

Application Type Renewal
Facility Type Industrial
Major / Minor Minor

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

Application No. PA0086690
APS ID 275240
Authorization ID 1336104

Applicant and Facility Information

Applicant Name	<u>Kalas Manufacturing, Inc.</u>	Facility Name	<u>Kalas Manufacturing, Inc. Plant #2</u>
Applicant Address	<u>167 Greenfield Road</u> <u>Lancaster, PA 17601-5814</u>	Facility Address	<u>86 Denver Road</u> <u>Denver, PA 17517</u>
Applicant Contact	<u>Nigel Braun</u>	Facility Contact	<u>Nigel Braun</u>
Applicant Phone	<u>(717) 419-4222</u>	Facility Phone	<u>(717) 419-4222</u>
Client ID	<u>86036</u>	Site ID	<u>254214</u>
SIC Code	<u>3357</u>	Municipality	<u>East Cocalico Township</u>
SIC Description	<u>Manufacturing - Nonferrous Wire Drawing And Insulating</u>	County	<u>Lancaster</u>
Date Application Received	<u>December 2, 2020</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>December 10, 2020</u>	If No, Reason	<u></u>
Purpose of Application	<u>NPDES Renewal.</u>		

Summary of Review

Kalas Manufacturing, Inc. has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its National Pollutant Discharge Elimination System (NPDES) permit. The permit was issued on May 23, 2016 and became effective on June 1, 2016. The permit authorized discharge of treated industrial wastewater from the existing industrial waste treatment plant (IWTP) located in East Cocalico Township, into Stony River. The existing permit expiration date was May 31, 2021, and the permit has been administratively extended since that time.

Per the previous fact sheet, Kalas discharges contact cooling water, boiler blowdown, and stormwater. The IWTP produces insulated wire and cable. Copper and tin-coated copper wire is shipped to the IWTP where it is insulated with PVC, neoprene, or cross-linked polyethylene (XLPE). In this process, steam is used to help cure some of the insulating compounds, and then chilled water is used to cool the assembled cable before spooling it onto reels for shipping. Contact cooling water is routed to an internal tank where it mixes with boiler blowdown before it is discharged to Stony Run. New, larger boilers replaced the IWTP's original boilers during the fall of 2013 and that led to larger inflows of alkaline blowdown to the IWTP's 500 gallon mixing tank. Water softener backwash and the boiler blowdown are discharged through Outfall 001. According to the previous fact sheet, an analysis showed that these contributions do not have any toxics of concern and do not impact the quality of the wastewater due to the small volume of flow. Two settling tanks are utilized at the WWTP for the removal of solids from the effluent.

The WWTP has 3 outfalls. Outfall 001 receives contact cooling water, boiler blowdown, and stormwater from roof drains. The contact cooling water is used to cool PVC, neoprene rubber, and other wire insulating compounds. These compounds are initially cured with steam, and then immersed in a water bath to cool the cured compounds. During periods of precipitation, stormwater will mix with the contact cooling water downstream of the 500 gallon mixing tank. Boiler blowdown is

Approve	Deny	Signatures	Date
X		Benjamin R. Lockwood Benjamin R. Lockwood / Environmental Engineering Specialist	December 11, 2021
X		Maria D. Bebenek for Daniel W. Martin, P.E. / Environmental Engineer Manager	December 15, 2021
X		Maria D. Bebenek Maria D. Bebenek, P.E. / Program Manager	December 15, 2021

Summary of Review

intermittently discharged via Outfall 001 after being mixed with contact cooling water in the 500 gallon mixing tank. Outfall 002 receives stormwater from roof drains, loading/unloading area, overland flow, and a detention pond on the west side of the WWTP. Outfall 003 receives stormwater from roof drains, loading/unloading area, overland flow, and a detention pond on the east side of the WWTP.

Changes in this renewal: The stormwater monitoring requirements were updated to reflect Appendix B of the NPDES PAG-03 General Permit.

Supplemental information is located at the end of this fact sheet.

Public Participation

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

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>001</u>	Design Flow (MGD)	<u>.043</u>
Latitude	<u>40° 13' 21.925"</u>	Longitude	<u>76° 6' 53.0445"</u>
Quad Name	<u></u>	Quad Code	<u></u>
Wastewater Description: <u>Contact Cooling Water (CCW) and Stormwater</u>			
Receiving Waters	<u>Stony Run (WWF, MF)</u>	Stream Code	<u>7717</u>
NHD Com ID	<u>57461565</u>	RMI	<u>1.7</u>
Drainage Area	<u>2.63 mi²</u>	Yield (cfs/mi ²)	<u>0.12</u>
Q ₇₋₁₀ Flow (cfs)	<u>0.32</u>	Q ₇₋₁₀ Basis	<u>USGS Gage #01576500</u>
Elevation (ft)	<u>397</u>	Slope (ft/ft)	<u></u>
Watershed No.	<u>7-J</u>	Chapter 93 Class.	<u>WWF, MF</u>
Existing Use	<u>N/A</u>	Existing Use Qualifier	<u>N/A</u>
Exceptions to Use	<u>N/A</u>	Exceptions to Criteria	<u>N/A</u>
Assessment Status	<u>Impaired</u>		
Cause(s) of Impairment	<u>Nutrients, Siltation, Cause Unknown, Pathogens</u>		
Source(s) of Impairment	<u>Crop Production (Crop Land or Dry Land), Grazing in Riparian or Shoreline Zones, Urban Runoff/Storm Sewers, Source Unknown</u>		
TMDL Status	<u>N/A</u>	Name	<u>N/A</u>
Nearest Downstream Public Water Supply Intake	<u>Ephrata Area Joint Authority</u>		
PWS Waters	<u>Cocalico Creek</u>	Flow at Intake (cfs)	<u></u>
PWS RMI	<u></u>	Distance from Outfall (mi)	<u>7.5</u>

Changes Since Last Permit Issuance: A drainage area of 2.63 mi² and a Q₇₋₁₀ flow of 0.32 cubic feet per second (cfs) were determined by establishing a correlation to the yield of USGS Gage Station #01576500 on the Conestoga River. The Q₇₋₁₀ and drainage area at the gage are 38.6 cfs and 324 mi², respectively. These values are taken from the USGS document "Selected Streamflow Statistics for Streamgage Locations in and near Pennsylvania". The Q₇₋₁₀ runoff rate at the gage station was calculated as follows:

$$\text{Yield} = (38.6 \text{ cfs}) / 324 \text{ mi}^2 = 0.12 \text{ cfs/mi}^2$$

The drainage area at the discharge point, taken from USGS PA StreamStats = 2.63 mi²

The Q₇₋₁₀ at the discharge point = 2.63 mi² x 0.12 cfs/mi² = 0.32 cfs

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>002</u>	Design Flow (MGD)	<u>Variable (Stormwater)</u>
Latitude	<u>40° 13' 20.985"</u>	Longitude	<u>76° 6' 55.1118"</u>
Quad Name	<u></u>	Quad Code	<u></u>
Wastewater Description: <u>Stormwater</u>			
Receiving Waters	<u>Stony Run (WWF, MF)</u>	Stream Code	<u>7717</u>
NHD Com ID	<u>57461569</u>	RMI	<u>1.7</u>
Drainage Area	<u>2.63 mi²</u>	Yield (cfs/mi ²)	<u>0.12</u>
Q ₇₋₁₀ Flow (cfs)	<u>0.32</u>	Q ₇₋₁₀ Basis	<u>USGS Gage #01576500</u>
Elevation (ft)	<u>397</u>	Slope (ft/ft)	<u></u>
Watershed No.	<u>7-J</u>	Chapter 93 Class.	<u>WWF, MF</u>
Existing Use	<u>N/A</u>	Existing Use Qualifier	<u>N/A</u>
Exceptions to Use	<u>N/A</u>	Exceptions to Criteria	<u>N/A</u>
Assessment Status	<u>Impaired</u>		
Cause(s) of Impairment	<u>Nutrients, Siltation, Cause Unknown, Pathogens</u>		
Source(s) of Impairment	<u>Crop Production (Crop Land or Dry Land), Grazing in Riparian or Shoreline Zones, Urban Runoff/Storm Sewers, Source Unknown</u>		
TMDL Status	<u>N/A</u>	Name	<u>N/A</u>
Nearest Downstream Public Water Supply Intake	<u>Ephrata Area Joint Authority</u>		
PWS Waters	<u>Cocalico Creek</u>	Flow at Intake (cfs)	<u></u>
PWS RMI	<u></u>	Distance from Outfall (mi)	<u>7.5</u>

Changes Since Last Permit Issuance: None

Other Comments: None

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>003</u>	Design Flow (MGD)	<u>Variable (Stormwater)</u>
Latitude	<u>40° 13' 23.7576"</u>	Longitude	<u>76° 6' 50.046"</u>
Quad Name	<u></u>	Quad Code	<u></u>
Wastewater Description: <u>Stormwater</u>			
Receiving Waters	<u>Stony Run (WWF, MF)</u>	Stream Code	<u>7717</u>
NHD Com ID	<u>57461565</u>	RMI	<u>1.7</u>
Drainage Area	<u>2.63 mi²</u>	Yield (cfs/mi ²)	<u>0.12</u>
Q ₇₋₁₀ Flow (cfs)	<u>0.32</u>	Q ₇₋₁₀ Basis	<u>USGS Gage #01576500</u>
Elevation (ft)	<u>397</u>	Slope (ft/ft)	<u></u>
Watershed No.	<u>7-J</u>	Chapter 93 Class.	<u>WWF, MF</u>
Existing Use	<u>N/A</u>	Existing Use Qualifier	<u>N/A</u>
Exceptions to Use	<u>N/A</u>	Exceptions to Criteria	<u>N/A</u>
Assessment Status	<u>Impaired</u>		
Cause(s) of Impairment	<u>Nutrients, Siltation, Cause Unknown, Pathogens</u>		
Source(s) of Impairment	<u>Crop Production (Crop Land or Dry Land), Grazing in Riparian or Shoreline Zones, Urban Runoff/Storm Sewers, Source Unknown</u>		
TMDL Status	<u>N/A</u>	Name	<u>N/A</u>
Nearest Downstream Public Water Supply Intake	<u>Ephrata Area Joint Authority</u>		
PWS Waters	<u>Cocalico Creek</u>	Flow at Intake (cfs)	<u></u>
PWS RMI	<u></u>	Distance from Outfall (mi)	<u>7.5</u>

Changes Since Last Permit Issuance: None

Other Comments: None

Compliance History	
Summary of DMRs:	A summary of the past 12-month DMR effluent data is presented on the next page of this fact sheet.
Summary of Inspections:	<p>11/8/2017: A routine inspection was conducted. There were no apparent issues noted at the stormwater outfalls. The Outfall 001 effluent channel contained a coating of light colored sediment.</p> <p>12/12/2017: A Notice of Violation (NOV) was issued due to a pattern of effluent violations from 2013 to 2017.</p> <p>3/15/2019: An NOV was issued due to additional effluent violations from 2017 to 2019.</p> <p>8/27/2019: A routine inspection was conducted. Kalas was undergoing a process to divert a larger portion of the IWTP's process wastewater to East Cocalico's sanitary sewer system, which ultimately treats wastewater at Ephrata STP #2. This change was being investigated to attempt to eliminate the effluent violations. Kalas plans to continue discharging NCCW from Outfall 001. Outfall 001 was observed, and the discharge appeared clear. Some algae was present on the rocks at the outfall.</p>

Other Comments: There are currently no open violations associated with the permittee or the facility.

Compliance History

DMR Data for Outfall 001 (from November 1, 2020 to October 31, 2021)

Parameter	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20
Flow (MGD) Average Monthly	0.00943	0.01268	0.01854	0.01363	0.02378	0.0179	0.01548	0.0145	0.0156	0.01407	0.01574	0.016
Flow (MGD) Daily Maximum	0.01234	0.0216	0.0864	0.0216	0.216	0.07128	0.01728	0.01728	0.0216	0.01728	0.0216	0.0432
pH (S.U.) Minimum	7.5	7.8	7.25	6.3	6.4	6.6	6.4	6.5	6.3	6.6	6.4	6.3
pH (S.U.) Maximum	8.4	8.5	8.7	7.9	7.7	8.1	8.2	8.0	7.9	8.2	8.9	8.5
Temperature (Day 1 thru 15) (°F) Daily Average												65
Temperature (Day 16 thru End of Month) (°F) Daily Average												65
Temperature (°F) Daily Average	72	76	78.0	79	74	67	66	62	59	61	59	
BOD5 (lbs/day) Daily Maximum	1.4	< 1.0	< 1.1	2.3	< 0.9	< 3.4	< 0.7	0.8	0.9	1.1	1.4	1.0
BOD5 (mg/L) Daily Maximum	18.1	< 6.8	< 6.5	19.5	< 6.2	< 6.5	< 6.3	7.6	7.2	8.8	11.5	8.7
BOD5 (mg/L) Instantaneous Maximum	18.1	< 6.8	< 6.5	19.5	< 6.2	< 6.5	< 6.3	7.6	7.2	8.8	11.5	8.7
TSS (lbs/day) Daily Maximum	< 0.3	< 0.7	< 0.7	< 0.5	< 0.6	< 2.4	< 0.5	< 0.5	34.1	< 0.5	0.7	< 0.5
TSS (mg/L) Daily Maximum	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	4.0	< 4.0	< 4.0	284.0	< 4.0	5.0	< 4.0
Oil and Grease (lbs/day) Daily Maximum	< 0.4	< 0.9	< 0.9	2.3	< 0.7	< 2.9	< 0.6	< 0.6	< 0.60	< 0.6	< 0.7	0.6
Oil and Grease (mg/L) Average Monthly	< 5.0	< 5.0	< 5.0	< 12.0	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8
Oil and Grease (mg/L) Daily Maximum	< 5.0	< 5.0	< 5.0	19.1	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	4.8

**NPDES Permit Fact Sheet
Kalas Manufacturing, Inc. Plant #2**

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Oil and Grease (mg/L) Instantaneous Maximum	< 5.0	< 5.0	< 5.0	19.1	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	4.8
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DMR Data for Outfall 002 (from November 1, 2020 to October 31, 2021)

Parameter	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20
pH (S.U.) Daily Maximum					6.9						8.21	
CBOD5 (mg/L) Daily Maximum					46.6						11.3	
COD (mg/L) Daily Maximum					123						< 25.0	
TSS (mg/L) Daily Maximum					75.0						24.0	
Oil and Grease (mg/L) Daily Maximum					< 4.8						< 4.8	
Total Arsenic (mg/L) Daily Maximum					< 0.005						< 0.005	
Total Cadmium (mg/L) Daily Maximum					< 0.003						< 0.003	
Total Chromium (mg/L) Daily Maximum					< 0.005						< 0.005	
Total Copper (mg/L) Daily Maximum					0.0394						0.0092	
Total Iron (mg/L) Daily Maximum					3.44						0.914	
Total Lead (mg/L) Daily Maximum					< 0.005						< 0.005	

DMR Data for Outfall 003 (from November 1, 2020 to October 31, 2021)

Parameter	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20
pH (S.U.) Daily Maximum					6.9						7.47	
CBOD5 (mg/L) Daily Maximum					18.2						< 6.6	
COD (mg/L) Daily Maximum					104						59.0	
TSS (mg/L) Daily Maximum					130						< 4.0	

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Oil and Grease (mg/L) Daily Maximum					< 4.8						< 4.8	
Total Arsenic (mg/L) Daily Maximum					0.0118						< 0.005	
Total Cadmium (mg/L) Daily Maximum					< 0.003						< 0.003	
Total Chromium (mg/L) Daily Maximum					0.0123						< 0.005	
Total Copper (mg/L) Daily Maximum					0.0226						0.0054	
Total Iron (mg/L) Daily Maximum					7.76						0.0717	
Total Lead (mg/L) Daily Maximum					0.0122						< 0.005	

Compliance History

Effluent Violations for Outfall 001, from: December 1, 2020 To: October 31, 2021

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TSS	02/28/21	Daily Max	34.1	lbs/day	6.8	lbs/day
TSS	02/28/21	Daily Max	284.0	mg/L	19.0	mg/L

Existing Effluent Limitations and Monitoring Requirements

The tables below summarize the effluent limits and monitoring requirements implemented in the existing NPDES permit.

Outfall 001

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Daily Average	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/day	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
Temperature (°F) Jan 1 - 31	XXX	XXX	XXX	102	XXX	XXX	1/day	I-S
Temperature (°F) Feb 1 - 29	XXX	XXX	XXX	108	XXX	XXX	1/day	I-S
Temperature (°F) Mar 1 – Nov 15	XXX	XXX	XXX	110	XXX	XXX	1/day	I-S
Temperature (°F) Nov 16 - 30	XXX	XXX	XXX	100	XXX	XXX	1/day	I-S
Temperature (°F) Dec 1 - 31	XXX	XXX	XXX	88	XXX	XXX	1/day	I-S
BOD5	XXX	9.3	XXX	26.0 Daily Max	XXX	62.5	2/month	8-Hr Composite
TSS	XXX	6.8	XXX	19.0 Daily Max	XXX	XXX	2/month	8-Hr Composite
Oil and Grease	XXX	10.4	15.0 Avg Mo	29.0 Daily Max	XXX	30.0	2/month	Grab

Compliance Sampling Location: At discharge from facility.

Outfall 002, 003

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		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	2/year	Grab
CBOD5	XXX	XXX	XXX	XXX	Report	XXX	2/year	Grab
COD	XXX	XXX	XXX	XXX	Report	XXX	2/year	Grab
TSS	XXX	XXX	XXX	XXX	Report	XXX	2/year	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	2/year	Grab
Total Arsenic	XXX	XXX	XXX	XXX	Report	XXX	2/year	Grab
Total Cadmium	XXX	XXX	XXX	XXX	Report	XXX	2/year	Grab
Total Chromium	XXX	XXX	XXX	XXX	Report	XXX	2/year	Grab
Total Copper	XXX	XXX	XXX	XXX	Report	XXX	2/year	Grab
Total Iron	XXX	XXX	XXX	XXX	Report	XXX	2/year	Grab
Total Lead	XXX	XXX	XXX	XXX	Report	XXX	2/year	Grab

Compliance Sampling Location: Outfall 002, 003

Development of Effluent Limitations

Outfall No. 001	Design Flow (MGD) .043
Latitude 40° 13' 21.925"	Longitude 76° 6' 53.0445"
Wastewater Description: Contact Cooling Water (CCW), Stormwater	

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
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c), 463.12	95.2(1)
BOD ₅	26	Daily Maximum	463.12	
Oil and Grease	29	Daily Maximum	463.12	
TSS	19	Daily Maximum	463.12	

This facility is regulated by an Effluent Limitation Guideline (ELG) from the Code of Federal Regulations 40 CFR Part 463 – Plastics Molding and Forming Point Source Category. Kalas Plant #2 began discharging in 1982, which was before the 1984 promulgation of this ELG so 463.12 is applicable to this facility. Part 463.12 contains limits for pH, BOD₅, Oil and Grease, and TSS; these limits are shown in the table above. These limits are consistent with the existing permit limits.

Oil and Grease

DEP’s SOP No. BPNPSM-PMT-032 states that if the maximum concentration of oil and grease in the discharge is 4 mg/l or greater, a monitoring requirement should be established. If the maximum concentration of oil and grease is 8 mg/l or greater, the oil and grease treatment requirements at 25 Pa. Code § 95.2(2)(ii) of 15 mg/l average monthly and 30 mg/l Instantaneous Maximum (IMAX) should be established. The application reported a maximum Oil and Grease value of 6.8 mg/l for Outfall 001, which would require monitoring only; however, there is an existing permit limit of 15.0 mg/l average monthly, 29.0 mg/l daily maximum, and 30.0 mg/l IMAX in the permit for oil and grease, which will remain in the renewal permit.

pH

PA Code § 95.2(1) requires industrial wastes to maintain an effluent pH of 6.0 to 9.0 standard units (S.U.) at all times, and pH is included in the Part 463 ELG described above. The permit will continue to require pH limit of 6.0 to 9.0 S.U.

Total Suspended Solids (TSS)

DEP’s SOP No. BPNPSM-PMT-032 states that where concentrations of TSS exceed 100 mg/l in the permit application or DMRs, and there is no applicable ELG, Best Professional Judgement (BPJ) TBELs should be developed based on 40 CFR § 125.3. There is an existing ELG limit for TSS discussed above, therefore, a BPJ limit will not be developed. The existing daily maximum TSS limit of 19.0 mg/l will remain in the permit.

Toxics

Effluent sample results for toxic pollutants reported on the renewal application were entered into DEP’s Toxics Management Spreadsheet Version 1.3 to develop appropriate permit requirements for toxic pollutants of concern. The Toxics Management Spreadsheet combines the functions of PENTOXSD and DEP’s Toxics Screening Analysis. Based on effluent sample results reported on the application, no additional permit requirements will be necessary. Default stream pH and temperature inputs were used for this model run. This data was analyzed based on the guidelines found in DEP’s Water Quality Toxics Management Strategy (Document No. 361-0100-003) and DEP’s SOP No. BPNPSM-PMT-033. Spreadsheet results are attached to this fact sheet. The Toxics Management Spreadsheet uses the following logic:

- a. Establish average monthly and IMAX limits in the draft permit where the maximum reported concentration exceeds 50% of the WQBEL.
- b. For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.
- c. For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10%-50% of the WQBEL.

Since the reported maximum concentrations were less than 10% of their respective WQBEL, per DEP's SOP No. BPNPSM-PMT-033, no limits or monitoring requirements were necessary.

Chesapeake Bay Total Maximum Daily Load (TMDL)

DEP developed a strategy to comply with the EPA and Chesapeake Bay Foundation requirements by reducing point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP). This strategy can be located in the Pennsylvania Chesapeake Watershed Implementation Plan (WIP), dated January 11, 2011. Subsequently, an update to the WIP was published as the Phase 2 WIP. As part of the Phase 2 WIP, a Phase 2 Watershed Implementation Plan Wastewater Supplement (Phase 2 Supplement) was developed, providing an update on TMDL implementation for point sources and DEP's current implementation strategy for wastewater. The Phase 2 Supplement was most recently revised on September 6, 2017. A new update to the WIP was published as the Phase 3 WIP in August 2019. As part of the Phase 3 WIP, a *Phase 3 Watershed Implementation Plan Wastewater Supplement* (Phase 3 Supplement) was developed, and was most recently revised on December 17, 2019, and is the basis for the development of any Chesapeake Bay related permit parameters. Industrial discharges have been prioritized by Central Office based on their delivered TN and TP loadings to the Bay. Significant industrial wastewater dischargers are facilities that discharge more than 75 lbs/day of TN or 25 lbs/day of TP on an average annual basis and the rest are classified as non-significant dischargers. This facility is classified as a non-significant discharger. From the Phase 3 Supplement, for non-significant IW facilities, "monitoring and reporting of TN and TP will be required throughout the permit term in renewed or amended permits anytime the facility has the potential to introduce a net TN or TP increase to the load contained within the intake water used in processing. In general, facilities that discharge groundwater and cooling water with no addition of chemicals containing N or P do not require monitoring." As this facility only discharges cooling water, and no chemical additives are introduced, TN or TP monitoring will not be required in this permit. This is consistent with the existing permit requirements.

Total Dissolved Solids (TDS)

Total Dissolved Solids and its major constituents including Bromide, Chloride, and Sulfate have become statewide pollutants of concern and threats to DEP's mission to prevent violations of water quality standards. The requirement to monitor these pollutants must be considered under the criteria specified in 25 Pa. Code § 95.10 and the following January 23, 2014 DEP Central Office Directive:

For point source discharges and upon issuance or reissuance of an individual NPDES permit:

- Where the concentration of TDS in the discharge exceeds 1,000 mg/L, or the net TDS load from a discharge exceeds 20,000 lbs/day, and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for TDS, sulfate, chloride, and bromide. Discharges of 0.1 MGD or less should monitor and report for TDS, sulfate, chloride, and bromide if the concentration of TDS in the discharge exceeds 5,000 mg/L.
- Where the concentration of bromide in a discharge exceeds 1 mg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for bromide. Discharges of 0.1 MGD or less should monitor and report for bromide if the concentration of bromide in the discharge exceeds 10 mg/L.
- Where the concentration of 1,4-dioxane (CAS 123-91-1) in a discharge exceeds 10 µg/l and the discharge flow exceeds 0.1 mgd, Part A of the permit should include monitor and report for 1,4-dioxane. Discharges of 0.1 mgd or less should monitor and report for 1,4-dioxane if the concentration of 1,4-dioxane in the discharge exceeds 100 µg/l.

Kalas Manufacturing, Inc. reported a maximum effluent concentration of 438 mg/l for TDS. Based upon the data provided in the application, monitoring of TDS, Bromide, Chloride, and Sulfate will not be required.

Temperature Limitations

A reasonable potential (RP) analysis was performed for temperature which is the main pollutant of concern in the CCW. Effluent limitations for temperature were calculated using the Case 2 Thermal Worksheet with a wastewater flow of 0.043 mgd. A stream Q₇₋₁₀ flow of 0.32 cfs was used in the temperature worksheet. The worksheet recommended permit limits for a discharge to WWF of 110°F for all months except December, which had a permit limit of 99.7°F. The existing permit limits for Temperature are either the same as or more stringent than what was recommended by the worksheet, therefore, the existing limits will remain. A printout of the worksheet is attached.

Chemical Additives

DEP defines chemical additive as a chemical product (including products of disassociation and degradation, collectively "products") introduced into a waste stream that is used for cleaning, disinfecting, or maintenance and which may be detected in effluent discharged to waters of the Commonwealth. The term generally excludes chemicals used for neutralization of waste streams, the production of goods, and treatment of wastewater. According to the application, there are no chemical additives utilized at this facility.

Stormwater Limitations

The application lists three (3) stormwater outfalls for this facility. Outfall 001 receives stormwater from the employee parking lot and from a portion of the roof of the manufacturing building. Outfall 002 receives stormwater from the employee parking lot and loading docks on the northwestern and western portion of the property, from a portion of the roof of the manufacturing building, from the southern and southwestern portions of the property that is collected in a detention basin. Outfall 003 receives stormwater from the employee parking lot on the northwestern portion of the property, from a portion of the roof of the manufacturing building, from the southeastern and eastern portion of the property that is collected in a detention basin northeast of the manufacturing building. Some of the stormwater collected in the Outfall 003 stormwater basin is from the western portion of the neighboring property, Sylvin Technologies. Outfall 001 drains 20,000 ft², Outfall 002 drains 43,560 ft², and Outfall 003 drains 13,422 ft².

The existing permit requires semi-annual monitoring of pH, CBOD₅, COD, TSS, Oil and Grease, Total Arsenic, Total Cadmium, Total Chromium, Total Copper, Total Iron, and Total Lead. These monitoring requirements were derived from a previous NPDES PAG-03 General Permit. This facility falls under SIC Code 3357. According to DEP's current NPDES PAG-03 General Permit, SIC Code 3357 is subject to Appendix B monitoring requirements. This appendix requires semi-annual monitoring for the parameters listed in the table below. These parameters will replace the existing parameters in the permit renewal.

Stormwater will be monitored and managed using best management practices. The permittee shall monitor and report analytical results for the parameters listed below on Discharge Monitoring Reports (DMRs). The benchmark values listed on the table below are not effluent limitations, and exceedances do not constitute permit violations. However, if the permittee's sampling demonstrates exceedances of benchmark values for two consecutive monitoring periods, the permittee shall submit a corrective action plan within 90 days of the end of the monitoring period triggering the plan.

Parameter (mg/L)	Minimum Measurement Frequency	Sample Type (mg/l)	Benchmark Values
Total Suspended Solids	1 / 6months	Grab	100
Total Aluminum	1 / 6months	Grab	XXX
Total Zinc	1 / 6months	Grab	XXX
Total Copper	1 / 6months	Grab	XXX
Total Iron	1 / 6months	Grab	XXX
Total Lead	1 / 6months	Grab	XXX

Sampling Frequency & Sample Type

The monitoring requirements were established based on BPJ and/or Table 6-3 and Table 6-4 of DEP's Technical Guidance No. 362-0400-001.

Mass Loading Limitation

All mass loading effluent limitations recommended in the draft permit are concentration-based, calculated using a formula: design flow (MGD) x concentration limit (mg/l) x conversion factor of 8.34.

Anti-Degradation

The effluent limits for this discharge have been developed to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

303(d) Listed Streams

The discharge is located on a stream segment that is designated on the 303(d) list as impaired. There is an aquatic life impairment from crop production (crop land or dry land) due to nutrients, grazing in riparian or shoreline zones due to siltation, and urban runoff/storm sewers due to an unknown cause. There is a recreational impairment from an unknown source due to pathogens.

Class A Wild Trout Fisheries

No Class A Wild Trout Fisheries are impacted by this discharge.

Anti-Backsliding

Pursuant to 40 CFR § 122.44(l)(1), all proposed permit requirements addressed in this fact sheet are at least as stringent as the requirements implemented in the existing NPDES permit unless any exceptions are addressed by DEP in this fact sheet.

Development of Effluent Limitations

Outfall No.	<u>002, 003</u>	Design Flow (MGD)	<u>Variable (stormwater)</u>
	<u>40° 13' 20.985"</u>		<u>76° 6' 55.1118"</u>
Latitude	<u>40° 13' 23.7576"</u>	Longitude	<u>76° 6' 50.046"</u>
Wastewater Description:	<u>Stormwater</u>		

Stormwater Limitations

See previous discussion under "Stormwater Limitations" section of Page 14 of this fact sheet. The monitoring requirements of Appendix B of the PAG-03 permit will be included in the renewal permit.

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Daily Maximum	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/day	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
Temperature (°F) Jan 1 - 31	XXX	XXX	XXX	102	XXX	XXX	1/day	I-S
Temperature (°F) Feb 1 - 28	XXX	XXX	XXX	108	XXX	XXX	1/day	I-S
Temperature (°F) Mar 1 - Oct 31	XXX	XXX	XXX	110	XXX	XXX	1/day	I-S
Temperature (°F) Nov 1 - 15	XXX	XXX	XXX	110	XXX	XXX	1/day	I-S
Temperature (°F) Nov 16 - 30	XXX	XXX	XXX	100	XXX	XXX	1/day	I-S
Temperature (°F) Dec 1 - 31	XXX	XXX	XXX	88	XXX	XXX	1/day	I-S
BOD5	XXX	9.3	XXX	26.0	XXX	62.5	2/month	8-Hr Composite
TSS	XXX	6.8	XXX	19.0	XXX	XXX	2/month	8-Hr Composite
Oil and Grease	XXX	10.4	15.0 Avg Mo	29.0	XXX	30.0	2/month	Grab

Compliance Sampling Location: At discharge from facility

Other Comments: None

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.

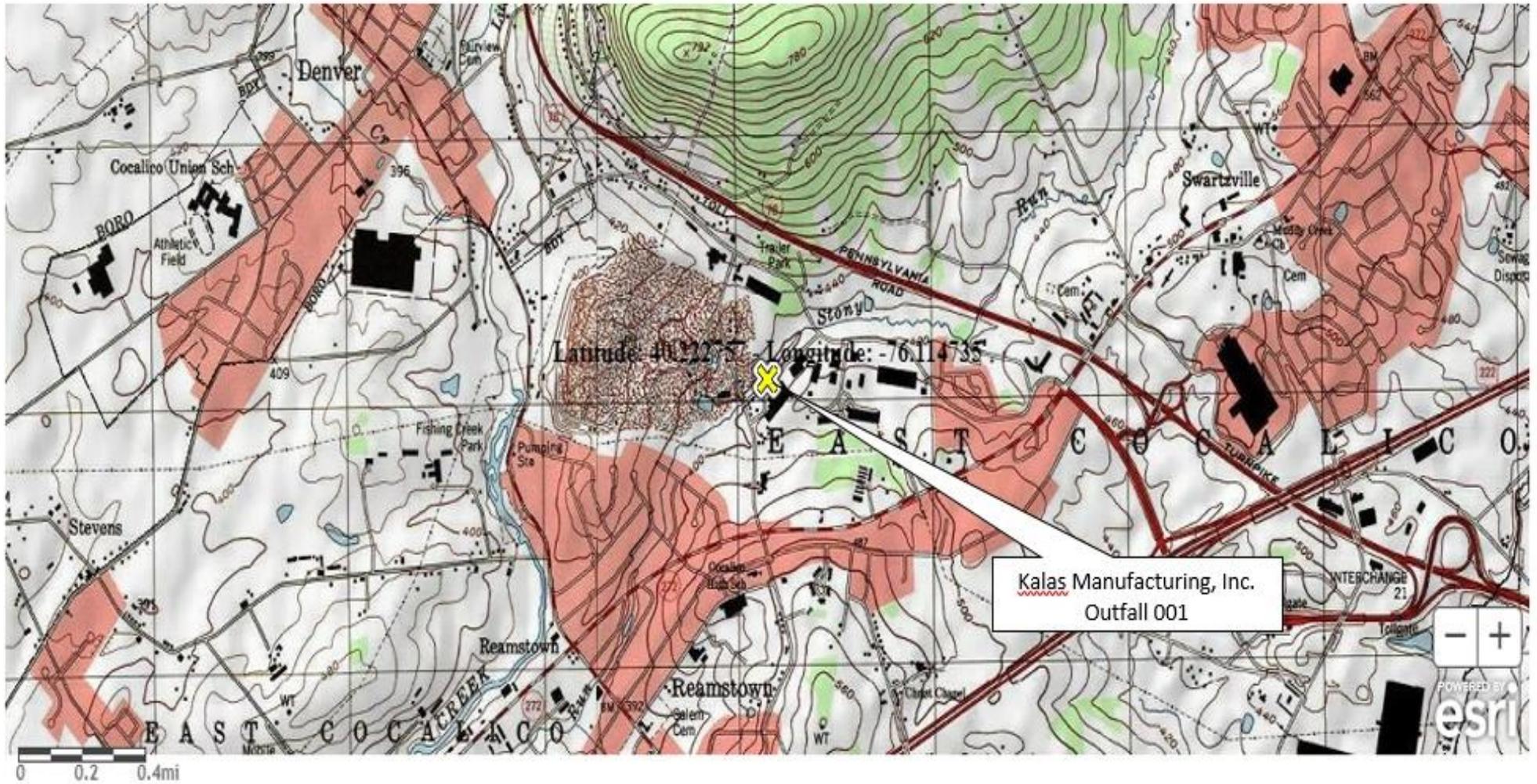
Outfall 002, 003, Effective Period: Permit Effective Date through Permit Expiration Date.

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	2/year	Grab
Total Aluminum	XXX	XXX	XXX	XXX	Report	XXX	2/year	Grab
Total Zinc	XXX	XXX	XXX	XXX	Report	XXX	2/year	Grab
Total Copper	XXX	XXX	XXX	XXX	Report	XXX	2/year	Grab
Total Iron	XXX	XXX	XXX	XXX	Report	XXX	2/year	Grab
Total Lead	XXX	XXX	XXX	XXX	Report	XXX	2/year	Grab

Compliance Sampling Location: Outfall 002, 003

Other Comments: None

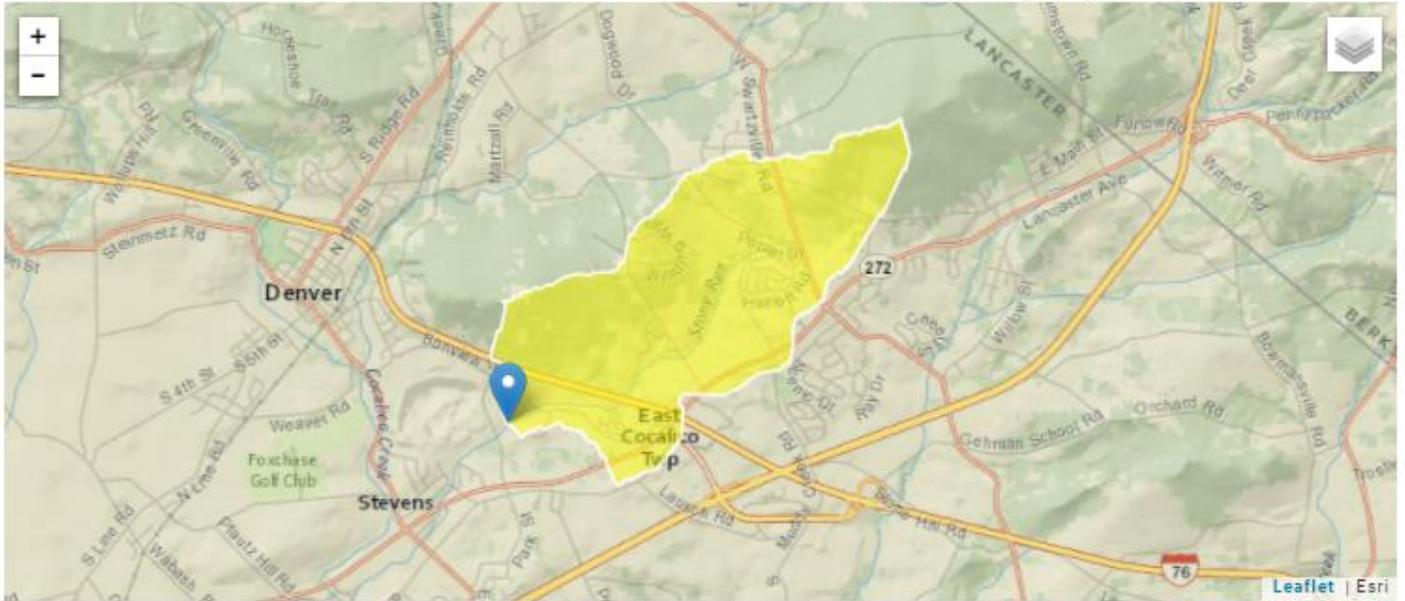
Tools and References Used to Develop Permit	
<input type="checkbox"/>	WQM for Windows Model (see Attachment [redacted])
<input checked="" type="checkbox"/>	Toxics Management Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	TRC Model Spreadsheet (see Attachment [redacted])
<input checked="" type="checkbox"/>	Temperature Model Spreadsheet (see Attachment [redacted])
<input checked="" type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input checked="" type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
<input type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 385-2000-011, 9/08.
<input type="checkbox"/>	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
<input type="checkbox"/>	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
<input checked="" type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
<input type="checkbox"/>	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
<input type="checkbox"/>	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
<input checked="" type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
<input type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
<input type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
<input type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
<input type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
<input type="checkbox"/>	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
<input type="checkbox"/>	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
<input type="checkbox"/>	Design Stream Flows, 391-2000-023, 9/98.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
<input type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input checked="" type="checkbox"/>	SOP: SOP No. BCW-PMT-032, SOP No. BPNPSM-PMT-001
<input type="checkbox"/>	Other: [redacted]



Kalas Manufacturing, Inc. PA0086690 Outfall 001

Region ID:
 Workspace ID:
 Clicked Point (Latitude, Longitude):
 Time:

PA
 PA20211210163143648000
 40.22286, -76.11485
 2021-12-10 11:32:03 -0500



Basin Characteristics			
Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	2.63	square miles
BSLOPD	Mean basin slope measured in degrees	3.8638	degrees
ROCKDEP	Depth to rock	4	feet
URBAN	Percentage of basin with urban development	12.1686	percent

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2.63	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	3.8638	degrees	1.7	6.4
ROCKDEP	Depth to Rock	4	feet	4.13	5.21
URBAN	Percent Urban	12.1686	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]

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

Low-Flow Statistics Flow Report [Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.246	ft ³ /s
30 Day 2 Year Low Flow	0.371	ft ³ /s
7 Day 10 Year Low Flow	0.0907	ft ³ /s
30 Day 10 Year Low Flow	0.145	ft ³ /s
90 Day 10 Year Low Flow	0.28	ft ³ /s

Low-Flow Statistics Citations

[Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p.](#)

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

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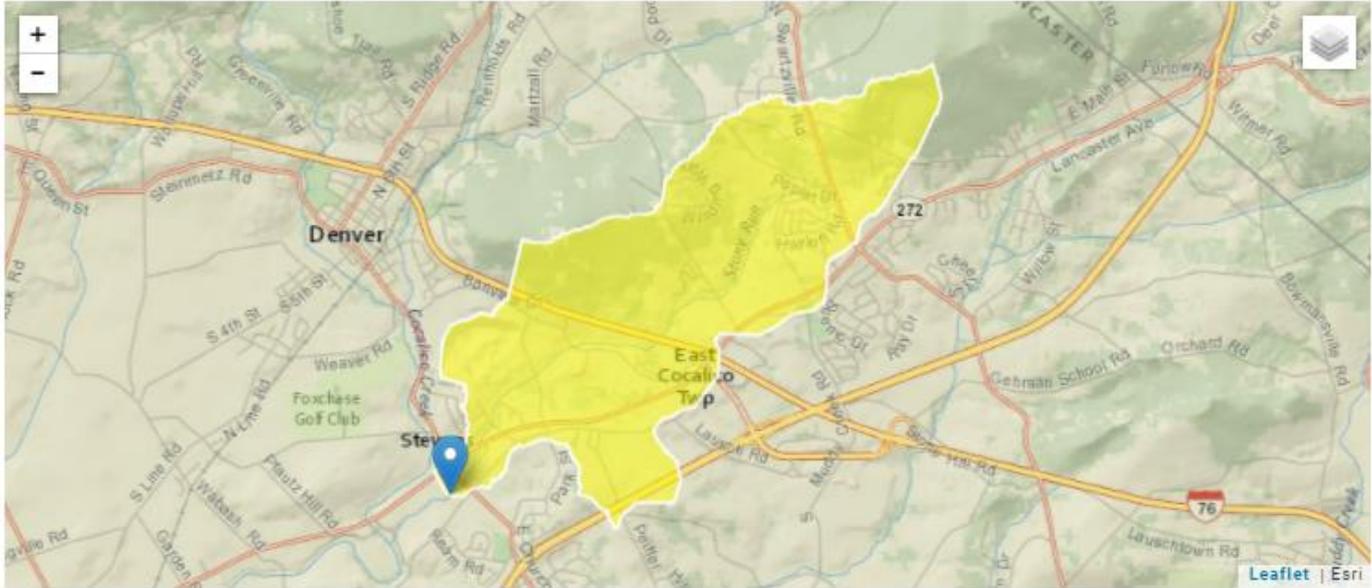
Application Version: 4.6.2

StreamStats Services Version: 1.2.22

Kalas Manufacturing, Inc. PA0086690 Downstream Pt. RMI = 0.54

Region ID:
 Workspace ID:
 Clicked Point (Latitude, Longitude):
 Time:

PA
 PA20211210164102103000
 40.21111, -76.12613
 2021-12-10 11:41:23 -0500



Basin Characteristics			
Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	3.76	square miles
BSLOPD	Mean basin slope measured in degrees	3.5818	degrees
ROCKDEP	Depth to rock	4.2	feet
URBAN	Percentage of basin with urban development	20.8135	percent

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	3.76	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	3.5818	degrees	1.7	6.4
ROCKDEP	Depth to Rock	4.2	feet	4.13	5.21
URBAN	Percent Urban	20.8135	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]

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

Low-Flow Statistics Flow Report [Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.459	ft ³ /s
30 Day 2 Year Low Flow	0.68	ft ³ /s
7 Day 10 Year Low Flow	0.182	ft ³ /s
30 Day 10 Year Low Flow	0.282	ft ³ /s
90 Day 10 Year Low Flow	0.538	ft ³ /s

Low-Flow Statistics Citations

[Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p.](#)

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

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Application Version: 4.6.2

StreamStats Services Version: 1.2.22

NSS Services Version: 2.1.2

§ 463.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the effluent limitations guidelines (i.e., mass of pollutant discharged) representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available, which are calculated by multiplying the average process water usage flow rate for the contact cooling and heating water processes at a point source times the following pollutant concentrations:

Subpart A

Expand

Table [Contact cooling and heating water]



Concentration used to calculate BPT effluent limitations	
Pollutant or pollutant property	Maximum for any 1 day (mg/l)
BOD ₅	26
Oil and grease	29
TSS	19
pH	(¹)

¹ Within the range of 6.0 to 9.0 at all times.

The permit authority will obtain the average process water usage flow rate for the contact cooling and heating water processes from the permittee.

Facility:	Kalas Manufacturing, Inc.
Permit Number:	PA0086690
Stream Name:	Stony Run
Analyst/Engineer:	Benjamin Lockwood
Stream Q7-10 (cfs):	0.32

	Facility Flows				Stream Flows			
	Intake (Stream) (MGD)	Intake (External) (MGD)	Consumptive Loss (MGD)	Discharge Flow (MGD)	PMF	Upstream Stream Flow (cfs)	Adjusted Stream Flow (cfs)	Downstream Stream Flow (cfs)
Jan 1-31	0	0.043	0	0.043	1.00	1.02	1.02	1.09
Feb 1-29	0	0.043	0	0.043	1.00	1.12	1.12	1.19
Mar 1-31	0	0.043	0	0.043	1.00	2.24	2.24	2.31
Apr 1-15	0	0.043	0	0.043	1.00	2.98	2.98	3.04
Apr 16-30	0	0.043	0	0.043	1.00	2.98	2.98	3.04
May 1-15	0	0.043	0	0.043	1.00	1.63	1.63	1.70
May 16-31	0	0.043	0	0.043	1.00	1.63	1.63	1.70
Jun 1-15	0	0.043	0	0.043	1.00	0.96	0.96	1.03
Jun 16-30	0	0.043	0	0.043	1.00	0.96	0.96	1.03
Jul 1-31	0	0.043	0	0.043	1.00	0.54	0.54	0.61
Aug 1-15	0	0.043	0	0.043	1.00	0.45	0.45	0.51
Aug 16-31	0	0.043	0	0.043	1.00	0.45	0.45	0.51
Sep 1-15	0	0.043	0	0.043	1.00	0.35	0.35	0.42
Sep 16-30	0	0.043	0	0.043	1.00	0.35	0.35	0.42
Oct 1-15	0	0.043	0	0.043	1.00	0.38	0.38	0.45
Oct 16-31	0	0.043	0	0.043	1.00	0.38	0.38	0.45
Nov 1-15	0	0.043	0	0.043	1.00	0.51	0.51	0.58
Nov 16-30	0	0.043	0	0.043	1.00	0.51	0.51	0.58
Dec 1-31	0	0.043	0	0.043	1.00	0.77	0.77	0.83

Please forward all comments to Tom Starosta at 717-787-4317, tstarosta@state.pa.us.

Version 2.0 -- 07/01/2005 Reference: Implementation Guidance for Temperature Criteria, DEP-ID: 391-2000-017

NOTE: The user can only edit fields that are blue.

NOTE: MGD x 1.547 = cfs.

Facility:	Kalas Manufacturing, Inc.						
Permit Number:	PA0086690						
Stream:	Stony Run						
	WWF			WWF		WWF	PMF
	Ambient Stream	Ambient Stream	Target Maximum	Daily	Daily		
	Temperature (°F)	Temperature (°F)	Stream Temp. ¹	WLA ²	WLA ³	at Discharge	
	(Default)	(Site-specific data)	(°F)	(Million BTUs/day)	(°F)	Flow (MGD)	
Jan 1-31	35	0	40	N/A -- Case 2	110.0	0.043	1.00
Feb 1-29	35	0	40	N/A -- Case 2	110.0	0.043	1.00
Mar 1-31	40	0	46	N/A -- Case 2	110.0	0.043	1.00
Apr 1-15	47	0	52	N/A -- Case 2	110.0	0.043	1.00
Apr 16-30	53	0	58	N/A -- Case 2	110.0	0.043	1.00
May 1-15	58	0	64	N/A -- Case 2	110.0	0.043	1.00
May 16-31	62	0	72	N/A -- Case 2	110.0	0.043	1.00
Jun 1-15	67	0	80	N/A -- Case 2	110.0	0.043	1.00
Jun 16-30	71	0	84	N/A -- Case 2	110.0	0.043	1.00
Jul 1-31	75	0	87	N/A -- Case 2	110.0	0.043	1.00
Aug 1-15	74	0	87	N/A -- Case 2	110.0	0.043	1.00
Aug 16-31	74	0	87	N/A -- Case 2	110.0	0.043	1.00
Sep 1-15	71	0	84	N/A -- Case 2	110.0	0.043	1.00
Sep 16-30	65	0	78	N/A -- Case 2	110.0	0.043	1.00
Oct 1-15	60	0	72	N/A -- Case 2	110.0	0.043	1.00
Oct 16-31	54	0	66	N/A -- Case 2	110.0	0.043	1.00
Nov 1-15	48	0	58	N/A -- Case 2	110.0	0.043	1.00
Nov 16-30	42	0	50	N/A -- Case 2	110.0	0.043	1.00
Dec 1-31	37	0	42	N/A -- Case 2	99.7	0.043	1.00

¹ This is the maximum of the WWF WQ criterion or the ambient temperature. The ambient temperature may be either the design (median) temperature for WWF, or the ambient stream temperature based on site-specific data entered by the user. A minimum of 1°F above ambient stream temperature is allocated.

² The WLA expressed in Million BTU/day is valid for Case 1 scenario, and disabled for Case 2 scenario.

³ The WLA expressed in °F is valid only if the limit is tied to a daily discharge flow limit (may be used for Case 1 or Case 2).

WLA's greater than 110°F are displayed as 110°F.



Discharge Information

Instructions Discharge Stream

Facility: Kalas Manufacturing, Inc. Plant #2 NPDES Permit No.: PA0086690 Outfall No.: 001
 Evaluation Type: Major Sewage / Industrial Waste Wastewater Description: Contact Cooling Water, Stormwater

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
0.043	292	7						

Discharge Pollutant	Units	Max Discharge Conc	0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
			Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L	438								
	Chloride (PWS)	mg/L	109								
	Bromide	mg/L	< 0.2								
	Sulfate (PWS)	mg/L	16.8								
	Fluoride (PWS)	mg/L	< 0.2								
Group 2	Total Aluminum	µg/L									
	Total Antimony	µg/L									
	Total Arsenic	µg/L									
	Total Barium	µg/L									
	Total Beryllium	µg/L									
	Total Boron	µg/L									
	Total Cadmium	µg/L									
	Total Chromium (III)	µg/L									
	Hexavalent Chromium	µg/L									
	Total Cobalt	µg/L									
	Total Copper	µg/L									
	Free Cyanide	µg/L									
	Total Cyanide	µg/L									
	Dissolved Iron	µg/L									
	Total Iron	µg/L									
	Total Lead	µg/L									
	Total Manganese	µg/L									
	Total Mercury	µg/L									
	Total Nickel	µg/L									
	Total Phenols (Phenolics) (PWS)	µg/L									
Total Selenium	µg/L										
Total Silver	µg/L										
Total Thallium	µg/L										
Total Zinc	µg/L										
Total Molybdenum	µg/L										
Acrolein	µg/L	< 1									
Acrylamide	µg/L	<									
Acrylonitrile	µg/L	< 0.5									
Benzene	µg/L	< 0.5									
Bromoform	µg/L	0.6									



Stream / Surface Water Information

Kalas Manufacturing, Inc. Plant #2, NPDES Permit No. PA0086690, Outfall 001

Instructions Discharge **Stream**

Receiving Surface Water Name: Stony Run

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	007717	1.7	397	2.63			Yes
End of Reach 1	007717	0.54	373	3.76			Yes

Q₇₋₁₀

Location	RMI	LFY (cfs/mi ²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	1.7	0.1	0.32									100	7		
End of Reach 1	0.54	0.1	0.45												

Q_n

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	1.7														
End of Reach 1	0.54														



Model Results

Kalas Manufacturing, Inc. Plant #2, NPDES Permit No. PA0086690, Outfall 001

All
 Inputs
 Results
 Limits

Hydrodynamics

Wasteload Allocations

AFC

CCT (min):

PMF:

Analysis Hardness (mg/l):

Analysis pH:

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	
Acrolein	0	0		0	3	3.0	17.4	
Acrylonitrile	0	0		0	650	650	3,777	
Benzene	0	0		0	640	640	3,719	
Bromoform	0	0		0	1,800	1,800	10,459	
Carbon Tetrachloride	0	0		0	2,800	2,800	16,269	
Chlorobenzene	0	0		0	1,200	1,200	6,973	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	104,589	
Chloroform	0	0		0	1,900	1,900	11,040	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	87,158	
1,1-Dichloroethylene	0	0		0	7,500	7,500	43,579	
1,2-Dichloropropane	0	0		0	11,000	11,000	63,916	
1,3-Dichloropropylene	0	0		0	310	310	1,801	
Ethylbenzene	0	0		0	2,900	2,900	16,850	
Methyl Bromide	0	0		0	550	550	3,196	
Methyl Chloride	0	0		0	28,000	28,000	162,694	
Methylene Chloride	0	0		0	12,000	12,000	69,726	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	5,811	
Tetrachloroethylene	0	0		0	700	700	4,067	
Toluene	0	0		0	1,700	1,700	9,878	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	39,511	

1,1,1-Trichloroethane	0	0		0	3,000	3,000	17,432	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	19,756	
Trichloroethylene	0	0		0	2,300	2,300	13,364	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	

CFC CCT (min): PMF: Analysis Hardness (mg/l): Analysis pH:

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	
Acrolein	0	0		0	3	3.0	17.4	
Acrylonitrile	0	0		0	130	130	755	
Benzene	0	0		0	130	130	755	
Bromoform	0	0		0	370	370	2,150	
Carbon Tetrachloride	0	0		0	560	560	3,254	
Chlorobenzene	0	0		0	240	240	1,395	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	20,337	
Chloroform	0	0		0	390	390	2,266	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	18,013	
1,1-Dichloroethylene	0	0		0	1,500	1,500	8,716	
1,2-Dichloropropane	0	0		0	2,200	2,200	12,783	
1,3-Dichloropropylene	0	0		0	61	61.0	354	
Ethylbenzene	0	0		0	580	580	3,370	
Methyl Bromide	0	0		0	110	110	639	
Methyl Chloride	0	0		0	5,500	5,500	31,958	
Methylene Chloride	0	0		0	2,400	2,400	13,945	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	1,220	
Tetrachloroethylene	0	0		0	140	140	813	
Toluene	0	0		0	330	330	1,917	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	8,135	
1,1,1-Trichloroethane	0	0		0	610	610	3,544	
1,1,2-Trichloroethane	0	0		0	680	680	3,951	
Trichloroethylene	0	0		0	450	450	2,615	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	

THH CCT (min): PMF: Analysis Hardness (mg/l): Analysis pH:

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	
Acrolein	0	0		0	3	3.0	17.4	
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	581	
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	N/A	N/A	N/A	
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	192	
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	395	
Methyl Bromide	0	0		0	100	100.0	581	
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	331	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	581	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	58,105	
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	

CRL CCT (min): PMF: Analysis Hardness (mg/l): Analysis pH:

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	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	0.06	0.06	2.54	
Benzene	0	0		0	0.58	0.58	24.5	
Bromoform	0	0		0	7	7.0	296	
Carbon Tetrachloride	0	0		0	0.4	0.4	16.9	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	33.8	

2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	241	
Dichlorobromomethane	0	0		0	0.95	0.95	40.1	
1,2-Dichloroethane	0	0		0	9.9	9.9	418	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	38.0	
1,3-Dichloropropylene	0	0		0	0.27	0.27	11.4	
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	845	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	8.45	
Tetrachloroethylene	0	0		0	10	10.0	423	
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	23.2	
Trichloroethylene	0	0		0	0.6	0.6	25.4	
Vinyl Chloride	0	0		0	0.02	0.02	0.85	

Recommended WQBELs & Monitoring Requirements

No. Samples/Month: **4**

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

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	Discharge Conc < TQL
Acrolein	N/A	N/A	Discharge Conc < TQL
Acrylonitrile	N/A	N/A	Discharge Conc < TQL
Benzene	N/A	N/A	Discharge Conc < TQL
Bromoform	296	µg/L	Discharge Conc ≤ 25% WQBEL

Carbon Tetrachloride	16.9	µg/L	Discharge Conc < TQL
Chlorobenzene	581	µg/L	Discharge Conc < TQL
Chlorodibromomethane	33.8	µg/L	Discharge Conc ≤ 25% WQBEL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	20,337	µg/L	Discharge Conc < TQL
Chloroform	241	µg/L	Discharge Conc < TQL
Dichlorobromomethane	40.1	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	418	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	192	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	38.0	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	11.4	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	395	µg/L	Discharge Conc < TQL
Methyl Bromide	581	µg/L	Discharge Conc < TQL
Methyl Chloride	31,958	µg/L	Discharge Conc < TQL
Methylene Chloride	845	µg/L	Discharge Conc < TQL
1,1,2,2-Tetrachloroethane	8.45	µg/L	Discharge Conc < TQL
Tetrachloroethylene	423	µg/L	Discharge Conc < TQL
Toluene	331	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	581	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	3,544	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	23.2	µg/L	Discharge Conc < TQL
Trichloroethylene	25.4	µg/L	Discharge Conc < TQL
Vinyl Chloride	0.85	µg/L	Discharge Conc < TQL