pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

**Southwest Regional Office**
**CLEAN WATER PROGRAM**

| | | | |
|---|---|---|---|
| Application Type | **Renewal** | Application No. | **PA0027464** |
| Facility Type | **Municipal** | APS ID | **1084109** |
| Major / Minor | **Major** | Authorization ID | **1432113** |

# NPDES PERMIT FACT SHEET
# INDIVIDUAL SEWAGE

## Applicant and Facility Information

| | | | |
|---|---|---|---|
| Applicant Name | **Pleasant Hills Authority Allegheny County (PHA)** | Facility Name | **Pleasant Hills Authority STP** |
| Applicant Address | 628 Cochran Mill Road | Facility Address | 616 Cochran Mill Road |
| | Clairton, PA 15025-3210 | | Clairton, PA 15025-3210 |
| Applicant Contact | Jean Crane | Facility Contact | Mike Majzer |
| Applicant Phone | (412) 653-3878 | Facility Phone | 412-653-3878 |
| Client ID | 62398 | Site ID | 4594 |
| Ch 94 Load Status | Existing Hydraulic Overload | Municipality | South Park Township |
| Connection Status | Dept. Imposed Connection Prohibitions | County | Allegheny |
| Date Application Received | March 22, 2023 | EPA Waived? | No |
| Date Application Accepted | March 23, 2023 | If No, Reason | Major Facility, Pretreatment |

Purpose of Application: NPDES Permit Renewal for Discharge of Treated Sewage Effluent.

## Summary of Review

This application is for a renewal of NPDES Permit PA0027464. NPDES Permit PA0027464 was last issued on September 17th, 2018 and authorized a discharge of 5.0 MGD from the Pleasant Hills Authority (PHA) STP to Lick Run, a tributary of Peters Creek which empties into the Monongahela River near Clairton, PA. Lick Run is classified as TSF at the point of discharge.

The NPDES permit expired on September 30, 2023, and the renewal permit was submitted to the Department on March 22, 2023 which was considered timely.

WQM No. 8982-S issued on December 31, 1957 permitted the construction of this sewage treatment facility. WQM No. 0285406A-1 issued on June 24, 1987 permitted the first upgrade and expansion to treat 5.0 MGD. Recently, WQM No. 0285406 A-4 issued on August 9, 2016 approved the current improvements which consists of:
Screening, two aerated grit chambers, four primary clarifiers, two stages activated sludge: stage 1 takes 40% of the influent flow consists of four aeration tanks and five final clarifiers, stage 2 takes 60% of the influent flow consists of four aeration tanks and two large circular clarifiers, and an Ultra-Violet disinfection unit.

**Compliance Review**

NPDES Permit Limits Violations

- Mercury limits violations continued through 2022-2023 per ACHD and Operations reports.
- Fecal Coliform violations for IMAX for June and July 2023.

| Approve | Deny | Signatures | Date |
|---|---|---|---|
| X | | Hazim Aldalli / Environmental Engineering Specialist | April 16, 2024 |
| X | | Mahbuba Iasmin / Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineering Manager | June 13, 2024 |

**Summary of Review**

There is no open violation for the exceedance incidents per Operations report (see page 6).
WETT TRE Progress Reports

- DEP received Phase I report and progress report on 2020.
- All WETT reports show pass results; no need for Phase II.

Mercury TRE Progress

- The authority accepted the Department's WQBELs listed in the previous permit.
- PHA did not perform the Phase II of the TRE. The influent, effluent and industrial users sampling results during the previous cycle indicates that PHA was generally able to meet the previous permit limits.

**Plant Upgrades & Improvements**

A Consent Order and Agreement (CO&A) promulgated by PADEP and the Allegheny County Health Department (ACHD) has been established between the PHA and the Contracting Municipalities on March 8, 2010 to eliminate occasional overflows at the head of the plant and at the permittee's Lewis Run Pump Station during severe wet weather events. The PHA is committed to comply with the DEP's CO&A and the National Pollutant Discharge Elimination System (NPDES) Permit requirements. WQM No. 0285406 A-4 issued on August 9, 2016 to authorize the construction of the plant upgrades that will warrant the COA obligations and objectives. The application indicated that the upgrade work was intended to handle wet weather flows that is needed to eliminate sanitary sewer system overflows (SSO) at the Lewis Run Pump Station and the STP. This project at PHA Wastewater Treatment Plant (WWTP) involves the Primary Clarifier Effluent (PCE) being rerouted through the WWTP to a parallel activated sludge process instead of the two-stage process up to 12.5 MGD through a flow management approach. Also, flows from 12.5 MGD to 25 MGD will be diverted to the existing plant pump station, which will be used as a wet weather pump station. The wet weather pump station will proportionately distribute the wet weather flows to the Stage 1 and Stage 2 aeration tanks. This approach increases the WWTP capacity to be able to treat up to 25 MGD of wastewater flow in order to prevent WWTP SSOs during a typical storm.

**Pretreatment & Industrial Users**

PHA has an EPA-approved pretreatment program and the previous permit was accompanied with POTW pretreatment program implementation requirements under Part C.II. The pretreatment program was approved by EPA in January 1999. Based on the received information through the renewal application for the facility industrial users and the submitted pretreatment annual reports, the permit writer has the following summary:

The sewage treatment plant receives industrial wastewater from two facilities, which are listed in the renewal application as:-

- Health and Safety Research Center (NIOSH)- U.S. Dept of Health and Human Services. The application listed this user as a Non-Significant Categorical Industrial User (NSCIU). The permittee has not identified this user as a known or suspected source of upsets, pass through, or interference to the STP.
- Energy Research Facility- U.S. Department of Energy. The application listed this user as a Non-Significant Categorical Industrial User (NSCIU). The permittee has not identified this user as a known or suspected source of upsets, pass through, or interference to the STP.

Part C109 will be added to the renewal permit.

Sludge use and disposal description and location(s): Raw sludge is directed to a two stages anaerobic digestion system for stabilization. Sludge can be thickened between the digestion stages, or a screw press will dewater the stabilized sludge. Solids then get hauled by an approved contractor to a landfill. 220.05 dry tons were hauled to Imperial landfill in 2022. The Imperial Landfill is owned and operated by Republic Services, LLC which is located in Imperial, PA.

**Public Participation**

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

**Discharge, Receiving Waters and Water Supply Information**

| | | | |
|---|---|---|---|
| Outfall No. | 001 | Design Flow (MGD) | 5.0 |
| Latitude | 40º 18' 6" | Longitude | -79º 58' 28" |
| Quad Name | Glassport | Quad Code | 40079C8 |
| Wastewater Description: | Sewage Effluent | | |
| Receiving Waters | Lick Run (TSF) | Stream Code | 39451 |
| NHD Com ID | 134839820 | RMI | 2.22 |
| Drainage Area | 6.8 | Yield (cfs/mi$^2$) | 0.012 |
| $Q_{7-10}$ Flow (cfs) | 0.084 | $Q_{7-10}$ Basis | USGS StreamStats |
| Elevation (ft) | 1116 | Slope (ft/ft) | 0.0058 |
| Watershed No. | 19-C | Chapter 93 Class. | TSF |
| Existing Use | | Existing Use Qualifier | |
| Exceptions to Use | None. | Exceptions to Criteria | None. |
| Assessment Status | Impaired; Aquatic life, Recreational | | |
| Cause(s) of Impairment | Cause Unknown, Metals, Pathogens. Acid Mine Drainage, Source Unknown. | | |
| Source(s) of Impairment | | | |
| TMDL Status | Final | Name | Peters Creek Watershed |

| Background/Ambient Data | | Data Source |
|---|---|---|
| pH (SU) | | |
| Temperature (°F) | | |
| Hardness (mg/L) | | |
| Other: | | |

| | | | |
|---|---|---|---|
| Nearest Downstream Public Water Supply Intake | | PA American Water Company at Becks Run | |
| PWS Waters | Monongahela River | Flow at Intake (cfs) | 1230 |
| PWS RMI | 4.7 | Distance from Outfall (mi) | >23.0 |

Changes Since Last Permit Issuance:

- $Q_{7-10}$ flow, elevation, drainage area, and low flow yield were all updated to match USGS Stream Stats new data (see Appendix A).
- DEP updated its WQM 7.0 criteria for Ammonia-Nitrogen ($NH_3$-N) in 2019. Limits and conditions of this permit need to be redeveloped to an adequate level to protect water quality.
- *E. Coli* monitoring requirements will be introduced to this renewal which is in compliance with DEP SOP No. BCW-PMT-033 revised February 5, 2024.

Other Comments: None.

**Treatment Facility Summary**

**Treatment Facility Name:** Pleasant Hills Authority STP

| WQM Permit No. | Issuance Date |
|---|---|
| 0285406 A-4 | August 9, 2016 |
| 0285406 A-3 | May 21, 1998 |
| 0285406 | June 24, 1985 |
| 8982-S | December 31, 1957 |

| Waste Type | Degree of Treatment | Process Type | Disinfection | Avg Annual Flow (MGD) |
|---|---|---|---|---|
| Sewage | Tertiary | Activated Sludge with Solids Removal | Ultra-Violet | 2.93 |

| Hydraulic Capacity (MGD) | Organic Capacity (lbs/day) | Load Status | Biosolids Treatment | Biosolids Use/Disposal |
|---|---|---|---|---|
| 5.0 | 9495 | Existing Hydraulic Overload | Screw press system | Combination of methods |

Changes Since Last Permit Issuance:

- Peak wet weather design capacity increased from 12.5 MGD to 25.0 MGD in June 2021. The applicant reported that STP upgraded to handle wet weather flows. Checking on the records available, the Department issued a WQM No. 0285406 A-4 on August 9, 2016 that approved the upsizing of the peak design capacity.

- Organic design capacity increased from 7004 lbs/day to 9495 lbs/day in June 2021. The Chapter 94 Report for 2021 stated that all upgrades work was completed by April 1, 2021.

Other Comments: None.

**Compliance History**

**Operations Compliance Check Summary Report**

**Facility:** Pleasant Hills STP
**NPDES Permit No.:** PA0027464
**Compliance Review Period:** 6/1/2018-6/21/2023

**Inspection Summary:**

| INSPECTED DATE | INSP TYPE | AGENCY | INSPECTION RESULT DESC |
|---|---|---|---|
| 05/12/2022 | Compliance Evaluation | County Health Dept | Violation(s) Noted |
| 03/17/2021 | Compliance Evaluation | County Health Dept | No Violations Noted |
| 05/01/2020 | Compliance Evaluation | County Health Dept | Violation(s) Noted |
| 05/01/2020 | Compliance Evaluation | PA Dept of Environmental Protection | No Violations Noted |
| 08/15/2019 | Compliance Evaluation | County Health Dept | Violation(s) Noted |
| 08/09/2018 | Compliance Evaluation | County Health Dept | Violation(s) Noted |

**Violation Summary:**

| VIOLATION DATE | VIOLATION TYPE | VIOLATION TYPE DESC | RESOLVED DATE | VIOLATION COMMENT |
|---|---|---|---|---|
| 05/12/2022 | CSL201 | CSL - Unauthorized, unpermitted discharge of sewage to waters of the Commonwealth | 7/13/2022 | overflow at headworks wet weather |
| 05/12/2022 | 92A.44 | NPDES - Violation of effluent limits in Part A of permit | 7/13/2022 | TSS fecal coliform exceedances |
| 05/01/2020 | CSL201 | CSL - Unauthorized, unpermitted discharge of sewage to waters of the Commonwealth | 10/23/2020 | SSOs at headworks |
| 05/01/2020 | 92A.41(A)10B | NPDES - Failure to utilize approved analytical methods | 10/23/2020 | no NISTS thermometer |
| 08/15/2019 | CSL201 | CSL - Unauthorized, unpermitted discharge of sewage to waters of the Commonwealth | 10/23/2020 | overflows before headworks |
| 08/09/2018 | CSL201 | CSL - Unauthorized, unpermitted discharge of sewage to waters of the Commonwealth | 05/24/2019 | Sewage overflow at headworks and PS |

**Open Violations by Client ID:**
No open violations for 62398

**Enforcement Summary:**

| ENF TYPE | EXECUTED DATE | VIOLATIONS | ENF FINALSTATUS | ENF CLOSED DATE |
|---|---|---|---|---|
| NOV | 06/15/2022 | 92A.44; CSL201 | Administrative Close Out | 07/13/2022 |
| NOV | 05/15/2020 | 92A.41(A)10B; CSL201 | Administrative Close Out | 10/23/2020 |
| NOV | 08/17/2018 | CSL201 | Administrative Close Out | 08/30/2019 |

**Effluent Violation Summary:**

| MON_PD_END | OUTFALL | PARAMETER | SAMPLE | PERMIT | UNIT | STAT_BASE_CODE |
|---|---|---|---|---|---|---|
| 4/30/23 | 1 | Mercury, Total | 0.431 | 0.052 | ug/L | Average Monthly |
| 4/30/23 | 1 | Mercury, Total | 0.431 | 0.081 | ug/L | Instantaneous Maximum |
| 3/31/23 | 1 | Mercury, Total | 0.279 | 0.052 | ug/L | Average Monthly |
| 3/31/23 | 1 | Mercury, Total | 0.279 | 0.081 | ug/L | Instantaneous Maximum |
| 2/28/23 | 1 | Mercury, Total | 0.528 | 0.052 | ug/L | Average Monthly |
| 2/28/23 | 1 | Mercury, Total | 0.528 | 0.081 | ug/L | Instantaneous Maximum |
| 10/31/22 | 1 | Mercury, Total | 0.06795 | 0.052 | ug/L | Average Monthly |
| 10/31/22 | 1 | Mercury, Total | 0.118 | 0.081 | ug/L | Instantaneous Maximum |
| 8/31/22 | 1 | Mercury, Total | 0.158 | 0.052 | ug/L | Average Monthly |
| 8/31/22 | 1 | Mercury, Total | 0.158 | 0.081 | ug/L | Instantaneous Maximum |
| 7/31/22 | 1 | Fecal Coliform | 1047 | 1000 | No./100 ml | Instantaneous Maximum |
| 7/31/22 | 1 | Mercury, Total | 0.273 | 0.052 | ug/L | Average Monthly |
| 7/31/22 | 1 | Mercury, Total | 0.273 | 0.081 | ug/L | Instantaneous Maximum |
| 6/30/22 | 1 | Fecal Coliform | 2420 | 1000 | No./100 ml | Instantaneous Maximum |
| 5/31/22 | 1 | Fecal Coliform | 2420 | 1000 | No./100 ml | Instantaneous Maximum |
| 2/28/22 | 1 | Total Suspended Solids | 1279.1 | 1251 | lbs/day | Average Monthly |
| 2/28/22 | 1 | Total Suspended Solids | 3271.6 | 1876.5 | lbs/day | Weekly Average |
| 7/31/21 | 1 | Fecal Coliform | 1553 | 1000 | No./100 ml | Instantaneous Maximum |
| 6/30/21 | 1 | Fecal Coliform | 2420 | 1000 | No./100 ml | Instantaneous Maximum |
| 10/31/19 | 1 | Total Suspended Solids | 35 | 30 | mg/L | Average Monthly |

**Compliance Status:** Effluent exceedances have occurred since last inspection and will need to be addressed, however facility is currently in compliance with no open violations or pending enforcements.

**Completed by:** Amanda Schmidt

**Completed date:** 6/21/23

## Development of Effluent Limitations

**Outfall No.** 001 **Design Flow (MGD)** 5.0
**Latitude** 40º 18' 6.00" **Longitude** -79º 58' 28.00"
**Wastewater Description:** Sewage Effluent

### Technology-Based Limitations

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

| Pollutant | Limit (mg/L) | SBC | Federal Regulation | State Regulation |
|---|---|---|---|---|
| $CBOD_5$ | 25 | Average Monthly | 133.102(a)(4)(i) | 92a.47(a)(1) |
| | 40 | Average Weekly | 133.102(a)(4)(ii) | 92a.47(a)(2) |
| Total Suspended Solids | 30 | Average Monthly | 133.102(b)(1) | 92a.47(a)(1) |
| | 45 | Average Weekly | 133.102(b)(2) | 92a.47(a)(2) |
| pH | 6.0 – 9.0 S.U. | Min – Max | 133.102(c) | 95.2(1) |
| Fecal Coliform (5/1 – 9/30) | 200 / 100 ml | Geo Mean | - | 92a.47(a)(4) |
| Fecal Coliform (5/1 – 9/30) | 400 / 100 ml | IMAX | - | 92a.47(a)(4) |
| Fecal Coliform (10/1 – 4/30) | 2,000 / 100 ml | Geo Mean | - | 92a.47(a)(5) |
| Fecal Coliform (10/1 – 4/30) | 10,000 / 100 ml | IMAX | - | 92a.47(a)(5) |
| Total Residual Chlorine | 0.5 | Average Monthly | - | 92a.48(b)(2) |
| D.O. (mg/L) | 4.0 | Min | - | BPJ |
| $NH_3$-N (mg/L) | 25 | Average Monthly | - | BPJ |
| | 50 | IMAX | | |
| Total N (mg/L) | Report | Average Monthly | - | 92a.61 |
| Total P (mg/L) | Report | Average Monthly | - | 92a.61 |
| *E. Coli* (No./100 ml) | Report | IMAX | - | 92a.61 |

Comments: The existing discharge was evaluated using WQM 7.0 for $CBOD_5$, Ammonia Nitrogen and Dissolved Oxygen.

The Total Suspended Solids (TSS), pH, and Fecal Coliform parameters are not evaluated using WQM 7.0. The bases for the proposed technology-based limitations are listed in the above table.

### Water Quality-Based Limitations

The following limitations were determined through water quality modeling (output files attached, see appendix B ):

| Parameter | Limit (mg/l) | SBC | Model |
|---|---|---|---|
| $CBOD_5$ (May1-Oct 31) | 25 | Average Monthly | WQM7.0 |
| $CBOD_5$ (Nov 1- Apr 30) | 25 | Average Monthly | WQM7.0 |
| $NH_3$-N (May1-Oct 31) | 1.9 | Average Monthly | WQM7.0 |
| $NH_3$-N (Nov 1- Apr 30) | 2.8 | Average Monthly | WQM7.0 |
| Dissolved Oxygen | 6.0 | Minimum | WQM7.0 |

### Best Professional Judgment (BPJ) Limitations

Comments: A minimum Dissolved Oxygen (DO) WQBEL of 6.0 mg/L will be maintained based on DEP water quality model WQM 7.0 version 1.10 (Appendix B).

WQM 7.0 was used to generate a warm period seasonal limits for Ammonia-Nitrogen ($NH_3$-N) AML of 1.9 mg/L, Weekly Average of 2.9 mg/L, and Ins. Max of 3.8 mg/. Also, the model generated cold period seasonal limits of AML 2.8 mg/L,

Weekly Average of 4.2 mg/L, and Ins. Max of 5.6 mg/L. The new WQBELs are less stringent than the previous permit limits for Ammonia-Nitrogen, and therefore, previous limits will be continued in the renewed permit.

WQM 7.0 generated $CBOD_5$ WQBEL year around limits of AML 25.0 mg/L, Weekly Average of 37.0 mg/L, and Ins. Max of 50.0 mg/L. The warm period limits match the previous permit limits for $CBOD_5$.

**Reasonable Potential**

The Toxics Management Screening Analysis Spreadsheet (TMS rev. 1.4) was used to evaluate toxic parameters of concern for water quality modeling and to facilitate determinations of "reasonable potential" to cause an excursion above water quality standards. The maximum concentrations reported in the permit application for Groups 1-5 pollutants were evaluated (see Appendix C).

The TMS suggested monitoring and/or limitations for a total of eight (8) parameters: Total Boron, Total Cadmium, Total Copper, Free Cyanide, Total Mercury, Total Selenium, Total Zinc, and Carbon Tetrachloride. Total Boron, Total Zinc, and Total Selenium have no Reasonable Potential (RP) and weekly monitor and report requirements will be imposed for this renewal.

Free Cyanide is the only parameter that was tested by the applicant with higher detection limit of (5.0 µg/L) than DEP Target Quantitation Limit of 1.0 µg/L listed within Attachment B of DEP SOP-*Application For Individual Permit To Discharge Sewage Effluent For Major Sewage Facilities Instructions*.

DEP sent PHA a pre-draft survey request for Total Cadmium, Total Copper, Free Cyanide, Total Mercury, and Carbon Tetrachloride on November 1, 2023. PHA chose to resample for Free Cyanide and Carbon Tetrachloride.

Four (4) additional samples were collected with one week apart. TMS was used again to model the resampling event data received on February 14, 2024. The TMS suggested monitoring and/or limitations for a total of seven (7) pollutants: Total Boron, Total Cadmium, Total Copper, Free Cyanide, Total Mercury, Total Selenium, and Total Zinc. Total Cadmium, Total Copper, Free Cyanide, and Total Mercury continue to show RP and new WQBELs will be applied for this renewal with weekly monitoring as shown in the effluent limitations table (see page 16). No monitoring for Carbon Tetrachloride was recommended.

Total Mercury:

NPDES Permit PA0027464 issued on September 17, 2018 set the average monthly effluent for total mercury as 0.052 µg/L.

The reviewed eDMRs (7/2023-2/2024) show no limit exceedance as well as the submitted application sampling results and the pre-draft sampling results. TMS results recommend WQBEL of 0.051 µg/L AML.

The applicant will have three years to comply with the new total mercury limit, a Schedule and Final WQBEL Compliance Report are detailed within part C.IV.D.

An interim limit of 0.052 µg/L AML will be imposed in the renewed permit., At the end of the compliance schedule, the final limit will be 0.051 µg/L for the rest of the permit period with a sampling frequency of 1/week.

Free Cyanide:

No limits or monitoring requirements for Free Cyanide were applied during the previous permit term. The reported maximum Free Cyanide concentration in the effluent sampling results showed an average monthly value of < 5.0 µg/L.

The Applicant was asked to resample to achieve Target Quantitation Limit of 1.0 µg/L. The process involved four events of sampling. The reported maximum concentration of 3.0 µg/L was used in evaluating reasonable potential (RP) using DEP's TMS. RP exists and WQBELs of 4.04 µg/L AML and 6.31 µg/L MDL have been determined. A Part C condition with requirement of TRE study will be added to the permit.

Per Table 6-4 of DEP's Technical Guidance for the Development and Specification of Effluent Limitations, monitor and report with weekly sampling requirement will be imposed during the compliance period. At the end of the compliance period, the final limits of 4.04 µg/L AML and 6.31 µg/L MDL will be imposed.

Total Copper:

No limits or monitoring requirements were imposed for Total Copper in the previous permit. The application effluent reported maximum concentration of 13.05 µg/L was used in evaluating reasonable potential (RP) using DEP's Toxics Management Spreadsheet (TMS). RP exists and WQBELs of 18 µg/L AML and 27 µg/L MDL have been determined. A Part C condition with requirement of TRE study will be added to the permit.

Monitor and report with weekly sampling requirement will be imposed during the compliance period. At the end of the compliance period, the final limits of 18 µg/L AML and 27 µg/L MDL will be imposed.

Total Cadmium:

No limits or monitoring requirements were imposed for Total Cadmium in the previous permit. The application effluent reported maximum concentration of 0.31 µg/L was used in evaluating reasonable potential (RP) using DEP's Toxics Management Spreadsheet (TMS). RP exists and WQBELs of 0.47 µg/L AML and 0.73 µg/L MDL have been determined. A Part C condition with requirement of TRE study will be added to the permit.

Monitor and report with weekly sampling requirement will be imposed during the compliance period. At the end of the compliance period, the final limits of 0.47 µg/L AML and 0.73 µg/L MDL will be imposed.

## Anti-Backsliding

Since WQM 7.0 didn't produce more stringent Ammonia-Nitrogen limits; the previously imposed limits for Ammonia-Nitrogen for the warm period of AML 1.5 mg/L, Weekly Average of 2.3 mg/L, and Ins. Max of 3.0 mg/L, the cold period seasonal limits of AML 2.5 mg/L, Weekly Average of 3.8 mg/L, and Ins. Max of 5.0 mg/L will be continued in the renewed permit. Also, the $CBOD_5$ cold period seasonal limits of AML 20 mg/L, Weekly Average of 30 mg/L, and Ins. Max of 40 mg/L) will be all unchanged due to Anti-Backsliding as stated in 40 CFR Section 122.44(l).

## Whole Effluent Toxicity (WET)

Per DEP-SOP Whole Effluent Toxicity (WET) SOP No. BPNPSM-PMT-031, revised May 13, 2014, the facility tests (see Appendix D) show that no reasonable potential exists, and no recommended limits should be established per the WET evaluation. (See page 13).

The test frequency will be 1/year. Part C 114 will be included in the permit.

## Mass Loadings

Mass loading limits are applicable for publicly owned treatment works. Current policy requires average monthly mass loading limits be established for $CBOD_5$, TSS, and $NH_3$-N and average weekly mass loading limits be established for $CBOD_5$ and TSS. Average weekly limits for $NH_3$-N were re-imposed to be consistent with the previous permits.

Average monthly mass loading limits (lbs/day) are based on the formula: design flow (MGD) x concentration limit (mg/L) x conversion factor (8.34).

## Influent Monitoring

For POTWs with design flows greater than 2,000 GPD, influent $BOD_5$ and TSS monitoring must be established in the permit, and the monitoring should be consistent with the same frequency and sample type as is used for other effluent

parameters. $BOD_5$ and TSS influent loads will once again be reported for monthly average and daily maximum values in lbs/day and monthly average concentrations in mg/L.

**Total Dissolved Solids (TDS) and its Major Constituents**

Total Dissolved Solids (TDS) and its major constituents including sulfate, chloride, and bromide have emerged as pollutants of concern in several major watersheds in the Commonwealth. The conservative nature of these solids allows them to accumulate in surface waters and they may remain a concern even if the immediate downstream public water supply is not directly impacted. Bromide has been linked to formation of disinfection byproducts at increased levels in public water systems.

Because of actions associated with Triennial Review 13, the Environmental Quality Board has directed DEP to collect additional data. A facility with a design flow greater than or equal to 0.1 MGD are required to report at least one sample analyzed for these parameters. The permit will not include any additional monitoring for TDS, sulfate, chloride, and bromide because the concentration of TDS in the effluent sampling sheets accompanied this application does not exceed 1,000 mg/L (reported as 628 mg/L), the net TDS load from the discharge does not exceed 20,000 lbs/day, and the concentration of Bromide does not exceed 1 mg/l (reported as <0.036 mg/L).

**Disinfection**

Per DEP SOP BCW-PMT-033 - *Establishing Effluent Limitations for Individual Sewage Permits* Revised, February 5, 2024, permittee can report (at a minimum) UV transmittance (%), UV dosage (µWs/cm2 or mWs/cm2 or mjoules/cm2) or UV intensity (µW/cm2 or mW/cm2).

The previous permit required Ultraviolet Disinfection Light Dosage be measured in mjoules/$cm^2$. The renewal permit will carry over the limit with the same frequency and units.

Part C33 will be added to the renewal permit.

***E. Coli***

Pursuant to 25 Pa. code § 92a.61, monthly monitoring for *E. Coli* will be imposed at Outfall 001 to determine if *E. Coli* will be a pollutant of concern, which is consistent with DEP SOP No. BCW-PMT-033 revised February 5, 2024.

**PFAS**

Pursuant to 25 Pa. code § 92a.61(b), annual monitoring for PFAS will be imposed at Outfall 001 to determine if PFAS will be a pollutant of concern, which is consistent with DEP SOP No. BCW-PMT-033 revised February 5, 2024 under Section G.3.

PFAS parameters were not sampled as part of the submitted renewal application. Per DEP SOP for Clean Water Program - Establishing Effluent Limitations for Individual Sewage Permits (SOP No. BCW-PMT-033 Final, November 9, 2012, Revised, February 5, 2024 Version 2.0), sampling requirements for four parameters (PFOA, PFOS, PFBS and HPFO-DA) will be applied in Part A for effluent sampling. A footnote has been added to the permit: “The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive monitoring periods indicate non-detect results at or below Quantitation Limits of 4.0 ng/L for PFOA, 3.7 ng/L for PFOS, 3.5 ng/L for PFBS and 6.4 ng/L for HFPO-DA. When monitoring is discontinued, permittees must enter a No Discharge Indicator (NODI) Code of “GG” on DMRs.”

The permittee shall conduct monitoring at its treatment plant that includes annual influent analysis for the 4 PFAS parameters detectable by EPA Method 1633. Monitoring data for any analytes listed in EPA Method 1633 shall be summarized and submitted as part of the Annual Report.

Additionally, Part C.II condition of the permit (POTW Pretreatment Program Implementation) has been updated to include PFAS requirements.

**TN and TP Monitoring**

Nutrient monitoring is required to establish the nutrient load from the wastewater treatment facility and the impacts that load may have on the quality of the receiving stream(s). Sewage discharges with design flows > 2,000 gpd require monitoring. Casselman River segment within the facility is not impaired for nutrients. Per DEP-SOP No. BCW-PMT-033 revised February 5, 2024, 1/quarter monitoring for Total Nitrogen and Total Phosphorus will be applied at Outfall 001.

**Peters Creek Watershed TMDL**

The Peters Creek Watershed is located within southwestern Allegheny County and northeastern Washington County in Southwestern Pennsylvania. This segment (39451@RMI 2.22) of Lick Run a tributary of Peters Creek is not listed in 303 (d) table (Table1, see page 3) within the TMDL final report (January 2009), however eMAP is assigning this segment under the Section 303(d) list for impairment to aquatic life due to abandoned mine drainage (AMD). The facility also does not have waste load allocations listed in the Final TMDL document (Version January 6, 2009).

In accordance with 40 CFR § 122.44(d)(1)(vii)(B), when developing WQBELs, the permitting authority shall ensure that effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available Waste Load Allocation (WLA) for the discharge prepared by the State and approved by the EPA pursuant to 40 CFR § 130.7.

The applicable water quality criteria for this watershed can be summarized in the following table:

| Parameter | Application Value (mg/L) | Criterion Value (mg/L) | Total Recoverable/Dissolved |
|---|---|---|---|
| Aluminum (Al) | 0.1 | 0.75 | Total Recoverable |
| Iron (Fe) | 0.16 | 1.5 | 30-day average; Total |
| Manganese (Mn) | 0.072 | 1.00 | Total Recoverable |
| pH * | 6.8-8.0 | 6.0-9.0 | N/A |

Checking on the metals pollution within the receiving stream upon reviewing the effluent sampling data within the reported eDMR for the last five years and application; no metals concentration exceeds the TMDL criterion values shown within the table above. Annual monitoring will be re-imposed for this renewal cycle.

## Whole Effluent Toxicity (WET)

For Outfall 001, ☐ **Acute** ☒ **Chronic** WET Testing was completed:

☒ For the permit renewal application (4 tests).
☐ Quarterly throughout the permit term.
☐ Quarterly throughout the permit term and a TIE/TRE was conducted.
☐ Other:

The dilution series used for the tests was: 100%, 98%, 73%, 49%, and 25%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 98%.

**Summary of Four Most Recent Test Results**

*(NOTE – Enter results into one table, depending on which data analysis method was used).*

TST Data Analysis

*(NOTE – In lieu of recording information below, the application manager may attach the DEP WET Analysis Spreadsheet).*

| Test Date | *Ceriodaphnia* Results (Pass/Fail) | | *Pimephales* Results (Pass/Fail) | |
|---|---|---|---|---|
| | Survival | Reproduction | Survival | Growth |
| 2/11/2019 | Pass | Pass | Pass | Pass |
| 5/13/2020 | Pass | Pass | Pass | Pass |
| 5/24/2021 | Pass | Pass | Pass | Pass |
| 9/6/2022 | Pass | Pass | Pass | Pass |

***** *A "passing" result is that in which the replicate data for the TIWC is not statistically significant from the control condition. This is exhibited when the calculated t value ("T-Test Result") is greater than the critical t value. A "failing" result is exhibited when the calculated t value ("T-Test Result") is less than the critical t value.*

Is there reasonable potential for an excursion above water quality standards based on the results of these tests? (*NOTE – In general, reasonable potential is determined anytime there is at least one test failure in the previous four tests).*

☐ **YES** ☒ **NO**

**Evaluation of Test Type, IWC and Dilution Series for Renewed Permit**

Acute Partial Mix Factor (PMFa): **0.01** Chronic Partial Mix Factor (PMFc): **0.01**

**1. Determine IWC – Acute (IWCa)**:

$(Q_d \times 1.547) / ((Q_{7\text{-}10} \times PMFa) + (Q_d \times 1.547))$

[(5 MGD x 1.547) / ((0.084 cfs x 0.01) + (5 MGD x 1.547))] x 100 = **99.9%**

Is IWCa < 1%? ☐ **YES** ☒ **NO**

**Type of Test for Permit Renewal**: **Chronic**

**2b. Determine Target IWCc (If Chronic Tests Required)**

$(Q_d \times 1.547) / (Q_{7\text{-}10} \times PMFc) + (Q_d \times 1.547)$

[(5 MGD x 1.547) / ((5 cfs x 0.01) + (5 MGD x 1.547))] x 100 = **99.9%**

**3. Determine Dilution Series**

*(NOTE – check Attachment C of WET SOP for dilution series based on TIWCa or TIWCc, whichever applies).*

Dilution Series = 100%, 90%, 70%, 50%, and 25%. **TIWCc 100%**

**WET Limits**

Has reasonable potential been determined? ☐ YES ☒ NO

Will WET limits be established in the permit? ☐ YES ☒ NO

## WET Summary and Evaluation

| | |
|---|---|
| **Facility Name** | Pleasant Hills Authority STP |
| **Permit No.** | PA0027464 |
| **Design Flow (MGD)** | 5 |
| **$Q_{7-10}$ Flow (cfs)** | 0.084 |
| **$PMF_a$** | 0.01 |
| **$PMF_c$** | 0.01 |

| | | Test Results (Pass/Fail) | | | |
|---|---|---|---|---|---|
| | | Test Date | Test Date | Test Date | Test Date |
| **Species** | **Endpoint** | 2/11/19 | 5/13/20 | 5/24/21 | 9/6/22 |
| Ceriodaphnia | Survival | PASS | PASS | PASS | PASS |

| | | Test Results (Pass/Fail) | | | |
|---|---|---|---|---|---|
| | | Test Date | Test Date | Test Date | Test Date |
| **Species** | **Endpoint** | 2/11/19 | 5/13/20 | 5/24/21 | 9/6/22 |
| Ceriodaphnia | Reproduction | PASS | PASS | PASS | PASS |

| | | Test Results (Pass/Fail) | | | |
|---|---|---|---|---|---|
| | | Test Date | Test Date | Test Date | Test Date |
| **Species** | **Endpoint** | 2/11/19 | 5/13/20 | 5/24/21 | 9/6/22 |
| Pimephales | Survival | PASS | PASS | PASS | PASS |

| | | Test Results (Pass/Fail) | | | |
|---|---|---|---|---|---|
| | | Test Date | Test Date | Test Date | Test Date |
| **Species** | **Endpoint** | 2/11/19 | 5/13/20 | 5/24/21 | 9/6/22 |
| Pimephales | Growth | PASS | PASS | PASS | PASS |

**Reasonable Potential?** NO

**Permit Recommendations**

| | |
|---|---|
| Test Type | **Chronic** |
| TIWC | **100** % Effluent |
| Dilution Series | **25, 50, 70, 90, 100** % Effluent |
| Permit Limit | **None** |
| Permit Limit Species | |

## Proposed Effluent Limitations and Monitoring Requirements

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

**Outfall 001, Effective Period: Permit Effective Date through End of Thirty-Sixth (36th) Month Following Permit Issuance**.

| Parameter | Effluent Limitations | | | | | | Monitoring Requirements | |
|---|---|---|---|---|---|---|---|---|
| | Mass Units (lbs/day) (1) | | Concentrations (mg/L) | | | | Minimum (2) Measurement Frequency | Required Sample Type |
| | Average Monthly | Average Weekly | Minimum | Average Monthly | Daily Maximum | Instant. Maximum | | |
| Total Cadmium (µg/L) | Report | XXX | XXX | Report | Report | XXX | 1/week | 24-Hr Composite |
| Total Copper | Report | XXX | XXX | Report | Report | XXX | 1/week | 24-Hr Composite |
| Total Mercury (µg/L) | XXX | XXX | XXX | 0.052 | Report | 0.081 | 1/month | 24-Hr Composite |
| Free Cyanide (µg/L) | Report | XXX | XXX | Report | Report | XXX | 1/week | Grab |

Compliance Sampling Location: Outfall 001.

Other Comments: None.

## Proposed Effluent Limitations and Monitoring Requirements

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

**Outfall 001, Effective Period: Beginning of Thirty Seventh (37th) Month Following Permit Issuance through Permit Expiration Date**.

| Parameter | Effluent Limitations | | | | | | Monitoring Requirements | |
|---|---|---|---|---|---|---|---|---|
| | Mass Units (lbs/day) (1) | | Concentrations (mg/L) | | | | Minimum (2) Measurement Frequency | Required Sample Type |
| | Average Monthly | Average Weekly | Minimum | Average Monthly | Daily Maximum | Instant. Maximum | | |
| Total Cadmium (µg/L) | 0.019 | XXX | XXX | 0.47 | 0.70 | XXX | 1/week | 24-Hr Composite |
| Total Copper | 0.75 | XXX | XXX | 0.018 | 0.027 | XXX | 1/week | 24-Hr Composite |
| Total Mercury (µg/L) | 0.002 | XXX | XXX | 0.051 | 0.076 | XXX | 1/week | 24-Hr Composite |
| Free Cyanide (µg/L) | 0.17 | XXX | XXX | 4.04 | 6.06 | XXX | 1/week | Grab |

Compliance Sampling Location: Outfall 001.

Other Comments: None.

## Proposed Effluent Limitations and Monitoring Requirements

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

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

| Parameter | Effluent Limitations | | | | | | Monitoring Requirements | |
|---|---|---|---|---|---|---|---|---|
| | Mass Units (lbs/day) (1) | | Concentrations (mg/L) | | | | Minimum (2) Measurement Frequency | Required Sample Type |
| | Average Monthly | Weekly Average | Daily Minimum | Average Monthly | Weekly Average | Instant. Maximum | | |
| Flow (MGD) | Report | Report Daily Max | XXX | XXX | XXX | XXX | Continuous | Recorded |
| pH (S.U.) | XXX | XXX | 6.0 Inst Min | XXX | XXX | 9.0 | 1/day | Grab |
| DO | XXX | XXX | 6.0 Inst Min | XXX | XXX | XXX | 1/day | Grab |
| CBOD5 Nov 1 - Apr 30 | 1042.5 | 1584.6 | XXX | 25.0 | 38.0 | 50 | 1/day | 24-Hr Composite |
| CBOD5 May 1 - Oct 31 | 834.0 | 1251.0 | XXX | 20.0 | 30.0 | 40 | 1/day | 24-Hr Composite |
| BOD5 Raw Sewage Influent | Report | Report Daily Max | XXX | Report | XXX | XXX | 1/day | 24-Hr Composite |
| TSS Raw Sewage Influent | Report | Report Daily Max | XXX | Report | XXX | XXX | 1/day | 24-Hr Composite |
| TSS | 1251.0 | 1876.5 | XXX | 30.0 | 45.0 | 60 | 1/day | 24-Hr Composite |
| Fecal Coliform (No./100 ml) Oct 1 - Apr 30 | XXX | XXX | XXX | 2000 Geo Mean | XXX | 10000 | 1/day | Grab |
| Fecal Coliform (No./100 ml) May 1 - Sep 30 | XXX | XXX | XXX | 200 Geo Mean | XXX | 1000 | 1/day | Grab |
| UV Dosage (mjoules/cm²) | XXX | XXX | Report | Report | XXX | XXX | 1/day | Measured |
| Ammonia-Nitrogen Nov 1 - Apr 30 | 104.3 | 158.5 | XXX | 2.5 | 3.8 | 5 | 1/day | 24-Hr Composite |
| Ammonia-Nitrogen May 1 - Oct 31 | 62.6 | 95.9 | XXX | 1.5 | 2.3 | 3 | 1/day | 24-Hr Composite |
| Total Boron | Report | XXX | XXX | Report | XXX | Report | 1/week | 24-Hr Composite |

**Outfall 001, Continued (from Permit Effective Date through Permit Expiration Date)**

| Parameter | Effluent Limitations | | | | | | Monitoring Requirements | |
|---|---|---|---|---|---|---|---|---|
| | Mass Units (lbs/day) (1) | | Concentrations (mg/L) | | | | Minimum (2) Measurement Frequency | Required Sample Type |
| | Average Monthly | Weekly Average | Daily Minimum | Average Monthly | Weekly Average | Instant. Maximum | | |
| Total Selenium (µg/L) | Report | XXX | XXX | Report | XXX | Report | 1/week | 24-Hr Composite |
| Total Zinc (µg/L) | Report | XXX | XXX | Report | XXX | Report | 1/week | 24-Hr Composite |
| *E.Coli* (No./100 ml) | XXX | XXX | XXX | XXX | XXX | Report | 1/month | Grab |
| Total Phosphorus | XXX | XXX | XXX | Report Avg Qrtly | XXX | XXX | 1/quarter | 24-Hr Composite |
| Total Aluminum | XXX | XXX | XXX | XXX | Report Daily Max | XXX | 1/year | 24-Hr Composite |
| Total Iron | XXX | XXX | XXX | XXX | Report Daily Max | XXX | 1/year | 24-Hr Composite |
| Total Manganese | XXX | XXX | XXX | XXX | Report Daily Max | XXX | 1/year | 24-Hr Composite |
| Total Nitrogen | XXX | XXX | XXX | Report Avg Qrtly | XXX | XXX | 1/quarter | 24-Hr Composite |
| PFOA* (ng/L) | XXX | XXX | XXX | Report Daily Max | XXX | XXX | 1/year | Grab |
| PFOS* (ng/L) | XXX | XXX | XXX | Report Daily Max | XXX | XXX | 1/year | Grab |
| HFPO-DA* (ng/L) | XXX | XXX | XXX | Report Daily Max | XXX | XXX | 1/year | Grab |
| PFBS* (ng/L) | XXX | XXX | XXX | Report Daily Max | XXX | XXX | 1/year | Grab |

** The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive monitoring periods indicate non-detect results at or below Quantitation Limits of 4.0 ng/L for PFOA, 3.7 ng/L for PFOS, 3.5 ng/L for PFBS and 6.4 ng/L for HFPO-DA. When monitoring is discontinued, permittees must enter a No Discharge Indicator (NODI) Code of "GG" on DMRs.*

Compliance Sampling Location: Outfall 001.

Other Comments: None.

## Appendix -A- USGS Stream Stats

# StreamStats Report

**Region ID:** PA
**Workspace ID:** PA20230626132813440000
**Clicked Point (Latitude, Longitude):** 40.30170, -79.97425
**Time:** 2023-06-26 09:28:34 -0400


Collapse All

### Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| DRNAREA | Area that drains to a point on a stream | 6.8 | square miles |
| ELEV | Mean Basin Elevation | 1116 | feet |

### Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 6.8 | square miles | 2.26 | 1400 |
| ELEV | Mean Basin Elevation | 1116 | 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 | 0.235 | ft^3/s | 43 | 43 |
| 30 Day 2 Year Low Flow | 0.412 | ft^3/s | 38 | 38 |
| 7 Day 10 Year Low Flow | 0.0839 | ft^3/s | 66 | 66 |
| 30 Day 10 Year Low Flow | 0.154 | ft^3/s | 54 | 54 |
| 90 Day 10 Year Low Flow | 0.283 | 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/)**



Application Version: 4.16.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

## Appendix –B– WQM 7.0 Modeling – Summer Conditions

### 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 |
|---|---|---|---|---|---|---|---|---|
| 19C | 39451 | LICK RUN | 2.220 | 1116.00 | 6.80 | 0.00580 | 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 | 0.012 | 0.08 | 0.00 | 0.000 | 0.000 | 10.0 | 0.00 | 0.00 | 25.00 | 7.00 | 0.00 | 0.00 |
| Q1-10 | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |
| Q30-10 | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |

**Discharge Data**

| Name | Permit Number | Existing Disc Flow (mgd) | Permitted Disc Flow (mgd) | Design Disc Flow (mgd) | Reserve Factor | Disc Temp (°C) | Disc pH |
|---|---|---|---|---|---|---|---|
| Pleasant Hi STP | PA0027464 | 5.0000 | 5.0000 | 5.0000 | 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 | 4.00 | 8.24 | 0.00 | 0.00 |
| NH3-N | 25.00 | 0.00 | 0.00 | 0.70 |

## Input Data WQM 7.0

| SWP Basin | Stream Code | Stream Name | RMI | Elevation (ft) | Drainage Area (sq mi) | Slope (ft/ft) | PWS Withdrawal (mgd) | Apply FC |
|---|---|---|---|---|---|---|---|---|
| 19C | 39451 | LICK RUN | 0.100 | 1098.00 | 8.54 | 0.00160 | 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 | 0.013 | 0.11 | 0.00 | 0.000 | 0.000 | 10.0 | 0.00 | 0.00 | 25.00 | 7.00 | 0.00 | 0.00 |
| Q1-10 | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |
| Q30-10 | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |

### Discharge Data

| Name | Permit Number | Existing Disc Flow (mgd) | Permitted Disc Flow (mgd) | Design Disc Flow (mgd) | Reserve Factor | Disc Temp (°C) | Disc pH |
|---|---|---|---|---|---|---|---|
| Pleasant Hi STP | PA0027464 | 5.0000 | 5.0000 | 5.0000 | 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 | 4.00 | 8.24 | 0.00 | 0.00 |
| NH3-N | 25.00 | 0.00 | 0.00 | 0.70 |

# WQM 7.0 Hydrodynamic Outputs

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 19C | 39451 | LICK RUN |

| 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** | | | | | | | | | | | | |
| 2.220 | 0.08 | 0.00 | 0.08 | 7.735 | 0.00580 | 1.331 | 13.31 | 10 | 0.44 | 0.294 | 20.05 | 7.00 |
| **Q1-10 Flow** | | | | | | | | | | | | |
| 2.220 | 0.05 | 0.00 | 0.05 | 7.735 | 0.00580 | NA | NA | NA | 0.44 | 0.294 | 20.03 | 7.00 |
| **Q30-10 Flow** | | | | | | | | | | | | |
| 2.220 | 0.11 | 0.00 | 0.11 | 7.735 | 0.00580 | NA | NA | NA | 0.44 | 0.293 | 20.07 | 7.00 |

# 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 D.O.Simulation

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 19C | 39451 | LICK RUN |

| RMI | Total Discharge Flow (mgd) | Analysis Temperature (°C) | Analysis pH |
|---|---|---|---|
| 2.220 | 5.000 | 20.054 | 7.000 |
| **Reach Width (ft)** | **Reach Depth (ft)** | **Reach WDRatio** | **Reach Velocity (fps)** |
| 13.310 | 1.331 | 10.000 | 0.441 |
| **Reach CBOD5 (mg/L)** | **Reach Kc (1/days)** | **Reach NH3-N (mg/L)** | **Reach Kn (1/days)** |
| 24.75 | 1.498 | 1.91 | 0.703 |
| **Reach DO (mg/L)** | **Reach Kr (1/days)** | **Kr Equation** | **Reach DO Goal (mg/L)** |
| 6.024 | 24.354 | Tsivoglou | 6 |
| **Reach Travel Time (days)** | | | |
| 0.294 | | | |

**Subreach Results**

| TravTime (days) | CBOD5 (mg/L) | NH3-N (mg/L) | D.O. (mg/L) |
|---|---|---|---|
| 0.029 | 23.69 | 1.88 | 6.35 |
| 0.059 | 22.66 | 1.84 | 6.56 |
| 0.088 | 21.69 | 1.80 | 6.72 |
| 0.117 | 20.75 | 1.76 | 6.84 |
| 0.147 | 19.86 | 1.73 | 6.95 |
| 0.176 | 19.00 | 1.69 | 7.04 |
| 0.205 | 18.18 | 1.66 | 7.13 |
| 0.235 | 17.40 | 1.62 | 7.21 |
| 0.264 | 16.64 | 1.59 | 7.29 |
| 0.294 | 15.93 | 1.56 | 7.37 |

# WQM 7.0 Wasteload Allocations

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 19C | 39451 | LICK RUN |

## 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 |
|---|---|---|---|---|---|---|---|
| 2.220 | Pleasant Hi STP | 9.65 | 9.72 | 9.65 | 9.72 | 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 |
|---|---|---|---|---|---|---|---|
| 2.220 | Pleasant Hi STP | 1.91 | 1.94 | 1.91 | 1.94 | 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) | | |
| 2.22 | Pleasant Hi STP | 25 | 25 | 1.94 | 1.94 | 6 | 6 | 0 | 0 |

# WQM 7.0 Effluent Limits

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 19C | 39451 | LICK RUN |

| RMI | Name | Permit Number | Disc Flow (mgd) | Parameter | Effl. Limit 30-day Ave. (mg/L) | Effl. Limit Maximum (mg/L) | Effl. Limit Minimum (mg/L) |
|---|---|---|---|---|---|---|---|
| 2.220 | Pleasant Hi STP | PA0027464 | 5.000 | CBOD5 | 25 | | |
| | | | | NH3-N | 1.94 | 3.88 | |
| | | | | Dissolved Oxygen | | | 6 |

## Appendix –B– WQM 7.0 Modeling – Winter Conditions

### 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 |
|---|---|---|---|---|---|---|---|---|
| 19C | 39451 | LICK RUN | 2.220 | 1116.00 | 6.80 | 0.00580 | 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 | 0.025 | 0.08 | 0.00 | 0.000 | 0.000 | 10.0 | 0.00 | 0.00 | 5.00 | 7.00 | 0.00 | 0.00 |
| Q1-10 | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |
| Q30-10 | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |

**Discharge Data**

| Name | Permit Number | Existing Disc Flow (mgd) | Permitted Disc Flow (mgd) | Design Disc Flow (mgd) | Reserve Factor | Disc Temp (°C) | Disc pH |
|---|---|---|---|---|---|---|---|
| Pleasant Hi STP | PA0027464 | 5.0000 | 5.0000 | 5.0000 | 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 | 4.00 | 12.51 | 0.00 | 0.00 |
| NH3-N | 25.00 | 0.00 | 0.00 | 0.70 |

## Input Data WQM 7.0

| SWP Basin | Stream Code | Stream Name | RMI | Elevation (ft) | Drainage Area (sq mi) | Slope (ft/ft) | PWS Withdrawal (mgd) | Apply FC |
|---|---|---|---|---|---|---|---|---|
| 19C | 39451 | LICK RUN | 0.100 | 1098.00 | 8.54 | 0.00160 | 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 | 0.026 | 0.11 | 0.00 | 0.000 | 0.000 | 10.0 | 0.00 | 0.00 | 5.00 | 7.00 | 0.00 | 0.00 |
| Q1-10 | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |
| Q30-10 | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |

### Discharge Data

| Name | Permit Number | Existing Disc Flow (mgd) | Permitted Disc Flow (mgd) | Design Disc Flow (mgd) | Reserve Factor | Disc Temp (°C) | Disc pH |
|---|---|---|---|---|---|---|---|
| Pleasant Hi STP | PA0027464 | 5.0000 | 5.0000 | 5.0000 | 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 | 4.00 | 12.51 | 0.00 | 0.00 |
| NH3-N | 25.00 | 0.00 | 0.00 | 0.70 |

## WQM 7.0 Hydrodynamic Outputs

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 19C | 39451 | LICK RUN |

| 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** | | | | | | | | | | | | |
| 2.220 | 0.08 | 0.00 | 0.08 | 7.735 | 0.00580 | 1.331 | 13.31 | 10 | 0.44 | 0.294 | 14.89 | 7.00 |
| **Q1-10 Flow** | | | | | | | | | | | | |
| 2.220 | 0.05 | 0.00 | 0.05 | 7.735 | 0.00580 | NA | NA | NA | 0.44 | 0.294 | 14.93 | 7.00 |
| **Q30-10 Flow** | | | | | | | | | | | | |
| 2.220 | 0.11 | 0.00 | 0.11 | 7.735 | 0.00580 | NA | NA | NA | 0.44 | 0.293 | 14.85 | 7.00 |

## 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 D.O.Simulation

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 19C | 39451 | LICK RUN |

| RMI | Total Discharge Flow (mgd) | Analysis Temperature (°C) | Analysis pH |
|---|---|---|---|
| 2.220 | 5.000 | 14.893 | 7.000 |
| **Reach Width (ft)** | **Reach Depth (ft)** | **Reach WDRatio** | **Reach Velocity (fps)** |
| 13.310 | 1.331 | 10.000 | 0.441 |
| **Reach CBOD5 (mg/L)** | **Reach Kc (1/days)** | **Reach NH3-N (mg/L)** | **Reach Kn (1/days)** |
| 24.75 | 1.498 | 2.82 | 0.472 |
| **Reach DO (mg/L)** | **Reach Kr (1/days)** | **Kr Equation** | **Reach DO Goal (mg/L)** |
| 6.070 | 21.548 | Tsivoglou | 6 |
| **Reach Travel Time (days)** | | | |
| 0.294 | | | |

**Subreach Results**

| TravTime (days) | CBOD5 (mg/L) | NH3-N (mg/L) | D.O. (mg/L) |
|---|---|---|---|
| 0.029 | 23.91 | 2.78 | 6.90 |
| 0.059 | 23.09 | 2.74 | 7.38 |
| 0.088 | 22.30 | 2.70 | 7.66 |
| 0.117 | 21.54 | 2.67 | 7.84 |
| 0.147 | 20.80 | 2.63 | 7.97 |
| 0.176 | 20.09 | 2.59 | 8.07 |
| 0.205 | 19.40 | 2.56 | 8.15 |
| 0.235 | 18.74 | 2.52 | 8.22 |
| 0.264 | 18.10 | 2.49 | 8.29 |
| 0.294 | 17.48 | 2.45 | 8.35 |

# WQM 7.0 Wasteload Allocations

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 19C | 39451 | LICK RUN |

## 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 |
|---|---|---|---|---|---|---|---|
| 2.220 | Pleasant Hi STP | 14.09 | 14.19 | 14.09 | 14.19 | 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 |
|---|---|---|---|---|---|---|---|
| 2.220 | Pleasant Hi STP | 2.81 | 2.85 | 2.81 | 2.85 | 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) | | |
| 2.22 | Pleasant Hi STP | 25 | 25 | 2.85 | 2.85 | 6 | 6 | 0 | 0 |

# WQM 7.0 Effluent Limits

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 19C | 39451 | LICK RUN |

| RMI | Name | Permit Number | Disc Flow (mgd) | Parameter | Effl. Limit 30-day Ave. (mg/L) | Effl. Limit Maximum (mg/L) | Effl. Limit Minimum (mg/L) |
|---|---|---|---|---|---|---|---|
| 2.220 | Pleasant Hi STP | PA0027464 | 5.000 | CBOD5 | 25 | | |
| | | | | NH3-N | 2.85 | 5.7 | |
| | | | | Dissolved Oxygen | | | 6 |

## Appendix –C – Toxics Management Spreadsheet (TMS) Analysis –

## Application Analysis

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Toxics Management Spreadsheet
Version 1.4, May 2023

# Discharge Information

Instructions | Discharge | Stream

Facility: **Pleasant Hills Authority STP** NPDES Permit No.: **PA0027464** Outfall No.: **001**

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

| Discharge Characteristics | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Design Flow (MGD)* | Hardness (mg/l)* | pH (SU)* | Partial Mix Factors (PMFs) | | | | Complete Mix Times (min) | |
| | | | AFC | CFC | THH | CRL | $Q_{7-10}$ | $Q_h$ |
| 5 | 209 | 8 | | | | | | |

| | 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 | | 611 | | | | | | | | | |
| | Chloride (PWS) | mg/L | | 162 | | | | | | | | | |
| | Bromide | mg/L | < | 0.036 | | | | | | | | | |
| | Sulfate (PWS) | mg/L | | 71.6 | | | | | | | | | |
| | Fluoride (PWS) | mg/L | | | | | | | | | | | |
| Group 2 | Total Aluminum | µg/L | | 55.8 | | | | | | | | | |
| | Total Antimony | µg/L | | 0.36 | | | | | | | | | |
| | Total Arsenic | µg/L | < | 1 | | | | | | | | | |
| | Total Barium | µg/L | | 46.9 | | | | | | | | | |
| | Total Beryllium | µg/L | < | 0.135 | | | | | | | | | |
| | Total Boron | µg/L | | 221 | | | | | | | | | |
| | Total Cadmium | µg/L | | 0.31 | | | | | | | | | |
| | Total Chromium (III) | µg/L | < | 1.99 | | | | | | | | | |
| | Hexavalent Chromium | µg/L | < | 0.25 | | | | | | | | | |
| | Total Cobalt | µg/L | | 0.25 | | | | | | | | | |
| | Total Copper | mg/L | | 0.01305 | | | | | | | | | |
| | Free Cyanide | µg/L | < | 5 | | | | | | | | | |
| | Total Cyanide | µg/L | | 15.7 | | | | | | | | | |
| | Dissolved Iron | µg/L | < | 20 | | | | | | | | | |
| | Total Iron | µg/L | | 10.8 | | | | | | | | | |
| | Total Lead | µg/L | | 0.17 | | | | | | | | | |
| | Total Manganese | µg/L | | 53.6 | | | | | | | | | |
| | Total Mercury | µg/L | | 0.0289 | | | | | | | | | |
| | Total Nickel | µg/L | | 2.28 | | | | | | | | | |
| | Total Phenols (Phenolics) (PWS) | µg/L | < | 4 | | | | | | | | | |
| | Total Selenium | µg/L | | 0.524 | | | | | | | | | |
| | Total Silver | µg/L | < | 0.274 | | | | | | | | | |
| | Total Thallium | µg/L | | 0.018 | | | | | | | | | |
| | Total Zinc | mg/L | | 0.0295 | | | | | | | | | |
| | Total Molybdenum | µg/L | | 0.99 | | | | | | | | | |
| | Acrolein | µg/L | < | 1.95 | | | | | | | | | |
| | Acrylamide | µg/L | < | | | | | | | | | | |
| | Acrylonitrile | µg/L | < | 0.51 | | | | | | | | | |
| | Benzene | µg/L | < | 0.43 | | | | | | | | | |
| | Bromoform | µg/L | < | 0.34 | | | | | | | | | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Group 3 | Carbon Tetrachloride | µg/L | < | 0.51 | | | | | | | | | | |
| | Chlorobenzene | µg/L | < | 0.21 | | | | | | | | | | |
| | Chlorodibromomethane | µg/L | < | 0.39 | | | | | | | | | | |
| | Chloroethane | µg/L | < | 0.42 | | | | | | | | | | |
| | 2-Chloroethyl Vinyl Ether | µg/L | < | 4 | | | | | | | | | | |
| | Chloroform | µg/L | < | 0.56 | | | | | | | | | | |
| | Dichlorobromomethane | µg/L | < | 0.32 | | | | | | | | | | |
| | 1,1-Dichloroethane | µg/L | < | 0.42 | | | | | | | | | | |
| | 1,2-Dichloroethane | µg/L | < | 0.39 | | | | | | | | | | |
| | 1,1-Dichloroethylene | µg/L | < | 0.33 | | | | | | | | | | |
| | 1,2-Dichloropropane | µg/L | < | 0.42 | | | | | | | | | | |
| | 1,3-Dichloropropylene | µg/L | < | 0.33 | | | | | | | | | | |
| | 1,4-Dioxane | µg/L | < | 3 | | | | | | | | | | |
| | Ethylbenzene | µg/L | < | 0.27 | | | | | | | | | | |
| | Methyl Bromide | µg/L | < | 0.46 | | | | | | | | | | |
| | Methyl Chloride | µg/L | < | 0.36 | | | | | | | | | | |
| | Methylene Chloride | µg/L | < | 0.45 | | | | | | | | | | |
| | 1,1,2,2-Tetrachloroethane | µg/L | < | 0.36 | | | | | | | | | | |
| | Tetrachloroethylene | µg/L | < | 0.39 | | | | | | | | | | |
| | Toluene | µg/L | < | 0.33 | | | | | | | | | | |
| | 1,2-trans-Dichloroethylene | µg/L | < | 0.39 | | | | | | | | | | |
| | 1,1,1-Trichloroethane | µg/L | < | 0.38 | | | | | | | | | | |
| | 1,1,2-Trichloroethane | µg/L | < | 0.24 | | | | | | | | | | |
| | Trichloroethylene | µg/L | < | 0.46 | | | | | | | | | | |
| | Vinyl Chloride | µg/L | < | 0.46 | | | | | | | | | | |
| Group 4 | 2-Chlorophenol | µg/L | < | 0.13 | | | | | | | | | | |
| | 2,4-Dichlorophenol | µg/L | < | 0.25 | | | | | | | | | | |
| | 2,4-Dimethylphenol | µg/L | < | 0.25 | | | | | | | | | | |
| | 4,6-Dinitro-o-Cresol | µg/L | < | 0.9 | | | | | | | | | | |
| | 2,4-Dinitrophenol | µg/L | < | 0.86 | | | | | | | | | | |
| | 2-Nitrophenol | µg/L | < | 0.25 | | | | | | | | | | |
| | 4-Nitrophenol | µg/L | < | 0.19 | | | | | | | | | | |
| | p-Chloro-m-Cresol | µg/L | < | 0.4 | | | | | | | | | | |
| | Pentachlorophenol | µg/L | < | 0.97 | | | | | | | | | | |
| | Phenol | µg/L | < | 0.41 | | | | | | | | | | |
| | 2,4,6-Trichlorophenol | µg/L | < | 0.24 | | | | | | | | | | |
| Group 5 | Acenaphthene | µg/L | < | 0.26 | | | | | | | | | | |
| | Acenaphthylene | µg/L | < | 0.22 | | | | | | | | | | |
| | Anthracene | µg/L | < | 0.15 | | | | | | | | | | |
| | Benzidine | µg/L | < | 0.35 | | | | | | | | | | |
| | Benzo(a)Anthracene | µg/L | < | 0.27 | | | | | | | | | | |
| | Benzo(a)Pyrene | µg/L | < | 0.31 | | | | | | | | | | |
| | 3,4-Benzofluoranthene | µg/L | < | 0.33 | | | | | | | | | | |
| | Benzo(ghi)Perylene | µg/L | < | 0.32 | | | | | | | | | | |
| | Benzo(k)Fluoranthene | µg/L | < | 0.4 | | | | | | | | | | |
| | Bis(2-Chloroethoxy)Methane | µg/L | < | 0.15 | | | | | | | | | | |
| | Bis(2-Chloroethyl)Ether | µg/L | < | 0.25 | | | | | | | | | | |
| | Bis(2-Chloroisopropyl)Ether | µg/L | < | 0.34 | | | | | | | | | | |
| | Bis(2-Ethylhexyl)Phthalate | µg/L | < | 0.88 | | | | | | | | | | |
| | 4-Bromophenyl Phenyl Ether | µg/L | < | 0.19 | | | | | | | | | | |
| | Butyl Benzyl Phthalate | µg/L | < | 0.69 | | | | | | | | | | |
| | 2-Chloronaphthalene | µg/L | < | 0.28 | | | | | | | | | | |
| | 4-Chlorophenyl Phenyl Ether | µg/L | < | 0.29 | | | | | | | | | | |
| | Chrysene | µg/L | < | 0.45 | | | | | | | | | | |
| | Dibenzo(a,h)Anthrancene | µg/L | < | 0.28 | | | | | | | | | | |
| | 1,2-Dichlorobenzene | µg/L | < | 0.32 | | | | | | | | | | |
| | 1,3-Dichlorobenzene | µg/L | < | 0.17 | | | | | | | | | | |
| | 1,4-Dichlorobenzene | µg/L | < | 0.15 | | | | | | | | | | |
| | 3,3-Dichlorobenzidine | µg/L | < | 0.13 | | | | | | | | | | |
| | Diethyl Phthalate | µg/L | < | 0.27 | | | | | | | | | | |
| | Dimethyl Phthalate | µg/L | < | 0.23 | | | | | | | | | | |
| | Di-n-Butyl Phthalate | µg/L | < | 0.36 | | | | | | | | | | |
| | 2,4-Dinitrotoluene | µg/L | < | 0.77 | | | | | | | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2,6-Dinitrotoluene | µg/L | < | 0.32 | | | | | | | | | |
| | Di-n-Octyl Phthalate | µg/L | < | 0.28 | | | | | | | | | |
| | 1,2-Diphenylhydrazine | µg/L | < | 0.2 | | | | | | | | | |
| | Fluoranthene | µg/L | < | 0.35 | | | | | | | | | |
| | Fluorene | µg/L | < | 0.25 | | | | | | | | | |
| | Hexachlorobenzene | µg/L | < | 0.25 | | | | | | | | | |
| | Hexachlorobutadiene | µg/L | < | 0.27 | | | | | | | | | |
| | Hexachlorocyclopentadiene | µg/L | < | 0.22 | | | | | | | | | |
| | Hexachloroethane | µg/L | < | 0.26 | | | | | | | | | |
| | Indeno(1,2,3-cd)Pyrene | µg/L | < | 0.26 | | | | | | | | | |
| | Isophorone | µg/L | < | 0.23 | | | | | | | | | |
| | Naphthalene | µg/L | < | 0.25 | | | | | | | | | |
| | Nitrobenzene | µg/L | < | 0.26 | | | | | | | | | |
| | n-Nitrosodimethylamine | µg/L | < | 0.4 | | | | | | | | | |
| | n-Nitrosodi-n-Propylamine | µg/L | < | 0.31 | | | | | | | | | |
| | n-Nitrosodiphenylamine | µg/L | < | 0.27 | | | | | | | | | |
| | Phenanthrene | µg/L | < | 0.21 | | | | | | | | | |
| | Pyrene | µg/L | < | 0.24 | | | | | | | | | |
| | 1,2,4-Trichlorobenzene | µg/L | < | 0.17 | | | | | | | | | |
| 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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Toxics Management Spreadsheet
Version 1.4, May 2023

## Stream / Surface Water Information

**Pleasant Hills Authority STP, NPDES Permit No. PA0027464, Outfall 001**

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Lick Run**

No. Reaches to Model: 1

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

| Location | Stream Code* | RMI* | Elevation (ft)* | DA (mi²)* | Slope (ft/ft) | PWS Withdrawal (MGD) | Apply Fish Criteria* |
|---|---|---|---|---|---|---|---|
| Point of Discharge | 039451 | 2.22 | 1116 | 6.8 | | | Yes |
| End of Reach 1 | 039451 | 0.1 | 1098 | 8.54 | | | Yes |

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

| Location | RMI | LFY (cfs/mi²)* | Flow (cfs) | | W/D Ratio | Width (ft) | Depth (ft) | Velocity (fps) | Travel Time (days) | Tributary | | Stream | | Analysis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Stream | Tributary | | | | | | Hardness | pH | Hardness* | pH* | Hardness | pH |
| Point of Discharge | 2.22 | 0.012 | 0.084 | | 10 | 20 | 2 | | | | | 100 | 7 | | |
| End of Reach 1 | 0.1 | 0.0129 | 0.11 | | 10 | 30 | 3 | | | | | 100 | 7 | | |

$Q_h$

| Location | RMI | LFY (cfs/mi²) | Flow (cfs) | | W/D Ratio | Width (ft) | Depth (ft) | Velocity (fps) | Travel Time (days) | Tributary | | Stream | | Analysis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Stream | Tributary | | | | | | Hardness | pH | Hardness | pH | Hardness | pH |
| Point of Discharge | 2.22 | | | | | | | | | | | | | | |
| End of Reach 1 | 0.1 | | | | | | | | | | | | | | |

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Toxics Management Spreadsheet
Version 1.4, May 2023

## Model Results

Pleasant Hills Authority STP, NPDES Permit No. PA0027464, 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.22 | 0.08 | | 0.08 | 7.735 | 0.002 | 2. | 20. | 10. | 0.195 | 0.663 | 0.00056 |
| 0.1 | 0.11 | | 0.11 | | | | | 10.000 | | | |

$Q_h$

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.22 | 0.85 | | 0.85 | 7.735 | 0.002 | 2.084 | 20. | 9.596 | 0.206 | 0.629 | 0.045 |
| 0.1 | 1.079 | | 1.08 | | | | | | | | |

☑ *Wasteload Allocations*

☑ *AFC* CCT (min): 0.001 PMF: 1 Analysis Hardness (mg/l): 207.83 Analysis pH: 7.96

| 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 | 758 | |
| Total Antimony | 0 | 0 | | 0 | 1,100 | 1,100 | 1,112 | |
| Total Arsenic | 0 | 0 | | 0 | 340 | 340 | 344 | Chem Translator of 1 applied |
| Total Barium | 0 | 0 | | 0 | 21,000 | 21,000 | 21,228 | |
| Total Boron | 0 | 0 | | 0 | 8,100 | 8,100 | 8,188 | |
| Total Cadmium | 0 | 0 | | 0 | 4.099 | 4.49 | 4.54 | Chem Translator of 0.913 applied |
| Total Chromium (III) | 0 | 0 | | 0 | 1037.280 | 3,283 | 3,318 | Chem Translator of 0.316 applied |
| Hexavalent Chromium | 0 | 0 | | 0 | 16 | 16.3 | 16.5 | Chem Translator of 0.982 applied |
| Total Cobalt | 0 | 0 | | 0 | 95 | 95.0 | 96.0 | |
| Total Copper | 0 | 0 | | 0 | 26.774 | 27.9 | 28.2 | Chem Translator of 0.96 applied |
| Free Cyanide | 0 | 0 | | 0 | 22 | 22.0 | 22.2 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 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 | 141.803 | 207 | 209 | Chem Translator of 0.684 applied |
| Total Manganese | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Mercury | 0 | 0 | | 0 | 1.400 | 1.65 | 1.66 | Chem Translator of 0.85 applied |
| Total Nickel | 0 | 0 | | 0 | 869.449 | 871 | 881 | 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 | 11.321 | 13.3 | 13.5 | Chem Translator of 0.85 applied |
| Total Thallium | 0 | 0 | | 0 | 65 | 65.0 | 65.7 | |
| Total Zinc | 0 | 0 | | 0 | 217.795 | 223 | 225 | Chem Translator of 0.978 applied |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 3.03 | |
| Acrylonitrile | 0 | 0 | | 0 | 650 | 650 | 657 | |
| Benzene | 0 | 0 | | 0 | 640 | 640 | 647 | |
| Bromoform | 0 | 0 | | 0 | 1,800 | 1,800 | 1,820 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 2,800 | 2,800 | 2,830 | |
| Chlorobenzene | 0 | 0 | | 0 | 1,200 | 1,200 | 1,213 | |
| Chlorodibromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | 18,000 | 18,000 | 18,195 | |
| Chloroform | 0 | 0 | | 0 | 1,900 | 1,900 | 1,921 | |
| Dichlorobromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 15,000 | 15,000 | 15,163 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | 7,500 | 7,500 | 7,581 | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 11,000 | 11,000 | 11,119 | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 310 | 310 | 313 | |
| Ethylbenzene | 0 | 0 | | 0 | 2,900 | 2,900 | 2,931 | |
| Methyl Bromide | 0 | 0 | | 0 | 550 | 550 | 556 | |
| Methyl Chloride | 0 | 0 | | 0 | 28,000 | 28,000 | 28,304 | |
| Methylene Chloride | 0 | 0 | | 0 | 12,000 | 12,000 | 12,130 | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 1,000 | 1,000 | 1,011 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 700 | 700 | 708 | |
| Toluene | 0 | 0 | | 0 | 1,700 | 1,700 | 1,718 | |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 6,800 | 6,800 | 6,874 | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 3,000 | 3,000 | 3,033 | |
| 1,1,2-Trichloroethane | 0 | 0 | | 0 | 3,400 | 3,400 | 3,437 | |
| Trichloroethylene | 0 | 0 | | 0 | 2,300 | 2,300 | 2,325 | |
| Vinyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chlorophenol | 0 | 0 | | 0 | 560 | 560 | 566 | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 1,700 | 1,700 | 1,718 | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 660 | 660 | 667 | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 80 | 80.0 | 80.9 | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 660 | 660 | 667 | |
| 2-Nitrophenol | 0 | 0 | | 0 | 8,000 | 8,000 | 8,087 | |
| 4-Nitrophenol | 0 | 0 | | 0 | 2,300 | 2,300 | 2,325 | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | 160 | 160 | 162 | |
| Pentachlorophenol | 0 | 0 | | 0 | 22.890 | 22.9 | 23.1 | |
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 460 | 460 | 465 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 0 | 0 | | 0 | 83 | 83.0 | 83.9 | |
| Anthracene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzidine | 0 | 0 | | 0 | 300 | 300 | 303 | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | 0.5 | 0.5 | 0.51 | |
| 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 | 30,326 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 4,500 | 4,500 | 4,549 | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | 270 | 270 | 273 | |
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | 140 | 140 | 142 | |
| 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 | 829 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 350 | 350 | 354 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 730 | 730 | 738 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 4,000 | 4,000 | 4,043 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 2,500 | 2,500 | 2,527 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 110 | 110 | 111 | |
| 2,4-Dinitrotoluene | 0 | 0 | | 0 | 1,600 | 1,600 | 1,617 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 990 | 990 | 1,001 | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 15 | 15.0 | 15.2 | |
| Fluoranthene | 0 | 0 | | 0 | 200 | 200 | 202 | |
| 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 | 10.1 | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | 5 | 5.0 | 5.05 | |
| Hexachloroethane | 0 | 0 | | 0 | 60 | 60.0 | 60.7 | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Isophorone | 0 | 0 | | 0 | 10,000 | 10,000 | 10,109 | |
| Naphthalene | 0 | 0 | | 0 | 140 | 140 | 142 | |
| Nitrobenzene | 0 | 0 | | 0 | 4,000 | 4,000 | 4,043 | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | 17,000 | 17,000 | 17,185 | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 300 | 300 | 303 | |
| Phenanthrene | 0 | 0 | | 0 | 5 | 5.0 | 5.05 | |
| Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 130 | 130 | 131 | |

☑ *CFC* CCT (min): 0.001 PMF: 1 Analysis Hardness (mg/l): 207.83 Analysis pH: 7.96

| 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 | 222 | |
| Total Arsenic | 0 | 0 | | 0 | 150 | 150 | 152 | Chem Translator of 1 applied |
| Total Barium | 0 | 0 | | 0 | 4,100 | 4,100 | 4,145 | |
| Total Boron | 0 | 0 | | 0 | 1,600 | 1,600 | 1,617 | |
| Total Cadmium | 0 | 0 | | 0 | 0.409 | 0.47 | 0.47 | Chem Translator of 0.878 applied |
| Total Chromium (III) | 0 | 0 | | 0 | 134.929 | 157 | 159 | Chem Translator of 0.86 applied |
| Hexavalent Chromium | 0 | 0 | | 0 | 10 | 10.4 | 10.5 | Chem Translator of 0.962 applied |
| Total Cobalt | 0 | 0 | | 0 | 19 | 19.0 | 19.2 | |
| Total Copper | 0 | 0 | | 0 | 16.733 | 17.4 | 17.6 | Chem Translator of 0.96 applied |
| Free Cyanide | 0 | 0 | | 0 | 5.2 | 5.2 | 5.26 | |
| Dissolved Iron | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Iron | 0 | 0 | | 0 | 1,500 | 1,500 | 1,516 | WQC = 30 day average; PMF = 1 |
| Total Lead | 0 | 0 | | 0 | 5.526 | 8.07 | 8.16 | Chem Translator of 0.684 applied |
| Total Manganese | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Mercury | 0 | 0 | | 0 | 0.770 | 0.91 | 0.92 | Chem Translator of 0.85 applied |
| Total Nickel | 0 | 0 | | 0 | 96.569 | 96.9 | 97.9 | 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 | 5.04 | 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 | 13.1 | |
| Total Zinc | 0 | 0 | | 0 | 219.576 | 223 | 225 | Chem Translator of 0.986 applied |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 3.03 | |
| Acrylonitrile | 0 | 0 | | 0 | 130 | 130 | 131 | |
| Benzene | 0 | 0 | | 0 | 130 | 130 | 131 | |
| Bromoform | 0 | 0 | | 0 | 370 | 370 | 374 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 560 | 560 | 566 | |
| Chlorobenzene | 0 | 0 | | 0 | 240 | 240 | 243 | |
| Chlorodibromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | 3,500 | 3,500 | 3,538 | |
| Chloroform | 0 | 0 | | 0 | 390 | 390 | 394 | |
| Dichlorobromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 3,100 | 3,100 | 3,134 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | 1,500 | 1,500 | 1,516 | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 2,200 | 2,200 | 2,224 | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 61 | 61.0 | 61.7 | |
| Ethylbenzene | 0 | 0 | | 0 | 580 | 580 | 586 | |
| Methyl Bromide | 0 | 0 | | 0 | 110 | 110 | 111 | |
| Methyl Chloride | 0 | 0 | | 0 | 5,500 | 5,500 | 5,560 | |
| Methylene Chloride | 0 | 0 | | 0 | 2,400 | 2,400 | 2,426 | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 210 | 210 | 212 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 140 | 140 | 142 | |
| Toluene | 0 | 0 | | 0 | 330 | 330 | 334 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 1,400 | 1,400 | 1,415 | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 610 | 610 | 617 | |
| 1,1,2-Trichloroethane | 0 | 0 | | 0 | 680 | 680 | 687 | |
| Trichloroethylene | 0 | 0 | | 0 | 450 | 450 | 455 | |
| Vinyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chlorophenol | 0 | 0 | | 0 | 110 | 110 | 111 | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 340 | 340 | 344 | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 130 | 130 | 131 | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 16 | 16.0 | 16.2 | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 130 | 130 | 131 | |
| 2-Nitrophenol | 0 | 0 | | 0 | 1,600 | 1,600 | 1,617 | |
| 4-Nitrophenol | 0 | 0 | | 0 | 470 | 470 | 475 | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | 500 | 500 | 505 | |
| Pentachlorophenol | 0 | 0 | | 0 | 17.562 | 17.6 | 17.8 | |
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 91 | 91.0 | 92.0 | |
| Acenaphthene | 0 | 0 | | 0 | 17 | 17.0 | 17.2 | |
| Anthracene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzidine | 0 | 0 | | 0 | 59 | 59.0 | 59.6 | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | 0.1 | 0.1 | 0.1 | |
| 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 | 6,065 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 910 | 910 | 920 | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | 54 | 54.0 | 54.6 | |
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | 35 | 35.0 | 35.4 | |
| 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 | 162 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 69 | 69.0 | 69.7 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 150 | 150 | 152 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 800 | 800 | 809 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 500 | 500 | 505 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 21 | 21.0 | 21.2 | |
| 2,4-Dinitrotoluene | 0 | 0 | | 0 | 320 | 320 | 323 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 200 | 200 | 202 | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 3 | 3.0 | 3.03 | |
| Fluoranthene | 0 | 0 | | 0 | 40 | 40.0 | 40.4 | |
| 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 | 2.02 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | 1 | 1.0 | 1.01 | |
| Hexachloroethane | 0 | 0 | | 0 | 12 | 12.0 | 12.1 | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Isophorone | 0 | 0 | | 0 | 2,100 | 2,100 | 2,123 | |
| Naphthalene | 0 | 0 | | 0 | 43 | 43.0 | 43.5 | |
| Nitrobenzene | 0 | 0 | | 0 | 810 | 810 | 819 | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | 3,400 | 3,400 | 3,437 | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 59 | 59.0 | 59.6 | |
| Phenanthrene | 0 | 0 | | 0 | 1 | 1.0 | 1.01 | |
| Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 26 | 26.0 | 26.3 | |

☑ ***THH*** CCT (min): 0.001 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 | 5.66 | |
| Total Arsenic | 0 | 0 | | 0 | 10 | 10.0 | 10.1 | |
| Total Barium | 0 | 0 | | 0 | 2,400 | 2,400 | 2,426 | |
| Total Boron | 0 | 0 | | 0 | 3,100 | 3,100 | 3,134 | |
| 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 | 4.04 | |
| Dissolved Iron | 0 | 0 | | 0 | 300 | 300 | 303 | |
| 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 | 1,011 | |
| Total Mercury | 0 | 0 | | 0 | 0.050 | 0.05 | 0.051 | |
| Total Nickel | 0 | 0 | | 0 | 610 | 610 | 617 | |
| 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 | 0.24 | |
| Total Zinc | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 3.03 | |
| 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 | 101 | |
| 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 | 5.7 | 5.7 | 5.76 | |
| 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 | 33.4 | |
| 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 | 68.7 | |
| Methyl Bromide | 0 | 0 | | 0 | 100 | 100.0 | 101 | |
| 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 | 57.6 | |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 100 | 100.0 | 101 | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 10,000 | 10,000 | 10,109 | |
| 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 | 30.3 | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 10 | 10.0 | 10.1 | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 100 | 100.0 | 101 | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 2 | 2.0 | 2.02 | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 10 | 10.0 | 10.1 | |
| 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 | 4,043 | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acenaphthene | 0 | 0 | | 0 | 70 | 70.0 | 70.8 | |
| Anthracene | 0 | 0 | | 0 | 300 | 300 | 303 | |
| 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 | 202 | |
| 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 | 0.1 | |
| 2-Chloronaphthalene | 0 | 0 | | 0 | 800 | 800 | 809 | |
| 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 | 1,011 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 7 | 7.0 | 7.08 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 300 | 300 | 303 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 600 | 600 | 607 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 2,000 | 2,000 | 2,022 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 20 | 20.0 | 20.2 | |
| 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 | 20.2 | |
| Fluorene | 0 | 0 | | 0 | 50 | 50.0 | 50.5 | |
| 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 | 4.04 | |
| 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 | 34.4 | |
| Naphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Nitrobenzene | 0 | 0 | | 0 | 10 | 10.0 | 10.1 | |
| 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 | 20.2 | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 0.07 | 0.07 | 0.071 | |

☑ *CRL* CCT (min): 0.045 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 | 0.067 | |
| Benzene | 0 | 0 | | 0 | 0.58 | 0.58 | 0.64 | |
| Bromoform | 0 | 0 | | 0 | 7 | 7.0 | 7.77 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 0.4 | 0.4 | 0.44 | |
| Chlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chlorodibromomethane | 0 | 0 | | 0 | 0.8 | 0.8 | 0.89 | |
| 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 | 0.95 | 0.95 | 1.05 | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 9.9 | 9.9 | 11.0 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 0.9 | 0.9 | 1. | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 0.27 | 0.27 | 0.3 | |
| 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 | 22.2 | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 0.2 | 0.2 | 0.22 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 10 | 10.0 | 11.1 | |
| 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 | 0.61 | |
| Trichloroethylene | 0 | 0 | | 0 | 0.6 | 0.6 | 0.67 | |
| Vinyl Chloride | 0 | 0 | | 0 | 0.02 | 0.02 | 0.022 | |
| 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 | 0.033 | |
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 1.5 | 1.5 | 1.67 | |
| 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 | 0.0001 | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | 0.001 | 0.001 | 0.001 | |
| Benzo(a)Pyrene | 0 | 0 | | 0 | 0.0001 | 0.0001 | 0.0001 | |
| 3,4-Benzofluoranthene | 0 | 0 | | 0 | 0.001 | 0.001 | 0.001 | |
| Benzo(k)Fluoranthene | 0 | 0 | | 0 | 0.01 | 0.01 | 0.011 | |
| Bis(2-Chloroethyl)Ether | 0 | 0 | | 0 | 0.03 | 0.03 | 0.033 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 0.32 | 0.32 | 0.36 | |
| 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 | 0.13 | |
| Dibenzo(a,h)Anthrancene | 0 | 0 | | 0 | 0.0001 | 0.0001 | 0.0001 | |
| 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 | 0.056 | |
| 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 | 0.056 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 0.05 | 0.05 | 0.056 | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 0.03 | 0.03 | 0.033 | |
| 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 | 0.00009 | |
| Hexachlorobutadiene | 0 | 0 | | 0 | 0.01 | 0.01 | 0.011 | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachloroethane | 0 | 0 | | 0 | 0.1 | 0.1 | 0.11 | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | 0.001 | 0.001 | 0.001 | |
| 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 | 0.0008 | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | 0.005 | 0.005 | 0.006 | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 3.3 | 3.3 | 3.66 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 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 | 1,617 | CFC | Discharge Conc > 10% WQBEL (no RP) |
| Total Cadmium | 0.02 | 0.031 | 0.47 | 0.73 | 1.18 | µg/L | 0.47 | CFC | Discharge Conc ≥ 50% WQBEL (RP) |
| Total Copper | 0.73 | 1.15 | 0.018 | 0.027 | 0.044 | mg/L | 0.018 | CFC | Discharge Conc ≥ 50% WQBEL (RP) |
| Free Cyanide | 0.17 | 0.26 | 4.04 | 6.31 | 10.1 | µg/L | 4.04 | THH | Discharge Conc ≥ 50% WQBEL (RP) |
| Total Mercury | 0.002 | 0.003 | 0.051 | 0.079 | 0.13 | µg/L | 0.051 | THH | Discharge Conc ≥ 50% WQBEL (RP) |
| Total Selenium | Report | Report | Report | Report | Report | µg/L | 5.04 | CFC | Discharge Conc > 10% WQBEL (no RP) |
| Total Zinc | Report | Report | Report | Report | Report | mg/L | 0.22 | AFC | Discharge Conc > 10% WQBEL (no RP) |
| Carbon Tetrachloride | 0.019 | 0.029 | 0.44 | 0.69 | 1.11 | µg/L | 0.44 | CRL | Discharge Conc ≥ 50% WQBEL (RP) |
| | | | | | | | | | |
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☑ ***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 | 750 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Antimony | 5.66 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Arsenic | N/A | N/A | Discharge Conc < TQL |
| Total Barium | 2,426 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Beryllium | N/A | N/A | No WQS |
| Total Chromium (III) | 159 | µg/L | Discharge Conc < TQL |
| Hexavalent Chromium | 10.5 | µg/L | Discharge Conc < TQL |
| Total Cobalt | 19.2 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Cyanide | N/A | N/A | No WQS |

| | | | |
|---|---|---|---|
| Dissolved Iron | 303 | µg/L | Discharge Conc < TQL |
| Total Iron | 1,516 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Lead | 8.16 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Manganese | 1,011 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Nickel | 97.9 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Phenols (Phenolics) (PWS) | | µg/L | Discharge Conc < TQL |
| Total Silver | 13.3 | µg/L | Discharge Conc < TQL |
| Total Thallium | 0.24 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Molybdenum | N/A | N/A | No WQS |
| Acrolein | 3.0 | µg/L | Discharge Conc < TQL |
| Acrylonitrile | 0.067 | µg/L | Discharge Conc < TQL |
| Benzene | 0.64 | µg/L | Discharge Conc < TQL |
| Bromoform | 7.77 | µg/L | Discharge Conc < TQL |
| Chlorobenzene | 101 | µg/L | Discharge Conc < TQL |
| Chlorodibromomethane | 0.89 | µg/L | Discharge Conc < TQL |
| Chloroethane | N/A | N/A | No WQS |
| 2-Chloroethyl Vinyl Ether | 3,538 | µg/L | Discharge Conc < TQL |
| Chloroform | 5.76 | µg/L | Discharge Conc ≤ 25% WQBEL |
| Dichlorobromomethane | 1.05 | µg/L | Discharge Conc < TQL |
| 1,1-Dichloroethane | N/A | N/A | No WQS |
| 1,2-Dichloroethane | 11.0 | µg/L | Discharge Conc < TQL |
| 1,1-Dichloroethylene | 33.4 | µg/L | Discharge Conc < TQL |
| 1,2-Dichloropropane | 1. | µg/L | Discharge Conc < TQL |
| 1,3-Dichloropropylene | 0.3 | µg/L | Discharge Conc < TQL |
| 1,4-Dioxane | N/A | N/A | No WQS |
| Ethylbenzene | 68.7 | µg/L | Discharge Conc < TQL |
| Methyl Bromide | 101 | µg/L | Discharge Conc < TQL |
| Methyl Chloride | 5,560 | µg/L | Discharge Conc < TQL |
| Methylene Chloride | 22.2 | µg/L | Discharge Conc < TQL |
| 1,1,2,2-Tetrachloroethane | 0.22 | µg/L | Discharge Conc < TQL |
| Tetrachloroethylene | 11.1 | µg/L | Discharge Conc < TQL |
| Toluene | 57.6 | µg/L | Discharge Conc < TQL |
| 1,2-trans-Dichloroethylene | 101 | µg/L | Discharge Conc < TQL |
| 1,1,1-Trichloroethane | 617 | µg/L | Discharge Conc < TQL |
| 1,1,2-Trichloroethane | 0.61 | µg/L | Discharge Conc < TQL |
| Trichloroethylene | 0.67 | µg/L | Discharge Conc < TQL |
| Vinyl Chloride | 0.022 | µg/L | Discharge Conc < TQL |
| 2-Chlorophenol | 30.3 | µg/L | Discharge Conc < TQL |
| 2,4-Dichlorophenol | 10.1 | µg/L | Discharge Conc < TQL |
| 2,4-Dimethylphenol | 101 | µg/L | Discharge Conc < TQL |
| 4,6-Dinitro-o-Cresol | 2.02 | µg/L | Discharge Conc < TQL |
| 2,4-Dinitrophenol | 10.1 | µg/L | Discharge Conc < TQL |
| 2-Nitrophenol | 1,617 | µg/L | Discharge Conc < TQL |
| 4-Nitrophenol | 475 | µg/L | Discharge Conc < TQL |
| p-Chloro-m-Cresol | 160 | µg/L | Discharge Conc < TQL |

| | | | |
|---|---|---|---|
| Pentachlorophenol | 0.033 | µg/L | Discharge Conc < TQL |
| Phenol | 4,043 | µg/L | Discharge Conc < TQL |
| 2,4,6-Trichlorophenol | 1.67 | µg/L | Discharge Conc < TQL |
| Acenaphthene | 17.2 | µg/L | Discharge Conc < TQL |
| Acenaphthylene | N/A | N/A | No WQS |
| Anthracene | 303 | µg/L | Discharge Conc < TQL |
| Benzidine | 0.0001 | µg/L | Discharge Conc < TQL |
| Benzo(a)Anthracene | 0.001 | µg/L | Discharge Conc < TQL |
| Benzo(a)Pyrene | 0.0001 | µg/L | Discharge Conc < TQL |
| 3,4-Benzofluoranthene | 0.001 | µg/L | Discharge Conc < TQL |
| Benzo(ghi)Perylene | N/A | N/A | No WQS |
| Benzo(k)Fluoranthene | 0.011 | µg/L | Discharge Conc < TQL |
| Bis(2-Chloroethoxy)Methane | N/A | N/A | No WQS |
| Bis(2-Chloroethyl)Ether | 0.033 | µg/L | Discharge Conc < TQL |
| Bis(2-Chloroisopropyl)Ether | 202 | µg/L | Discharge Conc < TQL |
| Bis(2-Ethylhexyl)Phthalate | 0.36 | µg/L | Discharge Conc < TQL |
| 4-Bromophenyl Phenyl Ether | 54.6 | µg/L | Discharge Conc < TQL |
| Butyl Benzyl Phthalate | 0.1 | µg/L | Discharge Conc < TQL |
| 2-Chloronaphthalene | 809 | µg/L | Discharge Conc < TQL |
| 4-Chlorophenyl Phenyl Ether | N/A | N/A | No WQS |
| Chrysene | 0.13 | µg/L | Discharge Conc < TQL |
| Dibenzo(a,h)Anthrancene | 0.0001 | µg/L | Discharge Conc < TQL |
| 1,2-Dichlorobenzene | 162 | µg/L | Discharge Conc < TQL |
| 1,3-Dichlorobenzene | 7.08 | µg/L | Discharge Conc < TQL |
| 1,4-Dichlorobenzene | 152 | µg/L | Discharge Conc < TQL |
| 3,3-Dichlorobenzidine | 0.056 | µg/L | Discharge Conc < TQL |
| Diethyl Phthalate | 607 | µg/L | Discharge Conc < TQL |
| Dimethyl Phthalate | 505 | µg/L | Discharge Conc < TQL |
| Di-n-Butyl Phthalate | 20.2 | µg/L | Discharge Conc < TQL |
| 2,4-Dinitrotoluene | 0.056 | µg/L | Discharge Conc < TQL |
| 2,6-Dinitrotoluene | 0.056 | µg/L | Discharge Conc < TQL |
| Di-n-Octyl Phthalate | N/A | N/A | No WQS |
| 1,2-Diphenylhydrazine | 0.033 | µg/L | Discharge Conc < TQL |
| Fluoranthene | 20.2 | µg/L | Discharge Conc < TQL |
| Fluorene | 50.5 | µg/L | Discharge Conc < TQL |
| Hexachlorobenzene | 0.00009 | µg/L | Discharge Conc < TQL |
| Hexachlorobutadiene | 0.011 | µg/L | Discharge Conc < TQL |
| Hexachlorocyclopentadiene | 1.01 | µg/L | Discharge Conc < TQL |
| Hexachloroethane | 0.11 | µg/L | Discharge Conc < TQL |
| Indeno(1,2,3-cd)Pyrene | 0.001 | µg/L | Discharge Conc < TQL |
| Isophorone | 34.4 | µg/L | Discharge Conc < TQL |
| Naphthalene | 43.5 | µg/L | Discharge Conc < TQL |
| Nitrobenzene | 10.1 | µg/L | Discharge Conc < TQL |
| n-Nitrosodimethylamine | 0.0008 | µg/L | Discharge Conc < TQL |
| n-Nitrosodi-n-Propylamine | 0.006 | µg/L | Discharge Conc < TQL |

| | | | |
|---|---|---|---|
| n-Nitrosodiphenylamine | 3.66 | µg/L | Discharge Conc < TQL |
| Phenanthrene | 1.01 | µg/L | Discharge Conc < TQL |
| Pyrene | 20.2 | µg/L | Discharge Conc < TQL |
| 1,2,4-Trichlorobenzene | 0.071 | µg/L | Discharge Conc < TQL |

## Appendix –C – Toxics Management Spreadsheet (TMS) Analysis – Resampling Analysis

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Toxics Management Spreadsheet
Version 1.4, May 2023

# Discharge Information

Instructions | Discharge | Stream

Facility: **Pleasant Hills Authority STP** NPDES Permit No.: **PA0027464** Outfall No.: **001**

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

| Discharge Characteristics | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Design Flow (MGD)* | Hardness (mg/l)* | pH (SU)* | Partial Mix Factors (PMFs) | | | | Complete Mix Times (min) | |
| | | | AFC | CFC | THH | CRL | $Q_{7-10}$ | $Q_h$ |
| 5 | 209 | 8 | | | | | | |

| | | | | | *0 if left blank* | | *0.5 if left blank* | | *0 if left blank* | | | *1 if left blank* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Discharge Pollutant | Units | Max Discharge Conc | | Trib Conc | Stream Conc | Daily CV | Hourly CV | Stream CV | Fate Coeff | FOS | Criteria Mod | Chem Transl |
| Group 1 | Total Dissolved Solids (PWS) | mg/L | | 611 | | | | | | | | | |
| | Chloride (PWS) | mg/L | | 162 | | | | | | | | | |
| | Bromide | mg/L | < | 0.036 | | | | | | | | | |
| | Sulfate (PWS) | mg/L | | 71.6 | | | | | | | | | |
| | Fluoride (PWS) | mg/L | | | | | | | | | | | |
| Group 2 | Total Aluminum | µg/L | | 55.8 | | | | | | | | | |
| | Total Antimony | µg/L | | 0.36 | | | | | | | | | |
| | Total Arsenic | µg/L | < | 1 | | | | | | | | | |
| | Total Barium | µg/L | | 46.9 | | | | | | | | | |
| | Total Beryllium | µg/L | < | 0.135 | | | | | | | | | |
| | Total Boron | µg/L | | 221 | | | | | | | | | |
| | Total Cadmium | µg/L | | 0.31 | | | | | | | | | |
| | Total Chromium (III) | µg/L | < | 1.99 | | | | | | | | | |
| | Hexavalent Chromium | µg/L | < | 0.25 | | | | | | | | | |
| | Total Cobalt | µg/L | | 0.25 | | | | | | | | | |
| | Total Copper | mg/L | | 0.01305 | | | | | | | | | |
| | Free Cyanide | µg/L | | 3 | | | | | | | | | |
| | Total Cyanide | µg/L | | 15.7 | | | | | | | | | |
| | Dissolved Iron | µg/L | < | 20 | | | | | | | | | |
| | Total Iron | µg/L | | 10.8 | | | | | | | | | |
| | Total Lead | µg/L | | 0.17 | | | | | | | | | |
| | Total Manganese | µg/L | | 53.6 | | | | | | | | | |
| | Total Mercury | µg/L | | 0.0289 | | | | | | | | | |
| | Total Nickel | µg/L | | 2.28 | | | | | | | | | |
| | Total Phenols (Phenolics) (PWS) | µg/L | < | 4 | | | | | | | | | |
| | Total Selenium | µg/L | | 0.524 | | | | | | | | | |
| | Total Silver | µg/L | < | 0.274 | | | | | | | | | |
| | Total Thallium | µg/L | | 0.018 | | | | | | | | | |
| | Total Zinc | mg/L | | 0.0295 | | | | | | | | | |
| | Total Molybdenum | µg/L | | 0.99 | | | | | | | | | |
| | Acrolein | µg/L | < | 1.95 | | | | | | | | | |
| | Acrylamide | µg/L | < | | | | | | | | | | |
| | Acrylonitrile | µg/L | < | 0.51 | | | | | | | | | |
| | Benzene | µg/L | < | 0.43 | | | | | | | | | |
| | Bromoform | µg/L | < | 0.34 | | | | | | | | | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Group 3 | Carbon Tetrachloride | µg/L | < | 0.4 | | | | | | | | | | |
| | Chlorobenzene | µg/L | < | 0.21 | | | | | | | | | | |
| | Chlorodibromomethane | µg/L | < | 0.39 | | | | | | | | | | |
| | Chloroethane | µg/L | < | 0.42 | | | | | | | | | | |
| | 2-Chloroethyl Vinyl Ether | µg/L | < | 4 | | | | | | | | | | |
| | Chloroform | µg/L | < | 0.56 | | | | | | | | | | |
| | Dichlorobromomethane | µg/L | < | 0.32 | | | | | | | | | | |
| | 1,1-Dichloroethane | µg/L | < | 0.42 | | | | | | | | | | |
| | 1,2-Dichloroethane | µg/L | < | 0.39 | | | | | | | | | | |
| | 1,1-Dichloroethylene | µg/L | < | 0.33 | | | | | | | | | | |
| | 1,2-Dichloropropane | µg/L | < | 0.42 | | | | | | | | | | |
| | 1,3-Dichloropropylene | µg/L | < | 0.33 | | | | | | | | | | |
| | 1,4-Dioxane | µg/L | < | 3 | | | | | | | | | | |
| | Ethylbenzene | µg/L | < | 0.27 | | | | | | | | | | |
| | Methyl Bromide | µg/L | < | 0.46 | | | | | | | | | | |
| | Methyl Chloride | µg/L | < | 0.36 | | | | | | | | | | |
| | Methylene Chloride | µg/L | < | 0.45 | | | | | | | | | | |
| | 1,1,2,2-Tetrachloroethane | µg/L | < | 0.36 | | | | | | | | | | |
| | Tetrachloroethylene | µg/L | < | 0.39 | | | | | | | | | | |
| | Toluene | µg/L | < | 0.33 | | | | | | | | | | |
| | 1,2-trans-Dichloroethylene | µg/L | < | 0.39 | | | | | | | | | | |
| | 1,1,1-Trichloroethane | µg/L | < | 0.38 | | | | | | | | | | |
| | 1,1,2-Trichloroethane | µg/L | < | 0.24 | | | | | | | | | | |
| | Trichloroethylene | µg/L | < | 0.46 | | | | | | | | | | |
| | Vinyl Chloride | µg/L | < | 0.46 | | | | | | | | | | |
| Group 4 | 2-Chlorophenol | µg/L | < | 0.13 | | | | | | | | | | |
| | 2,4-Dichlorophenol | µg/L | < | 0.25 | | | | | | | | | | |
| | 2,4-Dimethylphenol | µg/L | < | 0.25 | | | | | | | | | | |
| | 4,6-Dinitro-o-Cresol | µg/L | < | 0.9 | | | | | | | | | | |
| | 2,4-Dinitrophenol | µg/L | < | 0.88 | | | | | | | | | | |
| | 2-Nitrophenol | µg/L | < | 0.25 | | | | | | | | | | |
| | 4-Nitrophenol | µg/L | < | 0.19 | | | | | | | | | | |
| | p-Chloro-m-Cresol | µg/L | < | 0.4 | | | | | | | | | | |
| | Pentachlorophenol | µg/L | < | 0.97 | | | | | | | | | | |
| | Phenol | µg/L | < | 0.41 | | | | | | | | | | |
| | 2,4,6-Trichlorophenol | µg/L | < | 0.24 | | | | | | | | | | |
| Group 5 | Acenaphthene | µg/L | < | 0.26 | | | | | | | | | | |
| | Acenaphthylene | µg/L | < | 0.22 | | | | | | | | | | |
| | Anthracene | µg/L | < | 0.15 | | | | | | | | | | |
| | Benzidine | µg/L | < | 0.35 | | | | | | | | | | |
| | Benzo(a)Anthracene | µg/L | < | 0.27 | | | | | | | | | | |
| | Benzo(a)Pyrene | µg/L | < | 0.31 | | | | | | | | | | |
| | 3,4-Benzofluoranthene | µg/L | < | 0.33 | | | | | | | | | | |
| | Benzo(ghi)Perylene | µg/L | < | 0.32 | | | | | | | | | | |
| | Benzo(k)Fluoranthene | µg/L | < | 0.4 | | | | | | | | | | |
| | Bis(2-Chloroethoxy)Methane | µg/L | < | 0.15 | | | | | | | | | | |
| | Bis(2-Chloroethyl)Ether | µg/L | < | 0.25 | | | | | | | | | | |
| | Bis(2-Chloroisopropyl)Ether | µg/L | < | 0.34 | | | | | | | | | | |
| | Bis(2-Ethylhexyl)Phthalate | µg/L | < | 0.88 | | | | | | | | | | |
| | 4-Bromophenyl Phenyl Ether | µg/L | < | 0.19 | | | | | | | | | | |
| | Butyl Benzyl Phthalate | µg/L | < | 0.69 | | | | | | | | | | |
| | 2-Chloronaphthalene | µg/L | < | 0.28 | | | | | | | | | | |
| | 4-Chlorophenyl Phenyl Ether | µg/L | < | 0.29 | | | | | | | | | | |
| | Chrysene | µg/L | < | 0.45 | | | | | | | | | | |
| | Dibenzo(a,h)Anthrancene | µg/L | < | 0.28 | | | | | | | | | | |
| | 1,2-Dichlorobenzene | µg/L | < | 0.32 | | | | | | | | | | |
| | 1,3-Dichlorobenzene | µg/L | < | 0.17 | | | | | | | | | | |
| | 1,4-Dichlorobenzene | µg/L | < | 0.15 | | | | | | | | | | |
| | 3,3-Dichlorobenzidine | µg/L | < | 0.13 | | | | | | | | | | |
| | Diethyl Phthalate | µg/L | < | 0.27 | | | | | | | | | | |
| | Dimethyl Phthalate | µg/L | < | 0.23 | | | | | | | | | | |
| | Di-n-Butyl Phthalate | µg/L | < | 0.36 | | | | | | | | | | |
| | 2,4-Dinitrotoluene | µg/L | < | 0.77 | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2,6-Dinitrotoluene | µg/L | < | 0.32 | | | | | | | | | | |
| | Di-n-Octyl Phthalate | µg/L | < | 0.28 | | | | | | | | | | |
| | 1,2-Diphenylhydrazine | µg/L | < | 0.2 | | | | | | | | | | |
| | Fluoranthene | µg/L | < | 0.35 | | | | | | | | | | |
| | Fluorene | µg/L | < | 0.25 | | | | | | | | | | |
| | Hexachlorobenzene | µg/L | < | 0.25 | | | | | | | | | | |
| | Hexachlorobutadiene | µg/L | < | 0.27 | | | | | | | | | | |
| | Hexachlorocyclopentadiene | µg/L | < | 0.22 | | | | | | | | | | |
| | Hexachloroethane | µg/L | < | 0.26 | | | | | | | | | | |
| | Indeno(1,2,3-cd)Pyrene | µg/L | < | 0.26 | | | | | | | | | | |
| | Isophorone | µg/L | < | 0.23 | | | | | | | | | | |
| | Naphthalene | µg/L | < | 0.25 | | | | | | | | | | |
| | Nitrobenzene | µg/L | < | 0.26 | | | | | | | | | | |
| | n-Nitrosodimethylamine | µg/L | < | 0.4 | | | | | | | | | | |
| | n-Nitrosodi-n-Propylamine | µg/L | < | 0.31 | | | | | | | | | | |
| | n-Nitrosodiphenylamine | µg/L | < | 0.27 | | | | | | | | | | |
| | Phenanthrene | µg/L | < | 0.21 | | | | | | | | | | |
| | Pyrene | µg/L | < | 0.24 | | | | | | | | | | |
| | 1,2,4-Trichlorobenzene | µg/L | < | 0.17 | | | | | | | | | | |
| 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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Toxics Management Spreadsheet
Version 1.4, May 2023

## Stream / Surface Water Information

Pleasant Hills Authority STP, NPDES Permit No. PA0027464, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: Lick Run

No. Reaches to Model: 1

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

| Location | Stream Code* | RMI* | Elevation (ft)* | DA (mi²)* | Slope (ft/ft) | PWS Withdrawal (MGD) | Apply Fish Criteria* |
|---|---|---|---|---|---|---|---|
| Point of Discharge | 039451 | 2.22 | 1116 | 6.8 | | | Yes |
| End of Reach 1 | 039451 | 0.1 | 1098 | 8.54 | | | Yes |

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

| Location | RMI | LFY (cfs/mi²)* | Flow (cfs) | | W/D Ratio | Width (ft) | Depth (ft) | Velocity (fps) | Travel Time (days) | Tributary | | Stream | | Analysis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Stream | Tributary | | | | | | Hardness | pH | Hardness* | pH* | Hardness | pH |
| Point of Discharge | 2.22 | 0.012 | 0.084 | | 10 | 20 | 2 | | | | | 100 | 7 | | |
| End of Reach 1 | 0.1 | 0.0129 | 0.11 | | 10 | 30 | 3 | | | | | 100 | 7 | | |

$Q_h$

| Location | RMI | LFY (cfs/mi²) | Flow (cfs) | | W/D Ratio | Width (ft) | Depth (ft) | Velocity (fps) | Travel Time (days) | Tributary | | Stream | | Analysis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Stream | Tributary | | | | | | Hardness | pH | Hardness | pH | Hardness | pH |
| Point of Discharge | 2.22 | | | | | | | | | | | | | | |
| End of Reach 1 | 0.1 | | | | | | | | | | | | | | |

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Toxics Management Spreadsheet
Version 1.4, May 2023

## Model Results

**Pleasant Hills Authority STP, NPDES Permit No. PA0027464, 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.22 | 0.08 | | 0.08 | 7.735 | 0.002 | 2. | 20. | 10. | 0.195 | 0.663 | 0.00056 |
| 0.1 | 0.11 | | 0.11 | | | | | 10.000 | | | |

$Q_h$

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.22 | 0.85 | | 0.85 | 7.735 | 0.002 | 2.084 | 20. | 9.596 | 0.206 | 0.629 | 0.045 |
| 0.1 | 1.079 | | 1.08 | | | | | | | | |

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.001 PMF: 1 Analysis Hardness (mg/l): 207.83 Analysis pH: 7.96

| 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 | 758 | |
| Total Antimony | 0 | 0 | | 0 | 1,100 | 1,100 | 1,112 | |
| Total Arsenic | 0 | 0 | | 0 | 340 | 340 | 344 | Chem Translator of 1 applied |
| Total Barium | 0 | 0 | | 0 | 21,000 | 21,000 | 21,228 | |
| Total Boron | 0 | 0 | | 0 | 8,100 | 8,100 | 8,188 | |
| Total Cadmium | 0 | 0 | | 0 | 4.099 | 4.49 | 4.54 | Chem Translator of 0.913 applied |
| Total Chromium (III) | 0 | 0 | | 0 | 1037.280 | 3,283 | 3,318 | Chem Translator of 0.316 applied |
| Hexavalent Chromium | 0 | 0 | | 0 | 16 | 16.3 | 16.5 | Chem Translator of 0.982 applied |
| Total Cobalt | 0 | 0 | | 0 | 95 | 95.0 | 96.0 | |
| Total Copper | 0 | 0 | | 0 | 26.774 | 27.9 | 28.2 | Chem Translator of 0.96 applied |
| Free Cyanide | 0 | 0 | | 0 | 22 | 22.0 | 22.2 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 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 | 141.803 | 207 | 209 | Chem Translator of 0.684 applied |
| Total Manganese | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Mercury | 0 | 0 | | 0 | 1.400 | 1.65 | 1.66 | Chem Translator of 0.85 applied |
| Total Nickel | 0 | 0 | | 0 | 869.449 | 871 | 881 | 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 | 11.321 | 13.3 | 13.5 | Chem Translator of 0.85 applied |
| Total Thallium | 0 | 0 | | 0 | 65 | 65.0 | 65.7 | |
| Total Zinc | 0 | 0 | | 0 | 217.795 | 223 | 225 | Chem Translator of 0.978 applied |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 3.03 | |
| Acrylonitrile | 0 | 0 | | 0 | 650 | 650 | 657 | |
| Benzene | 0 | 0 | | 0 | 640 | 640 | 647 | |
| Bromoform | 0 | 0 | | 0 | 1,800 | 1,800 | 1,820 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 2,800 | 2,800 | 2,830 | |
| Chlorobenzene | 0 | 0 | | 0 | 1,200 | 1,200 | 1,213 | |
| Chlorodibromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | 18,000 | 18,000 | 18,195 | |
| Chloroform | 0 | 0 | | 0 | 1,900 | 1,900 | 1,921 | |
| Dichlorobromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 15,000 | 15,000 | 15,163 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | 7,500 | 7,500 | 7,581 | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 11,000 | 11,000 | 11,119 | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 310 | 310 | 313 | |
| Ethylbenzene | 0 | 0 | | 0 | 2,900 | 2,900 | 2,931 | |
| Methyl Bromide | 0 | 0 | | 0 | 550 | 550 | 556 | |
| Methyl Chloride | 0 | 0 | | 0 | 28,000 | 28,000 | 28,304 | |
| Methylene Chloride | 0 | 0 | | 0 | 12,000 | 12,000 | 12,130 | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 1,000 | 1,000 | 1,011 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 700 | 700 | 708 | |
| Toluene | 0 | 0 | | 0 | 1,700 | 1,700 | 1,718 | |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 6,800 | 6,800 | 6,874 | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 3,000 | 3,000 | 3,033 | |
| 1,1,2-Trichloroethane | 0 | 0 | | 0 | 3,400 | 3,400 | 3,437 | |
| Trichloroethylene | 0 | 0 | | 0 | 2,300 | 2,300 | 2,325 | |
| Vinyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chlorophenol | 0 | 0 | | 0 | 560 | 560 | 566 | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 1,700 | 1,700 | 1,718 | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 660 | 660 | 667 | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 80 | 80.0 | 80.9 | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 660 | 660 | 667 | |
| 2-Nitrophenol | 0 | 0 | | 0 | 8,000 | 8,000 | 8,087 | |
| 4-Nitrophenol | 0 | 0 | | 0 | 2,300 | 2,300 | 2,325 | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | 160 | 160 | 162 | |
| Pentachlorophenol | 0 | 0 | | 0 | 22.890 | 22.9 | 23.1 | |
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 460 | 460 | 465 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 0 | 0 | | 0 | 83 | 83.0 | 83.9 | |
| Anthracene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzidine | 0 | 0 | | 0 | 300 | 300 | 303 | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | 0.5 | 0.5 | 0.51 | |
| 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 | 30,326 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 4,500 | 4,500 | 4,549 | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | 270 | 270 | 273 | |
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | 140 | 140 | 142 | |
| 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 | 829 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 350 | 350 | 354 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 730 | 730 | 738 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 4,000 | 4,000 | 4,043 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 2,500 | 2,500 | 2,527 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 110 | 110 | 111 | |
| 2,4-Dinitrotoluene | 0 | 0 | | 0 | 1,600 | 1,600 | 1,617 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 990 | 990 | 1,001 | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 15 | 15.0 | 15.2 | |
| Fluoranthene | 0 | 0 | | 0 | 200 | 200 | 202 | |
| 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 | 10.1 | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | 5 | 5.0 | 5.05 | |
| Hexachloroethane | 0 | 0 | | 0 | 60 | 60.0 | 60.7 | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Isophorone | 0 | 0 | | 0 | 10,000 | 10,000 | 10,109 | |
| Naphthalene | 0 | 0 | | 0 | 140 | 140 | 142 | |
| Nitrobenzene | 0 | 0 | | 0 | 4,000 | 4,000 | 4,043 | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | 17,000 | 17,000 | 17,185 | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 300 | 300 | 303 | |
| Phenanthrene | 0 | 0 | | 0 | 5 | 5.0 | 5.05 | |
| Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 130 | 130 | 131 | |

☑ *CFC* CCT (min): 0.001 PMF: 1 Analysis Hardness (mg/l): 207.83 Analysis pH: 7.96

| 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 | 222 | |
| Total Arsenic | 0 | 0 | | 0 | 150 | 150 | 152 | Chem Translator of 1 applied |
| Total Barium | 0 | 0 | | 0 | 4,100 | 4,100 | 4,145 | |
| Total Boron | 0 | 0 | | 0 | 1,600 | 1,600 | 1,617 | |
| Total Cadmium | 0 | 0 | | 0 | 0.409 | 0.47 | 0.47 | Chem Translator of 0.878 applied |
| Total Chromium (III) | 0 | 0 | | 0 | 134.929 | 157 | 159 | Chem Translator of 0.86 applied |
| Hexavalent Chromium | 0 | 0 | | 0 | 10 | 10.4 | 10.5 | Chem Translator of 0.962 applied |
| Total Cobalt | 0 | 0 | | 0 | 19 | 19.0 | 19.2 | |
| Total Copper | 0 | 0 | | 0 | 16.733 | 17.4 | 17.6 | Chem Translator of 0.96 applied |
| Free Cyanide | 0 | 0 | | 0 | 5.2 | 5.2 | 5.26 | |
| Dissolved Iron | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Iron | 0 | 0 | | 0 | 1,500 | 1,500 | 1,516 | WQC = 30 day average; PMF = 1 |
| Total Lead | 0 | 0 | | 0 | 5.526 | 8.07 | 8.16 | Chem Translator of 0.684 applied |
| Total Manganese | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Mercury | 0 | 0 | | 0 | 0.770 | 0.91 | 0.92 | Chem Translator of 0.85 applied |
| Total Nickel | 0 | 0 | | 0 | 96.569 | 96.9 | 97.9 | 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 | 5.04 | 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 | 13.1 | |
| Total Zinc | 0 | 0 | | 0 | 219.576 | 223 | 225 | Chem Translator of 0.986 applied |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 3.03 | |
| Acrylonitrile | 0 | 0 | | 0 | 130 | 130 | 131 | |
| Benzene | 0 | 0 | | 0 | 130 | 130 | 131 | |
| Bromoform | 0 | 0 | | 0 | 370 | 370 | 374 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 560 | 560 | 566 | |
| Chlorobenzene | 0 | 0 | | 0 | 240 | 240 | 243 | |
| Chlorodibromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | 3,500 | 3,500 | 3,538 | |
| Chloroform | 0 | 0 | | 0 | 390 | 390 | 394 | |
| Dichlorobromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 3,100 | 3,100 | 3,134 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | 1,500 | 1,500 | 1,516 | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 2,200 | 2,200 | 2,224 | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 61 | 61.0 | 61.7 | |
| Ethylbenzene | 0 | 0 | | 0 | 580 | 580 | 586 | |
| Methyl Bromide | 0 | 0 | | 0 | 110 | 110 | 111 | |
| Methyl Chloride | 0 | 0 | | 0 | 5,500 | 5,500 | 5,560 | |
| Methylene Chloride | 0 | 0 | | 0 | 2,400 | 2,400 | 2,426 | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 210 | 210 | 212 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 140 | 140 | 142 | |
| Toluene | 0 | 0 | | 0 | 330 | 330 | 334 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 1,400 | 1,400 | 1,415 | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 610 | 610 | 617 | |
| 1,1,2-Trichloroethane | 0 | 0 | | 0 | 680 | 680 | 687 | |
| Trichloroethylene | 0 | 0 | | 0 | 450 | 450 | 455 | |
| Vinyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chlorophenol | 0 | 0 | | 0 | 110 | 110 | 111 | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 340 | 340 | 344 | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 130 | 130 | 131 | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 16 | 16.0 | 16.2 | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 130 | 130 | 131 | |
| 2-Nitrophenol | 0 | 0 | | 0 | 1,600 | 1,600 | 1,617 | |
| 4-Nitrophenol | 0 | 0 | | 0 | 470 | 470 | 475 | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | 500 | 500 | 505 | |
| Pentachlorophenol | 0 | 0 | | 0 | 17.562 | 17.6 | 17.8 | |
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 91 | 91.0 | 92.0 | |
| Acenaphthene | 0 | 0 | | 0 | 17 | 17.0 | 17.2 | |
| Anthracene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzidine | 0 | 0 | | 0 | 59 | 59.0 | 59.6 | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | 0.1 | 0.1 | 0.1 | |
| 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 | 6,065 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 910 | 910 | 920 | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | 54 | 54.0 | 54.6 | |
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | 35 | 35.0 | 35.4 | |
| 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 | 162 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 69 | 69.0 | 69.7 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 150 | 150 | 152 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 800 | 800 | 809 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 500 | 500 | 505 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 21 | 21.0 | 21.2 | |
| 2,4-Dinitrotoluene | 0 | 0 | | 0 | 320 | 320 | 323 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 200 | 200 | 202 | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 3 | 3.0 | 3.03 | |
| Fluoranthene | 0 | 0 | | 0 | 40 | 40.0 | 40.4 | |
| 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 | 2.02 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | 1 | 1.0 | 1.01 | |
| Hexachloroethane | 0 | 0 | | 0 | 12 | 12.0 | 12.1 | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Isophorone | 0 | 0 | | 0 | 2,100 | 2,100 | 2,123 | |
| Naphthalene | 0 | 0 | | 0 | 43 | 43.0 | 43.5 | |
| Nitrobenzene | 0 | 0 | | 0 | 810 | 810 | 819 | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | 3,400 | 3,400 | 3,437 | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 59 | 59.0 | 59.6 | |
| Phenanthrene | 0 | 0 | | 0 | 1 | 1.0 | 1.01 | |
| Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 26 | 26.0 | 26.3 | |

☑ ***THH*** CCT (min): 0.001 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 | 5.66 | |
| Total Arsenic | 0 | 0 | | 0 | 10 | 10.0 | 10.1 | |
| Total Barium | 0 | 0 | | 0 | 2,400 | 2,400 | 2,426 | |
| Total Boron | 0 | 0 | | 0 | 3,100 | 3,100 | 3,134 | |
| 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 | 4.04 | |
| Dissolved Iron | 0 | 0 | | 0 | 300 | 300 | 303 | |
| 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 | 1,011 | |
| Total Mercury | 0 | 0 | | 0 | 0.050 | 0.05 | 0.051 | |
| Total Nickel | 0 | 0 | | 0 | 610 | 610 | 617 | |
| 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 | 0.24 | |
| Total Zinc | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 3.03 | |
| 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 | 101 |
| 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 | 5.7 | 5.7 | 5.76 |
| 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 | 33.4 |
| 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 | 68.7 |
| Methyl Bromide | 0 | 0 | | 0 | 100 | 100.0 | 101 |
| 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 | 57.6 |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 100 | 100.0 | 101 |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 10,000 | 10,000 | 10,109 |
| 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 | 30.3 |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 10 | 10.0 | 10.1 |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 100 | 100.0 | 101 |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 2 | 2.0 | 2.02 |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 10 | 10.0 | 10.1 |
| 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 | 4,043 |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | N/A | N/A | N/A |
| Acenaphthene | 0 | 0 | | 0 | 70 | 70.0 | 70.8 |
| Anthracene | 0 | 0 | | 0 | 300 | 300 | 303 |
| 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 | 202 |
| 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 | 0.1 | |
| 2-Chloronaphthalene | 0 | 0 | | 0 | 800 | 800 | 809 | |
| 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 | 1,011 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 7 | 7.0 | 7.08 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 300 | 300 | 303 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 600 | 600 | 607 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 2,000 | 2,000 | 2,022 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 20 | 20.0 | 20.2 | |
| 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 | 20.2 | |
| Fluorene | 0 | 0 | | 0 | 50 | 50.0 | 50.5 | |
| 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 | 4.04 | |
| 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 | 34.4 | |
| Naphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Nitrobenzene | 0 | 0 | | 0 | 10 | 10.0 | 10.1 | |
| 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 | 20.2 | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 0.07 | 0.07 | 0.071 | |

☑ *CRL* CCT (min): 0.045 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 | 0.067 | |
| Benzene | 0 | 0 | | 0 | 0.58 | 0.58 | 0.64 | |
| Bromoform | 0 | 0 | | 0 | 7 | 7.0 | 7.77 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 0.4 | 0.4 | 0.44 | |
| Chlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chlorodibromomethane | 0 | 0 | | 0 | 0.8 | 0.8 | 0.89 | |
| 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 | 0.95 | 0.95 | 1.05 | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 9.9 | 9.9 | 11.0 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 0.9 | 0.9 | 1. | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 0.27 | 0.27 | 0.3 | |
| 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 | 22.2 | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 0.2 | 0.2 | 0.22 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 10 | 10.0 | 11.1 | |
| 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 | 0.61 | |
| Trichloroethylene | 0 | 0 | | 0 | 0.6 | 0.6 | 0.67 | |
| Vinyl Chloride | 0 | 0 | | 0 | 0.02 | 0.02 | 0.022 | |
| 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 | 0.033 | |
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 1.5 | 1.5 | 1.67 | |
| 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 | 0.0001 | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | 0.001 | 0.001 | 0.001 | |
| Benzo(a)Pyrene | 0 | 0 | | 0 | 0.0001 | 0.0001 | 0.0001 | |
| 3,4-Benzofluoranthene | 0 | 0 | | 0 | 0.001 | 0.001 | 0.001 | |
| Benzo(k)Fluoranthene | 0 | 0 | | 0 | 0.01 | 0.01 | 0.011 | |
| Bis(2-Chloroethyl)Ether | 0 | 0 | | 0 | 0.03 | 0.03 | 0.033 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 0.32 | 0.32 | 0.36 | |
| 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 | 0.13 | |
| Dibenzo(a,h)Anthrancene | 0 | 0 | | 0 | 0.0001 | 0.0001 | 0.0001 | |
| 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 | 0.056 | |
| 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 | 0.056 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 0.05 | 0.05 | 0.056 | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 0.03 | 0.03 | 0.033 | |
| 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 | 0.00009 | |
| Hexachlorobutadiene | 0 | 0 | | 0 | 0.01 | 0.01 | 0.011 | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachloroethane | 0 | 0 | | 0 | 0.1 | 0.1 | 0.11 | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | 0.001 | 0.001 | 0.001 | |
| 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 | 0.0008 | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | 0.005 | 0.005 | 0.006 | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 3.3 | 3.3 | 3.66 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 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 | 1,617 | CFC | Discharge Conc > 10% WQBEL (no RP) |
| Total Cadmium | 0.02 | 0.031 | 0.47 | 0.73 | 1.18 | µg/L | 0.47 | CFC | Discharge Conc ≥ 50% WQBEL (RP) |
| Total Copper | 0.73 | 1.15 | 0.018 | 0.027 | 0.044 | mg/L | 0.018 | CFC | Discharge Conc ≥ 50% WQBEL (RP) |
| Free Cyanide | 0.17 | 0.26 | 4.04 | 6.31 | 10.1 | µg/L | 4.04 | THH | Discharge Conc ≥ 50% WQBEL (RP) |
| Total Mercury | 0.002 | 0.003 | 0.051 | 0.079 | 0.13 | µg/L | 0.051 | THH | Discharge Conc ≥ 50% WQBEL (RP) |
| Total Selenium | Report | Report | Report | Report | Report | µg/L | 5.04 | CFC | Discharge Conc > 10% WQBEL (no RP) |
| Total Zinc | Report | Report | Report | Report | Report | mg/L | 0.22 | AFC | Discharge Conc > 10% WQBEL (no RP) |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
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☑ ***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 | 750 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Antimony | 5.66 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Arsenic | N/A | N/A | Discharge Conc < TQL |
| Total Barium | 2,426 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Beryllium | N/A | N/A | No WQS |
| Total Chromium (III) | 159 | µg/L | Discharge Conc < TQL |
| Hexavalent Chromium | 10.5 | µg/L | Discharge Conc < TQL |
| Total Cobalt | 19.2 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Cyanide | N/A | N/A | No WQS |

| | | | |
|---|---|---|---|
| Dissolved Iron | 303 | µg/L | Discharge Conc < TQL |
| Total Iron | 1,516 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Lead | 8.16 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Manganese | 1,011 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Nickel | 97.9 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Phenols (Phenolics) (PWS) | | µg/L | Discharge Conc < TQL |
| Total Silver | 13.3 | µg/L | Discharge Conc < TQL |
| Total Thallium | 0.24 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Molybdenum | N/A | N/A | No WQS |
| Acrolein | 3.0 | µg/L | Discharge Conc < TQL |
| Acrylonitrile | 0.067 | µg/L | Discharge Conc < TQL |
| Benzene | 0.64 | µg/L | Discharge Conc < TQL |
| Bromoform | 7.77 | µg/L | Discharge Conc < TQL |
| Carbon Tetrachloride | 0.44 | µg/L | Discharge Conc < TQL |
| Chlorobenzene | 101 | µg/L | Discharge Conc < TQL |
| Chlorodibromomethane | 0.89 | µg/L | Discharge Conc < TQL |
| Chloroethane | N/A | N/A | No WQS |
| 2-Chloroethyl Vinyl Ether | 3,538 | µg/L | Discharge Conc < TQL |
| Chloroform | 5.76 | µg/L | Discharge Conc ≤ 25% WQBEL |
| Dichlorobromomethane | 1.05 | µg/L | Discharge Conc < TQL |
| 1,1-Dichloroethane | N/A | N/A | No WQS |
| 1,2-Dichloroethane | 11.0 | µg/L | Discharge Conc < TQL |
| 1,1-Dichloroethylene | 33.4 | µg/L | Discharge Conc < TQL |
| 1,2-Dichloropropane | 1. | µg/L | Discharge Conc < TQL |
| 1,3-Dichloropropylene | 0.3 | µg/L | Discharge Conc < TQL |
| 1,4-Dioxane | N/A | N/A | No WQS |
| Ethylbenzene | 68.7 | µg/L | Discharge Conc < TQL |
| Methyl Bromide | 101 | µg/L | Discharge Conc < TQL |
| Methyl Chloride | 5,560 | µg/L | Discharge Conc < TQL |
| Methylene Chloride | 22.2 | µg/L | Discharge Conc < TQL |
| 1,1,2,2-Tetrachloroethane | 0.22 | µg/L | Discharge Conc < TQL |
| Tetrachloroethylene | 11.1 | µg/L | Discharge Conc < TQL |
| Toluene | 57.6 | µg/L | Discharge Conc < TQL |
| 1,2-trans-Dichloroethylene | 101 | µg/L | Discharge Conc < TQL |
| 1,1,1-Trichloroethane | 617 | µg/L | Discharge Conc < TQL |
| 1,1,2-Trichloroethane | 0.61 | µg/L | Discharge Conc < TQL |
| Trichloroethylene | 0.67 | µg/L | Discharge Conc < TQL |
| Vinyl Chloride | 0.022 | µg/L | Discharge Conc < TQL |
| 2-Chlorophenol | 30.3 | µg/L | Discharge Conc < TQL |
| 2,4-Dichlorophenol | 10.1 | µg/L | Discharge Conc < TQL |
| 2,4-Dimethylphenol | 101 | µg/L | Discharge Conc < TQL |
| 4,6-Dinitro-o-Cresol | 2.02 | µg/L | Discharge Conc < TQL |
| 2,4-Dinitrophenol | 10.1 | µg/L | Discharge Conc < TQL |
| 2-Nitrophenol | 1,617 | µg/L | Discharge Conc < TQL |
| 4-Nitrophenol | 475 | µg/L | Discharge Conc < TQL |

| | | | |
|---|---|---|---|
| p-Chloro-m-Cresol | 160 | µg/L | Discharge Conc < TQL |
| Pentachlorophenol | 0.033 | µg/L | Discharge Conc < TQL |
| Phenol | 4,043 | µg/L | Discharge Conc < TQL |
| 2,4,6-Trichlorophenol | 1.67 | µg/L | Discharge Conc < TQL |
| Acenaphthene | 17.2 | µg/L | Discharge Conc < TQL |
| Acenaphthylene | N/A | N/A | No WQS |
| Anthracene | 303 | µg/L | Discharge Conc < TQL |
| Benzidine | 0.0001 | µg/L | Discharge Conc < TQL |
| Benzo(a)Anthracene | 0.001 | µg/L | Discharge Conc < TQL |
| Benzo(a)Pyrene | 0.0001 | µg/L | Discharge Conc < TQL |
| 3,4-Benzofluoranthene | 0.001 | µg/L | Discharge Conc < TQL |
| Benzo(ghi)Perylene | N/A | N/A | No WQS |
| Benzo(k)Fluoranthene | 0.011 | µg/L | Discharge Conc < TQL |
| Bis(2-Chloroethoxy)Methane | N/A | N/A | No WQS |
| Bis(2-Chloroethyl)Ether | 0.033 | µg/L | Discharge Conc < TQL |
| Bis(2-Chloroisopropyl)Ether | 202 | µg/L | Discharge Conc < TQL |
| Bis(2-Ethylhexyl)Phthalate | 0.36 | µg/L | Discharge Conc < TQL |
| 4-Bromophenyl Phenyl Ether | 54.6 | µg/L | Discharge Conc < TQL |
| Butyl Benzyl Phthalate | 0.1 | µg/L | Discharge Conc < TQL |
| 2-Chloronaphthalene | 809 | µg/L | Discharge Conc < TQL |
| 4-Chlorophenyl Phenyl Ether | N/A | N/A | No WQS |
| Chrysene | 0.13 | µg/L | Discharge Conc < TQL |
| Dibenzo(a,h)Anthrancene | 0.0001 | µg/L | Discharge Conc < TQL |
| 1,2-Dichlorobenzene | 162 | µg/L | Discharge Conc < TQL |
| 1,3-Dichlorobenzene | 7.08 | µg/L | Discharge Conc < TQL |
| 1,4-Dichlorobenzene | 152 | µg/L | Discharge Conc < TQL |
| 3,3-Dichlorobenzidine | 0.056 | µg/L | Discharge Conc < TQL |
| Diethyl Phthalate | 607 | µg/L | Discharge Conc < TQL |
| Dimethyl Phthalate | 505 | µg/L | Discharge Conc < TQL |
| Di-n-Butyl Phthalate | 20.2 | µg/L | Discharge Conc < TQL |
| 2,4-Dinitrotoluene | 0.056 | µg/L | Discharge Conc < TQL |
| 2,6-Dinitrotoluene | 0.056 | µg/L | Discharge Conc < TQL |
| Di-n-Octyl Phthalate | N/A | N/A | No WQS |
| 1,2-Diphenylhydrazine | 0.033 | µg/L | Discharge Conc < TQL |
| Fluoranthene | 20.2 | µg/L | Discharge Conc < TQL |
| Fluorene | 50.5 | µg/L | Discharge Conc < TQL |
| Hexachlorobenzene | 0.00009 | µg/L | Discharge Conc < TQL |
| Hexachlorobutadiene | 0.011 | µg/L | Discharge Conc < TQL |
| Hexachlorocyclopentadiene | 1.01 | µg/L | Discharge Conc < TQL |
| Hexachloroethane | 0.11 | µg/L | Discharge Conc < TQL |
| Indeno(1,2,3-cd)Pyrene | 0.001 | µg/L | Discharge Conc < TQL |
| Isophorone | 34.4 | µg/L | Discharge Conc < TQL |
| Naphthalene | 43.5 | µg/L | Discharge Conc < TQL |
| Nitrobenzene | 10.1 | µg/L | Discharge Conc < TQL |
| n-Nitrosodimethylamine | 0.0008 | µg/L | Discharge Conc < TQL |



| | | | |
|---|---|---|---|
| n-Nitrosodi-n-Propylamine | 0.006 | µg/L | Discharge Conc < TQL |
| n-Nitrosodiphenylamine | 3.66 | µg/L | Discharge Conc < TQL |
| Phenanthrene | 1.01 | µg/L | Discharge Conc < TQL |
| Pyrene | 20.2 | µg/L | Discharge Conc < TQL |
| 1,2,4-Trichlorobenzene | 0.071 | µg/L | Discharge Conc < TQL |

**Permit No. PA0027464**

## Appendix –D – DEP WET Analysis Spreadsheet

### DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

| | |
|---|---|
| **Type of Test** | Chronic |
| **Species Tested** | Ceriodaphnia |
| **Endpoint** | Survival |
| **TIWC (decimal)** | 0.98 |
| **No. Per Replicate** | 1 |
| **TST b value** | 0.75 |
| **TST alpha value** | 0.2 |

**Facility Name**: Pleasant Hills Authority STP

**Permit No.**: PA0027464

**Test Completion Date**: 2/11/2019

| Replicate No. | Control | TIWC |
|---|---|---|
| 1 | 1 | 1 |
| 2 | 1 | 1 |
| 3 | 1 | 1 |
| 4 | 1 | 1 |
| 5 | 1 | 1 |
| 6 | 1 | 1 |
| 7 | 1 | 0 |
| 8 | 1 | 1 |
| 9 | 1 | 1 |
| 10 | 1 | 1 |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| Mean | 1.000 | 0.900 |
| Std Dev. | 0.000 | 0.316 |
| # Replicates | 10 | 10 |

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail: **PASS**

**Test Completion Date**: 5/13/2020

| Replicate No. | Control | TIWC |
|---|---|---|
| 1 | 1 | 1 |
| 2 | 1 | 1 |
| 3 | 1 | 1 |
| 4 | 1 | 1 |
| 5 | 1 | 1 |
| 6 | 1 | 1 |
| 7 | 1 | 1 |
| 8 | 1 | 1 |
| 9 | 1 | 1 |
| 10 | 1 | 1 |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| Mean | 1.000 | 1.000 |
| Std Dev. | 0.000 | 0.000 |
| # Replicates | 10 | 10 |

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail: **PASS**

**Test Completion Date**: 5/24/2021

| Replicate No. | Control | TIWC |
|---|---|---|
| 1 | 1 | 1 |
| 2 | 1 | 1 |
| 3 | 1 | 1 |
| 4 | 1 | 1 |
| 5 | 1 | 1 |
| 6 | 1 | 1 |
| 7 | 1 | 1 |
| 8 | 1 | 1 |
| 9 | 1 | 1 |
| 10 | 1 | 1 |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| Mean | 1.000 | 1.000 |
| Std Dev. | 0.000 | 0.000 |
| # Replicates | 10 | 10 |

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail: **PASS**

**Test Completion Date**: 9/6/2022

| Replicate No. | Control | TIWC |
|---|---|---|
| 1 | 1 | 1 |
| 2 | 1 | 1 |
| 3 | 1 | 1 |
| 4 | 1 | 1 |
| 5 | 1 | 1 |
| 6 | 1 | 1 |
| 7 | 1 | 1 |
| 8 | 1 | 1 |
| 9 | 1 | 1 |
| 10 | 1 | 1 |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| Mean | 1.000 | 1.000 |
| Std Dev. | 0.000 | 0.000 |
| # Replicates | 10 | 10 |

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail: **PASS**

## DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

| | |
|---|---|
| **Type of Test** | Chronic |
| **Species Tested** | Ceriodaphnia |
| **Endpoint** | Reproduction |
| **TIWC (decimal)** | 0.98 |
| **No. Per Replicate** | 1 |
| **TST b value** | 0.75 |
| **TST alpha value** | 0.2 |

**Facility Name**: Pleasant Hills Authority STP

**Permit No.**: PA0027464

**Test Completion Date: 2/11/2019**

| Replicate No. | Control | TIWC |
|---|---|---|
| 1 | 37 | 33 |
| 2 | 25 | 31 |
| 3 | 39 | 35 |
| 4 | 36 | 33 |
| 5 | 35 | 31 |
| 6 | 31 | 34 |
| 7 | 31 | 0 |
| 8 | 28 | 15 |
| 9 | 33 | 32 |
| 10 | 32 | 37 |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| Mean | 32.700 | 28.100 |
| Std Dev. | 4.244 | 11.561 |
| # Replicates | 10 | 10 |

| | |
|---|---|
| T-Test Result | 0.9428 |
| Deg. of Freedom | 12 |
| Critical T Value | 0.8726 |
| Pass or Fail | PASS |

**Test Completion Date: 5/13/2020**

| Replicate No. | Control | TIWC |
|---|---|---|
| 1 | 31 | 25 |
| 2 | 29 | 32 |
| 3 | 29 | 30 |
| 4 | 16 | 18 |
| 5 | 17 | 18 |
| 6 | 25 | 25 |
| 7 | 31 | 24 |
| 8 | 25 | 17 |
| 9 | 27 | 27 |
| 10 | 21 | 23 |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| Mean | 25.100 | 23.900 |
| Std Dev. | 5.466 | 5.087 |
| # Replicates | 10 | 10 |

| | |
|---|---|
| T-Test Result | 2.4564 |
| Deg. of Freedom | 16 |
| Critical T Value | 0.8647 |
| Pass or Fail | PASS |

**Test Completion Date: 5/24/2021**

| Replicate No. | Control | TIWC |
|---|---|---|
| 1 | 26 | 33 |
| 2 | 31 | 35 |
| 3 | 35 | 33 |
| 4 | 31 | 28 |
| 5 | 22 | 39 |
| 6 | 24 | 40 |
| 7 | 29 | 39 |
| 8 | 25 | 28 |
| 9 | 36 | 32 |
| 10 | 35 | 33 |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| Mean | 29.400 | 34.000 |
| Std Dev. | 5.016 | 4.295 |
| # Replicates | 10 | 10 |

| | |
|---|---|
| T-Test Result | 6.6191 |
| Deg. of Freedom | 17 |
| Critical T Value | 0.8633 |
| Pass or Fail | PASS |

**Test Completion Date: 9/6/2022**

| Replicate No. | Control | TIWC |
|---|---|---|
| 1 | 21 | 28 |
| 2 | 15 | 21 |
| 3 | 18 | 21 |
| 4 | 15 | 26 |
| 5 | 25 | 26 |
| 6 | 28 | 32 |
| 7 | 18 | 29 |
| 8 | 22 | 25 |
| 9 | 28 | 27 |
| 10 | 19 | 28 |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| Mean | 20.900 | 26.300 |
| Std Dev. | 4.818 | 3.401 |
| # Replicates | 10 | 10 |

| | |
|---|---|
| T-Test Result | 6.7711 |
| Deg. of Freedom | 17 |
| Critical T Value | 0.8633 |
| Pass or Fail | PASS |

## DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

| | |
|---|---|
| Type of Test | Chronic |
| Species Tested | Pimephales |
| Endpoint | Survival |
| TIWC (decimal) | 0.98 |
| No. Per Replicate | 1 |
| TST b value | 0.75 |
| TST alpha value | 0.25 |

Facility Name: Pleasant Hills Authority STP

Permit No.: PA0027464

**Test Completion Date: 2/11/2019**

| Replicate No. | Control | TIWC |
|---|---|---|
| 1 | 1 | 1 |
| 2 | 1 | 1 |
| 3 | 1 | 1 |
| 4 | 1 | 1 |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| Mean | 1.000 | 1.000 |
| Std Dev. | 0.000 | 0.000 |
| # Replicates | 4 | 4 |

T-Test Result:
Deg. of Freedom:
Critical T Value:
Pass or Fail: PASS

**Test Completion Date: 5/13/2020**

| Replicate No. | Control | TIWC |
|---|---|---|
| 1 | 1 | 0.8 |
| 2 | 1 | 0.8 |
| 3 | 1 | 1 |
| 4 | 0.9 | 0.8 |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| Mean | 0.975 | 0.850 |
| Std Dev. | 0.050 | 0.100 |
| # Replicates | 4 | 4 |

T-Test Result: 6.6063
Deg. of Freedom: 5
Critical T Value: 0.7267
Pass or Fail: PASS

**Test Completion Date: 5/24/2021**

| Replicate No. | Control | TIWC |
|---|---|---|
| 1 | 1 | 0.9 |
| 2 | 1 | 0.9 |
| 3 | 1 | 1 |
| 4 | 1 | 1 |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| Mean | 1.000 | 0.950 |
| Std Dev. | 0.000 | 0.058 |
| # Replicates | 4 | 4 |

T-Test Result: 6.2250
Deg. of Freedom: 3
Critical T Value: 0.7649
Pass or Fail: PASS

**Test Completion Date: 9/6/2022**

| Replicate No. | Control | TIWC |
|---|---|---|
| 1 | 0.9 | 0.9 |
| 2 | 1 | 1 |
| 3 | 1 | 0.7 |
| 4 | 1 | 0.3 |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| Mean | 0.975 | 0.725 |
| Std Dev. | 0.050 | 0.310 |
| # Replicates | 4 | 4 |

T-Test Result: 0.9868
Deg. of Freedom: 4
Critical T Value: 0.7407
Pass or Fail: PASS

## DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

| | |
|---|---|
| **Type of Test** | Chronic |
| **Species Tested** | Pimephales |
| **Endpoint** | Growth |
| **TIWC (decimal)** | 0.98 |
| **No. Per Replicate** | 1 |
| **TST b value** | 0.75 |
| **TST alpha value** | 0.25 |

**Facility Name**

Pleasant Hills Authority STP

**Permit No.**

PA0027464

**Test Completion Date: 2/11/2019**

| Replicate No. | Control | TIWC |
|---|---|---|
| 1 | 0.367 | 0.539 |
| 2 | 0.382 | 0.513 |
| 3 | 0.353 | 0.521 |
| 4 | 0.399 | 0.484 |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| Mean | 0.375 | 0.514 |
| Std Dev. | 0.020 | 0.023 |
| # Replicates | 4 | 4 |

| | |
|---|---|
| T-Test Result | 17.0614 |
| Deg. of Freedom | 5 |
| Critical T Value | 0.7267 |
| Pass or Fail | **PASS** |

**Test Completion Date: 5/13/2020**

| Replicate No. | Control | TIWC |
|---|---|---|
| 1 | 0.298 | 0.227 |
| 2 | 0.279 | 0.299 |
| 3 | 0.318 | 0.295 |
| 4 | 0.282 | 0.256 |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| Mean | 0.294 | 0.269 |
| Std Dev. | 0.018 | 0.034 |
| # Replicates | 4 | 4 |

| | |
|---|---|
| T-Test Result | 2.6437 |
| Deg. of Freedom | 4 |
| Critical T Value | 0.7407 |
| Pass or Fail | **PASS** |

**Test Completion Date: 5/24/2021**

| Replicate No. | Control | TIWC |
|---|---|---|
| 1 | 0.339 | 0.338 |
| 2 | 0.302 | 0.317 |
| 3 | 0.337 | 0.335 |
| 4 | 0.2822 | 0.329 |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| Mean | 0.315 | 0.330 |
| Std Dev. | 0.028 | 0.009 |
| # Replicates | 4 | 4 |

| | |
|---|---|
| T-Test Result | 8.2098 |
| Deg. of Freedom | 5 |
| Critical T Value | 0.7267 |
| Pass or Fail | **PASS** |

**Test Completion Date: 9/6/2022**

| Replicate No. | Control | TIWC |
|---|---|---|
| 1 | 0.298 | 0.227 |
| 2 | 0.279 | 0.299 |
| 3 | 0.318 | 0.295 |
| 4 | 0.282 | 0.256 |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| Mean | 0.294 | 0.269 |
| Std Dev. | 0.018 | 0.034 |
| # Replicates | 4 | 4 |

| | |
|---|---|
| T-Test Result | 2.6437 |
| Deg. of Freedom | 4 |
| Critical T Value | 0.7407 |
| Pass or Fail | **PASS** |

## WET Summary and Evaluation

| | |
|---|---|
| **Facility Name** | Pleasant Hills Authority STP |
| **Permit No.** | PA0027464 |
| **Design Flow (MGD)** | 5 |
| **$Q_{7-10}$ Flow (cfs)** | 0.084 |
| **$PMF_a$** | 0.01 |
| **$PMF_c$** | 0.01 |

| | | Test Results (Pass/Fail) | | | |
|---|---|---|---|---|---|
| | | Test Date | Test Date | Test Date | Test Date |
| **Species** | **Endpoint** | 2/11/19 | 5/13/20 | 5/24/21 | 9/6/22 |
| Ceriodaphnia | Survival | PASS | PASS | PASS | PASS |

| | | Test Results (Pass/Fail) | | | |
|---|---|---|---|---|---|
| | | Test Date | Test Date | Test Date | Test Date |
| **Species** | **Endpoint** | 2/11/19 | 5/13/20 | 5/24/21 | 9/6/22 |
| Ceriodaphnia | Reproduction | PASS | PASS | PASS | PASS |

| | | Test Results (Pass/Fail) | | | |
|---|---|---|---|---|---|
| | | Test Date | Test Date | Test Date | Test Date |
| **Species** | **Endpoint** | 2/11/19 | 5/13/20 | 5/24/21 | 9/6/22 |
| Pimephales | Survival | PASS | PASS | PASS | PASS |

| | | Test Results (Pass/Fail) | | | |
|---|---|---|---|---|---|
| | | Test Date | Test Date | Test Date | Test Date |
| **Species** | **Endpoint** | 2/11/19 | 5/13/20 | 5/24/21 | 9/6/22 |
| Pimephales | Growth | PASS | PASS | PASS | PASS |

**Reasonable Potential?** NO

**Permit Recommendations**

| | |
|---|---|
| Test Type | Chronic |
| TIWC | **100** % Effluent |
| Dilution Series | **25, 50, 70, 90, 100** % Effluent |
| Permit Limit | **None** |
| Permit Limit Species | |