pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0008486**
Facility Type	**Industrial**	APS ID	**954648**
Major / Minor	**Minor**	Authorization ID	**1323135**

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

Applicant and Facility Information

Applicant Name	**Ahlstrom-Munksjo Filtration LLC**	Facility Name	**Ahlstrom-Munksjo Filtration LLC**
Applicant Address	122 W Butler Street	Facility Address	122 W Butler Street
	Mount Holly Springs, PA 17065-1218		Mount Holly Springs, PA 17065-1218
Applicant Contact	Paul Wheeler	Facility Contact	Mark Cassel
Applicant Phone	(717) 486-3438	Facility Phone	(717) 486-6431
Client ID	263758	Site ID	248354
SIC Code	2621	Municipality	Mount Holly Springs Borough
SIC Description	Manufacturing - Paper Mills	County	Cumberland
Date Application Received	August 11, 2020	EPA Waived?	Yes
Date Application Accepted	August 24, 2020	If No, Reason	
Purpose of Application	NPDES Renewal.		

Summary of Review

Ahlstrom-Munksjo Filtration LLC (Ahlstrom) has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES permit. The permit was last reissued on December 16, 2015 and became effective on January 1, 2016. During the last permit term, the permit was amended in 2018 to reflect a change in ownership from Ahlstrom Filtration LLC to Ahlstrom-Munksjo Filtration LLC. The permit expired on December 31, 2020 but the terms and conditions have been administratively extended since that time.

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

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

Approve	Deny	Signatures	Date
X		*Jinsu Kim* Jinsu Kim / Environmental Engineering Specialist	May 10, 2021
X		Maria D. Bebenek for Daniel W. Martin Daniel W. Martin, P.E. / Environmental Engineer Manager	May 13, 2021
X		Maria D. Bebenek Maria D. Bebenek, P.E. / Program Manager	May 13, 2021

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.569
Latitude	40° 6' 14.00"	Longitude	77° 10' 50.00"
Quad Name	Mount Holly Springs	Quad Code	1828
Wastewater Description:	Process Wastewater from manufacturing filter paper		
Receiving Waters	Mountain Creek	Stream Code	63167
NHD Com ID	56408189	RMI	3.18
Drainage Area	44.4	Yield (cfs/mi^2)	0.313
Q_{7-10} Flow (cfs)	13.89	Q_{7-10} Basis	USGS 01571500
Elevation (ft)	481	Slope (ft/ft)	
Watershed No.	7-E	Chapter 93 Class.	TSF, MF
Existing Use	TSF, MF	Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	N/A		
Source(s) of Impairment	N/A		
TMDL Status	N/A	Name	N/A
Nearest Downstream Public Water Supply Intake	United Water		
PWS Waters	Yellow Breeches Creek	Flow at Intake (cfs)	80.5
PWS RMI	7.42	Distance from Outfall (mi)	27

Drainage Area
The discharge is to Mountain Creek at RM 3.18. A drainage area upstream of the discharge point is estimated to be 44.4 sq.mi, according to USGS StreamStats available at https://streamstats.usgs.gov/ss/.

Streamflow
USGS gauge 01571500 on Yellow Breeches Creek 3.1 miles above mouth also measures the hatchery flow and springs at Huntsdale resulting in a greater yield rate in the basin than actually exists. The proposed monthly hatchery discharge is 12.384 MGD during September when a monthly analysis of streamflows for Yellow Breeches Creek indicates Q7-10 flow is most likely to occur and the gage flow should be adjusted by subtracting the hatchery discharge.

Gage flow = 86.8 – 12.384*1.547 = 67.642 cfs
Q7-10 runoff rate = 67.642/ 216 = .313 cfs/sq.mi.
Q30-10:Q7-10 = 94/86.8 = 1.083:1
Q1-10:Q7-10 = 81.6/86.8 = .94:1
Q7-10 = 44.4*0.313 = 13.89 cfs @ Ahlstrom Filtration

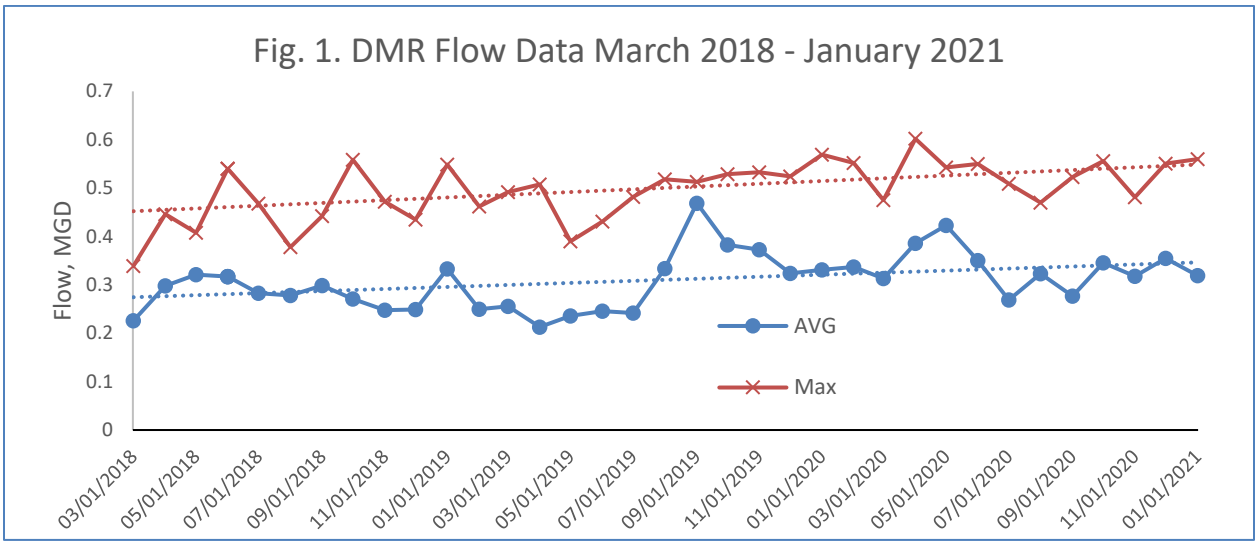
Mountain Creek
25 Pa Code §93.9o lists Mountain Creek from Mt. Holly Springs to Mouth as Trout Stocking and Migratory Fishes. No special protection waters are impacted by this discharge. Mountain Creek is considered both trout stocking and trout national reproduction water. However, it is not classified as a Class A Wild Trout Fishery stream. DEP's latest integrated water quality report finalized in 2020 indicates that the discharge is located within a stream segment listed as attaining uses.

Public Water Supply Intake
The nearest public water supply intake is United Water Company located on Yellow Breeches Creek, approximately 27 miles from the discharge. Given the distance, the discharge is not expected to affect the water supply.

Facility Information

Ahlstrom is a fiber-based material manufacturing company that manufactures and converts papers used for filtration applications. The plant located in Mt. Holly Springs, PA is a paper mill, manufacturing specialty papers (Standard Industrial Classification Codes: 2621, 2675, and 2679) with a total annual production rate of nearly 10 million pounds of products (i.e., about 5,000 tons). The average annual production rate has been about 30,000 pounds with the maximum monthly production rate of about 900,000 pounds. Wastewaters generated from this plant include water supply sand filter backwash, boiler blowdown, paper making process wastewater, Reverse Osmosis (RO) water treatment effluent, and other miscellaneous industrial wastewater. Sanitary wastewater is currently discharged to Mt. Holly Springs Borough sanitary sewer system and all industrial wastewaters are treated by onsite wastewater treatment system and discharged to Mountain Creek. An on-site well is used to supply water to the manufacturing plant. Within the Mountain Creek watershed, there are a number of point source dischargers such as Mt. Holly Specialty Paper Company (PA0008150), Mt. Holly Springs Borough STP (PA0023183), and Land O'Lakes (PA0044911) discharging treated wastewater directly into Mountain Creek. Discharges from these facilities have been taken into account for water quality analysis to develop water quality-based effluent limitations (WQBELs) in a multiple discharge wasteload allocation situation.

DEP developed previous NPDES permit requirements based on the effluent discharge rate of 0.569 MGD; yet, Ahlstrom reported 0.280 MGD as an average flow in the application. A review of past DMR data (figure 1) reveals that the facility has been consistently discharging about 0.3 MGD (average monthly) with the average daily maximum of 0.470 MGD. During the maximum production months in 2018 (September) and 2019 (August), the facility reported the average monthly effluent volumes of 0.299 MGD and 0.334 MGD with the daily maximum of 0.442 MGD and 0.518 MGD, respectively. It may not be appropriate to use 0.280 MGD to develop permit requirements as this number is lower than the typical effluent volumes reported in DMRs. In addition, the application reported that the production rate would be increased for the next five years as a result of increased medical market sales. For this permit renewal, DEP will continue to use 0.569 MGD as a design flow in water quality analyses.



Previously, a Water Quality Management permit no. 2189201 was issued for onsite wastewater treatment system. The existing treatment units, according to the application and past DEP inspection reports, are as follows:

Screening → Equalization basin → Krofta treatment units (DAF / Clarifier) → Mountain Creek

Sludge is treated by an onsite sludge press unit prior to offsite disposal. Ahlstrom listed a number of chemical additives in the application that are currently used and expected to be present in effluent. All chemical additives listed in the application are also listed in DEP's approved list. The more detailed information along with the analysis is discussed later in this report.

Outfalls 002 through 008 receive stormwater drained from this facility, consisting of parking lots, storage areas, and buildings.

Compliance History	
Summary of DMRs:	A summary of past 12-month DMR data is presented on the next page.
Summary of Inspections:	10/15/2019: Mike Benham, DEP Water Quality Specialist, conducted a routine inspection. No violation was noted at the time of inspection. 05/30/2017: Patrick Bowen, former DEP Water Quality Specialist, conducted a routine inspection and noted that effluent appeared clear. No violation was noted at the time of inspection.
Other Comments:	Since last permit renewal, no violation has been reported and identified by DEP. Also, there is no open violation associated with this permittee or facility at this time.

Effluent Data

DMR Data for Outfall 001 (from February 1, 2020 to January 31, 2021)

Parameter	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20
Flow (MGD) Average Monthly	0.319	0.355	0.318	0.346	0.277	0.323	0.269	0.350	0.423	0.386	0.313	0.337
Flow (MGD) Daily Maximum	0.560	0.551	0.481	0.556	0.523	0.470	0.509	0.550	0.543	0.602	0.475	0.552
pH (S.U.) Daily Minimum	6.8	7.4	6.9	6.6	6.7	6.8	7.0	7.0	7.4	6.5	6.5	6.3
pH (S.U.) Daily Maximum	8.1	8.5	8.8	8.1	8.9	8.0	8.9	8.8	8.5	8.4	8.7	8.1
DO (mg/L) Daily Minimum	7.330	8.27	7.90	5.51	7.31	8.1	6.3	7.9	8.5	5.3	7.0	6.5
Temperature (ºF) Average Monthly	68	65.7	67	68.9	71	76	72.9	69.3	68.5	67	70.6	66
Temperature (ºF) Daily Maximum	81	73.2	75	80.8	85	82.6	85.6	83.1	78.1	75	82.7	74
CBOD5 (lbs/day) Average Monthly	11.57	10.54	10.15	9.38	12.67	9.62	< 5.9	17.5	< 14.5	9.1	7.5	8.3
CBOD5 (lbs/day) Daily Maximum	27.55	21.59	33.29	18.08	33.1	19.99	< 14.4	47.2	32	21.0	13.1	19.3
CBOD5 (mg/L) Average Monthly	4.35	3.5	3.82	3.25	5.43	3.575	< 2.64	6	< 4.1	2.8	2.9	3.0
CBOD5 (mg/L) Daily Maximum	5.9	4.7	8.3	3.9	7.60	5.1	< 3.4	10.3	7.2	4.2	3.3	4.2
TSS (lbs/day) Average Monthly	8.64	5.92	2.6	2.8	< 5.84	3.4	< 5.3	10.2	5.3	3.9	< 2.6	2.8
TSS (lbs/day) Daily Maximum	42.03	13.78	4.0	4.6	< 30.53	7.8	< 25.4	32.1	9.0	10.0	< 4.0	4.6
TSS (mg/L) Average Monthly	3.25	2	1	1	< 2.5	1.25	< 2.4	3.5	< 1.5	1.2	< 1	1
TSS (mg/L) Daily Maximum	9	3	1	1	< 7.00	2	< 6	7	2	2	< 1	1
Nitrate-Nitrite (lbs/day) Average Quarterly		0.90			0.485			1.16			0.72	
Nitrate-Nitrite (mg/L) Average Quarterly		0.32			0.2			0.36			0.24	
Total Nitrogen (lbs/day) Average Quarterly		3.74			2.91			5.35			5.50	
Total Nitrogen (mg/L) Average Quarterly		1.32			1.2			1.66			1.84	

Parameter	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20
TKN (lbs/day) Average Quarterly		2.83			2.42			4.19			4.78	
TKN (mg/L) Average Quarterly		1			1			1.3			1.6	
Total Phosphorus (lbs/day) Average Monthly	0.26	0.29	0.26	0.288	0.26	0.2	< 0.25	< 0.32	< 0.35	1.5	< 0.26	< 0.35
Total Phosphorus (lbs/day) Daily Maximum	0.46	0.45	0.40	0.46	0.65	0.5	< 0.67	0.68	< 0.45	10.0	< 0.396	0.82
Total Phosphorus (mg/L) Average Monthly	0.1	0.1	0.1	0.1	< 0.11	0.1	< 0.11	< 0.11	< 0.1	0.48	< 0.1	< 0.12
Total Phosphorus (mg/L) Daily Maximum	0.1	0.1	0.1	0.1	< 0.15	0.13	< 0.16	0.15	< 0.1	2.0	< 0.1	0.18
Total Cadmium (lbs/day) Average Monthly	0.0005	0.00059	0.00053	0.00058	0.00048	0.00054	< 0.00048	< 0.00079	< 0.0007	0.00066	< 0.0005	0.0005
Total Cadmium (lbs/day) Daily Maximum	0.0009	0.00092	0.00080	0.00093	0.00100	0.00078	< 0.00110	0.00220	< 0.0009	0.0012	< 0.0007	0.0002
Total Cadmium (mg/L) Average Monthly	0.0002	0.0002	0.00020	0.00020	0.00021	0.00020	< 0.00021	< 0.00027	< 0.0002	0.00021	< 0.0002	< 0.0002
Total Cadmium (mg/L) Daily Maximum	0.0002	0.0002	0.0002	0.0002	0.00023	0.0002	< 0.00026	0.00048	< 0.0002	0.00024	< 0.0002	0.0002
Total Cadmium (mg/L) Instantaneous Maximum	0.0002	0.0002	0.0002	0.0002	0.00023	0.0002	< 0.00026	0.00048	< 0.0002	0.00024	< 0.0002	< 0.0002
Total Copper (lbs/day) Average Monthly	0.014	0.016	0.0162	0.01885	0.00957	0.012	< 0.0174	0.037	0.0127	0.0277	0.013	0.019
Total Copper (lbs/day) Daily Maximum	0.035	0.051	0.0312	0.04637	0.03446	0.006	< 0.039	0.165	0.0204	0.055	0.030	0.050
Total Copper (mg/L) Average Monthly	0.005	0.0056	0.00610	0.00653	0.00021	0.012	< 0.007	0.012	0.0036	0.0086	0.0049	< 0.0069
Total Copper (mg/L) Daily Maximum	0.007	0.011	0.0078	0.010	0.00023	0.024	< 0.0092	0.036	0.0045	0.011	0.0076	0.011
Pentachloro-phenol (lbs/day) Average Monthly	0.015	0.016	0.00151	0.0016	0.00133	0.015	< 0.012	< 0.016	0.0200	0.0180	< 0.014	< 0.016
Pentachloro-phenol (lbs/day) Daily Maximum	0.026	0.026	0.00229	0.0026	0.00249	0.022	< 0.024	< 0.026	0.0258	0.0286	< 0.023	0.026

Parameter	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20
Pentachloro-phenol (mg/L) Average Monthly	0.005	0.0057	0.00057	0.00057	0.00057	0.005	< 0.005	< 0.0057	< 0.0057	0.0056	< 0.0056	< 0.0056
Pentachloro-phenol (mg/L) Daily Maximum	0.005	0.0057	0.00057	0.00057	0.00057	0.005	< 0.0056	< 0.0057	< 0.0057	0.0057	< 0.0057	< 0.0056

DMR Data for Outfall 002 (from February 1, 2020 to January 31, 2021)

Parameter	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20
BOD5 (mg/L) Daily Maximum		2.0										
TSS (mg/L) Daily Maximum		2										
TKN (mg/L) Daily Maximum		1.0										
Total Iron (mg/L) Daily Maximum		0.063										

DMR Data for Outfall 003 (from February 1, 2020 to January 31, 2021)

Parameter	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20
BOD5 (mg/L) Daily Maximum		2.0										
TSS (mg/L) Daily Maximum		1										
TKN (mg/L) Daily Maximum		1										
Total Iron (mg/L) Daily Maximum		0.030										

DMR Data for Outfall 004 (from February 1, 2020 to January 31, 2021)

Parameter	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20
BOD5 (mg/L) Daily Maximum		2.0										
TSS (mg/L) Daily Maximum		3										
TKN (mg/L) Daily Maximum		1.0										
Total Iron (mg/L) Daily Maximum		0.030										

DMR Data for Outfall 005 (from February 1, 2020 to January 31, 2021)

Parameter	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20
BOD5 (mg/L) Daily Maximum		2.0										
TSS (mg/L) Daily Maximum		1										
TKN (mg/L) Daily Maximum		1.0										
Total Iron (mg/L) Daily Maximum		0.030										

DMR Data for Outfall 006 (from February 1, 2020 to January 31, 2021)

Parameter	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20
BOD5 (mg/L) Daily Maximum		2.0										
TSS (mg/L) Daily Maximum		1										
TKN (mg/L) Daily Maximum		1.0										
Total Iron (mg/L) Daily Maximum		0.030										

DMR Data for Outfall 007 (from February 1, 2020 to January 31, 2021)

Parameter	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20
BOD5 (mg/L) Daily Maximum		2.0										
TSS (mg/L) Daily Maximum		1										
TKN (mg/L) Daily Maximum		1.0										
Total Iron (mg/L) Daily Maximum		0.030										

DMR Data for Outfall 008 (from February 1, 2020 to January 31, 2021)

Parameter	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20
BOD5 (mg/L) Daily Maximum		2.0										
TSS (mg/L) Daily Maximum		1										
TKN (mg/L) Daily Maximum		1.0										
Total Iron (mg/L) Daily Maximum		0.030										

Existing Effluent Limitations and Monitoring Requirements

Tables below summarize effluent limits and monitoring requirements specified in the current permit:

Outfall 001

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Temperature (ºF) Jul 1-31	XXX	XXX	XXX	Report	96.7	XXX	1/day	I-S
Temperature (ºF) Jan 1 - Jun 30, Aug 1 - Nov 30	XXX	XXX	XXX	Report	110	XXX	1/day	I-S
Temperature (ºF) Dec 1-31	XXX	XXX	XXX	Report	106	XXX	1/day	I-S
CBOD5	85	170	XXX	18	36	45	1/week	24-Hr Composite
Total Suspended Solids	142	284	XXX	30	60	75	1/week	24-Hr Composite
Total Phosphorus	9.5	19	XXX	2.0	4.0	5.0	1/week	24-Hr Composite
Total Copper	0.104	0.208	XXX	0.022	0.044	0.055	1/week	24-Hr Composite
Pentachlorophenol	0.095	0.19	XXX	0.02	0.04	0.05	1/week	24-Hr Composite
Total Cadmium	Report	Report	XXX	Report	Report	Report	1/week	24-Hr Composite
Nitrate-Nitrite as N	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Total Kjeldahl Nitrogen	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Total Nitrogen	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	Calculation

Existing Effluent Limitations and Monitoring Requirements (continued)

Outfalls 002 through 008 (formerly S01 through S07)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly		Minimum	Average Monthly	Maximum	Instant. Maximum		
BOD5	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Suspended Solids	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Kjeldahl Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Iron	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab

Development of Effluent Limitations and Monitoring Requirements

Outfall No. 001 **Design Flow (MGD)** .569
Latitude 40º 6' 14.00" **Longitude** -77º 10' 50.00"
Wastewater Description: IW Process Effluent with ELG

Technology-Based Limitations

Given the current industrial activities, Ahlstrom continues to be regulated under 40CFR Part 430 Subpart L technology limits for Tissue, Filter, Non-woven, and Paperboard from purchased pulp. As shown on the table below, §430.122 lists BPT ELGs (existing dischargers) for BOD5, TSS and pH and §430.124 lists BAT ELGs (existing dischargers) for Pentachlorophenol and Trichlorophenol where chlorophenolic-containing biocides are used. The previous fact sheet addressed that this facility does not use biocides containing chlorophenolic compounds. This was re-confirmed by Mark Cassel of Ahlstrom on March 16, 2021. Therefore, BAT ELGs are not applicable for Ahlstrom.

Pollutant or pollutant property	Kg/kkg (or pounds per 1,000 lb) of product		
	Continuous dischargers		Non-continuous dischargers (annual average)
	Maximum for any 1 day	Average of daily values for 30 consecutive days	
BOD5	29.6	16.3	9.1
TSS	26.6	13.0	7.4
pH	Within the range of 5.0 to 9.0 at all times		

BPT effluent limitations for non-integrated mills where filter and non-woven papers are produced from purchased pulp

If a mill is a non-continuous discharger, the mill is subject to annual average limits instead of average and maximum mass limitations per 40CFR430.122. The definition of a non-continuous discharge is "…a mill which is prohibited from discharging pollutants during specific periods of time…" according to 40CFR430.01. The application reported that the average production days are about 24 days per month as it seems no production occurs during the weekend. There is no indication that the facility is not prohibited from discharging during specific times. It is considered continuous for the purpose of setting limitations based on ELGs and annual average limits are not applicable.

BPT ELGs for BOD5 and TSS, specified in lbs/1000 lbs of product, are production-based effluent limitations. To develop mass-based effluent limitations, EPA allows permit writers to use the average daily production rate calculated using the highest annual production from the previous 3 to 5 years. According to the updated application, the year 2018 had the highest production rate with an average daily rate of 31,574 lbs/day. Consequently, technology-based limits for BOD5 and TSS are as follows:

	BPT ELG (lbs/1000 lbs product)		Tech Permit Limit (lbs)	
Parameter	Average	Day Max	Average	Day Max
BOD5	16.3	29.6	514	934
TSS	13	26.6	410	839

25 Pa Code §95.2(1) requires a pH effluent level of less than 6.0 and not greater than 9.0. Since this is more stringent than the ELG, the permit will include pH limits of 6.0 – 9.0.

25 Pa Code §95.2(4) recommends an instantaneous maximum dissolved iron limit of 7.0 mg/L; however, since the application reported that dissolved iron was non-detected in effluent using a detection level of 0.06 mg/L, no limit is recommended.

25 Pa Code § 95.2(2)(ii) requires an average monthly Oil and Grease limit of 15 mg/L and instantaneous maximum limit of 30 mg/L for any oil-bearing wastewaters. DEP's SOP also recommends these limits to control oil and grease effluent level if the samples contain more than 8.0 mg/L of oil and grease. Samples reported in the application show oil and grease was non-detected in effluent using a detection level of 3.9 mg/L. Accordingly, no limit is recommended.

Three (3) samples were collected for Total Residual Chlorine (TRC). One of them was non-detected and the maximum value of all three samples was 0.02 mg/L. No TRC monitoring is necessary at this time. Further review may be conducted during the next permit renewal application review process.

All abovementioned technology-based limitations apply, subject to water quality analysis and BPJ where applicable.

Water Quality-Based Limitations

CBOD5, NH3-N and Dissolved Oxygen
WQM 7.0 is a water quality model designed to assist DEP to determine appropriate permit requirements for CBOD5, NH3-N and DO. DEP's technical guidance no. 391-2000-007 describes the technical methods contained in the model for conducting wasteload allocation analyses and for determining recommended limits for point source discharges. DEP recently updated this model (ver. 1.1) to include new ammonia criteria that has been approved by US EPA as part of the 2017 Triennial Review. A multi-discharge analysis has been conducted as there are other discharges located within the Mountain Creek watershed. The model output recommends the WQBEL for NH3-N. However, the application reported the maximum influent concentration of 0.323 mg/L for NH3-N. In the opinion of DEP, NH3-N is not a pollutant of concern for this facility. Accordingly, no limits are recommended for NH3-N.

The ratio of BOD_5 and $CBOD_5$ at secondary treatment levels of 30 mg/l and 25 mg/l is 1.2:1. Applying this ratio to the tech limit of 514 lbs/day BOD_5 yields an equivalent $CBOD_5$ limit of 428 lbs/day compared to the average WQBEL of 85 lbs/day (i.e., 18 mg/L x 8.34 x 0.569 MGD). The Day Max tech limit of 934 lbs./day yields an equivalent $CBOD_5$ limit of 778 lbs/day compared to the Daily Max WQBEL of 170 lbs/ day (i.e., 85 lbs/day x 2). The WQBEL $CBOD_5$ limits are more stringent than the ELG limits and will therefore be written. Past DMRs demonstrate that the facility is able to meet these mass load effluent limits.

Toxics Pollutants
DEP utilizes a Toxics Management Spreadsheet (TMS; last modified on March 2021 ver. 1.3) to facilitate calculations necessary for completing a reasonable potential analysis and determining WQBELs for toxic pollutants. The worksheet combines the functionality of DEP's Toxics Screening Analysis worksheet and PENTOXSD. This spreadsheet recommends a routine monitoring of Total Aluminum. The current permit contains WQBELs for Total Copper and Pentachlorophenol and a routine monitoring requirement for Total Cadmium. Over the past three (3) years, Pentachlorophenol has been consistently non-detected in effluent at 0.0056 mg/L which is lower than the current DEP target Quantitation Limit of 0.01 mg/L. If detected, it was still reported as 0.0056 mg/L. The current treatment technology equipped at this facility does not treat Pentachlorophenol; therefore, the influent concentration level would be identical to the effluent concentration level. Based on these datasets, DEP has determined that Pentachlorophenol is not a pollutant of concern for this facility. Therefore, it is recommended that the existing WQBELs for this pollutant be removed from this permit. Total Copper has been consistently detected in the effluent and Total Cadmium has been detected in the effluent but not as often as Total Copper. The past 2-year DMR results (daily maximum) for these pollutants were first entered into DEP's TOXCONC worksheet to produce a coefficient of variation and statistical average monthly effluent concentrations. These values were then used in TMS and the TMS output indicates that no permit requirement is needed for Total Cadmium and monitoring-only requirement is needed for Total Copper. As a result, it is recommended that the existing monitoring requirement for Total Cadmium be removed and the existing WQBELs for Total Copper be replaced with the monitoring-only requirement. The relaxation or removal of these pollutants including Pentachlorophenol is supported by 40 CFR §122.44(l)(i)(B)(1) as now DEP has much more data to evaluate the effluent quality.

Thermal Discharge
Considering the incomplete mix condition in the stream and another noncontact cooling water discharger (i.e., Specialty Papers Permit No PA0008150) located about a mile downstream from Ahlstrom, flows need to be adjusted to simulate this condition and to allocate the resource among these dischargers. Accordingly, Ahlstrom and Specialty Papers were combined and modeled at the Specialty Papers discharge location. DEP's Thermal Analysis Spreadsheet was used and the output shows that effluent limits are needed for July and December. As July is determined to be a critical month, DEP determined that a further review with better information would be necessary to ensure that effluent limits are properly developed. The default ambient temperature for July is 73 ^oF. The water quality network station no. WQN 262 on the Mountain Creek has reported median temperature of 65 ^oF for July which would warrant a reduction in ambient temperature. This station is however located in the CWF portion of Mountain Creek where the default temperature is 71 ^oF. Based on this, DEP determined that it would be reasonable to reduce the ambient temperature during July to the CWF ambient temperature of 71 ^oF as this value gives a better representation of actual stream temperature for Mountain Creek than the default TSF ambient temperature. The spreadsheet was reutilized and the output shows that effluent limits of 96.7 °F and 106 °F are needed during July and December respectively. The permittee is required to meet 110 °F during the remainder of the year.

Best Professional Judgment Limitations

Total Suspended Solids
An average monthly TSS limit of 30 mg/l was previously imposed in the permit and was based on the standard found in 25 Pa. 92a.47(a)(1). This is a reasonable approach as Ahlstrom currently utilizes secondary treatment for its wastewater. The

daily maximum limit of 60 mg/L was developed using a multiplier of 2. This results in mass load limits of 142 lbs/day average monthly and 285 lbs/day daily maximum. These limits are more stringent than the ELGs and will therefore be written in the permit.

Dissolved Oxygen
A minimum DO limit of 5.0 mg/L is included in the current permit and will remain unchanged to ensure that the facility continues to meet the criteria found in 25 Pa. Code § 93.7(a). WQM 7.0 also recommends a minimum level of 5.0 mg/L.

Phosphorus
The permit contains an average monthly limit of 2.0 mg/L (multipliers of 2 for daily max and 2.5 for IMAX). Total Phophorus has been consistently detected in the effluent. In the opinion of DEP, there is no reason to relax or remove the existing permit requirements. Therefore, recommend retaining limits because of anti-backsliding requirements of the Clean Water Act, Section 402(o).

Additional Considerations

TDS, Sulfate, Chloride and Bromide
Total Dissolved Solids (TDS) and its constituents have become major parameters of concern for waters of the Commonwealth. Per DEP Central Office directive, these parameters are to be monitored if the discharge exceeds 0.10 MGD and the TDS exceeds 1,000 mg/l. The daily maximum TDS level reported in the application is 638 mg/l so monitoring is not required. Bromide is not detected at 0.6 mg/l so monitoring is not required. 1,4-Dioxane is less than 0.0028 mg/L so monitoring is not required.

Chesapeake Bay
Ahlstrom Filtration is not a significant Bay discharger. WIP III requires discharges associated with paper processing with the potential to introduce a net TN or TP increase to the load contained within the intake water used in processing be monitored one/month for TN and TP. Processing source water is a well. The company purchases pulp making paper directly from the pulp with minimal pulp processing. Since there is minimal potential to increase TN and TP loading, monitoring was reduced to quarterly for TN during the last permit renewal. These quarterly sample results are summarized below:

Quarterly Total Nitrogen Sample Results (mg/L)			
10/25/2018	3.37	01/28/2020	1.42
02/04/2019	2.34	04/27/2020	1.84
04/26/2019	2.38	07/27/2020	1.66
05/24/2019	2.4	10/27/2020	1.2
10/28/2019	< 1.38	01/25/2021	1.32

The effluent levels for Total Nitrogen are very low consistently. No significant net increase is expected. The monitoring requirement for Total Nitrogen is therefore removed from the permit.

Chemical Additives
According to the application, there are two (2) chemical additives that the permittee wishes to use; Genesys-Genesol 38 and Genesys-Genesol 703. These chemicals were on the approved list just before the permit renewal application submitted; therefore, DEP has not yet received a chemical additive notification form. The use of these chemical additives will be reviewed once the notification forms are submitted for these chemical additives.

Antidegradation (93.4)
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.

Class A Wild Trout Streams
No Class A Wild Trout Fishery is impacted by this discharge.

303d Listed Streams
The discharge is in a stream segment listed as attaining uses.

Development of Effluent Limitations and Monitoring Requirements

Outfall No. 002 through 008 **Design Flow (MGD)** N/A
Latitude 40° 6’ 14.00” **Longitude** 77° 10’ 48.00”
Wastewater Description: Stormwater

For stormwater discharges covered under industrial waste NPDES permits, DEP generally developed permit requirements that are aligned with permit requirements specified in DEP’s PAG-03 General Permit for Stormwater Associated with Industrial Activities. This approach was used in past permit renewals and it is still reasonable to apply for this permit renewal. This facility would be categorized under Appendix E of DEP’s PAG-03 General Permit given the SIC code of 2621. Appendix E applies to paper and allied products facilities. PAG-03 General Permit requires the following monitoring requirements for these parameters.

Parameter	Minimum Measurement Frequency	Sample Type
pH	1/6 months	Grab
COD	1/6 months	Grab
TSS	1/6 months	Grab

These monitoring requirements will be included in the permit along with standard Part C conditions pertaining to stormwater requirements.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (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	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	9.0	XXX	1/day	Grab
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
Temperature (ºF) Jan 1 - Jun 30, Aug 1 - Nov 30	XXX	XXX	XXX	Report	110	XXX	1/day	I-S
Temperature (ºF) Jul 1 - 31	XXX	XXX	XXX	Report	96.7	XXX	1/day	I-S
Temperature (ºF) Dec 1 - 31	XXX	XXX	XXX	Report	106	XXX	1/day	I-S
CBOD5	85	170	XXX	18	36	45	1/week	24-Hr Composite
TSS	142	284	XXX	30	60	75	1/week	24-Hr Composite
Total Phosphorus	9.5	19	XXX	2.0	4.0	5	1/week	24-Hr Composite
Total Aluminum	Report	Report	Report	Report Daily Max	XXX	XXX	1/week	24-Hr Composite
Total Copper	Report	Report	Report	Report Daily Max	XXX	XXX	1/week	24-Hr Composite

Proposed Effluent Limitations and Monitoring Requirements (continued)

Outfalls 002 through 008 (formerly S01 through S07)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly		Minimum	Average Monthly	Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/6 month	Grab
Chemical Oxygen Demand	XXX	XXX	XXX	XXX	Report	XXX	1/6 month	Grab
Total Suspended Solids	XXX	XXX	XXX	XXX	Report	XXX	1/6 month	Grab

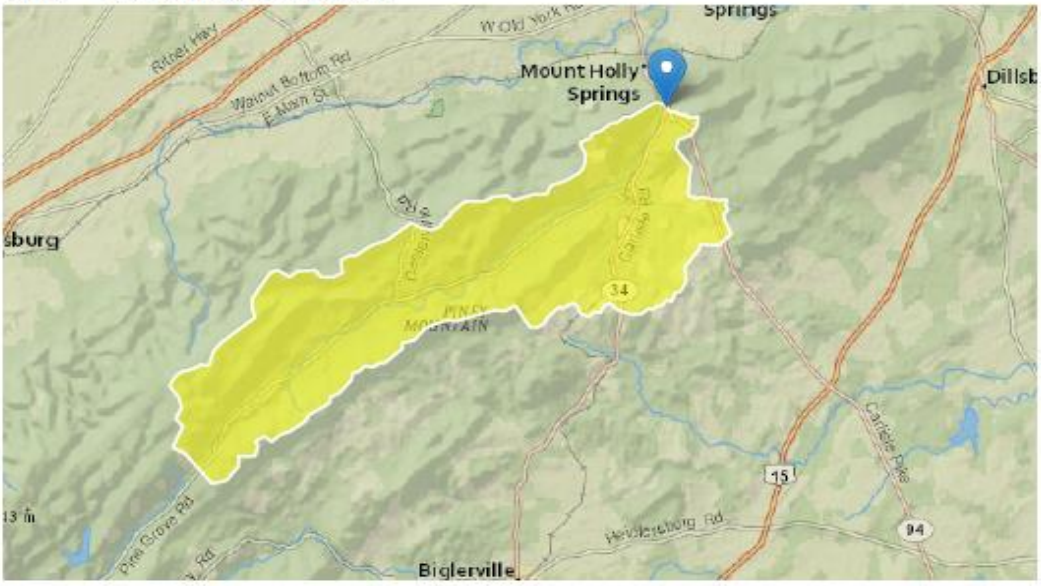
Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☐	Toxics Management Spreadsheet (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 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:
☐	Other:

Attachments

1. StreamStats

StreamStats Report

Region ID: PA
Workspace ID: PA20210312132006471000
Clicked Point (Latitude, Longitude): 40.10378, -77.18052
Time: 2021-03-12 08:20:23 -0500



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	44.3	square miles
PRECIP	Mean Annual Precipitation	41	inches
STRDEN	Stream Density -- total length of streams divided by drainage area	1.2	miles per square mile
ROCKDEP	Depth to rock	5	feet
CARBON	Percentage of area of carbonate rock	13.1	percent

Low-Flow Statistics Parameters[100 Percent (44.3 square miles) Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	44.3	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
STRDEN	Stream Density	1.2	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	5	feet	3.32	5.65
CARBON	Percent Carbonate	13.1	percent	0	99

Low-Flow Statistics Flow Report[100 Percent (44.3 square miles) Low Flow Region 2]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	SEp
7 Day 2 Year Low Flow	11	ft^3/s	38	38
30 Day 2 Year Low Flow	13.3	ft^3/s	33	33
7 Day 10 Year Low Flow	6.76	ft^3/s	51	51
30 Day 10 Year Low Flow	8.04	ft^3/s	46	46
90 Day 10 Year Low Flow	10.8	ft^3/s	36	36

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/)

2. WQM ver. 1.1

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
07E	63167	MOUNTAIN CREEK	3.180	585.00	44.40	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.313	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Ahlstrom	PA0008486	0.5690	0.5690	0.5690	0.000	26.00	7.30

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	18.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
07E	63167	MOUNTAIN CREEK	2.140	547.00	45.60	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.313	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Specialty Paper	PA0008150	1.5000	1.5000	1.5000	0.000	23.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	23.90	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
07E	63167	MOUNTAIN CREEK	1.780	540.00	46.00	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.313	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Mt. Holly	PA0023183	0.7000	0.7000	0.7000	0.000	20.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	20.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	2.50	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
07E	63167	MOUNTAIN CREEK	0.750	514.30	46.20	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.313	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Land O'Lakes	PA00449110	0.8100	0.8100	0.8100	0.000	20.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	10.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	1.50	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
07E	63167	MOUNTAIN CREEK	0.000	490.50	47.60	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.313	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	0.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.94	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.083	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
07E	63167	MOUNTAIN CREEK

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
3.180	13.90	0.00	13.90	.8802	0.00692	.768	45.48	59.26	0.42	0.150	20.36	7.01
2.140	14.27	0.00	14.27	3.2007	0.00368	.779	51.12	65.61	0.44	0.050	20.70	7.01
1.780	14.40	0.00	14.40	4.2836	0.00473	.785	51.31	65.4	0.46	0.136	20.66	7.01
0.750	14.46	0.00	14.46	5.5367	0.00601	.792	51.37	64.83	0.49	0.093	20.61	7.01
Q1-10 Flow												
3.180	13.06	0.00	13.06	.8802	0.00692	NA	NA	NA	0.41	0.155	20.38	7.01
2.140	13.42	0.00	13.42	3.2007	0.00368	NA	NA	NA	0.43	0.052	20.74	7.01
1.780	13.53	0.00	13.53	4.2836	0.00473	NA	NA	NA	0.45	0.139	20.69	7.01
0.750	13.59	0.00	13.59	5.5367	0.00601	NA	NA	NA	0.48	0.096	20.64	7.01
Q30-10 Flow												
3.180	15.05	0.00	15.05	.8802	0.00692	NA	NA	NA	0.44	0.144	20.33	7.01
2.140	15.46	0.00	15.46	3.2007	0.00368	NA	NA	NA	0.46	0.048	20.66	7.01
1.780	15.59	0.00	15.59	4.2836	0.00473	NA	NA	NA	0.48	0.131	20.62	7.01
0.750	15.66	0.00	15.66	5.5367	0.00601	NA	NA	NA	0.51	0.090	20.58	7.01

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
07E	63167	MOUNTAIN CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
3.180	0.569	20.357	7.013
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
45.480	0.768	59.256	0.423
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.95	0.506	0.95	0.720
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.050	20.162	Tsivoglou	5
Reach Travel Time (days)			
0.150			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.015	2.93	0.94	8.19
0.030	2.91	0.93	8.19
0.045	2.89	0.92	8.19
0.060	2.86	0.91	8.19
0.075	2.84	0.90	8.19
0.090	2.82	0.89	8.19
0.105	2.80	0.88	8.19
0.120	2.78	0.87	8.19
0.135	2.75	0.86	8.19
0.150	2.73	0.85	8.19

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
2.140	2.069	20.701	7.011
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
51.123	0.779	65.614	0.439
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
5.53	1.045	1.92	0.739
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.766	11.209	Tsivoglou	5
Reach Travel Time (days)			
0.050			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.005	5.50	1.91	7.76
0.010	5.47	1.91	7.76
0.015	5.44	1.90	7.75
0.020	5.41	1.89	7.75
0.025	5.38	1.89	7.75
0.030	5.35	1.88	7.74
0.035	5.32	1.87	7.74
0.040	5.29	1.86	7.74
0.045	5.27	1.86	7.74
0.050	5.24	1.85	7.74

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
07E	63167	MOUNTAIN CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
1.780	2.769	20.655	7.010
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
51.311	0.785	65.398	0.464
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
6.07	1.088	1.88	0.736
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.582	15.199	Tsivoglou	5
Reach Travel Time (days)			
0.136			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.014	5.98	1.86	7.65
0.027	5.89	1.84	7.71
0.041	5.80	1.82	7.77
0.054	5.71	1.80	7.81
0.068	5.63	1.78	7.85
0.081	5.54	1.77	7.89
0.095	5.46	1.75	7.92
0.109	5.38	1.73	7.94
0.122	5.29	1.71	7.97
0.136	5.21	1.70	7.99

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.750	3.579	20.612	7.010
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
51.368	0.792	64.832	0.491
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
5.50	1.085	1.68	0.734
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.805	20.446	Tsivoglou	5
Reach Travel Time (days)			
0.093			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.009	5.45	1.67	7.90
0.019	5.39	1.66	7.97
0.028	5.34	1.65	8.04
0.037	5.28	1.63	8.09
0.047	5.23	1.62	8.14
0.056	5.17	1.61	8.15
0.065	5.12	1.60	8.15
0.075	5.06	1.59	8.15
0.084	5.01	1.58	8.15
0.093	4.96	1.57	8.15

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
07E	63167	MOUNTAIN CREEK

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
3.180	Ahlstrom	16.04	50	16.04	50	0	0
2.140	Specialty Paper	16.16	50	15.61	50	0	0
1.780	Mt. Holly	16.76	5	15.68	5	0	0
0.750	Land O'Lakes	16.76	3	15.75	3	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
3.180	Ahlstrom	1.84	25	1.84	15.99	2	36
2.140	Specialty Paper	1.84	14.1	1.8	9.02	2	36
1.780	Mt. Holly	1.89	2.5	1.81	2.5	0	0
0.750	Land O'Lakes	1.89	1.5	1.81	1.5	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
3.18	Ahlstrom	18	18	15.99	15.99	5	5	0	0
2.14	Specialty Paper	23.9	23.9	9.02	9.02	5	5	0	0
1.78	Mt. Holly	20	20	2.5	2.5	5	5	0	0
0.75	Land O'Lakes	10	10	1.5	1.5	5	5	0	0

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
07E	63167	MOUNTAIN CREEK

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
3.180	Ahlstrom	PA0008486	0.569	CBOD5	18		
				NH3-N	15.99	31.98	
				Dissolved Oxygen			5

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
2.140	Specialty Paper	PA0008150	1.500	CBOD5	23.9		
				NH3-N	9.02	18.04	
				Dissolved Oxygen			5

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
1.780	Mt. Holly	PA0023183	0.700	CBOD5	20		
				NH3-N	2.5	5	
				Dissolved Oxygen			5

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
0.750	Land O'Lakes	PA00449110	0.810	CBOD5	10		
				NH3-N	1.5	3	
				Dissolved Oxygen			5

3. Toxics Management Spreadsheet

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Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Ahlstrom-Munksjo Filtration LLC** NPDES Permit No.: **PA0008486** Outfall No.: **001**

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

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
0.569	125	7						

	Discharge Pollutant	Units	Max Discharge Conc		0 if left blank: Trib Conc	0 if left blank: Stream Conc	0.5 if left blank: Daily CV	0.5 if left blank: Hourly CV	0 if left blank: Strea m CV	0 if left blank: Fate Coeff	0 if left blank: FOS	1 if left blank: Criteri a Mod	1 if left blank: Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		118									
	Chloride (PWS)	mg/L		55									
	Bromide	mg/L	<	0.6									
	Sulfate (PWS)	mg/L		331									
	Fluoride (PWS)	mg/L		0.16									
Group 2	Total Aluminum	µg/L		620									
	Total Antimony	µg/L	<	0.001									
	Total Arsenic	µg/L		0.66									
	Total Barium	µg/L		66									
	Total Beryllium	µg/L	<	0.0005									
	Total Boron	µg/L		460									
	Total Cadmium	µg/L		0.2691			1.2671						
	Total Chromium (III)	µg/L		0.44									
	Hexavalent Chromium	µg/L		0.15									
	Total Cobalt	µg/L	<	0.0025									
	Total Copper	µg/L		35.6			1.5362						
	Free Cyanide	µg/L											
	Total Cyanide	µg/L		1.2									
	Dissolved Iron	µg/L	<	0.03									
	Total Iron	µg/L	<	0.06									
	Total Lead	µg/L	<	0.001									
	Total Manganese	µg/L		4.8									
	Total Mercury	µg/L		0.00036									
	Total Nickel	µg/L	<	0.0025									
	Total Phenols (Phenolics) (PWS)	µg/L		0.002									
	Total Selenium	µg/L	<	0.002									
	Total Silver	µg/L		0.0005									
	Total Thallium	µg/L	<	0.0005									
	Total Zinc	µg/L		8.7									
	Total Molybdenum	µg/L		0.65									
	Acrolein	µg/L	<	2.5									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	5									
	Benzene	µg/L	<	0.5									
	Bromoform	µg/L	<	0.5									

Group 3	Carbon Tetrachloride	µg/L	<	1									
	Chlorobenzene	µg/L	<	0.5									
	Chlorodibromomethane	µg/L	<	0.5									
	Chloroethane	µg/L	<	1									
	2-Chloroethyl Vinyl Ether	µg/L	<	5									
	Chloroform	µg/L		1.7									
	Dichlorobromomethane	µg/L	<	0.5									
	1,1-Dichloroethane	µg/L	<	0.5									
	1,2-Dichloroethane	µg/L	<	0.5									
	1,1-Dichloroethylene	µg/L	<	0.5									
	1,2-Dichloropropane	µg/L	<	0.5									
	1,3-Dichloropropylene	µg/L	<										
	1,4-Dioxane	µg/L	<	2.8									
	Ethylbenzene	µg/L	<	0.5									
	Methyl Bromide	µg/L	<	1									
	Methyl Chloride	µg/L											
	Methylene Chloride	µg/L		0.41									
	1,1,2,2-Tetrachloroethane	µg/L	<	0.5									
	Tetrachloroethylene	µg/L	<	0.5									
	Toluene	µg/L	<	0.5									
	1,2-trans-Dichloroethylene	µg/L	<	0.5									
	1,1,1-Trichloroethane	µg/L	<	0.5									
	1,1,2-Trichloroethane	µg/L	<	0.5									
	Trichloroethylene	µg/L	<	0.5									
	Vinyl Chloride	µg/L	<	0.5									
Group 4	2-Chlorophenol	µg/L	<	2.8									
	2,4-Dichlorophenol	µg/L	<	2.8									
	2,4-Dimethylphenol	µg/L	<	2.8									
	4,6-Dinitro-o-Cresol	µg/L											
	2,4-Dinitrophenol	µg/L	<	5.7									
	2-Nitrophenol	µg/L	<	2.8									
	4-Nitrophenol	µg/L	<	2.8									
	p-Chloro-m-Cresol	µg/L											
	Pentachlorophenol	µg/L	<	5.6									
	Phenol	µg/L	<	7.5									
	2,4,6-Trichlorophenol	µg/L	<	2.8									
Group 5	Acenaphthene	µg/L	<	1.4									
	Acenaphthylene	µg/L	<	1.4									
	Anthracene	µg/L	<	1.4									
	Benzidine	µg/L	<	3.8									
	Benzo(a)Anthracene	µg/L	<	1.4									
	Benzo(a)Pyrene	µg/L	<	1.4									
	3,4-Benzofluoranthene	µg/L											
	Benzo(ghi)Perylene	µg/L	<	1.4									
	Benzo(k)Fluoranthene	µg/L	<	1.4									
	Bis(2-Chloroethoxy)Methane	µg/L	<	2.8									
	Bis(2-Chloroethyl)Ether	µg/L	<	2.8									
	Bis(2-Chloroisopropyl)Ether	µg/L	<	2.8									
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	2.8									
	4-Bromophenyl Phenyl Ether	µg/L	<	2.8									
	Butyl Benzyl Phthalate	µg/L	<	2.8									
	2-Chloronaphthalene	µg/L	<	2.8									
	4-Chlorophenyl Phenyl Ether	µg/L	<	2.8									
	Chrysene	µg/L	<	1.4									
	Dibenzo(a,h)Anthrancene	µg/L	<	1.4									
	1,2-Dichlorobenzene	µg/L	<	1									
	1,3-Dichlorobenzene	µg/L	<	1									
	1,4-Dichlorobenzene	µg/L	<	1									
	3,3-Dichlorobenzidine	µg/L	<	2.8									
	Diethyl Phthalate	µg/L	<	2.8									
	Dimethyl Phthalate	µg/L	<	2.8									
	Di-n-Butyl Phthalate	µg/L											
	2,4-Dinitrotoluene	µg/L	<	2.8									

	2,6-Dinitrotoluene	µg/L	<	2.8									
	Di-n-Octyl Phthalate	µg/L											
	1,2-Diphenylhydrazine	µg/L	<	2.8									
	Fluoranthene	µg/L	<	1.4									
	Fluorene	µg/L	<	1.4									
	Hexachlorobenzene	µg/L	<	2.8									
	Hexachlorobutadiene	µg/L	<	0.5									
	Hexachlorocyclopentadiene	µg/L	<	2.8									
	Hexachloroethane	µg/L	<	2.8									
	Indeno(1,2,3-cd)Pyrene	µg/L	<	1.4									
	Isophorone	µg/L	<	2.8									
	Naphthalene	µg/L	<	1.4									
	Nitrobenzene	µg/L	<	2.8									
	n-Nitrosodimethylamine	µg/L	<	2.8									
	n-Nitrosodi-n-Propylamine	µg/L	<	2.8									
	n-Nitrosodiphenylamine	µg/L	<	2.8									
	Phenanthrene	µg/L	<	1.4									
	Pyrene	µg/L	<	1.4									
	1,2,4-Trichlorobenzene	µg/L	<	0.5									
Group 6	Aldrin	µg/L	<	0.019									
	alpha-BHC	µg/L	<	0.019									
	beta-BHC	µg/L	<	0.019									
	gamma-BHC	µg/L	<	0.019									
	delta BHC	µg/L	<	0.019									
	Chlordane	µg/L	<	0.019									
	4,4-DDT	µg/L	<	0.019									
	4,4-DDE	µg/L	<	0.019									
	4,4-DDD	µg/L	<	0.019									
	Dieldrin	µg/L	<	0.019									
	alpha-Endosulfan	µg/L	<	0.019									
	beta-Endosulfan	µg/L	<	0.019									
	Endosulfan Sulfate	µg/L	<	0.019									
	Endrin	µg/L	<	0.019									
	Endrin Aldehyde	µg/L	<	0.019									
	Heptachlor	µg/L	<	0.019									
	Heptachlor Epoxide	µg/L	<	0.019									
	PCB-1016	µg/L	<	0.47									
	PCB-1221	µg/L	<	0.47									
	PCB-1232	µg/L	<	0.47									
	PCB-1242	µg/L	<	0.47									
	PCB-1248	µg/L	<	0.47									
	PCB-1254	µg/L	<	0.47									
	PCB-1260	µg/L	<	0.47									
	PCBs, Total	µg/L	<										
	Toxaphene	µg/L	<	0.47									
	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 1.3, March 2021

Stream / Surface Water Information

Ahlstrom-Munksjo Filtration LLC, NPDES Permit No. PA0008486, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Mountain Creek**

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	063167	3.18	585	44.4			Yes
End of Reach 1	063167	2.14	547	45.6			Yes

Q_{7-10}

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	3.18	0.313										100	7		
End of Reach 1	2.14	0.313													

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	3.18														
End of Reach 1	2.14														

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Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

Ahlstrom-Munksjo Filtration LLC, NPDES Permit No. PA0008486, Outfall 001

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)
3.18	13.90		13.90	0.88	0.007	0.768	45.48	59.256	0.423	0.15	44.826
2.14	14.27		14.2728								

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)
3.18	74.12		74.12	0.88	0.007	1.569	45.48	28.996	1.051	0.06	16.945
2.14	75.863		75.86								

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.578 Analysis Hardness (mg/l): 102.47 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	7,600	
Total Antimony	0	0		0	1,100	1,100	11,146	
Total Arsenic	0	0		0	340	340	3,445	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	212,789	
Total Boron	0	0		0	8,100	8,100	82,076	
Total Cadmium	0	0		0	2.062	2.19	22.2	Chem Translator of 0.943 applied
Total Chromium (III)	0	0		0	581.251	1,839	18,638	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	165	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	963	
Total Copper	0	0		0	13.751	14.3	145	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	66.317	84.2	853	Chem Translator of 0.787 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	16.7	Chem Translator of 0.85 applied
Total Nickel	0	0		0	477.991	479	4,853	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	3.354	3.95	40.0	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	659	
Total Zinc	0	0		0	119.626	122	1,239	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	30.4	
Acrylonitrile	0	0		0	650	650	6,586	
Benzene	0	0		0	640	640	6,485	
Bromoform	0	0		0	1,800	1,800	18,239	
Carbon Tetrachloride	0	0		0	2,800	2,800	28,372	
Chlorobenzene	0	0		0	1,200	1,200	12,159	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	182,391	
Chloroform	0	0		0	1,900	1,900	19,252	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	151,992	
1,1-Dichloroethylene	0	0		0	7,500	7,500	75,996	
1,2-Dichloropropane	0	0		0	11,000	11,000	111,461	
Ethylbenzene	0	0		0	2,900	2,900	29,385	
Methyl Bromide	0	0		0	550	550	5,573	
Methylene Chloride	0	0		0	12,000	12,000	121,594	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	10,133	
Tetrachloroethylene	0	0		0	700	700	7,093	
Toluene	0	0		0	1,700	1,700	17,226	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	68,903	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	30,398	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	34,452	
Trichloroethylene	0	0		0	2,300	2,300	23,306	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	5,674	
2,4-Dichlorophenol	0	0		0	1,700	1,700	17,226	
2,4-Dimethylphenol	0	0		0	660	660	6,688	
2,4-Dinitrophenol	0	0		0	660	660	6,688	
2-Nitrophenol	0	0		0	8,000	8,000	81,063	
4-Nitrophenol	0	0		0	2,300	2,300	23,306	
Pentachlorophenol	0	0		0	8.723	8.72	88.4	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	4,661	
Acenaphthene	0	0		0	83	83.0	841	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	3,040	
Benzo(a)Anthracene	0	0		0	0.5	0.5	5.07	

Benzo(a)Pyrene	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	303,985	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	45,598	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	2,736	
Butyl Benzyl Phthalate	0	0		0	140	140	1,419	
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	8,309	
1,3-Dichlorobenzene	0	0		0	350	350	3,546	
1,4-Dichlorobenzene	0	0		0	730	730	7,397	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	40,531	
Dimethyl Phthalate	0	0		0	2,500	2,500	25,332	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	16,213	
2,6-Dinitrotoluene	0	0		0	990	990	10,031	
1,2-Diphenylhydrazine	0	0		0	15	15.0	152	
Fluoranthene	0	0		0	200	200	2,027	
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	101	
Hexachlorocyclopentadiene	0	0		0	5	5.0	50.7	
Hexachloroethane	0	0		0	60	60.0	608	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	101,328	
Naphthalene	0	0		0	140	140	1,419	
Nitrobenzene	0	0		0	4,000	4,000	40,531	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	172,258	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	3,040	
Phenanthrene	0	0		0	5	5.0	50.7	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	1,317	
Aldrin	0	0		0	3	3.0	30.4	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	0.95	0.95	9.63	
Chlordane	0	0		0	2.4	2.4	24.3	
4,4-DDT	0	0		0	1.1	1.1	11.1	
4,4-DDE	0	0		0	1.1	1.1	11.1	
4,4-DDD	0	0		0	1.1	1.1	11.1	
Dieldrin	0	0		0	0.24	0.24	2.43	
alpha-Endosulfan	0	0		0	0.22	0.22	2.23	
beta-Endosulfan	0	0		0	0.22	0.22	2.23	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.086	0.086	0.87	

Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.52	0.52	5.27	
Heptachlor Epoxide	0	0		0	0.5	0.5	5.07	
Toxaphene	0	0		0	0.73	0.73	7.4	

☑ *CFC* CCT (min): 44.826 PMF: 1 Analysis Hardness (mg/l): 101.49 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	3,693	
Total Arsenic	0	0		0	150	150	2,518	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	68,830	
Total Boron	0	0		0	1,600	1,600	26,861	
Total Cadmium	0	0		0	0.249	0.27	4.59	Chem Translator of 0.908 applied
Total Chromium (III)	0	0		0	75.017	87.2	1,464	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	175	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	319	
Total Copper	0	0		0	9.070	9.45	159	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	25,182	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.557	3.24	54.4	Chem Translator of 0.789 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	15.2	Chem Translator of 0.85 applied
Total Nickel	0	0		0	52.661	52.8	887	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	83.8	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	218	
Total Zinc	0	0		0	119.628	121	2,037	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	50.4	
Acrylonitrile	0	0		0	130	130	2,182	
Benzene	0	0		0	130	130	2,182	
Bromoform	0	0		0	370	370	6,212	
Carbon Tetrachloride	0	0		0	560	560	9,401	
Chlorobenzene	0	0		0	240	240	4,029	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	58,758	
Chloroform	0	0		0	390	390	6,547	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	52,043	
1,1-Dichloroethylene	0	0		0	1,500	1,500	25,182	

1,2-Dichloropropane	0	0		0	2,200	2,200	36,933	
Ethylbenzene	0	0		0	580	580	9,737	
Methyl Bromide	0	0		0	110	110	1,847	
Methylene Chloride	0	0		0	2,400	2,400	40,291	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	3,525	
Tetrachloroethylene	0	0		0	140	140	2,350	
Toluene	0	0		0	330	330	5,540	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	23,503	
1,1,1-Trichloroethane	0	0		0	610	610	10,241	
1,1,2-Trichloroethane	0	0		0	680	680	11,416	
Trichloroethylene	0	0		0	450	450	7,555	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	1,847	
2,4-Dichlorophenol	0	0		0	340	340	5,708	
2,4-Dimethylphenol	0	0		0	130	130	2,182	
2,4-Dinitrophenol	0	0		0	130	130	2,182	
2-Nitrophenol	0	0		0	1,600	1,600	26,861	
4-Nitrophenol	0	0		0	470	470	7,890	
Pentachlorophenol	0	0		0	6.693	6.69	112	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	1,528	
Acenaphthene	0	0		0	17	17.0	285	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	990	
Benzo(a)Anthracene	0	0		0	0.1	0.1	1.68	
Benzo(a)Pyrene	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	100,727	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	15,277	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	907	
Butyl Benzyl Phthalate	0	0		0	35	35.0	588	
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	2,686	
1,3-Dichlorobenzene	0	0		0	69	69.0	1,158	
1,4-Dichlorobenzene	0	0		0	150	150	2,518	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	13,430	
Dimethyl Phthalate	0	0		0	500	500	8,394	
2,4-Dinitrotoluene	0	0		0	320	320	5,372	
2,6-Dinitrotoluene	0	0		0	200	200	3,358	
1,2-Diphenylhydrazine	0	0		0	3	3.0	50.4	
Fluoranthene	0	0		0	40	40.0	672	

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	33.6	
Hexachlorocyclopentadiene	0	0		0	1	1.0	16.8	
Hexachloroethane	0	0		0	12	12.0	201	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	35,255	
Naphthalene	0	0		0	43	43.0	722	
Nitrobenzene	0	0		0	810	810	13,598	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	57,079	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	990	
Phenanthrene	0	0		0	1	1.0	16.8	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	436	
Aldrin	0	0		0	0.1	0.1	1.68	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	0.0043	0.004	0.072	
4,4-DDT	0	0		0	0.001	0.001	0.017	
4,4-DDE	0	0		0	0.001	0.001	0.017	
4,4-DDD	0	0		0	0.001	0.001	0.017	
Dieldrin	0	0		0	0.056	0.056	0.94	
alpha-Endosulfan	0	0		0	0.056	0.056	0.94	
beta-Endosulfan	0	0		0	0.056	0.056	0.94	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.036	0.036	0.6	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.0038	0.004	0.064	
Heptachlor Epoxide	0	0		0	0.0038	0.004	0.064	
Toxaphene	0	0		0	0.0002	0.0002	0.003	

☑ ***THH*** CCT (min): 44.826 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	94.0	
Total Arsenic	0	0		0	10	10.0	168	
Total Barium	0	0		0	2,400	2,400	40,291	

Total Boron	0	0		0	3,100	3,100	52,043	
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	5,036	
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	16,788	
Total Mercury	0	0		0	0.050	0.05	0.84	
Total Nickel	0	0		0	610	610	10,241	
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	4.03	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	50.4	
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	1,679	
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	554	
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	
Ethylbenzene	0	0		0	68	68.0	1,142	
Methyl Bromide	0	0		0	100	100.0	1,679	
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	957	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	1,679	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	167,879	
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	504	
2,4-Dichlorophenol	0	0		0	10	10.0	168	
2,4-Dimethylphenol	0	0		0	100	100.0	1,679	
2,4-Dinitrophenol	0	0		0	10	10.0	168	

2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	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	67,152	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	1,175	
Anthracene	0	0		0	300	300	5,036	
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	
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	3,358	
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	1.68	
2-Chloronaphthalene	0	0		0	800	800	13,430	
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	16,788	
1,3-Dichlorobenzene	0	0		0	7	7.0	118	
1,4-Dichlorobenzene	0	0		0	300	300	5,036	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	10,073	
Dimethyl Phthalate	0	0		0	2,000	2,000	33,576	
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	336	
Fluorene	0	0		0	50	50.0	839	
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	67.2	
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	571	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	168	
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	336	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	1.18	
Aldrin	0	0		0	N/A	N/A	N/A	

alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	4.2	4.2	70.5	
Chlordane	0	0		0	N/A	N/A	N/A	
4,4-DDT	0	0		0	N/A	N/A	N/A	
4,4-DDE	0	0		0	N/A	N/A	N/A	
4,4-DDD	0	0		0	N/A	N/A	N/A	
Dieldrin	0	0		0	N/A	N/A	N/A	
alpha-Endosulfan	0	0		0	20	20.0	336	
beta-Endosulfan	0	0		0	20	20.0	336	
Endosulfan Sulfate	0	0		0	20	20.0	336	
Endrin	0	0		0	0.03	0.03	0.5	
Endrin Aldehyde	0	0		0	1	1.0	16.8	
Heptachlor	0	0		0	N/A	N/A	N/A	
Heptachlor Epoxide	0	0		0	N/A	N/A	N/A	
Toxaphene	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 16.945 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	
Acrylonitrile	0	0		0	0.06	0.06	5.11	
Benzene	0	0		0	0.58	0.58	49.4	
Bromoform	0	0		0	7	7.0	596	
Carbon Tetrachloride	0	0		0	0.4	0.4	34.1	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	68.2	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	486	
Dichlorobromomethane	0	0		0	0.95	0.95	80.9	
1,2-Dichloroethane	0	0		0	9.9	9.9	843	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	76.7	
Ethylbenzene	0	0		0	N/A	N/A	N/A	
Methyl Bromide	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	20	20.0	1,704	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	17.0	
Tetrachloroethylene	0	0		0	10	10.0	852	
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	46.9	
Trichloroethylene	0	0		0	0.6	0.6	51.1	
Vinyl Chloride	0	0		0	0.02	0.02	1.7	
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	
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	
Pentachlorophenol	0	0		0	0.030	0.03	2.56	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	128	
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	0.009	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.085	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.009	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.85	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	2.56	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	27.3	
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	10.2	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.009	
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	4.26	
Diethyl Phthalate	0	0		0	N/A	N/A	N/A	
Dimethyl Phthalate	0	0		0	N/A	N/A	N/A	
2,4-Dinitrotoluene	0	0		0	0.05	0.05	4.26	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	4.26	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	2.56	
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	0.007	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.85	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	8.52	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.085	
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	0.06	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.43	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	281	
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	
Aldrin	0	0		0	0.0000008	8.00E-07	0.00007	
alpha-BHC	0	0		0	0.0004	0.0004	0.034	
beta-BHC	0	0		0	0.008	0.008	0.68	
gamma-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	0.0003	0.0003	0.026	
4,4-DDT	0	0		0	0.00003	0.00003	0.003	
4,4-DDE	0	0		0	0.00002	0.00002	0.002	
4,4-DDD	0	0		0	0.0001	0.0001	0.009	
Dieldrin	0	0		0	0.000001	0.000001	0.00009	
alpha-Endosulfan	0	0		0	N/A	N/A	N/A	
beta-Endosulfan	0	0		0	N/A	N/A	N/A	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	N/A	N/A	N/A	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.000006	0.000006	0.0005	
Heptachlor Epoxide	0	0		0	0.00003	0.00003	0.003	
Toxaphene	0	0		0	0.0007	0.0007	0.06	

☑ ***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 Aluminum	Report	Report	Report	Report	Report	µg/L	4,871	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Copper	Report	Report	Report	Report	Report	µg/L	159	CFC	Discharge Conc > 10% WQBEL (no RP)

☑ ***Other Pollutants without Limits or Monitoring***

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	168	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	40,291	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	26,861	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	4.59	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	1,464	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	106	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	319	µg/L	Discharge Conc < TQL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	5,036	µg/L	Discharge Conc < TQL
Total Iron	25,182	µg/L	Discharge Conc < TQL
Total Lead	54.4	µg/L	Discharge Conc < TQL
Total Manganese	16,788	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.84	µg/L	Discharge Conc ≤ 10% WQBEL
Total Nickel	887	µg/L	Discharge Conc < TQL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	83.8	µg/L	Discharge Conc < TQL
Total Silver	25.6	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	4.03	µg/L	Discharge Conc < TQL
Total Zinc	794	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	19.5	µg/L	Discharge Conc ≤ 25% WQBEL

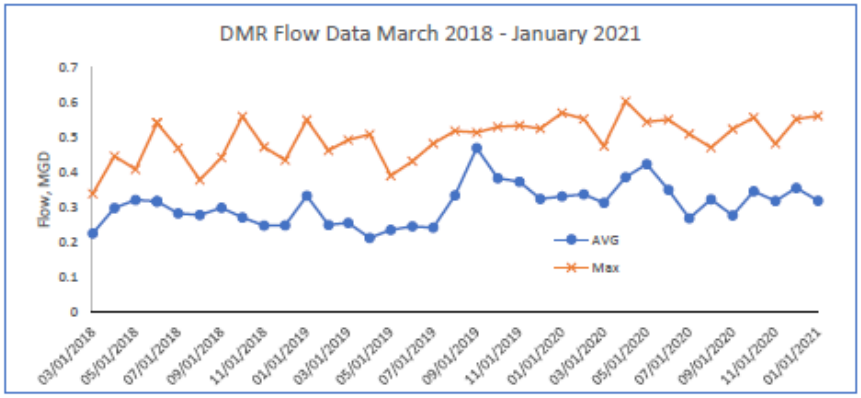
Acrylonitrile	5.11	µg/L	Discharge Conc < TQL
Benzene	49.4	µg/L	Discharge Conc < TQL
Bromoform	596	µg/L	Discharge Conc < TQL
Carbon Tetrachloride	34.1	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorobenzene	1,679	µg/L	Discharge Conc < TQL
Chlorodibromomethane	68.2	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	58,758	µg/L	Discharge Conc < TQL
Chloroform	486	µg/L	Discharge Conc ≤ 25% WQBEL
Dichlorobromomethane	80.9	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	843	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	554	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	76.7	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	1,142	µg/L	Discharge Conc < TQL
Methyl Bromide	1,679	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	1,704	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2,2-Tetrachloroethane	17.0	µg/L	Discharge Conc < TQL
Tetrachloroethylene	852	µg/L	Discharge Conc < TQL
Toluene	957	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	1,679	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	10,241	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	46.9	µg/L	Discharge Conc < TQL
Trichloroethylene	51.1	µg/L	Discharge Conc < TQL
Vinyl Chloride	1.7	µg/L	Discharge Conc < TQL
2-Chlorophenol	504	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	168	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	1,679	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	168	µg/L	Discharge Conc < TQL
2-Nitrophenol	26,861	µg/L	Discharge Conc < TQL
4-Nitrophenol	7,890	µg/L	Discharge Conc < TQL
Pentachlorophenol	2.56	µg/L	Discharge Conc < TQL
Phenol	67,152	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	128	µg/L	Discharge Conc < TQL
Acenaphthene	285	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	5,036	µg/L	Discharge Conc < TQL
Benzidine	0.009	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.085	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.009	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.85	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	2.56	µg/L	Discharge Conc < TQL

Bis(2-Chloroisopropyl)Ether	3,358	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	27.3	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	907	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	1.68	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	13,430	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	10.2	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.009	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	2,686	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichlorobenzene	118	µg/L	Discharge Conc ≤ 25% WQBEL
1,4-Dichlorobenzene	2,518	µg/L	Discharge Conc ≤ 25% WQBEL
3,3-Dichlorobenzidine	4.26	µg/L	Discharge Conc < TQL
Diethyl Phthalate	10,073	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	8,394	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	4.26	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	4.26	µg/L	Discharge Conc < TQL
1,2-Diphenylhydrazine	2.56	µg/L	Discharge Conc < TQL
Fluoranthene	336	µg/L	Discharge Conc < TQL
Fluorene	839	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.007	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.85	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	16.8	µg/L	Discharge Conc < TQL
Hexachloroethane	8.52	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.085	µg/L	Discharge Conc < TQL
Isophorone	571	µg/L	Discharge Conc < TQL
Naphthalene	722	µg/L	Discharge Conc ≤ 25% WQBEL
Nitrobenzene	168	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.06	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.43	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	281	µg/L	Discharge Conc < TQL
Phenanthrene	16.8	µg/L	Discharge Conc < TQL
Pyrene	336	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	1.18	µg/L	Discharge Conc < TQL
Aldrin	0.00007	µg/L	Discharge Conc < TQL
alpha-BHC	0.034	µg/L	Discharge Conc < TQL
beta-BHC	0.68	µg/L	Discharge Conc < TQL
gamma-BHC	6.17	µg/L	Discharge Conc < TQL
delta BHC	N/A	N/A	No WQS
Chlordane	0.026	µg/L	Discharge Conc < TQL
4,4-DDT	0.003	µg/L	Discharge Conc < TQL
4,4-DDE	0.002	µg/L	Discharge Conc < TQL
4,4-DDD	0.009	µg/L	Discharge Conc < TQL
Dieldrin	0.00009	µg/L	Discharge Conc < TQL
alpha-Endosulfan	0.94	µg/L	Discharge Conc < TQL
beta-Endosulfan	0.94	µg/L	Discharge Conc < TQL

Endosulfan Sulfate	336	µg/L	Discharge Conc < TQL
Endrin	0.5	µg/L	Discharge Conc < TQL
Endrin Aldehyde	16.8	µg/L	Discharge Conc < TQL
Heptachlor	0.0005	µg/L	Discharge Conc < TQL
Heptachlor Epoxide	0.003	µg/L	Discharge Conc < TQL
PCB-1016	N/A	N/A	No WQS
PCB-1221	N/A	N/A	No WQS
PCB-1232	N/A	N/A	No WQS
PCB-1242	N/A	N/A	No WQS
PCB-1248	N/A	N/A	No WQS
PCB-1254	N/A	N/A	No WQS
PCB-1260	N/A	N/A	No WQS
Toxaphene	0.003	µg/L	Discharge Conc < TQL

4. Effluent Volume Data

	Flow	
	AVG	Max
03/01/2018	0.226	0.339
04/01/2018	0.298	0.446
05/01/2018	0.321	0.408
06/01/2018	0.317	0.54
06/01/2018	0.317	0.54
06/01/2018	0.317	0.54
07/01/2018	0.283	0.468
08/01/2018	0.278	0.378
09/01/2018	0.299	0.442
10/01/2018	0.271	0.559
11/01/2018	0.248	0.472
12/01/2018	0.249	0.435
01/01/2019	0.333	0.549
02/01/2019	0.25	0.462
03/01/2019	0.256	0.492
04/01/2019	0.213	0.508
05/01/2019	0.236	0.39
06/01/2019	0.246	0.431
07/01/2019	0.242	0.482
08/01/2019	0.334	0.518
09/01/2019	0.469	0.513
10/01/2019	0.383	0.529
11/01/2019	0.373	0.533
12/01/2019	0.324	0.524
01/01/2020	0.331	0.569
02/01/2020	0.337	0.552
03/01/2020	0.313	0.475
04/01/2020	0.386	0.602
05/01/2020	0.423	0.543
06/01/2020	0.35	0.55
07/01/2020	0.269	0.509
08/01/2020	0.323	0.47
09/01/2020	0.277	0.523
10/01/2020	0.346	0.556
11/01/2020	0.318	0.481
12/01/2020	0.355	0.551
01/01/2021	0.319	0.56
AVG	0.308919	0.498351
MAX	0.469	0.602



5. TOXCONC

	Facility:	Ahlstrom					
	NPDES #:	PA0008486					
	Outfall No:	001					
	n (Samples/Month):	4					
	Reviewer/Permit Engineer:	Jinsu Kim					
Parameter Name	Total Cadmium	Total Copper					
Units	mg/L	mg/L					
Detection Limit							
Sample Date	*When entering values below the detection limit, enter "ND" or use the < notation (eg. <0.02)*						
01/01/2019	< 0.0002	< 0.0063					
02/01/2019	< 0.0002	0.0035					
03/01/2019	< 0.0002	0.0046					
04/01/2019	< 0.0002	0.0035					
05/01/2019	0.0004	0.027					
06/01/2019	< 0.0002	0.0075					
07/01/2019	< 0.0002	0.0033					
08/01/2019	< 0.0002	< 0.0025					
09/01/2019	< 0.0002	< 0.0047					
10/01/2019	< 0.0002	0.0029					
11/01/2019	< 0.0002	0.0039					
12/01/2019	< 0.0002	0.011					
01/01/2020	< 0.0002	0.012					
02/01/2020	0.0002	0.011					
03/01/2020	< 0.0002	0.0076					
04/01/2020	0.00024	0.011					
05/01/2020	< 0.0002	0.0045					
06/01/2020	0.00048	0.036					
07/01/2020	< 0.00025	< 0.0092					
08/01/2020	0.0002	0.024					
09/01/2020	0.00023	0.00023					
10/01/2020	0.0002	0.01					
11/01/2020	0.0002	0.0078					
12/01/2020	0.0002	0.011					
01/01/2021	0.0002	0.007					
02/01/2021	0.0002	0.0064					

Reviewer/Permit Engineer: Jinsu Kim

Facility: Ahlstrom
NPDES #: PA0008486
Outfall No: 001
n (Samples/Month): 4

Parameter	Distribution Applied	Coefficient of Variation (daily)	Avg. Monthly
Total Cadmium (mg/L)	Delta-Lognormal	1.2671309	0.0002691
Total Copper (mg/L)	Delta-Lognormal	1.5362441	0.0356065

	Facility:	Ahlstrom	
	NPDES #:	PA0008486	
	Outfall No:	001	
	n (Samples/Month):	4	
Parameter Name	Total Cadmium	Total Copper	
Number of Samples	26	26	
Samples Nondetected	15	4	
LOGNORMAL			
Log MEAN	NA	NA	
Log VAR.			
(LTA) [E(x)]			
Variance [V(x)]			
CV (raw)			
CV (n)			
Monthly Avg. (99%, n-day)			
DELTA-LOGNORMAL			
Delta-Log MEAN	-8.3453114	-4.9976890	
Delta-Log VAR.	0.0974696	1.0449005	
(LTA) [E(x)]	0.0001055	0.0096356	
Variance [V(x)]	0.0000000	0.0002191	
CV (raw)	1.2671309	1.5362441	
Delta-Log VAR. (n)	0.2200619	0.4631809	
A, Table E-2, TSD	0.4014052	0.5900114	
B, Table E-2, TSD	0.0000000	0.0000000	
C, Table E-2, TSD	0.0000000	0.0000000	
Delta-Log MEAN (n)	-9.1493953	-4.8733229	
phi (Φ)	0.9763636	0.9881818	
Z*	1.9800000	2.2600000	
Monthly Avg. (99%, n-day)	0.0002691	0.0356065	
NORMAL			
MEAN	NA	NA	
VAR.			
(LTA) [E(x)]			
Variance [V(x)]			
CV (raw)			
CV (n)			
Monthly Avg. (99%, n-day)			

Parameter Name	Total Cadmium	Total Copper
y(i)		
		-5.6549923
		-5.3816990
		-5.6549923
	-7.8240460	-3.6119184
		-4.8928523
		-5.7138328
		-5.8430445
		-5.5467787
		-4.5098600
		-4.4228486
	-8.5171932	-4.5098600
		-4.8796070
	-8.3348716	-4.5098600
		-5.4036779
	-7.6417245	-3.3242363
	-8.5171932	-3.7297014
	-8.3774312	-8.3774312
	-8.5171932	-4.6051702
	-8.5171932	-4.8536315
	-8.5171932	-4.5098600
	-8.5171932	-4.9618451
	-8.5171932	-5.0514573

6. Thermal Limits

Flow Data for Thermal Discharge Analysis

Facility: Ahlstrom Filtration & Mt Holly Speciality Papers
Permit Number: PA0008486 & PA0008150
Stream Name: Mountain Creek
Analyst/Engineer: Jinsu Kim
Stream Q7-10 (cfs): 14.27

	Facility Flows[1]				Stream Flows	
	Stream (Intake) (MGD)	External (Intake) (MGD)	Consumptive (Loss) (MGD)	Discharge (MGD)	Adj. Q7-10 Stream Flow (cfs)	Downstream[2] Stream Flow (cfs)
Jan 1-31	0	2.069	0	2.069	45.7	48.9
Feb 1-29	0	2.069	0	2.069	49.9	53.1
Mar 1-31	0	2.069	0	2.069	99.9	103.1
Apr 1-15	0	2.069	0	2.069	132.7	135.9
Apr 16-30	0	2.069	0	2.069	132.7	135.9
May 1-15	0	2.069	0	2.069	72.8	76.0
May 16-30	0	2.069	0	2.069	72.8	76.0
Jun 1-15	0	2.069	0	2.069	42.8	46.0
Jun 16-30	0	2.069	0	2.069	42.8	46.0
Jul 1-31	0	2.069	0	2.069	24.3	27.5
Aug 1-15	0	2.069	0	2.069	20.0	23.2
Aug 16-31	0	2.069	0	2.069	20.0	23.2
Sep 1-15	0	2.069	0	2.069	15.7	18.9
Sep 16-30	0	2.069	0	2.069	15.7	18.9
Oct 1-15	0	2.069	0	2.069	17.1	20.3
Oct 16-31	0	2.069	0	2.069	17.1	20.3
Nov 1-15	0	2.069	0	2.069	22.8	26.0
Nov 16-30	0	2.069	0	2.069	22.8	26.0
Dec 1-31	0	2.069	0	2.069	34.2	37.4

[1] Facility flows are not required (and will not affect the permit limits) if all intake flow is from the receiving stream (Case 1), consumptive losses are small, and permit limits will be expressed as Million BTUs/day.
[2] Downstream Stream Flow includes the discharge flow.

Please forward all comments to Tom Starosta at 717-787-4317, tstarosta@state.pa.us.
Version 1.0 -- 08/01/2004 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.

Thermal limits 5/10/2021

Thermal Discharge Recommended Permit Limits

Trout Stocking (TSF) Stream

Facility: **Ahlstrom Filtration & Mt Holly Speciality Papers**
Permit Number: PA0008486 & PA0008150
Stream: Mountain Creek

	TSF Ambient Stream Temperature (ºF) (Default)	Ambient Stream Temperature (ºF) (Site-specific data)	Target Maximum Stream Temp.[1] (ºF)	TSF Daily WLA[2] (Million BTUs/day)	TSF Daily WLA[3] (ºF)	at Discharge Flow (MGD)
Jan 1-31	34	0	40	N/A -- Case 2	110.0	2.069
Feb 1-29	35	0	40	N/A -- Case 2	110.0	2.069
Mar 1-31	39	0	46	N/A -- Case 2	110.0	2.069
Apr 1-15	46	0	52	N/A -- Case 2	110.0	2.069
Apr 16-30	52	0	58	N/A -- Case 2	110.0	2.069
May 1-15	56	0	64	N/A -- Case 2	110.0	2.069
May 16-30	60	0	68	N/A -- Case 2	110.0	2.069
Jun 1-15	65	0	70	N/A -- Case 2	110.0	2.069
Jun 16-30	69	0	72	N/A -- Case 2	110.0	2.069
Jul 1-31	73	71	74	N/A -- Case 2	96.7	2.069
Aug 1-15	72	0	80	N/A -- Case 2	110.0	2.069
Aug 16-31	70	0	87	N/A -- Case 2	110.0	2.069
Sep 1-15	68	0	84	N/A -- Case 2	110.0	2.069
Sep 16-30	62	0	78	N/A -- Case 2	110.0	2.069
Oct 1-15	57	0	72	N/A -- Case 2	110.0	2.069
Oct 16-31	53	0	66	N/A -- Case 2	110.0	2.069
Nov 1-15	47	0	58	N/A -- Case 2	110.0	2.069
Nov 16-30	41	0	50	N/A -- Case 2	110.0	2.069
Dec 1-31	36	0	42	N/A -- Case 2	106.2	2.069

[1] This is the maximum of the TSF WQ criterion or the ambient temperature. The ambient temperature may be either the design (median) temperature for TSF, or the ambient stream temperature based on site-specific data entered by the user. A minimum of 1ºF above ambient stream temperature is allocated.
[2] The WLA expressed in Million BTUs/day is valid for Case 1 scenarios, and disabled for Case 2 scenarios.
[3] The WLA expressed in ºF is valid only if the limit is tied to a daily discharge flow limit (may be used for Case 1 or Case 2). WLAs greater than 110ºF are displayed as 110ºF.

7. Effluent Data for Total Copper, Total Cadmium and Pentachlorophenol

	Cadmium		Copper		Pentachlorophenol	
	AVG	MAX	AVG	MAX	AVG	MAX
09/01/2018	0.0002	0.0002	0.006	0.007	0.0056	0.0056
10/01/2018	< 0.0002	< 0.0002	0.006	0.016	< 0.0056	< 0.0056
11/01/2018	< 0.0002	< 0.0002	< 0.003	0.0048	< 0.0056	< 0.0056
12/01/2018	< 0.0002	< 0.0002	0.0046	0.0083	< 0.0056	< 0.0057
01/01/2019	< 0.0002	< 0.0002	< 0.0032	< 0.0063	< 0.0056	< 0.0057
02/01/2019	< 0.0002	< 0.0002	0.0028	0.0035	< 0.0056	< 0.0056
03/01/2019	< 0.0002	< 0.0002	< 0.0030	0.0046	< 0.0056	< 0.0056
04/01/2019	< 0.0002	< 0.0002	< 0.0029	0.0035	< 0.0056	< 0.0056
05/01/2019	< 0.0002	0.0004	< 0.0098	0.027	< 0.0057	0.006
06/01/2019	< 0.0002	< 0.0002	< 0.0038	0.0075	< 0.0057	< 0.0059
07/01/2019	< 0.0002	< 0.0002	< 0.0026	0.0033	< 0.0056	< 0.0056
08/01/2019	< 0.0002	< 0.0002	< 0.0025	< 0.0025	< 0.0056	< 0.0056
09/01/2019	< 0.0002	< 0.0002	< 0.0030	< 0.0047	< 0.0056	< 0.0057
10/01/2019	< 0.0002	< 0.0002	< 0.0025	0.0029	< 0.0056	< 0.0056
11/01/2019	< 0.0002	< 0.0002	< 0.0029	0.0039	< 0.0056	< 0.0056
12/01/2019	< 0.0002	< 0.0002	< 0.0056	0.011	< 0.0056	< 0.0056
01/01/2020	< 0.0002	< 0.0002	< 0.007	0.012	< 0.0056	< 0.0056
02/01/2020	< 0.0002	0.0002	< 0.0069	0.011	< 0.0056	< 0.0056
03/01/2020	< 0.0002	< 0.0002	0.0049	0.0076	< 0.0056	< 0.0057
04/01/2020	0.00021	0.00024	0.0086	0.011	0.0056	0.0057
05/01/2020	< 0.0002	< 0.0002	0.0036	0.0045	< 0.0057	< 0.0057
06/01/2020	< 0.00027	0.00048	0.012	0.036	< 0.0057	< 0.0057
07/01/2020	< 0.00021	< 0.00026	< 0.007	< 0.0092	< 0.005	< 0.0056
08/01/2020	0.0002	0.0002	0.012	0.024	0.005	0.005
09/01/2020	0.00021	0.00023	0.00021	0.00023	0.00057	0.00057
10/01/2020	0.0002	0.0002	0.00653	0.01	0.00057	0.00057
11/01/2020	0.0002	0.0002	0.0061	0.0078	0.00057	0.00057
12/01/2020	0.0002	0.0002	0.0056	0.011	0.0057	0.0057
01/01/2021	0.0002	0.0002	0.005	0.007	0.005	0.005
02/01/2021	0.0002	0.0002	0.0051	0.0064	0.0056	0.0057
AVG	0.000203	0.000246	0.005996	0.009686	0.003801	0.004041
MAX	0.00021	0.00048	0.012	0.036	0.0057	0.006
MEDIAN	0.0002	0.0002	0.0058	0.00755	0.005	0.0053
No. of Non-Detects	21	18	15	4	21	20