pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

**SOUTHWEST REGIONAL OFFICE**
**CLEAN WATER PROGRAM**

| | | | |
|---|---|---|---|
| Application Type | **Renewal** | Application No. | **PA0218413** |
| Facility Type | **Sewage** | APS ID | **758875** |
| Major / Minor | **Major** | Authorization ID | **1221240** |

# NPDES PERMIT FACT SHEET ADDENDUM

## Applicant and Facility Information

| | | | |
|---|---|---|---|
| Applicant Name | **Economy Borough Municipal Authority** | Facility Name | **Big Sewickley Creek WWTP** |
| Applicant Address | 2860 Conway Wallrose Road | Facility Address | 120 Wine Road |
| | Baden, PA 15005-2306 | | Sewickley, PA 15143 |
| Applicant Contact | Ms. Janet Miklos | Facility Contact | Mr. Joseph DeLuca |
| Applicant Phone | (724) 869-3201 | Facility Phone | (724) 869-3201 |
| Client ID | 64903 | Site ID | 532567 |
| SIC Code | 4952 | Municipality | Economy Borough |
| SIC Description | Trans. & Utilities - Sewerage Systems | County | Beaver |
| Date Published in PA Bulletin | September 18, 2021 | EPA Waived? | No |
| Comment Period End Date | October 18, 2021 | If No, Reason | Major Sewage Facility |
| Purpose of Application | Application for a renewal of an NPDES permit for discharge of treated Sewage | | |

## Internal Review and Recommendations

On July 29, 2020, EPA Region III made the following Comments:

"According to our Memorandum of Agreement, the Environmental Protection Agency (EPA) Region III has received the draft National Pollutant Discharge Elimination System (NPDES) permit for:

**Big Sewickley Creek WWTP**
**Economy Borough Municipal Authority**
**NPDES Number: PA0218413**
**EPA Received: 8-31-2021**
**30-day response due date: 9-30-2021**

This is a major facility that discharges to the Big Sewickley Creek. EPA has chosen to perform a limited review of the draft permit addendum for the Compliance Schedule for WQBELS for free cyanide and total zinc sampling. EPA has completed its review and offers no comment."

No changes to the Draft Permit resulted from these comments.

The Authority's Engineer, KLH Engineers, commented on the Draft NPDES Permit on October 15, 2021 and the Department Responded to those comments on November 16, 2021 (Attachment 1). The comment letter request that Drainage Area (DA) and Q7/10 stream flow for Big Sewickley Creek be updated based upon data from USGS StreamStats (Attachment 2). The Authority's Operations Manager also submitted additional laboratory results on January 21, 2022. As a result, the following changes have been made to the "Development of Effluent Limitation" section of the Fact Sheet.

| Approve | Return | Deny | Signatures | Date |
|---|---|---|---|---|
| X | | | William C. Mitchell, E.I.T. / Project Manager | February 16, 2022 |
| x | | | Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineer Manager | February 17, 2022 |

**Internal Review and Recommendations**

The following limitations were determined through water quality modeling (Attachment 3):

| Parameter | Limit (mg/L) | SBC | Model |
|---|---|---|---|
| Dissolved Oxygen | 6.0 | Instantaneous Minimum | WQM 7.0 Version 1.1 |
| Carbonaceous Biochemical Oxygen Demand (CBOD5) Nov 1 - Apr 30 | 14.0 | Average Monthly | WQM 7.0 Version 1.1 |
| Carbonaceous Biochemical Oxygen Demand (CBOD5) May 1 - Oct 31 | 9.5 | Average Monthly | WQM 7.0 Version 1.1 |
| Ammonia-Nitrogen Nov 1 - Apr 30 | 3.5 | Average Monthly | WQM 7.0 Version 1.1 |
| Ammonia-Nitrogen May 1 - Oct 31 | 2.0 | Average Monthly | WQM 7.0 Version 1.1 |
| Copper, Total (ug/L) | 14.5 | Average Monthly | Toxics Management Spreadsheet Version 1.3 |
| Cyanide, Free (ug/L) | 4.91 | Average Monthly | Toxics Management Spreadsheet Version 1.3 |
| Zinc, Total (ug/L) | 153.0 | Average Monthly | Toxics Management Spreadsheet Version 1.3 |

Based upon the Toxics Management Spreadsheet, Version 1.3, Monitoring for total boron is recommended, because the discharge concentration greater than 10% of the WQBEL.

Part A.I.A, Part A.I.B, Part A.I.C, and Part C.III have been revised accordingly. Please note that permit effective periods and compliance report due dates will be edited in the final issued permit once a permit effective date has been established.

# Attachment #1 – KLH Comment Letter

**Mitchell, William C (DEP)**

| | |
|---|---|
| **From:** | Mitchell, William C (DEP) |
| **Sent:** | Tuesday, November 16, 2021 2:15 PM |
| **To:** | Roger Varner |
| **Cc:** | Janet Miklos; Joe Deluca - EBMA (joe@ebmapa.org); Dave Coldren; Iasmin, Mahbuba; Mitchell, William C (DEP) |
| **Subject:** | TMS Evaluation, Big Sewickley Creek WWTP, 2nd Draft NPDES Permit No. PA0218413, Department Response |
| **Attachments:** | TMS_PA0218413_UPDATED.pdf |

Roger,

Please see the discussion below between myself and Ms. Schumack. If you still have questions regarding the TMS please let me know and we can schedule some time to discuss further.

Attached is my update TMS Output Data. It will be updated again once the Authority has completed its additional sampling for Total Aluminum, Total Boron, Hexavalent Chromium, Total Silver, and 1,2,4-Trichlorobenzene.

Thanks,

**William C. Mitchell, E.I.T.** | Project Manager
Department of Environmental Protection | Clean Water
South West Regional Office Building
400 Waterfront Drive | Pittsburgh, PA 15222
Phone: 412.442.4344 | Fax: 412.442.4328
www.dep.pa.gov

***DEP is now accepting permit and authorization applications, as well as other documents and correspondence, electronically through the OnBase Electronic Forms Upload tool. Please use the link below to view the webpage, get instructions, and submit documents:***
***https://www.dep.pa.gov/DataandTools/Pages/Application-Form-Upload.aspx***

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**From:** Schumack, Maria <maschumack@pa.gov>
**Sent:** Tuesday, November 16, 2021 10:12 AM
**To:** Mitchell, William C (DEP) <willimitch@pa.gov>
**Cc:** Iasmin, Mahbuba <moiasmin@pa.gov>; Kriley, Christopher <ckriley@pa.gov>
**Subject:** RE: TMS Evaluation, Big Sewickley Creek WWTP-Second Draft NPDES Permit No. PA0218413_Comments

Hi Bill,

This was caused by a difference in the TMS vs PENTOXSD. PENTOXSD would recommend limits below criteria and the TMS will not. In the PENTOXSD results with a 0.22 CV the AML limit is 10.76 mg/L based on AFC which is below the AFC criterion. The TMS did 'calculate' that same AML, but it changed the AML needed to protect the AFC criterion to the value of the criterion (18.31 mg/L). After that, the AML needed to protect the CFC ended up being more stringent so the recommended AML is based on that.

The recommended MDL and IMAX are both equal to the AFC criterion because those values are more stringent than the MDL & IMAX calculated based on the CFC would have been. That's not straightforward and perhaps there should be a comment indicating that (I'll see what I can do in the next version).

This was a bit of a unique situation -- let me know if you'd like to discuss the new logic a bit further.

Thanks,
Maria

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**From:** Mitchell, William C (DEP) <willimitch@pa.gov>
**Sent:** Tuesday, November 16, 2021 8:04 AM
**To:** Schumack, Maria <maschumack@pa.gov>
**Cc:** Iasmin, Mahbuba <moiasmin@pa.gov>; Kriley, Christopher <ckriley@pa.gov>; Mitchell, William C (DEP) <willimitch@pa.gov>
**Subject:** TMS Evaluation, Big Sewickley Creek WWTP-Second Draft NPDES Permit No. PA0218413_Comments

Good Morning Maria,

As a results of comments I received on a draft permit, I believe there is an issue with the TMS that needs to be addressed.

TOXCON was used to evaluate Total Copper and Free Available Cyanide and the calculated Average Monthly Concentration and Daily CV was inputted in the attached TMS.

It appears for Total Copper that the AML is calculated based upon the default Daily CV of 0.5 rather than the site-specific Daily CV of 0.2212195. I believe the TMS properly used the site-specific Daily CV of 0.2212195 when calculating the MDL and IMAX value.

I did discuss this further with Ryan Decker and he has added some comments below based upon his review.

Once you get a chance to process the information below, I am available to discuss further if needed. If you need additional information please reach out any time.

Thank you,

**William C. Mitchell, E.I.T.** | Project Manager
Department of Environmental Protection | Clean Water
South West Regional Office Building
400 Waterfront Drive | Pittsburgh, PA 15222
Phone: 412.442.4344 | Fax: 412.442.4328
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***DEP is now accepting permit and authorization applications, as well as other documents and correspondence, electronically through the OnBase Electronic Forms Upload tool. Please use the link below to view the webpage, get instructions, and submit documents:***
***https://www.dep.pa.gov/DataandTools/Pages/Application-Form-Upload.aspx***

---

**From:** Roger Varner <rvarner@klhengineers.com>
**Sent:** Friday, October 15, 2021 3:37 PM
**To:** Mitchell, William C (DEP) <willimitch@pa.gov>
**Cc:** Kriley, Christopher <ckriley@pa.gov>; Vanek, James <jvanek@pa.gov>; Janet Miklos <janet@ebmapa.org>; Joe Deluca - EBMA (joe@ebmapa.org) <joe@ebmapa.org>; Dave Coldren <dcoldren@klhengineers.com>
**Subject:** [External] Big Sewickley Creek WWTP-Second Draft NPDES Permit No. PA0218413_Comments

*ATTENTION: This email message is from an external sender. Do not open links or attachments from unknown sources. To report suspicious email, forward the message as an attachment to CWOPA_SPAM@pa.gov.*

Bill,

Per the email below, KLH Engineers, Inc. (KLH), on behalf of the Economy Borough Municipal Authority (EBMA) is submitting comments on the Second Draft NPDES Permit PA0218413, Authorization ID No. 1221240 that was issued on August 30, 2021. All of the attachments are sequentially numbered as they are referenced in this email.

Upon review of the Second Draft NPDES Permit and accompanying Fact Sheet and Modelling Report, KLH decided to re-evaluate the Q7-10 stream flow for Big Sewickley Creek basin from the WWTP Outfall. KLH used their subconsultant, EnviroScience, Inc to run the PA StreamStats Analysis for the new Q7-10 stream flow. The Report was run on September 22, 2021. A copy of the StreamStats Report is attached for reference and is titled as follows, '1_StreamStats_Economy STP_Outfall.pdf'. The results are as follows:

- Drainage Area is 26.6 Sq miles
- Mean basin Elevation is 1,077 feet. We do not have field measurement data
- 7 Day 10 Year low flow was determined to be 0.442 CFS
- The 7 day 10 Year Low Flow used in the PENTOXSD analysis was 0.1541 CFS

KLH previously provided the new Q7-10 stream flow and you agreed to re-run the Toxics Modeling and the WQM Modeling based on the higher Q7-10 flow to determine resulting WQBEL parameter limitations. You provided results to EBMA and KLH on September 29, 2021. KLH decided to independently run the Toxics Modeling and the WQM Modeling and compare our results with PADEP results. We used EnviroScience to conduct the TOXCONC and TMS analyses to reflect the updated WQBEL parameters using the higher Q7-10 stream flow.

Below is a summary of the results derived from the TMS analysis run by EnviroScience, showing the WQBELs for copper, free cyanide, zinc and 1,2,4 trichlorobenzene as well as the reporting requirements for aluminum, boron, hexavalent chromium and silver.

**Summary Results from TMS analysis – October 14, 2021:**

| | Mass Limits | | Concentration Limits | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Pollutants** | **AML (lbs./day)** | **MDL (lbs./day)** | **AML** | **MDL** | **IMAX** | **Units** | **Governing WQBEL** | **WQBEL Basis** | **Co** |
| Total Aluminum | Report | Report | Report | Report | Report | µg/L | 750 | AFC | Discharge Conc RP) |
| Total Boron | Report | Report | Report | Report | Report | µg/L | 1,966 | CFC | Discharge Conc RP) |
| Hexavalent Chromium | Report | Report | Report | Report | Report | µg/L | 12.8 | CFC | Discharge Conc RP) |
| Total Copper | 0.15 | 0.19 | 14.6 | 18.3 | 18.3 | µg/L | 14.6 | CFC | Discharge Conc |
| Free Cyanide | 0.051 | 0.092 | 4.91 | 8.82 | 12.3 | µg/L | 4.91 | THH | Discharge Conc |
| Total Silver | Report | Report | Report | Report | Report | µg/L | 6.18 | AFC | Discharge Conc RP) |
| Total Zinc | 1.59 | 1.95 | 153 | 187 | 187 | µg/L | 153 | AFC | Discharge Conc |
| 1,2,4 Trichlorobenzene | 0.0009 | 0.001 | 0.086 | 0.13 | 0.21 | µg/L | 0.086 | THH | Discharge Conc |

Below is a summary of the overall approach and steps taken by EnviroScience for obtaining the Average Monthly Effluent Concentration (AMEC) and Coefficient of Variation (CV) values for copper and free cyanide via the use of DEP's

TOXCONC spreadsheet, v.2.0, as well as the steps taken for running the TMS analysis (using DEP's TMS v. 1.3) to obtain the above-listed WQBELs –

- Weekly discharge data for free cyanide and copper, spanning 2020-2021, were reviewed for use in the TOXCONC spreadsheet, version 2.0. A total of 82 samples comprising the most recent discharge data were used to obtain the following AMEC and CV values for free cyanide and copper –

| Parameter | Coefficient of Variation (daily) | AMEC |
|---|---|---|
| Free Cyanide (mg/L) | 0.8810553 | 0.0086982 |
| Copper (mg/L) | 0.2212195 | 0.0099950 |

  Results from the TOXCONC analysis are included in the attached file, '2_EnviroScience_EBMA_TOXCONC_VER2.0_Input and Results_10142021.pdf'.

- Input data for the TMS analysis, version 1.3, included the above-listed AMEC and CV values obtained from the TOXCONC analysis, as well as Priority Scan data for all Group 1-Group 5 pollutants that were included in the NPDES Permit Fact Sheet (March 2018) and in DEP's TMS output from 09/29/2021.

- Results of the TMS analysis run by EnviroScience are included in the attached file, '3_EnviroScience_EBMA_TMS_VER1.3_ PA0218413_Results_10142021.pdf'.

- A comparison of DEP's most recent TMS analysis output (from 09/29/2021) and the TMS output generated by EnviroScience (10/14/2021) shows the following major differences –

  - The hardness value entered by DEP in their TMS input sheet was 133.33 mg/L. Based on the Hardness Effluent Analysis data from EBMA, ranging from 2017 to 2021 and comprising a total of 13 values, the calculated average hardness is 136.69 mg/L. Therefore, the value of 136.7 mg/L was entered, by EnviroScience, as part of the discharge characteristics in the TMS input spreadsheet. Tabulated values of the hardness values for Outfall 001 are provided in the attached file, '4_Hardness_EBMA Effluent.pdf'.

  - The concentration value for bromide, entered by DEP in their 09/29/2021 TMS analysis, was 100 mg/L. The Priority Scan data in the NPDES Fact Sheet shows a value of < 100 µg/L (or < 0.1 mg/L). Therefore, the value of < 0.1 mg/L for bromide was entered for the TMS analysis run by EnviroScience.

  - In their TMS input spreadsheet, DEP had mistakenly entered a value of 463 mg/L for sulfate (PWS). The NPDES Fact Sheet shows a value of 46,300 µg/L (or 46.3 mg/L). Therefore, the value of 46.3 mg/L for sulfate was entered for the TMS analysis run by EnviroScience.

  - For copper, DEP had entered a maximum discharge concentration of 16 mg/L. By comparison, EnviroScience used the calculated AMEC and CV values, generated through the TOXCONC analysis, as shown in the table above. Although the AMEC of 9.995 mg/L is considerably lower than the maximum value of 16.0 mg/L used by DEP, the Maximum Daily Limit (MDL) and Instantaneous Maximum (IMAX) declined considerably (18.3 mg/L compared to DEP's output of 22.1 mg/L). This anomaly is likely a result of a technical glitch in the TMS program that appears to be caused by the input of a CV value for copper. As an exercise, EnviroScience re-ran the TMS analysis excluding the copper CV, and this resulted in the AML remaining the same at 14.6 mg/l, but the MDL and IMAX values went up to 22.5 mg/L (for both limits). Please see the attached file, '5_EnviroScience_EBMA_TMS_VER1.3_ PA0218413_Alt Analysis 1_10142021.pdf' for the alternative results obtained with the exclusion of the copper CV value.

A review of the model's background calculations and an update of the existing version of the TMS program by DEP may help resolve this discrepancy.

- In comparison to DEP's output, the MDL for mass and concentration for free cyanide slightly increased from 0.085 lbs./day and 8.11 µg/L, respectively, to 0.092 lbs./day and 8.82 µg/L, respectively. This increase is likely attributable to the lower input discharge concentration in the form of the AMEC (of 8.698 µg/L) that resulted from the TOXCONC analysis.

- While the input concentration for zinc, of 77 µg/L, was the same value used by DEP and EnviroScience in their respective TMS analyses, the WQBELs for zinc increased slightly on account of the higher input hardness concentration of 136.7 mg/L.

- The WQBELs for 1,2,4 Trichlorobenzene generated through the TMS analysis, are based solely on the input of a detection limit (i.e., 1 µg/L) that is higher than the Target Quantitation Level (TQL) for this parameter (i.e., 0.5 µg/L). Similarly, the reporting requirements for Aluminum, Boron, Hexavalent Chromium and Silver are generated in the TMS output as a result of the input of detection levels that are higher than the TQLs for these parameters. As such, and as recommended by PADEP, subsequent analyses of a minimum of four (4) discrete weekly effluent samples at or below the TQLs will very likely result in these parameters no longer being included in the final WQBEL output. This anticipated result is consistent with the guidance provided by DEP in their SOP, 'Establishing WQBELs and Permit Conditions for Toxic Pollutants in NPDES Permits' (Note 4 on Page 3)' –

  *'If the effluent concentration determined in B.1 or B.2 is "non-detect" at or below the target quantitation limit (TQL) for the pollutant as specified in the TMS and permit application, the pollutant may be eliminated as a candidate for WQBELs or monitoring requirements unless 1) a more sensitive analytical method is available for the pollutant under 40 CFR Part 136 where the quantitation limit for the method is less than the applicable water quality criterion and 2) a detection at the more sensitive method may lead to a determination that an effluent limitation is necessary, considering available dilution at design conditions.'*

- As a secondary exercise, EnviroScience re-ran the TMS analysis by replacing the input concentrations for Aluminum, Boron, Hexavalent Chromium, Silver and 1,2,4 Trichlorobenzene, with the respective TQLs for these parameters, while keeping all other input values the same (albeit also excluding the CV for copper). Please see the attached file, '6_EnviroScience_EBMA_TMS_VER1.3_ PA0218413_Alt Analysis 2_10142021.pdf'. As expected, WQBELs were derived only for copper, free cyanide and zinc (please see page 15 of the aforementioned attached file).

**Therefore, based upon the above Summary Results from the TMS Analysis of October 14, 2021 and the above summary of the overall approach to determine the WQBELs at the Q7-10 stream flow of 0.441 CFS, KLH on Behalf of EBMA requests the following modifications to the Second Draft NPDES Permit PA0218413 for Big Sewickley Creek WWTP – Outfall 001:**

1. **KLH requests revisions to Part A.I.B Effluent Limitations for Free Cyanide and Total Zinc, as well Part C.III.A – Final WQBELs for Free Cyanide and Total Zinc.**

2. **KLH requests revisions to Part A.I.C Effluent Limitations for Total Copper. As per the above summary, please evaluate why the maximum daily limitation and the instantaneous maximum limitation drops when using the CV value for copper. A review of the TMS model's background calculations and an update of the existing version of the TMS program by DEP may help resolve this discrepancy.**

3. **In addition, please remove Total Lead from the NPDES Permit, per the above Summary results from the TMS Analysis of October 14, 2021.**

4. **Request that the following Pollutants listed above in the Summary Results Table be sampled for four (4) additional weekly effluent samples, as 24-hour composites as analyzed for Total Aluminum, Total Boron, Hexavalent Chromium, Total Silver, and 1,2,4-Trichlorobenzene. Subsequent DEP Target QLs shall be as follows: 10 ug/l, 200 ug/l, 1.0 ug/l, 0.4 ug/l, and 0.5 ug/l.**

5. **Request that final issuance of the NPDES Permit PA0218413 be placed on-hold until sampling and analysis results are obtained and submitted to DEP for the afore-mentioned parameters listed in No. 4 above. This request will change the compliance dates listed in Part A.I.A, Part A.I.B, and Part C.III of the Second Draft NPDES Permit PA0218413.**

**Please let me know if you need additional documentation or have any questions regarding this correspondence and request for revisions to the Second Draft NPDES Permit No. PA0218413. You may contact me directly per my contact information listed below.**

**Thank you,**

**Roger**

Roger B. Varner, P.E.
Email: rvarner@klhengineers.com
Phone: 412.494.0510 x 142
Fax: 412.494.0426
Cell: 724-650-8756
www.klhengineers.com
KLH ENGINEERS, INC

---

**From:** Mitchell, William C (DEP) <willimitch@pa.gov>
**Sent:** Friday, October 15, 2021 7:39 AM
**To:** Roger Varner <rvarner@klhengineers.com>
**Subject:** RE: [External] Big Sewickley Creek WWTP-Second Draft NPDES Permit No. PA0218413

⚠ **EXTERNAL MESSAGE - Think before you click.**

Roger,

An email comment or a comment letter attached to the email is perfectly acceptable. Please cc Mr. Vanek and Mr. Kriley on the comment email.

Thank you,

**William C. Mitchell, E.I.T.** | Project Manager
Department of Environmental Protection | Clean Water
South West Regional Office Building
400 Waterfront Drive | Pittsburgh, PA 15222

Phone: 412.442.4344 | Fax: 412.442.4328
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***https://www.dep.pa.gov/DataandTools/Pages/Application-Form-Upload.aspx***

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**From:** Roger Varner <rvarner@klhengineers.com>
**Sent:** Thursday, October 14, 2021 4:59 PM
**To:** Mitchell, William C (DEP) <willimitch@pa.gov>
**Subject:** [External] Big Sewickley Creek WWTP-Second Draft NPDES Permit No. PA0218413
**Importance:** High

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Bill,

Economy Borough Municipal Authority (EBMA) would like to comment on the Second Draft NPDES Permit PA0218413, Authorization ID No. 1221240 that was issued on August 30, 2021. KLH Engineers, Inc. (KLH) will make public comment on behalf of EBMA. The public notice was published in the PA Bulletin on September 18, 2021 and the public comment period ends October 18, 2021. I have attached the August 30, 2021 PADEP letter and an excerpt from the PA Bulletin for your convenience. As we discussed previously, I asked our subconsultant, EnviroScience, Inc. to re-run the WQBEL Analysis at the higher stream flow Q7-10 of 0.441 cfs. I have an email report and summary attachments that I would like to submit, and I wanted to find out if it is acceptable to submit comments via email and you will accept as public comments on Draft NPDES Permit No. PA0218413.

Please let me know at your earliest convenience as I want to make sure you receive the email by October 18, 2021 at the latest.

Thank you Bill. I appreciate your direction and recommendations you have provided KLH and EBMA.

Regards,

Roger

Roger B. Varner, P.E.
Email: rvarner@klhengineers.com
Phone: 412.494.0510 x 142
Fax: 412.494.0426
Cell: 724-650-8756
www.klhengineers.com
KLH
ENGINEERS, INC

# Attachment #2 – StreamStats Report



## Economy Borough STP - Big Sewickley Creek

**Region ID:** PA
**Workspace ID:** PA20210922231857118000
**Clicked Point (Latitude, Longitude):** 40.59664, -80.18573
**Time:** 2021-09-22 19:19:16 -0400


Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| DRNAREA | Area that drains to a point on a stream | 26.6 | square miles |
| ELEV | Mean Basin Elevation | 1077 | feet |
| PRECIP | Mean Annual Precipitation | 37 | inches |
| FOREST | Percentage of area covered by forest | 69.8845 | percent |
| URBAN | Percentage of basin with urban development | 20.2431 | percent |
| CARBON | Percentage of area of carbonate rock | 0 | percent |

Low-Flow Statistics Parameters [Low Flow Region 4]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 26.6 | square miles | 2.26 | 1400 |
| ELEV | Mean Basin Elevation | 1077 | feet | 1050 | 2580 |

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

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

| Statistic | Value | Unit | SE | ASEp |
|---|---|---|---|---|
| 7 Day 2 Year Low Flow | 1.08 | ft^3/s | 43 | 43 |
| 30 Day 2 Year Low Flow | 1.77 | ft^3/s | 38 | 38 |
| 7 Day 10 Year Low Flow | 0.442 | ft^3/s | 66 | 66 |

| Statistic | Value | Unit | SE | ASEp |
|---|---|---|---|---|
| 30 Day 10 Year Low Flow | 0.732 | ft^3/s | 54 | 54 |
| 90 Day 10 Year Low Flow | 1.25 | ft^3/s | 41 | 41 |

*Low-Flow Statistics Citations*

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

Annual Flow Statistics Parameters [Statewide Mean and Base Flow]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 26.6 | square miles | 2.26 | 1720 |
| ELEV | Mean Basin Elevation | 1077 | feet | 130 | 2700 |
| PRECIP | Mean Annual Precipitation | 37 | inches | 33.1 | 50.4 |
| FOREST | Percent Forest | 69.8845 | percent | 5.1 | 100 |
| URBAN | Percent Urban | 20.2431 | percent | 0 | 89 |

Annual Flow Statistics Flow Report [Statewide Mean and Base Flow]

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

| Statistic | Value | Unit | SE | ASEp |
|---|---|---|---|---|
| Mean Annual Flow | 34 | ft^3/s | 12 | 12 |

*Annual Flow Statistics Citations*

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

General Flow Statistics Parameters [Statewide Mean and Base Flow]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 26.6 | square miles | 2.26 | 1720 |
| PRECIP | Mean Annual Precipitation | 37 | inches | 33.1 | 50.4 |
| CARBON | Percent Carbonate | 0 | percent | 0 | 99 |
| FOREST | Percent Forest | 69.8845 | percent | 5.1 | 100 |
| URBAN | Percent Urban | 20.2431 | percent | 0 | 89 |

General Flow Statistics Flow Report [Statewide Mean and Base Flow]

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

| Statistic | Value | Unit | SE | ASEp |
|---|---|---|---|---|
| Harmonic Mean Streamflow | 6.58 | ft^3/s | 38 | 38 |

*General Flow Statistics Citations*

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

Base Flow Statistics Parameters [Statewide Mean and Base Flow]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 26.6 | square miles | 2.26 | 1720 |
| PRECIP | Mean Annual Precipitation | 37 | inches | 33.1 | 50.4 |
| CARBON | Percent Carbonate | 0 | percent | 0 | 99 |
| FOREST | Percent Forest | 69.8845 | percent | 5.1 | 100 |
| URBAN | Percent Urban | 20.2431 | percent | 0 | 89 |

Base Flow Statistics Flow Report [Statewide Mean and Base Flow]

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

| Statistic | Value | Unit | SE | ASEp |
|---|---|---|---|---|
| Base Flow 10 Year Recurrence Interval | 12 | ft^3/s | 21 | 21 |
| Base Flow 25 Year Recurrence Interval | 10.7 | ft^3/s | 21 | 21 |
| Base Flow 50 Year Recurrence Interval | 9.88 | ft^3/s | 23 | 23 |

*Base Flow Statistics Citations*

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

Bankfull Statistics Parameters [Statewide Bankfull Noncarbonate 2018 5066]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 26.6 | square miles | 2.62 | 207 |
| CARBON | Percent Carbonate | 0 | percent | | |

Bankfull Statistics Parameters [Appalachian Highlands D Bieger 2015]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 26.6 | square miles | 0.07722 | 940.1535 |

Bankfull Statistics Parameters [Appalacian Plateaus P Bieger 2015]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 26.6 | square miles | 0.081081 | 536.995602 |

Bankfull Statistics Parameters [USA Bieger 2015]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 26.6 | square miles | 0.07722 | 59927.7393 |

Bankfull Statistics Flow Report [Statewide Bankfull Noncarbonate 2018 5066]

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

| Statistic | Value | Unit | SE |
|---|---|---|---|
| Bankfull Area | 167 | ft^2 | 64 |
| Bankfull Streamflow | 775 | ft^3/s | 74 |
| Bankfull Width | 64.4 | ft | 59 |

| Statistic | Value | Unit | SE |
|---|---|---|---|
| Bankfull Depth | 2.61 | ft | 56 |

Bankfull Statistics Flow Report [Appalachian Highlands D Bieger 2015]

| Statistic | Value | Unit |
|---|---|---|
| Bieger_D_channel_width | 59.3 | ft |
| Bieger_D_channel_depth | 2.87 | ft |
| Bieger_D_channel_cross_sectional_area | 174 | ft^2 |

Bankfull Statistics Flow Report [Appalacian Plateaus P Bieger 2015]

| Statistic | Value | Unit |
|---|---|---|
| Bieger_P_channel_width | 64.4 | ft |
| Bieger_P_channel_depth | 2.91 | ft |
| Bieger_P_channel_cross_sectional_area | 186 | ft^2 |

Bankfull Statistics Flow Report [USA Bieger 2015]

| Statistic | Value | Unit |
|---|---|---|
| Bieger_USA_channel_width | 39.3 | ft |
| Bieger_USA_channel_depth | 2.42 | ft |
| Bieger_USA_channel_cross_sectional_area | 100 | ft^2 |

Bankfull Statistics Flow Report [Area-Averaged]

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

| Statistic | Value | Unit | SE |
|---|---|---|---|
| Bankfull Area | 167 | ft^2 | 64 |
| Bankfull Streamflow | 775 | ft^3/s | 74 |
| Bankfull Width | 64.4 | ft | 59 |
| Bankfull Depth | 2.61 | ft | 56 |
| Bieger_D_channel_width | 59.3 | ft | |
| Bieger_D_channel_depth | 2.87 | ft | |
| Bieger_D_channel_cross_sectional_area | 174 | ft^2 | |
| Bieger_P_channel_width | 64.4 | ft | |
| Bieger_P_channel_depth | 2.91 | ft | |
| Bieger_P_channel_cross_sectional_area | 186 | ft^2 | |
| Bieger_USA_channel_width | 39.3 | ft | |
| Bieger_USA_channel_depth | 2.42 | ft | |
| Bieger_USA_channel_cross_sectional_area | 100 | ft^2 | |

*Bankfull Statistics Citations*

**Clune, J.W., Chaplin, J.J., and White, K.E.,2018, Comparison of regression relations of bankfull discharge and channel geometry for the glaciated and nonglaciated settings of Pennsylvania and southern New York: U.S. Geological Survey Scientific Investigations Report 2018–5066, 20 p. (https://doi.org/10.3133/sir20185066)**

**Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL**

**Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_campaign=PDFCoverPages)**



Application Version: 4.6.2
StreamStats Services Version: 1.2.22
NSS Services Version: 2.1.2

# Attachment #3 – WQM 7.0 Version 1.1 – Warmer Period

## 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 |
|---|---|---|---|---|---|---|---|---|
| 20G | 36596 | BIG SEWICKLEY CREEK | 3.430 | 787.00 | 26.60 | 0.00570 | 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 | 0.017 | 0.00 | 0.00 | 0.000 | 0.000 | 18.0 | 27.00 | 1.50 | 25.00 | 7.00 | 20.00 | 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 |
|---|---|---|---|---|---|---|---|
| B Sewickley STP | PA0218413 | 0.0000 | 1.2500 | 0.0000 | 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 | 2.00 | 0.00 | 1.50 |
| Dissolved Oxygen | 2.00 | 8.24 | 0.00 | 0.00 |
| NH3-N | 2.00 | 0.10 | 0.00 | 0.60 |

## 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 |
|---|---|---|---|---|---|---|---|---|
| 20G | 36596 | BIG SEWICKLEY CREEK | 2.910 | 772.00 | 26.76 | 0.00570 | 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 | 0.017 | 0.00 | 0.00 | 0.000 | 0.000 | 18.0 | 27.00 | 1.50 | 25.00 | 7.00 | 20.00 | 0.00 |
| Q1-10 | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |
| Q30-10 | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |

### Discharge Data

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

### Parameter Data

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

## WQM 7.0 Modeling Specifications

| | | | |
|---|---|---|---|
| Parameters | Both | Use Inputted Q1-10 and Q30-10 Flows | ☑ |
| WLA Method | EMPR | Use Inputted W/D Ratio | ☑ |
| Q1-10/Q7-10 Ratio | 0.64 | Use Inputted Reach Travel Times | ☑ |
| Q30-10/Q7-10 Ratio | 1.36 | Temperature Adjust Kr | ☐ |
| D.O. Saturation | 90.00% | Use Balanced Technology | ☑ |
| D.O. Goal | 6 | | |

# WQM 7.0 Hydrodynamic Outputs

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 20G | 36596 | BIG SEWICKLEY CREEK |

| RMI | Stream Flow (cfs) | PWS With (cfs) | Net Stream Flow (cfs) | Disc Analysis Flow (cfs) | Reach Slope (ft/ft) | Depth (ft) | Width (ft) | W/D Ratio | Velocity (fps) | Reach Trav Time (days) | Analysis Temp (°C) | Analysis pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Q7-10 Flow** | | | | | | | | | | | | |
| 3.430 | 0.44 | 0.00 | 0.44 | 1.9338 | 0.00570 | 1.5 | 27 | 18 | 0.06 | 0.542 | 20.00 | 7.00 |
| **Q1-10 Flow** | | | | | | | | | | | | |
| 3.430 | 0.28 | 0.00 | 0.28 | 1.9338 | 0.00570 | NA | NA | NA | 0.05 | 0.581 | 20.00 | 7.00 |
| **Q30-10 Flow** | | | | | | | | | | | | |
| 3.430 | 0.60 | 0.00 | 0.60 | 1.9338 | 0.00570 | NA | NA | NA | 0.06 | 0.508 | 20.00 | 7.00 |

# WQM 7.0 Wasteload Allocations

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 20G | 36596 | BIG SEWICKLEY CREEK |

## NH3-N Acute Allocations

| RMI | Discharge Name | Baseline Criterion (mg/L) | Baseline WLA (mg/L) | Multiple Criterion (mg/L) | Multiple WLA (mg/L) | Critical Reach | Percent Reduction |
|---|---|---|---|---|---|---|---|
| 3.430 | B Sewickley STP | 16.76 | 4 | 16.76 | 4 | 0 | 0 |

## NH3-N Chronic Allocations

| RMI | Discharge Name | Baseline Criterion (mg/L) | Baseline WLA (mg/L) | Multiple Criterion (mg/L) | Multiple WLA (mg/L) | Critical Reach | Percent Reduction |
|---|---|---|---|---|---|---|---|
| 3.430 | B Sewickley STP | 1.89 | 2 | 1.89 | 2 | 0 | 0 |

## Dissolved Oxygen Allocations

| RMI | Discharge Name | CBOD5 | | NH3-N | | Dissolved Oxygen | | Critical Reach | Percent Reduction |
|---|---|---|---|---|---|---|---|---|---|
| | | Baseline (mg/L) | Multiple (mg/L) | Baseline (mg/L) | Multiple (mg/L) | Baseline (mg/L) | Multiple (mg/L) | | |
| 3.43 | B Sewickley STP | 9.87 | 9.87 | 2 | 2 | 6 | 6 | 0 | 0 |

# WQM 7.0 D.O.Simulation

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 20G | 36596 | BIG SEWICKLEY CREEK |

| RMI | Total Discharge Flow (mgd) | Analysis Temperature (°C) | Analysis pH |
|---|---|---|---|
| 3.430 | 1.250 | 20.000 | 7.000 |
| **Reach Width (ft)** | **Reach Depth (ft)** | **Reach WDRatio** | **Reach Velocity (fps)** |
| 27.000 | 1.500 | 18.000 | 0.059 |
| **Reach CBOD5 (mg/L)** | **Reach Kc (1/days)** | **Reach NH3-N (mg/L)** | **Reach Kn (1/days)** |
| 8.40 | 0.561 | 1.65 | 0.600 |
| **Reach DO (mg/L)** | **Reach Kr (1/days)** | **Kr Equation** | **Reach DO Goal (mg/L)** |
| 6.417 | 3.177 | Tsivoglou | 6 |
| **Reach Travel Time (days)** | | | |
| 0.542 | | | |

**Subreach Results**

| TravTime (days) | CBOD5 (mg/L) | NH3-N (mg/L) | D.O. (mg/L) |
|---|---|---|---|
| 0.054 | 8.15 | 1.59 | 6.28 |
| 0.108 | 7.91 | 1.54 | 6.19 |
| 0.163 | 7.67 | 1.49 | 6.12 |
| 0.217 | 7.44 | 1.45 | 6.09 |
| 0.271 | 7.22 | 1.40 | 6.07 |
| 0.325 | 7.00 | 1.35 | 6.07 |
| 0.379 | 6.79 | 1.31 | 6.09 |
| 0.433 | 6.59 | 1.27 | 6.12 |
| 0.488 | 6.39 | 1.23 | 6.16 |
| 0.542 | 6.20 | 1.19 | 6.20 |

## WQM 7.0 Effluent Limits

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 20G | 36596 | BIG SEWICKLEY CREEK |

| RMI | Name | Permit Number | Disc Flow (mgd) | Parameter | Effl. Limit 30-day Ave. (mg/L) | Effl. Limit Maximum (mg/L) | Effl. Limit Minimum (mg/L) |
|---|---|---|---|---|---|---|---|
| 3.430 | B Sewickley STP | PA0218413 | 0.000 | CBOD5 | 9.87 | | |
| | | | | NH3-N | 2 | 4 | |
| | | | | Dissolved Oxygen | | | 6 |

# Attachment #3 – WQM 7.0 Version 1.1 – Colder Period

## 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 |
|---|---|---|---|---|---|---|---|---|---|
| | 20G | 36596 | BIG SEWICKLEY CREEK | 3.430 | 787.00 | 26.60 | 0.00570 | 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 | 0.033 | 0.00 | 0.00 | 0.000 | 0.000 | 18.0 | 27.00 | 1.50 | 5.00 | 7.00 | 20.00 | 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 |
|---|---|---|---|---|---|---|---|
| B Sewickley STP | PA0218413 | 0.0000 | 1.2500 | 0.0000 | 0.000 | 15.00 | 7.00 |

**Parameter Data**

| Parameter Name | Disc Conc (mg/L) | Trib Conc (mg/L) | Stream Conc (mg/L) | Fate Coef (1/days) |
|---|---|---|---|---|
| CBOD5 | 25.00 | 2.00 | 0.00 | 1.50 |
| Dissolved Oxygen | 2.00 | 12.51 | 0.00 | 0.00 |
| NH3-N | 25.00 | 0.10 | 0.00 | 0.60 |

## 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 |
|---|---|---|---|---|---|---|---|---|
| 20G | 36596 | BIG SEWICKLEY CREEK | 2.910 | 772.00 | 26.76 | 0.00570 | 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 | 0.033 | 0.00 | 0.00 | 0.000 | 0.000 | 18.0 | 27.00 | 1.50 | 5.00 | 7.00 | 20.00 | 0.00 |
| Q1-10 | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |
| Q30-10 | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |

### Discharge Data

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

### Parameter Data

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

## WQM 7.0 Modeling Specifications

| | | | |
|---|---|---|---|
| Parameters | Both | Use Inputted Q1-10 and Q30-10 Flows | ☑ |
| WLA Method | EMPR | Use Inputted W/D Ratio | ☑ |
| Q1-10/Q7-10 Ratio | 0.64 | Use Inputted Reach Travel Times | ☑ |
| Q30-10/Q7-10 Ratio | 1.36 | Temperature Adjust Kr | ☐ |
| D.O. Saturation | 90.00% | Use Balanced Technology | ☑ |
| D.O. Goal | 6 | | |

# WQM 7.0 Hydrodynamic Outputs

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 20G | 36596 | BIG SEWICKLEY CREEK |

| RMI | Stream Flow (cfs) | PWS With (cfs) | Net Stream Flow (cfs) | Disc Analysis Flow (cfs) | Reach Slope (ft/ft) | Depth (ft) | Width (ft) | W/D Ratio | Velocity (fps) | Reach Trav Time (days) | Analysis Temp (°C) | Analysis pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Q7-10 Flow** | | | | | | | | | | | | |
| 3.430 | 0.88 | 0.00 | 0.88 | 1.9338 | 0.00570 | 1.5 | 27 | 18 | 0.07 | 0.457 | 16.57 | 7.00 |
| **Q1-10 Flow** | | | | | | | | | | | | |
| 3.430 | 0.57 | 0.00 | 0.57 | 1.9338 | 0.00570 | NA | NA | NA | 0.06 | 0.515 | 16.13 | 7.00 |
| **Q30-10 Flow** | | | | | | | | | | | | |
| 3.430 | 1.20 | 0.00 | 1.20 | 1.9338 | 0.00570 | NA | NA | NA | 0.08 | 0.410 | 16.92 | 7.00 |

# WQM 7.0 Wasteload Allocations

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 20G | 36596 | BIG SEWICKLEY CREEK |

## NH3-N Acute Allocations

| RMI | Discharge Name | Baseline Criterion (mg/L) | Baseline WLA (mg/L) | Multiple Criterion (mg/L) | Multiple WLA (mg/L) | Critical Reach | Percent Reduction |
|---|---|---|---|---|---|---|---|
| 3.430 | B Sewickley STP | 23.1 | 29.82 | 23.1 | 29.82 | 0 | 0 |

## NH3-N Chronic Allocations

| RMI | Discharge Name | Baseline Criterion (mg/L) | Baseline WLA (mg/L) | Multiple Criterion (mg/L) | Multiple WLA (mg/L) | Critical Reach | Percent Reduction |
|---|---|---|---|---|---|---|---|
| 3.430 | B Sewickley STP | 2.3 | 3.67 | 2.3 | 3.67 | 0 | 0 |

## Dissolved Oxygen Allocations

| RMI | Discharge Name | CBOD5 | | NH3-N | | Dissolved Oxygen | | Critical Reach | Percent Reduction |
|---|---|---|---|---|---|---|---|---|---|
| | | Baseline (mg/L) | Multiple (mg/L) | Baseline (mg/L) | Multiple (mg/L) | Baseline (mg/L) | Multiple (mg/L) | | |
| 3.43 | B Sewickley STP | 14.08 | 14.08 | 3.67 | 3.67 | 4 | 4 | 0 | 0 |

# WQM 7.0 D.O.Simulation

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 20G | 36596 | BIG SEWICKLEY CREEK |

| RMI | Total Discharge Flow (mgd) | Analysis Temperature (°C) | Analysis pH |
|---|---|---|---|
| 3.430 | 1.250 | 16.569 | 7.000 |
| **Reach Width (ft)** | **Reach Depth (ft)** | **Reach WDRatio** | **Reach Velocity (fps)** |
| 27.000 | 1.500 | 18.000 | 0.070 |
| **Reach CBOD5 (mg/L)** | **Reach Kc (1/days)** | **Reach NH3-N (mg/L)** | **Reach Kn (1/days)** |
| 10.29 | 0.785 | 2.55 | 0.461 |
| **Reach DO (mg/L)** | **Reach Kr (1/days)** | **Kr Equation** | **Reach DO Goal (mg/L)** |
| 6.670 | 3.768 | Tsivoglou | 6 |
| **Reach Travel Time (days)** | | | |
| 0.457 | | | |

**Subreach Results**

| TravTime (days) | CBOD5 (mg/L) | NH3-N (mg/L) | D.O. (mg/L) |
|---|---|---|---|
| 0.046 | 9.98 | 2.50 | 6.51 |
| 0.091 | 9.68 | 2.45 | 6.40 |
| 0.137 | 9.39 | 2.39 | 6.32 |
| 0.183 | 9.11 | 2.34 | 6.27 |
| 0.228 | 8.83 | 2.30 | 6.24 |
| 0.274 | 8.57 | 2.25 | 6.23 |
| 0.320 | 8.31 | 2.20 | 6.24 |
| 0.365 | 8.06 | 2.16 | 6.27 |
| 0.411 | 7.81 | 2.11 | 6.30 |
| 0.457 | 7.58 | 2.07 | 6.34 |

## WQM 7.0 Effluent Limits

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 20G | 36596 | BIG SEWICKLEY CREEK |

| RMI | Name | Permit Number | Disc Flow (mgd) | Parameter | Effl. Limit 30-day Ave. (mg/L) | Effl. Limit Maximum (mg/L) | Effl. Limit Minimum (mg/L) |
|---|---|---|---|---|---|---|---|
| 3.430 | B Sewickley STP | PA0218413 | 0.000 | CBOD5 | 14.08 | | |
| | | | | NH3-N | 3.67 | 7.34 | |
| | | | | Dissolved Oxygen | | | 4 |

# Attachment #3 – TOXCONC Version 2.0

| | | | |
|---|---|---|---|
| | | **Reviewer/Permit Engineer:** | Y. Bhagat |
| **Facility:** | Big Sewickley Creek WWTP | | |
| **NPDES #:** | PA0218413 | | |
| **Outfall No:** | 001 | | |
| **n (Samples/Month):** | 4 | | |

| Parameter | Distribution Applied | Coefficient of Variation (daily) | Avg. Monthly |
|---|---|---|---|
| | | | |
| Free Cyanide (mg/L) | Delta-Lognormal | 0.8810553 | 0.0086982 |
| Copper (mg/L) | Lognormal | 0.2212195 | 0.0099950 |
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# Attachment #3 – TMS Version 1.3

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

# Discharge Information

Instructions | Discharge | Stream

Facility: **Big Sewickley Creek WWTP** NPDES Permit No.: **PA0218413** Outfall No.: **001**

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

| Discharge Characteristics | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Design Flow (MGD)* | Hardness (mg/l)* | pH (SU)* | Partial Mix Factors (PMFs) | | | | Complete Mix Times (min) | |
| | | | AFC | CFC | THH | CRL | $Q_{7-10}$ | $Q_h$ |
| 1.25 | 136.69 | 7 | 1 | 1 | | | | |

| | 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: Stream CV | 0 if left blank: Fate Coeff | 0 if left blank: FOS | 1 if left blank: Criteria Mod | 1 if left blank: Chem Transl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Group 1 | Total Dissolved Solids (PWS) | mg/L | | 436 | | | | | | | | | |
| | Chloride (PWS) | mg/L | | 144 | | | | | | | | | |
| | Bromide | mg/L | < | 0.1 | | | | | | | | | |
| | Sulfate (PWS) | mg/L | | 46.3 | | | | | | | | | |
| | Fluoride (PWS) | mg/L | | | | | | | | | | | |
| Group 2 | Total Aluminum | µg/L | < | 10 | | | | | | | | | |
| | Total Antimony | µg/L | < | 0.4 | | | | | | | | | |
| | Total Arsenic | µg/L | < | 1 | | | | | | | | | |
| | Total Barium | µg/L | | 118 | | | | | | | | | |
| | Total Beryllium | µg/L | | 0.8 | | | | | | | | | |
| | Total Boron | µg/L | | 250 | | | | | | | | | |
| | Total Cadmium | µg/L | < | 0.08 | | | | | | | | | |
| | Total Chromium (III) | µg/L | | 2 | | | | | | | | | |
| | Hexavalent Chromium | µg/L | < | 0.1 | | | | | | | | | |
| | Total Cobalt | µg/L | | 2 | | | | | | | | | |
| | Total Copper | µg/L | | 9.995 | | | 0.2212 | | | | | | |
| | Free Cyanide | µg/L | | 8.6982 | | | 0.8811 | | | | | | |
| | Total Cyanide | µg/L | | | | | | | | | | | |
| | Dissolved Iron | µg/L | | 20 | | | | | | | | | |
| | Total Iron | µg/L | | 26 | | | | | | | | | |
| | Total Lead | µg/L | < | 1 | | | | | | | | | |
| | Total Manganese | µg/L | | 20 | | | | | | | | | |
| | Total Mercury | µg/L | < | 0.2 | | | | | | | | | |
| | Total Nickel | µg/L | | 1 | | | | | | | | | |
| | Total Phenols (Phenolics) (PWS) | µg/L | < | 5 | | | | | | | | | |
| | Total Selenium | µg/L | < | 5 | | | | | | | | | |
| | Total Silver | µg/L | < | 0.4 | | | | | | | | | |
| | Total Thallium | µg/L | < | 0.8 | | | | | | | | | |
| | Total Zinc | µg/L | | 77 | | | | | | | | | |
| | Total Molybdenum | µg/L | | 2 | | | | | | | | | |
| | Acrolein | µg/L | < | 1 | | | | | | | | | |
| | Acrylamide | µg/L | | | | | | | | | | | |
| | Acrylonitrile | µg/L | < | 0.5 | | | | | | | | | |
| | Benzene | µg/L | < | 0.5 | | | | | | | | | |
| | Bromoform | µg/L | < | 0.5 | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Group 3 | Carbon Tetrachloride | µg/L | < | 0.5 | | | | | | | | | | |
| | Chlorobenzene | µg/L | < | 0.5 | | | | | | | | | | |
| | Chlorodibromomethane | µg/L | < | 0.5 | | | | | | | | | | |
| | Chloroethane | µg/L | < | 0.5 | | | | | | | | | | |
| | 2-Chloroethyl Vinyl Ether | µg/L | < | 0.5 | | | | | | | | | | |
| | Chloroform | µg/L | < | 0.7 | | | | | | | | | | |
| | Dichlorobromomethane | µg/L | < | 0.5 | | | | | | | | | | |
| | 1,1-Dichloroethane | µg/L | < | 0.5 | | | | | | | | | | |
| | 1,2-Dichloroethane | µg/L | < | 0.5 | | | | | | | | | | |
| | 1,1-Dichloroethylene | µg/L | < | 0.5 | | | | | | | | | | |
| | 1,2-Dichloropropane | µg/L | < | 0.5 | | | | | | | | | | |
| | 1,3-Dichloropropylene | µg/L | < | 0.5 | | | | | | | | | | |
| | 1,4-Dioxane | µg/L | < | 5 | | | | | | | | | | |
| | Ethylbenzene | µg/L | < | 0.5 | | | | | | | | | | |
| | Methyl Bromide | µg/L | < | 0.5 | | | | | | | | | | |
| | Methyl Chloride | µg/L | < | 0.5 | | | | | | | | | | |
| | Methylene Chloride | µg/L | < | 0.5 | | | | | | | | | | |
| | 1,1,2,2-Tetrachloroethane | µg/L | < | 0.5 | | | | | | | | | | |
| | Tetrachloroethylene | µg/L | < | 0.5 | | | | | | | | | | |
| | Toluene | µg/L | < | 0.5 | | | | | | | | | | |
| | 1,2-trans-Dichloroethylene | µg/L | < | 0.5 | | | | | | | | | | |
| | 1,1,1-Trichloroethane | µg/L | < | 0.5 | | | | | | | | | | |
| | 1,1,2-Trichloroethane | µg/L | < | 0.5 | | | | | | | | | | |
| | Trichloroethylene | µg/L | < | 0.5 | | | | | | | | | | |
| | Vinyl Chloride | µg/L | < | 0.5 | | | | | | | | | | |
| Group 4 | 2-Chlorophenol | µg/L | < | 1 | | | | | | | | | | |
| | 2,4-Dichlorophenol | µg/L | < | 1 | | | | | | | | | | |
| | 2,4-Dimethylphenol | µg/L | < | 1 | | | | | | | | | | |
| | 4,6-Dinitro-o-Cresol | µg/L | < | 1 | | | | | | | | | | |
| | 2,4-Dinitrophenol | µg/L | < | 1 | | | | | | | | | | |
| | 2-Nitrophenol | µg/L | < | 1 | | | | | | | | | | |
| | 4-Nitrophenol | µg/L | < | 1 | | | | | | | | | | |
| | p-Chloro-m-Cresol | µg/L | < | 1 | | | | | | | | | | |
| | Pentachlorophenol | µg/L | < | 1 | | | | | | | | | | |
| | Phenol | µg/L | < | 5 | | | | | | | | | | |
| | 2,4,6-Trichlorophenol | µg/L | < | 1 | | | | | | | | | | |
| Group 5 | Acenaphthene | µg/L | < | 1 | | | | | | | | | | |
| | Acenaphthylene | µg/L | | 1 | | | | | | | | | | |
| | Anthracene | µg/L | < | 1 | | | | | | | | | | |
| | Benzidine | µg/L | < | 5 | | | | | | | | | | |
| | Benzo(a)Anthracene | µg/L | < | 1 | | | | | | | | | | |
| | Benzo(a)Pyrene | µg/L | < | 1 | | | | | | | | | | |
| | 3,4-Benzofluoranthene | µg/L | < | 1 | | | | | | | | | | |
| | Benzo(ghi)Perylene | µg/L | < | 1 | | | | | | | | | | |
| | Benzo(k)Fluoranthene | µg/L | < | 1 | | | | | | | | | | |
| | Bis(2-Chloroethoxy)Methane | µg/L | < | 1 | | | | | | | | | | |
| | Bis(2-Chloroethyl)Ether | µg/L | < | 1 | | | | | | | | | | |
| | Bis(2-Chloroisopropyl)Ether | µg/L | < | 1 | | | | | | | | | | |
| | Bis(2-Ethylhexyl)Phthalate | µg/L | < | 3 | | | | | | | | | | |
| | 4-Bromophenyl Phenyl Ether | µg/L | < | 1 | | | | | | | | | | |
| | Butyl Benzyl Phthalate | µg/L | < | 1 | | | | | | | | | | |
| | 2-Chloronaphthalene | µg/L | < | 1 | | | | | | | | | | |
| | 4-Chlorophenyl Phenyl Ether | µg/L | < | 1 | | | | | | | | | | |
| | Chrysene | µg/L | < | 1 | | | | | | | | | | |
| | Dibenzo(a,h)Anthrancene | µg/L | < | 1 | | | | | | | | | | |
| | 1,2-Dichlorobenzene | µg/L | < | 0.5 | | | | | | | | | | |
| | 1,3-Dichlorobenzene | µg/L | < | 0.5 | | | | | | | | | | |
| | 1,4-Dichlorobenzene | µg/L | < | 0.5 | | | | | | | | | | |
| | 3,3-Dichlorobenzidine | µg/L | < | 1 | | | | | | | | | | |
| | Diethyl Phthalate | µg/L | < | 5.13 | | | | | | | | | | |
| | Dimethyl Phthalate | µg/L | < | 1 | | | | | | | | | | |
| | Di-n-Butyl Phthalate | µg/L | < | 3 | | | | | | | | | | |
| | 2,4-Dinitrotoluene | µg/L | < | 1 | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2,6-Dinitrotoluene | µg/L | < | 1 | | | | | | | | | | |
| | Di-n-Octyl Phthalate | µg/L | < | 3 | | | | | | | | | | |
| | 1,2-Diphenylhydrazine | µg/L | < | 1 | | | | | | | | | | |
| | Fluoranthene | µg/L | < | 1 | | | | | | | | | | |
| | Fluorene | µg/L | < | 1 | | | | | | | | | | |
| | Hexachlorobenzene | µg/L | < | 1 | | | | | | | | | | |
| | Hexachlorobutadiene | µg/L | < | 0.5 | | | | | | | | | | |
| | Hexachlorocyclopentadiene | µg/L | < | 0.5 | | | | | | | | | | |
| | Hexachloroethane | µg/L | < | 1 | | | | | | | | | | |
| | Indeno(1,2,3-cd)Pyrene | µg/L | < | 1 | | | | | | | | | | |
| | Isophorone | µg/L | < | 1 | | | | | | | | | | |
| | Naphthalene | µg/L | < | 1 | | | | | | | | | | |
| | Nitrobenzene | µg/L | < | 1 | | | | | | | | | | |
| | n-Nitrosodimethylamine | µg/L | < | 1 | | | | | | | | | | |
| | n-Nitrosodi-n-Propylamine | µg/L | < | 1 | | | | | | | | | | |
| | n-Nitrosodiphenylamine | µg/L | < | 1 | | | | | | | | | | |
| | Phenanthrene | µg/L | < | 1 | | | | | | | | | | |
| | Pyrene | µg/L | < | 1 | | | | | | | | | | |
| | 1,2,4-Trichlorobenzene | µg/L | < | 0.1 | | | | | | | | | | |
| Group 6 | Aldrin | µg/L | < | | | | | | | | | | | |
| | alpha-BHC | µg/L | < | | | | | | | | | | | |
| | beta-BHC | µg/L | < | | | | | | | | | | | |
| | gamma-BHC | µg/L | < | | | | | | | | | | | |
| | delta BHC | µg/L | < | | | | | | | | | | | |
| | Chlordane | µg/L | < | | | | | | | | | | | |
| | 4,4-DDT | µg/L | < | | | | | | | | | | | |
| | 4,4-DDE | µg/L | < | | | | | | | | | | | |
| | 4,4-DDD | µg/L | < | | | | | | | | | | | |
| | Dieldrin | µg/L | < | | | | | | | | | | | |
| | alpha-Endosulfan | µg/L | < | | | | | | | | | | | |
| | beta-Endosulfan | µg/L | < | | | | | | | | | | | |
| | Endosulfan Sulfate | µg/L | < | | | | | | | | | | | |
| | Endrin | µg/L | < | | | | | | | | | | | |
| | Endrin Aldehyde | µg/L | < | | | | | | | | | | | |
| | Heptachlor | µg/L | < | | | | | | | | | | | |
| | Heptachlor Epoxide | µg/L | < | | | | | | | | | | | |
| | PCB-1016 | µg/L | < | | | | | | | | | | | |
| | PCB-1221 | µg/L | < | | | | | | | | | | | |
| | PCB-1232 | µg/L | < | | | | | | | | | | | |
| | PCB-1242 | µg/L | < | | | | | | | | | | | |
| | PCB-1248 | µg/L | < | | | | | | | | | | | |
| | PCB-1254 | µg/L | < | | | | | | | | | | | |
| | PCB-1260 | µg/L | < | | | | | | | | | | | |
| | PCBs, Total | µg/L | < | | | | | | | | | | | |
| | Toxaphene | µg/L | < | | | | | | | | | | | |
| | 2,3,7,8-TCDD | ng/L | < | | | | | | | | | | | |
| Group 7 | Gross Alpha | pCi/L | | | | | | | | | | | | |
| | Total Beta | pCi/L | < | | | | | | | | | | | |
| | Radium 226/228 | pCi/L | < | | | | | | | | | | | |
| | Total Strontium | µg/L | < | | | | | | | | | | | |
| | Total Uranium | µg/L | < | | | | | | | | | | | |
| | Osmotic Pressure | mOs/kg | | | | | | | | | | | | |
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pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

## Stream / Surface Water Information

Big Sewickley Creek WWTP, NPDES Permit No. PA0218413, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: **Big Sewickley Creek**

No. Reaches to Model: 1

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

| Location | Stream Code* | RMI* | Elevation (ft)* | DA ($mi^2$)* | Slope (ft/ft) | PWS Withdrawal (MGD) | Apply Fish Criteria* |
|---|---|---|---|---|---|---|---|
| Point of Discharge | 036596 | 3.43 | 787 | 26.6 | | | Yes |
| End of Reach 1 | 036596 | 2.91 | 772 | 26.76 | | | Yes |

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

| Location | RMI | LFY ($cfs/mi^2$)* | Flow (cfs) | | W/D Ratio | Width (ft) | Depth (ft) | Velocity (fps) | Travel Time (days) | Tributary | | Stream | | Analysis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Stream | Tributary | | | | | | Hardness | pH | Hardness* | pH* | Hardness | pH |
| Point of Discharge | 3.43 | 0.0166165 | | | 18 | 27 | 1.5 | | | | | 116.8 | 7 | | |
| End of Reach 1 | 2.91 | 0.0166165 | | | | | | | | | | | | | |

$Q_h$

| Location | RMI | LFY ($cfs/mi^2$) | Flow (cfs) | | W/D Ratio | Width (ft) | Depth (ft) | Velocity (fps) | Travel Time (days) | Tributary | | Stream | | Analysis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Stream | Tributary | | | | | | Hardness | pH | Hardness | pH | Hardness | pH |
| Point of Discharge | 3.43 | | | | | | | | | | | | | | |
| End of Reach 1 | 2.91 | | | | | | | | | | | | | | |

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Toxics Management Spreadsheet
Version 1.3, March 2021

# Model Results

**Big Sewickley Creek WWTP, NPDES Permit No. PA0218413, Outfall 001**

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☑ ***Hydrodynamics***

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

| RMI | Stream Flow (cfs) | PWS Withdrawal (cfs) | Net Stream Flow (cfs) | Discharge Analysis Flow (cfs) | Slope (ft/ft) | Depth (ft) | Width (ft) | W/D Ratio | Velocity (fps) | Travel Time (days) | Complete Mix Time (min) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3.43 | 0.44 | | 0.44 | 1.934 | 0.005 | 1.5 | 27. | 18. | 0.059 | 0.542 | 0.255 |
| 2.91 | 0.44 | | 0.445 | | | | | | | | |

$Q_h$

| RMI | Stream Flow (cfs) | PWS Withdrawal (cfs) | Net Stream Flow (cfs) | Discharge Analysis Flow (cfs) | Slope (ft/ft) | Depth (ft) | Width (ft) | W/D Ratio | Velocity (fps) | Travel Time (days) | Complete Mix Time (min) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3.43 | 3.64 | | 3.64 | 1.934 | 0.005 | 2.183 | 27. | 12.369 | 0.095 | 0.336 | 1.788 |
| 2.91 | 3.659 | | 3.66 | | | | | | | | |

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.255 PMF: 1 Analysis Hardness (mg/l): 132.99 Analysis pH: 7.00

| Pollutants | Stream Conc (µg/L) | Stream CV | Trib Conc (µg/L) | Fate Coef | WQC (µg/L) | WQ Obj (µg/L) | WLA (µg/L) | Comments |
|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chloride (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Sulfate (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Aluminum | 0 | 0 | | 0 | 750 | 750 | 921 | |
| Total Antimony | 0 | 0 | | 0 | 1,100 | 1,100 | 1,351 | |
| Total Arsenic | 0 | 0 | | 0 | 340 | 340 | 418 | Chem Translator of 1 applied |
| Total Barium | 0 | 0 | | 0 | 21,000 | 21,000 | 25,800 | |
| Total Boron | 0 | 0 | | 0 | 8,100 | 8,100 | 9,951 | |
| Total Cadmium | 0 | 0 | | 0 | 2.657 | 2.85 | 3.5 | Chem Translator of 0.932 applied |
| Total Chromium (III) | 0 | 0 | | 0 | 719.617 | 2,277 | 2,798 | Chem Translator of 0.316 applied |
| Hexavalent Chromium | 0 | 0 | | 0 | 16 | 16.3 | 20.0 | Chem Translator of 0.982 applied |
| Total Cobalt | 0 | 0 | | 0 | 95 | 95.0 | 117 | |
| Total Copper | 0 | 0 | | 0 | 17.581 | 18.3 | 22.5 | Chem Translator of 0.96 applied |
| Free Cyanide | 0 | 0 | | 0 | 22 | 22.0 | 27.0 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 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 | 87.962 | 117 | 144 | Chem Translator of 0.749 applied |
| Total Manganese | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Mercury | 0 | 0 | | 0 | 1.400 | 1.65 | 2.02 | Chem Translator of 0.85 applied |
| Total Nickel | 0 | 0 | | 0 | 595.956 | 597 | 734 | 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 | 5.253 | 6.18 | 7.59 | Chem Translator of 0.85 applied |
| Total Thallium | 0 | 0 | | 0 | 65 | 65.0 | 79.9 | |
| Total Zinc | 0 | 0 | | 0 | 149.199 | 153 | 187 | Chem Translator of 0.978 applied |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 3.69 | |
| Acrylonitrile | 0 | 0 | | 0 | 650 | 650 | 799 | |
| Benzene | 0 | 0 | | 0 | 640 | 640 | 786 | |
| Bromoform | 0 | 0 | | 0 | 1,800 | 1,800 | 2,211 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 2,800 | 2,800 | 3,440 | |
| Chlorobenzene | 0 | 0 | | 0 | 1,200 | 1,200 | 1,474 | |
| Chlorodibromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | 18,000 | 18,000 | 22,114 | |
| Chloroform | 0 | 0 | | 0 | 1,900 | 1,900 | 2,334 | |
| Dichlorobromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 15,000 | 15,000 | 18,429 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | 7,500 | 7,500 | 9,214 | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 11,000 | 11,000 | 13,514 | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 310 | 310 | 381 | |
| Ethylbenzene | 0 | 0 | | 0 | 2,900 | 2,900 | 3,563 | |
| Methyl Bromide | 0 | 0 | | 0 | 550 | 550 | 676 | |
| Methyl Chloride | 0 | 0 | | 0 | 28,000 | 28,000 | 34,400 | |
| Methylene Chloride | 0 | 0 | | 0 | 12,000 | 12,000 | 14,743 | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 1,000 | 1,000 | 1,229 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 700 | 700 | 860 | |
| Toluene | 0 | 0 | | 0 | 1,700 | 1,700 | 2,089 | |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 6,800 | 6,800 | 8,354 | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 3,000 | 3,000 | 3,686 | |
| 1,1,2-Trichloroethane | 0 | 0 | | 0 | 3,400 | 3,400 | 4,177 | |
| Trichloroethylene | 0 | 0 | | 0 | 2,300 | 2,300 | 2,826 | |
| Vinyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chlorophenol | 0 | 0 | | 0 | 560 | 560 | 688 | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 1,700 | 1,700 | 2,089 | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 660 | 660 | 811 | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 80 | 80.0 | 98.3 | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 660 | 660 | 811 | |
| 2-Nitrophenol | 0 | 0 | | 0 | 8,000 | 8,000 | 9,829 | |
| 4-Nitrophenol | 0 | 0 | | 0 | 2,300 | 2,300 | 2,826 | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | 160 | 160 | 197 | |
| Pentachlorophenol | 0 | 0 | | 0 | 8.723 | 8.72 | 10.7 | |
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 460 | 460 | 565 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 0 | 0 | | 0 | 83 | 83.0 | 102 | |
| Anthracene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzidine | 0 | 0 | | 0 | 300 | 300 | 369 | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | 0.5 | 0.5 | 0.61 | |
| 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 | 36,857 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 4,500 | 4,500 | 5,529 | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | 270 | 270 | 332 | |
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | 140 | 140 | 172 | |
| 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 | 1,007 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 350 | 350 | 430 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 730 | 730 | 897 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 4,000 | 4,000 | 4,914 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 2,500 | 2,500 | 3,071 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 110 | 110 | 135 | |
| 2,4-Dinitrotoluene | 0 | 0 | | 0 | 1,600 | 1,600 | 1,966 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 990 | 990 | 1,216 | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 15 | 15.0 | 18.4 | |
| Fluoranthene | 0 | 0 | | 0 | 200 | 200 | 246 | |
| Fluorene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachlorobutadiene | 0 | 0 | | 0 | 10 | 10.0 | 12.3 | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | 5 | 5.0 | 6.14 | |
| Hexachloroethane | 0 | 0 | | 0 | 60 | 60.0 | 73.7 | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Isophorone | 0 | 0 | | 0 | 10,000 | 10,000 | 12,286 | |
| Naphthalene | 0 | 0 | | 0 | 140 | 140 | 172 | |
| Nitrobenzene | 0 | 0 | | 0 | 4,000 | 4,000 | 4,914 | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | 17,000 | 17,000 | 20,886 | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 300 | 300 | 369 | |
| Phenanthrene | 0 | 0 | | 0 | 5 | 5.0 | 6.14 | |
| Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 130 | 130 | 160 | |

☑ *CFC* CCT (min): 0.255 PMF: 1 Analysis Hardness (mg/l): 132.99 Analysis pH: 7.00

| Pollutants | Stream Conc (µg/L) | Stream CV | Trib Conc (µg/L) | Fate Coef | WQC (µg/L) | WQ Obj (µg/L) | WLA (µg/L) | Comments |
|---|---|---|---|---|---|---|---|---|
| Total Dissolved Solids (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Chloride (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Sulfate (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Aluminum | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Antimony | 0 | 0 | | 0 | 220 | 220 | 270 | |
| Total Arsenic | 0 | 0 | | 0 | 150 | 150 | 184 | Chem Translator of 1 applied |
| Total Barium | 0 | 0 | | 0 | 4,100 | 4,100 | 5,037 | |
| Total Boron | 0 | 0 | | 0 | 1,600 | 1,600 | 1,966 | |
| Total Cadmium | 0 | 0 | | 0 | 0.300 | 0.33 | 0.41 | Chem Translator of 0.897 applied |
| Total Chromium (III) | 0 | 0 | | 0 | 93.607 | 109 | 134 | Chem Translator of 0.86 applied |
| Hexavalent Chromium | 0 | 0 | | 0 | 10 | 10.4 | 12.8 | Chem Translator of 0.962 applied |
| Total Cobalt | 0 | 0 | | 0 | 19 | 19.0 | 23.3 | |
| Total Copper | 0 | 0 | | 0 | 11.426 | 11.9 | 14.6 | Chem Translator of 0.96 applied |
| Free Cyanide | 0 | 0 | | 0 | 5.2 | 5.2 | 6.39 | |
| Dissolved Iron | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Iron | 0 | 0 | | 0 | 1,500 | 1,500 | 1,843 | WQC = 30 day average; PMF = 1 |
| Total Lead | 0 | 0 | | 0 | 3.428 | 4.57 | 5.62 | Chem Translator of 0.749 applied |
| Total Manganese | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Mercury | 0 | 0 | | 0 | 0.770 | 0.91 | 1.11 | Chem Translator of 0.85 applied |
| Total Nickel | 0 | 0 | | 0 | 66.192 | 66.4 | 81.6 | Chem Translator of 0.997 applied |
| Total Phenols (Phenolics) (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Selenium | 0 | 0 | | 0 | 4.600 | 4.99 | 6.13 | Chem Translator of 0.922 applied |
| Total Silver | 0 | 0 | | 0 | N/A | N/A | N/A | Chem Translator of 1 applied |
| Total Thallium | 0 | 0 | | 0 | 13 | 13.0 | 16.0 | |
| Total Zinc | 0 | 0 | | 0 | 150.419 | 153 | 187 | Chem Translator of 0.986 applied |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 3.69 | |
| Acrylonitrile | 0 | 0 | | 0 | 130 | 130 | 160 | |
| Benzene | 0 | 0 | | 0 | 130 | 130 | 160 | |
| Bromoform | 0 | 0 | | 0 | 370 | 370 | 455 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 560 | 560 | 688 | |
| Chlorobenzene | 0 | 0 | | 0 | 240 | 240 | 295 | |
| Chlorodibromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | 3,500 | 3,500 | 4,300 | |
| Chloroform | 0 | 0 | | 0 | 390 | 390 | 479 | |
| Dichlorobromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 3,100 | 3,100 | 3,809 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | 1,500 | 1,500 | 1,843 | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 2,200 | 2,200 | 2,703 | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 61 | 61.0 | 74.9 | |
| Ethylbenzene | 0 | 0 | | 0 | 580 | 580 | 713 | |
| Methyl Bromide | 0 | 0 | | 0 | 110 | 110 | 135 | |
| Methyl Chloride | 0 | 0 | | 0 | 5,500 | 5,500 | 6,757 | |
| Methylene Chloride | 0 | 0 | | 0 | 2,400 | 2,400 | 2,949 | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 210 | 210 | 258 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 140 | 140 | 172 | |
| Toluene | 0 | 0 | | 0 | 330 | 330 | 405 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 1,400 | 1,400 | 1,720 | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 610 | 610 | 749 | |
| 1,1,2-Trichloroethane | 0 | 0 | | 0 | 680 | 680 | 835 | |
| Trichloroethylene | 0 | 0 | | 0 | 450 | 450 | 553 | |
| Vinyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chlorophenol | 0 | 0 | | 0 | 110 | 110 | 135 | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 340 | 340 | 418 | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 130 | 130 | 160 | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 16 | 16.0 | 19.7 | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 130 | 130 | 160 | |
| 2-Nitrophenol | 0 | 0 | | 0 | 1,600 | 1,600 | 1,966 | |
| 4-Nitrophenol | 0 | 0 | | 0 | 470 | 470 | 577 | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | 500 | 500 | 614 | |
| Pentachlorophenol | 0 | 0 | | 0 | 6.693 | 6.69 | 8.22 | |
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 91 | 91.0 | 112 | |
| Acenaphthene | 0 | 0 | | 0 | 17 | 17.0 | 20.9 | |
| Anthracene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzidine | 0 | 0 | | 0 | 59 | 59.0 | 72.5 | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | 0.1 | 0.1 | 0.12 | |
| Benzo(a)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 3,4-Benzofluoranthene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzo(k)Fluoranthene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Chloroethyl)Ether | 0 | 0 | | 0 | 6,000 | 6,000 | 7,371 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 910 | 910 | 1,118 | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | 54 | 54.0 | 66.3 | |
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | 35 | 35.0 | 43.0 | |
| 2-Chloronaphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chrysene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Dibenzo(a,h)Anthrancene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichlorobenzene | 0 | 0 | | 0 | 160 | 160 | 197 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 69 | 69.0 | 84.8 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 150 | 150 | 184 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 800 | 800 | 983 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 500 | 500 | 614 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 21 | 21.0 | 25.8 | |
| 2,4-Dinitrotoluene | 0 | 0 | | 0 | 320 | 320 | 393 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 200 | 200 | 246 | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 3 | 3.0 | 3.69 | |
| Fluoranthene | 0 | 0 | | 0 | 40 | 40.0 | 49.1 | |
| Fluorene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachlorobutadiene | 0 | 0 | | 0 | 2 | 2.0 | 2.46 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | 1 | 1.0 | 1.23 | |
| Hexachloroethane | 0 | 0 | | 0 | 12 | 12.0 | 14.7 | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Isophorone | 0 | 0 | | 0 | 2,100 | 2,100 | 2,580 | |
| Naphthalene | 0 | 0 | | 0 | 43 | 43.0 | 52.8 | |
| Nitrobenzene | 0 | 0 | | 0 | 810 | 810 | 995 | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | 3,400 | 3,400 | 4,177 | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 59 | 59.0 | 72.5 | |
| Phenanthrene | 0 | 0 | | 0 | 1 | 1.0 | 1.23 | |
| Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 26 | 26.0 | 31.9 | |

☐ ***THH*** CCT (min): 0.255 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 | |
| Total Aluminum | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Antimony | 0 | 0 | | 0 | 5.6 | 5.6 | 6.88 | |
| Total Arsenic | 0 | 0 | | 0 | 10 | 10.0 | 12.3 | |
| Total Barium | 0 | 0 | | 0 | 2,400 | 2,400 | 2,949 | |
| Total Boron | 0 | 0 | | 0 | 3,100 | 3,100 | 3,809 | |
| 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 | |
| Free Cyanide | 0 | 0 | | 0 | 4 | 4.0 | 4.91 | |
| Dissolved Iron | 0 | 0 | | 0 | 300 | 300 | 369 | |
| 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 | 1,229 | |
| Total Mercury | 0 | 0 | | 0 | 0.050 | 0.05 | 0.061 | |
| Total Nickel | 0 | 0 | | 0 | 610 | 610 | 749 | |
| 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 | 0.29 | |
| Total Zinc | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 3.69 | |
| 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 | 123 | |
| 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 | 40.5 | |
| 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 | 83.5 | |
| Methyl Bromide | 0 | 0 | | 0 | 100 | 100.0 | 123 | |
| Methyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Methylene Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Tetrachloroethylene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Toluene | 0 | 0 | | 0 | 57 | 57.0 | 70.0 | |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 100 | 100.0 | 123 | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 10,000 | 10,000 | 12,286 | |
| 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 | 36.9 | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 10 | 10.0 | 12.3 | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 100 | 100.0 | 123 | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 2 | 2.0 | 2.46 | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 10 | 10.0 | 12.3 | |
| 2-Nitrophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 4-Nitrophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Pentachlorophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Phenol | 0 | 0 | | 0 | 4,000 | 4,000 | 4,914 | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acenaphthene | 0 | 0 | | 0 | 70 | 70.0 | 86.0 | |
| Anthracene | 0 | 0 | | 0 | 300 | 300 | 369 | |
| 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 | 246 | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | 0.1 | 0.1 | 0.12 | |
| 2-Chloronaphthalene | 0 | 0 | | 0 | 800 | 800 | 983 | |
| 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 | 1,229 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 7 | 7.0 | 8.6 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 300 | 300 | 369 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 600 | 600 | 737 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 2,000 | 2,000 | 2,457 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 20 | 20.0 | 24.6 | |
| 2,4-Dinitrotoluene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Fluoranthene | 0 | 0 | | 0 | 20 | 20.0 | 24.6 | |
| Fluorene | 0 | 0 | | 0 | 50 | 50.0 | 61.4 | |
| Hexachlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachlorobutadiene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | 4 | 4.0 | 4.91 | |
| 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 | 41.8 | |
| Naphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Nitrobenzene | 0 | 0 | | 0 | 10 | 10.0 | 12.3 | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Phenanthrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Pyrene | 0 | 0 | | 0 | 20 | 20.0 | 24.6 | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 0.07 | 0.07 | 0.086 | |

☑ *CRL* CCT (min): 1.788 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 | |
| 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 | |
| Free Cyanide | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Dissolved Iron | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Iron | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Lead | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Manganese | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Mercury | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Nickel | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Phenols (Phenolics) (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Selenium | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Silver | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Thallium | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Zinc | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acrolein | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acrylonitrile | 0 | 0 | | 0 | 0.06 | 0.06 | 0.17 | |
| Benzene | 0 | 0 | | 0 | 0.58 | 0.58 | 1.67 | |
| Bromoform | 0 | 0 | | 0 | 7 | 7.0 | 20.2 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 0.4 | 0.4 | 1.15 | |
| Chlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chlorodibromomethane | 0 | 0 | | 0 | 0.8 | 0.8 | 2.31 | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chloroform | 0 | 0 | | 0 | 5.7 | 5.7 | 16.4 | |
| Dichlorobromomethane | 0 | 0 | | 0 | 0.95 | 0.95 | 2.74 | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 9.9 | 9.9 | 28.5 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 0.9 | 0.9 | 2.59 | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 0.27 | 0.27 | 0.78 | |
| 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 | 57.6 | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 0.2 | 0.2 | 0.58 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 10 | 10.0 | 28.8 | |
| 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 | 1.59 | |
| Trichloroethylene | 0 | 0 | | 0 | 0.6 | 0.6 | 1.73 | |
| Vinyl Chloride | 0 | 0 | | 0 | 0.02 | 0.02 | 0.058 | |
| 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 | 0.086 | |
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 1.5 | 1.5 | 4.32 | |
| 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 | 0.029 | |
| Bis(2-Chloroethyl)Ether | 0 | 0 | | 0 | 0.03 | 0.03 | 0.086 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 0.32 | 0.32 | 0.92 | |
| 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 | 0.35 | |
| 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 | 0.14 | |
| 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 | 0.14 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 0.05 | 0.05 | 0.14 | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 0.03 | 0.03 | 0.086 | |
| 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 | 0.029 | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachloroethane | 0 | 0 | | 0 | 0.1 | 0.1 | 0.29 | |
| 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 | 0.014 | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 3.3 | 3.3 | 9.51 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Phenanthrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |

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

**No. Samples/Month:** 4

| | *Mass Limits* | | *Concentration Limits* | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Pollutants | AML (lbs/day) | MDL (lbs/day) | AML | MDL | IMAX | Units | Governing WQBEL | WQBEL Basis | Comments |
| Total Boron | Report | Report | Report | Report | Report | µg/L | 1,966 | CFC | Discharge Conc > 10% WQBEL (no RP) |
| Total Copper | 0.15 | 0.19 | 14.6 | 18.3 | 18.3 | µg/L | 14.6 | CFC | Discharge Conc ≥ 50% WQBEL (RP) |
| Free Cyanide | 0.051 | 0.092 | 4.91 | 8.82 | 12.3 | µg/L | 4.91 | THH | Discharge Conc ≥ 50% WQBEL (RP) |
| Total Zinc | 1.59 | 1.95 | 153 | 187 | 187 | µg/L | 153 | AFC | 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 |
| Total Aluminum | N/A | N/A | Discharge Conc < TQL |
| Total Antimony | N/A | N/A | Discharge Conc < TQL |
| Total Arsenic | N/A | N/A | Discharge Conc < TQL |
| Total Barium | 2,949 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Beryllium | N/A | N/A | No WQS |
| Total Cadmium | 0.41 | µg/L | Discharge Conc < TQL |
| Total Chromium (III) | 134 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Hexavalent Chromium | 12.8 | µg/L | Discharge Conc < TQL |
| Total Cobalt | 23.3 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Dissolved Iron | 369 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Iron | 1,843 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Lead | 5.62 | µg/L | Discharge Conc < TQL |
| Total Manganese | 1,229 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Mercury | 0.061 | µg/L | Discharge Conc < TQL |
| Total Nickel | 81.6 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Phenols (Phenolics) (PWS) | | µg/L | Discharge Conc < TQL |
| Total Selenium | 6.13 | µg/L | Discharge Conc < TQL |
| Total Silver | 6.18 | µg/L | Discharge Conc < TQL |
| Total Thallium | 0.29 | µg/L | Discharge Conc < TQL |

| | | | |
|---|---|---|---|
| Total Molybdenum | N/A | N/A | No WQS |
| Acrolein | 3.0 | µg/L | Discharge Conc < TQL |
| Acrylonitrile | 0.17 | µg/L | Discharge Conc < TQL |
| Benzene | 1.67 | µg/L | Discharge Conc < TQL |
| Bromoform | 20.2 | µg/L | Discharge Conc < TQL |
| Carbon Tetrachloride | 1.15 | µg/L | Discharge Conc < TQL |
| Chlorobenzene | 123 | µg/L | Discharge Conc < TQL |
| Chlorodibromomethane | 2.31 | µg/L | Discharge Conc < TQL |
| Chloroethane | N/A | N/A | No WQS |
| 2-Chloroethyl Vinyl Ether | 4,300 | µg/L | Discharge Conc < TQL |
| Chloroform | 16.4 | µg/L | Discharge Conc ≤ 25% WQBEL |
| Dichlorobromomethane | 2.74 | µg/L | Discharge Conc < TQL |
| 1,1-Dichloroethane | N/A | N/A | No WQS |
| 1,2-Dichloroethane | 28.5 | µg/L | Discharge Conc < TQL |
| 1,1-Dichloroethylene | 40.5 | µg/L | Discharge Conc < TQL |
| 1,2-Dichloropropane | 2.59 | µg/L | Discharge Conc < TQL |
| 1,3-Dichloropropylene | 0.78 | µg/L | Discharge Conc < TQL |
| 1,4-Dioxane | N/A | N/A | No WQS |
| Ethylbenzene | 83.5 | µg/L | Discharge Conc < TQL |
| Methyl Bromide | 123 | µg/L | Discharge Conc < TQL |
| Methyl Chloride | 6,757 | µg/L | Discharge Conc < TQL |
| Methylene Chloride | 57.6 | µg/L | Discharge Conc < TQL |
| 1,1,2,2-Tetrachloroethane | 0.58 | µg/L | Discharge Conc < TQL |
| Tetrachloroethylene | 28.8 | µg/L | Discharge Conc < TQL |
| Toluene | 70.0 | µg/L | Discharge Conc < TQL |
| 1,2-trans-Dichloroethylene | 123 | µg/L | Discharge Conc < TQL |
| 1,1,1-Trichloroethane | 749 | µg/L | Discharge Conc < TQL |
| 1,1,2-Trichloroethane | 1.59 | µg/L | Discharge Conc < TQL |
| Trichloroethylene | 1.73 | µg/L | Discharge Conc < TQL |
| Vinyl Chloride | 0.058 | µg/L | Discharge Conc < TQL |
| 2-Chlorophenol | 36.9 | µg/L | Discharge Conc < TQL |
| 2,4-Dichlorophenol | 12.3 | µg/L | Discharge Conc < TQL |
| 2,4-Dimethylphenol | 123 | µg/L | Discharge Conc < TQL |
| 4,6-Dinitro-o-Cresol | 2.46 | µg/L | Discharge Conc < TQL |
| 2,4-Dinitrophenol | 12.3 | µg/L | Discharge Conc < TQL |
| 2-Nitrophenol | 1,966 | µg/L | Discharge Conc < TQL |
| 4-Nitrophenol | 577 | µg/L | Discharge Conc < TQL |
| p-Chloro-m-Cresol | 160 | µg/L | Discharge Conc < TQL |
| Pentachlorophenol | 0.086 | µg/L | Discharge Conc < TQL |
| Phenol | 4,914 | µg/L | Discharge Conc < TQL |
| 2,4,6-Trichlorophenol | 4.32 | µg/L | Discharge Conc < TQL |
| Acenaphthene | 20.9 | µg/L | Discharge Conc < TQL |
| Acenaphthylene | N/A | N/A | No WQS |
| Anthracene | 369 | 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 | 0.029 | µg/L | Discharge Conc < TQL |
| Bis(2-Chloroethoxy)Methane | N/A | N/A | No WQS |
| Bis(2-Chloroethyl)Ether | 0.086 | µg/L | Discharge Conc < TQL |
| Bis(2-Chloroisopropyl)Ether | 246 | µg/L | Discharge Conc < TQL |
| Bis(2-Ethylhexyl)Phthalate | 0.92 | µg/L | Discharge Conc < TQL |
| 4-Bromophenyl Phenyl Ether | 66.3 | µg/L | Discharge Conc < TQL |
| Butyl Benzyl Phthalate | 0.12 | µg/L | Discharge Conc < TQL |
| 2-Chloronaphthalene | 983 | µg/L | Discharge Conc < TQL |
| 4-Chlorophenyl Phenyl Ether | N/A | N/A | No WQS |
| Chrysene | 0.35 | µg/L | Discharge Conc < TQL |
| Dibenzo(a,h)Anthrancene | 0.0003 | µg/L | Discharge Conc < TQL |
| 1,2-Dichlorobenzene | 197 | µg/L | Discharge Conc < TQL |
| 1,3-Dichlorobenzene | 8.6 | µg/L | Discharge Conc < TQL |
| 1,4-Dichlorobenzene | 184 | µg/L | Discharge Conc < TQL |
| 3,3-Dichlorobenzidine | 0.14 | µg/L | Discharge Conc < TQL |
| Diethyl Phthalate | 737 | µg/L | Discharge Conc ≤ 25% WQBEL |
| Dimethyl Phthalate | 614 | µg/L | Discharge Conc < TQL |
| Di-n-Butyl Phthalate | 24.6 | µg/L | Discharge Conc < TQL |
| 2,4-Dinitrotoluene | 0.14 | µg/L | Discharge Conc < TQL |
| 2,6-Dinitrotoluene | 0.14 | µg/L | Discharge Conc < TQL |
| Di-n-Octyl Phthalate | N/A | N/A | No WQS |
| 1,2-Diphenylhydrazine | 0.086 | µg/L | Discharge Conc < TQL |
| Fluoranthene | 24.6 | µg/L | Discharge Conc < TQL |
| Fluorene | 61.4 | µg/L | Discharge Conc < TQL |
| Hexachlorobenzene | 0.0002 | µg/L | Discharge Conc < TQL |
| Hexachlorobutadiene | 0.029 | µg/L | Discharge Conc < TQL |
| Hexachlorocyclopentadiene | 1.23 | µg/L | Discharge Conc < TQL |
| Hexachloroethane | 0.29 | µg/L | Discharge Conc < TQL |
| Indeno(1,2,3-cd)Pyrene | 0.003 | µg/L | Discharge Conc < TQL |
| Isophorone | 41.8 | µg/L | Discharge Conc < TQL |
| Naphthalene | 52.8 | µg/L | Discharge Conc ≤ 25% WQBEL |
| Nitrobenzene | 12.3 | µg/L | Discharge Conc < TQL |
| n-Nitrosodimethylamine | 0.002 | µg/L | Discharge Conc < TQL |
| n-Nitrosodi-n-Propylamine | 0.014 | µg/L | Discharge Conc < TQL |
| n-Nitrosodiphenylamine | 9.51 | µg/L | Discharge Conc < TQL |
| Phenanthrene | 1.23 | µg/L | Discharge Conc < TQL |
| Pyrene | 24.6 | µg/L | Discharge Conc < TQL |
| 1,2,4-Trichlorobenzene | 0.086 | µg/L | Discharge Conc < TQL |