

Application Type Renewal
Facility Type Industrial
Major / Minor Minor

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

Application No. PA0217468
APS ID 1128855
Authorization ID 1512280

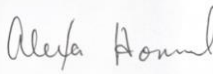

Applicant and Facility Information

Applicant Name	<u>Beaver Falls Municipal Authority</u>	Facility Name	<u>Eastvale Water Treatment Plant</u>
Applicant Address	<u>1425 Eighth Avenue PO Box 400</u> <u>Beaver Falls, PA 15010-0400</u>	Facility Address	<u>101 2nd Avenue E</u> <u>Beaver Falls, PA 15010-0400</u>
Applicant Contact	<u>James Riggio</u>	Facility Contact	<u>James Riggio</u>
Applicant Phone	<u>(724) 846-2400</u>	Facility Phone	<u>724-846-2400</u>
Client ID	<u>39435</u>	Site ID	<u>630214</u>
SIC Code	<u>4941</u>	Municipality	<u>Eastvale Borough</u>
SIC Description	<u>Trans. & Utilities - Water Supply</u>	County	<u>Beaver</u>
Date Application Received	<u>December 31, 2024</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>January 14, 2025</u>	If No, Reason	<u></u>
Purpose of Application	<u>Renewal of NPDES Permit coverage for discharge of treated Industrial wastewater.</u>		

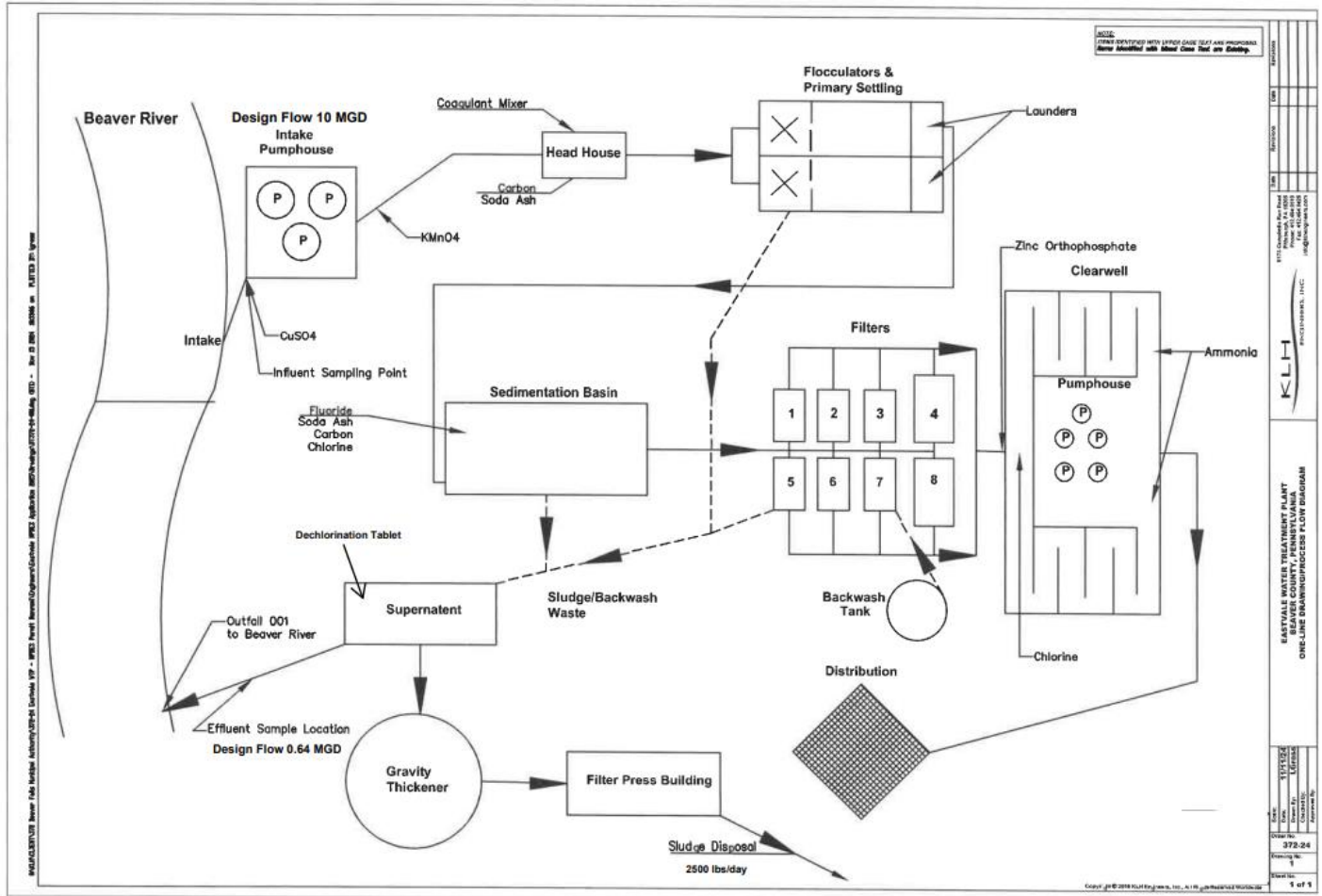
Summary of Review

The Department received an NPDES permit renewal application from Beaver Falls Municipal Authority on December 31, 2024, for coverage of its Eastvale Water Treatment Plant. The facility is a water treatment plant, owned and operated by the Beaver Falls Municipal Authority (BFMA). The plant serves approximately 50,000 customers in several municipalities in Beaver County. The standard industrial classification (SIC) code for this type of facility is 4941, water supply.

Wastewater generated at the site is filter backwash and sludge thickener supernatant. The filter backwash and sludge thickener supernatant is collected in an equalization basin to allow settling prior to discharging via Outfall 001 to the Beaver River, designated in 25 Pa Code Chapter 93 as a Warm Water Fishery. Sludge is generated during the flocculation and primary settling portion of the potable water treatment process, as well as the wastewater equalization basin. The sludge is treated in a sludge thickener to further reduce the water contained in the sludge prior to the solids being pressed and disposed of offsite.

Approve	Deny	Signatures	Date
X		 Alexa Howard / Environmental Engineering Trainee	April 10, 2025
X		 Michael E. Fifth, P.E. / Environmental Engineer Manager	April 10, 2025

Summary of Review



The site was last inspected on August 6, 2021; no violations were noted.

Draft Permit issuance is recommended.

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.	<u>001</u>	Design Flow (MGD)	<u>1.8</u>
Latitude	<u>40° 45' 43"</u>	Longitude	<u>-80° 18' 48"</u>
Quad Name	<u>Beaver Falls</u>	Quad Code	<u>1203</u>
Wastewater Description: <u>Treated industrial wastewater associated with potable water treatment plant.</u>			
Receiving Waters	<u>Beaver River (WWF)</u>	Stream Code	<u>33953</u>
NHD Com ID	<u>123918321</u>	RMI	<u>4.489681</u>
Drainage Area	<u>3110 mi²</u>	Yield (cfs/mi ²)	<u>0.205</u>
Q ₇₋₁₀ Flow (cfs)	<u>640</u>	Q ₇₋₁₀ Basis	<u>US Army Corp of Engineers</u>
Elevation (ft)	<u>1128</u>	Slope (ft/ft)	<u>0.0561</u>
Watershed No.	<u>20-B</u>	Chapter 93 Class.	<u>WWF</u>
Existing Use	<u>N/A</u>	Existing Use Qualifier	<u>N/A</u>
Exceptions to Use	<u>N/A</u>	Exceptions to Criteria	<u>N/A</u>
Assessment Status	<u>Impaired</u>		
Cause(s) of Impairment	<u>METALS, POLYCHLORINATED BIPHENYLS (PCBS)</u>		
Source(s) of Impairment	<u>SOURCE UNKNOWN</u>		
TMDL Status	<u>Final</u>	Name	<u>Beaver River</u>
Nearest Downstream Public Water Supply Intake	<u>Beaver Falls Municipal Authority</u>		
PWS Waters	<u>Beaver River</u>	Flow at Intake (cfs)	<u>640</u>
PWS RMI	<u>3.06</u>	Distance from Outfall (mi)	<u>2.15</u>

Changes Since Last Permit Issuance: No significant changes.

Development of Effluent Limitations

Outfall No.	001	Design Flow (MGD)	1.8
Latitude	40° 45' 43"	Longitude	-80° 18' 48"
Wastewater Description: Supernatant from Wastewater Equalization Basin			

Technology-Based Limitations

The Eastvale Water Treatment Plant is not subject to Federal Effluent Limitation Guidelines (ELGs) as the SIC code is not listed under 40 CFR parts 405 through 471.

Regulatory Effluent Standards and Monitoring Requirements

Flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1) which is displayed in **Table 1** below.

Effluent standards for pH are also imposed on industrial wastes by 25 Pa. Code §§ 95.2(1) which is displayed in **Table 1** below.

Pennsylvania regulations at 25 Pa. Code § 92a.48(b) require the imposition of technology-based TRC limits for facilities that use chlorination and that are not already subject to TRC limits based on applicable federal ELGs or a facility-specific BPJ evaluation which is displayed in **Table 1** below.

Table 1. Regulatory Effluent Standards

Parameter	Monthly Avg	Daily Max	IMAX
Flow	Monitor	Monitor	----
pH	6.0 – 9.0 at all times		----
TRC	0.5 mg/l	----	1.6 mg/l

Best Practicable Control Technology Currently Achievable (BPT)

BPT for wastewater from treatment of WTP sludges and filter backwash is found in DEPs Technology-Based Control Requirements for Water Treatment Plant Wastes Document which falls under Best Professional Judgement under 40 CFR § 125.3 and the limits imposed are displayed in **Table 2** below.

Table 2. BPT Limits for WTP sludge and filter backwash wastewater

Parameter	Monthly Avg (mg/l)	Daily Max (mg/l)
Suspended solids	30.0	60.0
Iron (total)	2.0	4.0
Aluminum (total)	4.0	8.0
Manganese (total)	1.0	2.0
Flow	Monitor	----
pH	6.0 – 9.0 at all times	
Total Residual Chlorine	0.5	1.0

Water Quality-Based Limitations

Toxics Management Spread Sheet

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

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

Reasonable Potential Analysis and WQBEL Development for Outfall 001

Discharges from Outfall 001 are evaluated based on concentrations reported on the application and on DMRs; data from those sources are entered into the TMS. The maximum reported value of the parameters from the application form or from previous DMRs is used as the input concentration in the TMS. All toxic pollutants whose maximum concentrations, as reported in the permit application or on DMRs, are greater than the most stringent applicable water quality criterion are considered to be pollutants of concern. This includes pollutants reported as "Not Detectable" or as "<MDL" where the method detection limit for the analytical method used by the applicant is greater than the most stringent water quality criterion. The TMS is run with the discharge and receiving stream characteristics shown in **Table 3**. Pollutants for which water quality standards have not been promulgated (e.g., TSS, oil and grease) are excluded from the analysis. All the parameters are evaluated using the model to determine the water quality-based effluent limits applicable to the discharge and the receiving stream. The spreadsheet then compares the reported discharge concentrations to the calculated water quality-based effluent limitations to determine if a reasonable potential exists to exceed the calculated WQBELs. Effluent limitations are established in the draft permit where a pollutant's maximum reported discharge concentration equals or exceeds 50% of the WQBEL. For non-conservative pollutants, monitoring requirements are established where the maximum reported concentration is between 25% - 50% of the WQBEL. For conservative pollutants, monitoring requirements are established where the maximum reported concentration is between 10% - 50% of the WQBEL.

Effluent limitations recommended by the TMS are shown in **Table 4**. The Output from the TMS is included in **Attachment A**.

Table 3. TMS Inputs for Outfall 001

Discharge Information	
Parameter	Value
River Mile Index	4.49
Discharge Flow (MGD)	0.64
Basin/Stream Information	
Parameter	Value
Drainage Area (mi ²)	3110
Q ₇₋₁₀ (cfs)	640
Low-flow yield (cfs/mi ²)	0.205
Elevation (ft)	1128
Slope (ft/ft)	0.0561

Table 4. WQBELs from TMS

Parameter	Monthly Avg (lbs/day)	Daily Max (lbs/day)
Total Aluminum	Report	Report

Total Residual Chlorine

To determine if WQBELs are required for discharges containing total residual chlorine (TRC), a discharge evaluation is performed using a DEP program called TRC_CALC created with Microsoft Excel for Windows. TRC_CALC calculates TRC Waste Load Allocations (WLAs) through the application of a mass balance model which considers TRC losses due to stream and discharge chlorine demands and first-order chlorine decay. Input values for the program include flow rates and chlorine demands for the receiving stream and the discharge, the number of samples taken per month, coefficients of TRC variability, partial mix factors, and an optional factor of safety. The mass balance model calculates WLAs for acute and chronic criteria

that are then converted to long term averages using calculated multipliers. The multipliers are functions of the number of samples taken per month and the TRC variability coefficients (normally kept at default values unless site specific information is available). The most stringent limitation between the acute and chronic long-term averages is converted to an average monthly limit for comparison to the BAT average monthly limit of 0.5 mg/l from 25 Pa. Code § 92a.48(b)(2). The more stringent of these average monthly TRC limitations is imposed in the permit. The results of the modeling, included in **Attachment B**, indicate that no WQBELs are required for TRC.

Table 5. TRC limits from TRC_CALC

Parameter	Monthly Avg (mg/L)	Daily Max (mg/L)
Total Residual Chlorine	0.5	1.170

Anti-Backsliding

Previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l). The limits below in **Table 6** are from the current permit. The parameters listed are from the Departments Technical Support Document (TSD) "Development of Technology-Based Control Requirements for Water Treatment Plant Wastes in Pennsylvania".

Table 6: Current Permit Effluent Limits

Parameters	Mass (lb/day)		Concentration (mg/l)			
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX
Total Suspended Solids	XXX	XXX	XXX	30.0	XXX	60.0
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	1.0
Total Aluminum	XXX	XXX	XXX	4.0	XXX	8.0
Total Iron	XXX	XXX	XXX	2.0	XXX	4.0
Total Manganese	XXX	XXX	XXX	1.0	XXX	2.0
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0

Proposed Effluent Limitations for Outfall 001

The proposed effluent limitations and monitoring requirements for Outfall 001 are shown below in **Table 7**. The monitoring frequency will remain the same as the current permit, twice per month.

Table 7: Proposed Effluent Limitation for Outfall 001

Parameters	Mass (lb/day)		Concentration				Monitoring Requirements	
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Frequency	Sample Type
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	2/Month	Measured
Total Suspended Solids (mg/L)	XXX	XXX	XXX	30.0	60.0	XXX	2/Month	Grab
Total Residual Chlorine (mg/L)	XXX	XXX	XXX	0.5	1.0	XXX	2/Month	Grab
Total Aluminum (mg/L)	XXX	XXX	XXX	4.0	8.0	XXX	2/Month	Grab
Total Iron (mg/L)	XXX	XXX	XXX	2.0	4.0	XXX	2/Month	Grab
Total Manganese (mg/L)	XXX	XXX	XXX	1.0	2.0	XXX	2/Month	Grab
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	2/Month	Grab

Tools and References Used to Develop Permit	
<input type="checkbox"/>	WQM for Windows Model
<input checked="" type="checkbox"/>	Toxics Management Spreadsheet (see Attachment A)
<input checked="" type="checkbox"/>	TRC Model Spreadsheet (see Attachment B)
<input type="checkbox"/>	Temperature Model Spreadsheet
<input type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
<input type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
<input checked="" type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 386-2000-002, 9/08.
<input type="checkbox"/>	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
<input type="checkbox"/>	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
<input type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
<input type="checkbox"/>	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
<input type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
<input type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
<input type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
<input type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
<input type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Design Stream Flows, 386-2000-003, 9/98.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
<input type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input checked="" type="checkbox"/>	SOP: Establishing Effluent Limits for Individual Industrial Permits (BCW-PMT-032)
<input checked="" type="checkbox"/>	Other: USGS Stream Stats (See Attachment C)

Attachments

Attachment A: Toxics Management Spreadsheet
Attachment B: TRC Model Spreadsheet
Attachment C: USGS Stream Stats
Attachment D: Aerial Site Map

**Attachment A:
Toxics Management Spreadsheet**

Discharge Information

Instructions Discharge Stream

Facility: Eastvale Water Treatment Plant

NPDES Permit No.: PA0217468

Outfall No.: 001

Evaluation Type: Major Sewage / Industrial Waste

Wastewater Description: Supernatant from Wastewater Equalization

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
0.64	156	7.73						

Discharge Pollutant	Units	Max Discharge Conc	0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
			Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L	20								
	Chloride (PWS)	mg/L	54.5								
	Bromide	mg/L	< 0.1								
	Sulfate (PWS)	mg/L	78.6								
	Fluoride (PWS)	mg/L	0.53								
Group 2	Total Aluminum	µg/L	2200								
	Total Antimony	µg/L	< 2								
	Total Arsenic	µg/L	< 2								
	Total Barium	µg/L	32.9								
	Total Beryllium	µg/L	< 1								
	Total Boron	µg/L	< 100								
	Total Cadmium	µg/L	< 0.2								
	Total Chromium (III)	µg/L	< 2								
	Hexavalent Chromium	µg/L	< 5								
	Total Cobalt	µg/L	< 1								
	Total Copper	mg/L	0.0239								
	Free Cyanide	µg/L									
	Total Cyanide	µg/L	< 5								
	Dissolved Iron	µg/L	< 20								
	Total Iron	µg/L	230								
	Total Lead	µg/L	< 1								
	Total Manganese	µg/L	940								
	Total Mercury	µg/L	< 0.2								
	Total Nickel	µg/L	2.94								
	Total Phenols (Phenolics) (PWS)	µg/L	< 30								
	Total Selenium	µg/L	< 5								
	Total Silver	µg/L	< 0.4								
	Total Thallium	µg/L	< 2								
	Total Zinc	mg/L	0.00956								
	Total Molybdenum	µg/L	2.37								
	Acrolein	µg/L	<								
	Acrylamide	µg/L	<								
	Acrylonitrile	µg/L	<								
	Benzene	µg/L	<								
	Bromoform	µg/L	<								

Group 3	Carbon Tetrachloride	µg/L	<																	
	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)Anthracene	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	<																	

12

Stream / Surface Water Information

Eastvale Water Treatment Plant, NPDES Permit No. PA0217468, Outfall 001

Instructions Discharge **Stream**

Receiving Surface Water Name: **Beaver 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	033953	4.489681	1128	3110			Yes
End of Reach 1	033953	3.579354	1115	3110.1			Yes

Q₇₋₁₀

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	4.489681	0.205										100	7		
End of Reach 1	3.579354	0.205													

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	4.489681														
End of Reach 1	3.579354														

Model Results

Eastvale Water Treatment Plant, NPDES Permit No. PA0217468, Outfall 001

Instructions **Results**

RETURN TO INPUTS

SAVE AS PDF

PRINT

☒ All ☐ Inputs ☐ Results ☐ Limits

☐ Hydrodynamics

☒ Wasteload Allocations

☒ AFC

CCT (min): **15**

PMF: **0.063**

Analysis Hardness (mg/l): **101.34**

Analysis pH: **7.01**

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	31,335	
Total Antimony	0	0		0	1,100	1,100	45,959	
Total Arsenic	0	0		0	340	340	14,205	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	877,393	
Total Boron	0	0		0	8,100	8,100	338,423	
Total Cadmium	0	0		0	2,040	2.16	90.3	Chem Translator of 0.943 applied
Total Chromium (III)	0	0		0	576.010	1,823	76,158	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	681	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	3,969	
Total Copper	0	0		0	13.609	14.2	592	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	65.524	83.0	3,469	Chem Translator of 0.789 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	68.8	Chem Translator of 0.85 applied
Total Nickel	0	0		0	473.540	474	19,824	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	3.291	3.87	162	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	2,716	
Total Zinc	0	0		0	118.510	121	5,063	Chem Translator of 0.978 applied

NPDES Permit Fact Sheet
Beaver Falls Municipal Authority

NPDES Permit No. PA0217468

☒ **CFC**

CCT (min): **720**

PMF: **0.439**

Analysis Hardness (mg/l): **100.2**

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	62,378	
Total Arsenic	0	0		0	150	150	42,530	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	1,162,500	
Total Boron	0	0		0	1,600	1,600	453,658	
Total Cadmium	0	0		0	0.246	0.27	76.8	Chem Translator of 0.909 applied
Total Chromium (III)	0	0		0	74.234	86.3	24,475	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	2,947	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	5,387	
Total Copper	0	0		0	8.971	9.34	2,650	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	967,407	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.522	3.19	904	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	257	Chem Translator of 0.85 applied
Total Nickel	0	0		0	52.093	52.3	14,815	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	1,415	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	3,686	
Total Zinc	0	0		0	118.337	120	34,029	Chem Translator of 0.986 applied

☒ **THH**

CCT (min): **720**

PMF: **0.439**

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	1,588	
Total Arsenic	0	0		0	10	10.0	2,835	
Total Barium	0	0		0	2,400	2,400	680,488	
Total Boron	0	0		0	3,100	3,100	878,963	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	

NPDES Permit Fact Sheet
Beaver Falls Municipal Authority

NPDES Permit No. PA0217468

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	85,061	
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	283,537	
Total Mercury	0	0		0	0.050	0.05	14.2	
Total Nickel	0	0		0	610	610	172,957	
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	68.0	
Total Zinc	0	0		0	N/A	N/A	N/A	

☒ **CRL**

CCT (min): **720**

PMF: **0.649**

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

Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			
Total Aluminum	Report	Report	Report	Report	Report	µg/L	20,085	AFC	Discharge Conc > 10% WQBEL (no RP)

☒ **Other Pollutants without Limits or Monitoring**

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	562,374	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	216,916	µg/L	Discharge Conc < TQL
Total Cadmium	57.9	µg/L	Discharge Conc < TQL
Total Chromium (III)	24,475	µg/L	Discharge Conc < TQL
Hexavalent Chromium	436	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	2,544	µg/L	Discharge Conc < TQL
Total Copper	0.38	mg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	85,061	µg/L	Discharge Conc < TQL
Total Iron	967,407	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	904	µg/L	Discharge Conc < TQL
Total Manganese	283,537	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	14.2	µg/L	Discharge Conc < TQL
Total Nickel	12,707	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	1,415	µg/L	Discharge Conc < TQL
Total Silver	104	µg/L	Discharge Conc < TQL
Total Thallium	68.0	µg/L	Discharge Conc < TQL
Total Zinc	3.25	mg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS

**Attachment B:
TRC Model Spreadsheet**

18

**Attachment C:
USGS Stream Stats**

StreamStats Report

Region ID: PA
Workspace ID: PA20250130160110045000
Clicked Point (Latitude, Longitude): 40.76412, -80.31642
Time: 2025-01-30 11:01:34 -0500



[Collapse All](#)

> Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	3.2135	degrees
DRNAREA	Area that drains to a point on a stream	3110	square miles
ELEV	Mean Basin Elevation	1128	feet

> Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	3110	square miles	2.26	1400
ELEV	Mean Basin Elevation	1128	feet	1050	2580

Low-Flow Statistics Disclaimers [Low Flow Region 4]

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

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

Statistic	Value	Unit
7 Day 2 Year Low Flow	254	ft ³ /s
30 Day 2 Year Low Flow	336	ft ³ /s
7 Day 10 Year Low Flow	161	ft ³ /s
30 Day 10 Year Low Flow	187	ft ³ /s
90 Day 10 Year Low Flow	256	ft ³ /s

Low-Flow Statistics Citations

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

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

USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.26.0

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

**Attachment D:
Aerial Site Map**

