pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0232866**
Facility Type	**Industrial**	APS ID	**1053233**
Major / Minor	**Minor**	Authorization ID	**1379012**

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

Applicant and Facility Information

Applicant Name	**Sapp Bros Truck Stops, Inc.**	Facility Name	**Sapp Bros Truck Stops of PA**
Applicant Address	9915 S 148th Street	Facility Address	15196 Clearfield Shawville Highway
	Omaha, NE 68138-3876		Clearfield, PA 16830-6103
Applicant Contact	William (Zac) Denton	Facility Contact	William (Zac) Denton
Applicant Phone	(814) 765-5321	Facility Phone	(814) 765-5321
Client ID	142099	Site ID	531837
SIC Code	5541,7539	Municipality	Lawrence Township
SIC Description	Retail Trade - Gasoline Service Stations,Services - Automotive Repair Shops, Nec	County	Clearfield
Date Application Received	December 15, 2021	EPA Waived?	Yes
Date Application Accepted	December 17, 2021	If No, Reason	
Purpose of Application	Renewal of a NDPES Permit		

Summary of Review

The subject facility is a truck stop in Lawrence Township, Clearfield County.

A map of the discharge locations is attached.

Public Participation

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

Approve	Deny	Signatures	Date
✓		*Keith C. Allison* Keith C. Allison / Project Manager	July 15, 2022
✓		*Nicholas W. Hartranft* Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	July 15, 2022

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0
Latitude	41º 2' 19.48"	Longitude	-78º 23' 21.37"
Quad Name	Clearfield, PA	Quad Code	
Wastewater Description:	IW Process Effluent without ELG, Stormwater		
Receiving Waters	West Branch Susquehanna River (WWF, MF)	Stream Code	18668 (River)
NHD Com ID	61830417	RMI	168.47 (@ River)
Drainage Area	896 mi^2 (@ River)	Yield (cfs/mi^2)	0.123
Q_{7-10} Flow (cfs)	110 @ River	Q_{7-10} Basis	USGS Gage 01541303 – W. Br. Susquehanna River @ Hyde, PA (1980-2008)
Elevation (ft)	1300 @ Discharge 1150 @ River	Slope (ft/ft)	Undetermined
Watershed No.	8-C	Chapter 93 Class.	WWF, MF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	METALS		
Source(s) of Impairment	ACID MINE DRAINAGE		
TMDL Status	Final	Name	West Branch Susquehanna
Nearest Downstream Public Water Supply Intake	PA American White Deer @ Milton, PA		
PWS Waters	West Branch Susquehanna River	Distance from Outfall (mi)	Approx. 157

Comments: The discharges to Outfall 001 includes stormwater runoff from facility roof drains, the fueling area, fueling canopy roof drains, and three stormwater drains as well as the potential introduction of pollutants from drains in the facility maintenance bays. All these sources discharge through a 10,000-gallon oil/water separator and a collection basin.

To differentiate between Industrial Wastewater discharges and stormwater discharges from Outfall 001, two suboutfalls have been established in the permit to separate the monitoring requirements for each source as noted in the table below.

Suboutfall	Source	Design Flow (MGD)
101	Industrial Wastewater	0.0144
201	Stormwater	0

The receiving stream is a dry channel that ultimately drains to the West Branch Susquehanna River approximately a third of a mile away.

No downstream water supply is expected to be affected by this discharge at this time with the monitoring and limitations proposed.

Stormwater Discharges from Industrial Activities

Stormwater discharges from the facility are regulated under requirements of the Pennsylvanian Clean Streams Law.

Two outfalls (001 and 002) have been identified as receiving most of the stormwater runoff from the facility. Suboutfall 201 has been established for stormwater discharges to differentiate them from the wastewater discharges (101).

Two additional outfalls have previously been observed by the Department that are presumed to receive roadside runoff and will be identified as 003 and 004. 003 is adjacent to 002 and 004 goes around the eastern end of the facility. These will not receive any specific requirements under this permit because they are composed of water from upgradient of the facility.

As a facility that would fit under both SIC Codes 5541and 7539, it would be subject to Appendix J of the PAG-03 General Permit for the Discharge of Stormwater from Industrial Activities. Outfalls 201 and 002 have been given monitoring for TSS and Oil and Grease consistent with Appendix J of the PAG-03. In addition, due to the additional wastewater influence from the maintenance garage that will also collect in the oil/water separator and detention basin, Benzene and BTEX monitoring are included for 201 as indicator pollutants for the petroleum products with a potential to be discharged with this stormwater runoff. Monitoring for 201 is currently quarterly rather than 1/six months as prescribed in the PAG-03. This will continue for this permit term.

All Outfalls 001-004 ultimately discharge to the West Branch Susquehanna River (WWF). The Part C conditions will include the applicable benchmark values from the PAG-03 (100 mg/L for TSS and 30 mg/L for Oil and Grease).

Outfall Nos.	201 & 002	Design Flow (MGD)	0
Latitude	201 - 41º 2' 29.9" 002 - 41º 2' 28.4"	Longitude	201 - -78º 23' 38.8" 002 - -78º 23' 33.4"
Wastewater Description:	Stormwater		
Receiving Waters	West Branch Susquehanna River	Stream Code	18668 (River)
NHD Com ID	61830417	RMI	168.47 (River)
Drainage Area	896 mi^2 (@ River)	Yield (cfs/mi^2)	0.123
Q_{7-10} Flow (cfs)	110 (@ River)	Q_{7-10} Basis	USGS Gage 01541303 – W. Br. Susquehanna River @ Hyde, PA (1980-2008)
Elevation (ft)	1300 @ (Discharge) 1160 @ (River)	Slope (ft/ft)	Undetermined
Watershed No.	8-C	Chapter 93 Class.	WWF, MF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	Metals		
Source(s) of Impairment	Abandoned Mine Drainage		
TMDL Status	Final	Name	West Branch Susquehanna

Other Comments: No downstream water supply is expected to be affected by these discharges at this time with the monitoring and limitations proposed.

Treatment Facility Summary
Flows from the maintenance garage are treated by a 1,000-gallon oil/water separator. All flows to Outfall 001 are then conveyed through a 10,000-gallon oil/water separator and retention basin prior to discharge. Changes Since Last Permit Issuance: WQM Permit No. 1719201 was issued December 2, 2019 to a construct the 1,000-gallon oil/water separator to provide additional treatment for the flows specifically from the maintenance garage to address effluent violations.

Compliance History

DMR Data for Outfall 101 (from June 1, 2021 to May 31, 2022)

Parameter	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21
Flow (GPM) Average Monthly	0.0528	0.132	0.0265	0.0265	0.0265	0.0265	0.0264	0.0132	0.0132	0.0528	0.0132	0.0132
pH (S.U.) Minimum	8.76	6.98	7.44	7.26	7.05	7.21	6.97	8.54	8.08	7.94	6.38	7.72
pH (S.U.) Maximum	8.76	6.98	7.44	7.26	7.05	7.21	6.97	8.54	8.08	7.94	6.38	7.72
TRC (mg/L) Average	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.05	0.05	0.05
TRC (mg/L) Instantaneous Maximum	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.05	0.05	0.05
TSS (mg/L) Average Monthly	15.0	35.0	19.5	25.5	16.4	28.0	28.0	12.0	36.0	6.0	40.4	24.0
TSS (mg/L) Instantaneous Maximum	15.0	35.0	19.5	25.5	16.4	28.0	28.0	12.0	36.0	6.0	40.4	24.0
Oil and Grease (mg/L) Average Monthly	< 1.74	3.10	2.78	2.78	2.69	2.18	< 3.44	< 4.90	< 5.0	< 5.1	< 5.0	< 5.0
Oil and Grease (mg/L) Instantaneous Maximum	< 1.74	3.10	2.78	2.78	2.69	2.18	< 3.44	< 4.90	< 5.0	< 5.1	< 5.0	< 5.0
Dissolved Iron (mg/L) Instantaneous Maximum	< 0.185	< 0.185	< 0.185	5.07	< 0.185	< 0.185	< 0.2	< 0.2	1.04	< 0.2	0.641	1.05
Benzene (mg/L) Instantaneous Maximum	0.00235	0.00135	< 0.00031	< 0.00155	0.00113	0.00077	0.00117	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.00155
Total BTEX (mg/L) Instantaneous Maximum	0.047	0.00673	< 0.00151	< 0.00755	0.00197	0.00175	< 0.0050	< 0.0050	0.00994	< 0.0050	0.0125	0.0312

Compliance History, Cont'd

DMR Data for Outfall 201 (from June 1, 2021 to May 31, 2022)

Parameter	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21
TSS (mg/L) Daily Maximum			10.0			27.5			17.0			25.0
Oil and Grease (mg/L) Daily Maximum			< 1.67			< 1.69			< 5.0			< 5.0
Benzene (mg/L) Daily Maximum			< 0.00031			< 0.00031			< 0.0010			< 0.00155
Total BTEX (mg/L) Daily Maximum			< 0.00151			0.0036			< 0.0050			0.0934

DMR Data for Outfall 002 (from June 1, 2021 to May 31, 2022)

Parameter	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21
TSS (mg/L) Daily Maximum						142						130
Oil and Grease (mg/L) Daily Maximum						< 6.35						< 5.0

Effluent Violations for Outfall 101, from: June 1, 2021 to May 31, 2022

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TSS	09/30/21	Avg Mo	36.0	mg/L	30.0	mg/L
TSS	04/30/22	Avg Mo	35.0	mg/L	30.0	mg/L
TSS	07/31/21	Avg Mo	40.4	mg/L	30.0	mg/L

Compliance History, Cont'd

Summary of Inspections:	The facility has been inspected by the Department over the past permit term. The most recent inspection on March 10, 2022 identified eDMR effluent violations but no additional violations at the time of inspection.
Other Comments:	A query in WMS identified no open violations in eFACTS for Sapp Bros.

Existing Effluent Limitations and Monitoring Requirements – Outfall 101

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (GPM)	Report	XXX	XXX	XXX	XXX	XXX	1/month	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/month	Grab
TRC	XXX	XXX	XXX	0.5 Avg	XXX	1.6	1/month	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60.0	1/month	Grab
Oil and Grease	XXX	XXX	XXX	15.0	XXX	30	1/month	Grab
Dissolved Iron	XXX	XXX	XXX	XXX	XXX	7.0	1/month	Grab
Benzene	XXX	XXX	XXX	XXX	XXX	0.0025	1/month	Grab
Total BTEX	XXX	XXX	XXX	XXX	XXX	0.25	1/month	Grab

Existing Effluent Limitations and Monitoring Requirements – Outfall 201

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Benzene	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Total BTEX	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab

Existing Effluent Limitations and Monitoring Requirements – Outfall 002								
Parameter	**Effluent Limitations**						**Monitoring Requirements**	
	Mass Units (lbs/day) (1)		**Concentrations (mg/L)**				**Minimum (2) Measurement Frequency**	**Required Sample Type**
	Average Monthly	**Average Weekly**	**Minimum**	**Average Monthly**	**Daily Maximum**	**Instant. Maximum**		
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Development of Effluent Limitations

Outfall No. 101 **Design Flow (MGD)** 0.0144
Latitude 41º 4' 29.90" **Longitude** -78º 23' 38.80"
Wastewater Description:

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Parameter	Limit (mg/l)	SBC	Federal Regulation	State Regulation
Oil and Grease	15	Average Monthly	---	95.2(2)(ii)
	30	IMAX	---	95.2(2)(ii)
Dissolved Iron	15	IMAX	---	95.2(4)
pH	6.0 – 9.0 S.U.	Min – Max	---	95.2(1)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Comments: The above-listed limits from 25 Pa. Code 95 and 92a are applicable and are included in the existing permit. TRC was previously included assuming that chlorinated tap water is used for spray down in the maintenance bays. Because TRC levels have consistently been at or below detection over the past permit term, TRC monitoring will no longer be required.

Water Quality-Based Limitations

A "Reasonable Potential Analysis" was performed to determine whether additional parameters should be subject to water quality-based limitations for the ultimate discharge to the river. The Toxics Management Spreadsheet (TMS) is a mass-balance water quality analysis model that includes consideration for mixing and other factors to determine recommended water quality-based effluent limits. The model incorporates the water quality criteria in 25 Pa.Code §93. The Department's Toxics Management Spreadsheet is attached (Attachment C) showing no additional toxic parameters are recommended for effluent limitations or monitoring.

Best Professional Judgment (BPJ) Limitations

Comments: A Benzene limitation of 0.0025 mg/L and a BTEX limit of 0.25 mg/L have been included in the permit to prevent degrading pollution to the receiving dry/intermittent stream. These limitations were derived from the PAG-05 and PAG-10 General Permits which permit discharges of petroleum product contaminated groundwater and hydrostatic testing water, respectively. These two parameters have been included as indicator parameters for petroleum-related pollutants. In addition, a TSS maximum monthly limit of 30 mg/L and a maximum limit of 60 mg/L were also included from the PAG-10.

Additional Considerations

To prevent influence from stormwater discharges on the monitoring for the Industrial Wastewater discharges, the following footnote will be included, regarding the taking of samples for 101:

- Samples shall not be collected within the 72 hours following a storm event that is greater than 0.1 inches in magnitude.

Anti-Backsliding

No limitations were made less stringent consistent with the anti-backsliding provisions of the Clean Water Act and 40 CFR 122.44(l). The removal of TRC monitoring is due to the assumption based on a lack of data in the previous review that TRC could be present at significant levels.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 002, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Compliance Sampling Location: Outfall 002

Other Comments: The monitoring for 002 is unchanged.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 101, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (GPM)	Report	XXX	XXX	XXX	XXX	XXX	1/month	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/month	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60.0	1/month	Grab
Oil and Grease	XXX	XXX	XXX	15.0	XXX	30	1/month	Grab
Dissolved Iron	XXX	XXX	XXX	XXX	XXX	7.0	1/month	Grab
Benzene	XXX	XXX	XXX	XXX	XXX	0.0025	1/month	Grab
Total BTEX	XXX	XXX	XXX	XXX	XXX	0.25	1/month	Grab

Compliance Sampling Location: Outfall 101

Other Comments: TRC monitoring has been removed as mentioned above.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 201, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Benzene	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Total BTEX	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab

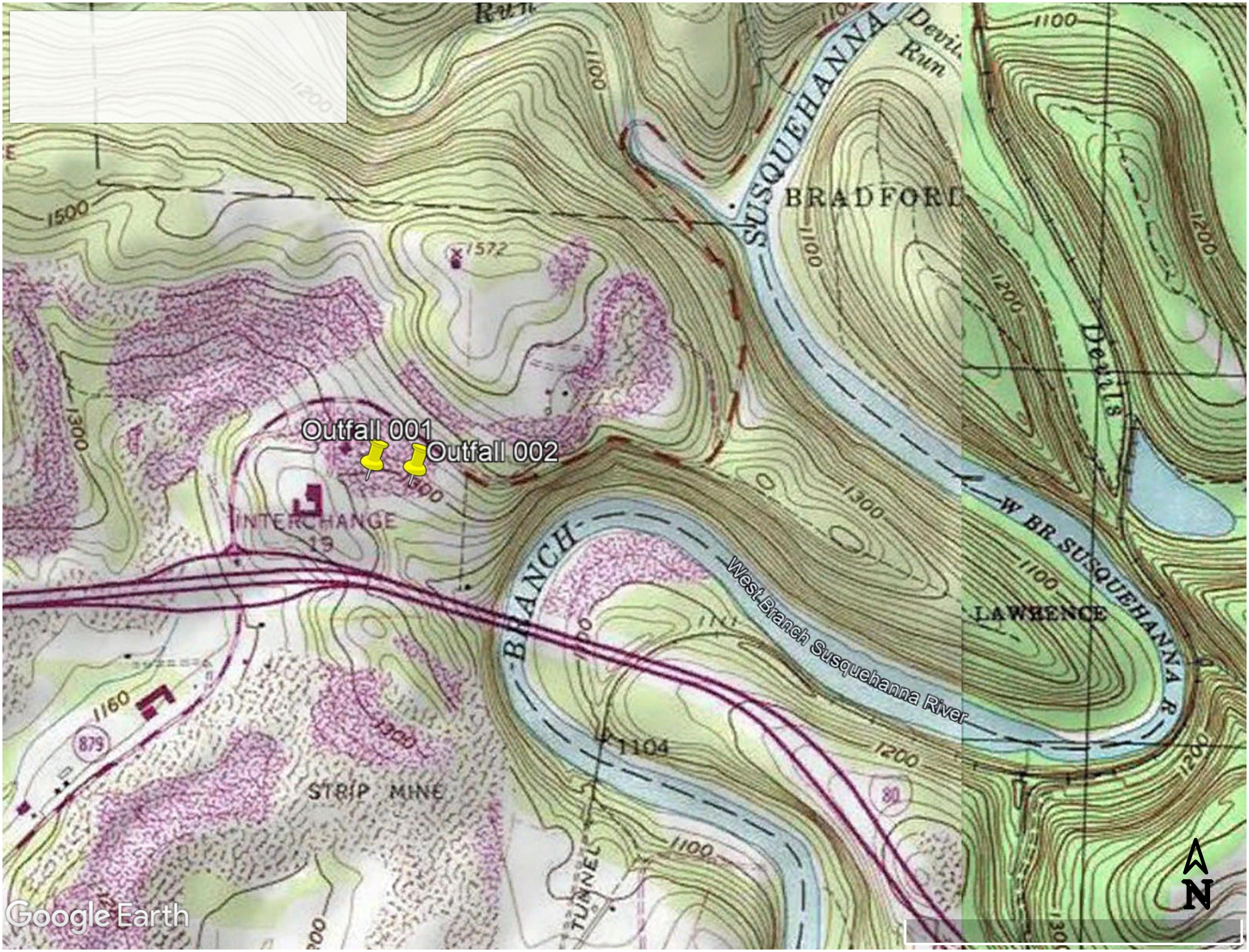
Compliance Sampling Location: Suboutfall 201

Other Comments: The above monitoring requirements are unchanged.

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment **B**)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☒	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☒	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☒	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☒	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
☒	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP: Establishing Effluent Limitations for Individual Industrial Permits, ___9/10/13; Chemical Additives, 8/28/14.
☒	Other: *Selected Stream Flow Characteristics for Streamgage Locations in and near Pennsylvania*, Stuckey and Roland, 2011, pgs 13 & 25

Attachments:

A. Discharge Location Map
B. Toxics Management Spreadsheet


Outfall 001
Outfall 002
West Branch Susquehanna River
Google Earth
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Discharge Information

Instructions | Discharge | Stream

Facility: **Sapp Bros.** NPDES Permit No.: **PA0232866** Outfall No.: **001**

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

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
0.00945	80	7.7						

					0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		254									
	Chloride (PWS)	mg/L		53.2									
	Bromide	mg/L		0.072									
	Sulfate (PWS)	mg/L		37.8									
	Fluoride (PWS)	mg/L		0.527									
Group 2	Total Aluminum	µg/L		439									
	Total Antimony	µg/L		1.37									
	Total Arsenic	µg/L		1									
	Total Barium	µg/L		75.3									
	Total Beryllium	µg/L	<	0.4									
	Total Boron	µg/L	<	100									
	Total Cadmium	µg/L		0.123									
	Total Chromium (III)	µg/L		2.66									
	Hexavalent Chromium	µg/L	<	0.25									
	Total Cobalt	µg/L		1.84									
	Total Copper	µg/L		7.31									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	10									
	Dissolved Iron	µg/L		1320									
	Total Iron	µg/L		2860									
	Total Lead	µg/L		0.934									
	Total Manganese	µg/L		81.8									
	Total Mercury	µg/L	<	0.104									
	Total Nickel	µg/L		2.69									
	Total Phenols (Phenolics) (PWS)	µg/L		24									
	Total Selenium	µg/L	<	3.35									
	Total Silver	µg/L	<	1.37									
	Total Thallium	µg/L	<	0.5									
	Total Zinc	µg/L		357									
	Total Molybdenum	µg/L		15.3									
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										
	Carbon Tetrachloride	µg/L	<										

Stream / Surface Water Information

Sapp Bros., NPDES Permit No. PA0232866, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **West Branch Susquehanna River**

No. Reaches to Model: **1**

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	018668	168.47	1150	896			Yes
End of Reach 1	018668	164.35	1145	930			Yes

***Q* 7-10**

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	168.47	0.123										100	7		
End of Reach 1	164.35	0.123													

***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	168.47														
End of Reach 1	164.35														

Model Results

Sapp Bros., NPDES Permit No. PA0232866, Outfall 001

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

☑ ***Hydrodynamics***

Q 7-10

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)
168.47	110.21		110.21	0.015	0.00023	1.15	188.448	163.88	0.509	0.495	2603.023
164.35	114.39		114.39								

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)
168.47	452.78		452.78	0.015	0.00023	2.141	188.448	88.01	1.122	0.224	1024.641
164.35	467.757		467.76								

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.076 Analysis Hardness (mg/l): 99.965 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	429,949	
Total Antimony	0	0		0	1,100	1,100	630,592	
Total Arsenic	0	0		0	340	340	194,910	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	12,038,576	
Total Boron	0	0		0	8,100	8,100	4,643,451	
Total Cadmium	0	0		0	2.013	2.13	1,222	Chem Translator of 0.944 applied
Total Chromium (III)	0	0		0	569.601	1,803	1,033,330	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	9,340	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	54,460	
Total Copper	0	0		0	13.435	14.0	8,023	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	64.557	81.6	46,784	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	944	Chem Translator of 0.85 applied
Total Nickel	0	0		0	468.098	469	268,882	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	3.215	3.78	2,168	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	37,262	
Total Zinc	0	0		0	117.146	120	68,666	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 720 PMF: 0.526 Analysis Hardness (mg/l): 99.995 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	872,470	
Total Arsenic	0	0		0	150	150	594,866	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	16,259,665	
Total Boron	0	0		0	1,600	1,600	6,345,235	
Total Cadmium	0	0		0	0.246	0.27	1,073	Chem Translator of 0.909 applied
Total Chromium (III)	0	0		0	74.111	86.2	341,755	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	41,224	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	75,350	
Total Copper	0	0		0	8.955	9.33	36,995	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	11,309,408	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.517	3.18	12,617	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	3,593	Chem Translator of 0.85 applied
Total Nickel	0	0		0	52.004	52.2	206,858	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	19,786	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	51,555	
Total Zinc	0	0		0	118.134	120	475,144	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 720 PMF: 0.526 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	22,208	
Total Arsenic	0	0		0	10	10.0	39,658	
Total Barium	0	0		0	2,400	2,400	9,517,853	
Total Boron	0	0		0	3,100	3,100	12,293,893	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	300	300	1,189,732	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	3,965,772	
Total Mercury	0	0		0	0.050	0.05	198	
Total Nickel	0	0		0	610	610	2,419,121	
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	952	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 720 PMF: 0.838 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	

Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

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

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments

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