Pennsylvania Department of Environmental Protection

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0095176**
Facility Type	**Industrial**	APS ID	**620198**
Major / Minor	**Minor**	Authorization ID	**688292**

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

Applicant and Facility Information

Applicant Name	**Elliott Company Inc.**	Facility Name	**Jeannette Facility**
Applicant Address	901 North 4th Street	Facility Address	Jeannette Machine Plant
	Jeannette, PA 15644-1474		Jeannette, PA 15644-0800
Applicant Contact	Jason Steele, Sr. Manager EHS; Global Manufacturing	Facility Contact	***same as applicant***
Applicant Phone	724-600-8265	Facility Phone	***same as applicant***
Applicant Email	jsteele@elliott-turbo.com	Facility Email	***same as applicant***
Client ID	79629	Site ID	244365
SIC Code	3511, 3563	Municipality	Jeannette City
SIC Description	Manufacturing - Air and Gas Compressors, Manufacturing - Turbines and Turbine Generator Sets	County	Westmoreland
Date Application Received	June 26, 2007, October 9, 2012, & November 23, 2021	EPA Waived?	Yes
Date Application Accepted	July 19, 2007	If No, Reason	
Purpose of Application	Renewal of an NPDES permit for existing discharge of treated process wastewaters, non-contact cooling waters, groundwater, and storm water.		

Summary of Review

On June 26, 2007, Elliott Turbomachinery Company, Inc. submitted an application to the Pennsylvania Department of Environmental Protection (DEP) to renew NPDES Permit PA0095176 for discharges of process wastewater, non-contact cooling water, groundwater, and storm water from the company's Jeannette Facility. The NPDES permit currently in effect was issued on December 24, 2002 with an effective date of January 1, 2003 and an expiration date of December 24, 2007. The permit was amended on March 17, 2003 (Amendment No. 1) to remove water quality-based effluent limits (WQBELs) for dissolved iron from Outfall 003 and WQBELs for manganese from Outfall 008 based on DEP's acknowledgement that certain quality criteria do not apply to streams in the Brush Creek Watershed. The amendment also removed a Toxics Reduction Evaluation for copper at Outfall 018 based on the planned elimination of that outfall. The application to renew the 2002 permit, as amended, was due by June 27, 2007 (180 days before expiration). The application was received before June 27, 2007, so the renewal application was timely and the terms and conditions of the amended NPDES permit were administratively extended past its expiration date.

On April 1, 2008, DEP mailed a draft permit to Elliott Turbomachinery Company, Inc. based on the 2007 application. The draft permit was published for public comment in the *Pennsylvania Bulletin* on April 12, 2008. By letter dated May 8, 2008, Elliott Turbomachinery Company submitted comments on the draft permit. DEP did not take a final action on the 2007 application, so the permit was not renewed at that time.

Even though a final renewed permit was not issued based on the 2007 application, on July 2, 2012, DEP received another renewal application dated June 27, 2012 from Elliott Company, Inc. (Elliott) and, on October 9, 2012, Elliott submitted an update to that application to include missing storm water results due to a lack of rainfall in the lead-up to the July 2012 submission. It does not appear that DEP requested an updated application at that time, so Elliott may have submitted the

Approve	Deny	Signatures	Date
✓		Ryan C. Decker, P.E. / Environmental Engineer	April 10, 2025
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	April 11, 2025

Summary of Review

application under the assumption that renewal applications are due every five years irrespective of whether DEP took a final action on a previous application. For various reasons not attributable to Elliott, DEP did not act on the 2012 application.

On May 12, 2021, DEP requested Elliott to submit an updated NPDES permit application owing to the amount of time that had passed since the previous renewal application was submitted. Elliott submitted an updated application on November 23, 2021. Due to staff changes, DEP did not act immediately on the updated application.

In response to DEP's review of the 2021 application update in 2024, DEP sent Elliott a pre-draft survey letter on August 2, 2024. The pre-draft survey letter identified preliminary water quality-based effluent limitations (WQBELs) and water quality-based reporting requirements (including temperature WQBELs) that DEP calculated for two of Elliott's outfalls that discharge heated wastewaters (Outfalls 003 and 015). The WQBELs and water quality-based reporting requirements were derived primarily from Elliott not reporting effluent analytical results down to the level of with DEP's Target Quantitation Limits (Target QLs). The letter also requested an updated flow diagram and clarification of effluent sources and flow rates for Outfalls 003 and 015 to properly apply Federal Effluent Limitations Guidelines.

On August 30, 2024, Elliott submitted a complete NPDES Pre-Draft Permit Survey in which Elliott stated its intent to collect additional effluent samples using sufficiently sensitive methods that would achieve the Target QLs, and to collect additional effluent samples for parameters that were detected in the effluent to generate a statistically significant dataset of at least ten results that would allow use of an average discharge concentration for modeling purposes.

On February 21, 2025, Elliott submitted a supplemental information package containing updated analytical data and the other information requested in DEP's August 2, 2024 pre-draft survey letter.

This fact sheet and the associated draft permit are based primarily on Elliott's November 23, 2021 application update and February 21, 2025 supplemental information package.

Facility Description and Permitted Discharges

Elliott manufactures turbomachinery—machines that produce either pressure or power whose primary elements are rotative—and service parts in addition to complete finished units at the Jeannette Facility. Turbines and compressors are manufactured from purchased metals and other materials at the facility. The facility is generally a machine shop that uses all the conventional methods of metal removal (turning, drilling, milling, grinding), metal joining (welding and brazing), metal treating (heat treating and painting), and mechanical assembly. The facility also conducts mechanical and performance testing on assembled rotating equipment.

The current permit from 2002, as amended, authorizes discharges from thirty-two outfalls including Outfalls 001, 002, 003, 004, 005, 007, 008, 009, 011, 012, 013, 014, 015, 018, 019, 020, 021, 022, 023, 027, 028, 029, 030, 031, 032, 033, 036, 037, 038, 039, 040, and 041 to Unnamed Tributary 37319 to Brush Creek (colloquially "Bull Run") designated for trout stock fishes. Outfalls 001, 004, 021, 027, 028, and 029 were authorized to discharge uncontaminated storm water and/or groundwater. Outfall 002 was authorized to discharge non-contact cooling water and storm water. Outfalls 003 and 015 were authorized to discharge a combination of process and non-process wastewaters. The remaining outfalls were authorized to discharge either storm water or storm water and groundwater that may be impacted by industrial activities.

Since the permit was last renewed, Elliott eliminated Outfalls 005, 018, 023, 027, 028, 029, 032, 036, 037, and 038; eliminated the non-contact cooling water contribution to Outfall 002; eliminated contact and non-contact cooling water contributions to Outfall 003; eliminated non-contact cooling water contributions to Outfall 015; and removed a non-functional oil/water separator from Outfall 008. Elliott also re-routed building and/or machine foundation drains previously discharging through Outfall 008 to Outfall 003 and identified cooling tower blowdown as a source discharging to Outfall 003. Elliott also identified two existing/previously unidentified storm water outfalls numbered as Outfall 042 and Outfall 043 in the 2021 application update. Outfalls and wastewater sources authorized by the renewed permit will include the following:

Outfall	Effluent Description
001	- Groundwater seep on-site - Storm water runoff from paved passenger vehicle parking areas
002	- Storm water runoff from administrative building roof drains and grass areas to east - Storm water runoff from paved passenger vehicle areas - Groundwater seep on-site

Summary of Review

Outfall	Effluent Description
003	- Process wastewater from cleaning at paint booth - Hydrostatic test water from finished machine components - Non-process wastewater sources: boiler and cooling tower blowdown - Petroleum aboveground storage tank secondary containment drain (storm water) - Groundwater and process wastewater from building/machine foundation drains.
004	- Storm water runoff from paved passenger vehicle parking area
007	- Storm water runoff from warehouse roof drain
008	- Storm water runoff from facility operations building roof drains and paved surface - Storm water runoff from municipal street storm drains
009	- Storm water runoff from warehouse roof drain
011	- Storm water runoff from warehouse roof drain
012	- Storm water runoff from warehouse roof drains
013	- Storm water runoff from warehouse roof drain
014	- Storm water runoff from facility paved surface.
015	- Hydrostatic test water from finished machine components - Groundwater and process wastewater from building/machine foundation sumps - Non-process wastewater source: cooling tower blowdown - Storm water runoff from facility operations building roof drains and paved surface
019	- Stormwater runoff from facility operations building roof drains and paved surface
020	- Storm water runoff from facility operations building roof drains and paved surface
021	- Storm water runoff from facility operations building roof drains and paved surface - Storm water runoff from municipal street storm drains
022	- Storm water runoff from warehouse roof drains
030	- Storm water runoff from facility operations building roof drains and paved surface - Groundwater from building foundation drains
031	- Storm water runoff from facility paved surface
033	- Storm water runoff from facility operations building roof drains and adjacent municipal street
039	- Storm water runoff from facility operations building roof drains
040	- Storm water runoff from vegetated surface
041	- Storm water runoff from facility operations building roof drains and loading dock paved surface
042	- Storm water runoff from loading dock and waste dumpster storage area paved surface
043	- Storm water runoff from warehouse roof drains - Groundwater seep on-site

As part of the 2021 application update, Elliott also requested authorization to conduct representative sampling of storm water outfalls for the following groupings:

- Group A: Outfalls 001, 002, and 004 represented by Outfall 002
- Group B: Outfalls 007, 009, 011, 012, 013, 014, and 043 represented by Outfall 012
- Group C: Outfalls 008, 030, and 031 represented by Outfall 008
- Group D: Outfalls 019, 020, 021, 022, and 033 represented by Outfall 020
- Group E: Outfalls 039 and 040 represented by Outfall 040
- Group F: Outfalls 041 and 042 represented by Outfall 042

As discussed in this Fact Sheet, DEP accepts Elliott's proposal for representative outfall sampling as part of this permit renewal.

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)	Variable
Latitude	40° 20' 8"	Longitude	-79° 36' 39"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water runoff from paved passenger vehicle parking areas and groundwater seepage		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99408076	RMI	0.86
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank Modifications/Destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake		Pennsylvania American Water Company – Pittsburgh	
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	Variable
Latitude	40° 20' 9"	Longitude	-79° 36' 39"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water runoff from administrative building roof drains and grassy areas to the east; storm water runoff from paved passenger vehicle areas, and groundwater seepage		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99408076	RMI	0.89
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake		Pennsylvania American Water Company – Pittsburgh	
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance: The non-contact cooling water effluent source was eliminated.

Other Comments:

Discharge, Receiving Waters and Water Supply Information

Outfall No.	003	Design Flow (MGD)	0.033 (avg.); 0.0974 (max)
Latitude	40° 20' 9"	Longitude	-79° 36' 39"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Process wastewater from cleaning at the paint booth; hydrostatic test water from finished machine components; boiler blowdown; cooling tower blowdown; petroleum aboveground storage tank secondary containment structure drain (storm water); groundwater and process wastewater from building/machine foundation sumps		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99408076	RMI	0.89
Drainage Area	2.48	Yield (cfs/mi^2)	0.010
Q_{7-10} Flow (cfs)	0.0251	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1,023	Slope (ft/ft)	0.00775
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake		Pennsylvania American Water Company – Pittsburgh	
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	004	Design Flow (MGD)	Variable
Latitude	40° 20' 10"	Longitude	-79° 36' 39"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water runoff from a paved passenger vehicle parking area		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99408076	RMI	0.91
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake	Pennsylvania American Water Company – Pittsburgh		
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	007	Design Flow (MGD)	Variable
Latitude	40° 20' 15"	Longitude	-79° 36' 38"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water runoff from a warehouse roof drain		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99408076	RMI	1.01
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed
Background/Ambient Data		Data Source	
pH (SU)			
Temperature (°F)			
Hardness (mg/L)			
Other:			
Nearest Downstream Public Water Supply Intake		Pennsylvania American Water Company – Pittsburgh	
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information

Outfall No.	008	Design Flow (MGD)	.0364
Latitude	40° 20' 15"	Longitude	-79° 36' 37"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water runoff from facility operations building roof drains and paved surface, and storm water runoff from municipal street storm drains		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99408076	RMI	1.01
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake		Pennsylvania American Water Company – Pittsburgh	
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance: Building and machine foundation drains re-routed to Outfall 003.

Other Comments:

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	009	Design Flow (MGD)	Variable
Latitude	40° 20' 15"	Longitude	-79° 36' 38"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water runoff from a warehouse roof drain		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99408076	RMI	1.01
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake	Pennsylvania American Water Company – Pittsburgh		
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	011	Design Flow (MGD)	Variable
Latitude	40° 20' 16"	Longitude	-79° 36' 38"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water runoff from a warehouse roof drain		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99408076	RMI	1.02
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake	Pennsylvania American Water Company – Pittsburgh		
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	012	Design Flow (MGD)	Variable
Latitude	40° 20' 16"	Longitude	-79° 36' 37"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water runoff from warehouse roof drains		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99408076	RMI	1.03
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake	Pennsylvania American Water Company – Pittsburgh		
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information

Outfall No.	013	Design Flow (MGD)	Variable
Latitude	40° 20' 17"	Longitude	-79° 36' 39"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water runoff from a warehouse roof drain		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99408076	RMI	1.03
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake		Pennsylvania American Water Company – Pittsburgh	
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information

Outfall No.	014	Design Flow (MGD)	Variable
Latitude	40° 20' 17"	Longitude	-79° 36' 37"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water from facility paved surface		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99408076	RMI	1.05
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake		Pennsylvania American Water Company – Pittsburgh	
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information

Outfall No.	015	Design Flow (MGD)	0.066 (avg.); 1.0104 (max)
Latitude	40° 20' 18"	Longitude	-79° 36' 37"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Hydrostatic test water from finished machine components; groundwater and process wastewater from building/machine foundation sumps; cooling tower blowdown; storm water runoff from facility operations building roof drains and paved surface		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99408076	RMI	1.06
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake		Pennsylvania American Water Company – Pittsburgh	
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information

Outfall No.	019	Design Flow (MGD)	Variable
Latitude	40° 20' 23"	Longitude	-79° 36' 35"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water runoff from facility operations building roof drains and paved surface		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99408076	RMI	1.17
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake		Pennsylvania American Water Company – Pittsburgh	
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information

Outfall No.	020	Design Flow (MGD)	Variable
Latitude	40° 20' 27"	Longitude	-79° 36' 35"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water runoff from facility operations building roof drains and paved surface		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99408076	RMI	1.26
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake	Pennsylvania American Water Company – Pittsburgh		
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information

Outfall No.	021	Design Flow (MGD)	Variable
Latitude	40° 20' 25"	Longitude	-79° 36' 35"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water runoff from facility operations building roof drains and paved surface, and storm water from municipal street storm drains		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99408076	RMI	1.20
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake		Pennsylvania American Water Company – Pittsburgh	
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information

Outfall No.	022	Design Flow (MGD)	Variable
Latitude	40° 20' 28"	Longitude	-79° 36' 35"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water from warehouse roof drains		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99407884	RMI	1.26
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake	Pennsylvania American Water Company – Pittsburgh		
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	030	Design Flow (MGD)	Variable
Latitude	40° 20' 17"	Longitude	-79° 36' 37"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water runoff from facility operations building roof drains and paved surface and groundwater from building foundation drains.		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99408076	RMI	1.05
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake		Pennsylvania American Water Company – Pittsburgh	
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	031	Design Flow (MGD)	Variable
Latitude	40° 20' 19"	Longitude	-79° 36' 37"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water from facility paved surface		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99408076	RMI	1.10
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake	Pennsylvania American Water Company – Pittsburgh		
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information

Outfall No.	033	Design Flow (MGD)	Variable
Latitude	40° 20' 30"	Longitude	-79° 36' 30"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water from facility operations building roof drains and adjacent municipal street		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF) via MS4	Stream Code	37319
NHD Com ID	99407882	RMI	1.35
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake		Pennsylvania American Water Company – Pittsburgh	
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information

Outfall No.	039	Design Flow (MGD)	Variable
Latitude	40° 20' 18"	Longitude	-79° 36' 37"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water from facility operations building roof drains		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99408076	RMI	1.08
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake		Pennsylvania American Water Company – Pittsburgh	
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information

Outfall No.	040	Design Flow (MGD)	Variable
Latitude	40° 20' 18"	Longitude	-79° 36' 37"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water runoff from vegetated surface		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99408076	RMI	1.06
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake		Pennsylvania American Water Company – Pittsburgh	
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	041	Design Flow (MGD)	Variable
Latitude	40° 20' 30"	Longitude	-79° 36' 35"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water from facility operations building roof drains and loading dock paved surface		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99407882	RMI	1.31
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake	Pennsylvania American Water Company – Pittsburgh		
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information

Outfall No.	042	Design Flow (MGD)	Variable
Latitude	40° 20' 30"	Longitude	-79° 36' 35"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water from loading dock and waste dumpster storage area paved surface		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99407882	RMI	1.30
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake		Pennsylvania American Water Company – Pittsburgh	
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Discharge, Receiving Waters and Water Supply Information

Outfall No.	043	Design Flow (MGD)	Variable
Latitude	40° 20' 16"	Longitude	-79° 36' 37"
Quad Name	Greensburg	Quad Code	1609
Wastewater Description:	Storm water runoff from warehouse roof drains and groundwater seepage		
Receiving Waters	"Bull Run"; Unnamed Tributary to Brush Creek (TSF)	Stream Code	37319
NHD Com ID	99407882	RMI	1.03
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use	*Delete* PWS	Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Streambank modifications/destabilization		
TMDL Status	Final (January 28, 2005), Final (June 29, 2009)	Name	Brush Creek (Westmoreland), Turtle Creek Watershed

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

Nearest Downstream Public Water Supply Intake		Pennsylvania American Water Company – Pittsburgh	
PWS ID	5020039	PWS Withdrawal (MGD)	69.0 (60 MGD safe yield)
PWS Waters	Monongahela River	Flow at Intake (cfs)	1,230
PWS RMI	4.46	Distance from Outfall (mi)	

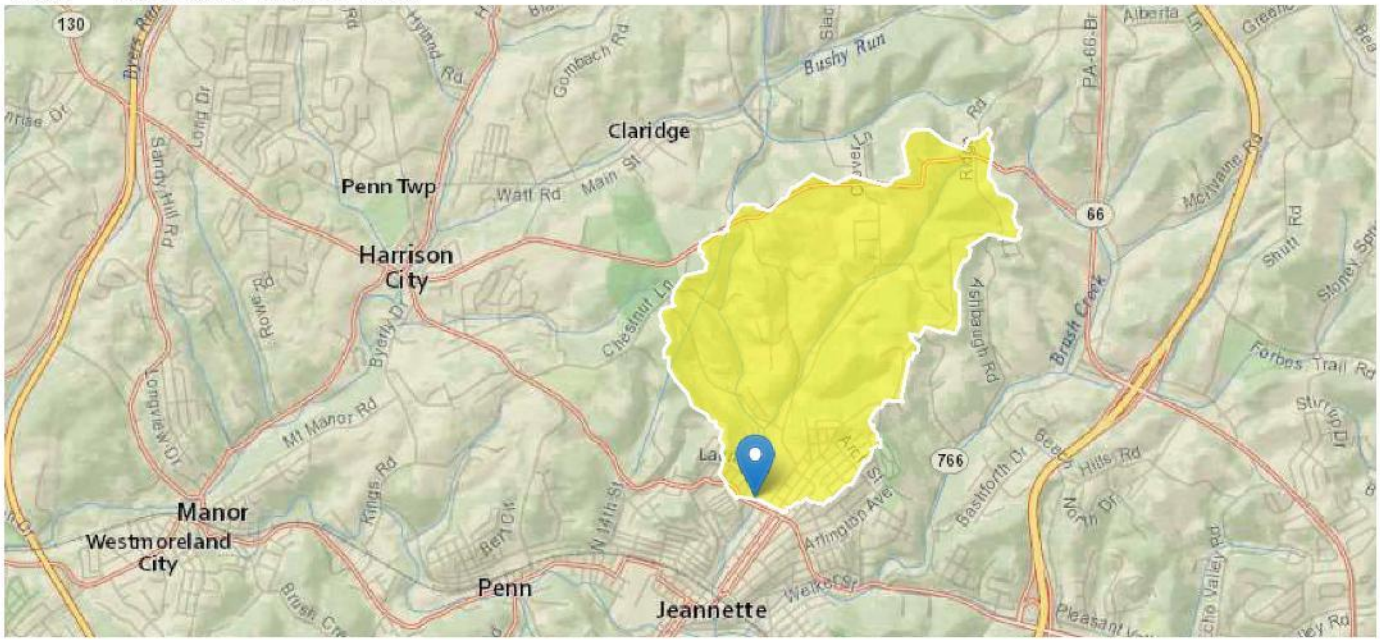
Changes Since Last Permit Issuance:

Other Comments:

USGS StreamStats – Basin Delineation Results for Outfall 003

StreamStats Report

Region ID: PA
Workspace ID: PA20240617175026572000
Clicked Point (Latitude, Longitude): 40.33595, -79.61114
Time: 2024-06-17 13:50:47 -0400



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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	2.48	square miles
ELEV	Mean Basin Elevation	1195	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	2.48	square miles	2.26	1400
ELEV	Mean Basin Elevation	1195	feet	1050	2580

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

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.0788	ft^3/s	43	43
30 Day 2 Year Low Flow	0.146	ft^3/s	38	38
7 Day 10 Year Low Flow	0.0251	ft^3/s	66	66
30 Day 10 Year Low Flow	0.0502	ft^3/s	54	54
90 Day 10 Year Low Flow	0.0982	ft^3/s	41	41

Low-Flow Statistics Citations

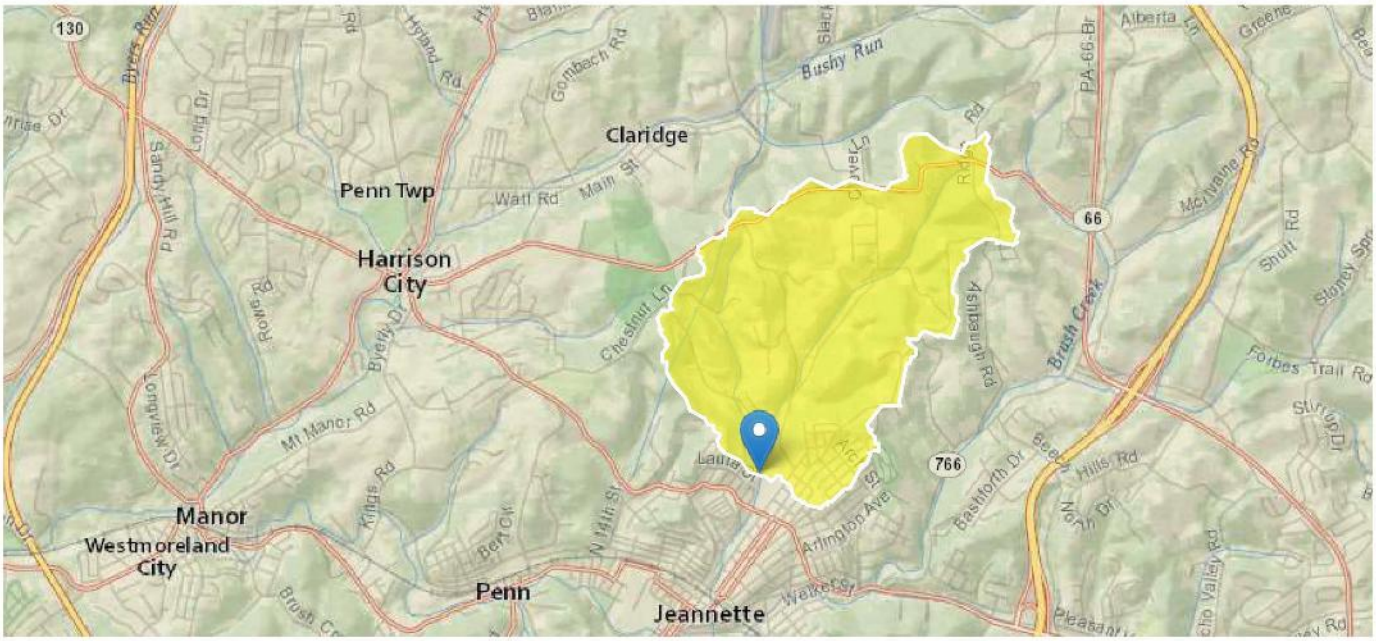
Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

Application Version: 4.20.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

USGS StreamStats – Basin Delineation Results for Outfall 015

StreamStats Report

Region ID: PA
Workspace ID: PA20240802135242386000
Clicked Point (Latitude, Longitude): 40.33829, -79.61047
Time: 2024-08-02 09:53:11 -0400



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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	2.4	square miles
ELEV	Mean Basin Elevation	1198	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	2.4	square miles	2.26	1400
ELEV	Mean Basin Elevation	1198	feet	1050	2580

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

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.076	ft^3/s	43	43
30 Day 2 Year Low Flow	0.141	ft^3/s	38	38
7 Day 10 Year Low Flow	0.0242	ft^3/s	66	66
30 Day 10 Year Low Flow	0.0484	ft^3/s	54	54
90 Day 10 Year Low Flow	0.0949	ft^3/s	41	41

Low-Flow Statistics Citations

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

Application Version: 4.23.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Unnamed Tributary to Brush Creek-99408076

Assessment Unit ID: PA-SCR-99408076

Waterbody Condition: Impaired (Issues Identified)

Existing Plans for Restoration: No

303(d) Listed: Yes

Year Reported: 2024

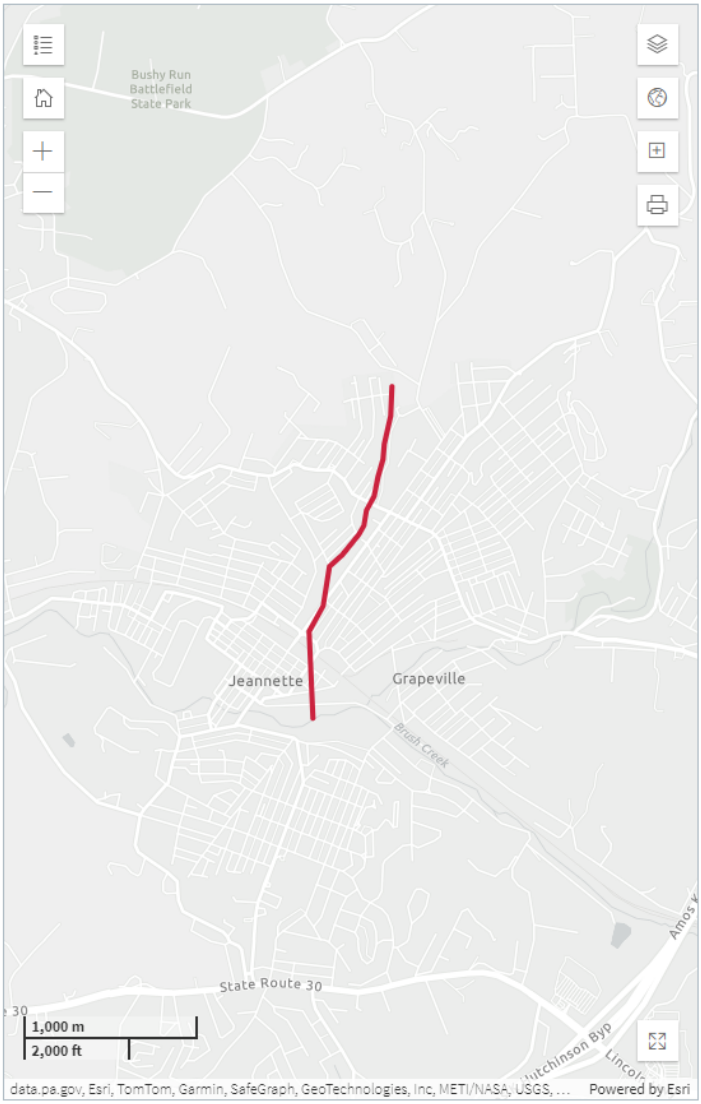
Organization Name (ID): Pennsylvania (21PA)

What type of water is this?

Stream/creek/river (1.2626 Miles)

Where is this water located?

JEANNETTE CITY, 15644 (county: Westmoreland)



Assessment Information from 2024

State or Tribal Nation specific designated uses:

Information on Water Quality Standards — Expand All

Trout Stocking — Impaired

Probable sources contributing to impairment from 2024:

Click a column heading to sort... Clear Filters

Source	Parameter	Confirmed
Filter...	Filter...	Filter...
Streambank Modifications/destabilization	Siltation	Yes

Click a column heading to sort... Clear Filters

Assessment Documents

No documents are available

Plans to Restore Water Quality

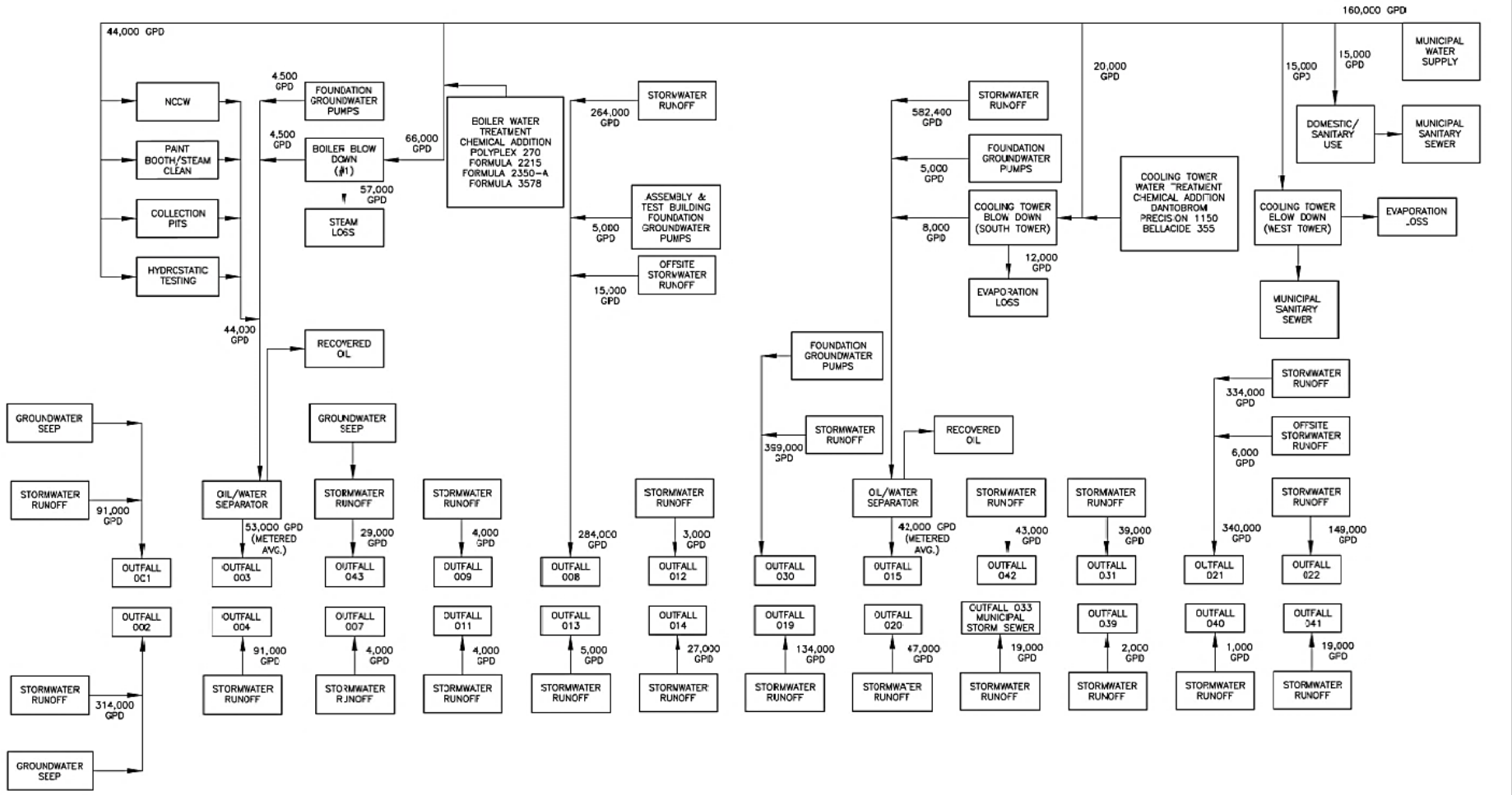
What plans are in place to protect or restore water quality?

Links below open in a new browser tab.

Plan	Impairments	Type	Completion Date
Brush Creek (Westmoreland)	Metals, pH	TMDL	2004-05-11
Turtle Creek Watershed	Metals, pH	TMDL	2008-12-02

Source: https://mywaterway.epa.gov/waterbody-report/21PA/PA-SCR-99408076/2024

Image Source and Date: April 21, 2024, Google Earth Pro. Annotations by DEP.



NOTE:

1. ESTIMATED STORMWATER RUNOFF VALUES ARE CALCULATED BASED ON 10-YEAR, 24-HOUR STORM EVENT. INDUSTRIAL WATER USAGE VALUES ESTIMATED BY ELLIOTT COMPANY, INC. BASED ON INFLUENT AND EFFLUENT FLOW METERING DATA AT SELECT OPERATIONAL LOCATIONS.
2. PROCESS UNITS OTHER THAN THE BOILER AND COOLING TOWERS OPERATE INTERMITTENTLY.

Civil & Environmental Consultants, Inc. 4350 Northern Pike · Suite 141 · Monroeville, PA 15146 724-327-5200 · 800-899-3610 www.cecinc.com *HAND SIGNATURE ON FILE	ELLIOTT COMPANY, INC. JEANNETTE FACILITY 901 N. 4TH STREET JEANNETTE, PA 15644 FACILITY FLOW DIAGRAM
DRAWN BY: SCC · CHECKED BY: JMF · APPROVED BY: DSR* · FIGURE NO.: 3	
DATE: NOVEMBER 2021 · DWG SCALE: N.T.S. · PROJECT NO: 313-535	

P:\310-000\313-535\-CADD\Dwg\END1\313535-END1-FLOW CHART.dwg[3] LS:(11/16/2021 - scal) - LP: 11/22/2021 10:41 AM

Treatment Facility Summary		
Treatment Facility: Outfall 003 Treatment System		
WQM Permit No.	**Issuance Date**	**Purpose**
6574208	May 30, 1975	Permit issued to Elliott Turbomachinery Company, Inc. by the Pennsylvania Department of Environmental Resources for the construction of an oil/water separator and sewer system to separate oil-bearing wastewaters from uncontaminated process streams.
6574208 A-1	September 8, 1998	Permit issued to Elliott Company, Inc. by the Pennsylvania DEP to modify the existing 750-gpm oil/water separator to add perforated polypropylene oleophilic (oil-attracting) coalescing tubes and a new sheen baffle; two (2) 500-gpm screw pumps (one service and one standby); and three (3) 240-gallon waste oil tanks. Elliott submitted the amendment application pursuant to a November 19, 1997 Consent Order and Agreement with DEP that required Elliott to modify the Outfall 003 Treatment System to meet effluent limits for oil and grease at Outfall 003. The coalescing tubes enabled the oil/water separator to remove oil droplets as small as 20 microns compared to 100 microns for the unmodified oil/water separator.
6574208 A-2	August 15, 2013	Permit issued to Elliott Company, Inc. by the Pennsylvania DEP to replace previously existing treatment systems with: one (1) 15,000-gallon coalescing oil/water separator (48’ long × 8” diameter) with a design flow of 3,000 gpm; and one (1) continuous-flow pH control system including a 10’ long x 8’ wide reaction tank with mixer, metering pumps, and connections for caustic and acid addition.

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
—	—		N/A	—

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
—	—	N/A	N/A	N/A

Treatment Facility Summary		
Treatment Facility: Outfall 015 Treatment System		
WQM Permit No.	**Issuance Date**	**Purpose**
6504203	March 3, 2005	Permit issued to Elliott Turbomachinery Company, Inc. by the Pennsylvania Department of Environmental Protection to replace previously existing treatment systems with: one (1) 1,000-gallon coalescing oil/water separator (10’9” long × 4’0” diameter) with a design flow of 100 gpm; one (1) BaySaver™ Model 5K treatment system consisting of two structures with a connecting separator unit to remove suspended solids and oils; new manholes to direct low flows to the oil/water separator and high flows (>100 gpm) to the BaySaver; and replacement sewer lines. Elliott also replaced the Outfall 015 outfall structure with a precast concrete headwall and riprap.

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
—	—		N/A	—

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
—	—	N/A	N/A	N/A

Treatment Facility Summary		
Treatment Facility: Old treatment systems		
WQM Permit No.	**Issuance Date**	**Purpose**
595-IW	November 12, 1947	Permit issued to Elliott Company by the Pennsylvania Sanitary Water Board for the construction of wastewater treatment facilities as required by an August 19, 1946 order from the Sanitary Water Board. Pickle rinse water was to be neutralized by an automatic ejector system in the rinse tank and then discharged to a 55,000-gallon cistern acting as a settling basin and makeup water supply for a closed-loop recirculating system. Some water was used to test heater assemblies at which time the water was discharged to a spray pond circuit and spray pond which discharged to Bull Run. The spray pond overflow was to include a curtain baffle to prevent the discharge of oil. Recovered oil was to be transferred to coal pile onsite with curbing to contain coal pile seepage. Cyanide wastes were to be segregated to discharged onto the coal pile for burning in the plant power units. Spent pickle liquor was to be manually neutralized using a neutralizing agent. Sludge from neutralization was to be disposed of in a lagoon onsite.
1911-IW	October 1, 1958	Permit issued to Elliott Company, Division of Carrier Corp., by the Pennsylvania Sanitary Water Board for the construction of two 12’ × 24’ × 10’ concrete storage sumps with a capacity of 12,000 gallons for batch neutralization of rinse water.

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
—	—	Oil/water separation, Settling	N/A	—

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
—	—	N/A	N/A	N/A

Changes Since Last Permit Issuance:

Other Comments:

Compliance History

DMR Data for Outfall 003 (from January 1, 2024 to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Flow (MGD) Average Monthly	0.0487	0.0402	0.0341	0.0294	0.0390	0.0209	0.0270	0.0306	0.0310	0.0513	0.0181	0.0354
Flow (MGD) Daily Maximum	0.0538	0.0571	0.0449	0.0336	0.0442	0.0263	0.0300	0.0441	0.0478	0.0621	0.0333	0.0432
pH (S.U.) Minimum	7.0	7.85	7.89	7.84	7.90	7.94	8.10	7.84	7.90	7.84	7.08	7.80
pH (S.U.) Maximum	8.1	8.14	8.07	8.41	8.28	8.20	8.54	8.10	8.24	8.11	7.98	8.19
TSS (mg/L) Average Monthly	< 8.2	< 7.5	< 7.0	< 5.8	< 6.5	< 9.4	10.3	< 21.5	< 10.8	< 6.8	< 6.8	< 9.8
TSS (mg/L) Daily Maximum	12	13	10.0	8	8	19	11.0	41	19	11	7.0	22.0
Oil and Grease (mg/L) Average Monthly	< 5.0	< 5.3	< 5.1	< 5.2	< 5.1	< 5.4	< 5.1	< 5.2	< 5.1	< 5.5	< 5.0	< 5.3
Oil and Grease (mg/L) Instantaneous Maximum	< 5.1	< 5.6	< 5.3	< 5.6	< 5.2	< 6.3	< 5.3	< 5.4	< 5.3	< 6.3	< 5.0	< 5.6
Total Cadmium (mg/L) Average Monthly	< 0.0048	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Total Cadmium (mg/L) Daily Maximum	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Total Chromium (mg/L) Average Monthly	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Total Chromium (mg/L) Daily Maximum	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Total Copper (mg/L) Average Monthly	< 0.005	< 0.008	< 0.006	< 0.005	< 0.005	< 0.005	< 0.005	< 0.009	< 0.005	< 0.005	< 0.005	< 0.005
Total Copper (mg/L) Daily Maximum	< 0.005	0.012	0.010	< 0.005	0.006	< 0.005	< 0.005	0.019	< 0.005	< 0.005	< 0.005	< 0.005
Total Cyanide (mg/L) Average Monthly	< 0.005	< 0.005	< 0.005	< 0.005	< 0.006	< 0.005	< 0.008	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Total Cyanide (mg/L) Daily Maximum	< 0.005	< 0.005	< 0.005	< 0.005	0.006	< 0.005	0.010	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Total Lead (mg/L) Average Monthly	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.006
Total Lead (mg/L) Daily Maximum	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	< 0.005	< 0.005	0.008
Total Nickel (mg/L) Average Monthly	< 0.009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.010	< 0.005

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Total Nickel (mg/L) Daily Maximum	0.026	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.025	< 0.005
Total Silver (mg/L) Average Monthly	< 0.0048	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Total Silver (mg/L) Daily Maximum	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Total Zinc (mg/L) Average Monthly	0.141	< 0.024	< 0.016	< 0.010	< 0.012	< 0.027	< 0.017	0.024	< 0.031	< 0.021	0.137	0.034
Total Zinc (mg/L) Daily Maximum	0.565	0.050	0.030	0.010	0.019	0.064	0.022	0.033	0.065	0.030	0.350	0.077

DMR Data for Outfall 007 (from January 1, 2024 to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Total Zinc (mg/L) Daily Maximum	0.051						0.017					

DMR Data for Outfall 008 (from January 1, 2024 to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Flow (MGD) Average Monthly	00	00	00	00	00	00	00	00	00	00	00	00
Flow (MGD) Daily Maximum	00	00	00	00	00	00	00	00	00	00	00	00
pH (S.U.) Minimum	7.0	7.00	7.01	7.01	7.01	7.07	7.01	7.02	7.0	7.02	7.04	7.02
pH (S.U.) Maximum	7.07	7.04	7.10	7.07	7.11	7.10	7.08	7.05	7.08	7.08	8.09	7.08

DMR Data for Outfall 009 (from January 1, 2024 to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Total Zinc (mg/L) Daily Maximum	0.054						< 0.010					

DMR Data for Outfall 011 (from January 1, 2024 to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Total Zinc (mg/L) Daily Maximum	0.041						0.015					

DMR Data for Outfall 012 (from January 1, 2024 to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Total Zinc (mg/L) Daily Maximum	0.047						0.011					

DMR Data for Outfall 013 (from January 1, 2024 to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Total Iron (mg/L) Daily Maximum	0.162						0.0463					
Total Zinc (mg/L) Daily Maximum	0.065						0.040					

DMR Data for Outfall 014 (from January 1, 2024 to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Total Iron (mg/L) Daily Maximum	3.19						0.370					
Total Zinc (mg/L) Daily Maximum	0.158						0.091					

DMR Data for Outfall 015 (from January 1, 2024 to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Flow (MGD) Average Monthly	0.0496	0.1114	0.0444	0.0580	0.1245	0.0589	0.0742	0.0932	0.2802	0.0634	0.0227	0.0604
Flow (MGD) Daily Maximum	0.1107	0.2082	0.0873	0.0998	0.2202	0.0942	0.0886	0.1390	1.0393	0.1016	0.0310	0.0944
pH (S.U.) Minimum	7.01	7.02	7.01	7.03	7.04	6.99	7.01	6.98	7.03	7.04	7.03	7.01
pH (S.U.) Maximum	7.09	7.07	7.10	7.05	7.09	7.09	7.10	7.03	7.08	7.08	7.09	7.08
Temperature (ºF) Average Monthly	64.0	65.8	67.8	68.9	71.5	71.9	68.3	67.4	63.1	58.3	58.4	57.2
Temperature (ºF) Daily Maximum	65.7	67.1	68.4	71.1	73.0	72.9	70.2	67.8	66.4	60.6	59.2	57.7

DMR Data for Outfall 019 (from January 1, 2024 to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Total Zinc (mg/L) Daily Maximum	0.046						0.053					

DMR Data for Outfall 020 (from January 1, 2024 to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Total Zinc (mg/L) Daily Maximum	0.021						0.058					

DMR Data for Outfall 022 (from January 1, 2024 to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Total Zinc (mg/L) Daily Maximum	0.012						< 0.010					

DMR Data for Outfall 030 (from January 1, 2024 to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Total Iron (mg/L) Daily Maximum	2.16						0.215					
Total Zinc (mg/L) Daily Maximum	0.198						0.394					

DMR Data for Outfall 031 (from January 1, 2024 to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Total Iron (mg/L) Daily Maximum	0.0700						0.184					
Total Zinc (mg/L) Daily Maximum	0.152						0.087					

DMR Data for Outfall 033 (from January 1, 2024 to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Total Zinc (mg/L) Daily Maximum	0.154						0.121					

DMR Data for Outfall 039 (from January 1, 2024 to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Total Zinc (mg/L) Daily Maximum	0.035						0.018					

DMR Data for Outfall 040 (from January 1, 2024 to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Total Zinc (mg/L) Daily Maximum	0.031						< 0.010					

DMR Data for Outfall 041 (from January 1, 2024 to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Total Zinc (mg/L) Daily Maximum	0.071						0.122					

Compliance History

Effluent Violations for Outfall 003, from: March 1, 2024 To: January 31, 2025

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Total Zinc	12/31/24	Daily Max	0.565	mg/L	.524	mg/L

Summary of Inspections:

Other Comments:

Development of Effluent Limitations

Outfall Nos.	001, 002, & 004	**Design Flow (MGD)**	Variable
Latitude	40° 20' 9.0"	**Longitude**	-79° 36' 39.0"

Wastewater Description: Storm water runoff from administrative building roof drains and grassy areas to the east; storm water runoff from paved passenger vehicle areas, and groundwater seepage

Discharges monitored at Outfall 002 are currently subject to the following effluent limits and monitoring requirements.

Table 1. Outfall 002 – Current Effluent Limits and Monitoring Requirements

Parameter	Mass (lbs/day)		Concentration (mg/L)			Measurement Frequency	Sample Type	Limit Basis
	Avg. Mo.	Max Daily	Avg. Mo.	Max Daily	IMAX			
Flow (MGD)	Report	Report	—	—	—	2/month	Measured	25 Pa. Code § 92.61(d)(1)
pH	—	—	6.0 (Minimum)	—	9.0	2/month	Grab	25 Pa. Code § 95.2(2)
Temperature (°F)	—	—	Report	110	—	2/month	I-S	25 Pa. Code § 92a.48(a)(3)

Discharges from Outfalls 001 and 004 were authorized to discharge uncontaminated storm water and groundwater and are not subject to any effluent limits or monitoring requirements under the existing permit.

The effluent limits 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).[1]

Discharges from Outfall 002 included contributions of non-contact cooling water when the current permit took effect on January 1, 2003. However, those contributions have been eliminated. Outfall 002 only discharges storm water. Pursuant to Elliott's elimination of non-contact cooling water and Section 402(o)(2)(B)(i) of the Clean Water Act regarding new information that justifies the application of less stringent limits, temperature requirements are removed from Outfall 002.

For this permit renewal, Elliott is requesting authorization to perform representative outfall sampling such that analyses of Outfall 002's discharges also will represent discharges from Outfalls 001 and 004. DEP allows representative outfall sampling for substantially identical storm water discharges (see the definition of "Representative Outfall" in DEP's PAG-03 General Permit).[2]

Outfalls 001 and 002 receive groundwater seepage while Outfall 004 does not. Despite that difference, the groundwater seepage has been characterized as "uncontaminated" and, as such, is an allowable non-storm water discharge (discussed in Section 002.A, below). Pursuant to 40 CFR § 122.41(j)(1)[3] (incorporated by reference in DEP's regulations at 25 Pa. Code § 92a.41(a)), DEP agrees to allow Outfall 002's discharges to represent discharges from Outfalls 001 and 004 with the qualification that representative sampling of storm water discharges at Outfall 002 be conducted when commingling with non-stormwater discharges is not occurring, or that sampling be conducted at locations prior to commingling with non-storm water discharges. The sampling qualifier is based on Part C.V.H of DEP's PAG-03 General Permit which directs authorized non-storm water discharges to be excluded from effluent sampling.

002.A. Technology-Based Effluent Limitations (TBELs)

There are no Federal Effluent Limitations Guidelines (ELGs) that apply to discharges from Outfalls 001, 002, and 004. Therefore, if warranted, TBELs are developed based on DEP's Best Professional Judgment (BPJ).

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[1] 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.)

[2] *Representative Outfall* means a point source selected by the permittee or DEP to represent the quality of stormwater for pollutant monitoring purposes because its drainage area characteristics are substantially identical in nature to the drainage area(s) of other point source(s) at the facility or site.

[3] 40 CFR § 122.41(j)(1): "Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity."

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.[4] Based on the Jeannette Facility's SIC Codes of 3511 and 3563, the facility would be classified under Appendix U – "Fabricated Metal Products" of the PAG-03.[5] To ensure baseline consistency with other 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, Appendix U are imposed at Outfall 002. The monitoring requirements of Appendix U are shown in **Table 2**. Monitoring requirements for additional pollutants are considered to the extent that baseline monitoring requirements from Appendix U do not capture the range of analytes present in Outfall 002's discharges.

Table 2. 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 and 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.

To the extent that effluent limits are necessary to ensure that storm water BMPs are adequately implemented, effluent limits are developed for industrial storm water discharges based on a determination of Best Available Technology (BAT) using BPJ. The development of case-by-case TBELs using BPJ typically involves the evaluation of end-of-pipe wastewater treatment technologies. However, consistent 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 3** summarizes the effluent data reported for the general chemistry pollutants listed on Module 1 of the updated NPDES permit application and additional metals parameters.

Table 3. Effluent Concentrations Reported for Outfall 002

Parameter	Outfall 002 Conc. (mg/L)	No Expos. Threshold (mg/L)	Benchmark Value (mg/L)	Parameter	Outfall 002 Conc. (mg/L)	No Expos. Threshold (mg/L)	Benchmark Value (mg/L)
Oil and Grease	≤5.0	≤5.0	30	Chromium	<0.0025	0.074 †	—
BOD_5	<5.6	≤10	30	Cobalt	<0.0025	0.019 †	—
COD	<25.0	≤30	120	Copper	<0.0025	0.009 †	—
TSS	6.0	≤30	100	Iron	0.133	≤1.5	—
Nitrogen, Tot.	<1.0	≤2.0	—	Lead	0.014	0.0025 †	—
Phosphorus, Tot.	<0.030	≤1.0	—	Manganese	0.0068	1.0†	—
pH (S.U.)	7.95	6.0 to 9.0	9.0	Molybdenum	<0.0025	—	—
Aluminum	0.102	0.75 †	—	Selenium	<0.0025	0.0046 †	—
Antimony	0.0014	0.0056†	—	Silver	<0.0025	0.0032 †	—
Arsenic	0.0031	0.010†	—	Thallium	<0.00050	0.00024 †	—
Barium	0.0061	2.4 †	—	Zinc	0.122	0.117 †	—
Beryllium	<0.00050	—	—	Mercury	<0.0002	0.00005 †	—
Cadmium	<0.00050	0.00025 †	—				

† Most stringent water quality criterion (at a hardness of 100 mg/L for hardness-based criteria)

[4] 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."

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

Based on the results in **Table 3**, no TBELs are imposed at Outfall 002. The analyzed pollutants are present in low concentrations or are not detectable. However, TBELs may be warranted in the future if concentrations in storm water consistently exceed the benchmark values. 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 Elliott 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.

Consistent with the PAG-03 General Permit, the benchmark values for Outfall 002's discharges will be set at 9.0 standard units for pH, 100 mg/L for TSS, 30 mg/L for Oil and Grease, and 3.0 mg/L for Nitrate+Nitrite Nitrogen. 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).

In addition to storm water, Elliott reported that discharges from Outfalls 001 and 002 may include groundwater seepage. Groundwater discharges from those outfalls historically were characterized as "uncontaminated". DEP generally allows discharges of non-storm water sources through storm water outfalls if the discharges consist of the following:

- Discharges from emergency/unplanned fire-fighting activities;
- Potable water – including water line flushings, fire suppression system flushings, and fire hydrant flushings – that does not contain measurable concentrations of Total Residual Chlorine (TRC) and where appropriate control measures are implemented to minimize discharges of mobilized solids and other pollutants (e.g., filtration, detention, settlement);
- Uncontaminated condensate from air conditioners, coolers/chillers, and other compressors (if treatment through an oil/water separator is provided) and from the outside storage of refrigerated gases or liquids;
- Irrigation drainage;
- Landscape water if such water does not contain pesticides, herbicides or fertilizers;
- Pavement wash waters, other than wash waters used on newly sealed pavement, where no detergents or hazardous cleaning products are used; the wash waters do not come into contact with oil and grease deposits, sources of pollutants associated with industrial activities, or any other toxic or hazardous materials; and where appropriate control measures are implemented to minimize discharges of mobilized solids and other pollutants (e.g., filtration, detention, settlement);
- Routine external building washdown / power wash water that does not contain detergents or hazardous cleaning products (e.g., those containing bleach, hydrofluoric acid, muriatic acid, sodium hydroxide, nonylphenols) and appropriate control measures are implemented to minimize discharges of mobilized solids and other pollutants (e.g., filtration, detention, settlement);
- Uncontaminated ground water or spring water;
- Foundation or footing drains where flows are not contaminated with process materials;
- Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of a facility, but not intentional discharges from the cooling tower; and
- Other non-stormwater discharges, if identified in the sector-specific appendix of PAG-03. [6]

The non-storm water sources discharging through Outfalls 001 and 002 are on DEP's list of allowable non-storm water discharges, so they will be permitted to discharge through Outfalls 001 and 002 without additional requirements.

002.B. <u>Water Quality-Based Effluent Limitations (WQBELs)</u>

Generally, DEP does not develop numerical WQBELs for storm water discharges. Pursuant to 25 Pa. Code § 96.4(g), mathematical modeling used to develop WQBELs must be performed at Q_{7-10} low-flow conditions. Storm water discharges generally do not occur at Q_{7-10} 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. However, that does not preclude the imposition of numerical or narrative WQBELs based on a TMDL (*e.g.*, TMDL WQBELs based on stream impairment caused by mine drainage that discharges during high flow conditions).

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

[6] DEP PAG-03 General Permit for Discharges of Stormwater Associated with Industrial Activity, Part C, Condition I.B.

Total Maximum Daily Loads (TMDL)

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 TMDL for impaired water bodies. A TMDL 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 assigns 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.

A TMDL for the Brush Creek Watershed was completed on January 28, 2005 and approved by U.S. EPA on March 17, 2005 to control aquatic life impairment from acid mine drainage pollutants including aluminum, iron, manganese, and pH. Separately, a TMDL for the Turtle Creek Watershed—of which Brush Creek is a part—was completed on June 29, 2009 and approved by U.S. EPA on July 7, 2009 to control aquatic life impairment from aluminum, iron, and pH. "Bull Run" is part of the Brush Creek and Turtle Creek Watersheds.

In accordance with 40 CFR § 122.44(d)(1)(vii)(B), when developing WQBELs, the permitting authority shall ensure that effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available WLA for the discharge prepared by the State and approved by EPA pursuant to 40 CFR § 130.7. The Turtle Creek Watershed TMDL does not state that it supersedes the Brush Creek TMDL even though the Turtle Creek Watershed TMDL was finalized later and includes allocations for discharges in the Brush Creek Watershed. Therefore, if necessary, the most stringent requirements between the two TMDLs are imposed.

Brush Creek Watershed TMDL

The Brush Creek Watershed TMDL includes TMDLs (*i.e.*, WLA + LA + an implicit MOS) for each impaired stream segment with allocations specified at the downstream point of each segment. There are no WLAs for individual permitted facilities in the Brush Creek Watershed.

The farthest upstream point on Brush Creek with allocations is identified in the TMDL as "*BRSH11 – Brush Creek downstream of Tinkers Run*". Tinkers Run empties into Brush Creek about seven miles downstream of the mouth of Bull Run (the receiving water for Elliott's discharges). The next (and last) point upstream of BRSH11 used to quantify the extent of Brush Creek's impairment for the TMDL—designated as BRSH13—is located about 0.75 miles upstream of BRSH11 (still several miles downstream of the mouth of Bull Run) and did not exhibit impairment by acid mine drainage as shown by the comparison in the table below.

Table 4. Comparison of Water Quality Data for BRSH13 and Pennsylvania's Chapter 93 Water Quality Criteria

Monitoring Point	Date	Flow (gpm)	pH (S.U.)	Alkalinity (mg/L)	Acidity (mg/L)	Iron (mg/L)	Manganese (mg/L)	Aluminum (mg/L)
BRSH13	4/24/2003	13203	8.3	133	0	<0.3	0.065	<0.5
WQ Criteria	—	—	6.0 – 9.0	—	—	1.5	1.0	0.75

Page 25 of the TMDL narrative explains:

> Brush Creek is listed as impaired on the PA Section 303(d) list by high metals from AMD as being the cause of the degradation to the stream. Brush Creek is contained in Part C of the PA Section 303(d) list. Part C contains segments without segment ids and GIS locations. After field investigation it was determined that Brush Creek is impaired by metals from Coal Run to the mouth. Sample data collected on 04/24/2003 from Brush Creek upstream of Coal Run, Point BRSH13 (Attachment A), showed that the stream is meeting water quality standards. The major

sources of AMD to Brush Creek come from the Irwin discharges on Tinkers Run and the Coal Run discharge, which is evidenced by heavy metals staining in Brush Creek below these streams.

Based on the preceding, no requirements apply to Elliott's discharges based on the Brush Creek Watershed TMDL. Elliott's discharges existed when the BRSH13 sample was taken in 2003 and evidently are not contributing to the impairment.

Turtle Creek Watershed TMDL

The Turtle Creek Watershed TMDL also includes TMDLs for each impaired stream segment in the Turtle Creek Watershed with allocations specified at the downstream point of each segment. The nearest TMDL allocation point to Elliott is "*BC4 – Brush Creek at PA Turnpike overpass in Shafton*" about five miles downstream of the mouth of Bull Run. As with the Brush Creek Watershed TMDL, analytical data at BC4 did not exhibit impairment by acid mine drainage. Pages 34 and 35 of the TMDL explain:

Sample data at point BC4 shows pH ranging between 7.83 and 8.30; pH will not be addressed because water quality standards are being met. Table C21 shows the measured and allowable concentrations and loads at BC4. No reductions are necessary as water quality standards are being met.

Table C21		Measured		Allowable	
		Concentration	Load	Concentration	Load
		mg/L	lbs/day	mg/L	lbs/day
	Aluminum	0.25	33.07	0.25	33.07
	Iron	0.22	28.81	0.22	28.81
	Acidity	-73.20	-9683.87	-73.20	-9683.87
	Alkalinity	125.28	16573.04		

Based on the preceding, no requirements apply to Elliott's discharges based on the Turtle Creek Watershed TMDL. Since neither the Brush Creek Watershed TMDL nor the Turtle Creek Watershed TMDL impose WLAs on Elliott's discharges and no reductions are specified for the Bull Run portion of either watershed, no TMDL WQBELs are imposed. This rationale applies to all discharges from Elliott's Jeannette Facility.

002.C. Effluent Limits and Monitoring Requirements for Outfalls 001, 002, and 004

In accordance with 25 Pa. Code §§ 92a.12 and 92a.61 and anti-backsliding requirements under 40 CFR § 122.44(l) (incorporated by reference in Pennsylvania regulations at 25 Pa. Code § 92a.44), effluent limits at Outfall 002 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 monitoring requirements are summarized in the table below.

Table 5. Effluent Limits and Monitoring Requirements for Outfall 002

Parameter	Mass (pounds)		Concentration (µg/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, Appendix U
Oil and Grease	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Nitrogen, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Phosphorus, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Aluminum, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Iron, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Zinc, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U

The sampling frequency for all parameters will be 1/6 months based on the sampling frequency in Appendix 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.

No monitoring requirements are imposed at Outfalls 001 and 004. However, analytical results at Outfall 002 will be considered to represent results at Outfalls 001 and 004. If, for example, analytical results at Outfall 002 require Elliott to implement a Corrective Action Plan, then the same will apply to Outfalls 001 and 004. Also, BMPs must be implemented in all areas of the site, not just at outfalls where representative sampling is conducted.

Development of Effluent Limitations

Outfall No. 003 **Design Flow (MGD)** 0.033 (avg.); 0.0974 (max)
Latitude 40° 20' 9" **Longitude** -79° 36' 39"

Wastewater Description: Process wastewater from cleaning at the paint booth; hydrostatic test water from finished machine components; boiler blowdown; cooling tower blowdown; petroleum aboveground storage tank secondary containment structure drain (storm water); groundwater and process wastewater from building/machine foundation drains

Discharges monitored at Outfall 003 are currently subject to the following effluent limits and monitoring requirements.

Table 6. Outfall 003's Current Effluent Limits and Monitoring Requirements

Parameter	Mass (lbs/day)		Concentration (mg/L)			Measurement Frequency	Sample Type	Limit Basis
	Avg. Mo.	Max Daily	Avg. Mo.	Max Daily	IMAX			
Flow (MGD)	Report	Report	—	—	—	1/week	Measured	§ 92.61(d)(1)
pH	—	—	6.0 (Minimum)	—	9.0	2/month	Grab	40 CFR § 433.13(a)
TSS	—	—	31.0	60.0	78.0	2/month	24-Hr Comp.	40 CFR § 433.13(a)
Oil and Grease	—	—	15.0	—	30.0	2/month	Grab	25 Pa. Code Chapter 95
Cadmium, Total	—	—	0.0056	0.0112	0.014	1/week	24-Hr Comp.	WQBELs
Chromium, Total	—	—	1.71	2.77	4,28	2/month	24-Hr Comp.	40 CFR § 433.14(a)
Copper, Total	—	—	0.033	0.066	0.083	1/week	24-Hr Comp.	WQBELs
Cyanide, Total	—	—	0.65	1.2	1.63	2/month	24-Hr Comp.	40 CFR § 433.14(a)
Lead, Total	—	—	0.019	0.038	0.048	1/week	24-Hr Comp.	WQBELs
Nickel, Total	—	—	0.099	0.198	0.248	1/week	24-Hr Comp.	WQBELs
Silver, Total	—	—	0.0073	0.0146	0.0183	1/week	24-Hr Comp.	WQBELs
Zinc, Total	—	—	0.262	0.524	0.655	1/week	24-Hr Comp.	WQBELs
Total Toxic Organics	—	—	—	2.13	—	1/year	Grab	40 CFR § 433.14(a)

The effluent limits in **Table 6** 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).

003.A. Technology-Based Effluent Limitations (TBELs)

DEP previously determined that Elliott is subject to Federal Effluent Limitations Guidelines (ELGs) promulgated under 40 CFR Part 433 – Metal Finishing Point Source Category. The applicability description given in 40 CFR § 433.10(a) states:

> Except as noted in paragraphs (b) and (c), of this section, the provisions of this subpart apply to plants which perform any of the following six metal finishing operations on any basis material: Electroplating, Electroless Plating, Anodizing, Coating (chromating, phosphating, and coloring), Chemical Etching and Milling, and Printed Circuit Board Manufacture. If any of those six operations are present, then this part applies to discharges from those operations and also to discharges from any of the following 40 process operations: Cleaning, Machining, Grinding, Polishing, Tumbling, Burnishing, Impact Deformation, Pressure Deformation, Shearing, Heat Treating, Thermal Cutting, Welding, Brazing, Soldering, Flame Spraying, Sand Blasting, Other Abrasive Jet Machining, Electric Discharge Machining, Electrochemical Machining, Electron Beam Machining, Laser Beam Machining, Plasma Arc Machining, Ultrasonic Machining, Sintering, Laminating, Hot Dip Coating, Sputtering, Vapor Plating, Thermal Infusion, Salt Bath Descaling, Solvent Degreasing, Paint Stripping, Painting, Electrostatic Painting, Electropainting, Vacuum Metalizing, Assembly, Calibration, Testing, and Mechanical Plating.

Elliott's operations include turning, drilling, milling, grinding, welding, brazing, heat treating, painting, mechanical assembly, and mechanical/performance testing. Elliott does not perform any of the six metal finishing operations (Electroplating, Electroless Plating, Anodizing, Coating, Chemical Etching and Milling, and Printed Circuit Board Manufacture). DEP's interpretation of the portion of the applicability description that states, "If any of those six operations are present, then this part applies to discharges from those operations and also to discharges from any of the following 40 process operations…"

is that wastewaters from any of the forty process operations are only subject to the Metal Finishing ELGs under Part 433 if those operations are conducted in conjunction with one of the six metal finishing operations. Since Elliott does not perform any of the six metal finishing operations, Elliott is not subject to Part 433.

DEP's determination that Part 433 does not apply to Outfall 003 reverses the longstanding imposition of Part 433's limits at Outfall 003. Therefore, DEP reviewed Elliott's previous permits to evaluate the historical basis for imposing Part 433's limits.

The Department of Environmental Resources' (DER) July 1, 1986 Fact Sheet states:

> Elliott Turbomachinery, Inc. (ETI) manufactures various turbomachinery products (air and gas compressors SIC Code 3653 and also steam gas turbines SIC Code 3511) at their facility contiguous to a tributary (which the local residents call Bull Run) of Brush Creek in Jeannette, Pa. The plant is generally a machine shop using all of the conventional methods of metal removal (turning, drilling, railling, grinding), metal joining (welding, brazing) metal treating (heat treatment, pickling, painting) mechanical assembly and chemical etching of serial numbers in the milled products. The aforementioned SIC Codes are included under "Machinery & Mechanical Products Manufacturing" which is now covered under the Effluent Limit Guidelines (ELG) for Metal Finishing 40 CFR 433.

Elliott submitted a letter to the DER on October 15, 1986 that stated, in part, the following:

> In reference to your "Fact Sheet/Statement of Basis" [FS/SB] of July 1, 1986, the stated SIC codes are correct. The Elliott Company is a manufacturer of machinery and mechanical products. However, the Elliott Company performs none of the six metal finishing operations stated in 40 CFR 433. No electroplating, electroless-plating, anodizing, coating (chromating, phosphating and coloring), chemical etching and milling, or printed circuit board manufacture are performed. Several years ago, there were feasibility studies to begin an electro-chemical machining operation but that project has been dropped.
>
> The FS/SB mentions chemical etching of serial numbers. True chemical etching is not performed. No metal is removed via the chemical etching process. There is no etching line or tanks and parts are not masked.
>
> Serial numbers and logos are placed on parts either by die stamping or chemical printing. The chemical printing process is almost insignificant. No wastewater is generated and the largest possible spill is less than 32 ounces. A commercial product, Matthews No. 24 etching ink, is purchased in small plastic containers of approximately one pint. The printing solution is dispensed from central tool cribs to machine operators in small jars in quantities of less than one ounce. After the machining of the part is completed, a logo (upswept E) and/or part number is placed on the finished part. The printing procedure is performed on parts on which die stamping is prohibited for engineering reasons. The printing device is identical to the small ordinary date stamp that a secretary or clerk would use with an ink stamp pad to date mail, invoices, etc. This printing procedure is used because it does not in any way affect machined surfaces.
>
> Therefore, I believe the Effluent Limit Guidelines for Metal Finishing 40 CFR 433 do not apply to the Elliott operation. The Elliott operation would more accurately be categorized as mechanical products manufacturing as listed in Table 2C-2 in EPA Form 3510-2C.

The permit record does not include a response to Elliott's letter and DER did not revise its determination in response to Elliott's comments for the permit issued in 1987. ELGs for standalone mechanical products manufacturing (not conducted in conjunction with one of the six metal finishing operations) did not exist in 1986.

For a later renewal in 1997, Elliott made a similar contention and suggested it should be subject to 40 CFR Part 420 – Iron and Steel to which DEP responded:

> Outfall 003 was correctly categorized as part of the Metal Finishing Category since this facility has an SIC code of 3511 and 3563 (these codes are listed in the Metal Finishing Development Document). To be categorized in the Iron and Steel Category, a facility would have to produce steel (not a finished product).

Notwithstanding DEP's position in 1997, a plain reading of the applicability description of § 433.10(a) shows that it does not refer to a list of SIC codes in the Metal Finishing ELG's Development Document. While EPA evaluated data from 900 manufacturers having SIC Codes between 3400 and 3999 (inclusive of Elliott's SIC codes) when developing the Metal Finishing ELGs, the applicability description of Part 433 only refers to specific process operations and not SIC codes. DEP may have considered Elliott's "chemical etching" of serial numbers to be "Chemical Etching and Milling"—one of the six metal finishing operations that are subject to Part 433, but the permit record does not state as much. Also, Elliott's

description of the process is not consistent with the type of chemical etching EPA describes in the Metal Finishing Development Document that involves etching solution baths and wastewaters generated from those baths. In addition, Elliott has never installed wastewater treatment to remove the metals or organics regulated by Part 433 (*i.e.*, the limits have not required Elliott to install treatment). Elliott's treatment processes focus exclusively on oil/water separation and pH neutralization.[7]

DER/DEP could have made a site-specific, case-by-case determination that Part 433's limits apply to Elliott's process wastewaters based on DEP's BPJ in accordance with 40 CFR § 125.3, but DER/DEP's applicability determination relied on the regulatory language of § 433.10(a) and a presumption of applicability based on SIC codes. Since Part 433's TBELs were imposed based on a mistaken interpretation of the applicability criteria in § 433.10(a), the Part 433 TBELs imposed at Outfall 003 are eligible for relaxation pursuant to 40 CFR 122.44(l)(2)(i)(B)*(2)*, which states:

> (2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.
>
> (i) Exceptions—A permit with respect to which paragraph (l)(2) of this section applies may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant, if— […]
>
> (B) […]
> (2) The Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b);

Effluent Limitations Guidelines for the Metal Products and Machinery Point Source Category – 40 CFR Part 438

On May 13, 2003, about five months after Elliott's permit was last renewed, EPA promulgated ELGs for the Metal Products and Machinery (MP&M) Point Source Category under 40 CFR Part 438. The MP&M ELGs regulate discharges from certain industrial sectors' process operations such as those listed in the § 433.10(a) excerpt above that are not conducted in conjunction with another activity that is subject to another existing ELG (*e.g.*, standalone turning and grinding that are not conducted in conjunction with one of the six metal finishing operations).

The general applicability description for the MP&M ELGs under 40 CFR § 438.1(a) states:

> As defined more specifically in subpart A, except as provided in paragraphs (b) through (e) of this section, this part applies to process wastewater discharges from oily operations (as defined at §438.2(f) and appendix B of this part) to surface waters from existing or new industrial facilities (including facilities owned and operated by Federal, State, or local governments) engaged in manufacturing, rebuilding, or maintenance of metal parts, products, or machines for use in the Metal Product & Machinery (MP&M) industrial sectors listed in this section. The MP&M industrial sectors consist of the following:
>
> Aerospace; Aircraft; Bus and Truck; Electronic Equipment; Hardware; Household Equipment; Instruments; Miscellaneous Metal Products; Mobile Industrial Equipment; Motor Vehicle; Office Machine; Ordnance; Precious Metals and Jewelry; Railroad; Ships and Boats; or Stationary Industrial Equipment.

The 16 industrial sectors regulated by the MP&M ELGs include facilities that manufacture, maintain, and rebuild metal products under more than 200 different Standard Industrial Classification (SIC) codes. The NAICS/SIC Codes for Elliott's industrial activities are NAICS 333611 Turbine and Turbine Generator Section Unit Manufacturing, SIC 3511 – Steam, Gas and Hydraulic Turbines and Turbine Generator Sets; and NAICS 333912 – Air and Gas Compressor Manufacturing, SIC 3563 – Air and Gas Compressors. Pursuant to Appendix A of EPA's "Development Document For the Final Effluent Limitations Guidelines and Standards for the Metal Products and Machinery Point Source Category", Elliott's NAICS/SIC Codes are listed under the Stationary Industrial Equipment MP&M industrial sector (see **Attachment A** to this Fact Sheet for the relevant pages from Appendix A of the Development Document).

[7] Elliott's 2021 application update includes analytical results from one round of influent samples to the Outfall 003 treatment system which show 'not-detectable' concentrations of Part 433's regulated metals and 'not-detectable' concentrations of all organics except chloroform (a common lab contaminant). The results suggest that metals and total toxic organics in Outfall 003's effluent are appropriately not regulated by Part 433 since they are not present in the raw wastewater, but DEP's understanding is that Elliott's influent samples represent mixed process and non-process wastewaters with a higher flow of non-process wastewaters like groundwater that would dilute any metals or organics present in the lower flow of process wastewaters. In other words, the apparent low concentrations may be the result of co-dilution of dissimilar wastes.

As described in § 438.1, the MP&M ELGs apply to process wastewater discharges from "oily operations" conducted at facilities operating in one of the 16 MP&M industrial sectors. "Oily operations" is defined in § 438.2(f) as follows:

> *Oily operations* means one or more of the following: abrasive blasting; adhesive bonding; alkaline cleaning for oil removal; alkaline treatment without cyanide; aqueous degreasing; assembly/disassembly; burnishing; calibration; corrosion preventive coating (as defined in paragraph (c) of this section); electrical discharge machining; floor cleaning (in process area); grinding; heat treating; impact deformation; iron phosphate conversion coating; machining; painting-spray or brush (including water curtains); polishing; pressure deformation; solvent degreasing; steam cleaning; testing (e.g., hydrostatic, dye penetrant, ultrasonic, magnetic flux); thermal cutting; tumbling/barrel finishing/mass finishing/vibratory finishing; washing (finished products); welding; wet air pollution control for organic constituents; and numerous sub-operations within those listed in this paragraph. In addition, process wastewater also results from associated rinses that remove materials that the preceding processes deposit on the surface of the workpiece. These oily operations are defined in appendix B of this part.

Elliott operates in one of the 16 MP&M industrial sectors and turns, drills, mills, grinds, welds, brazes, heat treats, paints, assembles, and tests. Therefore, Elliott's activities are "oily operations" subject to the limitations under Subpart A of 40 CFR Part 438. Section 438.12 imposes the following Best Practicable Control Technology (BPT) effluent limitations on process wastewaters from oily operations:

Table 7. BPT/BCT Effluent Limits for Oily Wastes

Parameter	Maximum Daily (mg/L)
Total Suspended Solids	62
O&G (as HEM) [1]	46
pH	within the range of 6 to 9

[1] Total recoverable oil and grease measured as n-hexane extractable material

Effluent limits for the Best Control Technology for Conventional Pollutants (BCT) under § 438.13 are equivalent to those specified in § 438.12. There are no Best Available Technology (BAT) limits because Part 438 only controls conventional pollutants and conventional pollutants are not regulated by the BAT level of control.

Notwithstanding the applicability of Part 438, discharges from Outfall 003 are currently subject to more stringent TBELs for Oil and Grease based on state regulations. Oil-bearing industrial wastewaters are subject to effluent standards for Oil and Grease of 15.0 mg/L average and 30.0 mg/L maximum pursuant to 25 Pa. Code § 92a.48(a)(2) and 25 Pa. Code § 95.2(2). Those Oil and Grease limits are currently imposed at Outfall 003 and will be maintained (as modified below) based on anti-backsliding since they were not imposed pursuant to Part 433.

Also, the 31 mg/L average monthly limit for TSS will continue to apply to Outfall 003's process wastewaters, but not based on Part 433. 40 CFR § 122.45(d)(1) requires the following:

> (d) ***Continuous discharges.*** For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as:
>
> (1) Maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works; and

Discharges from Outfall 003 are continuous discharges, so effluent limits must be expressed as average monthly and maximum daily limits. Chapter 2.C. of DEP's "Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits" [Doc. No. 386-04000-001] states that, for industrial wastes, in the absence of case-specific statistical analyses based on an adequate number of effluent quality data points, a multiplier of 2.0 is used to develop maximum daily effluent limits based on average monthly concentrations. Applying that multiplier in reverse, the average monthly BPT limit for Oily Wastes would be: 62.0 mg/L ÷ 2.0 = 31.0 mg/L.

Table 8. Baseline TBELs for Outfall 003's Process Wastewaters

Parameter	Average Monthly (mg/L)	Maximum Daily (mg/L)	Instantaneous Maximum (mg/L)
Total Suspended Solids	31.0	62.0	78.0
O&G (as HEM) [1]	15.0	30.0	—
pH	6.0 (Minimum)	—	9.0

Calculation of TBELs

Elliott combines multiple sources for treatment and discharge through Outfall 003, but Part 438 only applies to a subset of those wastewaters. The 2021 permit application update did not itemize the flow rates of the sources contributing to Outfall 003, but Elliott did itemize the flow rates in its 2025 supplemental information package at DEP's request. **Table 9** summarizes the flow rates of Outfall 003's effluent sources.

Table 9. Outfall 003's Current Effluent Limits and Monitoring Requirements

Wastewater Source	Flow Rate (gpd)	Subject to Part 438?
Paint Booth Steam Cleaning	10	Yes
Hydrostatic Testing Wastewater	50	Yes
Gas/Diesel AST Secondary Containment Drain (Storm water)	50	No
Building/Machine Foundation Sumps (Groundwater)	27,790	No
Building/Machine Foundation Sumps (Process Wastewater)	280	Yes
Boiler Blowdown from Boiler #1 and Heating Coil Boiler	4,050	No
Cooling Tower Blowdown	770	No
Total regulated by Part 438	340	Yes
Total not regulated by Part 438	32,660	No
Total	33,000	—

† Boiler blowdown is regulated under the Steam Electric ELGs (40 CFR part 423) as an oil-bearing wastewater and is subject to TBELs for TSS and Oil and Grease based on those regulations. However, based on the applicability criteria of Part 438, boiler blowdown is not wastewater from an oily operation. Also, Elliott did not identify boiler blowdown as an oil-bearing wastewater, so boiler blowdown will be treated as dilution water for the purpose of adjusting TBELs.

Wastewaters subject to Part 438 include wastewater from drains in the steam cleaning/painting room, hydrostatic testing wastewater; and process wastewaters collected in building/machine foundation sumps. 40 CFR § 438.1(e) states that non-process wastewaters are not subject to Part 438. Section 438.2(e) defines "non-process wastewater" as follows:

> (e) ***Non-process wastewater*** means sanitary wastewater, non-contact cooling water, water from laundering, and non-contact storm water. Non-process wastewater for this part also includes wastewater discharges from non-industrial sources such as residential housing, schools, churches, recreational parks, shopping centers as well as wastewater discharges from gas stations, utility plants, and hospitals.

Non-process wastewaters at Outfall 003 include storm water from the AST containment drain (assuming there are no spills or leaks to contaminate that storm water such as during tank filling and that the storm water is "non-contact"), groundwater that infiltrates into building/machine foundation sumps, boiler blowdown, and cooling tower blowdown. Even though boiler blowdown is not a wastewater from "oily operations", there are other Federal ELGs (specifically, the Steam Electric Power Generating ELGs under 40 CFR part 423) that do regulate Oil and Grease in boiler blowdown based on data showing boiler blowdown is an oil-bearing wastewater. Elliott characterized its boiler blowdown as a non-oil-bearing wastewater in its 2025 supplemental information package, so boiler blowdown will be regulated as a non-oil-bearing wastewater in the renewed permit. Similarly, supporting documentation for the Steam Electric Power Generating ELGs acknowledge that cooling tower blowdown may contain TSS to the extent that suspended solids are present in the cooling tower's source water. Elliott's water supply is potable water from the local municipal water supply. Potable water generally has low concentrations of TSS. The concentration of TSS in groundwater seepage varies.

Pursuant to 40 CFR § 125.3(f), flow augmentation (a form of dilution) is not an allowable means to comply with TBELs.[8] Since Elliott combines ELG-regulated process wastewaters and non-ELG-regulated non-process wastewaters for discharge, effluent limits must be calculated as either mass limits or flow-weighted concentration limits to account for the diluting effect of non-process wastewaters on process wastewaters (*i.e.*, to account for wastewaters that do not contain significant concentrations of TSS and/or Oil and Grease). Flow-weighted concentration TBELs are calculated using the following formula:

[8] 40 CFR § 125.3(f) "Technology-based treatment requirements cannot be satisfied through the use of "non-treatment" techniques such as flow augmentation and in-stream mechanical aerators."

$(Q_{Process} \times C_{Process}) + (Q_{Non\text{-}process} \times C_{Non\text{-}process}) = (Q_{003} \times C_{003})$

where:

$Q_{Process}$ = the flow rate of process wastewaters (340 GPD)
$C_{Process}$ = concentration of pollutant in process wastewaters (see Table 8)
$Q_{Non\text{-}process}$ = the flow rate of non-process wastewaters (32,660 GPD)
$C_{Non\text{-}process}$ = concentration of pollutant in non-process wastewaters (Target QL / Avg. Effluent Conc.)
$Q_{003} = Q_{Process} + Q_{Non\text{-}process}$
C_{003} = effluent limit at Outfall 003

To calculate flow-weighted concentration TBELs, the concentration of Oil and Grease in non-process wastewaters is assumed to be equal to DEP's Target Quantitation Limit of 5.0 mg/L. While Oil and Grease is theoretically absent from non-contact cooling water and groundwater, Elliott would not be able to quantify Oil and Grease at levels less than laboratory reporting limits and so would not be able to demonstrate compliance with flow-weighted concentration limits that assume Oil and Grease concentrations are zero. TSS concentrations of non-process wastewaters are assumed to be the average of the average monthly and maximum daily TSS concentrations reported at Outfall 003 over the last five years (11.11 mg/L and 18.39 mg/L) based on the assumption that Outfall 003's TSS concentrations likely represent non-process wastewaters as the predominant effluent sources (see **Table 9**). The IMAX limit for TSS is calculated using a multiplier of 2.5× the average monthly limit based on the ratios in Chapter 2.C of DEP's Technical Guidance. Flow-weighted concentration limits for discharges at Outfall 003 are summarized in **Table 10**, below.

Thermal TBELs for Heated Discharges

No TBELs are developed to control thermal pollution. However, a maximum daily temperature limit of 110°F will be imposed at Outfall 003 if thermal WQBELs do not apply at Outfall 003 due to residual heat from boiler and cooling tower blowdown (and other wastewater sources, as applicable) (refer to Section 003.B, below). The 110°F temperature limit is imposed to protect human health caused by exposure resulting from water contact pursuant to the recommendations of DEP's "Implementation Guidance for Temperature Criteria" (Doc. No. 386-2000-001), and as an implementation of general water quality criteria under 25 Pa. Code § 93.6(a), which states that "[w]ater 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."

Cooling Tower Blowdown

Elliott treats the cooling towers that blow down to Outfalls 003 and 015 with various biocides including, among other things, bromochloro-5,5-dimethylimidazolidine-2,4-dione (BCDMH) under trade name Dantobrom. BCDMH reacts with water and pathogens to release hypochlorous acid, hypobromous acid, bromide, and chlorine. At facilities with chlorinated cooling tower blowdown, DEP typically imposes TBELs for Free Available Chlorine pursuant to Sections 304(b)(2)(B), 304(b)(4)(B), and 402(a)(1) of the Clean Water Act and implementing regulations under 40 CFR § 125.3 (incorporated by reference at 25 Pa. Code § 92a.48(a)(3)), which allow for the establishment of effluent limits on a case-by-case basis using Best Professional Judgment (BPJ). Free available chlorine is not a parameter applicants must analyze to complete the NPDES permit application, but the application does require results to be reported for Total Residual Chlorine (TRC).

TRC was not detectable in any of the three samples reported on the permit application for Outfall 003. Also, cooling tower blowdown represents a small proportion of Outfall 003's effluent (2.3% at average flow rates). Therefore, no TBELs for Free Available Chlorine or TRC are imposed at Outfall 003.

Other Regulatory Effluent Standards and Monitoring Requirements

In addition to the Oil and Grease limits of 25 Pa. Code § 95.2(2), flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1), and effluent standards for pH are imposed by 25 Pa. Code §§ 92a.48(a)(2) and 95.2(1). The pH limits are the same as those imposed by 40 CFR § 438.12, but the Chapter 95 standards for pH apply to all wastewaters discharged at Outfall 003, not just the process wastewaters.

Table 10. Summary of TBELs and Effluent Standards for Outfall 003

Parameter	Average Monthly (mg/L)	Maximum Daily (mg/L)	IMAX (mg/L)
Total Suspended Solids	11.3	18.8	28.3
O&G (as HEM) [1]	5.1	5.3	—
Temperature (°F)	—	—	110
pH	6.0 (Instant. Minimum)	—	9.0

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. Consequently, 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 globe. ATSDR also reported that exposure to certain PFAS can lead to adverse human health impacts.[9] Due to their durability, toxicity, persistence, and pervasiveness, PFAS have emerged as 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 as follows:

1. 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.

2. 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.

3. 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.

Elliott's application was submitted before the NPDES permit application forms were updated to require sampling for PFOA, PFOS, PFBS, and HFPO-DA. However, according to EPA's guidance, Elliott does not operate in one of the industries EPA expects to be a source for PFAS.[10] Therefore, annual reporting of PFOA, PFOS, PFBS, and HFPO-DA will be required at Outfall 003 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 Elliott's case), then the monitoring may be discontinued.

003.B. Water Quality-Based Effluent Limitations (WQBELs)

Potable Water Supply Criteria

25 Pa. Code § 93.9v deletes 'Potable Water Supply' (PWS) as a protected use in the Brush Creek basin. The effect of deleting the PWS protected use is that numerical water quality criteria promulgated to protect the PWS use of waters of the Commonwealth do not apply to those waters.

[9] 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.

[10] Elliott was regulated by the Metal Finishing ELGs. EPA suspects facilities operating in the Metal Finishing industry to be sources for PFAS, but the renewed NPDES permit will regulate Elliott under the Metal Products & Machinery ELGs, which is not an expected PFAS source industry.

Pursuant to 25 Pa. Code §§ 93.9v and 96.3(d), water quality criteria for chloride, color, fluoride, dissolved iron (Fe_2), manganese, nitrite plus nitrate, phenolics, sulfate, and total dissolved solids do not apply to the Brush Creek watershed. However, the inapplicability of those criteria and the deletion of the PWS protected use does not eliminate from consideration other water quality criteria based on threshold human health effects and cancer risk.[11]

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." DEP developed the Toxics Management Spreadsheet (TMS) to facilitate calculations necessary to complete a reasonable potential (RP) analysis and determine WQBELs for discharges of toxic and 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.

[11] Most of the PWS criteria found in Chapter 93, Table 3 are for substances that are generally considered to be non-toxic to humans and are subject to specific "Add" or "Delete" exceptions. PWS criteria are intended to protect surface waters such that they will be available now and in the future for use as a drinking water supply and a public water supplier should only need to use conventional treatment to produce finished/potable water (i.e., water that complies with safe drinking water standards – Maximum Contaminant Levels (MCLs) and Secondary MCLs). Most of Chapter 93's PWS criteria are based on or equivalent to drinking water MCLs or SMCLs and were established for aesthetic purposes only (i.e., to prevent laundry staining, taste/odor issues, etc.). The point of compliance for many of the PWS criteria is at the point of a PWS withdrawal rather than in all surface waters. There are a few exceptions such as certain phenolic compounds, color, iron, and manganese, which do still apply in all surface waters but for a "*Delete* PWS" use exception listed in Chapter 93.

Reasonable Potential Analysis and WQBEL Development for Outfall 003

Table 11. TMS Inputs for Outfall 003

Discharge Characteristics		
Parameter	**Value**	
Discharge Flow (MGD)	0.033	
Hardness (mg/L)	228	
Receiving Stream Characteristics		
Parameter	**Outfall 003**	**End of Segment**
Stream Code	37319	37319
River Mile Index	0.89	0.35
Drainage Area (mi^2)	2.48	2.77
Q_{7-10} (cfs)	0.0251	0.0286
Low-flow Yield (cfs/mi^2)	0.010	0.010
Elevation (ft)	1,023	1,004
Slope (ft/ft)	0.00775	0.00775

Discharges from Outfall 003 are evaluated based on the maximum concentrations reported on the permit renewal application or on DMRs except where statistically significant datasets of at least ten effluent samples allow for the use of TOXCONC to calculate average concentrations using normal, lognormal, and/or delta-lognormal distributions, as applicable (see **Attachment B**). The TMS model is run for Outfall 003 with the modeled discharge and receiving stream characteristics shown in **Table 11**. Pollutants for which water quality criteria have not been promulgated (e.g., TSS, Oil and Grease, etc.) are excluded from the modeling.

Output from the TMS model is included in **Attachment C** to this Fact Sheet. As explained previously, the TMS compares the input discharge concentrations to the calculated WQBELs using DEP's Reasonable Potential thresholds to evaluate the need to impose WQBELs or monitoring requirements in the permit. The results of the modeling indicate that the water quality-based reporting requirements in Table 12 are needed at Outfall 003.

Table 12. Water Quality-Based Effluent Limits for Outfall 003

Parameter	**Permit Limits**					**Discharge Conc. (µg/L)**	**Target QL (µg/L)**	**Governing WQBEL (µg/L)**	**Basis†**
	Mass (lbs/day)		**Concentration (µg/L)**						
	Avg Mo.	**Max Daily**	**Avg Mo.**	**Max Daily**	**IMAX**				
Arsenic, Total	Report	Report	Report	Report	—	4.35	3.0	14.9	THH
Copper, Total	Report	Report	Report	Report	—	3.33	4.0	22.5	CFC
~~Iron, Dissolved~~	~~0.12~~	~~0.19~~	~~446~~	~~695~~	~~1114~~	~~612~~	~~20~~	~~446~~	~~THH~~
Iron, Total	0.61	0.98	2,229	3,563	5.572	1,541	20	2,229	CFC
~~Manganese, Total~~	~~Report~~	~~Report~~	~~Report~~	~~Report~~	~~Report~~	~~546~~	~~2.0~~	~~1,486~~	~~THH~~
Selenium, Total	0.002	0.003	7.41	11.6	18.5	4.0	5.0	7.41	CFC
Thallium, Total	Report	Report	Report	Report	—	0.08 J	2.0	0.36	THH
~~Acrylamide~~	~~0.0001~~	~~0.0002~~	~~0.47~~	~~0.74~~	~~1.18~~	~~<10000~~	~~—~~	~~0.47~~	~~CRL~~
Chloroform	0.002	0.004	8.47	13.9	21.2	5.12	0.5	8.47	THH
Vinyl Chloride	0.00004	0.00006	0.14	0.21	0.34	1.2	0.5	0.14	CRL

† CFC = Chronic Fish Criterion; THH = Threshold Human Health; CRL = Cancer Risk Level

Elliott reported results for Acrylamide using an analytical reporting limit of 10000 µg/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 at the Jeannette Facility. Therefore, the TMS's WQBELs for Acrylamide are not imposed.

The WQBELs for dissolved iron and water quality-based reporting requirements for total manganese do not apply because the criteria for those parameters are specified in 25 Pa. Code Chapter 93 for the protection of potable water supply use which is not a protected use for Bull Run. The WQBELs and water quality-based reporting requirements for all other parameters are based on TMS analyses using either the maximum reported discharge concentration (selenium, thallium, and vinyl chloride) or the long-term average discharge concentration and coefficient of variation calculated using DEP's TOXCONC spreadsheet (arsenic, copper, iron, zinc, and chloroform). Load limits will not be imposed because discharge flow rates vary above the average flow used for modeling.

Elliott reported that it was uncertain whether it could comply with the pre-draft WQBELs for iron and could not comply with the pre-draft WQBELs for selenium, chloroform, and vinyl chloride. The revised WQBELs have become slightly less stringent. DEP observes that the average effluent concentrations for iron, selenium, and chloroform are less than the average monthly WQBELs and the maximum concentrations for those parameters are less than the maximum daily WQBELs, so Elliott's compliance with those limits may be possible.

The WQBELs for vinyl chloride in **Table 12** are based on Cancer Risk Level (CRL) water quality criteria, which are risk-based criteria derived without consideration for quantifiability using approved analytical techniques. Consequently, the calculated WQBELs are less than DEP's Target QL of 0.5 µg/L for vinyl chloride. To determine compliance with the WQBELs for vinyl chloride, the permit will include a condition requiring 'not detectable' results at the level of DEP's Target QL (*i.e.*, results of <0.5 µg/L will represent compliance). Elliott may not be able to comply with the WQBELs for vinyl chloride even if DEP's Target QL is used to determine compliance because the maximum reported concentration is higher than the Target QL.

Schedule of Compliance for WQBELs

Pursuant to 25 Pa. Code § 92a.51(a), schedules of compliance are permissible when an existing discharge is not in compliance with effluent limitations. DEP recently adopted a new approach to determine the need for, and duration of, schedules of compliance by sending a survey to applicants prior to publishing a draft permit. As explained in the introduction to this Fact Sheet, DEP sent Elliott a pre-draft survey listing proposed WQBELs (based on preliminary water quality analyses) and, among other things, requesting Elliott to identify whether the proposed WQBELs could be achieved now and, if not, an estimated date by which the proposed WQBELs could be achieved. Elliott reported that it was not able to comply or that it was uncertain whether it could comply with the WQBELs for iron, selenium, chloroform, and vinyl chloride and that it was uncertain when compliance with the WQBELs could be achieved.

Based on DEP's "Standard Operating Procedure for Clean Water Program – Establishing Water Quality-Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants in NPDES Permits for Existing Dischargers", a four-year schedule of compliance will be included in the draft permit for all parameters subject to new WQBELs. 25 Pa. Code § 92a.51(a) requires compliance with final enforceable effluent limits as soon as practicable, which may be less than four years, but in no case longer than five years. Consistent with § 92a.51(a), the permit will require Elliott to take specific steps to achieve compliance including requirements to collect site-specific data and to perform a Toxics Reduction Evaluation (TRE). After collecting site-specific data and performing a TRE, Elliott must summarize the result in a Final WQBEL Compliance Report to DEP. DEP may respond to the Final WQBEL Compliance Report in one of the following ways:

a. Request additional research, studies or clarification if the permittee concludes that it cannot achieve final WQBELs by the WQBEL Effective Date or compliance is infeasible and DEP disagrees with this conclusion or believes that additional efforts are necessary before reaching this conclusion. The permittee shall comply with the schedule provided by DEP in writing for such additional efforts or an alternative agreed upon schedule.

b. Issue a draft Major Amendment to the permit that modifies the WQBELs in response to site-specific data or modifies the WQBEL Effective Date, for public comment.

4. Deny the application for a Major Amendment to the permit or place review of the application on hold until additional research or studies requested by DEP are complete.

d. Notify the permittee that DEP will consider a time extension to achieve the final WQBELs under 25 Pa. Code § 95.4 for the discharge upon the receipt of a request submitted by the permittee using Form No. 3800-FM-BCW0302, if it can be demonstrated that the criteria for a time extension under § 95.4 are met.

e. Notify the permittee that DEP will consider the submission of a site-specific criterion study (SSCS) to further modify WQBELs, where applicable. The permittee shall comply with the requirements set forth in DEP's notification letter for completion of a SSCS, including submission of a SSCS work plan.

Thermal WQBELs

Thermal WQBELs are evaluated using a DEP program called "Thermal Limits Spreadsheet" created with Microsoft Excel® for Windows. The program calculates temperature wasteload allocations (WLAs) through the application of a heat transfer equation, which takes two forms in the program depending on the source of the facility's cooling water. In Case 1, intake water to a facility is from the receiving stream upstream of the discharge location. In Case 2, intake water is from a source other than the receiving stream (e.g., municipal water supply). The determination of which case applies to a given discharge is made based on the input data which include the receiving stream flow rate ($Q_{7\text{-}10}$), the stream intake flow rate, external source intake flow rates, consumptive flow rates, and site-specific ambient stream temperatures. Case 1 limits are generally expressed as heat rejection rates while Case 2 limits are usually expressed as temperatures.

DEP's "Implementation Guidance for Temperature Criteria" directs permit writers to assume instantaneous complete mixing of the discharge with the receiving stream when calculating thermal effluent limits unless adverse factors exist. The receiving stream for Outfall 003 is small, so the assumption of instantaneous complete mixing is appropriate.

DEP performed an initial thermal analysis using the Thermal Limits Spreadsheet and calculated the WQBELs in Table 13 ("Allowable Discharge Temp.") based on a discharge flow rate of 0.058 MGD (the average of the maximum daily flow rates reported at Outfall 003 during the last three years) and a $Q_{7\text{-}10}$ stream flow of 0.0251 cfs. Elliott obtains its water from the local municipal source and some of the effluent is from groundwater infiltration into foundation sumps, so the discharge was analyzed as Case 2.

Table 13. Preliminary Thermal WQBELs for Outfall 003

Period	Allowable Downstream Temp. (°F)	Default Ambient Stream Temp. (°F)	Allowable Discharge Temp. (°F)
Jan 1-31	40	34	45.4
Feb 1-29	40	35	44.9
Mar 1-31	46	39	59.7
Apr 1-15	52	46	67.6
Apr 16-30	58	52	73.6
May 1-15	64	56	75.4
May 16-31	68	60	79.4
Jun 1-15	70	65	74.2
Jun 16-30	72	69	74.5
July 1-31	74	73	74.5
Aug 1-15	80	72	83.1
Aug 16-31	87	70	93.7
Sep 1-15	84	68	88.9
Sep 16-30	78	62	82.9
Oct 1-15	72	57	77.0
Oct 16-31	66	53	70.4
Nov 1-15	58	47	62.9
Nov 16-30	50	41	54.0
Dec 1-31	42	36	46.0

DEP's August 2, 2024 Pre-Draft Survey Letter notified Elliott of the proposed imposition of the thermal WQBELs in Table 13. In its 2025 supplemental information package, Elliott stated the following in response to the Pre-Draft Survey letter:

> Elliott believes that the primary driver deterring achievement of the proposed temperature WQBELs is not the sources of "heated wastewater" as described in Attachment 1, but, rather, the ambient temperature of other contributing flows such as the groundwater infiltrating into the building/machine sumps. For example, for Outfall 015, the only identified source of heated wastewater is the cooling tower blowdown. This source comprises less than 1% of the overall daily discharge volume from the outfall (not including stormwater). For Outfall 003, heated wastewater comprises less than 15% of the total daily discharge volume from the outfall. The ambient temperature of the remainder of the contributing flows to both outfalls is well above the proposed WQBELs for the colder months.
>
> Elliott requests that the temperature WQBELs be removed from the draft NPDES Permit on the basis that the sources of heated wastewater comprise a de minimis portion of the overall wastewater and stormwater discharge from the facility.

Based on data included in the 2025 supplemental information package, Outfall 003 discharges an average of 4,820 gallons per day of boiler blowdown and cooling tower blowdown, which represents, on average, 14.6% of the total flow discharging through Outfall 003. Boiler blowdown and cooling tower blowdown are the sources to which Elliott intentionally adds waste heat. However, Elliott's position is that the ambient temperatures of wastewaters to which Elliott does not add waste heat already exceed the thermal WQBELs and consequently would be the primary driver of Elliott's non-compliance with those WQBELs. As a result, Elliott requests that thermal WQBELs not be imposed.

Elliott's comments suggest that DEP should regulate discharges to which waste heat is added, but not other discharges to which a discharger does not add waste heat, but which contain sufficient heat to challenge water quality standards. 25 Pa. Code Chapter 96 regarding water quality standards implementation and, specifically, 25 Pa. Code § 96.6 that regulates "heated wastewater discharges" states:

> § 96.6. Heated wastewater discharges.
>
> (a) WLAs established for the discharge of heated wastewater shall comply with applicable State and Federal requirements.

(b) Heated wastewater discharges may not cause a change of surface water temperature of more than 2°F during any 1-hour period.

(c) In addition to subsection (b), the allowable heat content of heated wastewater discharges shall be limited to one of the following:

(1) A calculated amount that will raise the temperature of the receiving surface water to no more than the applicable criteria specified in § 93.7 (relating to specific water quality criteria).

(2) An amount based on an evaluation conducted in accordance with section 316(a) of the Federal Clean Water Act (33 U.S.C.A. § 1326(a)).

Chapter 96 does not define "heated wastewater discharges." However, the notice for the proposed Chapter 96 regulations in the *Pennsylvania Bulletin* (28 Pa. B 4445, August 29, 1998)—regulations that were finalized on November 18, 2000—does define "heated wastewater discharges" as follows, which speaks to the regulatory intent of 25 Pa. Code § 96.6:

"Heated wastewater discharges are discharges that increase, or have the potential to increase, the temperature of the receiving surface water such that thermal water quality criteria are or may be violated."

Heated wastewater discharges typically include contact and non-contact cooling water, but the preamble to the regulations defines "heated wastewater discharges" by the effect discharges have on the temperature of the receiving surface water and not whether the discharges are intentionally used to dispose of waste heat. This is reasonable. It would be arbitrary (and contrary to law) for DEP to ignore a point source discharge from an NPDES permitted facility that has the potential to increase (or does increase) the temperature of a surface water and cause a violation of water quality criteria on the basis that the thermal loading of the wastewater does not originate from intentionally added waste heat. While the ambient temperature of Elliott's groundwater may exceed thermal WQBELs based on surface water quality criteria, Elliott collects the groundwater and discharges it as a point source discharge to a surface water and is responsible for the characteristics of that effluent and any adverse impacts to aquatic life that may result.

With respect to discharges that increase or have the potential to increase the temperature of a receiving surface water, DEP's "Implementation Guidance for Temperature Criteria" (Doc. No. 386-2000-001) identifies the following screening and assessment criteria for the application of thermal effluent limits.

"Thermal effluent limits must be issued if they are a technology-based requirement, or if the facility has the potential to challenge water quality standards. Thermal effluent limits also should be issued whenever the 316(a)-demonstration process has been applied. Thermal effluent limits, however, are not necessary for every heated wastewater discharge, because the discharge may be minor compared to the assimilative capacity of the receiving water. Facilities with efficient cooling systems may not require thermal effluent limits because most of the waste heat is rejected to the atmosphere. The permit engineer should determine if the heat load from the facility (alone or in conjunction with other sources) has the capacity to consume a substantial portion of the assimilative capacity of the receiving water, or if the heat load may otherwise challenge water quality standards, in order to determine if thermal effluent limits are required. As a guideline, thermal effluent limits should be applied if any of the following apply:

- The maximum heat load from the facility is more than 75% of the total assimilative capacity of the receiving water (on a complete-mix basis, at design conditions for any of the 19 monthly-semi-monthly time periods).
- The maximum heat load from the facility is more than 10,000 million BTU/day.
- The maximum delta T between the discharge temperature and the design ambient temperature of the receiving water is more than 10°F.

"Thermal effluent limits, however, may be appropriate in adverse scenarios (as described previously), or at the discretion of the regional permit engineer if site-specific concerns apply, even if none of these criteria are met. Conversely, thermal effluent limits may be waived by the regional permit engineer based on site-specific considerations, provided that the 316(a)-demonstration process has not been applied."

DEP has recalculated thermal WQBELs using a revised discharge flow rate of 0.0517 MGD, which is the average of the maximum daily flows reported at Outfall 003 from January 2022 through January 2025. A maximum flow is used based on DEP's temperature guidance, which states the following for Case 2 situations:

> The Case 2 situation is different from the Case 1 situation in that the design ambient stream temperature T_1 probably is not the same as the intake temperature. […] If the temperature of the intake water is not known, permit limits must be expressed based on the temperature of the discharge water, and compliance monitoring is accomplished by measuring the temperature of the discharge water. […] [T]he adequacy of the permit limits depends on an accurate facility flow balance, and the analyst must assume conservative or maximum facility flow rates for each monthly or semi-monthly period.

Modeling results from Thermal Limits Spreadsheet are presented in **Attachment D**.

Table 14, below, compares the revised thermal WQBELs to the thermal WQBELs calculated for the Pre-Draft Survey Letter. Also, pursuant to the guidance's third screening criterion for applying thermal effluent limits (third bullet above), Table 14 shows the maximum ΔT between Outfall 003's discharge temperatures (to the extent discharge temperatures have been reported by Elliott) and the design ambient temperature of the receiving water. Elliott reported long-term average winter and summer temperatures for Outfall 003 in its 2021 application update as follows:

Winter: 56°F long-term average Summer: 70.6°F long-term average

Elliott's long-term average winter temperature is used for November through April and Elliott's long-term average summer temperature is used from May through October. Values highlighted in red exceed 10°F.

Table 14. Comparison of Pre-Draft and Draft Thermal WQBELs for Outfall 003

Period	Pre-Draft: Allowable Discharge Temp. at 0.058 MGD (°F)	Draft: Allowable Discharge Temp. at 0.0517 MGD (°F)	Default Design Ambient Stream Temp. for TSF (°F)	ΔT (Discharge Temp. - Design Ambient) (°F)
Jan 1-31	45.4	46.0	34	**22.0**
Feb 1-29	44.9	45.5	35	**21.0**
Mar 1-31	59.7	61.4	39	**17.0**
Apr 1-15	67.6	69.5	46	**10.0**
Apr 16-30	73.6	75.5	52	4.0
May 1-15	75.4	76.8	56	**14.6**
May 16-31	79.4	80.8	60	**10.6**
Jun 1-15	74.2	74.7	65	5.6
Jun 16-30	74.5	74.8	69	1.6
July 1-31	74.5	74.5	73	-2.4
Aug 1-15	83.1	83.5	72	-1.4
Aug 16-31	93.7	94.5	70	0.6
Sep 1-15	88.9	89.5	68	2.6
Sep 16-30	82.9	83.5	62	8.6
Oct 1-15	77.0	77.6	57	**13.6**
Oct 16-31	70.4	70.9	53	**17.6**
Nov 1-15	62.9	63.5	47	9.0
Nov 16-30	54.0	54.5	41	**15.0**
Dec 1-31	46.0	46.5	36	**20.0**

The data in Table 14 show that the maximum ΔT between the discharge temperature and the design ambient temperature of the receiving stream is more than 10°F for more than half of the year.

Based on the results of DEP's thermal analyses, Elliott's reported effluent temperatures, and Elliott's statement that the ambient temperature of the remainder of the contributing flows to Outfalls 003 and 015 (sources other than boiler and/or cooling tower blowdown) is well above the proposed WQBELs for the colder months, it is reasonable to conclude that Outfall 003's discharges are not minor compared to the assimilative capacity of the receiving stream and that Outfall 003's discharges do have the potential to challenge water quality standards. DEP also notes that Outfall 015 is located upstream of Outfall 003 and has a higher discharge flow rate than Outfall 003, so less thermal assimilative capacity may be available for discharges from Outfall 003.

The modified thermal WQBELs in Table 14 will be imposed at Outfall 003 subject to a four-year schedule of compliance in accordance with 25 Pa. Code § 92a.51. The 110°F daily maximum limit will apply in the interim. As part of the schedule of compliance for the new temperature WQBELs, requirements are added to the permit for the following:

- A source reduction and feasibility evaluation to evaluate approaches to reduce or eliminate thermal loadings and/or provide treatment/cooling to achieve the final WQBELs;

- Site-specific data collection to determine site-specific ambient stream temperatures to refine the temperature WQBELs because the temperature WQBELs in the draft permit were developed using default ambient stream temperatures in DEP's "Implementation Guidance Design Conditions" (386-2000-007) for streams with a designated use for Trout Stock Fishes (TSF);

- Minimum data collection to support a request for a § 316(a) thermal variance (if Elliott opts to make such a request) including continuous in-stream temperature measurements upstream and downstream of Outfall 003, and fish and macroinvertebrate sampling at those same locations, or on a reference stream.

Procedures for requesting a Clean Water Act § 316(a) thermal variance consistent with regulatory requirements in 40 CFR part 125, Subpart H – Criteria for Determining Alternative Effluent Limitations Under Section 316(a) of the Act (40 CFR §§ 125.70 – 125.73). Section 316(a) variances allow for alternative (less stringent) thermal effluent limitations. Before a thermal variance can be granted, 40 CFR §§ 125.72 and 125.73 require the permittee to demonstrate that the otherwise applicable thermal discharge effluent limit is more stringent than necessary to assure the protection and propagation of the waterbody's balanced, indigenous population (BIP) of shellfish, fish and wildlife. The burden of proof is on the permittee to demonstrate that it is eligible to receive an alternative thermal effluent limit under section 316(a). This means the permittee must demonstrate to the permitting authority that a thermal effluent limit necessary to meet the requirements of sections 301 or 306 is more stringent than necessary to assure the protection and propagation of a BIP in and on the body of water into which the discharge is made. (See 40 CFR § 125.73(a)).

In support of any proposed alternative thermal limit, the discharger must demonstrate that the alternative limit will assure protection of the BIP, considering the "cumulative impact of its thermal discharge together with all other significant impacts on the species affected." (See 40 CFR § 125.73(a)).

When applying for an alternative thermal limit, an applicant must submit the supporting information and demonstrations identified and described in 40 CFR §§ 125.72 and 125.73. Among other things, the applicant must identify and describe (1) the requested alternative effluent limitation, (2) the methodology used to support that limitation, (3) the organisms comprising the BIP along with supporting data and information, and (4) the types of data, studies, experiments and other information the applicant intends to use to demonstrate that the alternative thermal limit assures the protection and propagation of the BIP. (40 CFR § 125.72(a) and (b)).

Existing dischargers may base their demonstration on the "absence of prior appreciable harm in lieu of predictive studies." (See 40 CFR §125.73(c)(1)). The demonstration of no appreciable harm must consider the "interaction of such thermal component with other pollutants and the additive effect of other thermal sources to a [BIP]…" (See 40 CFR § 125.73(c)(1)(i)).

Elliott currently does not monitor Outfall 003 for temperature. To allow Elliott time to install the equipment necessary to continuously record discharge temperatures, an interim twelve-month period is included in the permit with interim temperature monitoring frequencies of 1/week and final temperature monitoring frequencies of "continuous". According to the schedule added to the permit, the continuous temperature measurements for the discharge should coincide with other continuous in-stream temperature measurements required to determine ambient background stream temperatures and to support a request for § 316(a) thermal variance if Elliott opts to make such a request.

Total Maximum Daily Loads

As described in Section 002.B of this Fact Sheet, no requirements apply to Elliott's discharges based on the Brush Creek Watershed TMDL or the Turtle Creek Watershed TMDL.

003.C. Effluent Limitations and Monitoring Requirements for Outfall 003

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) (incorporated in Pennsylvania's regulations at 25 Pa. Code § 92a.44), effluent limits at Outfall 003 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 effluent limits and monitoring requirements are summarized in the table below.

Table 15. Effluent Limits and Monitoring Requirements for Outfall 003

Parameter	Mass (pounds/day)		Concentration (µg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	Report	Report	—	—	—	25 Pa. Code § 92a.61(d)(1)
pH (S.U.)	—	—	6.0 Inst. Min.	—	9.0	25 Pa. Code § 92a.48(a)(2) & 95.2(1)
Total Suspended Solids (mg/L)	—	—	11.3	18.8	28.3	40 CFR § 438.12 & § 125.3(f)
Oil and Grease (mg/L)	—	—	5.1	5.3	—	40 CFR § 438.12; 25 Pa. Code §§ 92a.48(a)(2) & 95.2(2)
Arsenic, Total	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Copper, Total	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Iron, Total (Interim)	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Iron, Total (Final)	—	—	2,229	3,563	5,572	WQBELs; 25 Pa. Code §§ 92a.12(a)(1) & 96.4(b)
Selenium, Total (Interim)	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Selenium, Total (Final)	—	—	7.41	11.6	18.5	WQBELs; 25 Pa. Code §§ 92a.12(a)(1) & 96.4(b)
Thallium, Total	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Chloroform (Interim)	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Chloroform (Final)	—	—	8.47	13.9	21.2	WQBELs; 25 Pa. Code §§ 92a.12(a)(1) & 96.4(b)
Vinyl Chloride (Interim)	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Vinyl Chloride (Final)	—	—	0.14	0.21	0.34	WQBELs; 25 Pa. Code §§ 92a.12(a)(1) & 96.4(b)
Temp. (°F) (Interim)	—	—	—	—	110	25 Pa. Code § 93.6(a)
Temp. (°F) (Jan 1-31) (Final)	—	—	—	46.0	—	WQBELs; 25 Pa. Code §§ 92a.12(a)(1) & 96.6
Temp. (°F) (Feb 1-29) (Final)	—	—	—	45.5	—	
Temp. (°F) (Mar 1-31) (Final)	—	—	—	61.4	—	
Temp. (°F) (Apr 1-15) (Final)	—	—	—	69.5	—	
Temp. (°F) (Apr 16-30) (Final)	—	—	—	75.5	—	
Temp. (°F) (May 1-15) (Final)	—	—	—	76.8	—	
Temp. (°F) (May 16-31) (Final)	—	—	—	80.8	—	
Temp. (°F) (Jun 1-15) (Final)	—	—	—	74.7	—	
Temp. (°F) (Jun 16-30) (Final)	—	—	—	74.8	—	
Temp. (°F) (Jul 1-31) (Final)	—	—	—	74.5	—	
Temp. (°F) (Aug 1-15) (Final)	—	—	—	83.5	—	
Temp. (°F) (Aug 16-31) (Final)	—	—	—	94.5	—	
Temp. (°F) (Sep 1-15) (Final)	—	—	—	89.5	—	
Temp. (°F) (Sep 16-30) (Final)	—	—	—	83.5	—	
Temp. (°F) (Oct 1-15) (Final)	—	—	—	77.6	—	
Temp. (°F) (Oct 16-31) (Final)	—	—	—	70.9	—	
Temp. (°F) (Nov 1-15) (Final)	—	—	—	63.5	—	
Temp. (°F) (Nov 16-30) (Final)	—	—	—	54.5	—	
Temp. (°F) (Dec 1-31) (Final)	—	—	—	46.5	—	
Perfluorooctanoic acid (PFOA) (ng/L)	—	—	—	Report	—	25 Pa. Code § 92a.61(b)

Table 15 (cont'd). Effluent Limits and Monitoring Requirements for Outfall 003

Parameter	Mass (pounds/day)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
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 in accordance with Chapter 6, Table 6-4 of DEP's "Technical Guidance for the Development and Specification of Effluent Limitations" (Doc. No. 386-0400-001), DEP's "Standard Operating Procedure (SOP) for Clean Water Program New and Reissuance Industrial Waste and Industrial Stormwater Individual NPDES Permit Applications" ("IW NPDES SOP"), and the previous permit.

Flow must be measured daily. Oil and Grease and pH will require grab sampling 1/week. TSS will require 24-hour composite sampling 1/week. Temperature must be recorded continuously using immersion stabilization sampling. All metals and organic pollutants other than volatile pollutants will require 24-hour composite sampling 1/week. Volatile pollutants (chloroform and vinyl chloride) generally require 4-grab composite sampling 1/week. However, based on discussions with Elliott, 1/week grab sampling will be specified for those parameters since the effluent is not highly variable. Perfluorooctanoic acid (PFOA), Perfluorooctanesulfonic acid (PFOS), Perfluorobutanesulfonic acid (PFBS), and Hexafluoropropylene oxide dimer acid (HFPO-DA) will require grab sampling 1/year.

Development of Effluent Limitations

Outfall Nos. 008, 030, & 031 **Design Flow (MGD)** Variable

Wastewater Description: Storm water runoff from facility operations building roof drains and paved surface; storm water runoff from municipal street storm drains; groundwater from foundation drains

Discharges monitored at Outfalls 008, 030, and 031 are currently subject to the following effluent limits and monitoring requirements.

Table 16. Outfall 008 – Current Effluent Limits and Monitoring Requirements

Parameter	Mass (lbs/day)		Concentration (mg/L)			Measurement Frequency	Sample Type	Limit Basis
	Avg. Mo.	Max Daily	Avg. Mo.	Max Daily	IMAX			
Flow	—	—	—	Report	—	1/6 months	Grab	25 Pa. Code § 92.61(h)
pH (S.U.)	—	—	—	Report	—	1/6 months	Grab	25 Pa. Code § 92.61(h)

Table 17. Outfalls 030 and 031 – Current Effluent Limits and Monitoring Requirements

Parameter	Mass (lbs/day)		Concentration (mg/L)			Measurement Frequency	Sample Type	Limit Basis
	Avg. Mo.	Max Daily	Avg. Mo.	Max Daily	IMAX			
Iron, Total	—	—	—	Report	—	1/6 months	Grab	25 Pa. Code § 92.61(h)
Zinc, Total	—	—	—	Report	—	1/6 months	Grab	25 Pa. Code § 92.61(h)

The effluent limits and monitoring requirements in **Tables 16** and **17** will remain in effect at Outfalls 008, 030, and 031 pursuant to anti-backsliding requirements under Section 402(o) of the Clean Water Act 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 Section 402(o) of the Clean Water Act or 40 CFR § 122.44(l).

For this permit renewal, Elliott is requesting authorization to perform representative outfall sampling such that analyses of Outfall 008's discharges also will represent discharges from Outfalls 030 and 031. Consistent with 40 CFR § 122.41(j)(1), DEP agrees to allow Outfall 008's discharges to represent discharges from those outfalls.

008.A. Technology-Based Effluent Limitations (TBELs)

There are no Federal Effluent Limitations Guidelines (ELGs) that apply to storm water discharges from Outfalls 008, 030, and 031. Therefore, if warranted, TBELs are developed based on Best Professional Judgment.

As explained in Section 002.A of this Fact Sheet, based on DEP's policy for permitting storm water discharges associated with industrial activities in individual NPDES permits, the monitoring requirements and sector-specific Best Management Practices (BMPs) of Appendix U of the PAG-03 are imposed at Outfall 008. Monitoring for additional pollutants is considered if baseline monitoring requirements from Appendix U do not capture the range of analytes present in Outfall 008's discharges. **Table 18** summarizes the effluent data reported for the general chemistry pollutants listed on Module 1 of the updated NPDES permit application and additional metals parameters.

Table 18. Effluent Concentrations Reported for Outfall 008

Parameter	Outfall 002 Conc. (mg/L)	No Expos. Threshold	Benchmark Value		Parameter	Outfall 002 Conc. (mg/L)	No Expos. Threshold	Benchmark Value
Oil and Grease	≤5.0	≤5.0	30		Chromium	<0.0025	0.074†	—
BOD_5	<5.6	≤10	30		Cobalt	<0.0025	0.019†	—
COD	<25.0	≤30	120		Copper	<0.0025	0.009†	—
TSS	4.0	≤30	100		Iron	0.300	≤7	—
Nitrogen, Tot.	<1.0	≤5.0	—		Lead	0.00083	0.0025†	—
Phosphorus, Tot.	0.10	≤10	—		Manganese	0.047	1.0†	—

Table 18 (continued). Effluent Concentrations Reported for Outfall 008

Parameter	Outfall 002 Conc. (mg/L)	No Expos. Threshold	Benchmark Value		Parameter	Outfall 002 Conc. (mg/L)	No Expos. Threshold	Benchmark Value
pH (S.U.)	7.85	6.0 to 9.0	9.0		Molybdenum	<0.0025	—	—
Aluminum	0.123	0.75†	—		Selenium	<0.0025	0.0046†	—
Antimony	<0.0005	0.0056†	—		Silver	<0.0025	0.0032†	—
Arsenic	<0.0025	0.010†	—		Thallium	<0.0005	0.00024†	—
Barium	0.0318	2.4†	—		Zinc	0.0535	0.117†	—
Beryllium	<0.0005	—	—		Mercury	<0.0002	0.00005†	—
Cadmium	<0.0005	0.00025†	—		† Most stringent water quality standard			

Based on the results in **Table 18**, no TBELs are imposed at Outfall 008. Pollutants are present in low or not-detectable concentrations.

The benchmark values and corrective action plan requirements discussed in Section 002.A of this Fact Sheet also apply to Outfall 008's discharges and discharges represented by Outfall 008.

Elliott reported that discharges from Outfall 030 include groundwater from foundation drains, which is an allowable non-storm water discharge that will be authorized to discharge at that location.

008.B. Water Quality-Based Effluent Limitations (WQBELs)

As explained in Section 002.B of this Fact Sheet, DEP generally does not develop WQBELs for storm water discharges except in limited circumstances (*e.g.*, WQBELs based on a TMDL's waste load allocation). Also, as explained in Section 002.B of this Fact Sheet, no TMDL requirements apply to Elliott's discharges based on the Brush Creek Watershed TMDL or the Turtle Creek Watershed TMDL. Therefore, no WQBELs are imposed at Outfall 008 or its represented outfalls.

Even though no WQBELs are imposed, 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.

008.C. Effluent Limits and Monitoring Requirements for Outfalls 008, 030, and 031

In accordance with 25 Pa. Code §§ 92a.12 and 92a.61 and anti-backsliding requirements under 40 CFR § 122.44(l) (incorporated by reference in Pennsylvania regulations at 25 Pa. Code § 92a.44), effluent limits at Outfall 008 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 monitoring requirements are summarized in the table below.

Table 19. Effluent Limits and Monitoring Requirements for Outfalls 008, 030, and 031

Parameter	Mass (pounds)		Concentration (µg/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, Appendix U
Oil and Grease	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Nitrogen, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Phosphorus, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Aluminum, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Iron, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Zinc, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U

The sampling frequency for all parameters will be 1/6 months based on the sampling frequency in Appendix 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. No requirements apply to Outfalls 030 and 031 other than storm water BMPs.

Development of Effluent Limitations

Outfall No. 007, 009, 011, 012, 013, 014, & 043 **Design Flow (MGD)** Variable
Wastewater Description: Storm water runoff from a warehouse roof drain

Discharges monitored at Outfalls 007, 009, 011, 012, 013, and 014 are currently subject to the following effluent limits and monitoring requirements.

Table 20. Outfalls 007, 009, 011, 012 – Current Effluent Limits and Monitoring Requirements

Parameter	Mass (lbs/day)		Concentration (mg/L)			Measurement Frequency	Sample Type	Limit Basis
	Avg. Mo.	Max Daily	Avg. Mo.	Max Daily	IMAX			
Zinc, Total	—	—	—	Report	—	1/6 months	Grab	25 Pa. Code § 92.61(h)

Table 21. Outfalls 013 and 014 – Current Effluent Limits and Monitoring Requirements

Parameter	Mass (lbs/day)		Concentration (mg/L)			Measurement Frequency	Sample Type	Limit Basis
	Avg. Mo.	Max Daily	Avg. Mo.	Max Daily	IMAX			
Iron, Total	—	—	—	Report	—	1/6 months	Grab	25 Pa. Code § 92.61(h)
Zinc, Total	—	—	—	Report	—	1/6 months	Grab	25 Pa. Code § 92.61(h)

The effluent limits and monitoring requirements in **Tables 20** and **21** will remain in effect at Outfalls 007, 009, 011, 012, 013, and 014 pursuant to anti-backsliding requirements under Section 402(o) of the Clean Water Act 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 Section 402(o) of the Clean Water Act or 40 CFR § 122.44(l). Outfall 043 is a newly identified outfall that is not permitted by the existing permit.

For this permit renewal, Elliott is requesting authorization to perform representative outfall sampling such that analyses of Outfall 012's discharges also will represent discharges from Outfalls 007, 009, 011, 013, 014, and 043. Outfalls 007, 009, 011, 012, and 013 discharge storm water runoff from warehouse roof drains on the north side of Bull Run. Outfall 014 discharges storm water runoff from paved areas along the south side of Bull Run. Outfall 043 discharges storm water runoff from the same warehouse roofs as Outfalls 007, 009, 011, 012, and 013 in addition to runoff from a hillside north of those warehouses and groundwater seepage, the latter of which is an allowable non-storm water discharge that will be authorized to discharge at that location. Except for Outfall 043, the drainage areas are entirely impervious.

Pursuant to 40 CFR § 122.41(j)(1), DEP agrees to allow Outfall 012's discharges to represent discharges from Outfalls 007, 009, 011, 013, 014, and 043.

012.A. Technology-Based Effluent Limitations (TBELs)

There are no Federal Effluent Limitations Guidelines (ELGs) that apply to discharges from Outfalls 007, 009, 011, 012, 013, 014, and 043. Therefore, if warranted, TBELs are developed based on Best Professional Judgment.

As explained in Section 002.A of this Fact Sheet, based on DEP's policy for permitting storm water discharges associated with industrial activities in individual NPDES permits, the monitoring requirements and sector-specific BMPs of PAG-03, Appendix U are imposed at Outfall 012. Monitoring for additional pollutants is considered to the extent that baseline monitoring requirements from Appendix U do not capture the range of analytes present in Outfall 012's discharges. **Table 22** summarizes the effluent data reported for the general chemistry pollutants listed on Module 1 of the updated NPDES permit application and additional metals parameters.

Table 22. Effluent Concentrations Reported for Outfall 012

Parameter	Outfall 002 Conc. (mg/L)	No Expos. Threshold	Benchmark Value		Parameter	Outfall 002 Conc. (mg/L)	No Expos. Threshold	Benchmark Value
Oil and Grease	≤5.0	≤5.0	30		Chromium	<0.005	0.074†	—
BOD_5	<5.6	≤10	30		Cobalt	<0.005	0.019†	—

Table 22 (continued). Effluent Concentrations Reported for Outfall 012

Parameter	Outfall 002 Conc. (mg/L)	No Expos. Threshold	Benchmark Value	Parameter	Outfall 002 Conc. (mg/L)	No Expos. Threshold	Benchmark Value
COD	25.1	≤30	120	Copper	0.0157	0.009†	—
TSS	45.0	≤30	100	Iron	4.320	≤7	—
Nitrogen, Tot.	<1.0	≤5.0	—	Lead	0.0074	0.0025†	—
Phosphorus, Tot.	0.11	≤10	—	Manganese	0.0604	1.0†	—
pH (S.U.)	7.24	≤30	9.0	Molybdenum	<0.005	—	—
Aluminum	2.640	0.75†	—	Selenium	<0.005	0.0046†	—
Antimony	<0.001	0.0056†	—	Silver	<0.005	0.0032†	—
Arsenic	0.0213	0.010†	—	Thallium	<0.001	0.00024†	—
Barium	0.0534	2.4†	—	Zinc	0.838	0.117†	—
Beryllium	<0.001	—	—	Mercury	<0.0002	0.00005†	—
Cadmium	<0.001	0.00025†	—				

† Most stringent water quality criterion (at a hardness of 100 mg/L for hardness-based criteria)

Based on the results in **Table 22**, no TBELs are imposed at Outfall 012. Pollutants present in elevated concentrations (aluminum and iron) must be reported based on the reporting requirements adopted from Appendix U of the PAG-03. Other parameters are present in low concentrations.

The benchmark values and corrective action plan requirements discussed in Section 002.A of this Fact Sheet also apply to Outfall 012's discharges and discharges represented by Outfall 012.

012.B. Water Quality-Based Effluent Limitations (WQBELs)

As explained in Section 002.B of this Fact Sheet, DEP generally does not develop WQBELs for storm water discharges except in limited circumstances (*e.g.*, WQBELs based on a TMDL's waste load allocation). Also, as explained in Section 002.B of this Fact Sheet, no TMDL requirements apply to Elliott's discharges based on the Brush Creek Watershed TMDL or the Turtle Creek Watershed TMDL. Therefore, no WQBELs are imposed at Outfall 012 or its represented outfalls.

Even though no WQBELs are imposed, 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.

012.C. Effluent Limits and Monitoring Requirements for Outfalls 007, 009, 011, 012, 013, 014, and 043

In accordance with 25 Pa. Code §§ 92a.12 and 92a.61 and anti-backsliding requirements under 40 CFR § 122.44(l) (incorporated by reference in Pennsylvania regulations at 25 Pa. Code § 92a.44), effluent limits at Outfall 012 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 monitoring requirements are summarized in the table below.

Table 23. Effluent Limits and Monitoring Requirements for Outfall 012

Parameter	Mass (pounds)		Concentration (µg/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, Appendix U
Oil and Grease	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Nitrogen, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Phosphorus, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Aluminum, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Iron, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Zinc, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U

The sampling frequency for all parameters will be 1/6 months based on the sampling frequency in Appendix 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.

No monitoring requirements are imposed at Outfalls 007, 009, 011, 013, 014, and 043. However, analytical results at Outfall 012 will be considered to represent results at those other outfalls for the purpose of benchmark monitoring and the development of Corrective Action Plans. Also, BMPs must be implemented in all areas of the site, not just at outfalls where representative sampling is conducted.

Development of Effluent Limitations

Outfall No. 015 **Design Flow (MGD)** 0.066 (avg.); 1.0104 (max)
Latitude 40° 20' 18" **Longitude** -79° 36' 37"
Wastewater Description: Hydrostatic test water from finished machine components; groundwater and process wastewater from building/machine foundation sumps; cooling tower blowdown; storm water runoff from facility operations building roof drains and paved surface

Discharges monitored at Outfall 015 are currently subject to the following effluent limits and monitoring requirements.

Table 24. Outfall 015 – Current Effluent Limits and Monitoring Requirements

Parameter	Mass (lbs/day)		Concentration (mg/L)			Measurement Frequency	Sample Type	Limit Basis
	Avg. Mo.	Max Daily	Avg. Mo.	Max Daily	IMAX			
Flow (MGD)	Report	Report	—	—	—	2/month	Measured	25 Pa. Code § 92.61(d)(1)
pH	—	—	6.0 (Minimum)	—	9.0	2/month	Grab	25 Pa. Code § 95.2(2)
Temperature (°F)	—	—	Report	110	—	2/month	I-S	25 Pa. Code § 92a.48(a)(3)

The effluent limits 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).

015.A. Technology-Based Effluent Limitations (TBELs)

As shown in **Table 24**, Outfall 015 was previously subject to effluent limits for pH and temperature. Effluent sources identified in the previous permit included cooling tower blowdown, non-contact cooling water, water softener blowdown, and storm water. At the time they were imposed, the limits were appropriate for the sources discharged. Non-contact cooling water discharges from Outfall 015 have since been eliminated. Outfall 015 now discharges wastewaters regulated by 40 CFR Part 438 including hydrostatic test water from finished machine components and process wastewater from building/machine foundation sumps. As with Outfall 003, Elliott combines multiple sources for treatment and discharge through Outfall 015, but Part 438 only applies to a subset of those wastewaters. Itemized flow rates for Outfall 015 reported in Elliott's 2025 supplemental information package are summarized in **Table 25**.

Table 25. Outfall 015's Current Effluent Limits and Monitoring Requirements

Wastewater Source	Flow Rate (gpd)	Subject to Part 438?
Stormwater	582,400 †	No
Hydrostatic Testing Wastewater	50	Yes
Building/Machine Foundation Sumps (Groundwater)	64,750	No
Building/Machine Foundation Sumps (Process Wastewater)	650	Yes
Cooling Tower Blowdown	550	No
Total regulated by Part 438	700	Yes
Total not regulated by Part 438	65,300	No
Total	66,000	—

† Storm water is not included because it is variable effluent source

Discharges from Outfall 015 are continuous, so baseline TBELs must include both monthly average and maximum daily effluent limits according to 40 CFR § 122.45(d)(1). Applicable baseline TBELs for process wastewaters discharged at Outfall 015 are the same as those derived for Outfall 003 (see Table 8 in this Fact Sheet).

Wastewaters discharging from Outfall 015 that are subject to Part 438 include hydrostatic testing wastewater and process wastewaters collected in building/machine foundation sumps. Other wastewaters including storm water, groundwater from foundation sumps, and cooling tower blowdown were not characterized as oil-bearing wastewaters. Pursuant to 40 CFR § 125.3(f), flow augmentation (a form of dilution) is not an allowable means to comply with TBELs. Since Elliott combines

ELG-regulated process wastewaters and non-ELG-regulated non-process wastewaters for discharge, effluent limits must be calculated as either mass limits or flow-weighted concentration limits to account for the diluting effect of non-process wastewaters on process wastewaters (*i.e.*, to account for wastewaters that do not contain significant concentrations of TSS and/or Oil and Grease). Flow-weighted concentration TBELs are calculated using the following formula:

$$(Q_{Process} \times C_{Process}) + (Q_{Non\text{-}process} \times C_{Non\text{-}process}) = (Q_{015} \times C_{015})$$

where:

$Q_{Process}$ = the flow rate of process wastewaters (700 GPD)
$C_{Process}$ = concentration of pollutant in process wastewaters (see Table 8)
$Q_{Non\text{-}process}$ = the flow rate of non-process wastewaters (65,300 GPD)
$C_{Non\text{-}process}$ = concentration of pollutant in non-process wastewaters (Target QL / Avg. Effluent Conc.)
$Q_{015} = Q_{Process} + Q_{Non\text{-}process}$
C_{015} = effluent limit at Outfall 015

To calculate flow-weighted concentration TBELs, the concentration of Oil and Grease in non-process wastewaters is assumed to be equal to DEP's Target Quantitation Limit of 5.0 mg/L. While Oil and Grease is theoretically absent from non-contact cooling water and groundwater, Elliott would not be able to quantify Oil and Grease at levels less than laboratory reporting limits and so would not be able to demonstrate compliance with flow-weighted concentration limits that assume Oil and Grease concentrations are zero. Elliott does not monitor TSS at Outfall 015, but Elliott did report a maximum TSS concentration of 5.0 mg/L in the 2021 Application Update with two non-detect results at <5.0 mg/L. Therefore, a non-process wastewater TSS concentration of 5.0 mg/L is used to calculate flow-weighted TSS limits. The IMAX limit for TSS is calculated using a multiplier of 2.5× the average monthly limit based on the ratios in Chapter 2.C of DEP's Technical Guidance. Flow-weighted concentration limits for discharges at Outfall 015 are summarized in **Table 26**, below.

Thermal TBELs for Heated Discharges

No TBELs are developed to control thermal pollution. However, a maximum daily temperature limit of 110°F will be imposed at Outfall 015 if thermal WQBELs do not apply at Outfall 015 due to residual heat from cooling tower blowdown (and other wastewater sources, as applicable) (refer to Section 015.B, below). The 110°F temperature limit is imposed to protect human health caused by exposure resulting from water contact pursuant to the recommendations of DEP's "Implementation Guidance for Temperature Criteria" (Doc. No. 386-2000-001), and as an implementation of general water quality criteria under 25 Pa. Code § 93.6(a), which states that "[w]ater 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."

Cooling Tower Blowdown

As explained in Section 003.A of this Fact Sheet, Elliott treats the cooling towers that blow down to Outfalls 003 and 015 with various biocides including, among other things, bromochloro-5,5-dimethylimidazolidine-2,4-dione (BCDMH) under trade name Dantobrom. BCDMH reacts with water and pathogens to release hypochlorous acid, hypobromous acid, bromide, and chlorine. At facilities with chlorinated cooling tower blowdown, DEP typically imposes TBELs for Free Available Chlorine pursuant to Sections 304(b)(2)(B), 304(b)(4)(B), and 402(a)(1) of the Clean Water Act and implementing regulations under 40 CFR § 125.3 (incorporated by reference at 25 Pa. Code § 92a.48(a)(3)), which allow for the establishment of effluent limits on a case-by-case basis using Best Professional Judgment (BPJ). Free available chlorine is not a parameter applicants must analyze to complete the NPDES permit application, but the application does require results to be reported for Total Residual Chlorine (TRC).

TRC was not detectable in any of the three samples reported on the permit application for Outfall 015. Also, cooling tower blowdown represents a small proportion of Outfall 015's effluent (<1% at average flow rates). Therefore, no TBELs for Free Available Chlorine or TRC are imposed at Outfall 015.

Other Regulatory Effluent Standards and Monitoring Requirements

In addition to the Oil and Grease limits of 25 Pa. Code § 95.2(2), flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1), and effluent standards for pH are imposed by 25 Pa. Code §§ 92a.48(a)(2) and 95.2(1). The pH limits are the same as those imposed by 40 CFR § 438.12, but the Chapter 95 standards for pH apply to all wastewaters discharged at Outfall 015, not just the process wastewaters.

Table 26. Summary of TBELs and Effluent Standards for Outfall 015

Parameter	Average Monthly (mg/L)	Maximum Daily (mg/L)	IMAX (mg/L)
Total Suspended Solids	5.28	5.60	13.2
O&G (as HEM) [1]	5.1	5.3	—
Temperature (°F)	—	—	110
pH	6.0 (Instant. Minimum)	—	9.0

Per- and Polyfluoroalkyl Substances (PFAS)

As explained in Section 003.A of this Fact Sheet, DEP is implementing a new monitoring initiative for PFAS. As a discharge location for process wastewaters, Outfall 015 will require annual reporting of PFOA, PFOS, PFBS, and HFPO-DA 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 Elliott's case), then the monitoring may be discontinued.

Storm Water

As shown in Table 25, storm water can be a significant contributor to Outfall 015's discharges. As explained in Section 002.A of this Fact Sheet, based on DEP's policy for permitting storm water discharges associated with industrial activities in individual NPDES permits, the monitoring requirements and sector-specific BMPs of PAG-03, Appendix U are imposed at Outfall 015. Monitoring for additional pollutants is considered to the extent that baseline monitoring requirements from Appendix U do not capture the range of analytes present in Outfall 015's storm water discharges. **Table 27** summarizes the effluent data reported for the general chemistry pollutants listed on Module 1 of the updated NPDES permit application and additional metals parameters.

Table 27. Effluent Concentrations Reported for Outfall 015

Parameter	Outfall 002 Conc. (mg/L)	No Expos. Threshold	Benchmark Value	Parameter	Outfall 002 Conc. (mg/L)	No Expos. Threshold	Benchmark Value
Oil and Grease	≤5.0	≤5.0	30	Chromium	<0.0025	0.074†	—
BOD_5	<5.6	≤10	30	Cobalt	<0.0025	0.019†	—
COD	<25.0	≤30	120	Copper	<0.0025	0.009†	—
TSS	<4.0	≤30	100	Iron	0.128	≤7	—
Nitrogen, Tot.	<1.0	≤5.0	—	Lead	<0.0005	0.0025†	—
Phosphorus, Tot.	0.04	≤10	—	Manganese	0.0178	1.0†	—
pH (S.U.)	6.86	≤30	9.0	Molybdenum	0.0948	—	—
Aluminum	0.0227	0.75†	—	Selenium	<0.0025	0.0046†	—
Antimony	0.00062	0.0056†	—	Silver	<0.0025	0.0032†	—
Arsenic	<0.0025	0.010†	—	Thallium	<0.0005	0.00024†	—
Barium	0.0082	2.4†	—	Zinc	0.0369	0.117†	—
Beryllium	<0.0005	—	—	Mercury	<0.0002	0.00005†	—
Cadmium	<0.0005	0.00025†	—				

† Most stringent water quality criterion (at a hardness of 100 mg/L for hardness-based criteria)

Based on the results in **Table 27**, no TBELs are imposed at Outfall 015. Pollutants are present in low or not-detectable concentrations. The benchmark values and corrective action plan requirements discussed in Section 002.A of this Fact Sheet also apply to Outfall 015's discharges. Outfall 015 has continuous discharges of process and non-process wastewaters. Therefore, consistent with the storm water sampling guidance in the NPDES Application for Individual Permit to Discharge Industrial Wastewater Instructions for Module 1, Elliott must ensure that only storm water is sampled, which may require Elliott to sample storm water at a location that is different than the normal compliance monitoring location.

015.B. Water Quality-Based Effluent Limitations (WQBELs)

Reasonable Potential Analysis and WQBEL Development for Outfall 015

Table 28. TMS Inputs for Outfall 015

Discharge Characteristics		
Parameter	**Value**	
Discharge Flow (MGD)	0.066	
Hardness (mg/L)	222	
Receiving Stream Characteristics		
Parameter	**Outfall 003**	**End of Segment**
Stream Code	37319	37319
River Mile Index	1.06	0.89
Drainage Area (mi^2)	2.4	2.48
Q_{7-10} (cfs)	0.0242	0.0251
Low-flow Yield (cfs/mi^2)	0.010	0.010
Elevation (ft)	1,026	1,023
Slope (ft/ft)	0.00775	0.00775

Discharges from Outfall 015 are evaluated based on the maximum concentrations reported on the permit renewal application or on DMRs except where statistically significant datasets of at least ten effluent samples allow for the use of TOXCONC to calculate average concentrations using normal, lognormal, and/or delta-lognormal distributions, as applicable (see **Attachment E**). The TMS model is run for Outfall 015 with the modeled discharge and receiving stream characteristics shown in **Table 28**. Pollutants for which water quality criteria have not been promulgated (e.g., TSS, Oil and Grease, etc.) are excluded from the modeling.

Output from the TMS model is included in **Attachment F** to this Fact Sheet. As explained previously, the TMS compares the input discharge concentrations to the calculated WQBELs using DEP's Reasonable Potential thresholds to evaluate the need to impose WQBELs or monitoring requirements in the permit. The results of the modeling indicate that the water quality-based reporting requirements in Table 28 are needed for Outfall 015.

Table 29. Water Quality-Based Effluent Limits for Outfall 015

Parameter	**Permit Limits**					**Discharge Conc. (µg/L)**	**Target QL (µg/L)**	**Governing WQBEL (µg/L)**	**Basis†**
	Mass (lbs/day)		**Concentration (µg/L)**						
	Avg Mo.	**Max Daily**	**Avg Mo.**	**Max Daily**	**IMAX**				
Antimony, Total	Report	Report	Report	Report	—	1.1	2.0	6.92	THH
Copper, Total	Report	Report	Report	Report	—	5.92	4.0	20.2	CFC
~~Iron, Dissolved~~	~~0.2~~	~~0.32~~	~~371~~	~~578~~	~~926~~	~~385~~	~~20~~	~~271~~	~~THH~~
Iron, Total	Report	Report	Report	Report	—	447.6	~~20~~	1,853	CFC
Lead, Total	Report	Report	Report	Report	—	1	1.0	9.07	CFC
~~Manganese, Total~~	~~0.68~~	~~1.06~~	~~1,235~~	~~1,927~~	~~3,088~~	~~713~~	~~2.0~~	~~1,235~~	~~THH~~
Zinc, Total	Report	Report	Report	Report	—	78.857	5.0	245	AFC
Acrylamide	0.0001	0.0002	0.27	0.41	0.66	<10000	—	0.47	CRL
Chlorodibromomethane	0.002	0.003	3.04	4.74	7.59	4.3	0.5	3.04	CRL
Dichlorobromomethane	0.002	0.003	3.6	5.62	9.01	2.2	0.5	3.6	CRL

† Maximum concentration as reported in Elliott's 2021 Application Update
‡ AFC = Acute Fish Criterion; CFC = Chronic Fish Criterion; THH = Threshold Human Health; CRL = Cancer Risk Level

Elliott reported results for Acrylamide using an analytical reporting limit of 10000 µg/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 at the Jeannette Facility. Therefore, the TMS's WQBELs for Acrylamide are not imposed.

The WQBELs for dissolved iron and total manganese do not apply because the criteria for those parameters are specified in 25 Pa. Code Chapter 93 for the protection of potable water supply use which is not a protected use for Bull Run.

The WQBELs and water quality-based reporting requirements for all other parameters are based TMS analyses using either the maximum reported discharge concentration (arsenic, lead, chlorodibromomethane, and dichlorobromomethane) or the long-term average discharge concentration and coefficient of variation calculated using DEP's TOXCONC spreadsheet (copper, iron, and zinc).

Load limits will not be imposed because discharge flow rates vary above the average flow used for modeling. Elliott may not be able to comply with the new WQBELs for Chlorodibromomethane and Dichlorobromomethane, so a four-year schedule of compliance will be included in the permit for those parameters (see Section 003.B of this Fact Sheet).

Thermal WQBELs

Thermal WQBELs are evaluated using a DEP program called "Thermal Limits Spreadsheet" created with Microsoft Excel® for Windows. The program calculates temperature wasteload allocations (WLAs) through the application of a heat transfer

equation, which takes two forms in the program depending on the source of the facility's cooling water. In Case 1, intake water to a facility is from the receiving stream upstream of the discharge location. In Case 2, intake water is from a source other than the receiving stream (e.g., municipal water supply). The determination of which case applies to a given discharge is made based on the input data which include the receiving stream flow rate ($Q_{7\text{-}10}$), the stream intake flow rate, external source intake flow rates, consumptive flow rates, and site-specific ambient stream temperatures. Case 1 limits are generally expressed as heat rejection rates while Case 2 limits are usually expressed as temperatures.

DEP's "Implementation Guidance for Temperature Criteria" directs permit writers to assume instantaneous complete mixing of the discharge with the receiving stream when calculating thermal effluent limits unless adverse factors exist. The receiving stream for Outfall 015 is small, so the assumption of instantaneous complete mixing is appropriate.

DEP performed an initial thermal analysis using the Thermal Limits Spreadsheet and calculated the WQBELs in **Table 30** ("Allowable Discharge Temp.") based on a discharge flow rate of 0.107 MGD (the average of the maximum daily flow rates reported at Outfall 015 during the last three years) and a $Q_{7\text{-}10}$ stream flow of 0.0242 cfs. Elliott obtains its water from the local municipal source and groundwater infiltration into foundation sumps, so the discharge was analyzed as Case 2.

Table 30. Preliminary Thermal WQBELs for Outfall 015

Period	Allowable Downstream Temp. (°F)	Default Ambient Stream Temp. (°F)	Allowable Discharge Temp. (°F)
Jan 1-31	40	34	42.8
Feb 1-29	40	35	42.6
Mar 1-31	46	39	53.2
Apr 1-15	52	46	60.2
Apr 16-30	58	52	66.2
May 1-15	64	56	70.0
May 16-31	68	60	74.0
Jun 1-15	70	65	72.2
Jun 16-30	72	69	73.3
July 1-31	74	73	74.2
Aug 1-15	80	72	81.6
Aug 16-31	87	70	90.5
Sep 1-15	84	68	86.6
Sep 16-30	78	62	80.6
Oct 1-15	72	57	74.6
Oct 16-31	66	53	68.3
Nov 1-15	58	47	60.6
Nov 16-30	50	41	52.1
Dec 1-31	42	36	44.1

DEP's August 2, 2024 Pre-Draft Survey Letter notified Elliott of the proposed imposition of the thermal WQBELs in Table 29. In its 2025 supplemental information package, Elliott stated the following in response to the Pre-Draft Survey letter:

> Elliott believes that the primary driver deterring achievement of the proposed temperature WQBELs is not the sources of "heated wastewater" as described in Attachment 1, but, rather, the ambient temperature of other contributing flows such as the groundwater infiltrating into the building/machine sumps. For example, for Outfall 015, the only identified source of heated wastewater is the cooling tower blowdown. This source comprises less than 1% of the overall daily discharge volume from the outfall (not including stormwater). For Outfall 003, heated wastewater comprises less than 15% of the total daily discharge volume from the outfall. The ambient temperature of the remainder of the contributing flows to both outfalls is well above the proposed WQBELs for the colder months.
>
> Elliott requests that the temperature WQBELs be removed from the draft NPDES Permit on the basis that the sources of heated wastewater comprise a de minimis portion of the overall wastewater and stormwater discharge from the facility.

Based on data included in the 2025 supplemental information package, Outfall 015 discharges an average of 550 gallons per day of cooling tower blowdown, which represents, on average, 0.83% of the total flow discharging through Outfall 015. Cooling tower blowdown is the source to which Elliott intentionally adds waste heat. However, Elliott's position is that the ambient temperatures of wastewaters to which Elliott does not add waste heat already exceed the thermal WQBELs and consequently would be the primary driver of Elliott's non-compliance with those WQBELs. As a result, Elliott requests that thermal WQBELs not be imposed.

As discussed in Section 003.B, while the ambient temperature of groundwater may exceed thermal WQBELs based on surface water quality criteria, Elliott collects the groundwater and discharges it as a point source discharge to a surface water and is responsible for the characteristics of that effluent and any adverse impacts to aquatic life that may result.

DEP has recalculated thermal WQBELs using a revised discharge flow rate of 0.105 MGD, which is the average of the maximum daily flows reported at Outfall 015 from January 2022 through January 2025. Modeling results from Thermal Limits Spreadsheet are presented in **Attachment G**. **Table 31** compares the revised thermal WQBELs to the thermal WQBELs calculated for the Pre-Draft Survey Letter. Also, **Table 31** shows the maximum ΔT between the average of the maximum daily effluent temperatures reported at Outfall 015 for each month from 2021 through 2024 and the design ambient temperature of the receiving water. Elliott's temperature data are not split out to semi-monthly periods, so the multi-year averages of the maximum daily temperatures for each month are compared to both semi-monthly default design ambient stream temperatures for those months with split temperature criteria (April, May, June, August, September, October, and November).

Table 31. Comparison of Pre-Draft and Draft Thermal WQBELs for Outfall 003

Period	Pre-Draft: Allowable Discharge Temp. at 0.107 MGD (°F)	Draft: Allowable Discharge Temp. at 0.105 MGD (°F)	Default Design Ambient Stream Temp. for TSF (°F)	Avg. of Daily Max Discharge Temp. (2021-2024) (°F)	ΔT (Discharge Temp. - Design Ambient) (°F)
Jan 1-31	42.8	42.9	34	56.072	**22.072**
Feb 1-29	42.6	42.6	35	55.98	**20.98**
Mar 1-31	53.2	53.3	39	58.02	**19.02**
Apr 1-15	60.2	60.3	46	62.62	**16.62**
Apr 16-30	66.2	66.3	52	62.62	**10.62**
May 1-15	70.0	70.1	56	64.82	8.82
May 16-31	74.0	74.1	60	64.82	4.82
Jun 1-15	72.2	72.2	65	69.22	4.22
Jun 16-30	73.3	73.3	69	69.22	0.22
July 1-31	74.2	74.3	73	71.78	-1.22
Aug 1-15	81.6	81.7	72	72.78	0.78
Aug 16-31	90.5	90.5	70	72.78	2.78
Sep 1-15	86.6	86.6	68	69.16	1.16
Sep 16-30	80.6	80.6	62	69.16	7.16
Oct 1-15	74.6	74.7	57	67.24	**10.24**
Oct 16-31	68.3	68.3	53	67.24	**14.24**
Nov 1-15	60.6	60.6	47	66.42	**19.42**
Nov 16-30	52.1	52.1	41	66.42	**25.42**
Dec 1-31	44.1	44.1	36	61.44	**25.44**

The data in **Table 31** show that, on average, the maximum ΔT between the discharge temperature and the design ambient temperature of the receiving stream is more than 10°F for more than half of the year, which is one of the criteria in DEP's guidance for imposing thermal effluent limits.

Based on the results of DEP's thermal analyses, Elliott's reported effluent temperatures, and Elliott's statement that the ambient temperature of the remainder of the contributing flows to Outfalls 003 and 015 (sources other than boiler and/or cooling tower blowdown) is well above the proposed WQBELs for the colder months, it is reasonable to conclude that Outfall 015's discharges are not minor compared to the assimilative capacity of the receiving stream and that Outfall 015's discharges do have the potential to challenge water quality standards. DEP also notes that Outfall 015 is located upstream of Outfall 003 and has a higher discharge flow rate than Outfall 003, so less thermal assimilative capacity may be available for discharges from Outfall 003.

The modified thermal WQBELs in **Table 31** will be imposed at Outfall 015 subject to a four-year schedule of compliance in accordance with 25 Pa. Code § 92a.51. The 110°F daily maximum limit will apply in the interim. As part of the schedule of compliance for the new temperature WQBELs, requirements are added to the permit for the following:

- A source reduction and feasibility evaluation to evaluate approaches to reduce or eliminate thermal loadings and/or provide treatment/cooling to achieve the final WQBELs;

- Site-specific data collection to determine site-specific ambient stream temperatures to refine the temperature WQBELs because the temperature WQBELs in the draft permit were developed using default ambient stream

temperatures in DEP's "Implementation Guidance Design Conditions" (386-2000-007) for streams with a designated use for Trout Stock Fishes (TSF);

- Minimum data collection to support a request for a § 316(a) thermal variance (if Elliott opts to make such a request) including continuous in-stream temperature measurements upstream and downstream of Outfall 015, and fish and macroinvertebrate sampling at those same locations, or on a reference stream.

Elliott currently monitors Outfall 015 for temperature 2/month, which is insufficient to evaluate the thermal characteristics and impacts from Outfall 015. To allow Elliott time to install the equipment necessary to continuously record discharge temperatures, an interim twelve-month period is included in the permit with interim temperature monitoring frequencies of 1/week and final temperature monitoring frequencies of "continuous". According to the schedule added to the permit, the continuous temperature measurements for the discharge should coincide with other continuous in-stream temperature measurements required to determine ambient background stream temperatures and to support a request for § 316(a) thermal variance if Elliott opts to make such a request.

Total Maximum Daily Loads

As described in Section 002.B of this Fact Sheet, no requirements apply to Elliott's discharges based on the Brush Creek Watershed TMDL or the Turtle Creek Watershed TMDL.

015.C. Effluent Limits and Monitoring Requirements for Outfall 015

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) (incorporated in Pennsylvania's regulations at 25 Pa. Code § 92a.44), effluent limits at Outfall 003 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 effluent limits and monitoring requirements are summarized in the table below.

Table 32. Effluent Limits and Monitoring Requirements for Outfall 015

Parameter	Mass (pounds/day)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	Report	Report	—	—	—	25 Pa. Code § 92a.61(d)(1)
pH (S.U.)	—	—	6.0 Inst. Min.	—	9.0	25 Pa. Code § 92a.48(a)(2) & 95.2(1)
Total Suspended Solids	Report	Report	5.28	5.60	13.2	40 CFR § 438.12
Oil and Grease	Report	Report	5.1	5.3	—	40 CFR § 438.12; 25 Pa. Code §§ 92a.48(a)(2) & 95.2(2)
Temp. (°F) (Interim)	—	—	—	—	110	25 Pa. Code § 93.6(a)
Temp. (°F) (Jan 1-31) (Final)	—	—	—	42.8	—	WQBELs; 25 Pa. Code §§ 92a.12(a)(1) & 96.6
Temp. (°F) (Feb 1-29) (Final)	—	—	—	42.6	—	
Temp. (°F) (Mar 1-31) (Final)	—	—	—	53.2	—	
Temp. (°F) (Apr 1-15) (Final)	—	—	—	60.2	—	
Temp. (°F) (Apr 16-30) (Final)	—	—	—	66.2	—	
Temp. (°F) (May 1-15) (Final)	—	—	—	70.0	—	
Temp. (°F) (May 16-31) (Final)	—	—	—	74.0	—	
Temp. (°F) (Jun 1-15) (Final)	—	—	—	72.2	—	
Temp. (°F) (Jun 16-30) (Final)	—	—	—	73.3	—	
Temp. (°F) (Jul 1-31) (Final)	—	—	—	74.2	—	
Temp. (°F) (Aug 1-15) (Final)	—	—	—	81.6	—	
Temp. (°F) (Aug 16-31) (Final)	—	—	—	90.5	—	
Temp. (°F) (Sep 1-15) (Final)	—	—	—	86.6	—	

Table 32 (cont'd). Effluent Limits and Monitoring Requirements for Outfall 015

Parameter	Mass (pounds/day)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Temp. (°F) (Sep 16-30) (Final)	—	—	—	80.6	—	WQBELs; 25 Pa. Code §§ 92a.12(a)(1) & 96.6
Temp. (°F) (Oct 1-15) (Final)	—	—	—	74.6	—	
Temp. (°F) (Oct 16-31) (Final)	—	—	—	68.3	—	
Temp. (°F) (Nov 1-15) (Final)	—	—	—	60.6	—	
Temp. (°F) (Nov 16-30) (Final)	—	—	—	52.1	—	
Temp. (°F) (Dec 1-31) (Final)	—	—	—	44.1	—	
Antimony, Total	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Copper, Total	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Iron, Total	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Lead, Total	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Zinc, Total	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Chlorodibromomethane (Interim)	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Chlorodibromomethane (Final)	—	—	3.04	4.74	7.59	WQBELs; 25 Pa. Code §§ 92a.12(a)(1) & 96.4(b)
Dichlorobromomethane (Interim)	—	—	Report	Report	—	25 Pa. Code § 92a.61(b)
Dichlorobromomethane (Final)	—	—	3.6	5.62	9.01	WQBELs; 25 Pa. Code §§ 92a.12(a)(1) & 96.4(b)
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)
pH (S.U.)	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Total Suspended Solids	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Oil and Grease	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Nitrogen, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Phosphorus, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Aluminum, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Iron, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Zinc, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U

Monitoring frequencies and sample types are imposed in accordance with Chapter 6, Table 6-4 of DEP's "Technical Guidance for the Development and Specification of Effluent Limitations" (Doc. No. 386-0400-001), DEP's "Standard Operating Procedure (SOP) for Clean Water Program New and Reissuance Industrial Waste and Industrial Stormwater Individual NPDES Permit Applications" ("IW NPDES SOP"), and the previous permit.

Flow must be measured daily using a flow meter. Oil and Grease and pH will require grab sampling 1/week. TSS will require 24-hour composite sampling 1/week. Temperature must be recorded continuously using immersion stabilization sampling. All metals and organic pollutants other than volatile pollutants will require 24-hour composite sampling 1/week. Volatile pollutants will require 4-grab composite sampling 1/week. However, based on discussions with Elliott, 1/week grab sampling will be specified for those parameters since the effluent is not highly variable. Perfluorooctanoic acid (PFOA), Perfluorooctanesulfonic acid (PFOS), Perfluorobutanesulfonic acid (PFBS), and Hexafluoropropylene oxide dimer acid (HFPO-DA) will require grab sampling 1/year. Representative storm water samples must be collected as grab samples 1/6 months.

Development of Effluent Limitations

Outfall No. 019, 020, 021, 022, & 033 **Design Flow (MGD)** Variable

Wastewater Description: Storm water runoff from facility operations building roof drains and paved surface, and storm water from municipal street storm drains

Discharges monitored at Outfalls 019, 020, 022, and 033 are currently subject to the following effluent limits and monitoring requirements.

Table 33. Outfalls 019, 020, 022, & 033 – Current Effluent Limits and Monitoring Requirements

Parameter	Mass (lbs/day)		Concentration (mg/L)			Measurement Frequency	Sample Type	Limit Basis
	Avg. Mo.	Max Daily	Avg. Mo.	Max Daily	IMAX			
Zinc, Total	—	—	—	Report	—	1/6 months	Grab	25 Pa. Code § 92.61(h)

Discharges from Outfall 021 previously were authorized to discharge uncontaminated storm water and are not subject to any effluent limits or monitoring requirements under the existing permit.

The effluent limits and monitoring requirements in **Table 32** will remain in effect at Outfalls 019, 020, 022, and 033 pursuant to anti-backsliding requirements under Section 402(o) of the Clean Water Act 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 Section 402(o) of the Clean Water Act or 40 CFR § 122.44(l).

For this permit renewal, Elliott is requesting authorization to perform representative outfall sampling such that analyses of Outfall 020's discharges also will represent discharges from Outfalls 019, 021, 022, and 033. Consistent with 40 CFR § 122.41(j)(1), DEP agrees to allow Outfall 020's discharges to represent discharges from those outfalls.

020.A. Technology-Based Effluent Limitations (TBELs)

There are no Federal Effluent Limitations Guidelines (ELGs) that apply to storm water discharges from Outfalls 019, 021, 022, and 033. Therefore, if warranted, TBELs are developed based on Best Professional Judgment.

As explained in Section 002.A of this Fact Sheet, based on DEP's policy for permitting storm water discharges associated with industrial activities in individual NPDES permits, the monitoring requirements and sector-specific Best Management Practices (BMPs) of Appendix U of the PAG-03 are imposed at Outfall 020. Monitoring for additional pollutants is considered if baseline monitoring requirements from Appendix U do not capture the range of analytes present in Outfall 020's discharges. **Table 34** summarizes the effluent data reported for the general chemistry pollutants listed on Module 1 of the updated NPDES permit application and additional metals parameters.

Table 34. Effluent Concentrations Reported for Outfall 020

Parameter	Outfall 002 Conc. (mg/L)	No Expos. Threshold	Benchmark Value	Parameter	Outfall 002 Conc. (mg/L)	No Expos. Threshold	Benchmark Value
Oil and Grease	≤5.0	≤5.0	30	Chromium	<0.0025	0.074†	—
BOD_5	<5.6	≤10	30	Cobalt	<0.0025	0.019†	—
COD	<25.0	≤30	120	Copper	<0.0025	0.009†	—
TSS	<4.0	≤30	100	Iron	0.173	≤7	—
Nitrogen, Tot.	<1.0	≤5.0	—	Lead	0.99	0.0025†	—
Phosphorus, Tot.	<0.03	≤10	—	Manganese	0.0073	1.0†	—
pH (S.U.)	7.56	6.0 to 9.0	9.0	Molybdenum	<0.0025	—	—
Aluminum	0.0742	0.75†	—	Selenium	<0.0025	0.0046†	—
Antimony	<0.0005	0.0056†	—	Silver	<0.0025	0.0032†	—
Arsenic	<0.0025	0.010†	—	Thallium	<0.0005	0.00024†	—
Barium	<0.0025	2.4†	—	Zinc	0.0195	0.117†	—
Beryllium	<0.0005	—	—	Mercury	<0.0002	0.00005†	—
Cadmium	<0.0005	0.00025†	—				

† Most stringent water quality standard

Based on the results in **Table 34**, no TBELs are imposed at Outfall 020. Pollutants are present in low or not-detectable concentrations.

The benchmark values and corrective action plan requirements discussed in Section 002.A of this Fact Sheet also apply to Outfall 020's discharges and discharges represented by Outfall 020.

Elliott reported that discharges from Outfall 030 include groundwater from foundation drains, which is an allowable non-storm water discharge that will be authorized to discharge at that location.

020.B. Water Quality-Based Effluent Limitations (WQBELs)

As explained in Section 002.B of this Fact Sheet, DEP generally does not develop WQBELs for storm water discharges except in limited circumstances (*e.g.*, WQBELs based on a TMDL's waste load allocation). Also, as explained in Section 002.B of this Fact Sheet, no TMDL requirements apply to Elliott's discharges based on the Brush Creek Watershed TMDL or the Turtle Creek Watershed TMDL. Therefore, no WQBELs are imposed at Outfall 020 or its represented outfalls.

Even though no WQBELs are imposed, 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.

020.C. Effluent Limits and Monitoring Requirements for Outfalls 019, 020, 021, 022, & 033

In accordance with 25 Pa. Code §§ 92a.12 and 92a.61 and anti-backsliding requirements under 40 CFR § 122.44(l) (incorporated by reference in Pennsylvania regulations at 25 Pa. Code § 92a.44), effluent limits at Outfall 020 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 monitoring requirements are summarized in the table below.

Table 35. Effluent Limits and Monitoring Requirements for Outfall 020

Parameter	Mass (pounds)		Concentration (µg/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, Appendix U
Oil and Grease	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Nitrogen, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Phosphorus, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Aluminum, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Iron, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Zinc, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U

The sampling frequency for all parameters will be 1/6 months based on the sampling frequency in Appendix 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.

No monitoring requirements are imposed at Outfalls 019, 021, 022, and 033. However, analytical results at Outfall 020 will be considered to represent results at those other outfalls for the purpose of benchmark monitoring and the development of Corrective Action Plans. Also, BMPs must be implemented in all areas of the site, not just at outfalls where representative sampling is conducted.

Development of Effluent Limitations

Outfall Nos. 039 and 040 **Design Flow (MGD)** Variable

Wastewater Description: Storm water runoff from facility operations building roof drains; storm water runoff from vegetated surface

Discharges monitored at Outfalls 039 and 040 are currently subject to the following effluent limits and monitoring requirements.

Table 36. Outfalls 039 and 040 – Current Effluent Limits and Monitoring Requirements

Parameter	Mass (lbs/day)		Concentration (mg/L)			Measurement Frequency	Sample Type	Limit Basis
	Avg. Mo.	Max Daily	Avg. Mo.	Max Daily	IMAX			
Zinc, Total	—	—	—	Report	—	1/6 months	Grab	25 Pa. Code § 92.61(h)

The effluent limits and monitoring requirements in **Table 36** will remain in effect at Outfalls 039 and 040 pursuant to anti-backsliding requirements under Section 402(o) of the Clean Water Act 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 Section 402(o) of the Clean Water Act or 40 CFR § 122.44(l).

For this permit renewal, Elliott is requesting authorization to perform representative outfall sampling such that analyses of Outfall 040's discharges also will represent discharges from Outfall 039. Consistent with 40 CFR § 122.41(j)(1), DEP agrees to allow Outfall 040's discharges to represent discharges from those outfalls.

040.A. Technology-Based Effluent Limitations (TBELs)

There are no Federal Effluent Limitations Guidelines (ELGs) that apply to storm water discharges from Outfalls 039 and 040. Therefore, if warranted, TBELs are developed based on Best Professional Judgment.

As explained in Section 002.A of this Fact Sheet, based on DEP's policy for permitting storm water discharges associated with industrial activities in individual NPDES permits, the monitoring requirements and sector-specific Best Management Practices (BMPs) of Appendix U of the PAG-03 are imposed at Outfall 040. Monitoring for additional pollutants is considered if baseline monitoring requirements from Appendix U do not capture the range of analytes present in Outfall 040's discharges. **Table 37** summarizes the effluent data reported for the general chemistry pollutants listed on Module 1 of the updated NPDES permit application and additional metals parameters.

Table 37. Effluent Concentrations Reported for Outfall 040

Parameter	Outfall 002 Conc. (mg/L)	No Expos. Threshold	Benchmark Value	Parameter	Outfall 002 Conc. (mg/L)	No Expos. Threshold	Benchmark Value
Oil and Grease	≤5.0	≤5.0	30	Chromium	<0.0025	0.074†	—
BOD_5	<5.6	≤10	30	Cobalt	<0.0025	0.019†	—
COD	49.2	≤30	120	Copper	0.0106	0.009†	—
TSS	<4.0	≤30	100	Iron	0.353	≤7	—
Nitrogen, Tot.	<1.0	≤5.0	—	Lead	0.00068	0.0025†	—
Phosphorus, Tot.	0.074	≤10	—	Manganese	0.0096	1.0†	—
pH (S.U.)	7.58	6.0 to 9.0	9.0	Molybdenum	0.702	—	—
Aluminum	0.272	0.75†	—	Selenium	<0.0025	0.0046†	—
Antimony	0.0024	0.0056†	—	Silver	<0.0025	0.0032†	—
Arsenic	0.0118	0.010†	—	Thallium	<0.0005	0.00024†	—
Barium	0.0439	2.4†	—	Zinc	0.0178	0.117†	—
Beryllium	<0.0005	—	—	Mercury	<0.0002	0.00005†	—
Cadmium	<0.0005	0.00025†	—	† Most stringent water quality standard			

Based on the results in **Table 37**, no TBELs are imposed at Outfall 040. Pollutants are present in low or not-detectable concentrations.

The benchmark values and corrective action plan requirements discussed in Section 002.A of this Fact Sheet also apply to Outfall 040's discharges and discharges represented by Outfall 040.

040.B. Water Quality-Based Effluent Limitations (WQBELs)

As explained in Section 002.B of this Fact Sheet, DEP generally does not develop WQBELs for storm water discharges except in limited circumstances (*e.g.*, WQBELs based on a TMDL's waste load allocation). Also, as explained in Section 002.B of this Fact Sheet, no TMDL requirements apply to Elliott's discharges based on the Brush Creek Watershed TMDL or the Turtle Creek Watershed TMDL. Therefore, no WQBELs are imposed at Outfall 040 or its represented outfalls.

Even though no WQBELs are imposed, 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.

040.C. Effluent Limits and Monitoring Requirements for Outfalls 039 and 040

In accordance with 25 Pa. Code §§ 92a.12 and 92a.61 and anti-backsliding requirements under 40 CFR § 122.44(l) (incorporated by reference in Pennsylvania regulations at 25 Pa. Code § 92a.44), effluent limits at Outfall 040 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 monitoring requirements are summarized in the table below.

Table 38. Effluent Limits and Monitoring Requirements for Outfall 040

Parameter	Mass (pounds)		Concentration (µg/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, Appendix U
Oil and Grease	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Nitrogen, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Phosphorus, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Aluminum, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Iron, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Zinc, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U

The sampling frequency for all parameters will be 1/6 months based on the sampling frequency in Appendix 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.

No monitoring requirements are imposed at Outfalls 019, 021, 022, and 033. However, analytical results at Outfall 020 will be considered to represent results at those other outfalls for the purpose of benchmark monitoring and the development of Corrective Action Plans. Also, BMPs must be implemented in all areas of the site, not just at outfalls where representative sampling is conducted.

Development of Effluent Limitations

Outfall No. 041 and 042 **Design Flow (MGD)** Variable
Wastewater Description: Storm water from facility operations building roof drains and loading dock paved surface

Discharges monitored at Outfall 041 are currently subject to the following effluent limits and monitoring requirements.

Table 39. Outfall 041 – Current Effluent Limits and Monitoring Requirements

Parameter	Mass (lbs/day)		Concentration (mg/L)			Measurement Frequency	Sample Type	Limit Basis
	Avg. Mo.	Max Daily	Avg. Mo.	Max Daily	IMAX			
Zinc, Total	—	—	—	Report	—	1/6 months	Grab	25 Pa. Code § 92.61(h)

Outfall 042 is a newly identified outfall for this permit renewal and was not previously permitted.

The effluent limits and monitoring requirements in **Table 39** will remain in effect at Outfall 041 pursuant to anti-backsliding requirements under Section 402(o) of the Clean Water Act 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 Section 402(o) of the Clean Water Act or 40 CFR § 122.44(l).

For this permit renewal, Elliott is requesting authorization to perform representative outfall sampling such that analyses of Outfall 042's discharges also will represent discharges from Outfall 041. Consistent with 40 CFR § 122.41(j)(1), DEP agrees to allow Outfall 042's discharges to represent discharges from those outfalls.

042.A. Technology-Based Effluent Limitations (TBELs)

There are no Federal Effluent Limitations Guidelines (ELGs) that apply to storm water discharges from Outfalls 041 and 042. Therefore, if warranted, TBELs are developed based on Best Professional Judgment.

As explained in Section 002.A of this Fact Sheet, based on DEP's policy for permitting storm water discharges associated with industrial activities in individual NPDES permits, the monitoring requirements and sector-specific Best Management Practices (BMPs) of Appendix U of the PAG-03 are imposed at Outfall 040. Monitoring for additional pollutants is considered if baseline monitoring requirements from Appendix U do not capture the range of analytes present in Outfall 040's discharges. **Table 40** summarizes the effluent data reported for the general chemistry pollutants listed on Module 1 of the updated NPDES permit application and additional metals parameters.

Table 40. Effluent Concentrations Reported for Outfall 042

Parameter	Outfall 002 Conc. (mg/L)	No Expos. Threshold	Benchmark Value	Parameter	Outfall 002 Conc. (mg/L)	No Expos. Threshold	Benchmark Value
Oil and Grease	≤5.0	≤5.0	30	Chromium	0.0417	0.074†	—
BOD_5	11.6	≤10	30	Cobalt	<0.005	0.019†	—
COD	308	≤30	120	Copper	0.0588	0.009†	—
TSS	616	≤30	100	Iron	12.1	≤7	—
Nitrogen, Tot.	3.1	≤5.0	—	Lead	0.0477	0.0025†	—
Phosphorus, Tot.	0.52	≤10	—	Manganese	0.354	1.0†	—
pH (S.U.)	7.26	6.0 to 9.0	9.0	Molybdenum	0.702	—	—
Aluminum	2.54	0.75†	—	Selenium	<0.005	0.0046†	—
Antimony	0.0038	0.0056†	—	Silver	<0.005	0.0032†	—
Arsenic	<0.005	0.010†	—	Thallium	0.001	0.00024†	—
Barium	0.056	2.4†	—	Zinc	0.613	0.117†	—
Beryllium	<0.001	—	—	Mercury	0.0012	0.00005†	—
Cadmium	0.0011	0.00025†	—				

† Most stringent water quality standard

Based on the results in **Table 40**, no TBELs are imposed at Outfall 042. Pollutants are present in low or not-detectable concentrations.

The benchmark values and corrective action plan requirements discussed in Section 002.A of this Fact Sheet also apply to Outfall 040's discharges and discharges represented by Outfall 040.

042.B. Water Quality-Based Effluent Limitations (WQBELs)

As explained in Section 002.B of this Fact Sheet, DEP generally does not develop WQBELs for storm water discharges except in limited circumstances (*e.g.*, WQBELs based on a TMDL's waste load allocation). Also, as explained in Section 002.B of this Fact Sheet, no TMDL requirements apply to Elliott's discharges based on the Brush Creek Watershed TMDL or the Turtle Creek Watershed TMDL. Therefore, no WQBELs are imposed at Outfall 020 or its represented outfalls.

Even though no WQBELs are imposed, 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.

042.C. Effluent Limits and Monitoring Requirements for Outfalls 041 and 042

In accordance with 25 Pa. Code §§ 92a.12 and 92a.61 and anti-backsliding requirements under 40 CFR § 122.44(l) (incorporated by reference in Pennsylvania regulations at 25 Pa. Code § 92a.44), effluent limits at Outfall 042 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 monitoring requirements are summarized in the table below.

Table 41. Effluent Limits and Monitoring Requirements for Outfall 042

Parameter	Mass (pounds)		Concentration (µg/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, Appendix U
Oil and Grease	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Nitrogen, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Phosphorus, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Aluminum, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Iron, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U
Zinc, Total	—	—	—	Report	—	§ 92a.61(h); PAG-03, Appendix U

The sampling frequency for all parameters will be 1/6 months based on the sampling frequency in Appendix 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. No monitoring requirements are imposed at Outfall 041.

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment C & F)
☐	TRC Model Spreadsheet (see Attachment)
☒	Thermal Limits Spreadsheet (see Attachment D & G)
☐	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.
☐	Other:

ATTACHMENT A

SIC Codes Covered by MP&M Effluent Limitations Guidelines

Table A-1 (Continued)

Example NAICS and SIC Codes for the MP&M Industrial Sectors		
NAICS Code	SIC Code	Standard Industrial Classification Groups
Ships and Boats (Continued)		
48321220 48721010	4489	Water Passenger Transportation, N.E.C.
48831010	4491	Marine Cargo Handling
48321120	4492	Towing and Tugboat Service
71393000	4493	Marinas
48831020 48833020 48833030 48839010 53241110	4499	Water Transportation Services, N.E.C.
Stationary Industrial Equipment		
33361100	3511	Steam, Gas, Hydraulic Turbines, Generating Units
33639910	3519	Internal Combustion Engines, N.E.C.
33313200	3533	Oil Field Machinery and Equipment
33392100	3534	Elevators and Moving Stairways
33392220	3535	Conveyors and Conveying Equipment
33299700	3543	Industrial Patterns
33351600	3547	Rolling Mill Machinery and Equipment
33399210	3548	Electric and Gas Welding and Soldering
33351800	3549	Metal Working Machinery, N.E.C.
33329210	3552	Textile Machinery
33321000	3553	Woodworking Machinery
33329100	3554	Paper Industries Machinery
33329310	3555	Printing Trades Machinery and Equipment
33329400	3556	Food Products Machinery
33329810	3559	Special Industry Machinery, N.E.C.
33391110	3561	Pumps and Pumping Equipment
33299100	3562	Ball and Roller Bearings
33391200	3563	Air and Gas Compressors

ATTACHMENT B

TOXCONC Results for Outfall 003

Facility:	Elliot Company - Jeannette Facility
NPDES #:	PA0095176
Outfall No:	003
n (Samples/Month):	4
Reviewer/Permit Engineer:	R. Decker

Parameter Name	Arsenic	Copper	Iron	Zinc	Chloroform	Dichlorobromomethane
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Detection Limit	2	2		10	0.3	0.4
Sample Date	***When entering values below the detection limit, enter "ND" or use the < notation (eg. <0.02)***					
10/06/21	<10	<10	1030	<50	9.8	1.1
10/13/21	1.12	4.65	534	<20	11.4	1.3
10/20/21	1.41	2.24	938	28.6	6.7	1.6
10/29/24	3	6	2040	16	6.8	0.9
11/05/24	6	6	2540	11	<0.3	<0.4
11/12/24	<2	3	2010	19	1.5	<0.4
11/19/24	10	<2	1510	14	<0.3	<0.4
11/26/24	11	<5	1880	53	<1.6	<2.0
12/03/24	1	<2	753	<10	0.5	<0.4
12/10/24	<2	3	1790	92	0.8	<0.4

Facility: Elliot Company - Jeannette Facility
NPDES #: PA0095176
Outfall No: 003
n (Samples/Month): 4

Parameter Name	Arsenic	Copper	Iron	Zinc	Chloroform	Dichlorobromomethane
Number of Samples	10	10	10	10	10	10
Samples Nondetected	3	4	0	3	3	6
LOGNORMAL						
Log MEAN	NA	NA	7.2100902	NA	NA	NA
Log VAR.			0.2596554			
(LTA) [E(x)]			1540.5857143			
Variance [V(x)]			703674.7000			
CV (raw)			0.5445028			
CV (n)			0.2722514			
Monthly Avg. (99%, n-day)			2768.7131300			
DELTA-LOGNORMAL						
Delta-Log MEAN	1.1496815	1.3540144	NA	3.2284954	1.1463143	0.1805794
Delta-Log VAR.	1.0579459	0.1693871		0.5940575	1.6534568	0.0598292
(LTA) [E(x)]	4.3508388	3.3291477		26.7801014	5.1247697	0.7337151
Variance [V(x)]	40.1622357	3.1455447		776.0988097	162.9756000	0.2046205
CV (raw)	1.4565854	0.5327395		1.0402705	2.4910758	0.6165199
Delta-Log VAR. (n)	0.4237446	0.0649485		0.2364787	0.9294331	0.0627131
A, Table E-2, TSD	0.5343823	0.0731866		0.2721847	1.5528369	0.1100220
B, Table E-2, TSD	-0.0017104	-0.0092861		-0.0011271	-0.0000276	-0.0388181
C, Table E-2, TSD	0.0074747	0.0312391		0.0060676	0.0009488	0.1520513
Delta-Log MEAN (n)	1.2628990	1.1806767		3.1745236	1.1770278	-0.2754630
phi (Φ)	0.9857143	0.9833333		0.9857143	0.9857143	0.9750000
Z*	2.1900000	2.1200000		2.1900000	2.1900000	1.9600000
Monthly Avg. (99%, n-day)	14.7095078	5.5898835		69.3731733	26.7984339	1.2403228
NORMAL						
MEAN	NA	NA	NA	NA	NA	NA
VAR.						
(LTA) [E(x)]						
Variance [V(x)]						
CV (raw)						
CV (n)						
Monthly Avg. (99%, n-day)						

ATTACHMENT C

Toxics Management Spreadsheet Results for Outfall 003

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Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Elliot Company - Jeannette Facility** NPDES Permit No.: **PA0095176** Outfall No.: **003**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Process wastewater, blowdown, and groun**

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
0.033	228	8.7						

					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	Strea m CV	Fate Coeff	FOS	Criteri a Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		1690									
	Chloride (PWS)	mg/L		1110									
	Bromide	mg/L		50									
	Sulfate (PWS)	mg/L		112									
	Fluoride (PWS)	mg/L		0.29									
Group 2	Total Aluminum	µg/L		68									
	Total Antimony	µg/L		0.8									
	Total Arsenic	µg/L		4.35			1.4566						
	Total Barium	µg/L		236									
	Total Beryllium	µg/L	<	2									
	Total Boron	µg/L		200									
	Total Cadmium	µg/L	<	0.1									
	Total Chromium (III)	µg/L		2									
	Hexavalent Chromium	µg/L	<	0.1									
	Total Cobalt	µg/L	<	1									
	Total Copper	µg/L		3.3291477			0.5327						
	Free Cyanide	µg/L											
	Total Cyanide	µg/L		13									
	Dissolved Iron	µg/L		612									
	Total Iron	µg/L		1540.58571			0.5445						
	Total Lead	µg/L	<	1									
	Total Manganese	µg/L		546									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		10									
	Total Phenols (Phenolics) (PWS)	µg/L	<	50									
	Total Selenium	µg/L		4									
	Total Silver	µg/L	<	0.2									
	Total Thallium	µg/L		0.08									
	Total Zinc	µg/L		26.7801014			1.0403						
	Total Molybdenum	µg/L		88.1									
	Acrolein	µg/L	<	0.5									
	Acrylamide	µg/L	<	10000									
	Acrylonitrile	µg/L	<	4									
	Benzene	µg/L	<	0.4									
	Bromoform	µg/L	<	1									

Group 3	Carbon Tetrachloride	µg/L	<	0.4										
	Chlorobenzene	µg/L	<	1										
	Chlorodibromomethane	µg/L	<	0.4										
	Chloroethane	µg/L	<	1										
	2-Chloroethyl Vinyl Ether	µg/L	<	2										
	Chloroform	µg/L		5.1247697			2.4911							
	Dichlorobromomethane	µg/L		0.7337151			0.6165							
	1,1-Dichloroethane	µg/L	<	1										
	1,2-Dichloroethane	µg/L	<	1										
	1,1-Dichloroethylene	µg/L	<	1										
	1,2-Dichloropropane	µg/L	<	0.3										
	1,3-Dichloropropylene	µg/L	<	0.3										
	1,4-Dioxane	µg/L	<	100										
	Ethylbenzene	µg/L		13										
	Methyl Bromide	µg/L	<	1										
	Methyl Chloride	µg/L	<	1										
	Methylene Chloride	µg/L	<	1										
	1,1,2,2-Tetrachloroethane	µg/L	<	0.5										
	Tetrachloroethylene	µg/L	<	1										
	Toluene	µg/L	<	1										
	1,2-trans-Dichloroethylene	µg/L	<	1										
	1,1,1-Trichloroethane	µg/L	<	1										
	1,1,2-Trichloroethane	µg/L	<	0.3										
	Trichloroethylene	µg/L	<	0.4										
	Vinyl Chloride	µg/L		1.2										
Group 4	2-Chlorophenol	µg/L	<	1										
	2,4-Dichlorophenol	µg/L	<	1										
	2,4-Dimethylphenol	µg/L	<	1										
	4,6-Dinitro-o-Cresol	µg/L	<	2.6										
	2,4-Dinitrophenol	µg/L	<	2.6										
	2-Nitrophenol	µg/L	<	1										
	4-Nitrophenol	µg/L	<	1										
	p-Chloro-m-Cresol	µg/L	<	1										
	Pentachlorophenol	µg/L	<	2.6										
	Phenol	µg/L	<	1										
	2,4,6-Trichlorophenol	µg/L	<	1										
Group 5	Acenaphthene	µg/L	<	1										
	Acenaphthylene	µg/L	<	1										
	Anthracene	µg/L	<	1										
	Benzidine	µg/L	<	15.5										
	Benzo(a)Anthracene	µg/L	<	1										
	Benzo(a)Pyrene	µg/L	<	1										
	3,4-Benzofluoranthene	µg/L	<	1										
	Benzo(ghi)Perylene	µg/L	<	1										
	Benzo(k)Fluoranthene	µg/L	<	1										
	Bis(2-Chloroethoxy)Methane	µg/L	<	1										
	Bis(2-Chloroethyl)Ether	µg/L	<	1										
	Bis(2-Chloroisopropyl)Ether	µg/L	<	1										
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	2.6										
	4-Bromophenyl Phenyl Ether	µg/L	<	1										
	Butyl Benzyl Phthalate	µg/L	<	2.6										
	2-Chloronaphthalene	µg/L	<	1										
	4-Chlorophenyl Phenyl Ether	µg/L	<	1										
	Chrysene	µg/L	<	1										
	Dibenzo(a,h)Anthrancene	µg/L	<	1										
	1,2-Dichlorobenzene	µg/L	<	1										
	1,3-Dichlorobenzene	µg/L	<	1										
	1,4-Dichlorobenzene	µg/L	<	1										
	3,3-Dichlorobenzidine	µg/L	<	1										
	Diethyl Phthalate	µg/L	<	1										
	Dimethyl Phthalate	µg/L	<	1										
	Di-n-Butyl Phthalate	µg/L	<	1										
	2,4-Dinitrotoluene	µg/L	<	1										

	2,6-Dinitrotoluene	µg/L	<	1									
	Di-n-Octyl Phthalate	µg/L	<	8.5									
	1,2-Diphenylhydrazine	µg/L	<	1									
	Fluoranthene	µg/L	<	1									
	Fluorene	µg/L	<	1									
	Hexachlorobenzene	µg/L	<	1									
	Hexachlorobutadiene	µg/L	<	0.3									
	Hexachlorocyclopentadiene	µg/L	<	1									
	Hexachloroethane	µg/L	<	1									
	Indeno(1,2,3-cd)Pyrene	µg/L	<	1									
	Isophorone	µg/L	<	1									
	Naphthalene	µg/L	<	1.8									
	Nitrobenzene	µg/L	<	1									
	n-Nitrosodimethylamine	µg/L	<	1									
	n-Nitrosodi-n-Propylamine	µg/L	<	1									
	n-Nitrosodiphenylamine	µg/L	<	1									
	Phenanthrene	µg/L	<	1									
	Pyrene	µg/L	<	1									
	1,2,4-Trichlorobenzene	µg/L	<	0.5									
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											

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Elliot Company - Jeannette Facility, NPDES Permit No. PA0095176, Outfall 003

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Unnamed tributary to Brush Creek (Bul**

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	037319	0.89	1023	2.48	0.00775		Yes
End of Reach 1	037319	0.39	1004	2.77	0.00775		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	0.89	0.01										68.8	7		
End of Reach 1	0.39	0.01													

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	0.89														
End of Reach 1	0.39														

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Elliot Company - Jeannette Facility, NPDES Permit No. PA0095176, Outfall 003

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)
0.89	0.02		0.02	0.051	0.008	0.337	5.349	15.88	0.042	0.726	0.244
0.39	0.03		0.028								

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)
0.89	0.29		0.29	0.051	0.008	0.656	5.349	8.158	0.098	0.311	0.609
0.39	0.323		0.32								

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.244 PMF: 1 Analysis Hardness (mg/l): 175.95 Analysis pH: 7.47

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	1,114	
Total Antimony	0	0		0	1,100	1,100	1,634	
Total Arsenic	0	0		0	340	340	505	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	31,202	
Total Boron	0	0		0	8,100	8,100	12,035	
Total Cadmium	0	0		0	3.487	3.79	5.63	Chem Translator of 0.92 applied
Total Chromium (III)	0	0		0	905.035	2,864	4,255	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	24.2	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	141	
Total Copper	0	0		0	22.886	23.8	35.4	Chem Translator of 0.96 applied

Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	118.782	168	249	Chem Translator of 0.709 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	2.45	Chem Translator of 0.85 applied
Total Nickel	0	0		0	755.198	757	1,124	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	8.501	10.0	14.9	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	96.6	
Total Zinc	0	0		0	189.134	193	287	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	4.46	
Acrylamide	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	650	650	966	
Benzene	0	0		0	640	640	951	
Bromoform	0	0		0	1,800	1,800	2,674	
Carbon Tetrachloride	0	0		0	2,800	2,800	4,160	
Chlorobenzene	0	0		0	1,200	1,200	1,783	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	26,744	
Chloroform	0	0		0	1,900	1,900	2,823	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	22,287	
1,1-Dichloroethylene	0	0		0	7,500	7,500	11,143	
1,2-Dichloropropane	0	0		0	11,000	11,000	16,344	
1,3-Dichloropropylene	0	0		0	310	310	461	
Ethylbenzene	0	0		0	2,900	2,900	4,309	
Methyl Bromide	0	0		0	550	550	817	
Methyl Chloride	0	0		0	28,000	28,000	41,602	
Methylene Chloride	0	0		0	12,000	12,000	17,829	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	1,486	
Tetrachloroethylene	0	0		0	700	700	1,040	
Toluene	0	0		0	1,700	1,700	2,526	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	10,103	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	4,457	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	5,052	
Trichloroethylene	0	0		0	2,300	2,300	3,417	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	832	
2,4-Dichlorophenol	0	0		0	1,700	1,700	2,526	
2,4-Dimethylphenol	0	0		0	660	660	981	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	119	
2,4-Dinitrophenol	0	0		0	660	660	981	
2-Nitrophenol	0	0		0	8,000	8,000	11,886	
4-Nitrophenol	0	0		0	2,300	2,300	3,417	
p-Chloro-m-Cresol	0	0		0	160	160	238	
Pentachlorophenol	0	0		0	13.962	14.0	20.7	
Phenol	0	0		0	N/A	N/A	N/A	

2,4,6-Trichlorophenol	0	0		0	460	460	683	
Acenaphthene	0	0		0	83	83.0	123	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	446	
Benzo(a)Anthracene	0	0		0	0.5	0.5	0.74	
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	44,574	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	6,686	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	401	
Butyl Benzyl Phthalate	0	0		0	140	140	208	
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	1,218	
1,3-Dichlorobenzene	0	0		0	350	350	520	
1,4-Dichlorobenzene	0	0		0	730	730	1,085	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	5,943	
Dimethyl Phthalate	0	0		0	2,500	2,500	3,714	
Di-n-Butyl Phthalate	0	0		0	110	110	163	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	2,377	
2,6-Dinitrotoluene	0	0		0	990	990	1,471	
1,2-Diphenylhydrazine	0	0		0	15	15.0	22.3	
Fluoranthene	0	0		0	200	200	297	
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	14.9	
Hexachlorocyclopentadiene	0	0		0	5	5.0	7.43	
Hexachloroethane	0	0		0	60	60.0	89.1	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	14,858	
Naphthalene	0	0		0	140	140	208	
Nitrobenzene	0	0		0	4,000	4,000	5,943	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	25,258	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	446	
Phenanthrene	0	0		0	5	5.0	7.43	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	193	

☑ ***CFC*** CCT (min): 0.244 PMF: 1 Analysis Hardness (mg/l): 175.95 Analysis pH: 7.47

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	327	
Total Arsenic	0	0		0	150	150	223	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	6,092	
Total Boron	0	0		0	1,600	1,600	2,377	
Total Cadmium	0	0		0	0.364	0.41	0.61	Chem Translator of 0.885 applied
Total Chromium (III)	0	0		0	117.726	137	203	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	15.4	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	28.2	
Total Copper	0	0		0	14.514	15.1	22.5	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	2,229	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	4.629	6.53	9.7	Chem Translator of 0.709 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	1.35	Chem Translator of 0.85 applied
Total Nickel	0	0		0	83.879	84.1	125	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	7.41	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	19.3	
Total Zinc	0	0		0	190.681	193	287	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	4.46	
Acrylamide	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	130	130	193	
Benzene	0	0		0	130	130	193	
Bromoform	0	0		0	370	370	550	
Carbon Tetrachloride	0	0		0	560	560	832	
Chlorobenzene	0	0		0	240	240	357	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	5,200	
Chloroform	0	0		0	390	390	579	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	4,606	
1,1-Dichloroethylene	0	0		0	1,500	1,500	2,229	
1,2-Dichloropropane	0	0		0	2,200	2,200	3,269	
1,3-Dichloropropylene	0	0		0	61	61.0	90.6	
Ethylbenzene	0	0		0	580	580	862	
Methyl Bromide	0	0		0	110	110	163	
Methyl Chloride	0	0		0	5,500	5,500	8,172	
Methylene Chloride	0	0		0	2,400	2,400	3,566	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	312	
Tetrachloroethylene	0	0		0	140	140	208	

Toluene	0	0		0	330	330	490	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	2,080	
1,1,1-Trichloroethane	0	0		0	610	610	906	
1,1,2-Trichloroethane	0	0		0	680	680	1,010	
Trichloroethylene	0	0		0	450	450	669	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	163	
2,4-Dichlorophenol	0	0		0	340	340	505	
2,4-Dimethylphenol	0	0		0	130	130	193	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	23.8	
2,4-Dinitrophenol	0	0		0	130	130	193	
2-Nitrophenol	0	0		0	1,600	1,600	2,377	
4-Nitrophenol	0	0		0	470	470	698	
p-Chloro-m-Cresol	0	0		0	500	500	743	
Pentachlorophenol	0	0		0	10.712	10.7	15.9	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	135	
Acenaphthene	0	0		0	17	17.0	25.3	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	87.7	
Benzo(a)Anthracene	0	0		0	0.1	0.1	0.15	
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	8,915	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	1,352	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	80.2	
Butyl Benzyl Phthalate	0	0		0	35	35.0	52.0	
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	238	
1,3-Dichlorobenzene	0	0		0	69	69.0	103	
1,4-Dichlorobenzene	0	0		0	150	150	223	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	1,189	
Dimethyl Phthalate	0	0		0	500	500	743	
Di-n-Butyl Phthalate	0	0		0	21	21.0	31.2	
2,4-Dinitrotoluene	0	0		0	320	320	475	
2,6-Dinitrotoluene	0	0		0	200	200	297	
1,2-Diphenylhydrazine	0	0		0	3	3.0	4.46	
Fluoranthene	0	0		0	40	40.0	59.4	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	

Hexachlorobutadiene	0	0		0	2	2.0	2.97	
Hexachlorocyclopentadiene	0	0		0	1	1.0	1.49	
Hexachloroethane	0	0		0	12	12.0	17.8	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	3,120	
Naphthalene	0	0		0	43	43.0	63.9	
Nitrobenzene	0	0		0	810	810	1,203	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	5,052	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	87.7	
Phenanthrene	0	0		0	1	1.0	1.49	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	38.6	

☑ ***THH*** CCT (min): 0.244 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	8.32	
Total Arsenic	0	0		0	10	10.0	14.9	
Total Barium	0	0		0	2,400	2,400	3,566	
Total Boron	0	0		0	3,100	3,100	4,606	
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	446	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	1,486	
Total Mercury	0	0		0	0.050	0.05	0.074	
Total Nickel	0	0		0	610	610	906	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	0.36	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	4.46	
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	149	
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	8.47	
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	49.0	
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	101	
Methyl Bromide	0	0		0	100	100.0	149	
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	84.7	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	149	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	14,858	
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	44.6	
2,4-Dichlorophenol	0	0		0	10	10.0	14.9	
2,4-Dimethylphenol	0	0		0	100	100.0	149	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	2.97	
2,4-Dinitrophenol	0	0		0	10	10.0	14.9	
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	5,943	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	104	
Anthracene	0	0		0	300	300	446	
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	297	

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	0.15	
2-Chloronaphthalene	0	0		0	800	800	1,189	
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	1,486	
1,3-Dichlorobenzene	0	0		0	7	7.0	10.4	
1,4-Dichlorobenzene	0	0		0	300	300	446	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	891	
Dimethyl Phthalate	0	0		0	2,000	2,000	2,972	
Di-n-Butyl Phthalate	0	0		0	20	20.0	29.7	
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	29.7	
Fluorene	0	0		0	50	50.0	74.3	
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	5.94	
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	50.5	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	14.9	
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	29.7	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	0.1	

☑ ***CRL*** CCT (min): 0.609 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	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylamide	0	0		0	0.07	0.07	0.47	
Acrylonitrile	0	0		0	0.06	0.06	0.41	
Benzene	0	0		0	0.58	0.58	3.92	
Bromoform	0	0		0	7	7.0	47.3	
Carbon Tetrachloride	0	0		0	0.4	0.4	2.7	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	5.4	
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	6.41	
1,2-Dichloroethane	0	0		0	9.9	9.9	66.8	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	6.08	
1,3-Dichloropropylene	0	0		0	0.27	0.27	1.82	
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	135	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	1.35	
Tetrachloroethylene	0	0		0	10	10.0	67.5	
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	3.71	
Trichloroethylene	0	0		0	0.6	0.6	4.05	
Vinyl Chloride	0	0		0	0.02	0.02	0.14	
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	0.2	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	10.1	
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	0.0007	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.007	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.0007	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.007	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.068	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	0.2	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	2.16	
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	0.81	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.0007	
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	0.34	
Diethyl Phthalate	0	0		0	N/A	N/A	N/A	
Dimethyl Phthalate	0	0		0	N/A	N/A	N/A	
Di-n-Butyl Phthalate	0	0		0	N/A	N/A	N/A	
2,4-Dinitrotoluene	0	0		0	0.05	0.05	0.34	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	0.34	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	0.2	
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	0.0005	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.068	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	0.68	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.007	
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	0.005	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.034	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	22.3	
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 Arsenic	Report	Report	Report	Report	Report	µg/L	14.9	THH	Discharge Conc > 10% WQBEL (no RP)
Total Copper	Report	Report	Report	Report	Report	µg/L	22.5	CFC	Discharge Conc > 10% WQBEL (no RP)
Dissolved Iron	0.12	0.19	446	695	1,114	µg/L	446	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Iron	0.61	0.98	2,229	3,563	5,572	µg/L	2,229	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Manganese	Report	Report	Report	Report	Report	µg/L	1,486	THH	Discharge Conc > 10% WQBEL (no RP)
Total Selenium	0.002	0.003	7.41	11.6	18.5	µg/L	7.41	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Thallium	Report	Report	Report	Report	Report	µg/L	0.36	THH	Discharge Conc > 10% WQBEL (no RP)
Acrylamide	0.0001	0.0002	0.47	0.74	1.18	µg/L	0.47	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Chloroform	0.002	0.004	8.47	13.9	21.2	µg/L	8.47	THH	Discharge Conc ≥ 50% WQBEL (RP)
Vinyl Chloride	0.00004	0.00006	0.14	0.21	0.34	µg/L	0.14	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)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	750	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	8.32	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	3,566	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	2,377	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	0.61	µg/L	Discharge Conc < TQL
Total Chromium (III)	203	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	15.4	µg/L	Discharge Conc < TQL
Total Cobalt	28.2	µg/L	Discharge Conc < TQL
Total Cyanide	N/A	N/A	No WQS
Total Lead	9.7	µg/L	Discharge Conc < TQL
Total Mercury	0.074	µg/L	Discharge Conc < TQL
Total Nickel	125	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Silver	10.0	µg/L	Discharge Conc < TQL
Total Zinc	287	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	3.0	µg/L	Discharge Conc < TQL
Acrylonitrile	0.41	µg/L	Discharge Conc < TQL
Benzene	3.92	µg/L	Discharge Conc < TQL
Bromoform	47.3	µg/L	Discharge Conc ≤ 25% WQBEL
Carbon Tetrachloride	2.7	µg/L	Discharge Conc < TQL
Chlorobenzene	149	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorodibromomethane	5.4	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	5,200	µg/L	Discharge Conc < TQL
Dichlorobromomethane	6.41	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	66.8	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethylene	49.0	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-Dichloropropane	6.08	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	1.82	µg/L	Discharge Conc < TQL

1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	101	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Bromide	149	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Chloride	8,172	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	135	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2,2-Tetrachloroethane	1.35	µg/L	Discharge Conc < TQL
Tetrachloroethylene	67.5	µg/L	Discharge Conc ≤ 25% WQBEL
Toluene	84.7	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-trans-Dichloroethylene	149	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,1-Trichloroethane	906	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2-Trichloroethane	3.71	µg/L	Discharge Conc < TQL
Trichloroethylene	4.05	µg/L	Discharge Conc < TQL
2-Chlorophenol	44.6	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	14.9	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	149	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	2.97	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	14.9	µg/L	Discharge Conc < TQL
2-Nitrophenol	2,377	µg/L	Discharge Conc < TQL
4-Nitrophenol	698	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	160	µg/L	Discharge Conc < TQL
Pentachlorophenol	0.2	µg/L	Discharge Conc < TQL
Phenol	5,943	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	10.1	µg/L	Discharge Conc < TQL
Acenaphthene	25.3	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	446	µg/L	Discharge Conc < TQL
Benzidine	0.0007	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.007	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.0007	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.007	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.068	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	0.2	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	297	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	2.16	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	80.2	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	0.15	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	1,189	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	0.81	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.0007	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	238	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichlorobenzene	10.4	µg/L	Discharge Conc ≤ 25% WQBEL
1,4-Dichlorobenzene	223	µg/L	Discharge Conc ≤ 25% WQBEL

3,3-Dichlorobenzidine	0.34	µg/L	Discharge Conc < TQL
Diethyl Phthalate	891	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	743	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	29.7	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	0.34	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	0.34	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	0.2	µg/L	Discharge Conc < TQL
Fluoranthene	29.7	µg/L	Discharge Conc < TQL
Fluorene	74.3	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.0005	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.068	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	1.49	µg/L	Discharge Conc < TQL
Hexachloroethane	0.68	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.007	µg/L	Discharge Conc < TQL
Isophorone	50.5	µg/L	Discharge Conc < TQL
Naphthalene	63.9	µg/L	Discharge Conc ≤ 25% WQBEL
Nitrobenzene	14.9	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.005	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.034	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	22.3	µg/L	Discharge Conc < TQL
Phenanthrene	1.49	µg/L	Discharge Conc < TQL
Pyrene	29.7	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	0.1	µg/L	Discharge Conc < TQL

ATTACHMENT D

Thermal Limits Spreadsheet for Outfall 003

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Thermal Limits Spreadsheet
Version 1.0, April 2024

Instructions | *Inputs*

Facility: **Elliott Company, Inc. Jeannette Facility**

Permit No.: **PA0095176**

Stream Name: **Bull Run**

Analyst/Engineer: **Ryan Decker**

Stream Q7-10 (cfs)*: **0.0**

Outfall No.: **003**

Analysis Type*: **TSF**

Facility Flows

Semi-Monthly Increment	Intake (Stream) (MGD)*	Intake (External) (MGD)*	Consumptive Loss (MGD)*	Discharge Flow (MGD)
Jan 1-31		0.0517	0	0.0517
Feb 1-29		0.0517	0	0.0517
Mar 1-31		0.0517	0	0.0517
Apr 1-15		0.0517	0	0.0517
Apr 16-30		0.0517	0	0.0517
May 1-15		0.0517	0	0.0517
May 16-31		0.0517	0	0.0517
Jun 1-15		0.0517	0	0.0517
Jun 16-30		0.0517	0	0.0517
Jul 1-31		0.0517	0	0.0517
Aug 1-15		0.0517	0	0.0517
Aug 16-31		0.0517	0	0.0517
Sep 1-15		0.0517	0	0.0517
Sep 16-30		0.0517	0	0.0517
Oct 1-15		0.0517	0	0.0517
Oct 16-31		0.0517	0	0.0517
Nov 1-15		0.0517	0	0.0517
Nov 16-30		0.0517	0	0.0517
Dec 1-31		0.0517	0	0.0517

Stream Flows

Q7-10 Multipliers (Default Shown)	PMF	Seasonal Stream Flow (cfs)	Downstream Stream Flow (cfs)
3.2	1.00	0.08	0.16
3.5	1.00	0.09	0.17
7	1.00	0.18	0.26
9.3	1.00	0.23	0.31
9.3	1.00	0.23	0.31
5.1	1.00	0.13	0.21
5.1	1.00	0.13	0.21
3	1.00	0.08	0.16
3	1.00	0.08	0.16
1.7	1.00	0.04	0.12
1.4	1.00	0.04	0.12
1.4	1.00	0.04	0.12
1.1	1.00	0.03	0.11
1.1	1.00	0.03	0.11
1.2	1.00	0.03	0.11
1.2	1.00	0.03	0.11
1.6	1.00	0.04	0.12
1.6	1.00	0.04	0.12
2.4	1.00	0.06	0.14

Temperature

Ambient Stream Temperature (°F)*

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Thermal Limits Spreadsheet
Version 1.0, April 2024

Instructions | *TSF Results*

Recommended Limits for Case 1 or Case 2

Semi-Monthly Increment	**TSF** Target Maximum Stream Temp. (°F)	**Case 1** Daily WLA (Million BTUs/day)	**Case 2** Daily WLA (°F)
Jan 1-31	40	N/A -- Case 2	46.0
Feb 1-29	40	N/A -- Case 2	45.5
Mar 1-31	46	N/A -- Case 2	61.4
Apr 1-15	52	N/A -- Case 2	69.5
Apr 16-30	58	N/A -- Case 2	75.5
May 1-15	64	N/A -- Case 2	76.8
May 16-31	68	N/A -- Case 2	80.8
Jun 1-15	70	N/A -- Case 2	74.7
Jun 16-30	72	N/A -- Case 2	74.8
Jul 1-31	74	N/A -- Case 2	74.5
Aug 1-15	80	N/A -- Case 2	83.5
Aug 16-31	87	N/A -- Case 2	94.5
Sep 1-15	84	N/A -- Case 2	89.5
Sep 16-30	78	N/A -- Case 2	83.5
Oct 1-15	72	N/A -- Case 2	77.6
Oct 16-31	66	N/A -- Case 2	70.9
Nov 1-15	58	N/A -- Case 2	63.5
Nov 16-30	50	N/A -- Case 2	54.5
Dec 1-31	42	N/A -- Case 2	46.5

ATTACHMENT E

TOXCONC Results for Outfall 015

	Facility:	Elliot Company - Jeannette Facility				
	NPDES #:	PA0095176				
	Outfall No:	003				
	n (Samples/Month):	4				
	Reviewer/Permit Engineer:	R. Decker				
Parameter Name	Copper	Iron	Zinc			
Units	µg/L	µg/L	µg/L			
Detection Limit	2	2				
Sample Date	***When entering values below the detection limit, enter "ND" or use the < notation (eg. <0.02)***					
10/06/21	13.7	411	183			
10/13/21	6.02	769	141			
10/20/21	5.72	712	164			
10/29/24	5	408	28			
11/05/24	9	846	39			
11/12/24	4	230	23			
11/19/24	4	326	70			
11/26/24	2	179	39			
12/03/24	6	336	25			
12/10/24	3	139	56			

Facility:	Elliot Company - Jeannette Facility
NPDES #:	PA0095176
Outfall No:	015
n (Samples/Month):	4

Parameter Name	Arsenic	Copper	Iron			
Number of Samples	10	10	10			
Samples Nondetected	0	0	0			
LOGNORMAL						
Log MEAN	1.6319222	5.9147496	4.0545657			
Log VAR.	0.2935933	0.3783693	0.6261316			
(LTA) [E(x)]	5.9222643	447.6153515	78.8566396			
Variance [V(x)]	11.9683257	92145.7339919	5412.2277927			
CV (raw)	0.5841561	0.6781607	0.9329315			
CV (n)	0.2920780	0.3390804	0.4664658			
Monthly Avg. (99%, n-day)	11.0596559	913.1132238	200.5876835			
DELTA-LOGNORMAL						
Delta-Log MEAN	NA	NA	NA	NA	NA	NA
Delta-Log VAR.						
(LTA) [E(x)]						
Variance [V(x)]						
CV (raw)						
Delta-Log VAR. (n)						
A, Table E-2, TSD						
B, Table E-2, TSD						
C, Table E-2, TSD						
Delta-Log MEAN (n)						
phi (Φ)						
Z*						
Monthly Avg. (99%, n-day)						
NORMAL						
MEAN	NA	NA	NA	NA	NA	NA
VAR.						
(LTA) [E(x)]						
Variance [V(x)]						
CV (raw)						
CV (n)						
Monthly Avg. (99%, n-day)						

ATTACHMENT F

Toxics Management Spreadsheet Results for Outfall 015

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Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Elliot Company - Jeannette Facility** NPDES Permit No.: **PA0095176** Outfall No.: **015**

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

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
0.066	222	7.61						

					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		744									
	Chloride (PWS)	mg/L		339									
	Bromide	mg/L		50									
	Sulfate (PWS)	mg/L		87.6									
	Fluoride (PWS)	mg/L		0.19									
Group 2	Total Aluminum	µg/L		66									
	Total Antimony	µg/L		1.1									
	Total Arsenic	µg/L		1									
	Total Barium	µg/L		162									
	Total Beryllium	µg/L	<	1									
	Total Boron	µg/L		112									
	Total Cadmium	µg/L	<	0.1									
	Total Chromium (III)	µg/L		1									
	Hexavalent Chromium	µg/L	<	0.1									
	Total Cobalt	µg/L	<	2									
	Total Copper	µg/L		5.92			0.5842						
	Free Cyanide	µg/L											
	Total Cyanide	µg/L		18									
	Dissolved Iron	µg/L		385									
	Total Iron	µg/L		447.6			0.6782						
	Total Lead	µg/L		1									
	Total Manganese	µg/L		713									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		3.3									
	Total Phenols (Phenolics) (PWS)	µg/L	<	50									
	Total Selenium	µg/L	<	2									
	Total Silver	µg/L	<	1									
	Total Thallium	µg/L	<	1									
	Total Zinc	µg/L		78.857			0.9329						
	Total Molybdenum	µg/L		3270									
	Acrolein	µg/L	<	0.5									
	Acrylamide	µg/L	<	10000									
	Acrylonitrile	µg/L	<	4									
	Benzene	µg/L	<	0.4									
	Bromoform	µg/L	<	1									

Group 3	Carbon Tetrachloride	µg/L	<	0.4									
	Chlorobenzene	µg/L	<	1									
	Chlorodibromomethane	µg/L		4.3									
	Chloroethane	µg/L	<	1									
	2-Chloroethyl Vinyl Ether	µg/L	<	2									
	Chloroform	µg/L		1.4									
	Dichlorobromomethane	µg/L		2.2									
	1,1-Dichloroethane	µg/L	<	1									
	1,2-Dichloroethane	µg/L	<	1									
	1,1-Dichloroethylene	µg/L	<	1									
	1,2-Dichloropropane	µg/L	<	0.3									
	1,3-Dichloropropylene	µg/L	<	0.3									
	1,4-Dioxane	µg/L	<	100									
	Ethylbenzene	µg/L		1									
	Methyl Bromide	µg/L	<	1									
	Methyl Chloride	µg/L	<	1									
	Methylene Chloride	µg/L	<	1									
	1,1,2,2-Tetrachloroethane	µg/L	<	0.5									
	Tetrachloroethylene	µg/L	<	1									
	Toluene	µg/L	<	1									
	1,2-trans-Dichloroethylene	µg/L	<	1									
	1,1,1-Trichloroethane	µg/L	<	1									
	1,1,2-Trichloroethane	µg/L	<	0.3									
	Trichloroethylene	µg/L	<	0.4									
	Vinyl Chloride	µg/L	<	0.3									
Group 4	2-Chlorophenol	µg/L	<	0.98									
	2,4-Dichlorophenol	µg/L	<	0.98									
	2,4-Dimethylphenol	µg/L	<	0.98									
	4,6-Dinitro-o-Cresol	µg/L	<	2.5									
	2,4-Dinitrophenol	µg/L	<	2.5									
	2-Nitrophenol	µg/L	<	0.98									
	4-Nitrophenol	µg/L	<	0.98									
	p-Chloro-m-Cresol	µg/L	<	0.98									
	Pentachlorophenol	µg/L	<	2.5									
	Phenol	µg/L	<	0.98									
	2,4,6-Trichlorophenol	µg/L	<	0.98									
Group 5	Acenaphthene	µg/L	<	0.98									
	Acenaphthylene	µg/L	<	0.98									
	Anthracene	µg/L	<	0.98									
	Benzidine	µg/L	<	14.7									
	Benzo(a)Anthracene	µg/L	<	0.98									
	Benzo(a)Pyrene	µg/L	<	0.98									
	3,4-Benzofluoranthene	µg/L	<	0.98									
	Benzo(ghi)Perylene	µg/L	<	0.98									
	Benzo(k)Fluoranthene	µg/L	<	0.98									
	Bis(2-Chloroethoxy)Methane	µg/L	<	0.98									
	Bis(2-Chloroethyl)Ether	µg/L	<	0.98									
	Bis(2-Chloroisopropyl)Ether	µg/L	<	0.98									
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	2.5									
	4-Bromophenyl Phenyl Ether	µg/L	<	0.98									
	Butyl Benzyl Phthalate	µg/L	<	2.5									
	2-Chloronaphthalene	µg/L	<	0.98									
	4-Chlorophenyl Phenyl Ether	µg/L	<	0.98									
	Chrysene	µg/L	<	0.98									
	Dibenzo(a,h)Anthrancene	µg/L	<	0.98									
	1,2-Dichlorobenzene	µg/L	<	0.98									
	1,3-Dichlorobenzene	µg/L	<	0.98									
	1,4-Dichlorobenzene	µg/L	<	0.98									
	3,3-Dichlorobenzidine	µg/L	<	0.98									
	Diethyl Phthalate	µg/L	<	0.98									
	Dimethyl Phthalate	µg/L	<	0.98									
	Di-n-Butyl Phthalate	µg/L	<	0.98									
	2,4-Dinitrotoluene	µg/L	<	0.98									

	2,6-Dinitrotoluene	µg/L	<	0.98										
	Di-n-Octyl Phthalate	µg/L	<	2.5										
	1,2-Diphenylhydrazine	µg/L	<	0.98										
	Fluoranthene	µg/L	<	0.98										
	Fluorene	µg/L	<	0.98										
	Hexachlorobenzene	µg/L	<	0.98										
	Hexachlorobutadiene	µg/L	<	0.3										
	Hexachlorocyclopentadiene	µg/L	<	0.98										
	Hexachloroethane	µg/L	<	0.98										
	Indeno(1,2,3-cd)Pyrene	µg/L	<	0.98										
	Isophorone	µg/L	<	0.98										
	Naphthalene	µg/L	<	0.98										
	Nitrobenzene	µg/L	<	0.98										
	n-Nitrosodimethylamine	µg/L	<	0.98										
	n-Nitrosodi-n-Propylamine	µg/L	<	0.98										
	n-Nitrosodiphenylamine	µg/L	<	0.98										
	Phenanthrene	µg/L	<	0.98										
	Pyrene	µg/L	<	0.98										
	1,2,4-Trichlorobenzene	µg/L	<	0.5										
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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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Elliot Company - Jeannette Facility, NPDES Permit No. PA0095176, Outfall 015

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Unnamed tributary to Brush Creek (Bul**

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	037319	1.06	1026	2.4	0.00775		Yes
End of Reach 1	037319	0.89	1023	2.48	0.00775		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	1.06	0.01										68.8	7		
End of Reach 1	0.89	0.01													

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	1.06														
End of Reach 1	0.89														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Elliot Company - Jeannette Facility, NPDES Permit No. PA0095176, Outfall 015

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)
1.06	0.02		0.02	0.102	0.008	0.364	6.145	16.875	0.056	0.184	0.097
0.89	0.02		0.025								

Q_h

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
1.06	0.29		0.29	0.102	0.008	0.597	6.145	10.298	0.106	0.098	0.692
0.89	0.294		0.29								

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.097 PMF: 1 Analysis Hardness (mg/l): 192.84 Analysis pH: 7.41

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	926	
Total Antimony	0	0		0	1,100	1,100	1,359	
Total Arsenic	0	0		0	340	340	420	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	25,936	
Total Boron	0	0		0	8,100	8,100	10,004	
Total Cadmium	0	0		0	3.812	4.16	5.14	Chem Translator of 0.917 applied
Total Chromium (III)	0	0		0	975.609	3,087	3,813	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	20.1	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	117	
Total Copper	0	0		0	24.951	26.0	32.1	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	130.970	188	233	Chem Translator of 0.695 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	2.03	Chem Translator of 0.85 applied
Total Nickel	0	0		0	816.106	818	1,010	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	9.953	11.7	14.5	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	80.3	
Total Zinc	0	0		0	204.413	209	258	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	3.71	
Acrylamide	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	650	650	803	
Benzene	0	0		0	640	640	790	
Bromoform	0	0		0	1,800	1,800	2,223	
Carbon Tetrachloride	0	0		0	2,800	2,800	3,458	
Chlorobenzene	0	0		0	1,200	1,200	1,482	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	22,231	
Chloroform	0	0		0	1,900	1,900	2,347	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	18,526	
1,1-Dichloroethylene	0	0		0	7,500	7,500	9,263	
1,2-Dichloropropane	0	0		0	11,000	11,000	13,586	
1,3-Dichloropropylene	0	0		0	310	310	383	
Ethylbenzene	0	0		0	2,900	2,900	3,582	
Methyl Bromide	0	0		0	550	550	679	
Methyl Chloride	0	0		0	28,000	28,000	34,582	
Methylene Chloride	0	0		0	12,000	12,000	14,821	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	1,235	
Tetrachloroethylene	0	0		0	700	700	865	
Toluene	0	0		0	1,700	1,700	2,100	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	8,398	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	3,705	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	4,199	
Trichloroethylene	0	0		0	2,300	2,300	2,841	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	692	
2,4-Dichlorophenol	0	0		0	1,700	1,700	2,100	
2,4-Dimethylphenol	0	0		0	660	660	815	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	98.8	
2,4-Dinitrophenol	0	0		0	660	660	815	
2-Nitrophenol	0	0		0	8,000	8,000	9,880	
4-Nitrophenol	0	0		0	2,300	2,300	2,841	
p-Chloro-m-Cresol	0	0		0	160	160	198	
Pentachlorophenol	0	0		0	13.171	13.2	16.3	
Phenol	0	0		0	N/A	N/A	N/A	

2,4,6-Trichlorophenol	0	0		0	460	460	568	
Acenaphthene	0	0		0	83	83.0	103	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	371	
Benzo(a)Anthracene	0	0		0	0.5	0.5	0.62	
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	37,052	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	5,558	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	333	
Butyl Benzyl Phthalate	0	0		0	140	140	173	
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	1,013	
1,3-Dichlorobenzene	0	0		0	350	350	432	
1,4-Dichlorobenzene	0	0		0	730	730	902	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	4,940	
Dimethyl Phthalate	0	0		0	2,500	2,500	3,088	
Di-n-Butyl Phthalate	0	0		0	110	110	136	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	1,976	
2,6-Dinitrotoluene	0	0		0	990	990	1,223	
1,2-Diphenylhydrazine	0	0		0	15	15.0	18.5	
Fluoranthene	0	0		0	200	200	247	
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	12.4	
Hexachlorocyclopentadiene	0	0		0	5	5.0	6.18	
Hexachloroethane	0	0		0	60	60.0	74.1	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	12,351	
Naphthalene	0	0		0	140	140	173	
Nitrobenzene	0	0		0	4,000	4,000	4,940	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	20,996	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	371	
Phenanthrene	0	0		0	5	5.0	6.18	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	161	

☑ ***CFC*** CCT (min): 0.097 PMF: 1 Analysis Hardness (mg/l): 192.84 Analysis pH: 7.41

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	272	
Total Arsenic	0	0		0	150	150	185	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	5,064	
Total Boron	0	0		0	1,600	1,600	1,976	
Total Cadmium	0	0		0	0.388	0.44	0.54	Chem Translator of 0.882 applied
Total Chromium (III)	0	0		0	126.907	148	182	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	12.8	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	23.5	
Total Copper	0	0		0	15.697	16.4	20.2	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	1,853	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	5.104	7.34	9.07	Chem Translator of 0.695 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	1.12	Chem Translator of 0.85 applied
Total Nickel	0	0		0	90.644	90.9	112	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	6.16	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	16.1	
Total Zinc	0	0		0	206.085	209	258	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	3.71	
Acrylamide	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	130	130	161	
Benzene	0	0		0	130	130	161	
Bromoform	0	0		0	370	370	457	
Carbon Tetrachloride	0	0		0	560	560	692	
Chlorobenzene	0	0		0	240	240	296	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	4,323	
Chloroform	0	0		0	390	390	482	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	3,829	
1,1-Dichloroethylene	0	0		0	1,500	1,500	1,853	
1,2-Dichloropropane	0	0		0	2,200	2,200	2,717	
1,3-Dichloropropylene	0	0		0	61	61.0	75.3	
Ethylbenzene	0	0		0	580	580	716	
Methyl Bromide	0	0		0	110	110	136	
Methyl Chloride	0	0		0	5,500	5,500	6,793	
Methylene Chloride	0	0		0	2,400	2,400	2,964	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	259	
Tetrachloroethylene	0	0		0	140	140	173	

Toluene	0	0		0	330	330	408	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	1,729	
1,1,1-Trichloroethane	0	0		0	610	610	753	
1,1,2-Trichloroethane	0	0		0	680	680	840	
Trichloroethylene	0	0		0	450	450	556	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	136	
2,4-Dichlorophenol	0	0		0	340	340	420	
2,4-Dimethylphenol	0	0		0	130	130	161	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	19.8	
2,4-Dinitrophenol	0	0		0	130	130	161	
2-Nitrophenol	0	0		0	1,600	1,600	1,976	
4-Nitrophenol	0	0		0	470	470	580	
p-Chloro-m-Cresol	0	0		0	500	500	618	
Pentachlorophenol	0	0		0	10.105	10.1	12.5	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	112	
Acenaphthene	0	0		0	17	17.0	21.0	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	72.9	
Benzo(a)Anthracene	0	0		0	0.1	0.1	0.12	
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	7,410	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	1,124	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	66.7	
Butyl Benzyl Phthalate	0	0		0	35	35.0	43.2	
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	198	
1,3-Dichlorobenzene	0	0		0	69	69.0	85.2	
1,4-Dichlorobenzene	0	0		0	150	150	185	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	988	
Dimethyl Phthalate	0	0		0	500	500	618	
Di-n-Butyl Phthalate	0	0		0	21	21.0	25.9	
2,4-Dinitrotoluene	0	0		0	320	320	395	
2,6-Dinitrotoluene	0	0		0	200	200	247	
1,2-Diphenylhydrazine	0	0		0	3	3.0	3.71	
Fluoranthene	0	0		0	40	40.0	49.4	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	

Hexachlorobutadiene	0	0		0	2	2.0	2.47	
Hexachlorocyclopentadiene	0	0		0	1	1.0	1.24	
Hexachloroethane	0	0		0	12	12.0	14.8	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	2,594	
Naphthalene	0	0		0	43	43.0	53.1	
Nitrobenzene	0	0		0	810	810	1,000	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	4,199	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	72.9	
Phenanthrene	0	0		0	1	1.0	1.24	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	32.1	

☑ ***THH*** CCT (min): 0.097 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	6.92	
Total Arsenic	0	0		0	10	10.0	12.4	
Total Barium	0	0		0	2,400	2,400	2,964	
Total Boron	0	0		0	3,100	3,100	3,829	
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	371	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	1,235	
Total Mercury	0	0		0	0.050	0.05	0.062	
Total Nickel	0	0		0	610	610	753	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	0.3	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	3.71	
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	124	
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	7.04	
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	40.8	
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	
1,3-Dichloropropylene	0	0		0	N/A	N/A	N/A	
Ethylbenzene	0	0		0	68	68.0	84.0	
Methyl Bromide	0	0		0	100	100.0	124	
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	70.4	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	124	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	12,351	
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	37.1	
2,4-Dichlorophenol	0	0		0	10	10.0	12.4	
2,4-Dimethylphenol	0	0		0	100	100.0	124	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	2.47	
2,4-Dinitrophenol	0	0		0	10	10.0	12.4	
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	4,940	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	86.5	
Anthracene	0	0		0	300	300	371	
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	247	

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	0.12	
2-Chloronaphthalene	0	0		0	800	800	988	
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	1,235	
1,3-Dichlorobenzene	0	0		0	7	7.0	8.65	
1,4-Dichlorobenzene	0	0		0	300	300	371	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	741	
Dimethyl Phthalate	0	0		0	2,000	2,000	2,470	
Di-n-Butyl Phthalate	0	0		0	20	20.0	24.7	
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	24.7	
Fluorene	0	0		0	50	50.0	61.8	
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	4.94	
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	42.0	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	12.4	
n-Nitrosodimethylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	N/A	N/A	N/A	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	20	20.0	24.7	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	0.086	

☑ ***CRL*** CCT (min): 0.692 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	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylamide	0	0		0	0.07	0.07	0.27	
Acrylonitrile	0	0		0	0.06	0.06	0.23	
Benzene	0	0		0	0.58	0.58	2.2	
Bromoform	0	0		0	7	7.0	26.6	
Carbon Tetrachloride	0	0		0	0.4	0.4	1.52	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	3.04	
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	3.6	
1,2-Dichloroethane	0	0		0	9.9	9.9	37.6	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	3.41	
1,3-Dichloropropylene	0	0		0	0.27	0.27	1.02	
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	75.9	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	0.76	
Tetrachloroethylene	0	0		0	10	10.0	37.9	
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	2.09	
Trichloroethylene	0	0		0	0.6	0.6	2.28	
Vinyl Chloride	0	0		0	0.02	0.02	0.076	
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	0.11	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	5.69	
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	0.0004	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.004	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.0004	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.004	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.038	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	0.11	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	1.21	
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	0.46	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.0004	
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	0.19	
Diethyl Phthalate	0	0		0	N/A	N/A	N/A	
Dimethyl Phthalate	0	0		0	N/A	N/A	N/A	
Di-n-Butyl Phthalate	0	0		0	N/A	N/A	N/A	
2,4-Dinitrotoluene	0	0		0	0.05	0.05	0.19	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	0.19	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	0.11	
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	0.0003	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.038	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	0.38	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.004	
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	0.003	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.019	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	12.5	
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 Antimony	Report	Report	Report	Report	Report	µg/L	6.92	THH	Discharge Conc > 10% WQBEL (no RP)
Total Copper	Report	Report	Report	Report	Report	µg/L	20.2	CFC	Discharge Conc > 10% WQBEL (no RP)
Dissolved Iron	0.2	0.32	371	578	926	µg/L	371	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Iron	Report	Report	Report	Report	Report	µg/L	1,853	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Lead	Report	Report	Report	Report	Report	µg/L	9.07	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Manganese	0.68	1.06	1,235	1,927	3,088	µg/L	1,235	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	Report	Report	Report	Report	Report	µg/L	245	AFC	Discharge Conc > 10% WQBEL (no RP)
Acrylamide	0.0001	0.0002	0.27	0.41	0.66	µg/L	0.27	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Chlorodibromomethane	0.002	0.003	3.04	4.74	7.59	µg/L	3.04	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Dichlorobromomethane	0.002	0.003	3.6	5.62	9.01	µg/L	3.6	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)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	750	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	12.4	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	2,964	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	1,976	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	0.54	µg/L	Discharge Conc < TQL
Total Chromium (III)	182	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	12.8	µg/L	Discharge Conc < TQL
Total Cobalt	23.5	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Total Mercury	0.062	µg/L	Discharge Conc < TQL
Total Nickel	112	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	6.16	µg/L	Discharge Conc < TQL
Total Silver	11.7	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	0.3	µg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	3.0	µg/L	Discharge Conc < TQL
Acrylonitrile	0.23	µg/L	Discharge Conc < TQL
Benzene	2.2	µg/L	Discharge Conc < TQL
Bromoform	26.6	µg/L	Discharge Conc ≤ 25% WQBEL
Carbon Tetrachloride	1.52	µg/L	Discharge Conc < TQL
Chlorobenzene	124	µg/L	Discharge Conc ≤ 25% WQBEL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	4,323	µg/L	Discharge Conc < TQL
Chloroform	7.04	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	37.6	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethylene	40.8	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-Dichloropropane	3.41	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	1.02	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS

Ethylbenzene	84.0	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Bromide	124	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Chloride	6,793	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	75.9	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2,2-Tetrachloroethane	0.76	µg/L	Discharge Conc < TQL
Tetrachloroethylene	37.9	µg/L	Discharge Conc ≤ 25% WQBEL
Toluene	70.4	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-trans-Dichloroethylene	124	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,1-Trichloroethane	753	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2-Trichloroethane	2.09	µg/L	Discharge Conc < TQL
Trichloroethylene	2.28	µg/L	Discharge Conc < TQL
Vinyl Chloride	0.076	µg/L	Discharge Conc < TQL
2-Chlorophenol	37.1	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	12.4	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	124	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	2.47	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	12.4	µg/L	Discharge Conc < TQL
2-Nitrophenol	1,976	µg/L	Discharge Conc < TQL
4-Nitrophenol	580	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	160	µg/L	Discharge Conc < TQL
Pentachlorophenol	0.11	µg/L	Discharge Conc < TQL
Phenol	4,940	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	5.69	µg/L	Discharge Conc < TQL
Acenaphthene	21.0	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	371	µg/L	Discharge Conc < TQL
Benzidine	0.0004	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.004	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.0004	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.004	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.038	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	0.11	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	247	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	1.21	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	66.7	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	0.12	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	988	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	0.46	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.0004	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	198	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichlorobenzene	8.65	µg/L	Discharge Conc ≤ 25% WQBEL
1,4-Dichlorobenzene	185	µg/L	Discharge Conc ≤ 25% WQBEL

3,3-Dichlorobenzidine	0.19	µg/L	Discharge Conc < TQL
Diethyl Phthalate	741	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	618	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	24.7	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	0.19	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	0.19	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	0.11	µg/L	Discharge Conc < TQL
Fluoranthene	24.7	µg/L	Discharge Conc < TQL
Fluorene	61.8	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.0003	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.038	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	1.24	µg/L	Discharge Conc < TQL
Hexachloroethane	0.38	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.004	µg/L	Discharge Conc < TQL
Isophorone	42.0	µg/L	Discharge Conc < TQL
Naphthalene	53.1	µg/L	Discharge Conc ≤ 25% WQBEL
Nitrobenzene	12.4	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.003	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.019	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	12.5	µg/L	Discharge Conc < TQL
Phenanthrene	1.24	µg/L	Discharge Conc < TQL
Pyrene	24.7	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	0.086	µg/L	Discharge Conc < TQL

ATTACHMENT G

Thermal Limits Spreadsheet for Outfall 015

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Thermal Limits Spreadsheet
Version 1.0, April 2024

Instructions | *Inputs*

Facility: **Elliott Company, Inc. Jeannette Facility**

Permit No.: **PA0095176**

Stream Name: **Bull Run**

Analyst/Engineer: **Ryan Decker**

Stream Q7-10 (cfs)*: **0.0**

Outfall No.: **015**

Analysis Type*: **TSF**

	Facility Flows				Stream Flows				Temperature
Semi-Monthly Increment	Intake (Stream) (MGD)*	Intake (External) (MGD)*	Consumptive Loss (MGD)*	Discharge Flow (MGD)	Q7-10 Multipliers (Default Shown)	PMF	Seasonal Stream Flow (cfs)	Downstream Stream Flow (cfs)	Ambient Stream Temperature (°F)*
Jan 1-31		0.107	0	0.107	3.2	1.00	0.08	0.24	
Feb 1-29		0.107	0	0.107	3.5	1.00	0.08	0.25	
Mar 1-31		0.107	0	0.107	7	1.00	0.17	0.33	
Apr 1-15		0.107	0	0.107	9.3	1.00	0.23	0.39	
Apr 16-30		0.107	0	0.107	9.3	1.00	0.23	0.39	
May 1-15		0.107	0	0.107	5.1	1.00	0.12	0.29	
May 16-31		0.107	0	0.107	5.1	1.00	0.12	0.29	
Jun 1-15		0.107	0	0.107	3	1.00	0.07	0.24	
Jun 16-30		0.107	0	0.107	3	1.00	0.07	0.24	
Jul 1-31		0.107	0	0.107	1.7	1.00	0.04	0.21	
Aug 1-15		0.107	0	0.107	1.4	1.00	0.03	0.20	
Aug 16-31		0.107	0	0.107	1.4	1.00	0.03	0.20	
Sep 1-15		0.107	0	0.107	1.1	1.00	0.03	0.19	
Sep 16-30		0.107	0	0.107	1.1	1.00	0.03	0.19	
Oct 1-15		0.107	0	0.107	1.2	1.00	0.03	0.19	
Oct 16-31		0.107	0	0.107	1.2	1.00	0.03	0.19	
Nov 1-15		0.107	0	0.107	1.6	1.00	0.04	0.20	
Nov 16-30		0.107	0	0.107	1.6	1.00	0.04	0.20	
Dec 1-31		0.107	0	0.107	2.4	1.00	0.06	0.22	

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Thermal Limits Spreadsheet
Version 1.0, April 2024

Instructions | *TSF Results*

Recommended Limits for Case 1 or Case 2

Semi-Monthly Increment	**TSF** Target Maximum Stream Temp. (°F)	**Case 1** Daily WLA (Million BTUs/day)	**Case 2** Daily WLA (°F)
Jan 1-31	40	N/A -- Case 2	42.8
Feb 1-29	40	N/A -- Case 2	42.6
Mar 1-31	46	N/A -- Case 2	53.2
Apr 1-15	52	N/A -- Case 2	60.2
Apr 16-30	58	N/A -- Case 2	66.2
May 1-15	64	N/A -- Case 2	70.0
May 16-31	68	N/A -- Case 2	74.0
Jun 1-15	70	N/A -- Case 2	72.2
Jun 16-30	72	N/A -- Case 2	73.3
Jul 1-31	74	N/A -- Case 2	74.2
Aug 1-15	80	N/A -- Case 2	81.6
Aug 16-31	87	N/A -- Case 2	90.5
Sep 1-15	84	N/A -- Case 2	86.6
Sep 16-30	78	N/A -- Case 2	80.6
Oct 1-15	72	N/A -- Case 2	74.6
Oct 16-31	66	N/A -- Case 2	68.3
Nov 1-15	58	N/A -- Case 2	60.6
Nov 16-30	50	N/A -- Case 2	52.1
Dec 1-31	42	N/A -- Case 2	44.1