Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

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

| | | | |
|---|---|---|---|
| Application Type | **Renewal** | Application No. | **PA0097462** |
| Facility Type | **Industrial** | APS ID | **1102235** |
| Major / Minor | **Minor** | Authorization ID | **1464216** |

## Applicant and Facility Information

| | | | |
|---|---|---|---|
| Applicant Name | **Indiana County Municipal Service Authority** | Facility Name | **Cherry Tree Water Treatment Plant** |
| Applicant Address | 602 Kolter Drive<br>Indiana, PA 15701-3570 | Facility Address | Peg Run Road State Rte 240<br>Cherry Tree, PA 15724 |
| Applicant Contact | Tricia Lefko | Facility Contact | Derek Long |
| Applicant Phone | (724) 349-6640 | Facility Phone | (724) 349-6640 |
| Client ID | 38534 | Site ID | 237795 |
| SIC Code | 4952 | Municipality | Cherry Tree Borough |
| SIC Description | Trans. & Utilities - Sewerage Systems | County | Indiana |
| Date Application Received | November 27, 2023 | EPA Waived? | Yes |
| Date Application Accepted | November 27, 2023 | If No, Reason | |
| Purpose of Application | NPDES Renewal. | | |

## Summary of Review

Indiana County Municipal Service Authority (ICMSA) has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES permit. The permit was last reissued on May 20, 2019 and became effective on June 1, 2019. The permit expired on May 31, 2024.

Based on the review, it is recommended that the permit be drafted.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

| Approve | Deny | Signatures | Date |
|---|---|---|---|
| X | | *Jinsu Kim*<br>Jinsu Kim / Environmental Engineering Specialist | May 6, 2025 |
| X | | Adam Olesnanik<br>Adam Olesnanik, P.E. / Environmental Engineer Manager | May 21, 2025 |

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

| | | | |
|---|---|---|---|
| Outfall No. | 001 | Design Flow (MGD) | .0171 |
| Latitude | 40° 42' 28.21" | Longitude | -78° 48’ 35.16” |
| Quad Name | Barnesboro | Quad Code | 1315 |
| Wastewater Description: | IW Process Effluent without ELG | | |
| Receiving Waters | Peg Run (CWF) | Stream Code | 27234 |
| NHD Com ID | 61836665 | RMI | 0.52 |
| Drainage Area | 1.93 | Yield (cfs/mi$^2$) | 0.0512 |
| $Q_{7-10}$ Flow (cfs) | 0.0988 | $Q_{7-10}$ Basis | USGS StreamStats |
| Elevation (ft) | 1436 | Slope (ft/ft) | 0.0313 |
| Watershed No. | 8-B | Chapter 93 Class. | CWF |
| Existing Use | Potable Water Supply | Existing Use Qualifier | |
| Exceptions to Use | None | Exceptions to Criteria | |
| Assessment Status | Attaining Use(s) | | |
| Cause(s) of Impairment | | | |
| Source(s) of Impairment | | | |
| TMDL Status | | Name | |
| Nearest Downstream Public Water Supply Intake | | | |
| PWS Waters | | Flow at Intake (cfs) | |
| PWS RMI | | Distance from Outfall (mi) | >50 |

Drainage Area
The discharge is to Peg Run at RM 0.52. A drainage area upstream of the discharge point is estimated to be 1.93 sq.mi. according to USGS StreamStats available at https://streamstats.usgs.gov/ss/.

Streamflow
USGS StreamStats produced a Q7-10 flow of 0.0988 cfs at the point of discharge.

**Treatment Facility Summary**

ICSMA operates an on-site wastewater treatment facility for its water treatment facility. About 24,000 gallons/day of raw water from Peg Run Reservoir is withdrawn, filtered and chlorinated before sent to Cherry Tree Water Distribution System. During the filtration process, filter is backwashed via finished water from the clearwell and about 3,000 gallons per day of backwash is generated. This backwash is sent to an underground sediment holding tank before discharged into Peg Run Creek via Outfall 001 to Peg Run.

| Compliance History | |
|---|---|
| | |
| **Summary of DMRs:** | A summary of past 12 month DMR data is presented on the next page. |
| **Summary of Inspections:** | 02/18/2025: DEP conducted a routine inspection and there is no significant violation identified at the time of inspection. |
| **Other Comments:** | Since the last permit reissuance, the facility has a number of permit violations particularly associated with effluent limit violations (see below). |

| Date | Description | Parameter | Results | Limits | Units | SBC |
|---|---|---|---|---|---|---|
| February-20 | Violation of permit condition | Aluminum, Total | 4.57 | 4 | mg/L | Average Monthly |
| July-20 | Violation of permit condition | Manganese, Total | 1.34 | 1 | mg/L | Average Monthly |
| July-20 | Violation of permit condition | Manganese, Total | 2.37 | 2 | mg/L | Daily Maximum |
| January-21 | Violation of permit condition | Aluminum, Total | 10.6 | 4 | mg/L | Average Monthly |
| January-21 | Violation of permit condition | Aluminum, Total | 15.9 | 8 | mg/L | Daily Maximum |
| January-21 | Violation of permit condition | Total Suspended Solids | 31.2 | 30 | mg/L | Average Monthly |

Based on DEP's database, there are a number of open violations associated with this facility or permittee in which all of these violations were identified by NWRO Safe Drinking Water Program. A draft permit cover letter will indicate that the permit may not be finalized until all violations are resolved.

## Compliance History

**DMR Data for Outfall 001 (from March 1, 2024 to February 28, 2025)**

| Parameter | FEB-25 | JAN-25 | DEC-24 | NOV-24 | OCT-24 | SEP-24 | AUG-24 | JUL-24 | JUN-24 | MAY-24 | APR-24 | MAR-24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow (MGD) Average Monthly | 0.003 | 0.005 | 0.006 | 0.006 | 0.006 | 0.006 | 0.006 | 0.005 | 0.006 | 0.005 | 0.006 | 0.007 |
| Flow (MGD) Daily Maximum | 0.004 | 0.006 | 0.007 | 0.008 | 0.006 | 0.006 | 0.008 | 0.006 | 0.007 | 0.006 | 0.008 | 0.007 |
| pH (S.U.) Daily Minimum | 6.97 | 6.91 | 7.12 | 6.91 | 7.19 | 7.19 | 7.47 | 6.90 | 7.00 | 6.90 | 7.00 | 7.10 |
| pH (S.U.) Daily Maximum | 7.29 | 7.21 | 7.32 | 6.97 | 7.37 | 7.21 | 7.49 | 7.10 | 7.10 | 7.20 | 7.20 | 7.10 |
| TRC (mg/L) Average Monthly | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.03 | < 0.05 |
| TRC (mg/L) Daily Maximum | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | 0.05 | < 0.05 | < 0.05 | < 0.05 | 0.05 | < 0.05 |
| TSS (mg/L) Average Monthly | < 3.4 | < 3.00 | 17.4 | < 1.60 | 3.2 | < 3.0 | 3.8 | < 1.80 | < 2.2 | 4.4 | 3.25 | 5.6 |
| TSS (mg/L) Daily Maximum | 5.20 | 4.40 | 23.2 | < 1.60 | 3.60 | 4.40 | 4.80 | 2.00 | 2.80 | 6.80 | 4.50 | 9.20 |
| Total Aluminum (mg/L) Average Monthly | 0.6115 | 0.425 | 2.48 | 0.151 | 0.49 | < 0.371 | 0.514 | 0.265 | 0.355 | 0.65 | 0.469 | 1.069 |
| Total Aluminum (mg/L) Daily Maximum | 0.812 | 0.459 | 3.23 | 0.198 | 0.602 | 0.642 | 0.537 | 0.333 | 0.439 | 0.947 | 0.525 | 1.48 |
| Total Iron (mg/L) Average Monthly | < 0.200 | < 0.200 | 0.3345 | < 0.200 | < 0.200 | < 0.200 | < 0.200 | < 0.200 | < 0.200 | < 0.200 | < 0.200 | < 0.200 |
| Total Iron (mg/L) Daily Maximum | < 0.200 | < 0.200 | 0.449 | < 0.200 | < 0.200 | < 0.200 | < 0.200 | < 0.200 | < 0.200 | < 0.200 | < 0.200 | < 0.200 |
| Total Manganese (mg/L) Average Monthly | 0.105 | 0.0822 | 0.192 | 0.132 | 0.159 | 0.179 | 0.156 | 0.176 | 0.203 | 0.156 | 0.106 | 0.0121 |
| Total Manganese (mg/L) Daily Maximum | 0.111 | 0.0851 | 0.211 | 0.135 | 0.162 | 0.248 | 0.187 | 0.186 | 0.230 | 0.161 | 0.131 | 0.131 |

## Existing Effluent Limits and Monitoring Requirements

The table below summarizes effluent limits and monitoring requirements specified in the existing permit.

| Parameter | Effluent Limitations | | | | | | Monitoring Requirements | |
|---|---|---|---|---|---|---|---|---|
| | Mass Units (lbs/day) [1] | | Concentrations (mg/L) | | | | Minimum [2] Measurement Frequency | Required Sample Type |
| | Average Monthly | Average Weekly | Daily Minimum | Average Monthly | Daily Maximum | Instant. Maximum | | |
| Flow (MGD) | Report | Report Daily Max | XXX | XXX | XXX | XXX | 2/month | Measured |
| pH (S.U.) | XXX | XXX | 6.0 | XXX | 9.0 | XXX | 2/month | Grab |
| Total Residual Chlorine (TRC) | XXX | XXX | XXX | 0.5 | 1.0 | XXX | 2/month | Grab |
| Total Suspended Solids | XXX | XXX | XXX | 30.0 | 60.0 | XXX | 2/month | Grab |
| Aluminum, Total | XXX | XXX | XXX | 4.0 | 8.0 | XXX | 2/month | Grab |
| Iron, Total | XXX | XXX | XXX | 2.0 | 4.0 | XXX | 2/month | Grab |
| Manganese, Total | XXX | XXX | XXX | 1.0 | 2.0 | XXX | 2/month | Grab |

**Development of Effluent Limitations**

**Outfall No.** 001 **Design Flow (MGD)** .003
**Latitude** 40º 42' 27.00" **Longitude** -78º 48' 34.00"
**Wastewater Description:** IW Process Effluent without ELG

## Technology-Based Limitations

DEP's technical guidance no. 362-2183-003 addresses technology-based control requirements along with the following recommended Best Practicable Control Technology Currently Available (BPT) effluent requirements for WTP sludge and filter backwash:

| Parameter | Limit (mg/l) | SBC |
|---|---|---|
| Suspended Solids | 30 | Average Monthly |
| | 60 | Daily Maximum |
| Iron, Total | 2.0 | Average Monthly |
| | 4.0 | Daily Maximum |
| Aluminum, Total | 4.0 | Average Monthly |
| | 8.0 | Daily Maximum |
| Manganese, Total | 1.0 | Average Monthly |
| | 2.0 | Daily Maximum |
| Flow | Monitor | Average Monthly |
| pH | 6.0 | Minimum |
| | 9.0 | Maximum |
| Total Residual Chlorine | 0.5 | Average Monthly |
| | 1.0 | Daily Maximum |

These requirements apply, subject to water quality analysis and/or BPJ.

## Water Quality-Based Limitations

DEP's SOP no. BPNPSM-PMT-032 recommends the average monthly flow as a design flow in a reasonable potential analysis unless a different flow is determined to be more representative of conditions. DEP has been using 0.003 MGD as the design flow. Based on the review, it is still acceptable to use 0.003 MGD as the design flow in a reasonable potential analysis for this permit renewal.

*WQM 7.0*
CBOD5 and NH3-N are not pollutants of concern for the water treatment waste as the discharge of these pollutants is not resulting from the water treatment process. Therefore, WQM 7.0 modeling is not necessary and permit requirements for these pollutants are not recommended.

*Total Residual Chlorine*
The facility uses finished water for filter backwash and this finished water is chlorinated; therefore, Total Residual Chlorine (TRC) effluent level must be regulated under 25 Pa Code § 92a.48(b). DEP's TRC_CALC worksheet showed existing TBELs are still adequate for protection of water quality standards. No change is therefore recommended.

*Toxics*
Maximum concentrations of toxic pollutants reported on the application were entered into DEP's Toxics Management Spreadsheet (TMS). TMS output shows that there are no pollutants of concern and no water quality based effluent limits are required.

## Additional Considerations

*Flow Monitoring*
Flow monitoring will remain in the permit and is required by 40 CFR § 122.44(i)(1)(ii).

*Chesapeake Bay Total Maximum Daily Load (TMDL)*
DEP's Supplement to Phase III Watershed Implementation Plan (WIP) indicates that monitoring and reporting of TN and TP are necessary for non-significant IW facilities throughout the permit term anytime the facility has the potential to introduce a net TN or TP increase to the load contained within the intake water used in processing. The facility does not use any chemical products prior to filtration that contain nitrogen or phosphorus and no nutrients are expected to be generated from the water treatment process. Consequently, no nutrient monitoring requirement will be included in the permit.

*West Branch Susquehanna River Watershed Total Maximum Daily Load (TMDL)*
The discharge is to Peg Run which ultimately is a tributary of West Branch Susquehanna River. DEP has developed a Total Maximum Daily Load (TMDL) for West Branch Susquehanna River watershed on December 3, 2011 to address stream impairments caused by metals including iron, aluminum and manganese as a result of acid mine drainage (AMD). While Peg Run is not impaired, DEP has established TMDLs for those tributaries of West Branch Susquehanna River to ensure no further impairment to be contributed and to maximize the pollutant reductions for water quality protection. This December 3, 2011 TMDL includes the following wasteload allocations for this facility:

| Parameter | Monthly Average (mg/L) | Design Flow (MGD) | Allowable Load (lbs/day) |
|---|---|---|---|
| Iron, Total | 2.0 | 0.0009 | 0.02 |
| Manganese, Total | 1.0 | 0.0009 | 0.01 |
| Aluminum, Total | 4.0 | 0.0009 | 0.03 |

These wasteload allocations have been consistently included in the permit and will continue to be included in the permit without any modification. Given that the TMDL established the load based on the flow of 0.0009 MGD which is significantly lower than the design flow DEP has consistently been using (i.e., 0.003 MGD), only the monthly average concentrations identified in the TMDL will be included in the permit. This approach is consistent with the permitting approach applied during the last permit renewal.

*Chemical Additive*
The permittee has not reported any chemicals that are considered chemical additives. According to the application, chemicals including Aluminum Sulfate (coagulation), Sodium Hypochlorite (disinfection), Soda Ash (pH control), and KMNO4 (oxidizing agent) are added during water treatment process. Based on the definition of chemical additives (i.e., chemicals used for cleaning, disinfecting or maintenance), these chemicals are not considered chemical additives except for Sodium Hypochlorite. TRC effluent limits are already applied to the permit for Sodium Hypochlorite; therefore no further requirement is needed.

*Monitoring Frequencies and Sample Types*
All existing monitoring frequencies and sample types will remain unchanged from the permit as DEP has determined that these requirements are still adequate for this facility.

*Anti-Degradation Requirements*
The effluent limits for this discharge have been developed to ensure the existing in-stream uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

*Anti-Backsliding Requirements*
Unless stated otherwise in this fact sheet, permit requirements proposed in this fact sheet are at least as stringent as existing permit requirements.

## Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

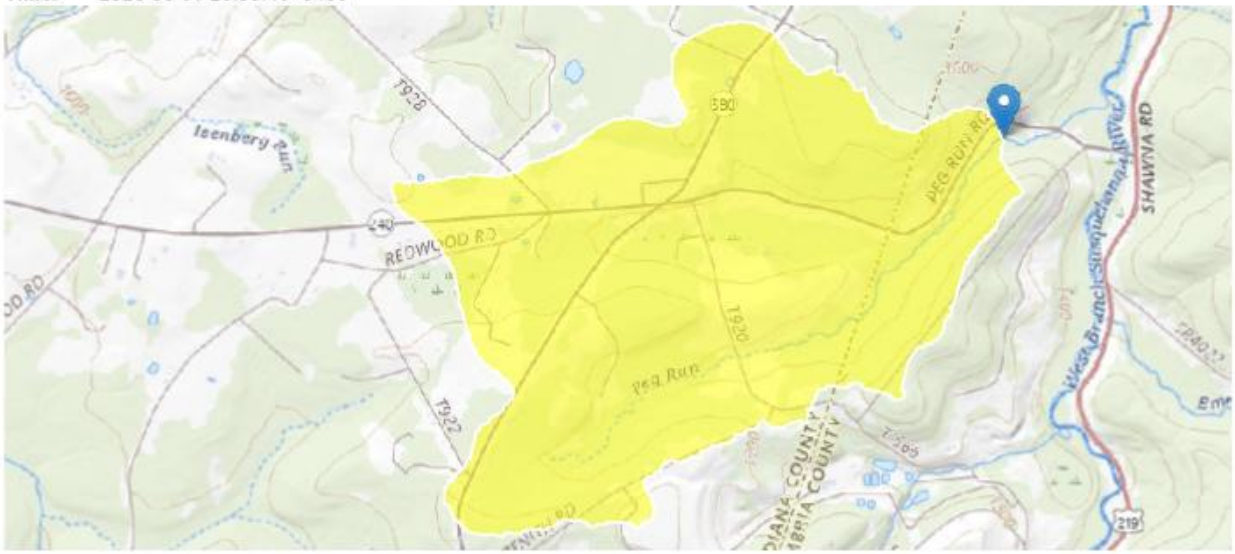
**Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date**.

| Parameter | Effluent Limitations | | | | | | Monitoring Requirements | |
|---|---|---|---|---|---|---|---|---|
| | Mass Units (lbs/day) (1) | | Concentrations (mg/L) | | | | Minimum (2) Measurement Frequency | Required Sample Type |
| | Average Monthly | Average Weekly | Minimum | Average Monthly | Daily Maximum | Instant. Maximum | | |
| Flow (MGD) | Report | Report Daily Max | XXX | XXX | XXX | XXX | 2/month | Measured |
| pH (S.U.) | XXX | XXX | 6.0 Daily Min | XXX | 9.0 | XXX | 2/month | Grab |
| TRC | XXX | XXX | XXX | 0.5 | 1.0 | XXX | 2/month | Grab |
| TSS | XXX | XXX | XXX | 30.0 | 60.0 | XXX | 2/month | Grab |
| Total Aluminum | XXX | XXX | XXX | 4.0 | 8.0 | XXX | 2/month | Grab |
| Total Iron | XXX | XXX | XXX | 2.0 | 4.0 | XXX | 2/month | Grab |
| Total Manganese | XXX | XXX | XXX | 1.0 | 2.0 | XXX | 2/month | Grab |

| Tools and References Used to Develop Permit | |
|---|---|
| | |
| ☐ | WQM for Windows Model (see Attachment ) |
| ☐ | Toxics Management Spreadsheet (see Attachment ) |
| ☐ | 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: |
| ☐ | Other: |

## StreamStats Report

**Region ID:** PA
**Workspace ID:** PA20250505003320756000
**Clicked Point (Latitude, Longitude):** 40.70782, -78.80974
**Time:** 2025-05-04 20:33:46 -0400




Collapse All

### Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| DRNAREA | Area that drains to a point on a stream | 1.93 | square miles |
| ELEV | Mean Basin Elevation | 1657 | feet |
| PRECIP | Mean Annual Precipitation | 45 | inches |

### General Disclaimers

Parameter values have been edited, computed flows may not apply.

### Low-Flow Statistics

#### Low-Flow Statistics Parameters [Low Flow Region 3]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 1.93 | square miles | 2.33 | 1720 |
| ELEV | Mean Basin Elevation | 1657 | feet | 898 | 2700 |

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| PRECIP | Mean Annual Precipitation | 45 | inches | 38.7 | 47.9 |

Low-Flow Statistics Disclaimers [Low Flow Region 3]

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

Low-Flow Statistics Flow Report [Low Flow Region 3]

| Statistic | Value | Unit |
|---|---|---|
| 7 Day 2 Year Low Flow | 0.229 | ft^3/s |
| 30 Day 2 Year Low Flow | 0.339 | ft^3/s |
| 7 Day 10 Year Low Flow | 0.0987 | ft^3/s |
| 30 Day 10 Year Low Flow | 0.139 | ft^3/s |
| 90 Day 10 Year Low Flow | 0.206 | ft^3/s |

*Low-Flow Statistics Citations*

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



Application Version: 4.28.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

# Discharge Information

Instructions | Discharge | Stream

Facility: **Cherry Tree Water Treatment Plant** NPDES Permit No.: **PA0097462** Outfall No.: **001**

Evaluation Type **Major Sewage / Industrial Waste** Wastewater Description: **Filter Backwash**

| Discharge Characteristics | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Design Flow (MGD)* | Hardness (mg/l)* | pH (SU)* | Partial Mix Factors (PMFs) | | | | Complete Mix Times (min) | |
| | | | AFC | CFC | THH | CRL | $Q_{7-10}$ | $Q_h$ |
| 0.003 | 40 | 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 | | 100 | | | | | | | | | |
| | Chloride (PWS) | mg/L | | 17.4 | | | | | | | | | |
| | Bromide | mg/L | < | 0.036 | | | | | | | | | |
| | Sulfate (PWS) | mg/L | | 32.4 | | | | | | | | | |
| | Fluoride (PWS) | mg/L | | 0.213 | | | | | | | | | |
| Group 2 | Total Aluminum | µg/L | | 1010 | | | | | | | | | |
| | Total Antimony | µg/L | | 0.348 | | | | | | | | | |
| | Total Arsenic | µg/L | | 0.54 | | | | | | | | | |
| | Total Barium | µg/L | | 28.8 | | | | | | | | | |
| | Total Beryllium | µg/L | < | 0.676 | | | | | | | | | |
| | Total Boron | µg/L | < | 56.5 | | | | | | | | | |
| | Total Cadmium | µg/L | < | 0.123 | | | | | | | | | |
| | Total Chromium (III) | µg/L | | 1.99 | | | | | | | | | |
| | Hexavalent Chromium | µg/L | < | 0.69 | | | | | | | | | |
| | Total Cobalt | µg/L | < | 0.119 | | | | | | | | | |
| | Total Copper | µg/L | | 10.3 | | | | | | | | | |
| | Free Cyanide | µg/L | | | | | | | | | | | |
| | Total Cyanide | µg/L | < | 6 | | | | | | | | | |
| | Dissolved Iron | µg/L | | 28 | | | | | | | | | |
| | Total Iron | µg/L | | 380 | | | | | | | | | |
| | Total Lead | µg/L | | 0.353 | | | | | | | | | |
| | Total Manganese | µg/L | | 727 | | | | | | | | | |
| | Total Mercury | µg/L | < | 0.0932 | | | | | | | | | |
| | Total Nickel | µg/L | < | 1.44 | | | | | | | | | |
| | Total Phenols (Phenolics) (PWS) | µg/L | | 5 | | | | | | | | | |
| | Total Selenium | µg/L | < | 2.5 | | | | | | | | | |
| | Total Silver | µg/L | < | 1.37 | | | | | | | | | |
| | Total Thallium | µg/L | | 0.081 | | | | | | | | | |
| | Total Zinc | µg/L | | 3.66 | | | | | | | | | |
| | Total Molybdenum | µg/L | | 0.333 | | | | | | | | | |
| | Acrolein | µg/L | < | | | | | | | | | | |
| | Acrylamide | µg/L | < | | | | | | | | | | |
| | Acrylonitrile | µg/L | < | | | | | | | | | | |
| | Benzene | µg/L | < | | | | | | | | | | |
| | Bromoform | µg/L | < | | | | | | | | | | |
| | Carbon Tetrachloride | µg/L | < | | | | | | | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Group 3 | Chlorobenzene | µg/L | | | | | | | | | | | |
| | Chlorodibromomethane | µg/L | < | | | | | | | | | | |
| | Chloroethane | µg/L | < | | | | | | | | | | |
| | 2-Chloroethyl Vinyl Ether | µg/L | < | | | | | | | | | | |
| | Chloroform | µg/L | < | | | | | | | | | | |
| | Dichlorobromomethane | µg/L | < | | | | | | | | | | |
| | 1,1-Dichloroethane | µg/L | < | | | | | | | | | | |
| | 1,2-Dichloroethane | µg/L | < | | | | | | | | | | |
| | 1,1-Dichloroethylene | µg/L | < | | | | | | | | | | |
| | 1,2-Dichloropropane | µg/L | < | | | | | | | | | | |
| | 1,3-Dichloropropylene | µg/L | < | | | | | | | | | | |
| | 1,4-Dioxane | µg/L | < | | | | | | | | | | |
| | Ethylbenzene | µg/L | < | | | | | | | | | | |
| | Methyl Bromide | µg/L | < | | | | | | | | | | |
| | Methyl Chloride | µg/L | < | | | | | | | | | | |
| | Methylene Chloride | µg/L | < | | | | | | | | | | |
| | 1,1,2,2-Tetrachloroethane | µg/L | < | | | | | | | | | | |
| | Tetrachloroethylene | µg/L | < | | | | | | | | | | |
| | Toluene | µg/L | < | | | | | | | | | | |
| | 1,2-trans-Dichloroethylene | µg/L | < | | | | | | | | | | |
| | 1,1,1-Trichloroethane | µg/L | < | | | | | | | | | | |
| | 1,1,2-Trichloroethane | µg/L | < | | | | | | | | | | |
| | Trichloroethylene | µg/L | < | | | | | | | | | | |
| | Vinyl Chloride | µg/L | < | | | | | | | | | | |
| Group 4 | 2-Chlorophenol | µg/L | < | | | | | | | | | | |
| | 2,4-Dichlorophenol | µg/L | < | | | | | | | | | | |
| | 2,4-Dimethylphenol | µg/L | < | | | | | | | | | | |
| | 4,6-Dinitro-o-Cresol | µg/L | < | | | | | | | | | | |
| | 2,4-Dinitrophenol | µg/L | < | | | | | | | | | | |
| | 2-Nitrophenol | µg/L | < | | | | | | | | | | |
| | 4-Nitrophenol | µg/L | < | | | | | | | | | | |
| | p-Chloro-m-Cresol | µg/L | < | | | | | | | | | | |
| | Pentachlorophenol | µg/L | < | | | | | | | | | | |
| | Phenol | µg/L | < | | | | | | | | | | |
| | 2,4,6-Trichlorophenol | µg/L | < | | | | | | | | | | |
| Group 5 | Acenaphthene | µg/L | < | | | | | | | | | | |
| | Acenaphthylene | µg/L | < | | | | | | | | | | |
| | Anthracene | µg/L | < | | | | | | | | | | |
| | Benzidine | µg/L | < | | | | | | | | | | |
| | Benzo(a)Anthracene | µg/L | < | | | | | | | | | | |
| | Benzo(a)Pyrene | µg/L | < | | | | | | | | | | |
| | 3,4-Benzofluoranthene | µg/L | < | | | | | | | | | | |
| | Benzo(ghi)Perylene | µg/L | < | | | | | | | | | | |
| | Benzo(k)Fluoranthene | µg/L | < | | | | | | | | | | |
| | Bis(2-Chloroethoxy)Methane | µg/L | < | | | | | | | | | | |
| | Bis(2-Chloroethyl)Ether | µg/L | < | | | | | | | | | | |
| | Bis(2-Chloroisopropyl)Ether | µg/L | < | | | | | | | | | | |
| | Bis(2-Ethylhexyl)Phthalate | µg/L | < | | | | | | | | | | |
| | 4-Bromophenyl Phenyl Ether | µg/L | < | | | | | | | | | | |
| | Butyl Benzyl Phthalate | µg/L | < | | | | | | | | | | |
| | 2-Chloronaphthalene | µg/L | < | | | | | | | | | | |
| | 4-Chlorophenyl Phenyl Ether | µg/L | < | | | | | | | | | | |
| | Chrysene | µg/L | < | | | | | | | | | | |
| | Dibenzo(a,h)Anthrancene | µg/L | < | | | | | | | | | | |
| | 1,2-Dichlorobenzene | µg/L | < | | | | | | | | | | |
| | 1,3-Dichlorobenzene | µg/L | < | | | | | | | | | | |
| | 1,4-Dichlorobenzene | µg/L | < | | | | | | | | | | |
| | 3,3-Dichlorobenzidine | µg/L | < | | | | | | | | | | |
| | Diethyl Phthalate | µg/L | < | | | | | | | | | | |
| | Dimethyl Phthalate | µg/L | < | | | | | | | | | | |
| | Di-n-Butyl Phthalate | µg/L | < | | | | | | | | | | |
| | 2,4-Dinitrotoluene | µg/L | < | | | | | | | | | | |
| | 2,6-Dinitrotoluene | µg/L | < | | | | | | | | | | |
| | Di-n-Octyl Phthalate | µg/L | < | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1,2-Diphenylhydrazine | µg/L | < | | | | | | | | | | |
| | Fluoranthene | µg/L | < | | | | | | | | | | |
| | Fluorene | µg/L | < | | | | | | | | | | |
| | Hexachlorobenzene | µg/L | < | | | | | | | | | | |
| | Hexachlorobutadiene | µg/L | < | | | | | | | | | | |
| | Hexachlorocyclopentadiene | µg/L | < | | | | | | | | | | |
| | Hexachloroethane | µg/L | < | | | | | | | | | | |
| | Indeno(1,2,3-cd)Pyrene | µg/L | < | | | | | | | | | | |
| | Isophorone | µg/L | < | | | | | | | | | | |
| | Naphthalene | µg/L | < | | | | | | | | | | |
| | Nitrobenzene | µg/L | < | | | | | | | | | | |
| | n-Nitrosodimethylamine | µg/L | < | | | | | | | | | | |
| | n-Nitrosodi-n-Propylamine | µg/L | < | | | | | | | | | | |
| | n-Nitrosodiphenylamine | µg/L | < | | | | | | | | | | |
| | Phenanthrene | µg/L | < | | | | | | | | | | |
| | Pyrene | µg/L | < | | | | | | | | | | |
| | 1,2,4-Trichlorobenzene | µg/L | < | | | | | | | | | | |
| 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

**Cherry Tree Water Treatment Plant, NPDES Permit No. PA0097462, Outfall 001**

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Peg Run**

No. Reaches to Model: **1**

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

| Location | Stream Code* | RMI* | Elevation (ft)* | DA (mi²)* | Slope (ft/ft) | PWS Withdrawal (MGD) | Apply Fish Criteria* |
|---|---|---|---|---|---|---|---|
| Point of Discharge | 027234 | 0.52 | 1436 | 1.93 | | | Yes |
| End of Reach 1 | 027234 | 0 | 1373 | 45.2 | | | 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 | 0.52 | 0.1 | 0.0982 | | | | | | | | | 100 | 7 | | |
| End of Reach 1 | 0 | 0.1 | 2.83 | | | | | | | | | | | | |

$Q_h$

| 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 | 0.52 | | | | | | | | | | | | | | |
| End of Reach 1 | 0 | | | | | | | | | | | | | | |

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Toxics Management Spreadsheet
Version 1.4, May 2023

# Model Results

**Cherry Tree Water Treatment Plant, NPDES Permit No. PA0097462, Outfall 001**

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.975 PMF: 1 Analysis Hardness (mg/l): 97.292 Analysis pH: 7.00

| Pollutants | Stream Conc (µg/L) | Stream CV | Trib Conc (µg/L) | Fate Coef | WQC (µg/L) | WQ Obj (µg/L) | WLA (µg/L) | Comments |
|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chloride (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Sulfate (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Fluoride (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Aluminum | 0 | 0 | | 0 | 750 | 750 | 16,619 | |
| Total Antimony | 0 | 0 | | 0 | 1,100 | 1,100 | 24,375 | |
| Total Arsenic | 0 | 0 | | 0 | 340 | 340 | 7,534 | Chem Translator of 1 applied |
| Total Barium | 0 | 0 | | 0 | 21,000 | 21,000 | 465,344 | |
| Total Boron | 0 | 0 | | 0 | 8,100 | 8,100 | 179,490 | |
| Total Cadmium | 0 | 0 | | 0 | 1.961 | 2.07 | 46.0 | Chem Translator of 0.945 applied |
| Total Chromium (III) | 0 | 0 | | 0 | 557.097 | 1,763 | 39,066 | Chem Translator of 0.316 applied |
| Hexavalent Chromium | 0 | 0 | | 0 | 16 | 16.3 | 361 | Chem Translator of 0.982 applied |
| Total Cobalt | 0 | 0 | | 0 | 95 | 95.0 | 2,105 | |
| Total Copper | 0 | 0 | | 0 | 13.096 | 13.6 | 302 | Chem Translator of 0.96 applied |
| Dissolved Iron | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Iron | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Lead | 0 | 0 | | 0 | 62.679 | 78.8 | 1,747 | Chem Translator of 0.795 applied |
| Total Manganese | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Mercury | 0 | 0 | | 0 | 1.400 | 1.65 | 36.5 | Chem Translator of 0.85 applied |
| Total Nickel | 0 | 0 | | 0 | 457.487 | 458 | 10,158 | 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 | 3.068 | 3.61 | 80.0 | Chem Translator of 0.85 applied |
| Total Thallium | 0 | 0 | | 0 | 65 | 65.0 | 1,440 | |
| Total Zinc | 0 | 0 | | 0 | 114.486 | 117 | 2,594 | Chem Translator of 0.978 applied |

☑ ***CFC*** CCT (min): 0.975 PMF: 1 Analysis Hardness (mg/l): 97.292 Analysis pH: 7.00

| Pollutants | Stream Conc (µg/L) | Stream CV | Trib Conc (µg/L) | Fate Coef | WQC (µg/L) | WQ Obj (µg/L) | WLA (µg/L) | Comments |
|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chloride (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Sulfate (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Fluoride (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Aluminum | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Antimony | 0 | 0 | | 0 | 220 | 220 | 4,875 | |
| Total Arsenic | 0 | 0 | | 0 | 150 | 150 | 3,324 | Chem Translator of 1 applied |
| Total Barium | 0 | 0 | | 0 | 4,100 | 4,100 | 90,853 | |
| Total Boron | 0 | 0 | | 0 | 1,600 | 1,600 | 35,455 | |
| Total Cadmium | 0 | 0 | | 0 | 0.241 | 0.27 | 5.88 | Chem Translator of 0.91 applied |
| Total Chromium (III) | 0 | 0 | | 0 | 72.467 | 84.3 | 1,867 | Chem Translator of 0.86 applied |
| Hexavalent Chromium | 0 | 0 | | 0 | 10 | 10.4 | 230 | Chem Translator of 0.962 applied |
| Total Cobalt | 0 | 0 | | 0 | 19 | 19.0 | 421 | |
| Total Copper | 0 | 0 | | 0 | 8.748 | 9.11 | 202 | Chem Translator of 0.96 applied |
| Dissolved Iron | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Iron | 0 | 0 | | 0 | 1,500 | 1,500 | 33,239 | WQC = 30 day average; PMF = 1 |
| Total Lead | 0 | 0 | | 0 | 2.443 | 3.07 | 68.1 | Chem Translator of 0.795 applied |
| Total Manganese | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Mercury | 0 | 0 | | 0 | 0.770 | 0.91 | 20.1 | Chem Translator of 0.85 applied |
| Total Nickel | 0 | 0 | | 0 | 50.813 | 51.0 | 1,129 | 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 | 111 | 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 | 288 | |
| Total Zinc | 0 | 0 | | 0 | 115.423 | 117 | 2,594 | Chem Translator of 0.986 applied |

☑ ***THH*** CCT (min): 0.975 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

| Pollutants | Stream Conc (µg/L) | Stream CV | Trib Conc (µg/L) | Fate Coef | WQC (µg/L) | WQ Obj (µg/L) | WLA (µg/L) | Comments |
|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids (PWS) | 0 | 0 | | 0 | 500,000 | 500,000 | N/A | |
| Chloride (PWS) | 0 | 0 | | 0 | 250,000 | 250,000 | N/A | |
| Sulfate (PWS) | 0 | 0 | | 0 | 250,000 | 250,000 | N/A | |
| Fluoride (PWS) | 0 | 0 | | 0 | 2,000 | 2,000 | N/A | |
| Total Aluminum | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Antimony | 0 | 0 | | 0 | 5.6 | 5.6 | 124 | |
| Total Arsenic | 0 | 0 | | 0 | 10 | 10.0 | 222 | |
| Total Barium | 0 | 0 | | 0 | 2,400 | 2,400 | 53,182 | |
| Total Boron | 0 | 0 | | 0 | 3,100 | 3,100 | 68,694 | |
| Total Cadmium | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Chromium (III) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexavalent Chromium | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Cobalt | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Copper | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Dissolved Iron | 0 | 0 | | 0 | 300 | 300 | 6,648 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 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 | 22,159 | |
| Total Mercury | 0 | 0 | | 0 | 0.050 | 0.05 | 1.11 | |
| Total Nickel | 0 | 0 | | 0 | 610 | 610 | 13,517 | |
| Total Phenols (Phenolics) (PWS) | 0 | 0 | | 0 | 5 | 5.0 | N/A | |
| Total Selenium | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Silver | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Thallium | 0 | 0 | | 0 | 0.24 | 0.24 | 5.32 | |
| Total Zinc | 0 | 0 | | 0 | N/A | N/A | N/A | |

☑ ***CRL*** CCT (min): 0.239 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

| Pollutants | Stream Conc (µg/L) | Stream CV | Trib Conc (µg/L) | Fate Coef | WQC (µg/L) | WQ Obj (µg/L) | WLA (µg/L) | Comments |
|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chloride (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Sulfate (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Fluoride (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Aluminum | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Antimony | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Arsenic | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Barium | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Boron | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Cadmium | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Chromium (III) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexavalent Chromium | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Cobalt | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Copper | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Dissolved Iron | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Iron | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Lead | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Manganese | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Mercury | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Nickel | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Phenols (Phenolics) (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Selenium | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Silver | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Thallium | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Zinc | 0 | 0 | | 0 | N/A | N/A | N/A | |

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

**No. Samples/Month:** 4

| | | *Mass Limits* | | *Concentration Limits* | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Model Results | Pollutants | AML | MDL | AML | MDL | Units | Governing | WQBEL | Comments | |

| Pollutants | (lbs/day) | (lbs/day) | AML | MDL | MAX | Units | WQBEL | Basis | Comments |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

☐ ***Other Pollutants without Limits or Monitoring***

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

| Pollutants | Governing WQBEL | Units | Comments |
|---|---|---|---|
| Total Dissolved Solids (PWS) | N/A | N/A | PWS Not Applicable |
| Chloride (PWS) | N/A | N/A | PWS Not Applicable |
| Bromide | N/A | N/A | No WQS |
| Sulfate (PWS) | N/A | N/A | PWS Not Applicable |
| Fluoride (PWS) | N/A | N/A | PWS Not Applicable |
| Total Aluminum | 10,652 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Antimony | 124 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Arsenic | 222 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Barium | 53,182 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Beryllium | N/A | N/A | No WQS |
| Total Boron | 35,455 | µg/L | Discharge Conc < TQL |
| Total Cadmium | 5.88 | µg/L | Discharge Conc < TQL |
| Total Chromium (III) | 1,867 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Hexavalent Chromium | 230 | µg/L | Discharge Conc < TQL |
| Total Cobalt | 421 | µg/L | Discharge Conc < TQL |
| Total Copper | 194 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Cyanide | N/A | N/A | No WQS |
| Dissolved Iron | 6,648 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Iron | 33,239 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Lead | 68.1 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Manganese | 22,159 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Mercury | 1.11 | µg/L | Discharge Conc < TQL |
| Total Nickel | 1,129 | µg/L | Discharge Conc < TQL |
| Total Phenols (Phenolics) (PWS) | | µg/L | PWS Not Applicable |
| Total Selenium | 111 | µg/L | Discharge Conc < TQL |
| Total Silver | 51.3 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Thallium | 5.32 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Zinc | 1,663 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Molybdenum | N/A | N/A | No WQS |

# WEST BRANCH SUSQUEHANNA RIVER WATERSHED TMDL

**Clearfield, Indiana, Cambria, Centre, Clinton, Cameron, Elk, Potter, Tioga, Lycoming, Union, Northumberland, Montour, Sullivan, Bradford, Columbia, McKean, and Wyoming Counties**

Prepared for:

Pennsylvania Department of Environmental Protection

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| Table D66. WLA for WBSR 16.0 | | | | |
|---|---|---|---|---|
| *Company* | *Permit(s)* | *Effluent limits (mg/L)* | *Design Flow (MGD)* | *WLAs (lbs/day)* |
| Twin Brook Coal Co. | PA0125504, 32813001 | Fe – 3.0<br>Mn – 2.0<br>Al – 0.75 | 0.0445 | Fe – 1.11<br>Mn – 0.74<br>Al – 0.28 |
| TOTAL | | | | Fe – 1.11<br>Mn – 0.74<br>Al – 0.28 |

**CTBMA: Cherry Tree Borough Municipal Authority**

The Cherry Tree Borough Municipal Authority (NPDES PA0097462) has one outfall (001) in the West Branch Watershed. This outfall has effluent limits for total iron, total manganese, and total aluminum. Table D67 shows the WLA for this discharge.

| Table D67. WLA Cherry Tree Borough Municipal Authority | | | |
|---|---|---|---|
| *Parameter* | | | |
| **Outfall 001** | *Monthly Average Conc. (mg/L)* | *Design Flow (MGD)* | *Allowable Load (lbs/day)* |
| Fe | 2.0 | 0.0009 | 0.02 |
| Mn | 1.0 | 0.0009 | 0.01 |
| Al | 4.0 | 0.0009 | 0.03 |

**PRKW: Cherry Tree Mine, Parkwood Resources, Inc.**

Parkwood Resources, Inc. (17031301, PA0235571) has three outfalls from their Cherry Tree Deep Mine. Outfall 001 is drainage from the deep mine with effluent limits for iron, manganese, and flow. Outfalls 002 and 003 are for erosion and sediment. These outfalls then enter an unnamed tributary to the West Branch Susquehanna River. The following table shows the waste load allocation for these discharges (Table I68).

| Table D68. Waste Load Allocation for NPDES Permit No. PA0215007 | | | |
|---|---|---|---|
| *Parameter* | | | |
| **Outfall 001** | *Monthly Average Conc. (mg/L)* | *Design Flow (MGD)* | *Allowable Load (lbs/day)* |
| Fe | 3.0 | 3.36 | 84.13 |
| Mn | 2.0 | 3.36 | 56.09 |
| Al | 0.75 | 3.36 | 21.03 |
| **Outfall 002** | | | |
| Fe | 7.0 | 0.0445 | 2.60 |
| **Outfall 003** | | | |
| Fe | 7.0 | 0.0445 | 2.60 |

**WBSR 16.0: West Branch Susquehanna River downstream of Cush Cushion Creek**