cooling water, rather than discharges into water. Despite this special focus, the requirements of section 316(b) remain closely linked to several of the core elements of the NPDES permit program established under section 402 of the CWA to control discharges of pollutants into navigable waters. Thus, while effluent limitations apply to the discharge of pollutants by NPDES-permitted point sources to waters of the United States, section 316(b) applies to facilities subject to NPDES requirements that also withdraw water from a water of the United States for cooling and that use a cooling water intake structure to do so.

Existing facilities are subject to 40 CFR part 125, Subpart J – Requirements Applicable to Cooling Water Intake Structures for Existing Facilities Under Section 316(b) of the Clean Water Act (§§ 125.90 – 125.99) pursuant, in part, to the applicability criteria given by § 125.91(a) as follows:

> (a) The owner or operator of an existing facility, as defined in § 125.92(k), is subject to the requirements at §§ 125.94 through 125.99 if:
>
> (1) The facility is a point source;
>
> (2) The facility uses or proposes to use one or more cooling water intake structures with a cumulative design intake flow (DIF) of greater than 2 million gallons per day (mgd) to withdraw water from waters of the United States; and
>
> (3) Twenty-five percent or more of the water the facility withdraws on an actual intake flow basis is used exclusively for cooling purposes.

"Existing facility" is defined in § 125.92(k) as follows:

> (k) *Existing facility* means any facility that commenced construction as described in 40 CFR 122.29(b)(4) on or before January 17, 2002 (or July 17, 2006 for an offshore oil and gas extraction facility) and any modification of, or any addition of a unit at such a facility. A facility built adjacent to another facility would be a new facility while the original facility would remain as an existing facility for purposes of this subpart. A facility cannot both be an existing facility and a new facility as defined at § 125.83.

"Cooling water intake structure" is defined in § 125.92(f) as follows:

> (f) *Cooling water intake structure* means the total physical structure and any associated constructed waterways used to withdraw cooling water from waters of the United States. The cooling water intake structure extends from the point at which water is first withdrawn from waters of the United States up to, and including the intake pumps.

"Design intake flow" (DIF) is defined in § 125.92(g) as follows:

> (g) *Design intake flow* (DIF) means the value assigned during the cooling water intake structure design to the maximum instantaneous rate of flow of water the cooling water intake system is capable of withdrawing from a

source waterbody. The facility's DIF may be adjusted to reflect permanent changes to the maximum capabilities of the cooling water intake system to withdraw cooling water, including pumps permanently removed from service, flow limit devices, and physical limitations of the piping. DIF does not include values associated with emergency and fire suppression capacity or redundant pumps (*i.e.*, back-up pumps).

"Actual intake flow" (AIF) is defined in § 125.92(a) as follows:

(a) *Actual Intake Flow* means the average volume of water withdrawn on an annual basis by the cooling water intake structures over the past three years. After October 14, 2019, Actual Intake Flow means the average volume of water withdrawn on an annual basis by the cooling water intake structures over the previous five years. Actual intake flow is measured at a location within the cooling water intake structure that the Director deems appropriate. The calculation of actual intake flow includes days of zero flow. AIF does not include flows associated with emergency and fire suppression capacity.

The NPDES permit application instructions require existing facilities that meet the 40 CFR § 125.91(a) applicability criteria to submit Module 5 of the application, which includes, among other things, prompts for the following information in accordance with 40 CFR § 122.21(r) (regarding permit application requirements for facilities with cooling water intake structures): source water physical data, cooling water intake structure data, source water baseline biological characterization data, cooling water system data, the applicant's chosen method of compliance with impingement mortality standard, entrainment performance studies, and operational status.

WTC is an existing facility (constructed in the late 1920s and beginning operation in 1931 as the John Maneely Company) and is a "point source" as defined in 40 CFR § 122.2. The facility's point sources are permitted by NPDES Permit PA0000868.[9] WTC owns and operates a cooling water intake structure (CWIS) that withdraws cooling water from the Shenango River. WTC was not subject to any 316(b) requirements in previous permits. WTC submitted drawings and basic information about its CWIS in the 2025 Application Update reporting a DIF of 2.9 MGD and an Actual Intake Flow of 0.037 MGD with 100% of the withdrawn water used for cooling. The intake consists of a forebay containing two stainless steel traveling screens with ⅛-inch diameter holes and a hole spacing of 3/16 inches on-center. The forebay is protected by a 15.5-foot × 14-foot mesh trash screen with 6-inch × 6-inch square openings and ¾-inch diameter rods. The trash screen is angled away from the direction of flow in the Shenango River.

**Figure 9. Intake pumps.**

**DEP Compliance Evaluation Inspection, February 2, 2025.**

On September 10, 2025, based on the reported characteristics of WTC's CWIS, DEP requested WTC to submit Module 5 of the application. Alternatively, DEP suggested that WTC modify its CWIS to reduce the DIF to less than 2.0 MGD given the low reported utilization of the intake's capacity (0.037 MGD actual versus 2.9 MGD design). Reducing the DIF would remove the obligation for WTC to submit Module 5 and enable an alternative, less data-intensive, site-specific BTA determination for impingement and entrainment at WTC's CWIS.

In DEP's correspondence with WTC, WTC indicated that the intake pump (with one standby pump) is a vertical turbine centrifugal pump operating at a constant pressure of 50 psig rather than a constant flowrate. At most, the header can supply 1,600 gpm with no restrictions, but WTC significantly reduces the header to supply various outlets at their desired flowrates.

To address uncertainties about the intake's withdrawal capabilities, WTC installed a new flow meter in November 2025 to verify the CWIS's maximum flow rate and to gather flow data representing normal operations. With full flow through the supply pipe, WTC observed a maximum reading on the new flow meter of 1,075 gpm (approximately 1.55 MGD). The average flow from a limited period of operation after the flow meter was installed was 765 gpm (approximately 1.10 MGD). The revised flow values were reported to DEP in application revisions submitted on December 11 and 12, 2025.

[9] *Point source* means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged.

**Figure 7. Trash screen (right) and traveling screens (left). DEP 2021 Inspection Report.**


**Figure 8. Trash screen (right) and traveling screens (left). DEP's 2025 Inspection Report.**

Based on regulations implementing section 316(b) in 40 CFR part 125, Subpart J and the characteristics of WTC's intake as reported to DEP in December 2025, WTC is not subject to the requirements listed in 40 CFR §§ 125.94 through 125.99 because the DIF of WTC's CWIS does not meet the 2.0 MGD DIF applicability threshold in § 125.91(a). An existing facility must meet all three applicability criteria under § 125.91(a) to be subject to the requirements of §§ 125.94 through 125.99. Even though WTC is not subject those regulatory requirements, WTC is subject to site-specific BTA requirements for impingement mortality and entrainment minimization established by DEP using Best Professional Judgement pursuant to § 125.90(b). Section 125.90(b) states:

> (b) Cooling water intake structures not subject to requirements under §§125.94 through 125.99 or subparts I or N of this part [because they do not meet one or more of the applicability criteria in § 125.91(a)] must meet requirements under section 316(b) of the CWA established by the Director on a case-by-case, best professional judgment (BPJ) basis.

Best Professional Judgement ("BPJ") of Best Technology Available for Impingement Minimization

DEP's "Standard Operating Procedure (SOP) for Clean Water Program, Establishing Best Technology Available (BTA) Using Best Professional Judgement (BPJ) for Cooling Water Intake Structures at Existing NPDES Facilities" [SOP No. BCW-PMT-038, 12/7/2021] describes the procedures DEP uses to make BPJ BTA determinations for existing CWISs.

Pursuant to Section II.A of the SOP, facilities that have one or more of the following technologies or best management practices has BTA for impingement mortality:

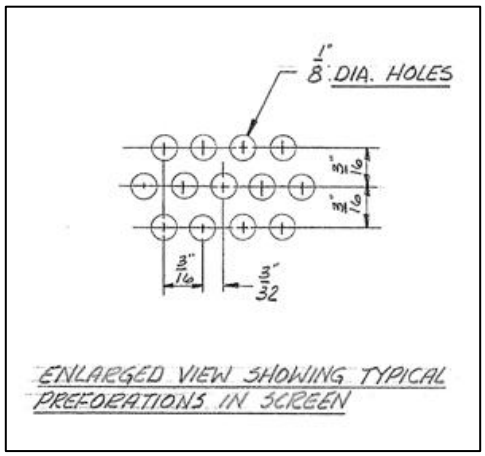
1. Closed-cycle recirculating system.
2. 0.5 foot per second (fps) through-screen design velocity.
3. 0.5 fps through-screen actual velocity.
4. Modified Traveling Screens with a fish handling and return system with sufficient water flow to return the fish directly to the source water in a manner that does not promote reimpingement of the fish or require a large vertical drop.

In addition, pursuant to Section II.B of the SOP, facilities that have one or more of the following technologies or best management practices has BTA for entrainment:

1. Closed-cycle recirculating system.
2. The actual intake flow (AIF) is minimal compared to the mean annual flow of the river. For cases where this option is being used, cumulative withdrawals from nearby facilities should be considered. The application manager may contact the Bureau of Clean Water to determine if this option is applicable.
3. Seasonal flow reductions - If a facility can reduce flows to mimic closed cycle cooling during spawning and biologically important time periods.

BPJ of BTA for Impingement

Based on information supplied by WTC, DEP estimates the design through-screen velocity to be 0.22 feet per second. DEP's calculations are summarized below.




WTC Drawing 4681 depicts the perforations on the traveling screen to be offset, 1/8-inch diameter round holes with an on-center spacing of 3/16 inches. The open area percentage of the screen is estimated using the following formula:

$$P = \frac{D^2 \times 90.69}{T^2}$$

where:
P = screen open area percentage
D = hole diameter (1/8 inches or 0.125")
T = distance between hole centers (3/16 inches or 0.1875")

Based on the reported screen perforations, the open area percentage of the traveling screens is 40.3%, calculated as follows:

$$P = \frac{(0.125)^2 \times 90.69}{(0.1875)^2} = 40.3\%$$

The maximum (design) through screen velocity is calculated using the following formula:

$$V = \frac{Q}{(A \times P)}$$

where:

V = maximum (design) through-screen intake velocity
Q = maximum (design) intake flow (1.55 MGD or 2.398 cfs)
A = wetted area of the traveling screens at the lowest river elevation
P = screen open area percentage (40.3%)

The wetted area of the traveling screens is estimated from WTC Drawings 4254 and 4255. Drawing 4255 shows a low water elevation of -16'-3" and a riverbed elevation of -19'-6", which is a difference of 3-feet, 3-inches or 3.25 feet. Theoretically, that is the submerged depth of the traveling screens at low flow.[10] Drawing 4254 show a traveling screen width of 2 × (2'-1") for each screen (50 inches wide per screen) or 100 inches (8.33 feet) total for both screens operating. The wetted area of the screens at the lowest river elevation would be: 3.25 feet × 8.33 feet = 27.1 square feet.

Based on those values, the maximum (design) through-screen intake velocity is 0.22 feet per second.

$$V = \frac{2.398 \text{ ft}^3}{(27.1 \text{ ft}^2 \times 0.403)} \approx 0.22 \text{ feet per second}$$

A through-screen design velocity of 0.22 fps complies with Impingement BTA Option 2 because the velocity is less than 0.5 fps.

BPJ of BTA for Entrainment

Of the three entrainment BTA options in the SOP, WTC complies with Entrainment BTA Option 2 where the actual intake flow is minimal compared to the mean annual flow of the Shenango River.

In the 2014 Existing Facilities Final Rule (79 FR 48331), EPA states that "[e]ntrainment is generally considered to be proportional to flow and therefore a reduction in flow results in a proportional reduction in entrainment, as EPA assumes for purposes of national rulemaking that entrainable organisms are uniformly distributed throughout the source water. EPA has consistently applied this assumption throughout the 316(b) rulemaking process and continues to assume that it is broadly applicable on a national scale and is an appropriate assumption for a national rulemaking."

Under 40 CFR Part 125, Subpart I – Requirements Applicable to Cooling Water Intake Structures for New Facilities Under Section 316(b) of the Act, EPA required all new facilities with cooling water intake structures located in freshwater rivers or streams to have a total design intake flow of no greater than five (5) percent of the source water mean flow. EPA's review of existing facility performance in the context of the 2001 New Facilities Final Rule indicated that 90% of existing facilities in freshwater rivers and streams met that requirement. EPA found that the proportional flow limitations represent limitations on capacity and location that are technically available and economically practicable for the industry as a whole. Consistent with EPA's assumption regarding the distribution of entrainable organisms, the five percent value for rivers and streams reflects an estimate that a facility complying with that requirement would entrain approximately five percent of the river or stream's entrainable organisms and a policy judgment that a greater degree of entrainment reflects an inappropriately located facility. (66 FR 65277)

Based on that information, it is reasonable to conclude that 1) withdrawing five percent or less of a source water's mean annual flow (and, by extension, five percent or less of a source water's entrainable organisms) represents Best Technology Available for entrainment at new facilities; and 2) existing facilities with a design intake flow of 2 MGD or less (*i.e.*, facilities eligible for a case-by-case BTA determination) that do not exceed the same proportion of a source water's mean annual flow also have BTA for entrainment.

[10] WTC Drawing 4255 that depicts relative high and low water elevations (from which DEP estimated the wetted depth of the traveling screens) is dated May 14, 1963, which predates the beginning of flow regulation in the Shenango River from the construction of the Shenango Dam in 1967. Therefore, the wetted depth and wetted area of the traveling screens and the maximum through screen velocity calculated using the wetted area of the traveling screens may differ from what DEP determined from that drawing.

The AIF of WTC's intake is 1.10 MGD (about 1.7 cfs), which is approximately 0.4% of the harmonic mean flow of the Shenango River (423.47 cfs) and about 0.2% of the arithmetic mean flow of the Shenango River (884.1 cfs). The DIF of WTC's intake (1.55 MGD or 2.398 cfs) is about 0.6% of the harmonic mean flow of the Shenango River and about 0.3% of the arithmetic mean flow of the Shenango River. Even at $Q_{7-10}$ flow in the Shenango River (a significantly more conservative flow rate), WTC's DIF represents about 2% of the flow of the Shenango River, which is less than the 5% standard for new facilities. Since WTC's AIF (and DIF) is minimal compared to the mean annual flow of the Shenango River, and there are no other withdrawals from nearby facilities that would increase to total percentage of mean annual flow withdrawn from the river, DEP has determined that WTC complies with entrainment BTA Option 2.

The SOP indicates that when entrainment BTA Option 2 is selected, a monitoring requirement for flow should be included in the permit. DEP considers the requirement to monitoring intake flows to be reasonable irrespective of the fact that the DIF of the CWIS also is minimal compared to the mean annual flow of the river.

The permit will limit WTC's Actual Intake Flow to 1% of the mean annual flow of the Shenango River.

The following conditions will be included in the permit to implement § 316(b) requirements.

**COOLING WATER INTAKE STRUCTURE**

A. Nothing in this permit authorizes a take of endangered or threatened species under the Endangered Species Act.

B. Technology and operational measures employed at the cooling water intake structures must be operated in a way that minimizes impingement mortality and entrainment to the smallest amount, extent, or degree reasonably possible.

C. The location, design, construction or capacity of the intake structure may not be altered without prior approval of DEP.

D. The permittee must notify DEP before changing its source of cooling water.

E. The permittee shall retain data and other records for any information developed pursuant to Section 316(b) of the Clean Water Act for a minimum of ten (10) years.

F. Throughout the permit term, the permittee shall continue to operate and maintain the following technologies or BMPs that constitute Best Technology Available (BTA) for reducing impingement:

- 0.5 foot per second (fps) through-screen design velocity.

G. Throughout the permit term, the permittee shall continue to operate and maintain the following technologies or BMPs that constitute Best Technology Available (BTA) for reducing entrainment:

- Maintenance of actual intake flow of 1% or less of the mean annual flow of the surface waters. The permittee shall monitor intake flows daily. The data shall be submitted on the Cooling Water Intake Monitoring Supplemental Report (3800-FM-BCW0010) as an attachment to monthly Discharge Monitoring Reports (DMRs).

<u>Trash Discharge Trough</u>

WTC Drawing 4254 and **Figures 7** and **8** in this Fact Sheet show a trash discharge trough running from the traveling screens back to the Shenango River. Discharges of trash or debris from the intake screen would violate narrative water quality criteria and corresponding prohibitions under 25 Pa. Code §§ 93.6 and 92a.41(c), respectively, which state:

§ 93.6. General water quality criteria

(a) Water may not contain substances attributable to point or nonpoint source discharges in concentration or amounts sufficient to be inimical or harmful to the water uses to be protected or to human, animal, plant or aquatic life.

(b) In addition to other substances listed within or addressed by this chapter, specific substances to be controlled include, but are not limited to, floating materials, oil, grease, scum and substances that produce color, tastes, odors, turbidity or settle to form deposits.

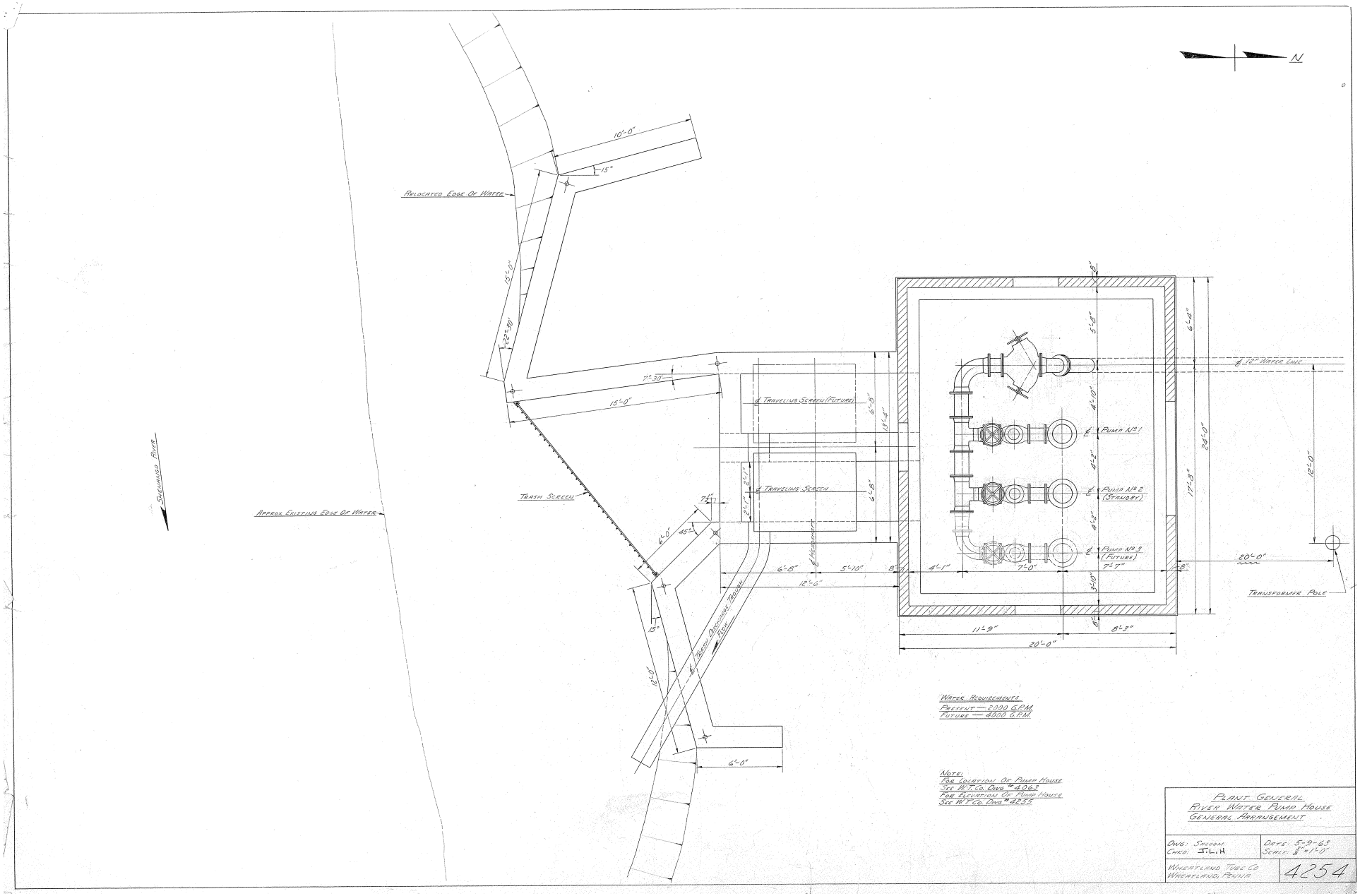
§ 92a.41. Conditions applicable to all permits.

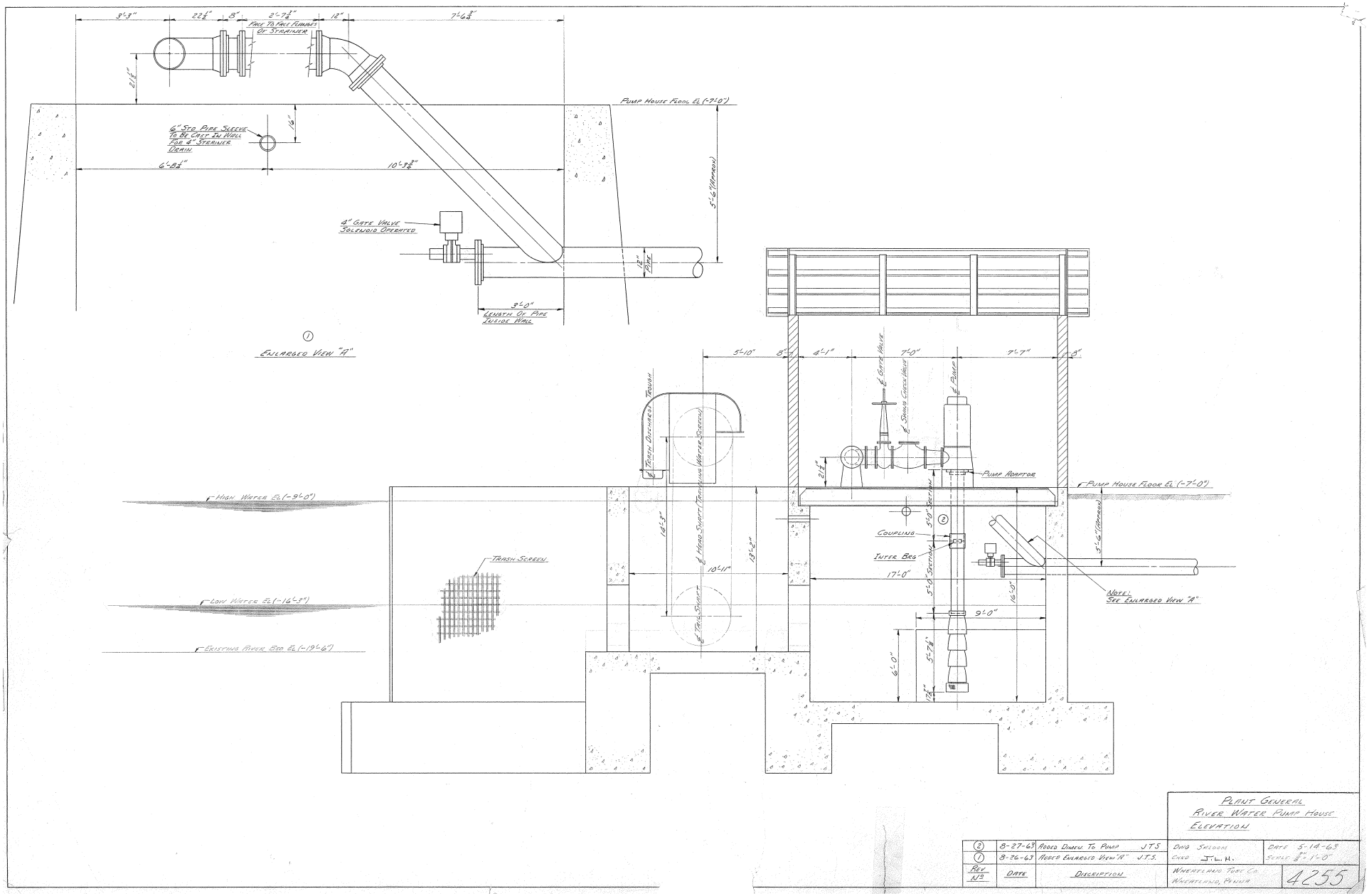
(c) The discharger may not discharge floating materials, scum, sheen, or substances that result in deposits in the receiving water. Except as provided for in the permit, the discharger may not discharge foam, oil, grease, or substances that produce an observable change in the color, taste, odor or turbidity of the receiving water.

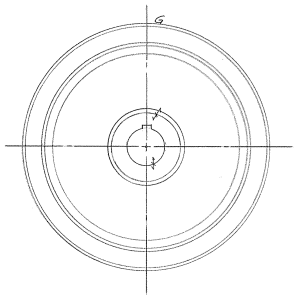
Based on those requirements, the following permit condition (in addition to the § 92a.41(c) condition cited above, which is included in all NPDES permits) will be imposed in Part C of the permit to ensure protection of narrative water quality criteria:

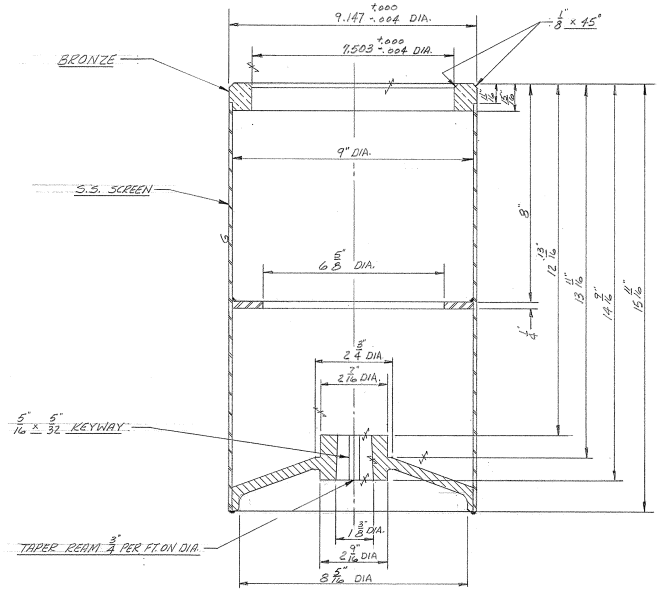
"Trash and other debris physically or mechanically removed from the intake screens shall not be returned to the surface waters."

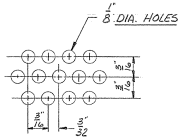
WTC must make any modifications to the intake structure necessary to ensure compliance with the prohibition on discharging trash/debris back to the Shenango River.


N
RELOCATED EDGE OF WATER
APPROX EXISTING EDGE OF WATER
SCHUYLKILL RIVER
TRASH SCREEN
℄ TRAVELING SCREEN (FUTURE)
℄ TRAVELING SCREEN
℄ SCREEN OPERATING TROLLEY
PUMP No 1
PUMP No 2 (STANDBY)
PUMP No 3 (FUTURE)
℄ 18" WATER LINE
TRANSFORMER POLE
WATER REQUIREMENTS
PRESENT — 2000 G.P.M.
FUTURE — 4000 G.P.M.
NOTE:
FOR LOCATION OF PUMP HOUSE SEE W.T.Co. DWG #4063
FOR ELEVATION OF PUMP HOUSE SEE W.T.Co. DWG #3255
PLANT GENERAL
RIVER WATER PUMP HOUSE
GENERAL ARRANGEMENT
DWG: SMOOM
CHKD: J.L.H
DATE: 5-9-63
SCALE: 1/8"=1'-0"
WHEATLAND TUBE CO
WHEATLAND, PENNA
4254


3'-3"
22½"
8"
2'-7⅞"
FACE TO FACE FLANGES OF STRAINER
12"
7'-4⅜"
PUMP HOUSE FLOOR EL (-7'-0")
6" STD PIPE SLEEVE TO BE CAST IN WALL FOR 4" STRAINER DRAIN
16"
6'-8½"
10'-7⅞"
3'-6" (APPROX.)
4" GATE VALVE SOLENOID OPERATED
12" PIPE
3'-0"
LENGTH OF PIPE INSIDE WALL
1
ENLARGED VIEW "A"
5'-10"
8"
4'-1"
7'-0"
7'-7"
8"
12" TRASH DISCHARGE TROUGH
12" GATE VALVE
12" SWING CHECK VALVE
12" PUMP
21½"
PUMP ADAPTOR
PUMP HOUSE FLOOR EL (-7'-0")
HIGH WATER EL (-9'-0")
14'-3"
12" TRASH SCREEN TROUGH
12" TRASH SCREEN
10'-11"
15'-2"
5'-0" SECTION
2
COUPLING
JUTER BEG
17'-0"
5'-0" SECTION
5'-6" (APPROX.)
TRASH SCREEN
LOW WATER EL (-16'-5")
NOTE: SEE ENLARGED VIEW "A"
16'-0"
9'-0"
EXISTING RIVER BED EL (-19'-6")
6'-0"
5'-7⅛"
12½"
PLANT GENERAL
RIVER WATER PUMP HOUSE
ELEVATION
2 8-27-63 ADDED DUMPL TO PUMP J.T.S.
1 8-26-63 ADDED ENLARGED VIEW "A" J.T.S.
REV. NO. DATE DESCRIPTION
DWG SHEDDON
CHKD J.L.H.
DATE 5-14-63
SCALE ⅜" 1'-0"
WHEATLAND TUBE CO. WHEATLAND, PENNA.
4255




ENLARGED VIEW SHOWING TYPICAL PERFORATIONS IN SCREEN

| QTY | MK |
|---|---|
| | AK |
| | AH |
| | AG |
| | AF |
| | AD |
| | AC |
| | AB |
| | AA |
| | Y |
| | W |
| | V |
| | T |
| | S |
| | P |
| | N |
| | M |
| | K |
| | H |
| | G |
| | F |
| | D |
| | C |
| | B |
| | A |

PLANT GENERAL
RIVER WATER PUMP SCREEN

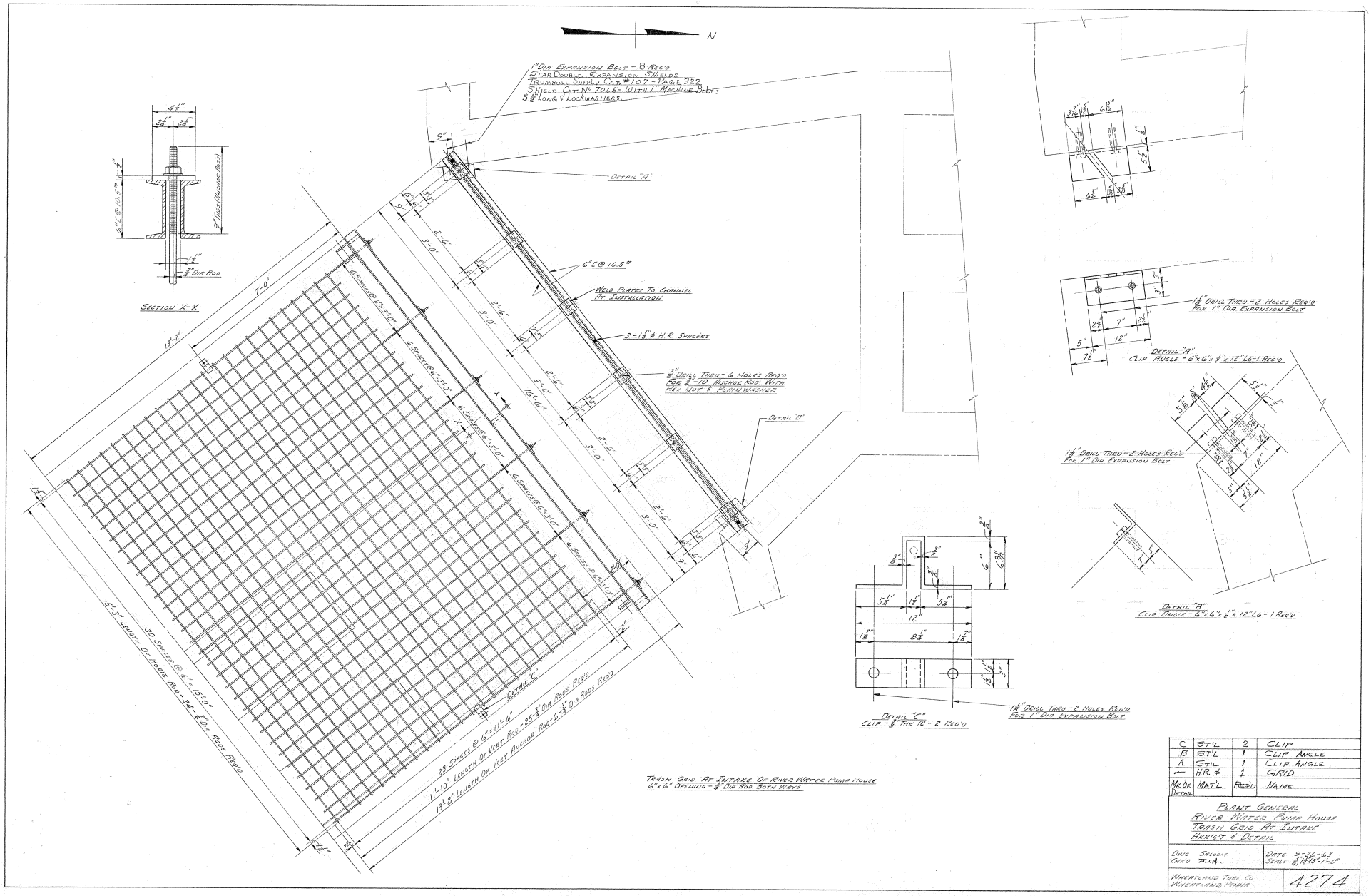
DRAWING BY COLEMAN | DATE OCT. 10, 1980
CHECKED BY | SCALE 6" = 1'-0"

WHEATLAND TUBE CO.
WHEATLAND, PA.

4681

| REV. No. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

10-6156 CRYSTALENE. CITY BLUE PRINT CO., YOUNGSTOWN, OH. LY1316-1178


N
1" Dia Expansion Bolt - 8 Req'd
Star Double Expansion Shields
Trumbull Supply Cat. #107 - Page 322
Shield Cat. No 7065 - With 1" Machine Bolts
5 1/8" Long & Lockwashers
Detail "A"
6"C@10.5#
Weld Plates To Channel At Installation
3 - 1 1/8" ϕ H.R. Spacers
7/8" Drill Thru - 6 Holes Req'd For 7/8" - 10 Anchor Rod With Hex Nut & Flat Washer
Detail "B"
Detail "C"
Section X-X
9" Thick (Anchor Rod)
7/8" Dia Rod
6 Spaces @ 6" = 3'-0"
13'-2"
7'-0"
15'-9" Length Of Horiz Rod - 22 - 7/8" Dia Rods Req'd
30 Spaces @ 6" = 15'-0"
23 Spaces @ 6" = 11'-6"
11'-10" Length Of Vert Rod - 25 - 7/8" Dia Rods Req'd
13'-8" Length Of Vert Anchor Rod - 6 - 7/8" Dia Rods Req'd
Trash Grid At Intake Of River Water Pump House
6"x6" Opening - 7/8" Dia Rod Both Ways
1 1/8" Drill Thru - 2 Holes Req'd For 1" Dia Expansion Bolt
Detail "A"
Clip Angle - 6"x6"x 7/8" x 12" Lg - 1 Req'd
Detail "B"
Clip Angle - 6"x6"x 7/8" x 12" Lg - 1 Req'd
Detail "C"
Clip - 7/8" Thk. H.R. - 2 Req'd
C ST'L 2 CLIP
B ST'L 1 CLIP ANGLE
A ST'L 1 CLIP ANGLE
— H.R. ϕ 1 GRID
Mk Or Detail MAT'L Req'd NAME
Plant General
River Water Pump House
Trash Grid At Intake
Hor'l & Detail
Dwg Sargent
Chkd T.J.A.
Date 9-26-63
Scale 3/8"=1'-0"
Wheatland Tube Co
Wheatland, Pa.
4274