Pennsylvania Department of Environmental Protection

SOUTHCENTRAL REGIONAL OFFICE
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET ADDENDUM

Application Type	**Renewal**	Application No.	**PA0008869**
Facility Type	**Industrial**	APS ID	**979646**
Major / Minor	**Major**	Authorization ID	**1249673**

Applicant and Facility Information

Applicant Name	**Pixelle Specialty Solutions LLC**	Facility Name	**Spring Grove Pulp & Paper Mill**
Applicant Address	228 S Main Street	Facility Address	228 S Main Street
	Spring Grove, PA 17362-1000		Spring Grove, PA 17362-1000
Applicant Contact	Jacob Kintz	Facility Contact	Jacob Kintz
Applicant Phone	(717) 225-7411	Facility Phone	(717) 225-7411
Client ID	346090	Site ID	249607
SIC Code	2621	Municipality	Spring Grove Borough
SIC Description	Manufacturing - Paper Mills	County	York
Date Published in PA Bulletin	December 9, 2023	EPA Waived?	No
Comment Period End Date	January 8, 2023	If No, Reason	
Purpose of Application	NPDES Renewal.		

Internal Review and Recommendations

A draft permit was prepared on November 17, 2023 and published in the *Pennsylvania Bulletin* on December 9, 2023 for public comments for 30 days. During this 30-day public commenting period, DEP has received a number of comments from different entities. DEP has attempted to address these draft permit comments in the Comment / Response Document attached to this Fact Sheet Addendum (Attachment A). As part of the comment response, DEP has requested Pixelle on May 20, 2024 to collect influent and effluent samples given the age of the pending application package. On December 10, 2024 and March 20, 2025 , Pixelle submitted an updated permit renewal application package. Using information provided in the updated application package, DEP has re-evaluated a reasonable potential analysis (Attachment B), the chemical additive analysis (Attachment C), and additional information (Attachment D). All draft permit comments will be included in Attachment E.

Given the changes made, and as a result of the comment/response and re-evaluation, DEP has prepared a revised draft permit and will republish in the *Pennsylvania Bulletin* for public comments for another 30 days.

Approve	Return	Deny	Signatures	Date
X			*Jinsu Kim* Jinsu Kim / Environmental Engineering Specialist	April 25, 2025
X			*Daniel W. Martin* Daniel W. Martin, P.E. / Environmental Engineer Manager	April 29, 2025
X			*Maria D. Bebenek* Maria D. Bebenek, P.E. / Program Manager	April 29, 2025

Pennsylvania
Department of
Environmental Protection

ATTACHMENT A – Comment / Response Document

Comment / Response Document
For
Draft NPDES Permit No. PA0008869

Applicant Name:	Pixelle Specialty Solutions, LLC (formerly P.H. Glatfelter Company)
Facility Name:	Spring Grove Mill (formerly P.H. Glatfelter Company Spring Grove Mill)
Municipality/County:	Spring Grove Borough / York
Facility Type:	Major Industrial Wastewater Facility ≥ 250 MGD

GENERAL DISCUSSION

The Pennsylvania Department of Environmental Protection (DEP) has prepared the draft National Pollutant Discharge Elimination System (NPDES) permit for Pixelle Specialty Solutions (Pixelle). The draft permit was electronically sent out on November 17, 2023. A public notice of the draft permit was published in the *Pennsylvania Bulletin* on December 9, 2023. Following the publication of the notice, a 30-day comment period was provided for interested persons to submit written comments on the draft permit. Per permittee's request under 25 Pa Code §92a.82(d), the comment period was extended for 15 days. As such, the draft permit comment period was extended to January 22, 2024. During the comment period, a number of comments were received that necessitated the development of this document. These comments were submitted by the following individuals/organizations:

Commenters:

(1) Jennifer Fulton
U.S. Environmental Protection Agency
Clean Water Branch
US EPA Mid-Atlantic Region
Four Penn Center
1600 JFK Blvd.
Philadelphia, PA 19103-2029

(2) Jonas Pantalone
Environmental Engineer - Water
Pixelle Specialty Solutions
Spring Grove Mille
228 S. Main Street
Spring Grove, PA 17362-1000

(3) Lori Kier
Senior Water Attorney
Environmental Integrity Project
1000 Vermont Ave NW, Suite 1100
Washington, DC 20005

Throughout this document, the numbers listed above will be used to identify the individual who made the comment. The number will be listed in parentheses following the comment. DEP's response will be listed following the comment.

GENERAL COMMENTS

Comment: Permit should be based on current data and DEP should immediately require Pixelle to update its permit application or verify in writing that all of the information in the application remain correct. **(3)**

Response: For years, Pixelle has repeatedly confirmed that there has not been any change to the facility or discharge that would result in changes to be made in the application. Therefore, DEP did not require further information from Pixelle when reviewing the application. However, DEP has agreed that influent and effluent samples to be recollected given that the application data is old. Ultimately, DEP has requested Pixelle to recollect the influent and effluent data and also has requested Pixelle to re-submit the application package in case Pixelle can provide any new information since the application template has been updated.

Comment: DEP should make permit applications, draft permits and draft fact sheet publicly available. **(3)**

Response: A public review of documents including permit documents, reports, applications, and correspondence that are associated with this facility are available at the PA DEP Southcentral Regional Office ("SCRO"), 909 Elmerton Avenue, Harrisburg, PA 17110. To make an appointment for file reviews, contact the SCRO File Review Coordinator at 717.705.4700.

PART A – EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

Comment: Pixelle requests that the Department increase the thermal variance limits developed by the 316(a) thermal variance study conducted by Glatfelter in 2001. Since the issuance of the permit, Pixelle has observed an increase in upstream water and ambient air temperatures. Pixelle has collected and shared with DEP temperature data upstream of the mill that indicates in situ Codorus Creek temperature is increasing. Additionally, ambient air temperature as measured at York Aviation (York Airport) is increasing. As a result, maintaining existing downstream temperature requires additional cooling compared to the 2001 baseline. Pixelle would like to discuss how increased upstream temperature and increased ambient air temperature would influence the 316(a) thermal variance. **(2)**

Response: DEP has determined that the relaxation of thermal variance limits based on the study previously conducted by Pixelle is not warranted given the age of this study. The draft permit includes the thermal variance study requirement that would allow Pixelle to further examine ambient temperature and to demonstrate that such relaxation can be warranted.

Comment: The hourly instream temperature change limit on Page 40 of the Draft Permit (line G) and on Page 48 of the Fact Sheet was not listed on the Part A tables in the Draft Permit. The previous permit had the hourly instream temperature listed on the tables. Pixelle is seeking clarification. **(2)**

Response: The hourly instream temperature change limit has moved from Part A to Part C of the permit. Regardless, the facility is still required to achieve compliance with the same requirements in accordance with narrative requirements under 25 Pa Code §96.6(b). No change will be made from the draft permit.

Comment: DEP should consider developing WQBELs that are designed to ensure compliance with applicable water quality standards. **(3)**

Response: For the current temperature impairment status on the receiving stream, while DEP has acknowledged that Pixelle is the main source of this impairment, a TMDL has not yet been developed to address this impairment. In case the TMDL is developed, DEP will reopen this permit to include any wasteload allocation that is developed in the TMDL for this facility. As far as the reasonable potential analysis, DEP has included input and output data of the computer-based water quality models in the original fact sheet (starting on page 68). Further, the original draft permit includes a requirement to conduct a biological monitoring study as part of the thermal variance to demonstrate that the variance can still be warranted under current biological and water quality conditions of the receiving stream.

Comment: Pixelle believes that the significant decrease in the color limits in the draft permit is unjustified and inappropriate. Page 40 of the Fact Sheet states that *"these effluent limits are stringent than existing effluent limits, particularly due to the fact that actual background color data was used as opposed to the default value of 10 PCU."* 10 PCU was used as the default upstream background value while drafting the previous permit. Since then, data from Pixelle's DMRs were used to obtain actual upstream background concentrations of 17.6 PCU in the summer and 15.2 PCU in the winter. When applying these higher upstream color backgrounds, TMS produced lower average monthly and

daily maximum limits. It appears that higher background color and/or additional color inputs upstream of the mill is the main justification for lowering Pixelle's color limitations. Additionally, the daily maximum color reduction in the draft permit is disproportionate to the monthly average color reduction. Fact sheet discussion includes comparing new standards to submitted data, stating that violations would have occurred if proposed permit parameters are implemented. Pixelle believes that color parameters need to be reevaluated. Pixelle is seeking clarification. **(2)**

Response: During any permit renewal application review process, DEP revisits all existing effluent limits to ensure that existing limits are still appropriate for water quality protection. The existing effluent limits appeared to be developed using default values and asked the permittee to collect ambient color data during the permit term. The ambient data was available for DEP to use to appropriately develop effluent limits. No change will be made from the draft permit.

Comment: Pixelle is unsure why the existing chloroform limits have become more stringent. As stated on page 38 of the Fact Sheet, *"a review of past DMR data showed Chloroform has been consistently not detected in effluent at a concentration of 0.001 mg/L."* Pixelle has demonstrated continuous compliance with this requirement and uses an analytical method with a method detection limit (MDL) five times smaller than the state water quality criteria for human health. Pixelle has not had a detectable chloroform concentration since July 25, 2011. The measured value on this date is 0.002 mg/l (which is possibly the MDL at that time). Based on the data supplied to DEP, Pixelle believes that measuring chloroform is not necessary. Pixelle requests that chloroform monitoring be removed from the NPDES permit. **(2)**

Response: The requirement to monitor for chloroform is in accordance with federal effluent guidelines under Subpart B of 40 CFR §430.22. All monitoring points associated with process wastewater have therefore included chloroform requirements, whether it is monitoring-only or numerical effluent limits. No change will be made from the draft permit.

Comment: Pixelle requests that the monitoring frequency for Total Cadmium, Total Manganese, Total Nickel, and Total Zinc on pages 4 and 5 of the draft Permit be amended from weekly to 2 times per month. As we stated during the conversation that occurred with PADEP on 1/8/2024, Pixelle believes that 2 times per month sampling would be satisfactory. Total Aluminum has become a constituent with a limit, with a 1/week monitoring frequency. As we stated during the conversation that occurred with PADEP on 1/8/2024, Pixelle believes that 2 times per month sampling would be satisfactory. **(2)**

Response: As per phone conversation, DEP has agreed to change the sampling frequency from 1/week to 2/month for Total Cadmium, Total Manganese, Total Nickel and Total Zinc. The draft permit will be modified to reflect this change.

Comment: Page 45 of the Fact Sheet indicates that *"the facility is not considered a non-significant (sic) discharger"* and that *"consequently the requirement to monitor for Total Nitrogen and its major constituents is not necessary in the upcoming permit renewal."* Page 4 of the Draft Permit still has Total Nitrogen, NH3-N and Total Kjeldahl Nitrogen parameters listed as monitoring requirements for Outfall 001. As we stated during the conversation that occurred with PADEP on 1/8/2024, Pixelle believes that Total Nitrogen and Total Kjeldahl Nitrogen should be removed from the Permit. **(2)**

Response: As per phone conversation, DEP has agreed to remove nutrient monitoring from the permit. This was a typographical error made during the development of the draft permit as the fact sheet has already discussed the removal of this requirement from the permit. The draft permit will be modified to remove nutrient monitoring from the permit.

Comment: Draft permit does not contain sufficient record that nutrients will be adequately treated. **(3)**

Response: Under Chesapeake Bay TMDL section of the original fact sheet (page 45 of the fact sheet), DEP has explained, based on the review of the data, that there is a net sink for TN and TP. The data analysis is provided starting on page 117 of the original fact sheet.

Comment: Page 42 of the Fact Sheet indicates that *"the upcoming permit renewal will continue to include 0.035 pg/L as Part A numerical effluent limit in accordance with 40 CFR §122.44(i)(1), but will contain Part C condition that will allow Glatfelter to use 10 pg/L as the MDL. This means if dioxin is not detected in effluent samples at 10 pg/L, Glatfelter will still be in compliance with the permit requirement despite the fact that Glatfelter would fail to analyze the data down to 0.035 pg/L."* This condition is not currently written into Part C of the draft Permit. Pixelle requests language in Part C to indicate that 2,3,7,8-TCDD results reported below the MDL are in compliance with the Permit. **(2)**

Response: The above-referenced Part C condition was excluded from the permit by mistake. The draft permit will be modified to include such condition that allows the permittee to comply with the MDL rather than the actual effluent limits as the limits are significantly low that the values may not be achievable by the laboratory.

Comment: Page 43 of the Fact Sheet indicates that *"the existing monitoring requirement for BOD5 will be removed from the permit as BOD5 is not a parameter of concern for this type of discharge."* Page 6 of the Draft Permit still has BOD5 listed as a monitoring requirement for Outfall 002. Pixelle believes this to be a typo and requests that the BOD5 requirement be removed from the permit tables to be more consistent with the Fact Sheet. As we stated during the conversation that occurred with PADEP on 1/8/2024, Pixelle believes that the BOD5 monitoring parameter should be removed from the Permit. **(2)**

Response: As per phone conversation, DEP has agreed to remove BOD5 monitoring from the permit for Outfall 002. This was a typographical error made during the development of the draft permit as the fact sheet has already discussed the removal of this requirement from the permit. The draft permit will be modified to remove BOD5 monitoring requirement for Outfall 002.

Comment: Page 43 of the Fact Sheet indicates that the *"existing pH limits of 6.0-9.0 derived from Pa Code §95.2(1) will therefore remain in the permit."* The maximum limit for pH (9.0) is missing on page 6 of the Draft Permit. Pixelle believes this to be a typo and requests that the pH maximum limit be amended on the permit tables to be more consistent with the Fact Sheet. As we stated during the conversation that occurred with PADEP on 1/8/2024, Pixelle believes that the maximum pH should be 9.0. **(2)**

Response: As per phone conversation, DEP has agreed that the maximum pH limit of 9.0 SU was missing from the permit and it is considered a typographical error made during the development of the draft permit as the fact sheet has already discussed the removal of this requirement from the permit. The draft permit will be modified to include the maximum pH limit of 9.0 SU.

Comment: Pixelle believes the maximum limits for 2,3,7,8-TCDD and 2,3,7,8-TCDF on pages 7 and 9 of the draft Permit are typos. The 'Parameter' column of the table indicates that the TCDD and TCDF parameters are measured in pg/L. The previous permit had limits of 10.0 pg/L and 31.9 pg/L for TCDD and TCDF, respectively. The newly issued draft Permit changed those values to 0.01 pg/L and 0.319 pg/L, respectively. Pixelle believes that an unnecessary unit conversion was applied to the existing permit limits. Pixelle requests that the limits be returned to the original values of 10.0 pg/L and 31.9 pg/L for 2,3,7,8-TCDD and 2,3,7,8-TCDF, respectively. As we stated during the conversation that occurred with PADEP on 1/8/2024, Pixelle believes that concentrations of 10.0 pg/L and 31.9 pg/L should be reflected in the Permit. **(2)**

Response: DEP has agreed that the unit conversion was improperly made during the development of the draft permit. The draft permit will therefore be modified to include these limits using the proper unit conversion.

Comment: Dioxin Limit should be lower as Pixelle is able to achieve 1 pg/L and 4 pg/L. **(3)**

Response: The sample result provided by Pixelle is non-detected at 1 pg/L and 4 pg/L; this does not necessarily mean that the lab used by Pixelle can achieve the level of 1 pg/L. The EPA analytical method 1613 has the MDL of 10 pg/L for 2,3,7,8-TCDD. Therefore, DEP believes that using the MDL provided by the EPA analytical method 1613 is reasonable. No change will be made to the permit.

Comment: The current NPDES Permit requires 1/year testing of the stormwater sites, however in the draft Permit, *"the monitoring frequency has increased from 1/year to 2/year to be consistent with the NPDES PAG-03 General Permit requirement."* Pixelle has demonstrated through successive testing that these outfalls are not a major concern for several parameters, of which have consequentially been removed from the annual sampling requirement (BOD5, Oil & Grease, Total Kjeldahl Nitrogen, Total Manganese, and Total Phosphorus). Pixelle is seeking clarification on the new monitoring frequency of 2/year. The draft Permit references "DEP's Annual Report template" that is attached to the permit. Pixelle is unable to locate the attachment. Pixelle would like the ability to review the template prior to issuance of the permit. **(2)**

Response: Per permittee's request, the annual stormwater monitoring report will be attached to the draft permit. As discussed in the fact sheet, the monitoring frequency has changed to reflect the requirements for the NPDES PAG-03 General Permit. DEP believes that 2/year sampling would provide a better understanding of characteristics of stormwater discharges from this site. No change will be made to the proposed stormwater requirements specified in the draft permit.

Comment: Page 36 of the Fact Sheet indicates that *"it would be reasonable for Pixelle to collect, for the subsequent permit renewal application, instream data of CBOD5, NH3-N, and DO as well as other stream characteristics further upstream from Spring Grove and Jackson Township discharge locations. A new Part C permit condition is recommended to inform that default values will be considered for the next permit renewal unless site-specific data is collected and submitted along with the next permit renewal application."* Pixelle would like to know where the default values are located and how are they determined. Additionally, Pixelle would like to understand the requirements regarding data collection. For example, how often should sampling occur, how long should the data collection take place and what are "other stream characteristics" that are described? These are a few examples, but certainly not exhaustive. A better understanding of the request is necessary. **(2)**

Response: As discussed in the fact sheet, when DEP conducted a reasonable potential analysis using WQM 7.0 for CBOD5, NH3-N and DO, the fate coefficient of variation for dissolved oxygen (reaeration rate) and ambient concentration of these parameters were based on the historical sampling results. DEP also used Width/Depth Stream ratio of 40 (WD ratio). Please refer to DEP's technical guidance no. 391-2000-007 (*Technical Reference Guide WQM 7.0 for Windows Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen version 1.0)* for WQM 7.0 modeling default values. Also, the stream velocity was adjusted based on the dye studies. These stream velocity and WD ratio can be reviewed through a field data collection. Dissolved oxygen reaeration rate as well as ambient concentrations should be obtained based on at least one-year field data collection that would consider potential seasonal changes.

PART C – OTHER REQUIREMENTS

Comment: The Instream Monitoring Program described on page 42 of the Fact Sheet suggests *"A continuation of this monitoring requirement is recommended."* Pixelle is seeking clarification on this requirement because the Instream Monitoring Program concluded in the Spring of 2010. The final instream monitoring results were received at the Department. Part C.II.D of the current NPDES permit allows for the discontinuation of monitoring at a specific station if *"following four sampling events, there are no exceedances of state water quality standards for any parameter at a specific monitoring station."* After five sampling events, all monitoring stations except the spring adjacent to the No. 19 lagoon met the criteria to discontinue monitoring. The spring itself is currently being sampled quarterly for a more extensive list of parameters as part of the ongoing long-term lagoon closure program being overseen by the Department's Bureau of Waste Management. Therefore, further sampling of the spring for the Instream Monitoring Program requirements of the NPDES permit became redundant and Glatfelter requested to be released from the further monitoring. As such, Pixelle does not believe that further sampling should be required. **(2)**

Response: DEP has considered your draft permit comment and determined that instream monitoring for Total Boron, Total Cadmium, Total Iron, pH, Ammonia-Nitrogen, Total Aluminum, Chloride, Total Manganese, Sulfate, Total Dissolved Solids, COD and Fluoride at five different stream locations is no longer needed. However, DEP may under 40 CFR 122.41(h) request instream data for such pollutants in the future to ensure that the existing conditions are still maintained, and to determine compliance with the permit.

Comment: Part C.V. of the draft permit proposes requirements for the permittee to support continuation of their thermal variance for the subsequent permit renewal to conform to CWA § 316(a). However, the fact sheet explains that the last variance study was conducted in 2001. Is there any other study or permit application information used to renew the thermal variance? CWA § 316(a) and the regulations at 40 CFR § 122.21(m)(6) provide for variances from thermal effluent limitations in NPDES permits. The Implementation of Clean Water Act Section 316(a) Thermal Variances in NPDES Permits (Review of Existing Requirements) memo clarifies the expectations for granting and renewing a thermal variance. PADEP should take into perspective the memo to develop permit requirements regarding the renewal of the thermal variance and document that in the fact sheet. **(1)**

Response: For the upcoming permit renewal, Pixelle will be required to conduct a biology monitoring study to support continuation of the thermal variance.

Comment: Part C.V. of the draft permit proposes requirements for PADEP to make their final best technology available (BTA) determination for the cooling water intake structure(s) to conform to CWA §316(b) and additional information is needed to justify this proposal. The fact sheet explains that the permittee has not provided enough information for PADEP to make a final BTA determination and that PADEP intends to make a final BTA determination for the subsequent permit renewal to conform to CWA § 316(b). Based on this information, EPA offers the following questions, comments, and recommendations.

a. Did the permittee submit the "MODULE 5 – COOLING WATER INTAKE STRUCTURE" of the "INDIVIDUAL NPDES PERMIT APPLICATION FOR INDUSTRIAL WASTE FACILITIES" as part of their permit application submittal?
b. What are the unknowns for PADEP to make a final BTA determination?
c. How is the CWIS designed, operated, maintained, and monitored to conform to applicable requirements?

EPA expects that, at least, PADEP is aware of this information to use it as the final BTA determination for this permit renewal. Henceforth, the final BTA determination is subject to revisions following the data gathering, characterization, and assessment requirements proposed to either justify it or make a new one. **(1)**

Response: DEP addresses this comment as follows:

a. Did the permittee submit the "MODULE 5 – COOLING WATER INTAKE STRUCTURE" of the "INDIVIDUAL NPDES PERMIT APPLICATION FOR INDUSTRIAL WASTE FACILITIES" as part of their permit application submittal?
– Yes, Pixelle has provided Module 5 as an update to the permit renewal application.

b. What are the unknowns for PADEP to make a final BTA determination?
– As of the date of this fact sheet addendum, there is no impingement and entrainment data that would allow DEP to determine the BTA.

c. How is the CWIS designed, operated, maintained, and monitored to conform to applicable requirements?
– Pixelle has two (2) CWISs; CWIS 01 is the intake located near the southeast corner of Mill Pond. This intake structure consists of a sea curtain, bar screen, and traveling screen system. CWIS 01 is primarily used for process water, with less than 5% used for cooling water makup in the Pulpmill cooling towers. CWIS 02 is the intake located in a small cove in the northeast corner of the Mill Pond. This intake structure consists of a skimmer screen, bar screen and a traveling screen system. CWIS 02 is used for non-contact cooling, boiler water makeup, and Co-Gen Cooling Tower makeup. Both intake structures operate 24 hours /7 days /365 days.

<u>OTHER COMMENTS</u>

Comment: Page 32 of the draft Permit indicates that Pixelle is to *"report hauled-in residual wastes on a monthly basis to DEP on the "Hauled In Residual Wastes" Supplemental Report (3800-FM-BCW0450) as an attachment to the DMR."* Pixelle requests clarification of the Department's definition of "hauled-in residual wastes" and specifically requests that any such definition not be applied to materials generated at Pixelle's Spring Grove facility. **(2)**

Response: Under 25 Pa Code 287.1, residual waste is defined as garbage, refuse, other discarded material or other waste, including solid, liquid, semisolid or contained gaseous materials resulting from industrial, mining and agricultural operations and sludge from an industrial, mining or agricultural water supply treatment facility, wastewater treatment facility or air pollution control facility, if it is not hazardous.

ATTACHMENT B – Reasonable Potential Analysis

WQM 7.0 for 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 guidance no. 391-2000-007 provides the technical methods contained in WQM 7.0 for conducting wasteload allocation and for determining recommended NPDES effluent limits for point source discharges. DEP updated this model (ver. 1.1) to include the new ammonia criteria that has been approved by US EPA as part of the 2017 Triennial Review. The main factors in this model are the discharge flowrate, streamflow, and physical conditions of the discharge location such as river-mile and elevation of the streambank. These factors are not expected to be altered since the last permit reissuance or since the original renewal application was submitted. However, since the revised renewal application has updated temperature and pH effluent data, DEP has re-utilized this model by slightly adjusting the inputs using this data. No change to the effluent limits was recommended by the model. See the modeling efforts below.

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)
24.450	Pixelle 001	PA000886900	13.700	CBOD5	14		
				NH3-N	1.5	3	
				Dissolved Oxygen			5

Toxics

DEP utilizes a Toxics Management Spreadsheet (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. Since the original permit renewal application was submitted, no changes to the discharge flowrate, streamflow, and physical conditions of the discharge location such as river-mile and elevation of the streambank are expected. However, once again, since the revised renewal application contains updated toxic pollutant effluent data, DEP has reutilized TMS by adjusting effluent input using this data. Based on the model, effluent limits are needed for Total Aluminum and Bis(2-Ethylhexyl)Phthalate and monitoring requirement is needed for Total Cadmium. See the modeling efforts below.

☑ ***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	93.4	143	817	1,256	2,043	µg/L	817	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Cadmium	Report	Report	Report	Report	Report	µg/L	0.99	CFC	Discharge Conc > 10% WQBEL (no RP)
Bis(2-Ethylhexyl)Phthalate	0.11	0.17	0.96	1.5	2.4	µg/L	0.96	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Color	XXX	XXX	120	187	299	Pt-Co	120	THH	Discharge Conc ≥ 50% WQBEL (RP)

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
07H	8032	CODORUS CREEK	**26.140**	438.00	74.00	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	0.214	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	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
Spring Grove	PA02660860	0.3300	0.3300	0.3300	0.000	20.00	7.50

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	21.00	1.40	0.00	1.50
Dissolved Oxygen	5.00	8.10	0.00	6.00
NH3-N	7.50	0.06	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
07H	8032	CODORUS CREEK	**25.710**	431.00	75.60	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	0.214	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	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
Jackson Townshi	PA02665660	0.8000	0.8000	0.8000	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	22.00	1.40	0.00	1.50
Dissolved Oxygen	5.00	8.10	0.00	6.00
NH3-N	8.00	0.06	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
07H	8032	CODORUS CREEK	**25.260**	428.00	75.80	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	0.214	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	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	1.40	0.00	1.50
Dissolved Oxygen	3.00	8.10	0.00	6.00
NH3-N	25.00	0.06	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
07H	8032	CODORUS CREEK	**24.450**	421.00	76.00	0.00080	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	0.214	0.00	21.60	0.000	0.560	40.0	0.00	0.00	25.00	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
Pixelle 001	PA000886900	13.7000	13.7000	13.7000	0.000	30.00	7.50

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	14.00	1.40	0.00	1.50
Dissolved Oxygen	5.00	8.10	0.00	6.00
NH3-N	1.50	0.06	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
07H	8032	CODORUS CREEK	23.900	419.00	76.40	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	0.214	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	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	1.40	0.00	1.50
Dissolved Oxygen	3.00	8.10	0.00	6.00
NH3-N	25.00	0.06	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
07H	8032	CODORUS CREEK	**21.000**	408.00	83.60	0.00080	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	0.214	0.00	0.00	0.000	0.000	40.0	0.00	0.00	25.00	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
BAE Systems	PA00092530	0.0710	0.0710	0.0710	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	25.00	1.40	0.00	1.50
Dissolved Oxygen	5.00	8.10	0.00	6.00
NH3-N	23.00	0.06	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
07H	8032	CODORUS CREEK	**20.600**	406.00	88.20	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	0.214	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	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	1.40	0.00	1.50
Dissolved Oxygen	3.00	8.10	0.00	6.00
NH3-N	25.00	0.06	0.00	0.70

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
07H	8032	CODORUS CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
26.140	0.330	24.844	7.009
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
54.977	0.794	69.217	0.374
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.01	0.468	0.29	1.016
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.003	6.730	User Supplied	5
Reach Travel Time (days)			
0.070			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.007	2.00	0.29	7.56
0.014	2.00	0.29	7.56
0.021	1.99	0.29	7.56
0.028	1.98	0.28	7.56
0.035	1.97	0.28	7.56
0.042	1.96	0.28	7.56
0.049	1.96	0.28	7.56
0.056	1.95	0.28	7.56
0.063	1.94	0.27	7.56
0.070	1.93	0.27	7.56

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
25.710	1.130	24.512	7.009
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
60.143	0.818	73.512	0.364
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
3.31	0.902	0.80	0.991
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.392	6.678	User Supplied	5
Reach Travel Time (days)			
0.075			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.008	3.28	0.80	7.38
0.015	3.25	0.79	7.36
0.023	3.22	0.78	7.35
0.030	3.20	0.78	7.34
0.038	3.17	0.77	7.33
0.045	3.14	0.77	7.32
0.053	3.12	0.76	7.31
0.060	3.09	0.76	7.30
0.068	3.07	0.75	7.30
0.075	3.04	0.74	7.29

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
07H	8032	CODORUS CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
25.260	1.130	24.514	7.009
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
59.361	0.813	73.055	0.373
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
3.04	0.831	0.74	0.991
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.293	6.678	User Supplied	5
Reach Travel Time (days)			
0.133			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.013	3.00	0.73	7.29
0.027	2.96	0.72	7.29
0.040	2.92	0.71	7.29
0.053	2.88	0.70	7.29
0.066	2.84	0.70	7.29
0.080	2.80	0.69	7.29
0.093	2.76	0.68	7.30
0.106	2.72	0.67	7.30
0.120	2.69	0.66	7.31
0.133	2.65	0.65	7.32

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
24.450	14.830	27.183	7.176
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
86.689	0.918	94.481	0.560
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
7.90	1.363	0.98	1.217
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.309	7.114	User Supplied	5
Reach Travel Time (days)			
0.060			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.006	7.81	0.98	6.22
0.012	7.72	0.97	6.14
0.018	7.63	0.96	6.06
0.024	7.55	0.96	5.98
0.030	7.46	0.95	5.91
0.036	7.38	0.94	5.85
0.042	7.30	0.93	5.79
0.048	7.21	0.93	5.73
0.054	7.13	0.92	5.68
0.060	7.05	0.91	5.63

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
07H	8032	CODORUS CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
23.900	14.830	27.179	7.176
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
85.534	0.903	94.766	0.578
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
7.04	1.305	0.91	1.216
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.637	7.114	User Supplied	5
Reach Travel Time (days)			
0.307			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.031	6.66	0.88	5.46
0.061	6.30	0.85	5.36
0.092	5.96	0.82	5.31
0.123	5.63	0.79	5.29
0.153	5.33	0.76	5.31
0.184	5.04	0.73	5.35
0.215	4.77	0.70	5.41
0.245	4.51	0.68	5.48
0.276	4.27	0.65	5.55
0.307	4.04	0.63	5.64

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
21.000	14.901	27.089	7.168
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
87.577	0.906	96.713	0.584
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
4.00	1.227	0.66	1.208
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.720	7.099	User Supplied	5
Reach Travel Time (days)			
0.042			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.004	3.97	0.66	5.73
0.008	3.94	0.66	5.74
0.013	3.91	0.65	5.76
0.017	3.89	0.65	5.77
0.021	3.86	0.65	5.78
0.025	3.83	0.64	5.79
0.029	3.80	0.64	5.81
0.034	3.78	0.64	5.82
0.038	3.75	0.63	5.83
0.042	3.72	0.63	5.84

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Pixelle Spring Grove Mill** NPDES Permit No.: **PA0008869** Outfall No.: **001**

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

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
13.7	376	7.5						

	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		344									
	Chloride (PWS)	mg/L		198									
	Bromide	mg/L		0.357									
	Sulfate (PWS)	mg/L		605									
	Fluoride (PWS)	mg/L		0.625									
Group 2	Total Aluminum	µg/L		650			0.4738						
	Total Antimony	µg/L		0.37									
	Total Arsenic	µg/L	<	2.5									
	Total Barium	µg/L		202									
	Total Beryllium	µg/L	<	0.135									
	Total Boron	µg/L		239			0.4516						
	Total Cadmium	µg/L		0.144									
	Total Chromium (III)	µg/L		0.00235									
	Hexavalent Chromium	µg/L		0.00069									
	Total Cobalt	µg/L		0.608									
	Total Copper	µg/L		3.25									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	0.006									
	Dissolved Iron	µg/L	<	40									
	Total Iron	µg/L		47.9									
	Total Lead	µg/L		0.491									
	Total Manganese	µg/L		17.2									
	Total Mercury	µg/L		0.00161									
	Total Nickel	µg/L		5.83									
	Total Phenols (Phenolics) (PWS)	µg/L	<	235									
	Total Selenium	µg/L	<	2.5									
	Total Silver	µg/L	<	0.274									
	Total Thallium	µg/L		0.038									
	Total Zinc	µg/L		9.18									
	Total Molybdenum	µg/L	<	20									
	Acrolein	µg/L	<	2									
	Acrylamide	µg/L	<	0.1									
	Acrylonitrile	µg/L	<	2.55									
	Benzene	µg/L	<	0.5									
	Bromoform	µg/L	<	1.7									
	Carbon Tetrachloride	µg/L	<	0.5									

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Group 3	Chlorobenzene	µg/L	<	1.05									
	Chlorodibromomethane	µg/L	<	0.5									
	Chloroethane	µg/L	<	2.1									
	2-Chloroethyl Vinyl Ether	µg/L	<	20									
	Chloroform	µg/L	<	2.55									
	Dichlorobromomethane	µg/L	<	0.5									
	1,1-Dichloroethane	µg/L	<	2.1									
	1,2-Dichloroethane	µg/L	<	1.95									
	1,1-Dichloroethylene	µg/L	<	1.65									
	1,2-Dichloropropane	µg/L	<	0.5									
	1,3-Dichloropropylene	µg/L	<	0.5									
	1,4-Dioxane	µg/L		18									
	Ethylbenzene	µg/L	<	1.3									
	Methyl Bromide	µg/L	<	2.3									
	Methyl Chloride	µg/L	<	1.8									
	Methylene Chloride	µg/L	<	2.25									
	1,1,2,2-Tetrachloroethane	µg/L	<	0.36									
	Tetrachloroethylene	µg/L	<	1.95									
	Toluene	µg/L	<	1.65									
	1,2-trans-Dichloroethylene	µg/L	<	1.95									
	1,1,1-Trichloroethane	µg/L	<	1.9									
	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	<	6.5									
	2,4-Dichlorophenol	µg/L	<	10									
	2,4-Dimethylphenol	µg/L	<	13									
	4,6-Dinitro-o-Cresol	µg/L	<	10									
	2,4-Dinitrophenol	µg/L	<	10									
	2-Nitrophenol	µg/L	<	12.5									
	4-Nitrophenol	µg/L	<	9.5									
	p-Chloro-m-Cresol	µg/L	<	20									
	Pentachlorophenol	µg/L	<	10									
	Phenol	µg/L	<	12.5									
	2,4,6-Trichlorophenol	µg/L	<	10									
Group 5	Acenaphthene	µg/L	<	2.5									
	Acenaphthylene	µg/L	<	11									
	Anthracene	µg/L	<	2.5									
	Benzidine	µg/L	<	17.5									
	Benzo(a)Anthracene	µg/L	<	2.5									
	Benzo(a)Pyrene	µg/L	<	2.5									
	3,4-Benzofluoranthene	µg/L	<	2.5									
	Benzo(ghi)Perylene	µg/L	<	16									
	Benzo(k)Fluoranthene	µg/L	<	2.5									
	Bis(2-Chloroethoxy)Methane	µg/L	<	7.5									
	Bis(2-Chloroethyl)Ether	µg/L	<	5									
	Bis(2-Chloroisopropyl)Ether	µg/L	<	5									
	Bis(2-Ethylhexyl)Phthalate	µg/L		11.9									
	4-Bromophenyl Phenyl Ether	µg/L	<	9.5									
	Butyl Benzyl Phthalate	µg/L	<	5									
	2-Chloronaphthalene	µg/L	<	14									
	4-Chlorophenyl Phenyl Ether	µg/L	<	14.5									
	Chrysene	µg/L	<	2.5									
	Dibenzo(a,h)Anthrancene	µg/L	<	2.5									
	1,2-Dichlorobenzene	µg/L	<	16									
	1,3-Dichlorobenzene	µg/L	<	0.5									
	1,4-Dichlorobenzene	µg/L	<	7.5									
	3,3-Dichlorobenzidine	µg/L	<	5									
	Diethyl Phthalate	µg/L	<	13.5									
	Dimethyl Phthalate	µg/L	<	11.5									
	Di-n-Butyl Phthalate	µg/L	<	5									
	2,4-Dinitrotoluene	µg/L	<	5									
	2,6-Dinitrotoluene	µg/L	<	5									
	Di-n-Octyl Phthalate	µg/L	<	14									

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	1,2-Diphenylhydrazine	µg/L	<	10									
	Fluoranthene	µg/L	<	2.5									
	Fluorene	µg/L	<	12.5									
	Hexachlorobenzene	µg/L	<	5									
	Hexachlorobutadiene	µg/L	<	0.5									
	Hexachlorocyclopentadiene	µg/L	<	5									
	Hexachloroethane	µg/L	<	5									
	Indeno(1,2,3-cd)Pyrene	µg/L	<	2.5									
	Isophorone	µg/L	<	11.5									
	Naphthalene	µg/L	<	12.5									
	Nitrobenzene	µg/L	<	5									
	n-Nitrosodimethylamine	µg/L	<	5									
	n-Nitrosodi-n-Propylamine	µg/L	<	5									
	n-Nitrosodiphenylamine	µg/L	<	5									
	Phenanthrene	µg/L	<	2.5									
	Pyrene	µg/L	<	8									
	1,2,4-Trichlorobenzene	µg/L	<	0.5									
Group 6	Aldrin	µg/L	<	0.0032									
	alpha-BHC	µg/L	<	0.0093									
	beta-BHC	µg/L	<	0.026									
	gamma-BHC	µg/L	<	0.015									
	delta BHC	µg/L	<	0.083									
	Chlordane	µg/L	<	0.2									
	4,4-DDT	µg/L	<	0.05									
	4,4-DDE	µg/L	<	0.0048									
	4,4-DDD	µg/L	<	0.013									
	Dieldrin	µg/L	<	0.0033									
	alpha-Endosulfan	µg/L	<	0.002									
	beta-Endosulfan	µg/L	<	0.02									
	Endosulfan Sulfate	µg/L	<	0.0053									
	Endrin	µg/L	<	0.036									
	Endrin Aldehyde	µg/L	<	0.019									
	Heptachlor	µg/L	<	0.0098									
	Heptachlor Epoxide	µg/L	<	0.0045									
	PCB-1016	µg/L	<	0.2									
	PCB-1221	µg/L	<	0.19									
	PCB-1232	µg/L	<	0.18									
	PCB-1242	µg/L	<	0.21									
	PCB-1248	µg/L	<	0.079									
	PCB-1254	µg/L	<	0.26									
	PCB-1260	µg/L	<	0.14									
	PCBs, Total	µg/L	<										
	Toxaphene	µg/L	<	0.19									
	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											
	Color	Pt-Co		123		15.2			0.616				

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Pixelle Spring Grove Mill, NPDES Permit No. PA0008869, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Codorus Creek**

No. Reaches to Model: 1

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	008032	24.45	421	76			Yes
End of Reach 1	008032	23.9	419	76.4			Yes

$Q_{7\text{-}10}$

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	24.45	0.1	15.8		40			0.56				135	7		
End of Reach 1	23.9	0.214													

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	24.45		42.37												
End of Reach 1	23.9														

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

Pixelle Spring Grove Mill, NPDES Permit No. PA0008869, Outfall 001

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

☐ *Hydrodynamics*

☑ *Wasteload Allocations*

☑ *AFC* CCT (min): 14.380 PMF: 1 Analysis Hardness (mg/l): 273.07 Analysis pH: 7.22

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	1,309	
Total Antimony	0	0		0	1,100	1,100	1,920	
Total Arsenic	0	0		0	340	340	593	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	36,655	
Total Boron	0	0		0	8,100	8,100	14,139	
Total Cadmium	0	0		0	5.342	5.92	10.3	Chem Translator of 0.902 applied
Total Chromium (III)	0	0		0	1297.186	4,105	7,165	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	28.4	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	166	
Total Copper	0	0		0	34.628	36.1	63.0	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	189.066	293	512	Chem Translator of 0.645 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	2.87	Chem Translator of 0.85 applied
Total Nickel	0	0		0	1095.347	1,098	1,916	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	18.105	21.3	37.2	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	113	
Total Zinc	0	0		0	274.479	281	490	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	5.24	
Acrylamide	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	650	650	1,135	

Benzene	0	0		0	640	640	1,117	
Bromoform	0	0		0	1,800	1,800	3,142	
Carbon Tetrachloride	0	0		0	2,800	2,800	4,887	
Chlorobenzene	0	0		0	1,200	1,200	2,095	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	31,419	
Chloroform	0	0		0	1,900	1,900	3,316	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	26,182	
1,1-Dichloroethylene	0	0		0	7,500	7,500	13,091	
1,2-Dichloropropane	0	0		0	11,000	11,000	19,200	
1,3-Dichloropropylene	0	0		0	310	310	541	
Ethylbenzene	0	0		0	2,900	2,900	5,062	
Methyl Bromide	0	0		0	550	550	960	
Methyl Chloride	0	0		0	28,000	28,000	48,874	
Methylene Chloride	0	0		0	12,000	12,000	20,946	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	1,745	
Tetrachloroethylene	0	0		0	700	700	1,222	
Toluene	0	0		0	1,700	1,700	2,967	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	11,869	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	5,236	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	5,935	
Trichloroethylene	0	0		0	2,300	2,300	4,015	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	977	
2,4-Dichlorophenol	0	0		0	1,700	1,700	2,967	
2,4-Dimethylphenol	0	0		0	660	660	1,152	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	140	
2,4-Dinitrophenol	0	0		0	660	660	1,152	
2-Nitrophenol	0	0		0	8,000	8,000	13,964	
4-Nitrophenol	0	0		0	2,300	2,300	4,015	
p-Chloro-m-Cresol	0	0		0	160	160	279	
Pentachlorophenol	0	0		0	10.837	10.8	18.9	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	803	
Acenaphthene	0	0		0	83	83.0	145	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	524	
Benzo(a)Anthracene	0	0		0	0.5	0.5	0.87	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	30,000	30,000	52,365	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	7,855	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	471	
Butyl Benzyl Phthalate	0	0		0	140	140	244	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	

Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	820	820	1,431	
1,3-Dichlorobenzene	0	0		0	350	350	611	
1,4-Dichlorobenzene	0	0		0	730	730	1,274	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	6,982	
Dimethyl Phthalate	0	0		0	2,500	2,500	4,364	
Di-n-Butyl Phthalate	0	0		0	110	110	192	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	2,793	
2,6-Dinitrotoluene	0	0		0	990	990	1,728	
1,2-Diphenylhydrazine	0	0		0	15	15.0	26.2	
Fluoranthene	0	0		0	200	200	349	
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	17.5	
Hexachlorocyclopentadiene	0	0		0	5	5.0	8.73	
Hexachloroethane	0	0		0	60	60.0	105	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	17,455	
Naphthalene	0	0		0	140	140	244	
Nitrobenzene	0	0		0	4,000	4,000	6,982	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	29,673	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	524	
Phenanthrene	0	0		0	5	5.0	8.73	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	227	
Aldrin	0	0		0	3	3.0	5.24	
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	1.66	
Chlordane	0	0		0	2.4	2.4	4.19	
4,4-DDT	0	0		0	1.1	1.1	1.92	
4,4-DDE	0	0		0	1.1	1.1	1.92	
4,4-DDD	0	0		0	1.1	1.1	1.92	
Dieldrin	0	0		0	0.24	0.24	0.42	
alpha-Endosulfan	0	0		0	0.22	0.22	0.38	
beta-Endosulfan	0	0		0	0.22	0.22	0.38	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.086	0.086	0.15	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.52	0.52	0.91	
Heptachlor Epoxide	0	0		0	0.5	0.5	0.87	
Toxaphene	0	0		0	0.73	0.73	1.27	
Color	15.2	0.616		0	N/A	N/A	N/A	

☑ ***CFC*** CCT (min): 14.380 PMF: 1 Analysis Hardness (mg/l): 273.07 Analysis pH: 7.22

Pollutants	Stream	Stream	Trib Conc	Fate	WQC	WQ Obj	WLA (ug/L)	Comments

Pollutants	Conc (µg/L)	CV	(µg/L)	Coef	(µg/L)	(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	384	
Total Arsenic	0	0		0	150	150	262	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	7,157	
Total Boron	0	0		0	1,600	1,600	2,793	
Total Cadmium	0	0		0	0.494	0.57	0.99	Chem Translator of 0.867 applied
Total Chromium (III)	0	0		0	168.737	196	342	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	18.1	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	33.2	
Total Copper	0	0		0	21.130	22.0	38.4	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	2,618	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	7.368	11.4	19.9	Chem Translator of 0.645 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	1.58	Chem Translator of 0.85 applied
Total Nickel	0	0		0	121.659	122	213	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	8.71	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	22.7	
Total Zinc	0	0		0	276.724	281	490	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	5.24	
Acrylamide	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	130	130	227	
Benzene	0	0		0	130	130	227	
Bromoform	0	0		0	370	370	646	
Carbon Tetrachloride	0	0		0	560	560	977	
Chlorobenzene	0	0		0	240	240	419	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	6,109	
Chloroform	0	0		0	390	390	681	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	5,411	
1,1-Dichloroethylene	0	0		0	1,500	1,500	2,618	
1,2-Dichloropropane	0	0		0	2,200	2,200	3,840	
1,3-Dichloropropylene	0	0		0	61	61.0	106	
Ethylbenzene	0	0		0	580	580	1,012	
Methyl Bromide	0	0		0	110	110	192	
Methyl Chloride	0	0		0	5,500	5,500	9,600	
Methylene Chloride	0	0		0	2,400	2,400	4,189	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	367	
Tetrachloroethylene	0	0		0	140	140	244	

Toluene	0	0		0	330	330	576	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	2,444	
1,1,1-Trichloroethane	0	0		0	610	610	1,065	
1,1,2-Trichloroethane	0	0		0	680	680	1,187	
Trichloroethylene	0	0		0	450	450	785	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	192	
2,4-Dichlorophenol	0	0		0	340	340	593	
2,4-Dimethylphenol	0	0		0	130	130	227	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	27.9	
2,4-Dinitrophenol	0	0		0	130	130	227	
2-Nitrophenol	0	0		0	1,600	1,600	2,793	
4-Nitrophenol	0	0		0	470	470	820	
p-Chloro-m-Cresol	0	0		0	500	500	873	
Pentachlorophenol	0	0		0	8.314	8.31	14.5	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	159	
Acenaphthene	0	0		0	17	17.0	29.7	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	103	
Benzo(a)Anthracene	0	0		0	0.1	0.1	0.17	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	6,000	6,000	10,473	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	1,588	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	94.3	
Butyl Benzyl Phthalate	0	0		0	35	35.0	61.1	
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	279	
1,3-Dichlorobenzene	0	0		0	69	69.0	120	
1,4-Dichlorobenzene	0	0		0	150	150	262	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	1,396	
Dimethyl Phthalate	0	0		0	500	500	873	
Di-n-Butyl Phthalate	0	0		0	21	21.0	36.7	
2,4-Dinitrotoluene	0	0		0	320	320	559	
2,6-Dinitrotoluene	0	0		0	200	200	349	
1,2-Diphenylhydrazine	0	0		0	3	3.0	5.24	
Fluoranthene	0	0		0	40	40.0	69.8	
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	3.49	
Hexachlorocyclopentadiene	0	0		0	1	1.0	1.75	

Hexachloroethane	0	0		0	12	12.0	20.9	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	3,666	
Naphthalene	0	0		0	43	43.0	75.1	
Nitrobenzene	0	0		0	810	810	1,414	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	5,935	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	103	
Phenanthrene	0	0		0	1	1.0	1.75	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	45.4	
Aldrin	0	0		0	0.1	0.1	0.17	
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	0.008	
4,4-DDT	0	0		0	0.001	0.001	0.002	
4,4-DDE	0	0		0	0.001	0.001	0.002	
4,4-DDD	0	0		0	0.001	0.001	0.002	
Dieldrin	0	0		0	0.056	0.056	0.098	
alpha-Endosulfan	0	0		0	0.056	0.056	0.098	
beta-Endosulfan	0	0		0	0.056	0.056	0.098	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.036	0.036	0.063	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.0038	0.004	0.007	
Heptachlor Epoxide	0	0		0	0.0038	0.004	0.007	
Toxaphene	0	0		0	0.0002	0.0002	0.0003	
Color	15.2	0.616		0	N/A	N/A	N/A	

☑ ***THH*** CCT (min): 14.380 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	9.77	
Total Arsenic	0	0		0	10	10.0	17.5	
Total Barium	0	0		0	2,400	2,400	4,189	
Total Boron	0	0		0	3,100	3,100	5,411	
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	524	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	1,745	
Total Mercury	0	0		0	0.050	0.05	0.087	
Total Nickel	0	0		0	610	610	1,065	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	0.42	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	5.24	
Acrylamide	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	N/A	N/A	N/A	
Benzene	0	0		0	N/A	N/A	N/A	
Bromoform	0	0		0	N/A	N/A	N/A	
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A	
Chlorobenzene	0	0		0	100	100.0	175	
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	57.6	
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	
1,3-Dichloropropylene	0	0		0	N/A	N/A	N/A	
Ethylbenzene	0	0		0	68	68.0	119	
Methyl Bromide	0	0		0	100	100.0	175	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	N/A	N/A	N/A	
1,1,2,2-Tetrachloroethane	0	0		0	N/A	N/A	N/A	
Tetrachloroethylene	0	0		0	N/A	N/A	N/A	
Toluene	0	0		0	57	57.0	99.5	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	175	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	17,455	
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	52.4	
2,4-Dichlorophenol	0	0		0	10	10.0	17.5	
2,4-Dimethylphenol	0	0		0	100	100.0	175	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	3.49	
2,4-Dinitrophenol	0	0		0	10	10.0	17.5	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	

Pentachlorophenol	0	0		0	N/A	N/A	N/A	
Phenol	0	0		0	4,000	4,000	6,982	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	122	
Anthracene	0	0		0	300	300	524	
Benzidine	0	0		0	N/A	N/A	N/A	
Benzo(a)Anthracene	0	0		0	N/A	N/A	N/A	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroisopropyl)Ether	0	0		0	200	200	349	
Bis(2-Ethylhexyl)Phthalate	0	0		0	N/A	N/A	N/A	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	0.1	0.1	0.17	
2-Chloronaphthalene	0	0		0	800	800	1,396	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	1,000	1,000	1,745	
1,3-Dichlorobenzene	0	0		0	7	7.0	12.2	
1,4-Dichlorobenzene	0	0		0	300	300	524	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	1,047	
Dimethyl Phthalate	0	0		0	2,000	2,000	3,491	
Di-n-Butyl Phthalate	0	0		0	20	20.0	34.9	
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	34.9	
Fluorene	0	0		0	50	50.0	87.3	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	N/A	N/A	N/A	
Hexachlorocyclopentadiene	0	0		0	4	4.0	6.98	
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	59.3	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	17.5	
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	34.9	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	0.12	
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	7.33	
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	34.9	
beta-Endosulfan	0	0		0	20	20.0	34.9	
Endosulfan Sulfate	0	0		0	20	20.0	34.9	
Endrin	0	0		0	0.03	0.03	0.052	
Endrin Aldehyde	0	0		0	1	1.0	1.75	
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	
Color	15.2	0.616		0	75	75.0	120	

CRL CCT (min): 24.505 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylamide	0	0		0	0.07	0.07	0.21	

Acrylonitrile	0	0		0	0.06	0.06	0.18	
Benzene	0	0		0	0.58	0.58	1.74	
Bromoform	0	0		0	7	7.0	21.0	
Carbon Tetrachloride	0	0		0	0.4	0.4	1.2	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	2.4	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	17.1	
Dichlorobromomethane	0	0		0	0.95	0.95	2.85	
1,2-Dichloroethane	0	0		0	9.9	9.9	29.7	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	2.7	
1,3-Dichloropropylene	0	0		0	0.27	0.27	0.81	
Ethylbenzene	0	0		0	N/A	N/A	N/A	
Methyl Bromide	0	0		0	N/A	N/A	N/A	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	20	20.0	60.0	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	0.6	
Tetrachloroethylene	0	0		0	10	10.0	30.0	
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	1.65	
Trichloroethylene	0	0		0	0.6	0.6	1.8	
Vinyl Chloride	0	0		0	0.02	0.02	0.06	
2-Chlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dichlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dimethylphenol	0	0		0	N/A	N/A	N/A	
4,6-Dinitro-o-Cresol	0	0		0	N/A	N/A	N/A	
2,4-Dinitrophenol	0	0		0	N/A	N/A	N/A	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	0.030	0.03	0.09	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	4.5	
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	0.0003	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.003	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.0003	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.003	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.03	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	0.09	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	0.96	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	

Butyl Benzyl Phthalate	0	0		0	N/A	N/A	N/A	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	0.12	0.12	0.36	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.0003	
1,2-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,3-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,4-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
3,3-Dichlorobenzidine	0	0		0	0.05	0.05	0.15	
Diethyl Phthalate	0	0		0	N/A	N/A	N/A	
Dimethyl Phthalate	0	0		0	N/A	N/A	N/A	
Di-n-Butyl Phthalate	0	0		0	N/A	N/A	N/A	
2,4-Dinitrotoluene	0	0		0	0.05	0.05	0.15	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	0.15	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	0.09	
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	0.0002	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.03	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	0.3	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.003	
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	0.002	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.015	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	9.9	
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	0.000002	
alpha-BHC	0	0		0	0.0004	0.0004	0.001	
beta-BHC	0	0		0	0.008	0.008	0.024	
gamma-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	0.0003	0.0003	0.0009	
4,4-DDT	0	0		0	0.00003	0.00003	0.00009	
4,4-DDE	0	0		0	0.00002	0.00002	0.00006	
4,4-DDD	0	0		0	0.0001	0.0001	0.0003	
Dieldrin	0	0		0	0.000001	0.000001	0.000003	
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	0.00002	
Heptachlor Epoxide	0	0		0	0.00003	0.00003	0.00009	
Toxaphene	0	0		0	0.0007	0.0007	0.002	

Color	15.2	0.616		0	N/A	N/A	N/A	

Recommended WQBELs & Monitoring Requirements

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Aluminum	93.4	143	817	1,256	2,043	µg/L	817	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Cadmium	Report	Report	Report	Report	Report	µg/L	0.99	CFC	Discharge Conc > 10% WQBEL (no RP)
Bis(2-Ethylhexyl)Phthalate	0.11	0.17	0.96	1.5	2.4	µg/L	0.96	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Color	XXX	XXX	120	187	299	Pt-Co	120	THH	Discharge Conc ≥ 50% WQBEL (RP)

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

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Antimony	9.77	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	4,189	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	2,793	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	342	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	18.1	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	33.2	µg/L	Discharge Conc ≤ 10% WQBEL
Total Copper	38.4	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	524	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	2,618	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	19.9	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	1,745	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.087	µg/L	Discharge Conc ≤ 10% WQBEL
Total Nickel	213	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	8.71	µg/L	Discharge Conc < TQL
Total Silver	23.8	µg/L	Discharge Conc < TQL
Total Thallium	0.42	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	314	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	3.36	µg/L	Discharge Conc < TQL
Acrylamide	0.21	µg/L	Discharge Conc < TQL

Acrylonitrile	0.18	µg/L	Discharge Conc < TQL
Benzene	1.74	µg/L	Discharge Conc < TQL
Bromoform	21.0	µg/L	Discharge Conc ≤ 25% WQBEL
Carbon Tetrachloride	1.2	µg/L	Discharge Conc < TQL
Chlorobenzene	175	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorodibromomethane	2.4	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	6,109	µg/L	Discharge Conc ≤ 25% WQBEL
Chloroform	17.1	µg/L	Discharge Conc ≤ 25% WQBEL
Dichlorobromomethane	2.85	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	29.7	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethylene	57.6	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-Dichloropropane	2.7	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	0.81	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	119	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Bromide	175	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Chloride	9,600	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	60.0	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2,2-Tetrachloroethane	0.6	µg/L	Discharge Conc < TQL
Tetrachloroethylene	30.0	µg/L	Discharge Conc ≤ 25% WQBEL
Toluene	99.5	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-trans-Dichloroethylene	175	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,1-Trichloroethane	1,065	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2-Trichloroethane	1.65	µg/L	Discharge Conc < TQL
Trichloroethylene	1.8	µg/L	Discharge Conc < TQL
Vinyl Chloride	0.06	µg/L	Discharge Conc < TQL
2-Chlorophenol	52.4	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	17.5	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	175	µg/L	Discharge Conc ≤ 25% WQBEL
4,6-Dinitro-o-Cresol	3.49	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	17.5	µg/L	Discharge Conc < TQL
2-Nitrophenol	2,793	µg/L	Discharge Conc ≤ 25% WQBEL
4-Nitrophenol	820	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	179	µg/L	Discharge Conc ≤ 25% WQBEL
Pentachlorophenol	0.09	µg/L	Discharge Conc < TQL
Phenol	6,982	µg/L	Discharge Conc ≤ 25% WQBEL
2,4,6-Trichlorophenol	4.5	µg/L	Discharge Conc < TQL
Acenaphthene	29.7	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	524	µg/L	Discharge Conc < TQL
Benzidine	0.0003	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.003	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.0003	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.003	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS

Benzo(k)Fluoranthene	0.03	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	0.09	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	349	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	94.3	µg/L	Discharge Conc ≤ 25% WQBEL
Butyl Benzyl Phthalate	0.17	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	1,396	µg/L	Discharge Conc ≤ 25% WQBEL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	0.36	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.0003	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	279	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichlorobenzene	12.2	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	262	µg/L	Discharge Conc ≤ 25% WQBEL
3,3-Dichlorobenzidine	0.15	µg/L	Discharge Conc < TQL
Diethyl Phthalate	1,047	µg/L	Discharge Conc ≤ 25% WQBEL
Dimethyl Phthalate	873	µg/L	Discharge Conc ≤ 25% WQBEL
Di-n-Butyl Phthalate	34.9	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	0.15	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	0.15	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	0.09	µg/L	Discharge Conc < TQL
Fluoranthene	34.9	µg/L	Discharge Conc < TQL
Fluorene	87.3	µg/L	Discharge Conc ≤ 25% WQBEL
Hexachlorobenzene	0.0002	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.03	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	1.75	µg/L	Discharge Conc < TQL
Hexachloroethane	0.3	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.003	µg/L	Discharge Conc < TQL
Isophorone	59.3	µg/L	Discharge Conc ≤ 25% WQBEL
Naphthalene	75.1	µg/L	Discharge Conc ≤ 25% WQBEL
Nitrobenzene	17.5	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.002	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.015	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	9.9	µg/L	Discharge Conc < TQL
Phenanthrene	1.75	µg/L	Discharge Conc < TQL
Pyrene	34.9	µg/L	Discharge Conc ≤ 25% WQBEL
1,2,4-Trichlorobenzene	0.12	µg/L	Discharge Conc < TQL
Aldrin	0.000002	µg/L	Discharge Conc < TQL
alpha-BHC	0.001	µg/L	Discharge Conc < TQL
beta-BHC	0.024	µg/L	Discharge Conc < TQL
gamma-BHC	1.06	µg/L	Discharge Conc < TQL
delta BHC	N/A	N/A	No WQS
Chlordane	0.0009	µg/L	Discharge Conc < TQL
4,4-DDT	0.00009	µg/L	Discharge Conc < TQL
4,4-DDE	0.00006	µg/L	Discharge Conc < TQL
4,4-DDD	0.0003	µg/L	Discharge Conc < TQL
Dieldrin	0.000003	µg/L	Discharge Conc < TQL

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alpha-Endosulfan	0.098	µg/L	Discharge Conc < TQL
beta-Endosulfan	0.098	µg/L	Discharge Conc < TQL
Endosulfan Sulfate	34.9	µg/L	Discharge Conc < TQL
Endrin	0.052	µg/L	Discharge Conc < TQL
Endrin Aldehyde	1.75	µg/L	Discharge Conc < TQL
Heptachlor	0.00002	µg/L	Discharge Conc < TQL
Heptachlor Epoxide	0.00009	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	0.0003	µg/L	Discharge Conc < TQL

ATTACHMENT C – Chemical Additive Analysis

During the original permit renewal application, DEP has asked the permittee if any update is needed on the chemical additive information from the original permit renewal application given the date of the application submitted by the permittee. The permittee indicated that there has not been any change. As a result, DEP reviewed a number of chemicals that were used at the plant that were identified on the original permit renewal application. However; those chemicals were used in wastewater treatment; therefore, they were not considered chemical additives. When Pixelle updated the application package, Pixelle indicated that further internal review is needed for chemical additives. A few months later after the updated application package was submitted, Pixelle provided additional information associated with chemical additives was submitted. DEP has therefore determined to reconduct a chemical additive analysis based on the submitted additional information.

A. Chemical Additives on approved list (Chemical Additives Notification Form)

Chemical Name	Intended Use(s)	Maximum Allowable Usage Rate (gal/day)	Proposed Usage Rate (gal/day)
56% Acetic Acid	Acid wash boil outs	10.9	6636
Elimin-Ox	Oxygen scavenger	17.4	10536
KR-153SL	Biocide	0.4	232
3D Trasar 3DT222	Cooling water corrosion inhibitor	1.0	585
Nalco 7221	Iron dispersant	19.1	11591
Nalco 7330	Biocide	2.3	1424
Nalco 8338	Corrosion inhibitor	5.9	3567
Nalkat 2020	Settling aid/coagulant	0.1	44

As shown above, the usage rate for all chemical additives are significantly higher than the allowable usage rate. Pixelle indicated that presumably there would be 90% degradation at point of application. Even that is true, the usage rate for these chemical additives are still higher than the allowable usage rate. Based on this, the upcoming draft permit will include a new Part C language that requires Pixelle to either reduce the rate or consider alternate chemical additives that can replace these chemical additives. Monitoring these chemical additives is not reasonable as there is currently no analytical method to specifically monitor these chemical additives.

B. Chemical Additives not on approved list (New Chemical Additives Request Form)
Pixelle has also submitted New Chemical Additives Request Forms for a number of chemical additives that are currently not on the approved list. In general, these forms should be reviewed by the Bureau of Clean Water so that they can be included in the approved list before these chemical additives can be used. Therefore, the following chemical additives will be identified in the upcoming draft permit and DEP will include a new Part C language that requires Pixelle to have these chemical additives on the approved list before they can be used.

Chemical Name	Intended Use(s)
Dilute Acetic Acid 56%	Acid wash boil outs
K-RO-3007B	UF/RO CIP Additive
Nalco 22305	Scale Inhibitor
Nalstrip 2634	Alkaline Cleaner

The Part C Chemical Additive Condition will remain unchanged in the upcoming draft permit but above-mentioned languages will be newly included in the condition.

Pennsylvania
Department of
Environmental Protection

ATTACHMENT D – ADDITIONAL INFORMATION

A. 316 (a) & 316(b) Requirements

Pixelle updated the application package and provided the following information regarding cooling water intake structures:

COOLING WATER INTAKE STRUCTURES

1. Does the facility use cooling water? ☒ Yes ☐ No If no, the rest of this section may remain blank

2. Identify the source(s) of cooling water: ☒ Surface water ☐ Groundwater ☐ Treated effluent
   ☐ Public water system (Potable): PWS ID: _____ ☐ Public water system (Raw): PWS ID: _____
   ☐ Independent supplier: _____ ☐ Other: _____

3. Facility Type: ☐ New Facility ☐ New Offshore O&G Facility ☒ Existing Facility ☐ below 2 MGD or 25% cooling

4. Is Module 5 is attached to this application? ☒ Yes ☐ No

5. Number of CWISs at facility: 2

6. CWIS Flow Data:

CWIS ID No.	DIF (MGD)	AIF (MGD)	Max Screen Velocity (fps)	% Used for Cooling	% Mean Annual Flow
01 - NFP	36.7	13.5		< 5%	< 2%
02 - Powerhouse	22	12		80%	20%

7. Type of CWIS Location:

CWIS ID No.	Type (check box):				
01	☐ Intake Canal	☒ Embayment, Bank or Cove	☐ Submerged Offshore Intake	☐ Near-shore Submerged Intake	☐ Shoreline Submerged Intake
02	☐ Intake Canal	☒ Embayment, Bank or Cove	☐ Submerged Offshore Intake	☐ Near-shore Submerged Intake	☐ Shoreline Submerged Intake
	☐ Intake Canal	☐ Embayment, Bank or Cove	☐ Submerged Offshore Intake	☐ Near-shore Submerged Intake	☐ Shoreline Submerged Intake

8. Describe all Impingement Control Technologies employed:

NFP CWIS - The intake is located near the southeast corner (downstream end) of the Mill Pond. The intake structure includes a sea curtain, followed by a bar screen, followed by a traveling screen system located in the raw water pump building. The traveling screen is preceded by a short stone channel formed by a jetty in the downstream bank. A sea curtain is installed at the end of the channel to preclude the entrance of floating debris.

Powerhouse CWIS - The intake is located in a small cove in the northeast corner (downstream end) of the Mill Pond. The intake structure includes a skimmer screen, followed by a bar screen, followed by a traveling screen system located inside an enclosure building along the edge of the Mill Pond. A skimmer screen extends laterally across the full span of a concrete wing wall structure located where water enters the intake structure. The skimmer screen depth overlaps the water surface and extends from about 1 foot above the water surface to about 1 foot below the water surface, and is intended to block floating debris from entering the intake. The skimmer screen level is adjustable so that it can be lowered or raised to maintain an overlap with the water surface to accommodate variation in the mill pond water level. After water passes through the skimmer screen, the water passes a bar screen intended to keep large organisms and debris from entering the intake.

9. Describe all Entrainment Control Technologies employed:

NFP CWIS - After waster passes through the NFP CWIS bar screen, the water enters the traveling screen esystem. The traveling screen mesh size is 0.105 x 0.375 inches. After the traveling screen, the raw water is conveyed into the wet well inside the New Filter Plant.

Powerhouse CWIS - After water passes through the Powerhouse CWIS bar screen, the water then enters the traveling screen enclosure. The traveling screen mesh size is 3/8 inch square. After the traveling screen, water flows through a 200-foot long, 60-inch diameter concrete pipe that conveys water north from the intake to a wet well inside the plant.

10. Has the facility conducted any impingement or entrainment studies in the last 10 years? ☐ Yes ☒ No If yes, attach the results

11. Attach any information required by your current permit to the application (existing facilities only)

As indicated on Question no. 10, Pixelle has not conducted any impingement and/or entrainment studies. The update application package does not include any new studies. As such, DEP has determined that the requirement to conduct a biological monitoring study for 316(a) thermal variance and impingement/entrainment studies for 316(b) cooling water intake structure needs to remain unchanged in the draft permit.

B. Per-and polyfluoroalkyl substances (PFAS)

The updated permit renewal application contained effluent, influent and stream data for PFAS-related compounds. The in-stream data was collected just upstream of Mill Cooling Towers. The data is shown below.

Effluent	Results	In-Stream	Results	Influent	Results	
PFOA (ng/L)	2.8	PFOA (ng/L)	3.6	PFOA (ng/L)	<5.0	
PFOS (ng/L)	1.1	PFOS (ng/L)	2.3	PFOS (ng/L)	<5.0	
PFBS ng/L	4.2	PFBS ng/L	2.8	PFBS ng/L	9.8	
HFPO-DA (ng/L)	<4.1	HFPO-DA (ng/L)	<3.9	HFPO-DA (ng/L)	<20	

While data shows PFAS levels in effluent are below DEP's target Quantitation Limits, an annual monitoring requirement for PFOA, PFOS, HFPO-DA and PFBS is still recommended. This permitting approach is consistent with DEP's SOP no. BCW-PMT-032.

C. Whole Effluent Toxicity Testing (WETT)

The updated permit renewal application contains four (4) WETT results conducted previously. However, these results were also submitted as part of the original permit renewal application. As discussed in the original draft permit fact sheet, given the nature of this discharge and the fact that WETT was conducted over 20 years ago, another set of chronic WETT will be appropriate to further ensure water quality protection.

ATTACHMENT E – DRAFT PERMIT COMMENTS

ENVIRONMENTAL INTEGRITY PROJECT

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January 22, 2024

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Re: Comments on Draft Permit NPDES Permit No. PA0008869
Pixelle Specialty Solutions LLC (f/k/a P.H. Glatfelter Company)

Dear Maria, Dan and Jinsu:

The Environmental Integrity Project ("EIP"), the Lower Susquehanna Riverkeeper Association ("LSRA"), and Trout Unlimited, Codorus Chapter ("Codorus Trout") (collectively, "Commenters") respectfully submit the comments below to the Pennsylvania Department of Environmental Protection ("DEP" or "the Department") on DEP's tentative determination to renew the National Pollutant Discharge Elimination System ("NPDES") Permit ("Draft Permit") and issue the Fact Sheet ("Draft Fact Sheet") for Pixelle Specialty Solutions LLC, 228 S. Main St., Spring Grove, PA 17362 ("the Facility") (NPDES No. PA0008869).

EIP is a non-profit, nonpartisan organization that empowers communities and protects public health and the environment by investigating polluters, holding them accountable under the law, and strengthening public policy. Comprised of attorneys, analysts, investigators, and community organizers, EIP's goals include helping local communities obtain the protections of environmental laws. LSRA is a non-profit organization dedicated to improving the ecological health of the Lower Susquehanna River Watershed and the Chesapeake Bay. LSRA's team consists of friends, neighbors, outdoorsmen, recreationalists, and families who want safe drinking water, sustainable use of natural resources, and the ability to fish and swim in the Susquehanna River and its tributaries. Codorus Trout is an organization that engages in a wide variety of activities to promote clean water and healthy trout habitat through hands-on stream improvement work, educational and instructional programs, and community outreach and partnerships.

We urge DEP to issue a final permit for the Facility that reflects the changes recommended below, and we invite discussion as to how the permit's requirements can be carried out in a way that is environmentally protective, cost-effective, and implementable by industry while, most importantly, achieving the objectives of the Clean Water Act to restore and maintain the health of our nation's waters, 33 U.S.C. § 1251, and those of the Commonwealth. 35 P.S. § § 691.1 *et seq.* (CSL enacted "[t]o preserve and improve the purity of the waters of the Commonwealth for the protection of public health, animal and aquatic life, and for industrial consumption, and recreation. . . . "). We appreciate the hard work that has gone into drafting the Permit and Fact Sheet, and have identified the following issues in particular that should be addressed before it is finalized:

1. Global Comment: Permit Should be Based on Current Data

The Facility's existing NPDES permit was issued on May 31, 2007 and became effective on July 1, 2007. Draft Fact Sheet at p. 2. The permit expired on June 30, 2012, and has been administratively extended since that time, *i.e., – a period of nearly 12 years*. According to the Draft Fact Sheet, the renewal application was received by the Department on December 29, 2011, and accepted on January 6, 2012. *Id.* at p. 1. Much of the data included in the Draft Fact Sheet is seriously outdated.

Pursuant to Pixelle's ongoing duty to correct information in its permit application and supplement the application with any relevant facts, DEP should immediately require Pixelle to update its permit application or verify in writing that all of the information in the application remains correct. *See* Permit, Part B.I.C ("Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information"); *see also* 40 C.F.R. § 270.30(*l*)(11) (same).

The Draft Fact Sheet contains many instances where DEP relies on information that is more than five years old. For example, under "Industiral [sic] Process," the Draft Fact sheet includes a table of paper and pulp production data for "the past five-year" period, but it is for 2012-2016. Draft Fact Sheet at p. 2. DEP acknowledges the fact that the data is from more than six years ago,[1] but it indicates only that "a representative from Pixelle has recently confirmed that no changes have been identified in terms of the industrial operations performed at the site. As a result, these data will still be used for this permit renewal." *Id.* Instead of relying on that generalized statement, DEP should require Pixelle to supply current data for its paper and pulp production, and that information should be included in the Fact Sheet, pursuant to the Facility's ongoing duty to correct information in its permit application and to supplement the application with any relevant facts.

Similarly, under "Sources of Wastewater," the Draft Fact Sheet identifies the average flow rates as being taken from the renewal application, *see* Draft Fact Sheet at p. 3 – which was submitted in 2011. And the Draft Sheet indicates that it includes information gleaned from a DEP site visit in 2017, Draft Fact Sheet at p. 4. Again, this information is outdated.

[1] In fact, the data are from eight to 12 years ago.

As a result of DEP's outdated information for the Pixelle Permit, we urge the Department to: evaluate the entire Draft Permit and Fact Sheet to ensure that they rely upon current information; require Pixelle to meet its duties to supplement and correct the permit application; and, if necessary, perform an additional site visit. For instance, this evaluation should include consideration of whether Pixelle should be required to submit additional information in light of the scientific and regulatory communities' recognition of the existence of and challenges posed by Per- and Polyfluorinated Alkyl Substances ("PFAS"), discussed below in the context of the need for case-by-case technology-based effluent limits.

2. Technology-Based Effluent Limitations Must Reflect Best Available Technology at Time of Permit Issuance

Before 1972, the Federal Water Pollution Control Act relied on water quality standards as the primary way to control pollution. *EPA v. California ex rel. State Water Resources Control Bd.*, 426 U.S. 200, 202 (1976). It did not work: in 1972, the Senate Committee on Public Works concluded that the program "has been inadequate in every vital respect." *Id.*; Senate Committee on Public Works, S.Rep. 92–414, at 8, reprinted in 1972 U.S.C.C.A.N. 3668, 3675. The 1972 Amendments to the Federal Water Pollution Control Act, popularly known as the Clean Water Act ("CWA"), deliberately ended this approach and made technology-based pollution limits the centerpiece of the law. *Cal. Ex rel. State Water Res. Control Bd.*, 426 U.S. at 202.

Now, the CWA requires that permits include increasingly more stringent technology-based limits that reflect the best available economically achievable treatment technologies ("BAT"). 33 U.S.C. §§ 1251(a)(1), 1311(b)(2), 1317(a)(2); *see also Sw. Elec. Power Co. v. EPA,* 920 F.3d 999, 1005 (5th Cir. 2019) (explaining that the CWA is "'technology-forcing,' meaning it seeks to 'press development of new, more efficient and effective [pollution-control] technologies'") (alteration in original) (citing *NRDC v. EPA*, 822 F.2d 104, 123 (D.C. Cir. 1987)). These technology-based BAT limits must be based, at a minimum, "on the performance of the single best-performing plant in an industrial field." *Sw. Elec. Power Co.*, 920 F.3d at 1006 (citing *Chem. Mfrs. Ass'n v. EPA*, 870 F.2d 177, 226 (5th Cir. 1989)); *see also Kennecott v. EPA*, 780 F.2d 445, 448 (4th Cir. 1985) ("In setting BAT, EPA uses not the average plant, but the optimally operating plant, the pilot plan which acts as a beacon to show what is possible.").

Best Achievable Technologies Must Be Required by Permit

For plants like the Pixelle Facility, the U.S. Environmental Protection Agency ("EPA") has set effluent limitation guidelines ("ELGs") through regulations for specific industrial sectors like the pulp, paper, and paperboard ("PPP") point source category, 40 C.F.R. Part 430. When applicable, these limits must be incorporated into NPDES permits. 40 C.F.R. 125.3(a) (providing that, for non-POTWs, effluent limitations must reflect best available technology ("BAT") currently available); 25 Pa. Code § 92a.48. The PPP ELGs were established in 1974 and 1977 and amended in 1982 and 1986. In 1998, EPA promulgated a major amendment covering toxic pollutants in 1998 as part of the cluster rule. 40 C.F.R. Part 430; 63 Fed. Reg. 18504 (April 15, 1998).

The rules applicable to the PPP category were further amended in 1998 (63 Fed. Reg. 42238 (Aug. 7, 1998) (minor corrections)); 1999 (64 Fed. Reg. 36580 (July 7, 1999) (Follow-up to 1998 rule with milestones plan requirements)); 2002 (67 Fed. Reg. 58990 (Sept. 19, 2002) (Technical amendment that reduced monitoring requirements for chloroform for Subpart B facilities and allowed demonstration of compliance by self-certification)); and 2007 (72 Fed. Reg. 11200 (March 12, 2007) (Approved an analytical method for measurement of chlorinated phenolics).

Given that the most recent full-scale revision of the PPP rules occurred in 1998 – over 25 years ago – the ELGs are unlikely to still represent current best available technology for treating water pollution from PPP facilities. Under EPA's permitting regulations, which DEP is required to follow through its delegation as an authorized CWA permitting program, when "EPA-promulgated effluent limitations are inapplicable," or "[w]here promulgated effluent limitations guidelines only apply to certain aspects of the discharger's operation, or to certain pollutants," the permitting agency is required to step in on a case-by-case basis to require technology-based treatment and set BAT limits by applying best professional judgment ("BPJ") to the permit. 40 C.F.R. §§ 125.3(a)(2)(iii)-(v), (c)(2), (3). Commenters request that DEP evaluate each applicable parameter contained in the ELGs to determine whether more stringent TBELs are necessary to achieve BAT for each such pollutant. To do that, we recommend that the Department evaluate whether other facilities throughout the country which are also subject to the PPP rules regularly outperform the Pixelle Facility, using readily available tools such as EPA's Enforcement and Compliance History Online (https://echo.epa.gov/) and EPA's ELG crosswalk.[2]

As further described below, the Department also failed to conduct the needed BPJ analysis for parameters and wastestreams that were not included in the 1998 ELGs, in violation of 40 C.F.R. §§ 125.3(a)(2), (3), which require this analysis "[w]here promulgated effluent limitations guidelines only apply to certain aspects of the discharger's operation, or to certain pollutants." Parameters excluded from the ELGs and requiring this BPJ analysis include PFAS, nutrients, and color. Wastestreams excluded from the ELGs and requiring this BPJ analysis include stormwater.

The Draft Permit Should Address Potential PFAS Discharges

In particular, Commenters submit that DEP should apply its BPJ to address at least one class of pollutant that was not generally understood at the time of ELG development, *i.e.,* per- and polyfluoroalkyl substances ("PFAS"). PFAS are a class of synthetic chemicals used since the 1940s to make water-, heat-, adhesive-, and stain-resistant products such as cookware, carpets, clothing, furniture fabrics, paper packaging for food, other resistant materials, and aqueous film-forming foam (AFFF). These chemicals are bioaccumulative and persistent in the human body and throughout the environment. For example, EPA considers Perfluorooctane sulfonic acid ("PFOS") — one of many PFAS substances — to be a hazardous substance that "may present a substantial danger to human health" due to its links to cancer and effects on

[2] Ideally, Commenters would review the permit application for the renewal to point out any such parameters for which additional TBELs are needed. However, the application is not available on DEP's website and was not included in materials provided during a recent EIP file review, making this exercise not possible.

reproductive, developmental, and cardiovascular health.[3] Other PFAS have also been linked to cancer, immune deficiencies, thyroid disease, and other health problems.[4]

Regulatory agencies have recognized the significant potential dangers of PFAS in surface water, rivers and freshwater lakes. In December 2022, EPA Office of Water sent a memorandum to Regional Water Division Directors on how best to use Clean Water Act authorities to protect the public from the dangers of PFAS.[5] Guidelines included using state NPDES permits to reduce PFAS pollution allowed into waterways and using the most current sampling and analysis methods and pretreatment to identify PFAS sources. According to Pennsylvania's Department of Health PFAS Fact Sheet, exposure to PFOS, PFOA and other perfluorinated compounds (PFCs) like perfluorononanoic acid (PFNA) and perfluorohexane sulfonic acid (PFHxS) is widespread; all have been detected in blood samples of the general U.S. population and wildlife.[6]

Although some PFAS have been manufactured for decades, their danger to human health and the environment were not widely documented in environmental samples until the early 2000s, as PFAS testing was not widely available until that time.[7] In the years since the recognition of the widespread nature and longevity of PFAS were recognized by EPA, the Agency has been involved in developing its regulatory schemes for controlling the substances in wastewater (among other media).[8] In Pennsylvania, the Department published a Safe Drinking Water Maximum Contaminant Level for PFAS in 2023.[9]

As to the pulp and paper industry specifically, there is a significant potential for discharge of PFAS from plants in the sector, including the Pixelle Facility, because of the substances' widespread use throughout the industry.[10] This is especially the case where pulp and paper mills produce coated paper, as Pixelle does. Draft Fact Sheet at p. 2. Because PFAS are considered to be "forever chemicals" since they are difficult to remove and remediate, it is likely that residuals would remain in Facility process and discharge systems indefinitely.[11]

As a result of the potential for PFAS in discharges from facilities in the pulp and paper sector, including Pixelle, it is incumbent upon DEP to ensure that water discharge permits

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[3] *See, e.g.,* EPA, Designation of Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) as CERCLA Hazardous Substances," 87 Fed. Reg. 54415, 54422 (Sept. 6, 2022).
[4] *See, e.g.,* U.S. Centers for Disease Control, Agency for Toxic Substances and Disease Registry, "What are the health effects of PFAS?"; S. Fenton, *et al.,* "Per- and Polyfluoroalkyl Substance Toxicity and Human Health Review: Current State of Knowledge and Strategies for Informing Future Research," *Envt'l. Tox. Chem.* (Dec. 7, 2020).
[5] EPA, "Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs" (Dec. 5, 2022).
[6] Pennsylvania Department of Health, "Per- and polyfluoroalkyl substances (PFAS) (also known as perfluorochemicals, PFCs)" (Jan. 30, 2023).
[7] Interstate Council on Regulatory Technology, "History and Use of Per- and Polyfluoroalkyl Substances (PFAS) found in the Environment" (August 2020).
[8] EPA, "EPA's PFAS Strategic Roadmap: Second Annual Progress Report" (Dec. 2023).
[9] Pennsylvania Environmental Quality Board, "Safe Drinking Water PFAS MCL Rule," 53 Pa. B. 33333 (Jan. 14, 2023).
[10] *See, e.g.,* EPA, "PFAS Strategic Roadmap: EPA's Commitments to Action 2021-2024," EPA Docket No. EPA-HQ-OW-2022-0114-0925 (March 17, 2023) at p. 23 (Key industries with significant documented discharges of PFAS include pulp and paper); Environmental Defense Fund, "Paper mills as a significant source of PFAS contamination, but who's watching" (May 21, 2018).
[11] *See generally,* EPA, "PFAS Strategic Roadmap," *supra* n. 10.

contain requirements for evaluating the existence of PFAS in their discharge, consistent with the approach of other states with a number of pulp and paper mills, like Michigan and Maine.[12] In fact, EPA's guidance for pollution prevention strategies for industrial PFAS discharges, including pulp and paper mills, provides that "Permit writers and pretreatment coordinators are encouraged to include PFAS monitoring in permits for facilities where PFAS are suspected of being present in the discharge."[13] Consequently, for the Pixelle permit, Commenters recommend adding language to the Fact Sheet reflecting the possibility that PFAS is or was discharged by the Facility and including a corresponding Permit requirement to monitor for PFAS at section I.A. of the Permit. A monitoring requirement in the Facility's permit for PFOA, PFOS, and Total PFAS would enable it to gather data in anticipation of eventual effluent limits for those substances.

Likewise, the Permit should include a re-opener provision such that if EPA publishes new PPP ELGs that include PFAS limits or if federal or state water quality criteria are promulgated before the next permit renewal cycle, or if technology performance standards based on BPJ become available during the next Permit cycle, Pixelle's NPDES Permit can be re-opened and limits imposed for PFOA, PFOS, and possibly other PFAS.

3. Water Quality-Based Effluent Limitations ("WQBELs")

WQBELs Must Be Designed to Ensure Compliance with Applicable Water Quality Standards ("WQS")

NPDES permit limitations and conditions must be designed to ensure compliance with the narrative and numeric criteria in the WQS and Total Maximum Daily Load ("TMDL") wasteload allocations ("WLAs") established in any applicable TMDL.[14] Permit writers must also consider whether the discharge contributes directly or indirectly to a waterbody that is included on the latest CWA section 303(d) list or designated by DEP as impaired. According to the Draft Fact Sheet, the portion of Codorus Creek – the receiving stream for the Facility's discharges – is impaired for thermal modifications as a result of an industrial point source "near the on-site wastewater treatment facility," and Pixelle is seemingly a "main source of this increase in natural water temperatures." Draft Fact Sheet at p. 6.

Despite the impaired status of the receiving waters, neither the Draft Permit nor Fact Sheet appear to include a record that WQS and TMDL wasteload allocations will be achieved. Instead, the Draft Fact Sheet simply acknowledges that more stringent WQBELs "must be included in the NPDES permit when applicable technology-based requirements are not sufficient to protect water quality standards in the receiving stream." Draft Fact Sheet at p. 32. Thus, before the Fact Sheet can be finalized, DEP must ensure that each pollutant that has the reasonable potential to cause or contribute to an exceedance of water quality standards will be sufficiently controlled through the permit requirements. 40 C.F.R. § 122.44(d)(1)(i). To the extent that DEP

[12] *See, e.g.,* AECOM, "Evaluation of PFAS in Influent, Effluent, and Residuals of Wastewater Treatment Plants (WWTPs) in Michigan" (April 2021) at pp. 2, 22; Maine PFAS Task Force, "Managing PFAS in Maine" (Jan. 2020) at p. 9, respectively.
[13] EPA, Pollution Prevention Strategies for Industrial PFAS Discharges" (July 2023).
[14] Section 301(b)(1)(C) of the CWA, 33 U.S.C. § 1331(b)(1)(C); *see also* 40 C.F.R. § 122.4(d) (providing that "[n]o permit may be issued . . . [w]hen the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States. . . ").

relies on computer-based water quality models to perform that analysis, both the input and output data must be included in the Draft Fact Sheet for each applicable parameter so that they can be evaluated for sufficiency and accuracy.

Permittee Should Be Required to Perform Instream Studies

For conventional pollutants, the Draft Permit indicates that certain effluent limitations listed were developed partly based on previous instream studies including a dye study and background concentrations, much of which was collected more than 20 years ago and "could be obsolete." As a result, the Draft Permit includes the following provision: "The permittee *may choose* to conduct instream studies to demonstrate that these site-specific data are still valid; otherwise, the Department will use default values for the upcoming permit renewal. In case the permittee chooses to conduct a site-specific instream study, the permittee must submit the results with the subsequent permit renewal application." Draft Permit at p. 40 (emphasis added); Draft Fact Sheet at p. 36.

This language raises several concerns. First, it does not offer any explanation as to what the "default values" are, or why they are supported by the record before the Department. Second, while Commenters appreciate that DEP has offered a mechanism to potentially reflect more recent instream data, we submit that Pixelle should be actually *required* as a term of its permit to conduct the needed instream studies, and that the applicable permit provision, Part C, I.F, include a reopener provision such that the more protective WQBELs will be implemented sooner than at the time of the next permit cycle.

Chloroform Limits in Draft Permit May Constitute Impermissible Backsliding

We note an additional concern with the Chloroform limits for Outfall 001 in the Draft Permit. The Draft Fact Sheet, appropriately, considers the existing limits of 0.02 mg/L (average monthly) and 0.04 mg/L (daily maximum), and concludes that based on a reasonable potential analysis, more stringent permits are required, *i.e.,* 0.017 mg/L (average monthly) and 0.026 mg/L (daily maximum). However, the existing permit contains an instantaneous maximum limit for Chloroform of 0.05 mg/L, whereas the Draft Permit indicates "XXX" for this value.[15] In other words, the fact that there is no limit in the draft permit for instantaneous maximum for Chloroform makes it less stringent than the existing limit for this parameter such that it violates the prohibition against backsliding, 33 U.S.C. §1342(o) ("[A] permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 1314(b) of this title subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.").

4. Dioxin Limit Should Be Lower

With regard to Dioxin (2,3,7,8-tetrachloro-p-dibenzo-dioxin or 2,3,7,8 TCDD), the Draft Fact Sheet indicates that the Draft Permit contains a Part C condition allowing Pixelle to use 10

[15] The Draft Permit contains the following definition for this reference: "At Outfall (XXX) means a sampling location in outfall line XXX below the last point at which wastes are added to outfall line (XXX), or where otherwise specified." Draft Permit at p. 26.

pg/L as the Method Detection Limit ("MDL") – despite a numerical effluent limit of 0.035 pg/L (Draft Permit at p. 4) – based on DEP's evaluations of 2,3,7,8 TCDD laboratory detection limits and cost to achieve compliance with the numerical effluent limit. Draft Fact Sheet at p. 42. However, the Draft Fact Sheet also details that the substance was non-detected at a level of 1 pg/L (and also 4 pg/L), *id.,* so the permittee obviously has access to a laboratory method to analyze its 2,3,7,8 TCDD samples below 10 pg/L; thus, it should be required to achieve a limit that is at least lower than 10 pg/L. DEP refers to EPA Method 1613 as the likely most sensitive analytical method for 2,3,7,8 TCDD, *id.* EPA Method 1613B has an MDL of 4.4 pg/l and a minimum level of 10 pg/l, meaning between this range dioxins can be detected but not quantified.[16] Thus, the Part C condition in the Draft Permit for 2,3,7,8 TCDD should require the more protective MDL of 4.4 pg/l as the effective effluent limit for 2,3,7,8 TCDD.

5. The Industrial Stormwater Requirements of the Draft Permit Should be Strengthened through the Addition of Numeric Requirements

The outmoded PPP ELGS are particularly problematic in that they do not impose measurable requirements for industrial stormwater discharges from covered facilities (except to the extent that stormwater is comingled with process wastewater, 40 C.F.R. § 430.01(m)). The Draft Permit presents an opportunity to create measurable and enforceable requirements, through the application of numeric requirements, to reduce polluted industrial stormwater runoff from the Facility. Moreover, Commenters note that the Clean Water Act's requirements for BAT technology-based limits, *see supra* at p. 3, also apply to industrial stormwater.

As drafted, the permittee is required to implement the Best Management Practices ("BMPs") requirements for industrial stormwater facilities generally, as required by PAG-03. Draft Permit at p. 46. It must also implement the monitoring provisions of PAG-03, Appendix E (Paper and Allied Products). *Id.* at p. 48. Appendix E does impose monitoring requirements for pH, COD and TSS,[17] but the BMP requirements otherwise applicable to the permittee are not numeric. Instead, they include BMPs for activities like pollution prevention and exposure minimization; good housekeeping; and erosion and sediment controls. Draft Permit at p. 46. For example, the Draft Permit requires the permittee to perform "routine implementation" of "Good Housekeeping" measures, including implementing a "routine cleaning and maintenance program," and "[e]liminat[ing] floor drain connections to storm sewers." *Id.* However, the Draft Permit does not identify a schedule for "routine" implementation, *e.g.,* monthly or annually, such that it can be quantified or enforced, nor does it include a deadline for elimination of floor drain connections to storm sewers.

Commenters urge DEP to review the BMPs contained in the Pixelle Facility's Draft Permit for opportunities to add measurable and enforceable requirements. In particular, Commenters recommend that the Department establish, and clearly identify, measurable and enforceable obligations in the Permit beyond the general prohibition against causing or contributing to an exceedance of WQS; otherwise, the Permit may be ineffective and unlawful to

[16] USEPA, Method 1613, Revision B, Tetra- through Octa-Chlorinated Dioxins and Furans HRGC/HRMS, October 1994.
[17] *See,* DEP, NPDES General Permit for Discharges of Stormwater Associated with Industrial Activity," 3800-PM-BCW0083, General Permit Sample.

the extent that the permittee cannot be made to comply. Enforceability would be greatly improved through the following revisions to the Facility's industrial stormwater requirements: clearer, more measurable standards and explicit statements of enforceable provisions, which would avoid permittee self-regulation; increased monitoring requirements; strengthened corrective action provisions; and improved transparency and public accessibility of information. Commenters also request that DEP conduct a separate evaluation as to whether technology-based numeric limits for the Facility's industrial stormwater discharges are needed in order to comply with the technology-based requirements of the Clean Water Act and EPA regulations.

6. Groundwater Should Be Characterized Required Before Covered by Permit

Under "Sources of Wastewater," the Draft Fact Sheet provides that "Groundwater is pumped at four (4) different locations within the site and discharged to either primary wastewater treatment units or to the secondary treatment plant." Draft Permit at p. 3. Commenters have two concerns about this portion of the Fact Sheet:

First, the number of groundwater wells is ambiguous. While the Draft Fact Sheet suggests that there are four distinct wells through reference to four "different locations," *id.* at p. 39, a 2020 Withdrawal Permit issued to Pixelle by the Susquehanna River Basin Commission ("SRBC") includes only two such wells, Well 1 and Well 2.[18] This discrepancy should be resolved before the permit is issued.

Second, the groundwater to be discharged pursuant to the NPDES permit has yet to be characterized. A requirement to evaluate the groundwater to be pumped is especially critical because information from EPA about a hazardous waste cleanup site at the Facility suggests that details about groundwater under the site are largely unknown, and that historic releases to the soils in the area may have impacted groundwater.[19] Despite EPA's concern, the Fact Sheet contains no record that the groundwater to be pumped has been characterized in any way so it is important that an evaluation be performed. In particular, it is essential that DEP evaluate whether the groundwater discharged pursuant to the Draft Permit will comply with applicable TBELs and WQBELs.

7. Draft Permit Does Not Contain Sufficient Record that Nutrients Will be Adequately Treated

EPA has acknowledged the significance of nutrients, primarily nitrogen and phosphorus, discharged to aquatic environments by the Pulp, Paper and Paperboard point source category: together with the Meat and Poultry Products Category, the PPP sector contributes the highest nutrient loads across the nutrient discharge rankings analyses for both total nitrogen and total phosphorus, based on the median facility load and number of facilities reporting discharges, as

[18] Susquehanna River Basin Comm'n, "Pixelle Specialty Solutions LLC Facility: Spring Grove Mill" (approved Sept. 18, 2020), Docket No. 20202912, attached as Attachment 2.
[19] EPA, "Hazardous Waste Cleanup: Pixelle Specialty Solutions LLC (Formerly: PH Glatfelter Company) in Spring Grove, Pennsylvania" (last visited Jan. 12, 2024).

reported in the Agency's Preliminary Effluent Guidelines Program Plan 14 ("Plan 14").[20] Plan 14 also explains the reason for the PPP industry's generally high nutrient discharges:

> Although the associated report indicates that nutrients may be present in raw wastestreams such as lignin from wood, or in materials added in process operations, such as bleaching chemicals, the EPA identified the addition of nutrients prior to biological treatment as the major source of nutrients in mill wastewater effluent. The EPA concluded that end-of-pipe treatment technologies specifically for nutrient removal have not been historically common in pulp and paper mill treatment trains. Minimizing the discharge of nutrients from pulp and paper mill wastewater may require optimizing the addition of nutrients for biological treatment and effective removal of suspended solids.

Plan 14 at p. 3-6. In addition to the need to optimize nutrient treatment at PPP facilities generally, sufficient control of nutrients from the Pixelle Facility's discharge is especially critical, given that it is subject to the Chesapeake Bay TMDL for excess nutrients (and sediment). Draft Fact Sheet at p. 45.

However, the Draft Permit does not include a record that nutrients will be sufficiently controlled in a way that represents BAT.[21] For example, with regard to Total Phosphorus ("TP"), the Draft Fact Sheet indicates that the existing daily maximum effluent limit of 2.0 mg TP/L and instantaneous maximum effluent limit of 2.5 mg TP/L were "*presumably* developed on a case-by-case basis using the BPJ" and that the approach to limiting this pollutant was "*evidently* derived from DEP's technical guidance." Draft Fact Sheet at p. 42 (emphasis added). This language strongly suggests that DEP has not performed a current independent review of the basis for the total phosphorous limits, which it still needs to conduct to ensure that they are sufficiently stringent to represent BAT.

In addition to the adverse impacts to the Chesapeake Bay resulting in its TMDL for nutrients, TP is the primary driver of eutrophication in freshwaters, such as Codorus Creek, the receiving stream for the Pixelle Facility.[22] The Wastewater Treatment Plant ("WWTP") at Pixelle employs an activated sludge process with chemical addition to remove TP from wastewater. Draft Fact Sheet at Appendix B. The WWTP has achieved effluent daily maximum concentrations of TP ranging between 0.27 mg TP/L and <0.1 mg TP/L. Draft Fact Sheet at p. 26. Based solely on recent WWTP performance and application of BPJ, DEP should apply a TP maximum daily effluent limit no greater than a concentration of approximately 0.27 mg TP/L -- nearly 6.5 times more stringent than the currently proposed maximum daily effluent limit of 2.0 mg TP/L.

Furthermore, an examination by DEP of commonly utilized wastewater treatment technologies to enhance TP removal since BAT was last established by US EPA in 1998 over 25 years ago would identify that the addition of post-secondary clarification filtration at the WWTP

[20] U.S. EPA, "Preliminary Effluent Guidelines Program Plan 14" (Oct. 2019) at section 3.3.1 (citing "Nutrients Report" (U.S. EPA, 2019c).
[21] *See supra* at p. 3 for further discussion of BAT standard.
[22] *See, e.g.,* US EPA, "Indicators: Phosphorus" (last updated June 9, 2023).

(i.e., "tertiary filtration") can achieve TP concentrations as low as 0.01 mg TP/L and is economically achievable.[23] Considering the Chesapeake Bay TMDL and adverse environmental impact that TP discharges on the freshwaters in the Chesapeake Bay watershed have, recent WWTP effluent TP concentrations (see Draft Fact Sheet at p. 26), and the common and economically achievable utilization of tertiary filtration, DEP should further utilize BPJ to apply a TP maximum daily effluent limit no greater than a concentration of approximately 0.10 mg TP/L, or approximately 7 times more stringent than the currently proposed maximum daily effluent limit of 2.0 mg TP/L.

In further consideration of the Chesapeake Bay TMDL for nutrients,[24] the Draft Permit should include total nitrogen ("TN") effluent limit concentrations and not simply require monitoring and reporting for TN as it is currently drafted. Draft Permit p. 4. For example, based on the recent WWTP performance and application of BPJ, DEP should apply a TN average monthly effluent limit no greater than approximately 3.0 mg TN/L and a daily maximum effluent limit consistent with recent WWTP performance and which accounts for seasonal TN treatment fluctuations. Draft Fact Sheet p. 26.

As discussed above, DEP has a legal responsibility to set nutrient effluent limits that not only protect water quality, but that reflect the treatment achieved by the best available technology. The following concentrations have been found to be achievable through basic treatment by the Water Research Foundation and were relied upon by EPA in its 2020 Review of Nutrients in Industrial Wastewater Discharge:

Table 3-1. Water Environment Research Foundation (WERF) Nutrient Removal Methods and Treatment Objectives

Treatment Level	Nutrient Removal Mechanism	Treatment Objectives	
		Total Nitrogen	Total Phosphorous
Level 2	Nitrification/Denitrification and Biological Phosphorus Removal	8 mg/L	1 mg/L
Level 4	BNR, Nitrification/Denitrification and Biological Phosphorus Removal, High Rate Clarification and Denitrification Filtration	3 mg/L	0.1 mg/L
Level 5	Nitrification/Denitrification and Biological Phosphorus Removal, High Rate Clarification Denitrification Filtration, Microfiltration/Reverse Osmosis on about Half the Flow	< 2 mg/L	< 0.02 mg/L

Source: WERF, 2011

In application of BPJ, DEP should use current information, like the Water Research Foundation's study linked above, April 2007 USEPA "Advanced Wastewater Treatment to Achieve Low Concentration of Phosphorus," and the WWTP's actual nutrient removal performance to set effluent limits that truly reflect treatment by the best available technology. This means, at a minimum, reducing the Draft Permit's total phosphorus daily maximum effluent limit to 0.1 mg/L and including a total nitrogen monthly average effluent limit of 3.0 mg/L or

[23] US EPA, "Advanced Wastewater Treatment to Achieve Low Concentration of Phosphorus," EPA 910-R-07-002 (April 2007).
[24] *See, e.g.*, US EPA, "Chesapeake Bay TMDL Fact Sheet" (last updated June 29, 2023).

lower. Application of BPJ for nutrients in this manner would be consistent with other applications in the Draft Permit where DEP used BPJ to establish more stringent effluent limits than required by the ELGs, such as in establishment of effluent limits for conventional pollutants (*i.e.,* BOD5, total suspended solids, and pH). Draft Fact Sheet, p. 35.

8. Draft Permit Does Not Sufficiently Address Water Treatment Additives

The Draft Permit requires disclosure of new Chemical Additives intended for use by the Permittee, Draft Permit at p. 45, and the Draft Fact Sheet includes a list of chemicals that it indicates were disclosed in the permit application (which was submitted in 2011).[25] The list of chemicals is problematic for two reasons. First, it strongly suggests that issuance of the Permit at this time is premature: the Draft Fact Sheet indicates that, "except for ACT-400 WB, there is no chemical substance that is known or expected to be present in the effluent. A further analysis is needed to determine if permit requirements are necessary." Draft Fact Sheet at p. 46. However, no further analysis appears in the Fact Sheet nor is it required by the Draft Permit, so it still needs to be performed and included in the record before the Permit can be issued.

Second, the fact that the list of Chemical Additives is outdated since it was based on the Permit application is apparent since current additives are not included. While the list includes Byo-Gon PX 109, Parafloc 710, ACT 1625C, ACT-400WB, Hydrogen Peroxide, Phosphoric Acid, and Polymer A & Polymer B, it does not include additives that were proposed by Pixelle to DEP on January 13, 2023, such as *Kemira* FennoTech 1103 and *Kermira* FennoPol K8656, among others.[26] Prior to issuance of the Permit, the Department should ensure that it has an up-to-date list of Chemical Additives, and reflect those substances in the Fact Sheet.

9. DEP Should Expand Enforcement Efforts for Permittee's Violations

The Draft Fact sheet includes a summary of extensive effluent violations at the Facility which occurred between May 31, 2012 and September 1, 2023 covering nearly four entire pages of the document, as well as "Previous DEP Enforcement Actions." Draft Permit at pp. 15-19. The list of "enforcement actions" includes inspections but does not identify any penalty actions, and only covers the time frame between 2008 and 2016. In fact, a search on ECHO shows three penalty actions taken by DEP against the permittee for air violations, but none for violations of its NPDES permit.[27] Yet, enforcement actions, especially obtaining penalties from violators, are important to gain both specific and general deterrence against future violations.[28]

While DEP did enter into a Consent Assessment of Civil Penalty ("CACP") with Pixelle on January 4, 2024, the CACP followed years and years of violations and the penalty amount was merely $46,118 for numerous violations that occurred between October 2018 and October

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[25] As indicated previously, Commenters are unable to verify whether the list of new chemical additives is accurate given the unavailability of the permit application.
[26] Letter from Pixelle to DEP dated January 13, 2023 attached hereto as Attachment 1.
[27] See https://echo.epa.gov/detailed-facility-report?fid=110017404664&ej_type=sup&ej_compare=US#enforcement.
[28] *See, e.g.,* EPA, "National Enforcement and Compliance Initiatives" ("Formal enforcement remains the key tool to address serious noncompliance and create general deterrence EPA also uses informal enforcement, compliance monitoring, self-audits, and compliance assistance to advance the NECIs.")

2023.[29] In addition to causing the death of approximately 50 fish in Codorus Creek in areas adjacent to the Facility, CACP at Paragraphs V-Y, and an unpermitted discharge from the IWTP supernatant pump station, CACP at Paragraphs Z-BB, Exhibit 1 to the CACP shows that the Facility violated its instantaneous maximum, average monthly and/or daily minimum and maximum limits during its covered time frame for the following parameters, among others: temperature, NH3-N, BOD5, stream flow minimum, TSS, and pH, with a total of about 26 violations of numeric permit limits.

The total penalty thus represents less than $1,775 per violation listed on the CACP Exhibit, and that list is not all-inclusive. This low figure is especially deficient because Pennsylvania law allows a maximum penalty amount of $10,000 per day per violation, Sections 602 and 605 of the CSL, 35 P.S. §§ 691.602, 691.605, and many of the violations on Exhibit 1 are monthly violations such that a multiplier of 30 could have been applied.[30] Without taking into account the 30 days that each monthly violation could represent, the 26 violations could have been assessed a penalty of $260,000. The civil penalty provision also requires DEP to consider "other relevant factors," in addition to "the wilfullness of the violation, damage or injury to the waters of the Commonwealth or their uses, [and] cost of restoration." 35 P.S. § 691.605(a). The violations at the Pixelle Facility have continued over so many years that their history simply cannot be ignored as either a relevant factor or willfullness. Commenters encourage DEP to monitor the Pixelle Facility going forward for compliance with its NPDES permit, and to take meaningful enforcement action in the event that the violations persist.

10. DEP Should Make Permit Applications, Draft Permits and Draft Fact Sheets Publicly Available

Throughout this letter, we have mentioned several instances when our review was affected by the lack of an available permit application; to fully evaluate draft permits and fact sheets, consideration of a permit applicant's processes as reported in an application is essential. Further, although Commenters successfully located the Draft Fact Sheet and Draft Permit for the Pixelle Facility, it is likely that individuals without the same background in the field of NPDES permitting would be unable to do so. Thus, we heavily recommend that DEP generally post these items for all NPDES permits – permit applications, draft fact sheets and draft permits – to its website, perhaps on the Community Information Page where several other draft permits are posted, and make them readily searchable by the public to ensure transparency of the Department's activities.

Thank you in advance for considering our comments, and we are happy to schedule a meeting to discuss them further if you are interested. We appreciate the Department's hard for work on the Facility's proposed permit and fact sheet.

[29] We understand that the Department can only assess penalties for violations going back five years due to the statute of limitations, but we are concerned about why it failed to do so prior to the 2024 CACP – essentially leaving nearly two decades of violations unaddressed.
[30] *See, e.g., Sierra Club, Hawaii Chapter v. City and County of Honolulu,* 486 F. supp. 2d 1186, 1190-91 (D. Hawaii 2007).

Sincerely,

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pixelle
SPECIALTY SOLUTIONS™

January 22, 2024

Mr. Jinsu Kim
Permits Section | Clean Water Program
Department of Environmental Protection
Southcentral Regional Office
909 Elmerton, Avenue
Harrisburg, PA 17110

Dear Mr. Kim:

This letter presents the comments of Pixelle Specialty Solutions, LLC ("Pixelle") regarding the draft NPDES permit renewal (Permit No. PA0008869) which was transmitted to Pixelle via the Department's email of November 17, 2023. As instructed, we have posted the public notice that was attached with the November 17, 2023, email near the main entrance of Pixelle's property and the entrance to Pixelle's Secondary Waste Treatment facility which is used to access Outfall 001. The notices will remain in place for no less than 30 days.

1. Outfall 001: Temperature

a. Pixelle requests that the Department increase the thermal variance limits developed by the 316(a) thermal variance study conducted by Glatfelter in 2001. Since the issuance of the permit, Pixelle has observed an increase in upstream water and ambient air temperatures. Pixelle data has collected and shared with DEP temperature data upstream of the mill that indicates in situ Codorus Creek temperature is increasing. Additionally, ambient air temperature as measured at York Aviation (York Airport) is increasing. As a result, maintaining existing downstream temperature requires additional cooling compared to the 2001 baseline. Pixelle would like to discuss how increased upstream temperature and increased ambient air temperature would influence the 316(a) thermal variance.

b. The hourly instream temperature change limit on Page 40 of the Draft Permit (line G) and on Page 48 of the Fact Sheet was not listed on the Part A tables in the Draft Permit. The previous permit had the hourly instream temperature listed on the tables. Pixelle is seeking clarification.

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2. Outfall 001: Color

Pixelle believes that the significant decrease in the color limits in the draft permit is unjustified and inappropriate. Page 40 of the Fact Sheet states that *"these effluent limits are stringent than existing effluent limits, particularly due to the fact that actual background color data was used as opposed to the default value of 10 PCU."* 10 PCU was used as the default upstream background value while drafting the previous permit. Since then, data from Pixelle's DMRs were used to obtain actual upstream background concentrations of 17.6 PCU in the summer and 15.2 PCU in the winter. When applying these higher upstream color backgrounds, TMS produced lower average monthly and daily maximum limits. It appears that higher background color and/or additional color inputs upstream of the mill is the main justification for lowering Pixelle's color limitations. Additionally, the daily maximum color reduction in the draft permit is disproportionate to the monthly average color reduction. Fact sheet discussion includes comparing new standards to submitted data, stating that violations would have occurred if proposed permit parameters are implemented. Pixelle believes that color parameters need to be reevaluated. Pixelle is seeking clarification.

3. Outfall 001: Chloroform Monitoring

Pixelle is unsure why the existing chloroform limits have become more stringent. As stated on page 38 of the Fact Sheet, *"a review of past DMR data showed Chloroform has been consistently not detected in effluent at a concentration of 0.001 mg/L."* Pixelle has demonstrated continuous compliance with this requirement and uses an analytical method with a method detection limit (MDL) five times smaller than the state water quality criteria for human health. Pixelle has not had a detectable chloroform concentration since July 25, 2011. The measured value on this date is 0.002 mg/l (which is possibly the MDL at that time). Based on the data supplied to DEP, Pixelle believes that measuring chloroform is not necessary. Pixelle requests that chloroform monitoring be removed from the NPDES permit.

4. Outfall 001: Toxic Pollutant Monitoring

Pixelle requests that the monitoring frequency for Total Cadmium, Total Manganese, Total Nickel, and Total Zinc on pages 4 and 5 of the draft Permit be amended from weekly to 2 times per month. As we stated during the conversation that occurred with PADEP on 1/8/2024, Pixelle believes that 2 times per month sampling would be satisfactory.

Total Aluminum has become a constituent with a limit, with a 1/week monitoring frequency. As we stated during the conversation that occurred with PADEP on 1/8/2024, Pixelle believes that 2 times per month sampling would be satisfactory.

5. **Outfall 001: Nitrogen Monitoring**

Page 45 of the Fact Sheet indicates that *"the facility is not considered a non-significant (sic) discharger"* and that *"consequently the requirement to monitor for Total Nitrogen and its major constituents is not necessary in the upcoming permit renewal."* Page 4 of the Draft Permit still has Total Nitrogen, NH3-N and Total Kjeldahl Nitrogen parameters listed as monitoring requirements for Outfall 001. As we stated during the conversation that occurred with PADEP on 1/8/2024, Pixelle believes that Total Nitrogen and Total Kjeldahl Nitrogen should be removed from the Permit.

6. **Outfall 001: 2,3,7,8-TCDD**

Page 42 of the Fact Sheet indicates that *"the upcoming permit renewal will continue to include 0.035 pg/L as Part A numerical effluent limit in accordance with 40 CFR §122.44(i)(1), but will contain Part C condition that will allow Glatfelter to use 10 pg/L as the MDL. This means if dioxin is not detected in effluent samples at 10 pg/L, Glatfelter will still be in compliance with the permit requirement despite the fact that Glatfelter would fail to analyze the data down to 0.035 pg/L."* This condition is not currently written into Part C of the draft Permit. Pixelle requests language in Part C to indicate that 2,3,7,8-TCDD results reported below the MDL are in compliance with the Permit.

7. **Outfall 002 Monitoring Requirements**

   a. Page 43 of the Fact Sheet indicates that *"the existing monitoring requirement for BOD5 will be removed from the permit as BOD5 is not a parameter of concern for this type of discharge."* Page 6 of the Draft Permit still has BOD5 listed as a monitoring requirement for Outfall 002. Pixelle believes this to be a typo and requests that the BOD5 requirement be removed from the permit tables to be more consistent with the Fact Sheet. As we stated during the conversation that occurred with PADEP on 1/8/2024, Pixelle believes that the BOD5 monitoring parameter should be removed from the Permit.

b. Page 43 of the Fact Sheet indicates that the *"existing pH limits of 6.0-9.0 derived from Pa Code §95.2(1) will therefore remain in the permit."* The maximum limit for pH (9.0) is missing on page 6 of the Draft Permit. Pixelle believes this to be a typo and requests that the pH maximum limit be amended on the permit tables to be more consistent with the Fact Sheet. As we stated during the conversation that occurred with PADEP on 1/8/2024, Pixelle believes that the maximum pH should be 9.0.

8. Internal Monitoring Points 101 & 102

Pixelle believes the maximum limits for 2,3,7,8-TCDD and 2,3,7,8-TCDF on pages 7 and 9 of the draft Permit are typos. The 'Parameter' column of the table indicates that the TCDD and TCDF parameters are measured in pg/L. The previous permit had limits of 10.0 pg/L and 31.9 pg/L for TCDD and TCDF, respectively. The newly issued draft Permit changed those values to 0.01 pg/L and 0.319 pg/L, respectively. Pixelle believes that an unnecessary unit conversion was applied to the existing permit limits. Pixelle requests that the limits be returned to the original values of 10.0 pg/L and 31.9 pg/L for 2,3,7,8-TCDD and 2,3,7,8-TCDF, respectively. As we stated during the conversation that occurred with PADEP on 1/8/2024, Pixelle believes that concentrations of 10.0 pg/L and 31.9 pg/L should be reflected in the Permit.

9. Stormwater Monitoring

The current NPDES Permit requires 1/year testing of the stormwater sites, however in the draft Permit, *"the monitoring frequency has increased from 1/year to 2/year to be consistent with the NPDES PAG-03 General Permit requirement."* Pixelle has demonstrated through successive testing that these outfalls are not a major concern for several parameters, of which have consequentially been removed from the annual sampling requirement (BOD5, Oil & Grease, Total Kjeldahl Nitrogen, Total Manganese, and Total Phosphorus). Pixelle is seeking clarification on the new monitoring frequency of 2/year.

The draft Permit references "DEP's Annual Report template" that is attached to the permit. Pixelle is unable to locate the attachment. Pixelle would like the ability to review the template prior to issuance of the permit.

10. Reporting Requirements for Hauled-In Residual Waste

Page 32 of the draft Permit indicates that Pixelle is to *"report hauled-in residual wastes on a monthly basis to DEP on the "Hauled In Residual Wastes" Supplemental Report (3800-FM-BCW0450) as an attachment to the DMR."* Pixelle requests clarification of the Department's definition of "hauled-in residual wastes" and specifically requests that any such definition not be applied to materials generated at Pixelle's Spring Grove facility.

11. WQBEL Monitoring: BOD5, NH3-N, and DO

Page 36 of the Fact Sheet indicates that *"it would be reasonable for Pixelle to collect, for the subsequent permit renewal application, instream data of CBOD5, NH3-N, and DO as well as other stream characteristics further upstream from Spring Grove and Jackson Township discharge locations. A new Part C permit condition is recommended to inform that default values will be considered for the next permit renewal unless site-specific data is collected and submitted along with the next permit renewal application."* Pixelle would like to know where the default values are located and how are they determined. Additionally, Pixelle would like to understand the requirements regarding data collection. For example, how often should sampling occur, how long should the data collection take place and what are "other stream characteristics" that are described? These are a few examples, but certainly not exhaustive. A better understanding of the request is necessary.

12. Existing Instream Monitoring Program

The Instream Monitoring Program described on page 42 of the Fact Sheet suggests *"A continuation of this monitoring requirement is recommended."* Pixelle is seeking clarification on this requirement because the Instream Monitoring Program concluded in the Spring of 2010. The final instream monitoring results were received at the Department. Part C.II.D of the current NPDES permit allows for the discontinuation of monitoring at a specific station if *"following four sampling events, there are no exceedances of state water quality standards for any parameter at a specific monitoring station."* After five sampling events, all monitoring stations except the spring adjacent to the No. 19 lagoon met the criteria to discontinue monitoring. The spring itself is currently being sampled quarterly for a more extensive list of parameters as part of the ongoing long-term lagoon closure program being overseen by the Department's Bureau of Waste Management. Therefore, further sampling of the spring for the Instream Monitoring Program requirements of the NPDES permit became redundant and Glatfelter requested to be released from the further monitoring. As such, Pixelle does not believe that further sampling should be required.

Please contact me with any questions.

Pixelle Specialty Solutions LLC

Jonas Pantalone
Environmental Engineer – Water

Kim, Jin Su

From: Fulton, Jennifer <Fulton.Jennifer@epa.gov>
Sent: Monday, December 18, 2023 11:19 AM
To: Kim, Jin Su
Cc: Furjanic, Sean; Schumack, Maria; Martin, Daniel; Martinsen, Jessica; Hales, Dana; Blanco-Gonzalez, Joel; Moncavage, Carissa (she/her/hers)
Subject: [External] PA0008869 Pixelle Specialty Solutions LLC

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Hello Jinsu,

According to the Memorandum of Agreement (MOA) between the U.S. Environmental Protection Agency Region III (EPA) and the Pennsylvania Department of Environmental Protection (PADEP), the EPA has received the draft National Pollutant Discharge Elimination System (NPDES) permit for:

Draft Permit: Pixelle Specialty Solutions LLC
NPDES Number: PA0008869
EPA-received: November 21, 2023
30-day Response: December 21, 2023

This is an existing major industrial point source discharging to the Codorus Creek. EPA has chosen to perform a limited review of the draft permit based on the wasteload allocation (WLA) assumptions and requirements of the Chesapeake Bay TMDL, thermal variance (TV) requirements set forth in CWA §316(a), cooling water intake structure (CWIS) requirements set forth in CWA §316 (b), and Effluent Guidelines and Standards (ELGs) for Pulp, Paper, and Paperboard set forth in 40 CFR Part 430. As a result of our limited review, we offer the following comments.

1. Part C.V. of the draft permit proposes requirements for the permittee to support continuation of their thermal variance for the subsequent permit renewal to conform to CWA § 316(a). However, the fact sheet explains that the last variance study was conducted in 2001. Is there any other study or permit application information used to renew the thermal variance? CWA § 316(a) and the regulations at 40 CFR § 122.21(m)(6) provide for variances from thermal effluent limitations in NPDES permits. The Implementation of Clean Water Act Section 316(a) Thermal Variances in NPDES Permits (Review of Existing Requirements) memo clarifies the expectations for granting and renewing a thermal variance. PADEP should take into perspective the memo to develop permit requirements regarding the renewal of the thermal variance and document that in the fact sheet.

2. Part C.V. of the draft permit proposes requirements for PADEP to make their final best technology available (BTA) determination for the cooling water intake structure(s) to conform to CWA §316(b) and additional information is needed to justify this proposal. The fact sheet explains that the permittee has not provided enough information for PADEP to make a final BTA determination and that PADEP intends to make a final BTA determination for the subsequent permit renewal to conform to CWA § 316(b). Based on this information, EPA offers the following questions, comments, and recommendations.

1

a. Did the permittee submit the "MODULE 5 – COOLING WATER INTAKE STRUCTURE" of the "INDIVIDUAL NPDES PERMIT APPLICATION FOR INDUSTRIAL WASTE FACILITIES" as part of their permit application submittal?
b. What are the unknowns for PADEP to make a final BTA determination?
c. How is the CWIS designed, operated, maintained, and monitored to conform to applicable requirements?

EPA expects that, at least, PADEP is aware of this information to use it as the final BTA determination for this permit renewal. Henceforth, the final BTA determination is subject to revisions following the data gathering, characterization, and assessment requirements proposed to either justify it or make a new one.

Please address our comments and recommendations, and provide us with any changes to the draft permit, fact sheet, and/or permit components. If there are changes proposed to the draft permit, fact sheet, and/or permit components, please coordinate with Joel Blanco-González by email at blanco-gonzalez.joel@epa.gov and/or by phone at (215) 814-2768 prior to issuance.

Thank you,
Jen Fulton

Jennifer Fulton (she/her)
Acting Chief, Clean Water Branch
US EPA Mid-Atlantic Region
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