pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

**Southcentral Regional Office**
**CLEAN WATER PROGRAM**

| | | | |
|---|---|---|---|
| Application Type | **Renewal** | Application No. | **PA0026743** |
| Facility Type | **Municipal** | APS ID | **321149** |
| Major / Minor | **Major** | Authorization ID | **1060169** |

# NPDES PERMIT FACT SHEET
# INDIVIDUAL SEWAGE

## Applicant and Facility Information

| | | | |
|---|---|---|---|
| Applicant Name | **City of Lancaster** | Facility Name | **City of Lancaster AWWTP** |
| Applicant Address | 120 N Duke Street | Facility Address | 1120 New Danville Pike |
| | Lancaster, PA 17608-1599 | | Lancaster, PA 17603-9603 |
| Applicant Contact | Christine Volkay-Hilditch | Facility Contact | Christine Volkay-Hilditch |
| Applicant Phone | (717) 293-5531 | Facility Phone | (717) 293-5531 |
| Client ID | 117554 | Site ID | 453237 |
| Ch 94 Load Status | Not Overloaded | Municipality | Lancaster City |
| Connection Status | No Limitations | County | Lancaster |
| Date Application Received | January 30, 2015 | EPA Waived? | No |
| Date Application Accepted | February 4, 2015 | If No, Reason | Major Facility, Pretreatment, Significant CB Discharge |
| Purpose of Application | NPDES Renewal. | | |

## Summary of Review

The City of Lancaster has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its National Pollutant Discharge Elimination System (NPDES) permit. The permit was issued on July 28, 2010 and became effective on August 1, 2010. The permit authorized discharge of treated sewage from the existing City of Lancaster Advanced Wastewater Treatment Plant (AWWTP) in Lancaster City, Lancaster County into the Conestoga River, which is classified for warm water fishes (WWF). Amendment A-1 for the permit was issued on June 18, 2012 to modify the Part C language regarding the catch basins, to check and clean them at a frequency no less than once per year. The existing permit expiration date was July 31, 2015, and the permit has been administratively extended since that time.

The AWWTP receives 51% of its flow from the City of Lancaster (City and portions of Lancaster TWP, Manheim TWP, Manor TWP, East Hempfield TWP), 20% of its flow from LASA (portions of Manheim TWP), 3% of its flow from Leola Sewer Authority (portions of Upper Leacock TWP and West Earl TWP), 10% of its flow from Suburban Lancaster Sewer Authority (portions of West Lampeter TWP, Pequea TWP, and Lancaster TWP), 14% of its flow from East Lampeter Sewer Authority (portions of East Lampeter TWP), 1.5% of its flow from Strasburg Borough Authority (portions of Strasburg Borough and Strasburg TWP) and 0.5% of its flow from Manor TWP (portions of Manor TWP). Of the City of Lancaster portion, 41% is separate, and 59% is combined.

The permitted outfalls are: Outfall 001 (AWWTP sewage effluent), Outfall 002, 003, 004, 005, 006, 100 (combined sewer overflows), and Outfall 007, 008, 009 (stormwater). All outfalls discharge to the Conestoga River.

Changes in this renewal: More stringent summertime $CBOD_5$ limits were added. Fecal coliform IMAX limits have been added to the permit. A monthly E. Coli monitoring requirement was added. A slightly more stringent TRC limit was added. Monitoring for PFOA, PFOS, PFBS, and HFPO-DA has been added. A Free Cyanide limit was added to the permit. A monitoring requirement was added for Total Aluminum, Total Copper, Chloroform, and Dibromochloromethane. The TN Cap Load has been adjusted to 619,048 lbs/yr; the TN offsets of 3,475 lbs/yr are listed separately from the Cap Load.

| Approve | Deny | Signatures | Date |
|---|---|---|---|
| X | | Benjamin R. Lockwood<br>Benjamin R. Lockwood / Environmental Engineering Specialist | April 25, 2024 |
| | | Daniel W. Martin, P.E. / Environmental Engineer Manager | |

| **Summary of Review** |
|---|
| Sludge use and disposal description and location(s): Sludge is dewatered using a belt filter press, then is lime stabilized prior to beneficial reuse or disposal. Biosolids are land applied and used for site reclamation, and sewage sludge is disposed of at landfills.<br><br>Supplemental information is attached to the end of this fact sheet.<br><br>Public Participation<br><br>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) | 32.08 |
| Latitude | 40º 1' 0.4" | Longitude | 76º 18' 20.3" |
| Quad Name | | Quad Code | |
| Wastewater Description: | Sewage Effluent | | |
| Receiving Waters | Conestoga River (WWF) | Stream Code | 7548 |
| NHD Com ID | 57465055 | RMI | 16.3 |
| Drainage Area | 331 $mi^2$ | Yield ($cfs/mi^2$) | 0.12 |
| $Q_{7-10}$ Flow (cfs) | 39.72 | $Q_{7-10}$ Basis | USGS Gage # 01576500 |
| Elevation (ft) | 227.3 | Slope (ft/ft) | |
| Watershed No. | 7-J | Chapter 93 Class. | WWF |
| Existing Use | N/A | Existing Use Qualifier | N/A |
| Exceptions to Use | N/A | Exceptions to Criteria | N/A |
| Assessment Status | Impaired | | |
| Cause(s) of Impairment | Pathogens | | |
| Source(s) of Impairment | Agriculture, Urban Runoff/Storm Sewers | | |
| TMDL Status | N/A | Name | N/A |
| Nearest Downstream Public Water Supply Intake | Holtwood Power Plant | | |
| PWS Waters | Susquehanna River | Flow at Intake (cfs) | |
| PWS RMI | | Distance from Outfall (mi) | 22 |

Changes Since Last Permit Issuance: A drainage area of 331 $mi^2$ and a $Q_{7-10}$ flow of 39.72 cubic feet per second (cfs) were determined by establishing a correlation to the yield of USGS Gage Station #01576500 on the Conestoga River. The $Q_{7-10}$ and drainage area at the gage are 38.6 cfs and 324 $mi^2$, respectively. These values are taken from the USGS document "Selected Streamflow Statistics for Streamgage Locations in and near Pennsylvania". The $Q_{7-10}$ runoff rate at the gage station was calculated as follows:

Yield = (38.6 cfs)/ 324 $mi^2$ = 0.12 $cfs/mi^2$

The drainage area at the discharge point, taken from USGS PA StreamStats = 331 $mi^2$

The $Q_{7-10}$ at the discharge point = 331 $mi^2$ x 0.12 $cfs/mi^2$ = 39.72 cfs

Other Comments: None

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

| | | | |
|---|---|---|---|
| Outfall No. | 002, 003, 004, 005, 006, 100 | Design Flow (MGD) | 0 |
| | 40º 1' 22" (002) | | 76º 18' 20" (002) |
| | 40º 1' 42" (003) | | 76º 17' 52" (003) |
| | 40º 1' 52" (004) | | 76º 17' 15" (004) |
| | 40º 2' 57" (005) | | 76º 17' 15" (005) |
| | 40º 1' 42" (006) | | 76º 17' 17" (006) |
| Latitude | 40º 1' 0.4" (100) | Longitude | 76º 18' 18" (100) |
| Quad Name | | Quad Code | |
| Wastewater Description: | Untreated Combined Sewer Overflow | | |
| Receiving Waters | Conestoga River (WWF) | Stream Code | |
| NHD Com ID | 57465061 | RMI | |
| Drainage Area | | Yield (cfs/mi$^2$) | |
| $Q_{7-10}$ Flow (cfs) | | $Q_{7-10}$ Basis | |
| Elevation (ft) | | Slope (ft/ft) | |
| Watershed No. | 7-J | Chapter 93 Class. | WWF |
| Existing Use | | Existing Use Qualifier | |
| Exceptions to Use | | Exceptions to Criteria | |
| Assessment Status | Impaired | | |
| Cause(s) of Impairment | Pathogens | | |
| Source(s) of Impairment | Agriculture, Urban Runoff/Storm Sewers | | |
| TMDL Status | N/A | Name | N/A |
| Nearest Downstream Public Water Supply Intake | | | |
| PWS Waters | | Flow at Intake (cfs) | |
| PWS RMI | | Distance from Outfall (mi) | |

Changes Since Last Permit Issuance: None

Other Comments: None

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

| | | | |
|---|---|---|---|
| Outfall No. | 007, 008, 009 | Design Flow (MGD) | Variable (stormwater) |
| Latitude | 40º 01' 00" (007)<br>40º 01' 0.4" (008)<br>40º 01' 10" (009) | Longitude | 76º 18' 20" (007)<br>76º 18' 20.3" (008)<br>76º 18' 21" (009) |
| Quad Name | | Quad Code | |
| Wastewater Description: | Stormwater | | |
| Receiving Waters | Mill Creek (WWF) | Stream Code | |
| NHD Com ID | 57465055 | RMI | |
| Drainage Area | | Yield (cfs/mi$^2$) | |
| $Q_{7-10}$ Flow (cfs) | | $Q_{7-10}$ Basis | |
| Elevation (ft) | | Slope (ft/ft) | |
| Watershed No. | 7-J | Chapter 93 Class. | WWF |
| Existing Use | | Existing Use Qualifier | |
| Exceptions to Use | | Exceptions to Criteria | |
| Assessment Status | Impaired | | |
| Cause(s) of Impairment | Pathogens | | |
| Source(s) of Impairment | Agriculture, Urban Runoff/Storm Sewers | | |
| TMDL Status | N/A | Name | N/A |
| Nearest Downstream Public Water Supply Intake | | | |
| PWS Waters | | Flow at Intake (cfs) | |
| PWS RMI | | Distance from Outfall (mi) | |

Changes Since Last Permit Issuance: None

Other Comments: None

| Treatment Facility Summary | | | | |
|---|---|---|---|---|
| **Waste Type** | **Degree of Treatment** | **Process Type** | **Disinfection** | **Avg Annual Flow (MGD)** |
| Sewage | Tertiary | A/O OASES Activated Sludge Process | Liquid Chlorine | 32.08 |
| | | | | |
| **Hydraulic Capacity (MGD)** | **Organic Capacity (lbs/day)** | **Load Status** | **Biosolids Treatment** | **Biosolids Use/Disposal** |
| 32.08 | 76756 | Not Overloaded | Dewatering | Landfill |

Changes Since Last Permit Issuance: A Water Quality Management (WQM) Permit (3683415 A-6) was issued on June 22, 2016. The City of Lancaster modified the existing treatment process by converting existing oxic stages to anoxic to provide for more denitrification. Additionally, oxygen transfer piping and return activated sludge (RAS) piping were extended to bypass the anoxic zone, the existing froth spray system was demolished, deteriorating equipment was replaced, structural repairs were made of the process tanks, and a new dissolved oxygen (DO) control system was installed. WQM Permit 3683415 A-7 was issued on February 20, 2024, for the installation of a new secondary clarifier at the North Plant, a flow diversion chamber, and a new sludge pump control building.

Other Comments: This treatment process consists of: A North treatment plant with screening and grit removal, 2 primary clarifiers, 5 activated sludge tanks using the A/O OASES activated sludge process, and 3 final clarifiers; a South treatment plant with screening and grit removal, 4 primary clarifiers, 3 activated sludge tanks using the A/O OASES activated sludge process, and 2 final clarifiers; then a combined 4 chlorine contact tanks, dechlorination, and Outfall 001 to the Conestoga River. Liquid chlorine is used for disinfection, sodium bisulfite is used for dechlorination, quick lime is used for lime stabilization, alum and poly aluminum chloride are used for sedimentation aid, and dry cationic polymer is used for sludge dewatering. The sewage sludge is dewatered via belt filter press, and lime stabilized prior to beneficial reuse or disposal.

| **Compliance History** | |
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| **Summary of DMRs:** | A summary of the past 12-month DMR effluent data is present on the next page of this fact sheet. |
| **Summary of Inspections:** | 2/10/2016: A routine inspection was conducted. It was reported that the current projects at the facility were the upgrade of the North Pump Station, BNR upgrade, and the upgrade of the North & South secondary clarifiers.<br><br>6/1/2016: A Notice of Violation (NOV) was issued to the City of Lancaster. Lancaster failed to monitor the CSO-related bypass at Outfall 100 during 2014 and 2015; specifically, Lancaster failed to take two grab samples of the CSO-related bypass during months with two or more bypasses during for a number of months in 2014 and 2015.<br><br>2/28/2017: A routine partial inspection was conducted. The City of Lancaster reported high effluent TSS results to DEP the previous week, and DEP received a call that the effluent to the Conestoga River appeared turbid. The return activated sludge (RAS) was reduced on 2/23 and there was an attempt to feed chlorine to the RAS to control filamentous bacteria, but the chlorine ended up being fed to the effluent. The final clarifiers for the south train were observed; they were clear with some surface scum and pin floc but were producing a clear effluent. The north train clarifiers also had a clear effluent with pin floc. The 4 chlorine contact tanks were all online and had a clear appearance with a little scum. The final effluent appeared to have a slight yellow tint with white puffy foam. A grab sample was collected, and results were within permitted limits. The effluent appeared clear.<br><br>4/7/2018: A routine inspection was conducted. Lancaster City was in the process of a BNR upgrade; mixer and DO controls were being added, and the final clarifiers were being upgraded. Lancaster had received a significant amount of rain the day before, and one of the north train final clarifiers was losing solids over the weir. The South Internal Bypass was open the day before due to high flows. It was closed during the inspection. The effluent from the facility was turbid.<br><br>9/7/2018: A routine inspection was conducted. The CSO outfalls were inspected. Outfall 002 did not have a discharge, and the general area of the outfall had no visible solids in the receiving stream. The Outfall 003 weir was not observed. The outfall appeared clear with groundwater discharging. Solids were not visible at the outfall or in the receiving stream. Outfall 006 weir was observed. No flow or debris were present on or over the weir. The outfall was observed and no groundwater discharge was visible. No solids were visible at the outfall or in the receiving stream. The CSO notification sign had fallen off. Outfall 004 was observed and was not discharging upon inspection. Debris was not present at the outfall or in the receiving stream. The sign at the outfall needed to be cleaned and a call number sign was not posted. Outfall 005 had no solids or debris in the structure or receiving stream. Outfall 001 was observed, and had white foam due to the high velocity of the discharge, which began to dissipate in the receiving stream. Outfall 002 had water discharging from a pipe on the second floor of the old Streets Building. The source of water was the building's sprinkler system water bell, and the water was turned off.<br><br>11/14/2018: An incident inspection was conducted. This was done in response to a clarifier leak that occurred on 11/5/18 due to high rainfall. Two pinhole leaks became evident in the combined trough which receives effluent from Clarifier #3 and #4. It was estimated that approximately 250-500 gallons were released. On 11/6/18, grout was injected into the seam.<br><br>8/30/2019: A routine inspection was conducted. The CSO outfalls were inspected. Outfall 002 had no deposits in the debris pits, and there was no flow at the time of inspection. The overflow weir was free of debris upon inspection. A new CSO sign was present. A discharge of clear groundwater from the outfall was visible. Outfall 003 appeared clear with groundwater discharging. Solids were not visible at the outfall or in the receiving stream. Outfall 006 did not have flow or debris present on or over the weir. The outfall was observed and no groundwater discharge was visible. No solids were present at the outfall or in the receiving stream. Outfall 004 was not discharging upon inspection. Debris was not present at the outfall or in the receiving stream. No solids or debris were noted in the structure or receiving stream at Outfall 005. The current CSO sign is not visible from the stream's edge. |

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|---|---|
| | 9/4/2019: A routine inspection was conducted. The chlorine contact tank appeared mostly clear. Field samples were taken, and were within permitted limits. The effluent appeared clear with fine suspended solids.<br><br>12/17/2019: An incident inspection was conducted. City of Lancaster reported a leak in the effluent line from primary Clarifier #6. The leak was reported as infiltrating the ground surface adjacent to the clarifier. Wastewater was visible flowing over the ground surface and infiltrating approximately 4 feet from the clarifier. The stormwater outfall near the facility's northeastern corner had evidence of flowing water. Flowing water at this location was also infiltrating the ground. No discharge was noted from the downstream section of the stormwater conveyance. At the time of inspection, Clarifier #6 was offline, and the remaining solids were being pumped to the sludge storage tank, and liquid was being directed to the South train influent. Sample results collected indicated the primary clarifier effluent was entering the stormwater conveyance and infiltrating into the ground. The leak ceased on 12/18/19, and the volume of the release was not accurately determined.<br><br>4/15/2020: An administrative inspection was conducted. On 4/13 City of Lancaster reported an overflow. The Maple Grove influent line maxed out during a heavy rain event. The overflow travelled down a 12 ft. embankment and entered a catch basin which discharges to Outfall 100. The overflow underwent disinfection for Outfall 100. The overflow was believed to last about 5-10 minutes, and had an estimated volume of 10,000-20,000 gallons. It was recommended that hydrated lime be applied to the impacted ground. The operator said there were no visible solids and he would apply the lime.<br><br>6/17/2020: An administrative inspection was conducted. All treatment units were operable, and there were no outstanding issues at the time.<br><br>7/7/2020: An incident inspection was conducted. A sanitary sewer overflow occurred the previous night from the south train's primary clarifiers. Surface runoff had caused a landslide leading from the primary clarifiers downhill to the Main Pump Station. The WWTP received approximately 2.36 inches of rain over 24 hours. The landslide occurred approximately 18 feet northeast of the south train's primary clarifiers, adjacent to the stairs leading to the Main Pump Station. The landslide was approximately 8 feet wide and extended about 20 feet down embankment. The operator stated that city personnel planned to flush and vac the sediment near the pump station and along the road. The primary clarifiers were observed. The stormwater drain on the northwestern corner of clarifiers had evidence of solids surrounding the catch basin and on top of the grate. Debris/solids were visible on the concrete surface surrounding the influent channel. The grassy area south of clarifiers had evidence of solids and debris. The scum pit east of the clarifiers had grit and debris surrounding the edge of the pit. The northwestern corner of the northern most primary clarifier had solids/debris on the concrete tank edge.<br><br>8/19/2021: A routine inspection was conducted. Outfall 002 had no flow, and the overflow weir was free of debris upon inspection. The stream water at the outfall appeared brown and turbid. The grit chambers upstream of the pump station were covered with litter and debris due to heavy rainfall the day prior. The screen house dumpster was filled. Outfall 003 had a meter display of 0.01 MGD. The wastewater flow was visible below the weir level. The outfall level was below the stream level. Outfall 006 had no flow or debris present on or over the weir. The outfall was not visible due to high water level. Outfall 004 was not viewed during the inspection due to high water level. Outfall 005 was partially visible due to high water.<br><br>8/16/2023: A routine inspection was conducted. The final clarifiers at the North and South WWTP appeared mostly clear with some algae accumulation on the effluent weirs and trough. The WWTP effluent appeared clear. Field test results were within permitted limits. |

Other Comments: There are no open violations for this Applicant.

## Compliance History

**DMR Data for Outfall 001 (from August 1, 2022 to July 31, 2023)**

| Parameter | JUL-23 | JUN-23 | MAY-23 | APR-23 | MAR-23 | FEB-23 | JAN-23 | DEC-22 | NOV-22 | OCT-22 | SEP-22 | AUG-22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow (MGD) Average Monthly | 15.829 | 14.44 | 15.548 | 16.61 | 17.534 | 17.244 | 19.434 | 19.2 | 16.435 | 18.072 | 16.329 | 15.796 |
| Flow (MGD) Daily Maximum | 23.416 | 19.584 | 21.375 | 24.519 | 22.96 | 21.111 | 23.799 | 28.461 | 23.131 | 29.505 | 28.74 | 22.648 |
| pH (S.U.) Minimum | 6.6 | 6.4 | 6.6 | 6.4 | 6.5 | 6.7 | 6.8 | 6.8 | 6.7 | 6.6 | 6.8 | 6.9 |
| pH (S.U.) Instantaneous Maximum | 7.3 | 7.1 | 7.2 | 7.1 | 7.1 | 7.1 | 7.1 | 7.4 | 7.5 | 7.8 | 7.7 | 7.6 |
| DO (mg/L) Minimum | 6.6 | 6.2 | 7.5 | 6.9 | 8.0 | 8.2 | 8.0 | 8.0 | 7.3 | 6.5 | 6.2 | 5.9 |
| TRC (mg/L) Average Monthly | < 0.03 | < 0.03 | < 0.02 | < 0.03 | < 0.03 | < 0.02 | < 0.02 | < 0.02 | < 0.03 | < 0.04 | < 0.03 | < 0.03 |
| TRC (mg/L) Instantaneous Maximum | 0.17 | 0.11 | 0.08 | 0.21 | 0.15 | 0.08 | 0.15 | 0.10 | 0.13 | 0.34 | 0.21 | 0.33 |
| CBOD5 (lbs/day) Average Monthly | < 360 | 436 | < 347 | < 382 | < 463 | < 539 | 1136 | < 647 | 468 | < 438 | < 392 | < 337 |
| CBOD5 (lbs/day) Weekly Average | < 623 | 531 | 500 | 472 | 817 | < 528 | 2570 | 852 | 845 | 646 | < 456 | 460 |
| CBOD5 (mg/L) Average Monthly | < 3 | 4 | < 3 | < 3 | < 3 | < 4.0 | 6 | < 4 | 3 | < 3 | < 3 | < 3 |
| CBOD5 (mg/L) Weekly Average | < 4.0 | 4.0 | 3.0 | 3.0 | 6.0 | < 4.0 | 14 | 5.0 | 5.0 | 3.0 | 3.0 | 4.0 |
| BOD5 (lbs/day) Raw Sewage Influent <br/> Average Monthly | 28531 | 28890 | 25802 | 24474 | 25675 | 26529 | 25337 | 24057 | 26903 | 26147 | 24125 | 22965 |
| BOD5 (mg/L) Raw Sewage Influent <br/> Average Monthly | 218 | 242 | 202 | 184 | 181 | 184 | 157 | 160 | 200 | 172 | 175 | 172 |
| TSS (lbs/day) Average Monthly | 803 | 847 | < 709 | < 570 | < 806 | < 1038 | < 2478 | < 1511 | < 820 | < 873 | 740 | < 656 |
| TSS (lbs/day) Raw Sewage Influent <br/> Average Monthly | 29991 | 33739 | 26541 | 27064 | 25856 | 28136 | 23475 | 28786 | 25544 | 25205 | 23656 | 23904 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TSS (lbs/day) Weekly Average | 1335 | 1303 | 1074 | < 668 | 1676 | 944 | 6726 | 2511 | 1486 | 1336 | 1196 | 783 |
| TSS (mg/L) Average Monthly | 6 | 7 | < 5 | < 4 | < 6 | < 7 | < 14 | < 9 | < 6 | < 6 | 5 | < 5 |
| TSS (mg/L) Raw Sewage Influent <br/> Average Monthly | 227 | 273 | 207 | 200 | 182 | 195 | 145 | 188 | 192 | 168 | 171 | 180 |
| TSS (mg/L) Weekly Average | 9 | 9 | 8 | 5 | 11 | 6 | 35 | 14 | 10 | 7 | 7 | 5 |
| Fecal Coliform (CFU/100 ml) Geometric Mean | 18 | < 14 | < 12 | < 18 | < 28 | 55 | < 30 | < 18 | 24 | 31 | 14 | < 49 |
| Nitrate-Nitrite (mg/L) Average Monthly | 5.36 | 4.43 | 5.3 | 4.03 | 4.68 | 5.51 | 5.07 | 5.88 | 5.48 | 6.38 | 6.75 | 6.26 |
| Nitrate-Nitrite (lbs) Total Monthly | 21493 | 15943 | 21015 | 16212 | 20558 | 22176 | 26074 | 28254 | 21920 | 29141 | 27833 | 25699 |
| Total Nitrogen (mg/L) Average Monthly | 7.33 | 6.94 | < 6.89 | 5.54 | 6.42 | 7.26 | 7.26 | < 7.84 | 7.63 | 8.03 | < 8.22 | 8.2 |
| Total Nitrogen (lbs) Effluent Net <br/> Total Monthly | 29650 | 25287 | < 27381 | 22310 | 28228 | 29280 | 37593 | < 37959 | 30858 | 37060 | < 34132 | 33676 |
| Total Nitrogen (lbs) Total Monthly | 29650 | 25287 | < 27381 | 22310 | 28228 | 29280 | 37593 | < 37959 | 30858 | 37060 | < 34132 | 33676 |
| Total Nitrogen (lbs) Effluent Net <br/> Total Annual | | | | | | | | | | | < 388094 | |
| Total Nitrogen (lbs) Total Annual | | | | | | | | | | | < 390202 | |
| Ammonia (lbs/day) Average Monthly | 62 | 95 | < 25 | < 27 | < 52 | < 25 | < 38 | 73 | < 66 | < 40 | < 22 | < 26 |
| Ammonia (mg/L) Average Monthly | 0.427 | 0.717 | < 0.192 | < 0.197 | < 0.371 | < 0.173 | < 0.232 | 0.44 | < 0.437 | < 0.254 | < 0.15 | < 0.189 |
| Ammonia (lbs) Total Monthly | 1916 | 2837 | < 769 | < 806 | < 1616 | < 703 | < 1163 | 2273 | < 1978 | < 1244 | < 658 | < 807 |
| Ammonia (lbs) Total Annual | | | | | | | | | | | < 17014 | |
| TKN (mg/L) Average Monthly | 2 | 2.5 | < 1.6 | 1.5 | 1.7 | 1.7 | 2.2 | < 2 | 2.1 | 1.7 | < 1.5 | 1.9 |
| TKN (lbs) Total Monthly | 8157 | 9344 | < 6366 | 6098 | 7670 | 7104 | 11520 | < 9705 | 8938 | 7919 | < 6299 | 7976 |
| Total Phosphorus (lbs/day) Average Monthly | 104 | 118 | 91 | 54 | 34 | 44 | 107 | < 56 | 44 | 64 | 51 | 100 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Phosphorus (mg/L) Average Monthly | 0.799 | 0.963 | 0.725 | 0.388 | 0.237 | 0.302 | 0.605 | < 0.337 | 0.325 | 0.41 | 0.374 | 0.738 |
| Total Phosphorus (lbs) Effluent Net <br/> Total Monthly | 3212 | 3538 | 2808 | 1628 | 1045 | 1239 | 3304 | < 1732 | 1332 | 1983 | 1533 | 3110 |
| Total Phosphorus (lbs) Total Monthly | 3212 | 3538 | 2808 | 1628 | 1045 | 1239 | 3304 | < 1732 | 1332 | 1983 | 1533 | 3110 |
| Total Phosphorus (lbs) Effluent Net <br/> Total Annual | | | | | | | | | | | < 34627 | |
| Total Phosphorus (lbs) Total Annual | | | | | | | | | | | < 31819 | |

**Existing Effluent Limitations and Monitoring Requirements**

Outfall 001

| Parameter | Effluent Limitations | | | | | | Monitoring Requirements | |
|---|---|---|---|---|---|---|---|---|
| | Mass Units (lbs/day) (1) | | Concentrations (mg/L) | | | | Minimum (3) Measurement Frequency | Required Sample Type |
| | Average Monthly | Weekly Average | Minimum | Average Monthly | Weekly Average | Instant. Maximum(2) | | |
| Flow (MGD) | Report | Report Daily Max | XXX | XXX | XXX | XXX | Continuous | Measured |
| pH (S.U.) | XXX | XXX | 6.0 | XXX | XXX | 9.0 | 1/shift | Grab |
| Dissolved Oxygen | XXX | XXX | 5.0 | XXX | XXX | XXX | 1/shift | Grab |
| Total Residual Chlorine | XXX | XXX | XXX | 0.13 | XXX | 0.42 | 1/shift | Grab |
| $CBOD_5$ May 1 - Oct 31 | 4,013 | 6,020 | XXX | 15 | 22.5 | 30 | 5/week | 24-Hr Composite |
| $CBOD_5$ Nov 1 - Apr 30 | 6,689 | 10,702 | XXX | 25 | 40 | 50 | 5/week | 24-Hr Composite |
| $BOD_5$ Raw Sewage Influent | Report | XXX | XXX | Report | XXX | XXX | 5/week | 24-Hr Composite |
| Total Suspended Solids Raw Sewage Influent | Report | XXX | XXX | Report | XXX | XXX | 5/week | 24-Hr Composite |
| Total Suspended Solids | 8,026 | 12,040 | XXX | 30 | 45 | 60 | 5/week | 24-Hr Composite |

| Parameter | Effluent Limitations | | | | | | Monitoring Requirements | |
|---|---|---|---|---|---|---|---|---|
| | Mass Units (lbs/day) (1) | | Concentrations (mg/L) | | | | Minimum (3) Measurement Frequency | Required Sample Type |
| | Average Monthly | Weekly Average | Minimum | Average Monthly | Weekly Average | Instant. Maximum(2) | | |
| Fecal Coliform (CFU/100 ml) May 1 - Sep 30 | XXX | XXX | XXX | 200 Geo Mean | XXX | XXX | 3/week | Grab |
| Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30 | XXX | XXX | XXX | 2000 Geo Mean | XXX | XXX | 3/week | Grab |
| Ammonia-Nitrogen May 1 - Oct 31 | 669 | XXX | XXX | 2.5 | XXX | 5.0 | 5/week | 24-Hr Composite |
| Ammonia-Nitrogen Nov 1 - Apr 30 | 2,007 | XXX | XXX | 7.5 | XXX | 15 | 5/week | 24-Hr Composite |
| Total Phosphorus | 535 | XXX | XXX | 2.0 | XXX | 4.0 | 5/week | 24-Hr Composite |

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at discharge from facility

| Parameter (1) | Effluent Limitations | | | | | Monitoring Requirements | |
|---|---|---|---|---|---|---|---|
| | Mass Units (lbs) | | Concentrations (mg/L) | | | Minimum (2) Measurement Frequency | Required Sample Type |
| | Monthly | Annual | Minimum | Monthly Average | Maximum | | |
| Ammonia---N | Report | Report | XXX | Report | XXX | 5/week | 24-Hr Composite |
| Kjeldahl---N | Report | XXX | XXX | Report | XXX | 1/week | 24-Hr Composite |
| Nitrate-Nitrite as N | Report | XXX | XXX | Report | XXX | 1/week | 24-Hr Composite |
| Total Nitrogen | Report | Report | XXX | Report | XXX | 1/month | Calculation |
| Total Phosphorus | Report | Report | XXX | Report | XXX | 5/week | 24-Hr Comp |
| Net Total Nitrogen | Report | 620,348 | XXX | XXX | XXX | 1/month | Calculation |
| Net Total Phosphorus | Report | 77,381 | XXX | XXX | XXX | 1/month | Calculation |

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at discharge from facility.

**Development of Effluent Limitations**

| | | | |
|---|---|---|---|
| **Outfall No.** | 001 | **Design Flow (MGD)** | 32.08 |
| **Latitude** | 40º 1' 0.4" | **Longitude** | 76º 18' 20.3" |
| **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) | 1,000 / 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) |

**Water Quality-Based Limitations**

$CBOD_5$ & $NH_3$-N.

Pursuant to 40 CFR § 122.44(d)(1)(i), more stringent requirements should be considered when pollutants are discharged at the levels which have the reasonable potential to cause or contribute to excursions above water quality standards.

WQM 7.0 ver. 1.1b is a water quality model designed to assist DEP in determining appropriate water quality based effluent limits (WQBELs) for carbonaceous biochemical oxygen demand ($CBOD_5$), ammonia ($NH_3$-N) and dissolved oxygen (D.O.). DEP's Technical Guidance No. 391-2000-007 provides the technical methods contained in WQM 7.0 for determining wasteload allocations and for determining recommended NPDES effluent limits for point source discharges. The model was utilized for this permit renewal. The model output indicated a $CBOD_5$ average monthly limit of 11.88 mg/l, an $NH_3$-N average monthly limit of 2.53 mg/l, and a D.O. minimum limit of 5.0 mg/l were protective of water quality. The flow data used to run the model was acquired from USGS PA StreamStats and USGS Gage #01576500, and is included as an attachment. Discharge temperature and pH values were taken from the NPDES application. Stream temperature and pH data used in the modeling was acquired from the National Water Quality Monitoring Council website. Data was analyzed from the Water Quality Network Station ID 274 on the Conestoga River from December 2014 to March 2022 for pH and December 2014 to January 2022 for Temperature. DEP's Standard Operating Procedure (SOP) No. BCW-PMT-033 (Establishing Effluent Limitations for Individual Sewage Permits) recommends using the 90$^{th}$ percentile of long-term data for background and discharge characteristics when using WQM 7.0. A 90$^{th}$ percentile analysis was performed on the data, which resulted in a stream pH of 8.3 and a stream temperature of 23.89°C. The $CBOD_5$ limit is more stringent than the existing limit of 15 mg/l. Per DEP's Guidance No. 362-0400-001, the limit will be rounded down to 11 mg/l. The weekly average and instantaneous maximum (IMAX) limits for $CBOD_5$ will be revised based on a multiplier of 1.5 for the weekly limit, and 2.0 for the IMAX limit. The mass limits for $CBOD_5$ were revised using the formula: Conc x 8.34 x 32.08 MGD. The wintertime $CBOD_5$ limits will remain unchanged. Based on a review of the past year of DMR data, the facility will be capable of meeting the revised limits. The existing $NH_3$-N limit is more stringent and will remain in the permit.

Toxics

Effluent sample results for toxic pollutants reported on the renewal application were entered into DEP's Toxics Management Spreadsheet Version 1.3 to develop appropriate permit requirements for toxic pollutants of concern. The Toxics Management Spreadsheet combines the functions of PENTOXSD and DEP's Toxics Screening Analysis. Stream hardness inputs were taken from the renewal application. Based on effluent sample results reported on the application, and supplemental sampling provided on March 19, 2024, the Toxics Management Spreadsheet recommended monitoring for Total Aluminum, Total Copper, Chloroform, and Dibromochloromethane. The TMS recommended a limit for Free Cyanide, with an average monthly limit of 7.2 µg/l, a daily maximum limit of 11.2 µg/l, and an IMAX limit of 18 µg/l. These monitoring requirements and limits will be included in the permit. Per Table 6-3 of DEP's Guidance No. 362-0400-001, a monitoring frequency of 1/week will be used for the toxic parameters. Based on the sample results provided, the AWWTP, should be capable of meeting the limit for Free Cyanide.

This data was analyzed based on the guidelines found in DEP's Water Quality Toxics Management Strategy (Document No. 361-0100-003) and DEP's SOP No. BPNPSM-PMT-033. The results are attached to this fact sheet. The Toxics Management Spreadsheet uses the following logic:

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

**Additional Considerations**

Dissolved Oxygen

A minimum D.O. limit of 5.0 mg/L is a D.O. water quality criterion found in 25 Pa. Code § 93.7(a). This is the existing permit limit, and it is recommended that it remain in the permit to ensure that the facility continues to achieve compliance with water quality standards.

Total Phosphorus

Historically, a Total Phosphorus (TP) effluent limit of 2.0 mg/l was established in the permit when it was determined that the facility was expected to contribute 0.25% or more of the total point source phosphorus loading at the point of discharge. This determination was based on the Department's *Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams* (Guidance No. 391-2000-018). DEP previously determined that the City of Lancaster met this criteria, and phosphorus limitations were required in the permit. The TP average monthly limit of 2.0 mg/l and IMAX limit of 4.0 mg/l will remain in the permit to protect the local watershed. From the previous fact sheet, the following logic was used: Total phosphorus loading from this discharge would be 8.34 x 10 mg/l x 32.08 MGD or 2,675 lbs/day. Using the equation that was documented in EPA's Chesapeake Bay Management Report, Total P @ Y = Total P x $0.99^{Y}$, where Y = stream miles to PA-MD line, the actual loading to the critical part of the Susquehanna River would be 1,959 lbs/day at an estimated distance of 31 miles. This loading represents 1,959 lbs/day / 3,814 lbs/day or 51 percent of the total phosphorus loading of all discharges in the Lower Susquehanna River Basin. According to the above phosphorus guidance, phosphorus removal will be required if this percentage is > 0.25 percent.

Chesapeake Bay Total Maximum Daily Load (TMDL)

DEP developed a strategy to comply with the EPA and Chesapeake Bay Foundation requirements by reducing point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP). This strategy can be located in the *Pennsylvania Chesapeake Watershed Implementation Plan* (WIP), dated January 11, 2011. Subsequently, an update to the WIP was published as the Phase 2 WIP. As part of the Phase 2 WIP, a *Phase 2 Watershed Implementation Plan Wastewater Supplement* (Phase 2 Supplement) was developed, providing an update on TMDL implementation for point sources and DEP's current implementation strategy for wastewater. A new update to the WIP was published as the Phase 3 WIP in August 2019. As part of the Phase 3 WIP, a *Phase 3 Watershed Implementation Plan Wastewater Supplement* (Phase 3 Supplement) was developed, and was most recently revised on July 29, 2022, and is the basis for the development of any Chesapeake Bay related permit parameters. Sewage discharges have been prioritized based on their design flow to the Bay. The highest priority (Phases 1, 2, and 3) dischargers will receive annual Cap Loads based on their design flow on August 29, 2005 and

concentrations of 6 mg/l TN and 0.8 mg/l TP. These limits may be achieved through a combination of treatment technology, credits, or offsets. For Phase 4 and 5 facilities, Cap Loads are not currently being implemented for renewed or amended permits for facilities that do not increase design flow. For new Phase 4 and 5 sewage dischargers, in general DEP will issue new permits containing Cap Loads of "0" and new facilities will be expected to purchase credits and/or apply offsets to achieve compliance.

The City of Lancaster AWWTP is a Phase 1 significant discharger. The facility's waste load allocation (WLA) is tracked under an individual WLA as a significant discharger in the Phase 3 Supplement. The following Cap Loads specified in the current Phase 3 Supplement will be included in the draft permit:

| NPDES Permit No. | Phase | Facility | Latest Permit Issuance Date | Permit Expiration Date | Cap Load Compliance Start Date | TN Cap Load (lbs/yr) | TN Offsets Included in Cap Load (lbs/yr) | TP Cap Load (lbs/yr) | TN Delivery Ratio | TP Delivery Ratio |
|---|---|---|---|---|---|---|---|---|---|---|
| PA0026743 | 1 | Lancaster City | 6/18/2012 | 7/31/2015 | 10/1/2007 | 620,348 | 1,300 | 77,381 | 0.663 | 0.609 |

The Cap Loads are unchanged from the existing permit. The Phase 3 Supplement states that "the minimum monitoring frequency for TN species and TP in new or renewed NPDES permits for significant sewage dischargers will be 2/week." Therefore, the monitoring frequencies for TKN and Nitrate-Nitrite will be increased to 2/week, and ammonia and Total Phosphorus will have a monitoring frequency of 5/week. DEP no longer offers any tools to calculate monthly loads for Net TN and Net TP, and it is no longer needed since offsets and credits are applied annually. Therefore, this reporting requirement is no longer needed and will be removed from the permit.

The existing NPDES permit included an allocation for 52 on-lot disposal systems (OLDs) which were permitted/installed prior to January 1, 2003 and were retired by connection to the collection system after January 1, 2003. Based on the Chesapeake Bay Strategy, the offset load was calculated at 25 lbs/year, for a total of 1,300 lbs TN/yr. In the existing permit, the 1,300 lbs/yr offset was included in the Net Total Nitrogen Cap Load. The Chesapeake Bay Strategy allocated a TN Cap Load of 619,048 lbs/yr; adjusted for the 1,300 lbs/yr TN offset, the Net Total Nitrogen Cap Load included in the permit was 620,348 lbs/yr. Since the renewal permit was issued, the City of Lancaster has been updating the list of offsets annually. Since 2010, 87 OLDs (2,175 lbs/yr) have been connected that were not included in the existing permit Cap Load, for a total TN offset of 3,475 lbs TN/yr. The Phase 3 Supplement states that from this point forward, permits will be issued with the wasteload allocations (WLAs) as Cap Loads and will identify offsets separately to facilitate nutrient trading activities and compliance with the TMDL. Consequently, the proposed effluent limits will contain a Net Total Nitrogen Cap Load of 619,048 lbs/yr, to reflect the Cap Load requirement of the WIP Supplement. The TN offset of 3,475 lbs/yr will be listed separately on the effluent page of Part A of the NPDES permit as a foot note. The approved offsets are only for compliance purposes and are not available for trading or selling. A complete list of addresses of the homes that were served by the retired OLDs is included as an attachment to this fact sheet.

Total Suspended Solids

40 CFR 133.102b(1) and 25 PA § 92a.47(a)(1) define a minimum level of effluent quality attainable by secondary treatment for TSS, with a monthly average not to exceed 30 mg/l, and a weekly average not to exceed 45 mg/l. This is consistent with the existing permit requirements, and these limits and associated mass limits will remain in the renewal.

Fecal Coliform

PA Code § 92a.47.(a)(4) requires a monthly average limit of 200/100 mL as a geometric mean and an instantaneous maximum limit not greater than 1,000/100 mL from May through September for fecal coliform. PA Code § 92a.47.(a)(5) requires a monthly average limit of 2,000/100 mL as a geometric mean and an instantaneous maximum limit not greater than 10,000/100 mL from October through April for fecal coliform. These IMAX limits will be added to the permit.

Total Residual Chlorine

The attached computer printout utilizes the equations and calculations as presented in the Department's May 1, 2003 Implementation Guidance for Total Residual Chlorine (TRC) (ID No. 391-2000-015) for developing chlorine limitations. The Guidance references Chapter 92, Section 92.2d (3) which establishes a standard BAT limit of 0.5 mg/l unless a facility-specific BAT has been developed. The attached printout indicates that a water quality limit of 0.12 mg/l would be needed to

prevent toxicity concerns. This is slightly more stringent than the existing average monthly limit of 0.13 mg/l. The renewal permit will contain an average monthly TRC limit of 0.12 mg/l, and an IMAX limit of 0.41 mg/l. A review of the past year of DMR data indicates the facility will be capable of meeting this limit.

E. Coli

PA Code § 92a.61 requires IMAX reporting of E. Coli. Per DEP's SOP No. BCW-PMT-033, sewage dischargers with a design flow of >=1 MGD will include E. Coli monitoring with a frequency of 1/month. This parameter has been added to the renewal permit.

Stormwater

The application listed outfalls 007, 008, 009 as stormwater outfalls receiving stormwater runoff from the AWWTP site. To comply with the stormwater requirements of 40CFR 122.26(b)(14)(ix), part C of the permit will require the permittee to comply with the standard requirements applicable to stormwater outfalls with BMP conditions.

Combined Sewer Overflows

There are are six (6) permitted CSO outfalls in the collection system for the AWWTP: Outfall 002, 003, 004, 005, 006, and 100. The City of Lancaster is currently undertaking measures required by the Consent Decree Case 5:17-cv-05684-JLS dated February 22, 2018. The obligations in the Consent Decree have the objective of causing Lancaster to achieve and maintain full compliance with the terms and conditions of its NPDES Permits, the Clean Water Act, the Clean Streams Law, and to meet the objectives of EPA's April 1994 "Combined Sewer Overflow (CSO) Control Policy." The Consent Decree contains a number of requirements to amend and implement the Long Term Control Plan and Nine Minimum Controls. Part C language has been included in the NPDES Permit to require the implementation of the LTCP, as well as requiring the submittal of a revised LTCP. The NPDES Permit will require that the City of Lancaster submit an application for a major permit amendment within 30 days of LTCP approval.

Industrial Users

The City of Lancaster AWWTP receives wastewater from a number of industrial users throughout its service area. The industrial users and a brief description are as follows:

| Industrial Users | Discharge Rate (GPD) | | | | | Significant Industrial User? |
|---|---|---|---|---|---|---|
| | **Process** | **NCCW** | **Sanitary** | **Other** | ***Total*** | |
| Armstrong World Industries | 450 | 7,414 | 17,471 | 20 | 25,355 | Yes |
| Dart Container | 60,000 | - | - | 10,000 | 70,000 | Yes |
| Flex-Cell Inc | 10 Evaporated | - | - | - | 10 Evaporated | Yes |
| Lancaster General Hospital | 35,638 | - | 106,914 | 15,543 | 193,733 | Yes |
| RR Donnelley & Sons LMD West | 10,325 | - | 9,500 | 14,230 | 34,055 | Yes |
| Sauder Foods | 30,000 | - | 500 | 2,000 | 32,500 | Yes |
| MAC-IT | 330 | - | 255 | - | 585 | Yes |
| RR Donnelleys & Son LMD East | 6,500 | - | 15,000 | 66,550 | 88,050 | Yes |
| Lancaster Metals Science | 17,551 | - | 285 | 100 | 17,936 | Yes |
| Lancaster Oil Company | 20,000 | - | - | - | 20,000 | Yes |
| Kunzler & Company | 60,000 | 51,000 | 4,700 | 4,300 | 120,000 | Yes |
| Lancaster Metal Manufacturing | 889 | 3,938 | 2,000 | - | 6,827 | Yes |
| McNeil Pharmaceuticals | 39,000 | 1,000 | 2,000 | 2,000 | 44,000 | Yes |
| K & L Plating | 4,850 | 50 | 50 | 50 | 5,000 | Yes |
| Dental EZ | 6,720 | - | 1,755 | - | 8,475 | Yes |
| Image First Uniform Rental Service | 130,000 | 500 | 500 | 6,000 | 137,000 | Yes |

The AWWTP is implementing an approved pretreatment program which is expected to address any negative impact from these industrial users.

Pretreatment Requirements

The design annual average flow of the treatment plant is 32.08 MGD and the facility receives flow from many significant industrial users as presented in the previous section. EPA requires development and implementation of pretreatment program for this facility. The City of Lancaster currently maintains and operates EPA-approved pretreatment program for the AWWTP. Consequently, the Department will continue to include permit conditions that dictate the operation and implementation of a pretreatment program in Part C.III of the permit.

PFAS-Related Compounds

DEP's NPDES renewal application for Major Sewage Facilities now requires effluent testing for PFAS related compounds as part of Pollutant Group 1: Perfluorooctanoic acid (PFOA), Perfluorooctanesulfonic acid (PFOS), Perfluorobutanesulfonic acid (PFBS), and Hexafluoropropylene oxide dimer acid (HFPO-DA). Per DEP's SOP BCW-PMT-033, If sampling that is completed as part of the permit renewal application reveals a detection for any of these compounds, a quarterly monitoring requirement for all compounds will be established in the permit. If sampling that is completed as part of the permit renewal application demonstrates non-detect values at or below the Target QLs for these compounds in a minimum of 3 samples, an annual monitoring requirement for all compounds will be established in the permit. As the PFAS compounds were not sampled as part of this application, quarterly monitoring requirements will be established for all compounds in this renewal permit. Monitoring for PFOA, PFOS, HFPO-DA, and PFBS may be discontinued if the results in 4 consecutive monitoring periods indicate non-detect results at or below the Target QLs o 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. The NPDES permit will include this monitoring language as a footnote in Part A of the permit.

Sampling Frequency & Sample Type

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

Flow Monitoring

Flow monitoring is recommended by DEP's technical guidance and is also required by 25 PA Code §§ 92a.27 and 92a.61.

Influent $BOD_5$ and TSS Monitoring

As a result of negotiation with US EPA, influent monitoring of TSS and $BOD_5$ are required for any publicly owned treatment works (POTWs); therefore, influent sampling of $BOD_5$ and TSS will be included in the permit. A 24-hr composite sample type will be required to be consistent with the proposed sampling frequency for effluent TSS and $CBOD_5$.

Mass Loading Limitation

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

Anti-Degradation

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

303(d) Listed Streams

The discharge is located on a stream segment that is designated on the 303(d) list as impaired. There is an impairment for pathogens due to agriculture and urban runoff/storm sewers.

Class A Wild Trout Fisheries

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

**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%, 78%, 56%, 28%, and 14%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 56.

**Summary of Four Most Recent Test Results**

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

NOEC/LC50 Data Analysis

| | ***Ceriodaphnia* Results (% Effluent)** | | | ***Pimephales* Results (% Effluent)** | | | |
|---|---|---|---|---|---|---|---|
| **Test Date** | **NOEC Survival** | **NOEC Reproduction** | **LC50** | **NOEC Survival** | **NOEC Growth** | **LC50** | **Pass? *** |
| 4/21/2014 | 100 | 56 | 100 | 100 | 100 | 100 | Yes |
| 7/14/2014 | 100 | 56 | 100 | 78 | 78 | 100 | Yes |
| 9/15/2014 | 100 | 100 | 100 | 100 | 100 | 100 | Yes |
| 12/8/2014 | 100 | 100 | 100 | 100 | 100 | 100 | Yes |

***** *A "passing" result is that which is greater than or equal to the TIWC 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**

**Comments:** None

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

Acute Partial Mix Factor (PMFa): **0.261** Chronic Partial Mix Factor (PMFc): **1**

**1. Determine IWC – Acute (IWCa)**:

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

[(32.08 MGD x 1.547) / ((39.72 cfs x 0.261) + (32.08 MGD x 1.547))] x 100 = **82.7%**

Is IWCa < 1%? ☐ **YES** ☒ **NO (YES - Acute Tests Required OR NO - Chronic Tests Required)**

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

**2a. Determine Target IWCa (If Acute Tests Required)**

**TIWCa =** 82.7 / 0.3 = N/A

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

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

[(32.08 MGD x 1.547) / ((39.72 cfs x 1) + (32.08 MGD x 1.547))] x 100 = **55.5%**

**3. Determine Dilution Series**

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

Dilution Series = 100%, 78%, 56%, 28%, and 14%.

**WET Limits**

Has reasonable potential been determined? ☐ YES ☒ NO

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

If WET limits will be established, identify the species and the limit values for the permit (TU).

**N/A**

If WET limits will not be established, but reasonable potential was determined, indicate the rationale for not establishing WET limits:

**N/A**

## 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" (386-0400-001), 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 | Minimum | Average Monthly | Daily Maximum | Instant. Maximum | | |
| Flow (MGD) | Report | Report Daily Max | XXX | XXX | XXX | XXX | Continuous | Measured |
| pH (S.U.) | XXX | XXX | 6.0 Inst Min | XXX | XXX | 9.0 | 1/shift | Grab |
| DO | XXX | XXX | 5.0 Inst Min | XXX | XXX | XXX | 1/shift | Grab |
| TRC | XXX | XXX | XXX | 0.12 | XXX | 0.41 | 1/shift | Grab |
| CBOD5 Nov 1 - Apr 30 | 6689 | 10702 | XXX | 25 | 40 Wkly Avg | 50 | 5/week | 24-Hr Composite |
| CBOD5 May 1 - Oct 31 | 2943 | 4414 | XXX | 11 | 16.5 Wkly Avg | 22 | 5/week | 24-Hr Composite |
| BOD5 Raw Sewage Influent | Report | XXX | XXX | Report | XXX | XXX | 5/week | 24-Hr Composite |
| TSS | 8026 | 12040 | XXX | 30 | 45 Wkly Avg | 60 | 5/week | 24-Hr Composite |
| TSS Raw Sewage Influent | Report | XXX | XXX | Report | XXX | XXX | 5/week | 24-Hr Composite |
| Fecal Coliform (No./100 ml) Oct 1 - Apr 30 | XXX | XXX | XXX | 2000 Geo Mean | XXX | 10,000 | 3/week | Grab |
| Fecal Coliform (No./100 ml) May 1 - Sep 30 | XXX | XXX | XXX | 200 Geo Mean | XXX | 1,000 | 3/week | Grab |
| E. Coli (No./100 ml) | XXX | XXX | XXX | XXX | XXX | Report | 1/month | Grab |
| Ammonia Nov 1 - Apr 30 | 2007 | XXX | XXX | 7.5 | XXX | 15 | 5/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 | Minimum | Average Monthly | Daily Maximum | Instant. Maximum | | |
| Ammonia<br>May 1 - Oct 31 | 669 | XXX | XXX | 2.5 | XXX | 5.0 | 5/week | 24-Hr Composite |
| Total Phosphorus | 535 | XXX | XXX | 2.0 | XXX | 4.0 | 5/week | 24-Hr Composite |
| Free Cyanide | 1.93 | 3.01 | XXX | 0.0072 | 0.011 | 0.018 | 1/week | 24-Hr Composite |
| Total Aluminum | XXX | XXX | XXX | XXX | Report | XXX | 1/week | 24-Hr Composite |
| Total Copper | XXX | XXX | XXX | XXX | Report | XXX | 1/week | 24-Hr Composite |
| Chloroform | XXX | XXX | XXX | XXX | Report | XXX | 1/week | 24-Hr Composite |
| Dibromochloromethane | XXX | XXX | XXX | XXX | Report | XXX | 1/week | 24-Hr Composite |
| PFOA (ng/L) | XXX | XXX | XXX | XXX | Report | XXX | 1/quarter | Grab |
| PFOS (ng/L) | XXX | XXX | XXX | XXX | Report | XXX | 1/quarter | Grab |
| PFBS (ng/L) | XXX | XXX | XXX | XXX | Report | XXX | 1/quarter | Grab |
| HFPO-DA (ng/L) | XXX | XXX | XXX | XXX | Report | XXX | 1/quarter | Grab |

Compliance Sampling Location: At discharge from facility

Other Comments: None

**Proposed Effluent Limitations and Monitoring Requirements**

The limitations and monitoring requirements specified below are proposed for the draft permit, to comply with Pennsylvania's Chesapeake Bay Tributary Strategy.

**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 |
| | Monthly | Annual | Monthly | Monthly Average | Maximum | Instant. Maximum | | |
| Ammonia---N | Report | Report | XXX | Report | XXX | XXX | 5/week | 24-Hr Composite |
| Kjeldahl---N | Report | XXX | XXX | Report | XXX | XXX | 2/week | 24-Hr Composite |
| Nitrate-Nitrite as N | Report | XXX | XXX | Report | XXX | XXX | 2/week | 24-Hr Composite |
| Total Nitrogen | Report | Report | XXX | Report | XXX | XXX | 1/month | Calculation |
| Total Phosphorus | Report | Report | XXX | Report | XXX | XXX | 5/week | 24-Hr Comp |
| Net Total Nitrogen | XXX | 619,048 | XXX | XXX | XXX | XXX | 1/month | Calculation |
| Net Total Phosphorus | XXX | 77,381 | XXX | XXX | XXX | XXX | 1/month | Calculation |

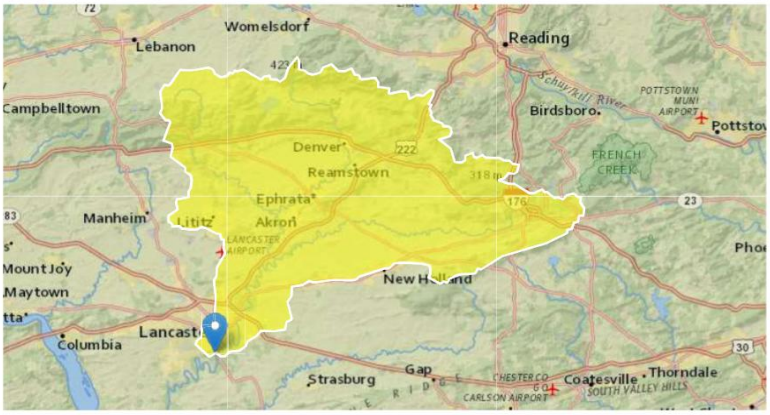
Compliance Sampling Location: At discharge from facility

Other Comments: On-lot disposal system offsets for TN are 3,475 lbs/year based on 87 EDUs. Any additional offsets claimed during the permit term must be reported as outlined in Part C of this permit.

| Tools and References Used to Develop Permit | |
|---|---|
| | |
| ☒ | WQM for Windows Model (see Attachment ) |
| ☒ | Toxics Management Spreadsheet (see Attachment ) |
| ☒ | TRC Model Spreadsheet (see Attachment ) |
| ☐ | Temperature Model Spreadsheet (see Attachment ) |
| ☒ | Water Quality Toxics Management Strategy, 361-0100-003, 4/06. |
| ☒ | Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97. |
| ☐ | Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98. |
| ☐ | Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96. |
| ☐ | Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97. |
| ☐ | Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97. |
| ☐ | Pennsylvania CSO Policy, 386-2000-002, 9/08. |
| ☐ | Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03. |
| ☐ | Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97. |
| ☒ | Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97. |
| ☐ | Implementation Guidance Design Conditions, 386-2000-007, 9/97. |
| ☒ | Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004. |
| ☐ | Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997. |
| ☐ | Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99. |
| ☒ | Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004. |
| ☐ | Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97. |
| ☐ | Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008. |
| ☐ | Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994. |
| ☐ | Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09. |
| ☐ | Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97. |
| ☐ | Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 386-2000-020, 10/97. |
| ☐ | Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99. |
| ☐ | Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 386-2000-010, 3/1999. |
| ☐ | Design Stream Flows, 386-2000-003, 9/98. |
| ☐ | Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98. |
| ☐ | Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97. |
| ☐ | Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07. |
| ☒ | SOP: BCW-PMT-002, BCW-PMT-031, BCW-PMT-033, BCW-PMT-037 |
| ☐ | Other: |

## City of Lancaster WWTP PA0026743 Outfall 001

| | |
|---|---|
| **Region ID:** | PA |
| **Workspace ID:** | PA20230925131859467000 |
| **Clicked Point (Latitude, Longitude):** | 40.01646, -76.30537 |
| **Time:** | 2023-09-25 09:19:28 -0400 |




Collapse All

### Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| BSLOPD | Mean basin slope measured in degrees | 4.2783 | degrees |
| DRNAREA | Area that drains to a point on a stream | 331 | square miles |
| ROCKDEP | Depth to rock | 4.9 | feet |
| URBAN | Percentage of basin with urban development | 9.628 | percent |

### Low-Flow Statistics

Low-Flow Statistics Parameters [99.9 Percent (331 square miles) Low Flow Region 1]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 331 | square miles | 4.78 | 1150 |
| BSLOPD | Mean Basin Slope degrees | 4.2783 | degrees | 1.7 | 6.4 |
| ROCKDEP | Depth to Rock | 4.9 | feet | 4.13 | 5.21 |
| URBAN | Percent Urban | 9.628 | percent | 0 | 89 |

Low-Flow Statistics Flow Report [99.9 Percent (331 square miles) Low Flow Region 1]

PII: Prediction Interval-Lower, PIu: 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 | 83 | ft^3/s | 46 | 46 |
| 30 Day 2 Year Low Flow | 105 | ft^3/s | 38 | 38 |
| 7 Day 10 Year Low Flow | 47.3 | ft^3/s | 51 | 51 |
| 30 Day 10 Year Low Flow | 58.7 | ft^3/s | 46 | 46 |
| 90 Day 10 Year Low Flow | 86.2 | ft^3/s | 41 | 41 |

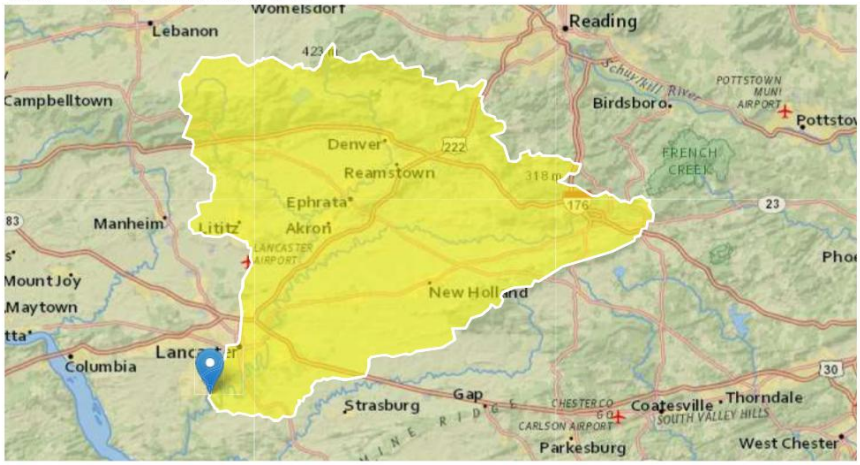
*Low-Flow Statistics Citations*

**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: 4.17.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

## City of Lancaster PA0026743 RMI = 9.02

**Region ID:** PA
**Workspace ID:** PA20240420133920638000
**Clicked Point (Latitude, Longitude):** 39.99869, -76.34314
**Time:** 2024-04-20 09:39:48 -0400




Collapse All

### Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| BSLOPD | Mean basin slope measured in degrees | 4.1054 | degrees |
| DRNAREA | Area that drains to a point on a stream | 393 | square miles |
| ROCKDEP | Depth to rock | 5 | feet |
| URBAN | Percentage of basin with urban development | 9.4601 | percent |

## Low-Flow Statistics

### Low-Flow Statistics Parameters [Low Flow Region 1]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 393 | square miles | 4.78 | 1150 |
| BSLOPD | Mean Basin Slope degrees | 4.1054 | degrees | 1.7 | 6.4 |
| ROCKDEP | Depth to Rock | 5 | feet | 4.13 | 5.21 |
| URBAN | Percent Urban | 9.4601 | percent | 0 | 89 |

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

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

| Statistic | Value | Unit | SE | ASEp |
|---|---|---|---|---|
| 7 Day 2 Year Low Flow | 102 | ft^3/s | 46 | 46 |
| 30 Day 2 Year Low Flow | 128 | ft^3/s | 38 | 38 |
| 7 Day 10 Year Low Flow | 58.7 | ft^3/s | 51 | 51 |
| 30 Day 10 Year Low Flow | 72.2 | ft^3/s | 46 | 46 |
| 90 Day 10 Year Low Flow | 106 | 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: 4.20.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

TRC_CALC

| 1A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|
| 2 | **TRC EVALUATION** | | | | | |
| 3 | Input appropriate values in B4:B8 and E4:E7 | | | | | |
| 4 | 39.72 | = Q stream (cfs) | | 0.5 | = CV Daily | |
| 5 | 32.08 | = Q discharge (MGD) | | 0.5 | = CV Hourly | |
| 6 | 30 | = no. samples | | 1 | = AFC_Partial Mix Factor | |
| 7 | 0.3 | = Chlorine Demand of Stream | | 1 | = CFC_Partial Mix Factor | |
| 8 | 0 | = Chlorine Demand of Discharge | | 15 | = AFC_Criteria Compliance Time (min) | |
| 9 | 0.5 | = BAT/BPJ Value | | 720 | = CFC_Criteria Compliance Time (min) | |
| | 0 | = % Factor of Safety (FOS) | | | =Decay Coefficient (K) | |
| 10 | Source | Reference | AFC Calculations | | Reference | CFC Calculations |
| 11 | TRC | 1.3.2.iii | WLA afc = 0.274 | | 1.3.2.iii | WLA cfc = 0.260 |
| 12 | PENTOXSD TRG | 5.1a | LTAMULT afc = 0.373 | | 5.1c | LTAMULT cfc = 0.581 |
| 13 | PENTOXSD TRG | 5.1b | LTA_afc= 0.102 | | 5.1d | LTA_cfc = 0.151 |
| 14 | | | | | | |
| 15 | Source | | Effluent Limit Calculations | | | |
| 16 | PENTOXSD TRG | 5.1f | AML MULT = 1.231 | | | |
| 17 | PENTOXSD TRG | 5.1g | AVG MON LIMIT (mg/l) = 0.126 | | AFC | |
| 18 | | | INST MAX LIMIT (mg/l) = 0.411 | | | |

| | |
|---|---|
| WLA afc | **(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...** **...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)** |
| LTAMULT afc | EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5) |
| LTA_afc | wla_afc*LTAMULT_afc |
| **WLA_cfc** | **(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc) )...** **...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)** |
| LTAMULT_cfc | EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5) |
| **LTA_cfc** | wla_cfc*LTAMULT_cfc |
| AML MULT | EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1)) |
| AVG MON LIMIT | MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT) |
| INST MAX LIMIT | **1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)** |

City of Lancaster WWTP NPDES Permit No. PA0026743
Total Nitrogen Offsets Included and Not Included in NPDES Permit Cap Load

| Partner | Address | Date OLDS Removed as Reported by Parnter | OLDS Installed Prior to January 1, 2003 as Reported by Partner | # of OLDS Removed and Connected to City WWTP | TN Nutrient Pound Offset (25 lbs/yr per OLDS) for CY 2020 |
|---|---|---|---|---|---|
| **SLSA** | | | | | |
| | 1360 New Danville Pike | 10/28/2003 | Yes | 1 | 25 |
| | 1426 Old Lampeter Road | 11/10/2004 | Yes | 1 | 25 |
| | 417 Woodhall Drive | 7/14/2006 | Yes | 1 | 25 |
| | 1809 Conard Road | 9/21/2006 | Yes | 1 | 25 |
| | 16 Overhill Road | 9/28/2006 | Yes | 1 | 25 |
| | 1838 Windy Hill Road | 7/18/2007 | Yes | 1 | 25 |
| | 315 Cool Creek Way | 11/9/2007 | Yes | 1 | 25 |
| | 15 Kinder Avenue | 4/28/2008 | Yes | 1 | 25 |
| | 1266 Gypsy Hill Road | 4/29/2009 | Yes | 1 | 25 |
| | **NPDES Permit Total** | | | **9** | **225** |
| | | | | | |
| | 126 South Conestoga Drive | 12/18/2009 | Yes | 1 | 25 |
| | 401 Long Rifle Road | 12/18/2009 | Yes | 1 | 25 |
| | 1711 Hans Herr Drive | 9/12/2012 | Yes | 1 | 25 |
| | 1350 New Danville Pike | 2/11/2013 | Yes | 1 | 25 |
| | 198 West Kendig Road | 5/23/2013 | Yes | 3 | 75 |
| | 401 Beaver Valley Pike | 8/19/2014 | Yes | 1 | 25 |
| | 302 Beaver Valley Pike | 4/23/2015 | Yes | 1 | 25 |
| | 597 Millwood Road | 5/21/2015 | Yes | 1 | 25 |
| | 145 North Conestoga Drive | 7/20/2016 | Yes | 1 | 25 |
| | 399 Lampeter Road | 8/18/2016 | Yes | 1 | 25 |
| | 1730 Conard Road | 8/3/2018 | Yes | 1 | 25 |
| | 1205 Lampeter Road | 9/13/2018 | Yes | 1 | 25 |
| | 1549 Mentzer Road | 12/19/2022 | Yes | 1 | 18 |
| | **Total Not in NPDES Permit** | | | **15** | **368** |
| | | | | | |
| | | | | | |
| **ELSA** | 2334 Rockvale Road | 8/18/2005 | Yes | 1 | 25 |
| | 2304 Rockvale Road | 6/1/2005 | Yes | 1 | 25 |
| | 2314 Rockvale Road | 6/1/2005 | Yes | 1 | 25 |
| | 2318 Rockvale Road | 6/1/2005 | Yes | 1 | 25 |
| | 2324 Rockvale Road | 6/1/2005 | Yes | 1 | 25 |
| | 2328 Rockvale Road | 8/19/2005 | Yes | 1 | 25 |
| | 2338 Rockvale Road | 6/29/2005 | Yes | 1 | 25 |
| | 2352 Rockvale Road | 9/1/2005 | Yes | 1 | 25 |
| | 2354 Rockvale Road | 9/26/2005 | Yes | 1 | 25 |
| | 2356 Rockvale Road | 9/26/2005 | Yes | 1 | 25 |
| | 2364 Rockvale Road | 6/29/2005 | Yes | 1 | 25 |
| | 2372 Rockvale Road | 6/3/2005 | Yes | 1 | 25 |
| | 118 Strasburg Pike | 12/5/2007 | Yes | 1 | 25 |
| | 124 Strasburg Pike | 12/5/2007 | Yes | 1 | 25 |
| | 740 Willow Road | 10/20/2006 | Yes | 1 | 25 |
| | 77 Eastbrook Road | 10/8/2009 | Yes | 1 | 25 |
| | **NPDES Permit Total** | | | **16** | **400** |
| | | | | | |
| | 2195 Philadelphia Pike | 12/31/2011 | Yes | 1 | 25 |
| | 92 Witmer Road | 8/20/2012 | Yes | 1 | 25 |
| | 2045 Horseshoe Road | 12/31/2012 | Yes | 1 | 25 |
| | 1519 Lincoln Highway East | 8/9/2013 | Yes | 1 | 25 |
| | 691 Hartman Station Road | 7/25/2013 | Yes | 1 | 25 |
| | 664 Harman Staiton Road | 5/6/2014 | Yes | 1 | 25 |
| | 2806 Irishtown Road | 5/9/2016 | Yes | 1 | 25 |
| | 2808 Irishtown Road | 5/9/2016 | Yes | 1 | 25 |
| | **Total Not in NPDES Permit** | | | **8** | **200** |
| | | | | | |
| | | | | | |
| **LASA** | 640 Oregon Road E, Lititz | 12/16/2005 | Yes | 1 | 25 |
| | 2878 Kissel Hill Road, Lititz | 9/6/2006 | Yes | 1 | 25 |
| | 1676 New Holland Pike, Lancaster | 11/9/2007 | Yes | 1 | 25 |

City of Lancaster WWTP NPDES Permit No. PA0026743
Total Nitrogen Offsets Included and Not Included in NPDES Permit Cap Load

| | | | | | |
|---|---|---|---|---|---|
| | 2882 Kissel Hill Road Lititz, Lititz | 3/14/2008 | Yes | 1 | 25 |
| | Moore Business Park, 1665 Crooked Oak Roac | 4/24/2009 | Yes | 1 | 25 |
| | **NPDES Permit Total** | | | **5** | **125** |
| | | | | | |
| | 2836 KISSEL HILL RD LITITZ | 9/17/2013 | Yes | 1 | 25 |
| | 2185 OREGON PIKE LANCASTER PA | 8/29/2013 | Yes | 1 | 25 |
| | 681 VALLEY RD LANCASTER | 8/23/2013 | Yes | 1 | 25 |
| | 691 VALLEY RD LANCASTER | 8/7/2013 | Yes | 1 | 25 |
| | 849 VALLEY RD LANCASTER | 8/2/2013 | Yes | 1 | 25 |
| | 857 VALLEY RD LANCASTER | 7/31/2013 | Yes | 1 | 25 |
| | 2883 KISSEL HILL RD LITITZ | 7/31/2013 | Yes | 1 | 25 |
| | 2717 LONG FARM LN LANCASTER | 7/31/2013 | Yes | 1 | 25 |
| | 854 VALLEY RD LANCASTER | 7/31/2013 | Yes | 1 | 25 |
| | 2651 KISSEL HILL RD LITITZ | 7/29/2013 | Yes | 1 | 25 |
| | 2175 OREGON PIKE LANCASTER PA | 7/29/2013 | Yes | 1 | 25 |
| | 620 APPLE RD LANCASTER | 7/22/2013 | Yes | 1 | 25 |
| | 2716 LONG FARM LN LANCASTER | 7/19/2013 | Yes | 1 | 25 |
| | 2925 KISSEL HILL RD LITITZ | 7/9/2013 | Yes | 1 | 25 |
| | 2910 KISSEL HILL RD LITITZ | 7/9/2013 | Yes | 1 | 25 |
| | 2889 KISSEL HILL RD LITITZ | 7/3/2013 | Yes | 1 | 25 |
| | 670 VALLEY RD LANCASTER | 7/3/2013 | Yes | 1 | 25 |
| | 2720 LONG FARM LN LANCASTER | 6/28/2013 | Yes | 1 | 25 |
| | 853 VALLEY RD LANCASTER | 6/28/2013 | Yes | 1 | 25 |
| | 2710 LONG FARM LN LANCASTER | 6/27/2013 | Yes | 1 | 25 |
| | 685 VALLEY RD LANCASTER | 6/20/2013 | Yes | 1 | 25 |
| | 2731 LONG FARM LN LANCASTER | 6/4/2013 | Yes | 1 | 25 |
| | 651 VALLEY RD LANCASTER | 5/30/2013 | Yes | 1 | 25 |
| | 2731 LONG FARM LN LANCASTER | 5/30/2013 | Yes | 1 | 25 |
| | 2838 KISSEL HILL RD LITITZ | 5/17/2013 | Yes | 1 | 25 |
| | 2842 KISSEL HILL RD LITITZ | 5/16/2013 | Yes | 1 | 25 |
| | 2721 LONG FARM LN LANCASTER | 5/1/2013 | Yes | 1 | 25 |
| | 2727 LONG FARM LN LANCASTER | 4/25/2013 | Yes | 1 | 25 |
| | 650 APPLE RD LANCASTER | 4/18/2013 | Yes | 1 | 25 |
| | 2860 KISSEL HILL RD LITITZ | 4/16/2013 | Yes | 1 | 25 |
| | 2866 KISSEL HILL RD LITITZ | 4/15/2013 | Yes | 1 | 25 |
| | 2848 KISSEL HILL RD LITITZ | 4/10/2013 | Yes | 1 | 25 |
| | 640 APPLE RD LANCASTER | 4/9/2013 | Yes | 1 | 25 |
| | 661 VALLEY RD LANCASTER | 4/9/2013 | Yes | 1 | 25 |
| | 630 APPLE RD LANCASTER | 4/4/2013 | Yes | 1 | 25 |
| | 2832 KISSEL HILL RD LITITZ | 3/26/2013 | Yes | 1 | 25 |
| | 2659 KISSEL HILL RD LITITZ | 3/22/2013 | Yes | 1 | 25 |
| | 2861 KISSEL HILL RD LITITZ | 3/1/2013 | Yes | 1 | 25 |
| | 2972 BROOKFIELD RD LANCASTER | 10/5/2012 | Yes | 1 | 25 |
| | 2665 Kissel Hill Road, Lititz | 4/25/2014 | Yes | 1 | 25 |
| | 2681 Kissel Hill Road, Lititz | 12/17/2013 | Yes | 1 | 25 |
| | 1071 Manheim Pike, Lancaster | 11/19/2013 | Yes | 1 | 25 |
| | 2711 Long Farm | 10/28/2013 | Yes | 1 | 25 |
| | 851 Valley Road | 10/18/2013 | Yes | 1 | 25 |
| | 672 Valley Road | 10/2/2013 | Yes | 1 | 25 |
| | 1273 Barlcay Drive, Lancaster | 11/4/2020 | Yes | 1 | 25 |
| | 690 East Oregon Road, Lititz | 3/30/2021 | Yes | 1 | 25 |
| | 230 Eshelman Road, Lancaster | 6/20/2022 | Yes | 1 | 25 |
| | 130 Windover Turn,Lancaster | 5/20/2022 | Yes | 1 | 25 |
| | **Total Not in NPDES Permit** | | | **49** | **1225** |
| | | | | | |
| | | | | | |
| **ULTMA** | 144 Buttler | 11/2/2006 | Yes | 1 | 25 |
| | 957 Mondale Road | 4/5/2005 | Yes | 1 | 25 |
| | 958 Mondale Road | 7/15/2005 | Yes | 1 | 25 |
| | 980 Mondale Road | 5/5/2005 | Yes | 1 | 25 |
| | 1504 Hunsecker Road | 7/26/2005 | Yes | 1 | 25 |
| | 1512 Hunsecker Road | 7/27/2005 | Yes | 1 | 25 |
| | 1518 Hunsecker Road | 7/30/2005 | Yes | 1 | 25 |
| | 1522 Hunsecker Road | 5/20/2005 | Yes | 1 | 25 |

City of Lancaster WWTP NPDES Permit No. PA0026743
Total Nitrogen Offsets Included and Not Included in NPDES Permit Cap Load

| | | | | | |
|---|---|---|---|---|---|
| | 1523 Hunsecker Road | 6/30/2005 | Yes | 1 | 25 |
| | 1529 Hunsecker Road | 7/1/2005 | Yes | 1 | 25 |
| | 1533 Hunsecker Road | 8/9/2005 | Yes | 1 | 25 |
| | 1539 Hunsecker Road | 8/9/2005 | Yes | 1 | 25 |
| | 1543 Hunsecker Road | 10/6/2005 | Yes | 1 | 25 |
| | 1552 Hunsecker Road | 6/2/2005 | Yes | 1 | 25 |
| | 1556 Hunsecker Road | 5/19/2005 | Yes | 1 | 25 |
| | 1560 Hunsecker Road | 7/28/2005 | Yes | 1 | 25 |
| | 1561 Hunsecker Road | 7/1/2005 | Yes | 1 | 25 |
| | 1564 Hunsecker Road | 1/26/2009 | Yes | 1 | 25 |
| | | | | | |
| | 2288 New Holland Pike(Sunset Valley Motel) | 12/23/2008 | Yes | 1 | 25 |
| | 2282 New Holland Pike | 12/23/2008 | Yes | 1 | 25 |
| | **NPDES Permit Total** | | | **20** | **500** |
| | | | | | |
| | 1564 Hunsecker Road | 1/26/2009 | Yes | 1 | 25 |
| | 2295 New Holland Pike | 4/10/2010 | Yes | 1 | 25 |
| | 339 Monterey Road | 10/18/2010 | Yes | 1 | 25 |
| | 107-109 South Maple Avenue | 11/2/2011 | Yes | 1 | 25 |
| | 291 & 295 E. Main Street | 1/1/2013 | Yes | 1.8 | 45 |
| | 27 West Eby Road | 3/14/2014 | Yes | 1 | 25 |
| | 1098 Hartman Station Road | 7/7/2015 | Yes | 1 | 25 |
| | 61&63 Hess Road | 8/26/2015 | Yes | 2 | 50 |
| | 182-184 Newport Road | 6/23/2017 | Yes | 2.8 | 70 |
| | 2550 Creek Hill Road | 5/1/2019 | Yes | 1 | 25 |
| | 50 Farmland Road | 5/15/2020 | Yes | 1 | 25 |
| | **Total Not in NPDES Permit** | | | **15** | **365** |
| | | | | | |
| | | | | | |
| **City** | 16 Race Avenue | 11/14/2006 | Yes | 1 | 25 |
| | 442 N. President Avenue | 10/30/2008 | Yes | 1 | 25 |
| | **NPDES Permit Total** | | | **2** | **50** |
| | | | | | |
| | | | | | |
| | | | | | |
| | **OLDS Grand Total Included in 2010 NPDES Permit** | | | 52 | 1300 |
| | **OLDS GRAND Total not in NPDES Permit** | | | **87** | **2158** |
| | | | | | |

OLDS not included in 2010 NPDES Permit - 2010 Compliance Year through current offsets

## 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 |
|---|---|---|---|---|---|---|---|---|
| 07J | 7548 | CONESTOGA RIVER (formerly CREE | **16.300** | 227.30 | 331.00 | 0.00000 | 0.00 | ☑ |

### Stream Data

| Design Cond. | LFY (cfsm) | Trib Flow (cfs) | Stream Flow (cfs) | Rch Trav Time (days) | Rch Velocity (fps) | WD Ratio | Rch Width (ft) | Rch Depth (ft) | Tributary Temp (°C) | Tributary pH | Stream Temp (°C) | Stream pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Q7-10** | 0.100 | 0.00 | 39.72 | 0.000 | 0.000 | 0.0 | 0.00 | 0.00 | 20.00 | 7.00 | 23.89 | 8.30 |
| **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 |
|---|---|---|---|---|---|---|---|
| Lancaster City | 0026743 | 32.0800 | 32.0800 | 32.0800 | 0.000 | 12.00 | 7.50 |

### 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 | 5.00 | 8.24 | 0.00 | 0.00 |
| NH3-N | 25.00 | 0.00 | 0.00 | 0.70 |

## Input Data WQM 7.0

| SWP Basin | Stream Code | Stream Name | RMI | Elevation (ft) | Drainage Area (sq mi) | Slope (ft/ft) | PWS Withdrawal (mgd) | Apply FC |
|---|---|---|---|---|---|---|---|---|
| 07J | 7548 | CONESTOGA RIVER (formerly CREE | **9.020** | 205.00 | 393.00 | 0.00000 | 0.00 | ☑ |

### Stream Data

| Design Cond. | LFY (cfsm) | Trib Flow (cfs) | Stream Flow (cfs) | Rch Trav Time (days) | Rch Velocity (fps) | WD Ratio | Rch Width (ft) | Rch Depth (ft) | Tributary Temp (°C) | Tributary pH | Stream Temp (°C) | Stream pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Q7-10** | 0.100 | 0.00 | 47.16 | 0.000 | 0.000 | 0.0 | 0.00 | 0.00 | 20.00 | 7.00 | 23.89 | 8.30 |
| **Q1-10** | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |
| **Q30-10** | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |

### Discharge Data

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

### Parameter Data

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

# WQM 7.0 Hydrodynamic Outputs

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 07J | 7548 | CONESTOGA RIVER (formerly CREEK) |

| RMI | Stream Flow (cfs) | PWS With (cfs) | Net Stream Flow (cfs) | Disc Analysis Flow (cfs) | Reach Slope (ft/ft) | Depth (ft) | Width (ft) | W/D Ratio | Velocity (fps) | Reach Trav Time (days) | Analysis Temp (°C) | Analysis pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Q7-10 Flow** | | | | | | | | | | | | |
| 16.300 | 39.72 | 0.00 | 39.72 | 49.6278 | 0.00058 | 1.029 | 143.1 | 139.06 | 0.61 | 0.733 | 17.29 | 7.70 |
| **Q1-10 Flow** | | | | | | | | | | | | |
| 16.300 | 25.42 | 0.00 | 25.42 | 49.6278 | 0.00058 | NA | NA | NA | 0.55 | 0.808 | 16.03 | 7.65 |
| **Q30-10 Flow** | | | | | | | | | | | | |
| 16.300 | 54.02 | 0.00 | 54.02 | 49.6278 | 0.00058 | NA | NA | NA | 0.66 | 0.675 | 18.20 | 7.75 |

# 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 | 5 | | |

# WQM 7.0 Wasteload Allocations

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 07J | 7548 | CONESTOGA RIVER (formerly CREEK) |

## NH3-N Acute Allocations

| RMI | Discharge Name | Baseline Criterion (mg/L) | Baseline WLA (mg/L) | Multiple Criterion (mg/L) | Multiple WLA (mg/L) | Critical Reach | Percent Reduction |
|---|---|---|---|---|---|---|---|
| 16.300 | Lancaster City | 10.21 | 15.43 | 10.21 | 15.43 | 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 |
|---|---|---|---|---|---|---|---|
| 16.300 | Lancaster City | 1.21 | 2.53 | 1.21 | 2.53 | 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) | | |
| 16.30 | Lancaster City | 11.88 | 11.88 | 2.53 | 2.53 | 5 | 5 | 0 | 0 |

# WQM 7.0 D.O.Simulation

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 07J | 7548 | CONESTOGA RIVER (formerly CREEK) |

| RMI | Total Discharge Flow (mgd) | Analysis Temperature (°C) | Analysis pH |
|---|---|---|---|
| 16.300 | 32.080 | 17.286 | 7.703 |
| **Reach Width (ft)** | **Reach Depth (ft)** | **Reach WDRatio** | **Reach Velocity (fps)** |
| 143.099 | 1.029 | 139.063 | 0.607 |
| **Reach CBOD5 (mg/L)** | **Reach Kc (1/days)** | **Reach NH3-N (mg/L)** | **Reach Kn (1/days)** |
| 7.49 | 0.609 | 1.40 | 0.568 |
| **Reach DO (mg/L)** | **Reach Kr (1/days)** | **Kr Equation** | **Reach DO Goal (mg/L)** |
| 6.442 | 1.540 | Tsivoglou | 5 |
| **Reach Travel Time (days)** | | | |
| 0.733 | | | |

**Subreach Results**

| TravTime (days) | CBOD5 (mg/L) | NH3-N (mg/L) | D.O. (mg/L) |
|---|---|---|---|
| 0.073 | 7.20 | 1.35 | 6.13 |
| 0.147 | 6.92 | 1.29 | 5.87 |
| 0.220 | 6.65 | 1.24 | 5.67 |
| 0.293 | 6.39 | 1.19 | 5.51 |
| 0.367 | 6.15 | 1.14 | 5.39 |
| 0.440 | 5.91 | 1.09 | 5.31 |
| 0.513 | 5.68 | 1.05 | 5.25 |
| 0.587 | 5.46 | 1.01 | 5.23 |
| 0.660 | 5.25 | 0.97 | 5.22 |
| 0.733 | 5.05 | 0.93 | 5.24 |

# WQM 7.0 Effluent Limits

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 07J | 7548 | CONESTOGA RIVER (formerly CREEK) |

| RMI | Name | Permit Number | Disc Flow (mgd) | Parameter | Effl. Limit 30-day Ave. (mg/L) | Effl. Limit Maximum (mg/L) | Effl. Limit Minimum (mg/L) |
|---|---|---|---|---|---|---|---|
| 16.300 | Lancaster City | 0026743 | 32.080 | CBOD5 | 11.88 | | |
| | | | | NH3-N | 2.53 | 5.06 | |
| | | | | Dissolved Oxygen | | | 5 |

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Toxics Management Spreadsheet
Version 1.4, May 2023

# Discharge Information

Instructions | Discharge | Stream

Facility: **City of Lancaster WWTP** NPDES Permit No.: **PA0026743** Outfall No.: **001**

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

| Discharge Characteristics | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Design Flow (MGD)* | Hardness (mg/l)* | pH (SU)* | Partial Mix Factors (PMFs) | | | | Complete Mix Times (min) | |
| | | | AFC | CFC | THH | CRL | $Q_{7-10}$ | $Q_h$ |
| 32.08 | 284 | 7.5 | | | | | | |

| | | | | | *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 | | 831 | | | | | | | | | |
| | Chloride (PWS) | mg/L | | 207 | | | | | | | | | |
| | Bromide | mg/L | < | 0.5 | | | | | | | | | |
| | Sulfate (PWS) | mg/L | | 72.9 | | | | | | | | | |
| | Fluoride (PWS) | mg/L | | | | | | | | | | | |
| Group 2 | Total Aluminum | µg/L | | 230 | | | | | | | | | |
| | Total Antimony | µg/L | < | 1 | | | | | | | | | |
| | Total Arsenic | µg/L | < | 1.6 | | | | | | | | | |
| | Total Barium | µg/L | | 27 | | | | | | | | | |
| | Total Beryllium | µg/L | < | 0.5 | | | | | | | | | |
| | Total Boron | µg/L | | 183 | | | | | | | | | |
| | Total Cadmium | µg/L | < | 0.00016 | | | | | | | | | |
| | Total Chromium (III) | µg/L | < | 1 | | | | | | | | | |
| | Hexavalent Chromium | µg/L | | 0.19 | | | | | | | | | |
| | Total Cobalt | µg/L | < | 2.5 | | | | | | | | | |
| | Total Copper | µg/L | | 11.4 | | | | | | | | | |
| | Free Cyanide | µg/L | | 4.92 | | | | | | | | | |
| | Total Cyanide | µg/L | < | 5 | | | | | | | | | |
| | Dissolved Iron | µg/L | | 30 | | | | | | | | | |
| | Total Iron | µg/L | | 80 | | | | | | | | | |
| | Total Lead | µg/L | < | 1 | | | | | | | | | |
| | Total Manganese | µg/L | | 28 | | | | | | | | | |
| | Total Mercury | µg/L | | 0.0055 | | | | | | | | | |
| | Total Nickel | µg/L | | 3.8 | | | | | | | | | |
| | Total Phenols (Phenolics) (PWS) | µg/L | < | 220 | | | | | | | | | |
| | Total Selenium | µg/L | < | 2 | | | | | | | | | |
| | Total Silver | µg/L | < | 1 | | | | | | | | | |
| | Total Thallium | µg/L | < | 0.5 | | | | | | | | | |
| | Total Zinc | µg/L | | 26.7 | | | | | | | | | |
| | Total Molybdenum | µg/L | | 8.7 | | | | | | | | | |
| | Acrolein | µg/L | < | 0.73 | | | | | | | | | |
| | Acrylamide | µg/L | < | | | | | | | | | | |
| | Acrylonitrile | µg/L | < | 0.37 | | | | | | | | | |
| | Benzene | µg/L | < | 0.1 | | | | | | | | | |
| | Bromoform | µg/L | < | 0.16 | | | | | | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Group 3 | Carbon Tetrachloride | µg/L | < | 0.1 | | | | | | | | | |
| | Chlorobenzene | µg/L | < | 0.13 | | | | | | | | | |
| | Chlorodibromomethane | µg/L | | 0.68 | | | | | | | | | |
| | Chloroethane | µg/L | < | 0.15 | | | | | | | | | |
| | 2-Chloroethyl Vinyl Ether | µg/L | < | 0.64 | | | | | | | | | |
| | Chloroform | µg/L | | 4.5 | | | | | | | | | |
| | Dichlorobromomethane | µg/L | | 1.3 | | | | | | | | | |
| | 1,1-Dichloroethane | µg/L | < | 0.1 | | | | | | | | | |
| | 1,2-Dichloroethane | µg/L | < | 0.18 | | | | | | | | | |
| | 1,1-Dichloroethylene | µg/L | < | 0.22 | | | | | | | | | |
| | 1,2-Dichloropropane | µg/L | < | 0.15 | | | | | | | | | |
| | 1,3-Dichloropropylene | µg/L | < | 0.14 | | | | | | | | | |
| | 1,4-Dioxane | µg/L | | 0.44 | | | | | | | | | |
| | Ethylbenzene | µg/L | < | 0.19 | | | | | | | | | |
| | Methyl Bromide | µg/L | < | 0.12 | | | | | | | | | |
| | Methyl Chloride | µg/L | < | 0.16 | | | | | | | | | |
| | Methylene Chloride | µg/L | | 1.3 | | | | | | | | | |
| | 1,1,2,2-Tetrachloroethane | µg/L | < | 0.23 | | | | | | | | | |
| | Tetrachloroethylene | µg/L | < | 0.2 | | | | | | | | | |
| | Toluene | µg/L | | 0.19 | | | | | | | | | |
| | 1,2-trans-Dichloroethylene | µg/L | < | 0.15 | | | | | | | | | |
| | 1,1,1-Trichloroethane | µg/L | < | 0.13 | | | | | | | | | |
| | 1,1,2-Trichloroethane | µg/L | < | 0.12 | | | | | | | | | |
| | Trichloroethylene | µg/L | < | 0.15 | | | | | | | | | |
| | Vinyl Chloride | µg/L | < | 0.14 | | | | | | | | | |
| Group 4 | 2-Chlorophenol | µg/L | < | 0.58 | | | | | | | | | |
| | 2,4-Dichlorophenol | µg/L | < | 0.45 | | | | | | | | | |
| | 2,4-Dimethylphenol | µg/L | < | 2.9 | | | | | | | | | |
| | 4,6-Dinitro-o-Cresol | µg/L | < | 1.3 | | | | | | | | | |
| | 2,4-Dinitrophenol | µg/L | < | 2.3 | | | | | | | | | |
| | 2-Nitrophenol | µg/L | < | 0.48 | | | | | | | | | |
| | 4-Nitrophenol | µg/L | < | 1.6 | | | | | | | | | |
| | p-Chloro-m-Cresol | µg/L | < | 0.44 | | | | | | | | | |
| | Pentachlorophenol | µg/L | < | 1.8 | | | | | | | | | |
| | Phenol | µg/L | < | 0.22 | | | | | | | | | |
| | 2,4,6-Trichlorophenol | µg/L | < | 0.35 | | | | | | | | | |
| Group 5 | Acenaphthene | µg/L | < | 0.32 | | | | | | | | | |
| | Acenaphthylene | µg/L | < | 0.33 | | | | | | | | | |
| | Anthracene | µg/L | < | 0.33 | | | | | | | | | |
| | Benzidine | µg/L | < | 22.2 | | | | | | | | | |
| | Benzo(a)Anthracene | µg/L | < | 0.3 | | | | | | | | | |
| | Benzo(a)Pyrene | µg/L | < | 0.35 | | | | | | | | | |
| | 3,4-Benzofluoranthene | µg/L | < | 0.41 | | | | | | | | | |
| | Benzo(ghi)Perylene | µg/L | < | 0.36 | | | | | | | | | |
| | Benzo(k)Fluoranthene | µg/L | < | 0.37 | | | | | | | | | |
| | Bis(2-Chloroethoxy)Methane | µg/L | < | 0.52 | | | | | | | | | |
| | Bis(2-Chloroethyl)Ether | µg/L | < | 0.34 | | | | | | | | | |
| | Bis(2-Chloroisopropyl)Ether | µg/L | < | 0.49 | | | | | | | | | |
| | Bis(2-Ethylhexyl)Phthalate | µg/L | < | 0.8 | | | | | | | | | |
| | 4-Bromophenyl Phenyl Ether | µg/L | < | 0.38 | | | | | | | | | |
| | Butyl Benzyl Phthalate | µg/L | < | 0.32 | | | | | | | | | |
| | 2-Chloronaphthalene | µg/L | < | 0.33 | | | | | | | | | |
| | 4-Chlorophenyl Phenyl Ether | µg/L | < | 0.34 | | | | | | | | | |
| | Chrysene | µg/L | < | 0.34 | | | | | | | | | |
| | Dibenzo(a,h)Anthrancene | µg/L | < | 0.29 | | | | | | | | | |
| | 1,2-Dichlorobenzene | µg/L | < | 0.1 | | | | | | | | | |
| | 1,3-Dichlorobenzene | µg/L | < | 0.1 | | | | | | | | | |
| | 1,4-Dichlorobenzene | µg/L | < | 0.15 | | | | | | | | | |
| | 3,3-Dichlorobenzidine | µg/L | < | 2.8 | | | | | | | | | |
| | Diethyl Phthalate | µg/L | < | 0.3 | | | | | | | | | |
| | Dimethyl Phthalate | µg/L | < | 0.37 | | | | | | | | | |
| | Di-n-Butyl Phthalate | µg/L | < | 0.31 | | | | | | | | | |
| | 2,4-Dinitrotoluene | µg/L | < | 0.37 | | | | | | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2,6-Dinitrotoluene | µg/L | < | 0.43 | | | | | | | | | |
| | Di-n-Octyl Phthalate | µg/L | < | 0.3 | | | | | | | | | |
| | 1,2-Diphenylhydrazine | µg/L | < | 0.31 | | | | | | | | | |
| | Fluoranthene | µg/L | < | 0.25 | | | | | | | | | |
| | Fluorene | µg/L | < | 0.36 | | | | | | | | | |
| | Hexachlorobenzene | µg/L | < | 0.3 | | | | | | | | | |
| | Hexachlorobutadiene | µg/L | < | 0.29 | | | | | | | | | |
| | Hexachlorocyclopentadiene | µg/L | < | 1 | | | | | | | | | |
| | Hexachloroethane | µg/L | < | 0.31 | | | | | | | | | |
| | Indeno(1,2,3-cd)Pyrene | µg/L | < | 0.29 | | | | | | | | | |
| | Isophorone | µg/L | < | 0.38 | | | | | | | | | |
| | Naphthalene | µg/L | < | 0.32 | | | | | | | | | |
| | Nitrobenzene | µg/L | < | 0.6 | | | | | | | | | |
| | n-Nitrosodimethylamine | µg/L | < | 0.44 | | | | | | | | | |
| | n-Nitrosodi-n-Propylamine | µg/L | < | 0.53 | | | | | | | | | |
| | n-Nitrosodiphenylamine | µg/L | < | 1 | | | | | | | | | |
| | Phenanthrene | µg/L | < | 0.33 | | | | | | | | | |
| | Pyrene | µg/L | < | 0.34 | | | | | | | | | |
| | 1,2,4-Trichlorobenzene | µg/L | < | 0.26 | | | | | | | | | |
| Group 6 | Aldrin | µg/L | < | 0.0082 | | | | | | | | | |
| | alpha-BHC | µg/L | < | 0.011 | | | | | | | | | |
| | beta-BHC | µg/L | < | 0.011 | | | | | | | | | |
| | gamma-BHC | µg/L | < | 0.016 | | | | | | | | | |
| | delta BHC | µg/L | < | 0.012 | | | | | | | | | |
| | Chlordane | µg/L | < | 0.083 | | | | | | | | | |
| | 4,4-DDT | µg/L | < | 0.011 | | | | | | | | | |
| | 4,4-DDE | µg/L | < | 0.01 | | | | | | | | | |
| | 4,4-DDD | µg/L | < | 0.011 | | | | | | | | | |
| | Dieldrin | µg/L | < | 0.011 | | | | | | | | | |
| | alpha-Endosulfan | µg/L | < | 0.01 | | | | | | | | | |
| | beta-Endosulfan | µg/L | < | 0.014 | | | | | | | | | |
| | Endosulfan Sulfate | µg/L | < | 0.011 | | | | | | | | | |
| | Endrin | µg/L | < | 0.011 | | | | | | | | | |
| | Endrin Aldehyde | µg/L | < | 0.013 | | | | | | | | | |
| | Heptachlor | µg/L | < | 0.015 | | | | | | | | | |
| | Heptachlor Epoxide | µg/L | < | 0.011 | | | | | | | | | |
| | 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 | < | 0.093 | | | | | | | | | |
| | 2,3,7,8-TCDD | ng/L | < | 0.005 | | | | | | | | | |
| 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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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

# Stream / Surface Water Information

**City of Lancaster WWTP, NPDES Permit No. PA0026743, Outfall 001**

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Conestoga River**

No. Reaches to Model: **1**

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

| Location | Stream Code* | RMI* | Elevation (ft)* | DA ($mi^2$)* | Slope (ft/ft) | PWS Withdrawal (MGD) | Apply Fish Criteria* |
|---|---|---|---|---|---|---|---|
| Point of Discharge | 007548 | 16.3 | 227.3 | 331 | | | Yes |
| End of Reach 1 | 007548 | 9.02 | 205 | 393 | | | Yes |

**$Q_{7-10}$**

| Location | RMI | LFY ($cfs/mi^2$)* | Flow (cfs) | | W/D Ratio | Width (ft) | Depth (ft) | Velocity (fps) | Travel Time (days) | Tributary | | Stream | | Analysis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Stream | Tributary | | | | | | Hardness | pH | Hardness* | pH* | Hardness | pH |
| Point of Discharge | 16.3 | 0.12 | 39.72 | | | | | | | | | 272.5 | 8.3 | | |
| End of Reach 1 | 9.02 | 0.12 | 47.16 | | | | | | | | | 272.5 | 8.3 | | |

**$Q_h$**

| Location | RMI | LFY ($cfs/mi^2$) | Flow (cfs) | | W/D Ratio | Width (ft) | Depth (ft) | Velocity (fps) | Travel Time (days) | Tributary | | Stream | | Analysis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Stream | Tributary | | | | | | Hardness | pH | Hardness | pH | Hardness | pH |
| Point of Discharge | 16.3 | | | | | | | | | | | | | | |
| End of Reach 1 | 9.02 | | | | | | | | | | | | | | |

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

# Model Results

**City of Lancaster WWTP, NPDES Permit No. PA0026743, Outfall 001**

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.261 Analysis Hardness (mg/l): 282.01 Analysis pH: 7.57

| 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 | 907 | |
| Total Antimony | 0 | 0 | | 0 | 1,100 | 1,100 | 1,330 | |
| Total Arsenic | 0 | 0 | | 0 | 340 | 340 | 411 | Chem Translator of 1 applied |
| Total Barium | 0 | 0 | | 0 | 21,000 | 21,000 | 25,383 | |
| Total Boron | 0 | 0 | | 0 | 8,100 | 8,100 | 9,790 | |
| Total Cadmium | 0 | 0 | | 0 | 5.512 | 6.12 | 7.4 | Chem Translator of 0.901 applied |
| Total Chromium (III) | 0 | 0 | | 0 | 1331.885 | 4,215 | 5,094 | Chem Translator of 0.316 applied |
| Hexavalent Chromium | 0 | 0 | | 0 | 16 | 16.3 | 19.7 | Chem Translator of 0.982 applied |
| Total Cobalt | 0 | 0 | | 0 | 95 | 95.0 | 115 | |
| Total Copper | 0 | 0 | | 0 | 35.696 | 37.2 | 44.9 | Chem Translator of 0.96 applied |
| Free Cyanide | 0 | 0 | | 0 | 22 | 22.0 | 26.6 | |
| 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 | 195.550 | 306 | 369 | Chem Translator of 0.64 applied |
| Total Manganese | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Mercury | 0 | 0 | | 0 | 1.400 | 1.65 | 1.99 | Chem Translator of 0.85 applied |
| Total Nickel | 0 | 0 | | 0 | 1125.626 | 1,128 | 1,363 | 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 | 19.137 | 22.5 | 27.2 | Chem Translator of 0.85 applied |
| Total Thallium | 0 | 0 | | 0 | 65 | 65.0 | 78.6 | |
| Total Zinc | 0 | 0 | | 0 | 282.079 | 288 | 349 | Chem Translator of 0.978 applied |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 3.63 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Acrylonitrile | 0 | 0 | | 0 | 650 | 650 | 786 | |
| Benzene | 0 | 0 | | 0 | 640 | 640 | 774 | |
| Bromoform | 0 | 0 | | 0 | 1,800 | 1,800 | 2,176 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 2,800 | 2,800 | 3,384 | |
| Chlorobenzene | 0 | 0 | | 0 | 1,200 | 1,200 | 1,450 | |
| Chlorodibromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | 18,000 | 18,000 | 21,756 | |
| Chloroform | 0 | 0 | | 0 | 1,900 | 1,900 | 2,297 | |
| Dichlorobromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 15,000 | 15,000 | 18,130 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | 7,500 | 7,500 | 9,065 | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 11,000 | 11,000 | 13,296 | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 310 | 310 | 375 | |
| Ethylbenzene | 0 | 0 | | 0 | 2,900 | 2,900 | 3,505 | |
| Methyl Bromide | 0 | 0 | | 0 | 550 | 550 | 665 | |
| Methyl Chloride | 0 | 0 | | 0 | 28,000 | 28,000 | 33,843 | |
| Methylene Chloride | 0 | 0 | | 0 | 12,000 | 12,000 | 14,504 | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 1,000 | 1,000 | 1,209 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 700 | 700 | 846 | |
| Toluene | 0 | 0 | | 0 | 1,700 | 1,700 | 2,055 | |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 6,800 | 6,800 | 8,219 | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 3,000 | 3,000 | 3,626 | |
| 1,1,2-Trichloroethane | 0 | 0 | | 0 | 3,400 | 3,400 | 4,110 | |
| Trichloroethylene | 0 | 0 | | 0 | 2,300 | 2,300 | 2,780 | |
| Vinyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chlorophenol | 0 | 0 | | 0 | 560 | 560 | 677 | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 1,700 | 1,700 | 2,055 | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 660 | 660 | 798 | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 80 | 80.0 | 96.7 | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 660 | 660 | 798 | |
| 2-Nitrophenol | 0 | 0 | | 0 | 8,000 | 8,000 | 9,670 | |
| 4-Nitrophenol | 0 | 0 | | 0 | 2,300 | 2,300 | 2,780 | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | 160 | 160 | 193 | |
| Pentachlorophenol | 0 | 0 | | 0 | 15.441 | 15.4 | 18.7 | |
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 460 | 460 | 556 | |
| Acenaphthene | 0 | 0 | | 0 | 83 | 83.0 | 100 | |
| Anthracene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzidine | 0 | 0 | | 0 | 300 | 300 | 363 | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | 0.5 | 0.5 | 0.6 | |
| Benzo(a)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 3,4-Benzofluoranthene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzo(k)Fluoranthene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Chloroethyl)Ether | 0 | 0 | | 0 | 30,000 | 30,000 | 36,261 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 4,500 | 4,500 | 5,439 | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | 270 | 270 | 326 | |
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | 140 | 140 | 169 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 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 | 991 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 350 | 350 | 423 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 730 | 730 | 882 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 4,000 | 4,000 | 4,835 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 2,500 | 2,500 | 3,022 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 110 | 110 | 133 | |
| 2,4-Dinitrotoluene | 0 | 0 | | 0 | 1,600 | 1,600 | 1,934 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 990 | 990 | 1,197 | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 15 | 15.0 | 18.1 | |
| Fluoranthene | 0 | 0 | | 0 | 200 | 200 | 242 | |
| Fluorene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachlorobutadiene | 0 | 0 | | 0 | 10 | 10.0 | 12.1 | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | 5 | 5.0 | 6.04 | |
| Hexachloroethane | 0 | 0 | | 0 | 60 | 60.0 | 72.5 | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Isophorone | 0 | 0 | | 0 | 10,000 | 10,000 | 12,087 | |
| Naphthalene | 0 | 0 | | 0 | 140 | 140 | 169 | |
| Nitrobenzene | 0 | 0 | | 0 | 4,000 | 4,000 | 4,835 | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | 17,000 | 17,000 | 20,548 | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 300 | 300 | 363 | |
| Phenanthrene | 0 | 0 | | 0 | 5 | 5.0 | 6.04 | |
| Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 130 | 130 | 157 | |
| Aldrin | 0 | 0 | | 0 | 3 | 3.0 | 3.63 | |
| alpha-BHC | 0 | 0 | | 0 | N/A | N/A | N/A | |
| beta-BHC | 0 | 0 | | 0 | N/A | N/A | N/A | |
| gamma-BHC | 0 | 0 | | 0 | 0.95 | 0.95 | 1.15 | |
| Chlordane | 0 | 0 | | 0 | 2.4 | 2.4 | 2.9 | |
| 4,4-DDT | 0 | 0 | | 0 | 1.1 | 1.1 | 1.33 | |
| 4,4-DDE | 0 | 0 | | 0 | 1.1 | 1.1 | 1.33 | |
| 4,4-DDD | 0 | 0 | | 0 | 1.1 | 1.1 | 1.33 | |
| Dieldrin | 0 | 0 | | 0 | 0.24 | 0.24 | 0.29 | |
| alpha-Endosulfan | 0 | 0 | | 0 | 0.22 | 0.22 | 0.27 | |
| beta-Endosulfan | 0 | 0 | | 0 | 0.22 | 0.22 | 0.27 | |
| Endosulfan Sulfate | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Endrin | 0 | 0 | | 0 | 0.086 | 0.086 | 0.1 | |
| Endrin Aldehyde | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Heptachlor | 0 | 0 | | 0 | 0.52 | 0.52 | 0.63 | |
| Heptachlor Epoxide | 0 | 0 | | 0 | 0.5 | 0.5 | 0.6 | |
| Toxaphene | 0 | 0 | | 0 | 0.73 | 0.73 | 0.88 | |
| 2,3,7,8-TCDD | 0 | 0 | | 0 | N/A | N/A | N/A | |

☑ ***CFC*** CCT (min): ###### PMF: 1 Analysis Hardness (mg/l): 278.89 Analysis pH: 7.70

| 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 | 396 | |
| Total Arsenic | 0 | 0 | | 0 | 150 | 150 | 270 | Chem Translator of 1 applied |
| Total Barium | 0 | 0 | | 0 | 4,100 | 4,100 | 7,381 | |
| Total Boron | 0 | 0 | | 0 | 1,600 | 1,600 | 2,881 | |
| Total Cadmium | 0 | 0 | | 0 | 0.501 | 0.58 | 1.04 | Chem Translator of 0.866 applied |
| Total Chromium (III) | 0 | 0 | | 0 | 171.676 | 200 | 359 | Chem Translator of 0.86 applied |
| Hexavalent Chromium | 0 | 0 | | 0 | 10 | 10.4 | 18.7 | Chem Translator of 0.962 applied |
| Total Cobalt | 0 | 0 | | 0 | 19 | 19.0 | 34.2 | |
| Total Copper | 0 | 0 | | 0 | 21.514 | 22.4 | 40.3 | Chem Translator of 0.96 applied |
| Free Cyanide | 0 | 0 | | 0 | 5.2 | 5.2 | 9.36 | |
| Dissolved Iron | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Iron | 0 | 0 | | 0 | 1,500 | 1,500 | 2,701 | WQC = 30 day average; PMF = 1 |
| Total Lead | 0 | 0 | | 0 | 7.532 | 11.7 | 21.1 | Chem Translator of 0.642 applied |
| Total Manganese | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Mercury | 0 | 0 | | 0 | 0.770 | 0.91 | 1.63 | Chem Translator of 0.85 applied |
| Total Nickel | 0 | 0 | | 0 | 123.849 | 124 | 224 | Chem Translator of 0.997 applied |
| Total Phenols (Phenolics) (PWS) | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Selenium | 0 | 0 | | 0 | 4.600 | 4.99 | 8.98 | 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 | 23.4 | |
| Total Zinc | 0 | 0 | | 0 | 281.712 | 286 | 514 | Chem Translator of 0.986 applied |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 5.4 | |
| Acrylonitrile | 0 | 0 | | 0 | 130 | 130 | 234 | |
| Benzene | 0 | 0 | | 0 | 130 | 130 | 234 | |
| Bromoform | 0 | 0 | | 0 | 370 | 370 | 666 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 560 | 560 | 1,008 | |
| Chlorobenzene | 0 | 0 | | 0 | 240 | 240 | 432 | |
| Chlorodibromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chloroethyl Vinyl Ether | 0 | 0 | | 0 | 3,500 | 3,500 | 6,301 | |
| Chloroform | 0 | 0 | | 0 | 390 | 390 | 702 | |
| Dichlorobromomethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 3,100 | 3,100 | 5,581 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | 1,500 | 1,500 | 2,701 | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 2,200 | 2,200 | 3,961 | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 61 | 61.0 | 110 | |
| Ethylbenzene | 0 | 0 | | 0 | 580 | 580 | 1,044 | |
| Methyl Bromide | 0 | 0 | | 0 | 110 | 110 | 198 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Methyl Chloride | 0 | 0 | | 0 | 5,500 | 5,500 | 9,902 | |
| Methylene Chloride | 0 | 0 | | 0 | 2,400 | 2,400 | 4,321 | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 210 | 210 | 378 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 140 | 140 | 252 | |
| Toluene | 0 | 0 | | 0 | 330 | 330 | 594 | |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 1,400 | 1,400 | 2,521 | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 610 | 610 | 1,098 | |
| 1,1,2-Trichloroethane | 0 | 0 | | 0 | 680 | 680 | 1,224 | |
| Trichloroethylene | 0 | 0 | | 0 | 450 | 450 | 810 | |
| Vinyl Chloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2-Chlorophenol | 0 | 0 | | 0 | 110 | 110 | 198 | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 340 | 340 | 612 | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 130 | 130 | 234 | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 16 | 16.0 | 28.8 | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 130 | 130 | 234 | |
| 2-Nitrophenol | 0 | 0 | | 0 | 1,600 | 1,600 | 2,881 | |
| 4-Nitrophenol | 0 | 0 | | 0 | 470 | 470 | 846 | |
| p-Chloro-m-Cresol | 0 | 0 | | 0 | 500 | 500 | 900 | |
| Pentachlorophenol | 0 | 0 | | 0 | 11.846 | 11.8 | 21.3 | |
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 91 | 91.0 | 164 | |
| Acenaphthene | 0 | 0 | | 0 | 17 | 17.0 | 30.6 | |
| Anthracene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzidine | 0 | 0 | | 0 | 59 | 59.0 | 106 | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | 0.1 | 0.1 | 0.18 | |
| Benzo(a)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 3,4-Benzofluoranthene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzo(k)Fluoranthene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Chloroethyl)Ether | 0 | 0 | | 0 | 6,000 | 6,000 | 10,802 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 910 | 910 | 1,638 | |
| 4-Bromophenyl Phenyl Ether | 0 | 0 | | 0 | 54 | 54.0 | 97.2 | |
| Butyl Benzyl Phthalate | 0 | 0 | | 0 | 35 | 35.0 | 63.0 | |
| 2-Chloronaphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chrysene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Dibenzo(a,h)Anthrancene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichlorobenzene | 0 | 0 | | 0 | 160 | 160 | 288 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 69 | 69.0 | 124 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 150 | 150 | 270 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 800 | 800 | 1,440 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 500 | 500 | 900 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 21 | 21.0 | 37.8 | |
| 2,4-Dinitrotoluene | 0 | 0 | | 0 | 320 | 320 | 576 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 200 | 200 | 360 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 3 | 3.0 | 5.4 | |
| Fluoranthene | 0 | 0 | | 0 | 40 | 40.0 | 72.0 | |
| Fluorene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachlorobutadiene | 0 | 0 | | 0 | 2 | 2.0 | 3.6 | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | 1 | 1.0 | 1.8 | |
| Hexachloroethane | 0 | 0 | | 0 | 12 | 12.0 | 21.6 | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Isophorone | 0 | 0 | | 0 | 2,100 | 2,100 | 3,781 | |
| Naphthalene | 0 | 0 | | 0 | 43 | 43.0 | 77.4 | |
| Nitrobenzene | 0 | 0 | | 0 | 810 | 810 | 1,458 | |
| n-Nitrosodimethylamine | 0 | 0 | | 0 | 3,400 | 3,400 | 6,121 | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 59 | 59.0 | 106 | |
| Phenanthrene | 0 | 0 | | 0 | 1 | 1.0 | 1.8 | |
| Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 26 | 26.0 | 46.8 | |
| Aldrin | 0 | 0 | | 0 | 0.1 | 0.1 | 0.18 | |
| alpha-BHC | 0 | 0 | | 0 | N/A | N/A | N/A | |
| beta-BHC | 0 | 0 | | 0 | N/A | N/A | N/A | |
| gamma-BHC | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chlordane | 0 | 0 | | 0 | 0.0043 | 0.004 | 0.008 | |
| 4,4-DDT | 0 | 0 | | 0 | 0.001 | 0.001 | 0.002 | |
| 4,4-DDE | 0 | 0 | | 0 | 0.001 | 0.001 | 0.002 | |
| 4,4-DDD | 0 | 0 | | 0 | 0.001 | 0.001 | 0.002 | |
| Dieldrin | 0 | 0 | | 0 | 0.056 | 0.056 | 0.1 | |
| alpha-Endosulfan | 0 | 0 | | 0 | 0.056 | 0.056 | 0.1 | |
| beta-Endosulfan | 0 | 0 | | 0 | 0.056 | 0.056 | 0.1 | |
| Endosulfan Sulfate | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Endrin | 0 | 0 | | 0 | 0.036 | 0.036 | 0.065 | |
| Endrin Aldehyde | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Heptachlor | 0 | 0 | | 0 | 0.0038 | 0.004 | 0.007 | |
| Heptachlor Epoxide | 0 | 0 | | 0 | 0.0038 | 0.004 | 0.007 | |
| Toxaphene | 0 | 0 | | 0 | 0.0002 | 0.0002 | 0.0004 | |
| 2,3,7,8-TCDD | 0 | 0 | | 0 | N/A | N/A | N/A | |

☑ ***THH*** CCT (min): ###### 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 | 10.1 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Total Arsenic | 0 | 0 | | 0 | 10 | 10.0 | 18.0 | |
| Total Barium | 0 | 0 | | 0 | 2,400 | 2,400 | 4,321 | |
| Total Boron | 0 | 0 | | 0 | 3,100 | 3,100 | 5,581 | |
| 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 | 7.2 | |
| Dissolved Iron | 0 | 0 | | 0 | 300 | 300 | 540 | |
| 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 | 1,800 | |
| Total Mercury | 0 | 0 | | 0 | 0.050 | 0.05 | 0.09 | |
| Total Nickel | 0 | 0 | | 0 | 610 | 610 | 1,098 | |
| 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 | 0.43 | |
| Total Zinc | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acrolein | 0 | 0 | | 0 | 3 | 3.0 | 5.4 | |
| Acrylonitrile | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Benzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bromoform | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Carbon Tetrachloride | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chlorobenzene | 0 | 0 | | 0 | 100 | 100.0 | 180 | |
| 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 | 10.3 | |
| 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 | 59.4 | |
| 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 | 122 | |
| Methyl Bromide | 0 | 0 | | 0 | 100 | 100.0 | 180 | |
| 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 | 103 | |
| 1,2-trans-Dichloroethylene | 0 | 0 | | 0 | 100 | 100.0 | 180 | |
| 1,1,1-Trichloroethane | 0 | 0 | | 0 | 10,000 | 10,000 | 18,004 | |
| 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 | 54.0 | |
| 2,4-Dichlorophenol | 0 | 0 | | 0 | 10 | 10.0 | 18.0 | |
| 2,4-Dimethylphenol | 0 | 0 | | 0 | 100 | 100.0 | 180 | |
| 4,6-Dinitro-o-Cresol | 0 | 0 | | 0 | 2 | 2.0 | 3.6 | |
| 2,4-Dinitrophenol | 0 | 0 | | 0 | 10 | 10.0 | 18.0 | |
| 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 | 7,201 | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Acenaphthene | 0 | 0 | | 0 | 70 | 70.0 | 126 | |
| Anthracene | 0 | 0 | | 0 | 300 | 300 | 540 | |
| 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 | 360 | |
| 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 | 0.18 | |
| 2-Chloronaphthalene | 0 | 0 | | 0 | 800 | 800 | 1,440 | |
| 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 | 1,800 | |
| 1,3-Dichlorobenzene | 0 | 0 | | 0 | 7 | 7.0 | 12.6 | |
| 1,4-Dichlorobenzene | 0 | 0 | | 0 | 300 | 300 | 540 | |
| 3,3-Dichlorobenzidine | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Diethyl Phthalate | 0 | 0 | | 0 | 600 | 600 | 1,080 | |
| Dimethyl Phthalate | 0 | 0 | | 0 | 2,000 | 2,000 | 3,601 | |
| Di-n-Butyl Phthalate | 0 | 0 | | 0 | 20 | 20.0 | 36.0 | |
| 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 | 36.0 | |
| Fluorene | 0 | 0 | | 0 | 50 | 50.0 | 90.0 | |
| 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 | 7.2 | |
| Hexachloroethane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Isophorone | 0 | 0 | | 0 | 34 | 34.0 | 61.2 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Naphthalene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Nitrobenzene | 0 | 0 | | 0 | 10 | 10.0 | 18.0 | |
| 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 | 36.0 | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | 0.07 | 0.07 | 0.13 | |
| Aldrin | 0 | 0 | | 0 | N/A | N/A | N/A | |
| alpha-BHC | 0 | 0 | | 0 | N/A | N/A | N/A | |
| beta-BHC | 0 | 0 | | 0 | N/A | N/A | N/A | |
| gamma-BHC | 0 | 0 | | 0 | 4.2 | 4.2 | 7.56 | |
| Chlordane | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 4,4-DDT | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 4,4-DDE | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 4,4-DDD | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Dieldrin | 0 | 0 | | 0 | N/A | N/A | N/A | |
| alpha-Endosulfan | 0 | 0 | | 0 | 20 | 20.0 | 36.0 | |
| beta-Endosulfan | 0 | 0 | | 0 | 20 | 20.0 | 36.0 | |
| Endosulfan Sulfate | 0 | 0 | | 0 | 20 | 20.0 | 36.0 | |
| Endrin | 0 | 0 | | 0 | 0.03 | 0.03 | 0.054 | |
| Endrin Aldehyde | 0 | 0 | | 0 | 1 | 1.0 | 1.8 | |
| Heptachlor | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Heptachlor Epoxide | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Toxaphene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,3,7,8-TCDD | 0 | 0 | | 0 | N/A | N/A | N/A | |

☑ ***CRL*** CCT (min): ###### 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 | 0.28 | |
| Benzene | 0 | 0 | | 0 | 0.58 | 0.58 | 2.75 | |
| Bromoform | 0 | 0 | | 0 | 7 | 7.0 | 33.2 | |
| Carbon Tetrachloride | 0 | 0 | | 0 | 0.4 | 0.4 | 1.9 | |
| Chlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chlorodibromomethane | 0 | 0 | | 0 | 0.8 | 0.8 | 3.79 | |
| 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 | 4.5 | |
| 1,2-Dichloroethane | 0 | 0 | | 0 | 9.9 | 9.9 | 46.9 | |
| 1,1-Dichloroethylene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2-Dichloropropane | 0 | 0 | | 0 | 0.9 | 0.9 | 4.27 | |
| 1,3-Dichloropropylene | 0 | 0 | | 0 | 0.27 | 0.27 | 1.28 | |
| 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 | 94.8 | |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | | 0 | 0.2 | 0.2 | 0.95 | |
| Tetrachloroethylene | 0 | 0 | | 0 | 10 | 10.0 | 47.4 | |
| 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 | 2.61 | |
| Trichloroethylene | 0 | 0 | | 0 | 0.6 | 0.6 | 2.84 | |
| Vinyl Chloride | 0 | 0 | | 0 | 0.02 | 0.02 | 0.095 | |
| 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 | 0.14 | |
| Phenol | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 2,4,6-Trichlorophenol | 0 | 0 | | 0 | 1.5 | 1.5 | 7.11 | |
| 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 | 0.0005 | |
| Benzo(a)Anthracene | 0 | 0 | | 0 | 0.001 | 0.001 | 0.005 | |
| Benzo(a)Pyrene | 0 | 0 | | 0 | 0.0001 | 0.0001 | 0.0005 | |
| 3,4-Benzofluoranthene | 0 | 0 | | 0 | 0.001 | 0.001 | 0.005 | |
| Benzo(k)Fluoranthene | 0 | 0 | | 0 | 0.01 | 0.01 | 0.047 | |
| Bis(2-Chloroethyl)Ether | 0 | 0 | | 0 | 0.03 | 0.03 | 0.14 | |
| Bis(2-Chloroisopropyl)Ether | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Bis(2-Ethylhexyl)Phthalate | 0 | 0 | | 0 | 0.32 | 0.32 | 1.52 | |
| 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 | 0.57 | |
| Dibenzo(a,h)Anthrancene | 0 | 0 | | 0 | 0.0001 | 0.0001 | 0.0005 | |
| 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 | 0.24 | |
| 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 | 0.24 | |
| 2,6-Dinitrotoluene | 0 | 0 | | 0 | 0.05 | 0.05 | 0.24 | |
| 1,2-Diphenylhydrazine | 0 | 0 | | 0 | 0.03 | 0.03 | 0.14 | |
| 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 | 0.0004 | |
| Hexachlorobutadiene | 0 | 0 | | 0 | 0.01 | 0.01 | 0.047 | |
| Hexachlorocyclopentadiene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Hexachloroethane | 0 | 0 | | 0 | 0.1 | 0.1 | 0.47 | |
| Indeno(1,2,3-cd)Pyrene | 0 | 0 | | 0 | 0.001 | 0.001 | 0.005 | |
| 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 | 0.003 | |
| n-Nitrosodi-n-Propylamine | 0 | 0 | | 0 | 0.005 | 0.005 | 0.024 | |
| n-Nitrosodiphenylamine | 0 | 0 | | 0 | 3.3 | 3.3 | 15.6 | |
| Phenanthrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Pyrene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| 1,2,4-Trichlorobenzene | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Aldrin | 0 | 0 | | 0 | 0.0000008 | 8.00E-07 | 0.000004 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| alpha-BHC | 0 | 0 | | 0 | 0.0004 | 0.0004 | 0.002 | |
| beta-BHC | 0 | 0 | | 0 | 0.008 | 0.008 | 0.038 | |
| gamma-BHC | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Chlordane | 0 | 0 | | 0 | 0.0003 | 0.0003 | 0.001 | |
| 4,4-DDT | 0 | 0 | | 0 | 0.00003 | 0.00003 | 0.0001 | |
| 4,4-DDE | 0 | 0 | | 0 | 0.00002 | 0.00002 | 0.00009 | |
| 4,4-DDD | 0 | 0 | | 0 | 0.0001 | 0.0001 | 0.0005 | |
| Dieldrin | 0 | 0 | | 0 | 0.000001 | 0.000001 | 0.000005 | |
| alpha-Endosulfan | 0 | 0 | | 0 | N/A | N/A | N/A | |
| beta-Endosulfan | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Endosulfan Sulfate | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Endrin | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Endrin Aldehyde | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Heptachlor | 0 | 0 | | 0 | 0.000006 | 0.000006 | 0.00003 | |
| Heptachlor Epoxide | 0 | 0 | | 0 | 0.00003 | 0.00003 | 0.0001 | |
| Toxaphene | 0 | 0 | | 0 | 0.0007 | 0.0007 | 0.003 | |
| 2,3,7,8-TCDD | 0 | 0 | | 0 | 5E-09 | 5.00E-09 | 2.37E-08 | |

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

**No. Samples/Month:** 4

| | *Mass Limits* | | *Concentration Limits* | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Pollutants | AML (lbs/day) | MDL (lbs/day) | AML | MDL | IMAX | Units | Governing WQBEL | WQBEL Basis | Comments |
| Total Aluminum | Report | Report | Report | Report | Report | µg/L | 750 | AFC | Discharge Conc > 10% WQBEL (no RP) |
| Total Copper | Report | Report | Report | Report | Report | µg/L | 37.2 | AFC | Discharge Conc > 10% WQBEL (no RP) |
| Free Cyanide | 1.93 | 3.01 | 7.2 | 11.2 | 18.0 | µg/L | 7.2 | THH | Discharge Conc ≥ 50% WQBEL (RP) |
| Chloroform | Report | Report | Report | Report | Report | µg/L | 10.3 | THH | Discharge Conc > 25% WQBEL (no RP) |
| Dichlorobromomethane | Report | Report | Report | Report | Report | µg/L | 4.5 | CRL | Discharge Conc > 25% 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 Antimony | N/A | N/A | Discharge Conc < TQL |
| Total Arsenic | N/A | N/A | Discharge Conc < TQL |
| Total Barium | 4,321 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Beryllium | N/A | N/A | No WQS |
| Total Boron | 2,881 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Cadmium | 1.04 | µg/L | Discharge Conc < TQL |
| Total Chromium (III) | 359 | µg/L | Discharge Conc < TQL |
| Hexavalent Chromium | 16.3 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Cobalt | 34.2 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Cyanide | N/A | N/A | No WQS |
| Dissolved Iron | 540 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Iron | 2,701 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Lead | 21.1 | µg/L | Discharge Conc < TQL |
| Total Manganese | 1,800 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Mercury | 0.09 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Nickel | 224 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Phenols (Phenolics) (PWS) | | µg/L | PWS Not Applicable |
| Total Selenium | 8.98 | µg/L | Discharge Conc < TQL |
| Total Silver | 22.5 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Thallium | 0.43 | µg/L | Discharge Conc < TQL |
| Total Zinc | 288 | µg/L | Discharge Conc ≤ 10% WQBEL |
| Total Molybdenum | N/A | N/A | No WQS |
| Acrolein | 3.0 | µg/L | Discharge Conc < TQL |
| Acrylonitrile | 0.28 | µg/L | Discharge Conc < TQL |
| Benzene | 2.75 | µg/L | Discharge Conc < TQL |
| Bromoform | 33.2 | µg/L | Discharge Conc < TQL |
| Carbon Tetrachloride | 1.9 | µg/L | Discharge Conc < TQL |
| Chlorobenzene | 180 | µg/L | Discharge Conc < TQL |
| Chlorodibromomethane | 3.79 | µg/L | Discharge Conc ≤ 25% WQBEL |
| Chloroethane | N/A | N/A | No WQS |
| 2-Chloroethyl Vinyl Ether | 6,301 | µg/L | Discharge Conc < TQL |
| 1,1-Dichloroethane | N/A | N/A | No WQS |
| 1,2-Dichloroethane | 46.9 | µg/L | Discharge Conc < TQL |
| 1,1-Dichloroethylene | 59.4 | µg/L | Discharge Conc < TQL |
| 1,2-Dichloropropane | 4.27 | µg/L | Discharge Conc < TQL |
| 1,3-Dichloropropylene | 1.28 | µg/L | Discharge Conc < TQL |
| 1,4-Dioxane | N/A | N/A | No WQS |
| Ethylbenzene | 122 | µg/L | Discharge Conc < TQL |
| Methyl Bromide | 180 | µg/L | Discharge Conc < TQL |
| Methyl Chloride | 9,902 | µg/L | Discharge Conc < TQL |
| Methylene Chloride | 94.8 | µg/L | Discharge Conc ≤ 25% WQBEL |
| 1,1,2,2-Tetrachloroethane | 0.95 | µg/L | Discharge Conc < TQL |

| | | | |
|---|---|---|---|
| Tetrachloroethylene | 47.4 | µg/L | Discharge Conc < TQL |
| Toluene | 103 | µg/L | Discharge Conc ≤ 25% WQBEL |
| 1,2-trans-Dichloroethylene | 180 | µg/L | Discharge Conc < TQL |
| 1,1,1-Trichloroethane | 1,098 | µg/L | Discharge Conc < TQL |
| 1,1,2-Trichloroethane | 2.61 | µg/L | Discharge Conc < TQL |
| Trichloroethylene | 2.84 | µg/L | Discharge Conc < TQL |
| Vinyl Chloride | 0.095 | µg/L | Discharge Conc < TQL |
| 2-Chlorophenol | 54.0 | µg/L | Discharge Conc < TQL |
| 2,4-Dichlorophenol | 18.0 | µg/L | Discharge Conc < TQL |
| 2,4-Dimethylphenol | 180 | µg/L | Discharge Conc < TQL |
| 4,6-Dinitro-o-Cresol | 3.6 | µg/L | Discharge Conc < TQL |
| 2,4-Dinitrophenol | 18.0 | µg/L | Discharge Conc < TQL |
| 2-Nitrophenol | 2,881 | µg/L | Discharge Conc < TQL |
| 4-Nitrophenol | 846 | µg/L | Discharge Conc < TQL |
| p-Chloro-m-Cresol | 160 | µg/L | Discharge Conc < TQL |
| Pentachlorophenol | 0.14 | µg/L | Discharge Conc < TQL |
| Phenol | 7,201 | µg/L | Discharge Conc < TQL |
| 2,4,6-Trichlorophenol | 7.11 | µg/L | Discharge Conc < TQL |
| Acenaphthene | 30.6 | µg/L | Discharge Conc < TQL |
| Acenaphthylene | N/A | N/A | No WQS |
| Anthracene | 540 | µg/L | Discharge Conc < TQL |
| Benzidine | 0.0005 | µg/L | Discharge Conc < TQL |
| Benzo(a)Anthracene | 0.005 | µg/L | Discharge Conc < TQL |
| Benzo(a)Pyrene | 0.0005 | µg/L | Discharge Conc < TQL |
| 3,4-Benzofluoranthene | 0.005 | µg/L | Discharge Conc < TQL |
| Benzo(ghi)Perylene | N/A | N/A | No WQS |
| Benzo(k)Fluoranthene | 0.047 | µg/L | Discharge Conc < TQL |
| Bis(2-Chloroethoxy)Methane | N/A | N/A | No WQS |
| Bis(2-Chloroethyl)Ether | 0.14 | µg/L | Discharge Conc < TQL |
| Bis(2-Chloroisopropyl)Ether | 360 | µg/L | Discharge Conc < TQL |
| Bis(2-Ethylhexyl)Phthalate | 1.52 | µg/L | Discharge Conc < TQL |
| 4-Bromophenyl Phenyl Ether | 97.2 | µg/L | Discharge Conc < TQL |
| Butyl Benzyl Phthalate | 0.18 | µg/L | Discharge Conc < TQL |
| 2-Chloronaphthalene | 1,440 | µg/L | Discharge Conc < TQL |
| 4-Chlorophenyl Phenyl Ether | N/A | N/A | No WQS |
| Chrysene | 0.57 | µg/L | Discharge Conc < TQL |
| Dibenzo(a,h)Anthrancene | 0.0005 | µg/L | Discharge Conc < TQL |
| 1,2-Dichlorobenzene | 288 | µg/L | Discharge Conc < TQL |
| 1,3-Dichlorobenzene | 12.6 | µg/L | Discharge Conc < TQL |
| 1,4-Dichlorobenzene | 270 | µg/L | Discharge Conc < TQL |
| 3,3-Dichlorobenzidine | 0.24 | µg/L | Discharge Conc < TQL |
| Diethyl Phthalate | 1,080 | µg/L | Discharge Conc < TQL |
| Dimethyl Phthalate | 900 | µg/L | Discharge Conc < TQL |
| Di-n-Butyl Phthalate | 36.0 | µg/L | Discharge Conc < TQL |
| 2,4-Dinitrotoluene | 0.24 | µg/L | Discharge Conc < TQL |

| | | | |
|---|---|---|---|
| 2,6-Dinitrotoluene | 0.24 | µg/L | Discharge Conc < TQL |
| Di-n-Octyl Phthalate | N/A | N/A | No WQS |
| 1,2-Diphenylhydrazine | 0.14 | µg/L | Discharge Conc < TQL |
| Fluoranthene | 36.0 | µg/L | Discharge Conc < TQL |
| Fluorene | 90.0 | µg/L | Discharge Conc < TQL |
| Hexachlorobenzene | 0.0004 | µg/L | Discharge Conc < TQL |
| Hexachlorobutadiene | 0.047 | µg/L | Discharge Conc < TQL |
| Hexachlorocyclopentadiene | 1.8 | µg/L | Discharge Conc < TQL |
| Hexachloroethane | 0.47 | µg/L | Discharge Conc < TQL |
| Indeno(1,2,3-cd)Pyrene | 0.005 | µg/L | Discharge Conc < TQL |
| Isophorone | 61.2 | µg/L | Discharge Conc < TQL |
| Naphthalene | 77.4 | µg/L | Discharge Conc < TQL |
| Nitrobenzene | 18.0 | µg/L | Discharge Conc < TQL |
| n-Nitrosodimethylamine | 0.003 | µg/L | Discharge Conc < TQL |
| n-Nitrosodi-n-Propylamine | 0.024 | µg/L | Discharge Conc < TQL |
| n-Nitrosodiphenylamine | 15.6 | µg/L | Discharge Conc < TQL |
| Phenanthrene | 1.8 | µg/L | Discharge Conc < TQL |
| Pyrene | 36.0 | µg/L | Discharge Conc < TQL |
| 1,2,4-Trichlorobenzene | 0.13 | µg/L | Discharge Conc < TQL |
| Aldrin | 0.000004 | µg/L | Discharge Conc < TQL |
| alpha-BHC | 0.002 | µg/L | Discharge Conc < TQL |
| beta-BHC | 0.038 | µg/L | Discharge Conc < TQL |
| gamma-BHC | 0.95 | µg/L | Discharge Conc < TQL |
| delta BHC | N/A | N/A | No WQS |
| Chlordane | 0.001 | µg/L | Discharge Conc < TQL |
| 4,4-DDT | 0.0001 | µg/L | Discharge Conc < TQL |
| 4,4-DDE | 0.00009 | µg/L | Discharge Conc < TQL |
| 4,4-DDD | 0.0005 | µg/L | Discharge Conc < TQL |
| Dieldrin | 0.000005 | µg/L | Discharge Conc < TQL |
| alpha-Endosulfan | 0.1 | µg/L | Discharge Conc < TQL |
| beta-Endosulfan | 0.1 | µg/L | Discharge Conc < TQL |
| Endosulfan Sulfate | 36.0 | µg/L | Discharge Conc < TQL |
| Endrin | 0.054 | µg/L | Discharge Conc < TQL |
| Endrin Aldehyde | 1.8 | µg/L | Discharge Conc < TQL |
| Heptachlor | 0.00003 | µg/L | Discharge Conc < TQL |
| Heptachlor Epoxide | 0.0001 | µg/L | Discharge Conc < TQL |
| Toxaphene | 0.0004 | µg/L | Discharge Conc < TQL |
| 2,3,7,8-TCDD | 0.00002 | ng/L | Discharge Conc < TQL |

Main Site: 301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | www.alsglobal.com
Associated Site: 20 Riverside Drive | Spring City, PA 19475 | Phone: 610-948-4903 | Fax: 717-944-1430 |

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343, NJ PA101

Analytical Results Report For **Lancaster, City of [WW]**

Project Routine Sample Submission
Workorder 3345201
Report ID 307681 on 3/14/2024 (Revised report. See Project Notations Section.)

## Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Feb 12, 2024.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Jessica Smith (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.


ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):
Zach Runk - Lancaster, City of [WW]

*This page is included as part of the Analytical Report and must be retained as a permanent record thereof.*

Jessica Smith
**Jessica Smith** *(ALS Digital Signature)*
Project Coordinator

**Project** Routine Sample Submission
**Workorder** 3345201

## Sample Summary

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | Collector | Collection Company |
|---|---|---|---|---|---|---|
| 3345201001 | Effluent | Waste Water | 02/08/2024 13:43 | 02/12/2024 14:10 | CBC | Collected By Client |
| 3345201002 | Effluent Composite | Waste Water | 02/08/2024 08:00 | 02/12/2024 14:10 | CBC | Collected By Client |
| 3345201003 | Effluent | Waste Water | 02/09/2024 11:30 | 02/12/2024 14:10 | CBC | Collected By Client |

**Project** Routine Sample Submission
**Workorder** 3345201

## Reference

### Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136, including but not limited to the following EPA Method reference revisions:
  EPA 300.1 Rev. 1.0-1997
  EPA 300.0 Rev. 2.1-1993
  EPA 353.2 Rev. 2.0-1993
  EPA 410.4 Rev. 1.0-1993
  EPA 420.4 Rev. 1.0-1993
  EPA 365.1 Rev. 2.0-1993
  EPA 200.7 Rev. 4.4-1994
  EPA 200.8 Rev. 5.4-1994
  EPA 245.1 Rev. 3.0-1994
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

### Standard Acronyms/Flags

| | |
|---|---|
| J | Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte |
| U | Indicates that the analyte was Not Detected (ND) above the MDL |
| N | Indicates presumptive evidence of the presence of a compound |
| MDL | Method Detection Limit |
| PQL | Practical Quantitation Limit |
| RDL | Practical Quantitation Limit for this Project |
| ND | Not Detected - indicates that the analyte was Not Detected |
| Cntr | Analysis was performed using this container |
| RegLmt | Regulatory Limit |
| LCS | Laboratory Control Sample |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| DUP | Sample Duplicate |
| %Rec | Percent Recovery |
| RPD | Relative Percent Difference |
| LOD | DoD Limit of Detection |
| LOQ | DoD Limit of Quantitation |
| DL | DoD Detection Limit |
| I | Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL) |
| (S) | Surrogate Compound |
| NC | Not Calculated |
| * | Result outside of QC limits |
| # | Please reference the result in the Results Section for analyte-level flags. |

**Project** **Routine Sample Submission**
**Workorder** **3345201**

## Project Notations

**P1** Report modified to correct properties for mdl and reporting units. JLS 03/07/24

## Sample Notations

| Lab ID | Sample ID |
|---|---|

## Result Notations

| Notation Ref. |
|---|

**Project** Routine Sample Submission
**Workorder** 3345201

## Detected Results Summary

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent | Collected | 02/08/2024 13:43 |
| Lab Sample ID | 3345201001 | Lab Receipt | 02/12/2024 14:10 |

| Compound | Result | Units | RDL | MDL | Method | Flag |
|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS** | | | | | | |
| Bromodichloromethane | 0.78 | ug/L | 0.50 | 0.18 | EPA 624.1 | # |
| Chloroform | 2.5 | ug/L | 0.50 | 0.15 | EPA 624.1 | # |

**Project** Routine Sample Submission
**Workorder** 3345201

## Detected Results Summary

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent Composite | Collected | 02/08/2024 08:00 |
| Lab Sample ID | 3345201002 | Lab Receipt | 02/12/2024 14:10 |

| Compound | Result | Units | RDL | MDL | Method | Flag |
|---|---|---|---|---|---|---|
| **METALS** | | | | | | |
| Aluminum, Total | 49.5J | ug/L | 50.0 | 16.0 | EPA 200.7 | # |
| Boron, Total | 271 | ug/L | 50.0 | 16.0 | EPA 200.7 | # |
| Copper, Total | 11.4 | ug/L | 5.0 | 1.6 | EPA 200.7 | # |
| Zinc, Total | 27.8 | ug/L | 10.0 | 3.3 | EPA 200.7 | # |

**Project** Routine Sample Submission
**Workorder** 3345201

## Detected Results Summary

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent | Collected | 02/09/2024 11:30 |
| Lab Sample ID | 3345201003 | Lab Receipt | 02/12/2024 14:10 |

| Compound | Result | Units | RDL | MDL | Method | Flag |
|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS** | | | | | | |
| Bromodichloromethane | 0.61 | ug/L | 0.50 | 0.18 | EPA 624.1 | # |
| Chloroform | 2.4 | ug/L | 0.50 | 0.15 | EPA 624.1 | # |

**Project** Routine Sample Submission
**Workorder** 3345201

## Results

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent | Collected | 02/08/2024 13:43 |
| Lab Sample ID | 3345201001 | Lab Receipt | 02/12/2024 14:10 |

### VOLATILE ORGANICS

| Compound | Result | Flag | Units | RDL | MDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| Bromodichloromethane | 0.78 | P1 | ug/L | 0.50 | 0.18 | EPA 624.1 | 1 | 02/14/2024 23:35 | PDK | A |
| Chloroform | 2.5 | P1 | ug/L | 0.50 | 0.15 | EPA 624.1 | 1 | 02/14/2024 23:35 | PDK | A |

*SURROGATES*

| Compound | CAS No | Recovery | Limits(%) | Analysis Date/Time | Qualifiers |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 103% | 72 – 142 | 02/14/2024 23:35 | |
| 4-Bromofluorobenzene | 460-00-4 | 107% | 73 – 119 | 02/14/2024 23:35 | |
| Dibromofluoromethane | 1868-53-7 | 100% | 74 – 132 | 02/14/2024 23:35 | |
| Toluene-d8 | 2037-26-5 | 101% | 75 – 133 | 02/14/2024 23:35 | |

**Project** Routine Sample Submission
**Workorder** 3345201

## Results

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent Composite | Collected | 02/08/2024 08:00 |
| Lab Sample ID | 3345201002 | Lab Receipt | 02/12/2024 14:10 |

### METALS

| Compound | Result | Flag | Units | RDL | MDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum, Total | 49.5J | J,P1 | ug/L | 50.0 | 16.0 | EPA 200.7 | 1 | 02/23/2024 12:04 | AXW | C |
| Boron, Total | 271 | P1 | ug/L | 50.0 | 16.0 | EPA 200.7 | 1 | 02/23/2024 12:04 | AXW | C |
| Copper, Total | 11.4 | P1 | ug/L | 5.0 | 1.6 | EPA 200.7 | 1 | 02/23/2024 12:04 | AXW | C |
| Zinc, Total | 27.8 | P1 | ug/L | 10.0 | 3.3 | EPA 200.7 | 1 | 02/23/2024 12:04 | AXW | C |

### SEMIVOLATILES

| Compound | Result | Flag | Units | RDL | MDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| bis(2-Ethylhexyl)phthalate | ND | ND,P1 | ug/L | 3.0 | 0.79 | EPA 625.1 | 1 | 02/15/2024 23:05 | M1O | A |

*SURROGATES*

| Compound | CAS No | Recovery | Limits(%) | Analysis Date/Time | Qualifiers |
|---|---|---|---|---|---|
| 2,4,6-Tribromophenol | 118-79-6 | 63.6% | 23 – 131 | 02/15/2024 23:05 | |
| 2-Fluorobiphenyl | 321-60-8 | 69.6% | 24 – 116 | 02/15/2024 23:05 | |
| 2-Fluorophenol | 367-12-4 | 36.5% | 10 – 85 | 02/15/2024 23:05 | |
| Nitrobenzene-d5 | 4165-60-0 | 64.6% | 32 – 125 | 02/15/2024 23:05 | |
| Phenol-d5 | 4165-62-2 | 33% | 7 – 56 | 02/15/2024 23:05 | |
| Terphenyl-d14 | 98904-43-9 | 44.3% | 41 – 145 | 02/15/2024 23:05 | |

**Project** Routine Sample Submission
**Workorder** 3345201

## Results

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent | Collected | 02/09/2024 11:30 |
| Lab Sample ID | 3345201003 | Lab Receipt | 02/12/2024 14:10 |

### VOLATILE ORGANICS

| Compound | Result | Flag | Units | RDL | MDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| Bromodichloromethane | 0.61 | P1 | ug/L | 0.50 | 0.18 | EPA 624.1 | 1 | 02/14/2024 23:59 | PDK | A |
| Chloroform | 2.4 | P1 | ug/L | 0.50 | 0.15 | EPA 624.1 | 1 | 02/14/2024 23:59 | PDK | A |

*SURROGATES*

| Compound | CAS No | Recovery | Limits(%) | Analysis Date/Time | Qualifiers |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 108% | 72 – 142 | 02/14/2024 23:59 | |
| 4-Bromofluorobenzene | 460-00-4 | 107% | 73 – 119 | 02/14/2024 23:59 | |
| Dibromofluoromethane | 1868-53-7 | 103% | 74 – 132 | 02/14/2024 23:59 | |
| Toluene-d8 | 2037-26-5 | 105% | 75 – 133 | 02/14/2024 23:59 | |

**Project** **Routine Sample Submission**
**Workorder** **3345201**

## Sample - Method Cross Reference Table

| Lab ID | Sample ID | Analysis Method | Preparation Method | Leachate Method |
|---|---|---|---|---|
| 3345201001 | Effluent | EPA 624.1 | N/A | |
| 3345201002 | Effluent Composite | EPA 200.7 | EPA TRMD | |
| | | EPA 625.1 | EPA 625.1 | |
| 3345201003 | Effluent | EPA 624.1 | N/A | |

**Project** **Routine Sample Submission**
**Workorder** **3345201**

## QUALITY CONTROL DATA CROSS REFERENCE TABLE

| Lab ID | Sample ID | Preparation Method | Prep Batch | Prep Date/Time | By | Analysis Method | Anly Batch |
|---|---|---|---|---|---|---|---|
| 3345201001 | Effluent | N/A | N/A | N/A | | EPA 624.1 | 1138155 |
| 3345201002 | Effluent Composite | EPA TRMD | 1137211 | 02/13/2024 21:23 | ANN | EPA 200.7 | 1144363 |
| | | EPA 625.1 | 1138404 | 02/15/2024 10:20 | BNR | EPA 625.1 | 1138699 |
| 3345201003 | Effluent | N/A | N/A | N/A | | EPA 624.1 | 1138155 |

301 Fulling Mill Road
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

# CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

3345201
Logged By: SLS
PM: JLS

01 of

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Client Name: City of Lancaster
Address: 1220 New Danville Pike
Lancaster, PA 17603
Contact: Zachary Runk
Phone#: 717-293-5535
Project Name/#:
Bill To:

TAT [X] Normal-Standard TAT is 10-12 business days.
[ ] Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? [ ] -Y
Fax? [ ] -Y No.:

| | Container Type | CG | AG | PL | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Container Size | 40mL | 250 | 125mL | | | | | | | |
| | Perservative | HCl | None | HNO3 | | | | | | | |
| | ANALYSES/METHOD REQUESTED | | | | | | | | | | |
| | *G or C | **Matrix | Dichlorobromomethane, Chloroform | Bis(2-Ethylhexyl)Phthalate | Al, B, Cu, Zn | | | | | | |
| Sample Description/Location (as it will appear on the lab report) | Date Collected mm/dd/yy | Time hh:mm | Enter Number of Containers Per Sample or Field Results Below. | | | | | | | | |
| 1 Effluent | 2/8/24 | 1343 | G | WW | 2 | | | | | | |
| 2 Effluent | 2/8/24 | 0800 | C | WW | | 1 | 1 | | | | |
| 3 Effluent | 2/9/24 | 1130 | G | WW | 2 | | | | | | |
| 4 | | | | | | | | | | | |
| 5 | | | | | | | | | | | |
| 6 | | | | | | | | | | | |
| 7 | | | | | | | | | | | |
| 8 | | | | | | | | | | | |
| 9 | | | | | | | | | | | |
| 10 | | | | | | | | | | | |

SAMPLED BY (Please Print): Zach Runk

Sampler Comments:

| Relinquished By / Company Name | Date | Time | Received By / Company Name | Date | Time |
|---|---|---|---|---|---|
| 1 City of Lancaster | 02024 | 1300 | 2 ALS | 2/12/24 | 0850 |
| 3 | | | 4 ALS | 2/12/24 | 1410 |
| 5 | | | 6 | | |
| 7 | | | 8 | | |
| 9 | | | 10 | | |

* G=Grab; C=Composite

**Matrix - Al=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Receipt Information (completed by Receiving Lab)
W.O. Temp: 4 Therm ID: 573
Courier/Tracking #:
Purchase Order #:
Project Comments:
REPORT RESULTS FOR ALL SAMPLES IN ug/L
Report the following to the MDL:
Al, B

ALS Field Services: □ Pickup □ Labor
□ Composite Sampling □ Rental Equipment

Temp By: DPB | WO Temp (°C): 4° | Therm ID: 573

Receipt Info Completed By: DPB
Cooler Custody Seal Intact Y N NA
Sample Custody Seal Intact Y N NA
Received on Ice Y N NA
Cooler & Samples Intact Y N
Correct Containers Provided N
Sample Label/COC Agree N
Adequate Sample Volumes N
CR6 Samples Filtered Y N NA
OP Samples Filtered Y N NA
VOA Trip Blank Y N NA
NJ≤ 4 Days? Y
Rad Screen (uCi)
Courier/Tracking #:

SDWA Compliance Y
PWSID
WV Containers 0-6°C Y N NA

Data Deliverable: [ ] CLP-like [ ] USACE/DOD [ ] USACE [ ] Navy [ ]

Reportable to PADEP? Yes [ ] No [ ]
PWSID #

Sample Disposal: Lab [ ] Special [ ]

EDDS: Format Type-

State Samples Collected In: [ ] NY [ ] NJ [X] PA [ ] NC [ ] other

ALS SHIPPING ADDRESS: 301 Fulling Mill Road, Middletown, PA 17057

Rev 11/18

Main Site: 301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | www.alsglobal.com
Associated Site: 20 Riverside Drive | Spring City, PA 19475 | Phone: 610-948-4903 | Fax: 717-944-1430 |

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343, NJ PA101

Analytical Results Report For **Lancaster, City of [WW]**

| | |
|---|---|
| Project | Routine Sample Submission |
| Workorder | 3345201 |
| Report ID | 307681 on 3/14/2024 (Revised report. See Project Notations Section.) |

## Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Feb 12, 2024.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Jessica Smith (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.


ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):
Zach Runk - Lancaster, City of [WW]

*This page is included as part of the Analytical Report and must be retained as a permanent record thereof.*

Jessica Smith

**Jessica Smith** *(ALS Digital Signature)*
Project Coordinator

**Project** Routine Sample Submission
**Workorder** 3344985

## Sample Summary

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | Collector | Collection Company |
|---|---|---|---|---|---|---|
| 3344985001 | Effluent | Waste Water | 02/05/2024 09:12 | 02/08/2024 15:45 | CBC | Collected By Client |
| 3344985002 | Effluent | Waste Water | 02/05/2024 08:00 | 02/08/2024 15:45 | CBC | Collected By Client |
| 3344985003 | Effluent | Waste Water | 02/06/2024 07:55 | 02/08/2024 15:45 | CBC | Collected By Client |
| 3344985004 | Effluent | Waste Water | 02/06/2024 08:00 | 02/08/2024 15:45 | CBC | Collected By Client |
| 3344985005 | Effluent | Waste Water | 02/07/2024 08:39 | 02/08/2024 15:45 | CBC | Collected By Client |
| 3344985006 | Effluent | Waste Water | 02/07/2024 08:00 | 02/08/2024 15:45 | CBC | Collected By Client |

**Project** Routine Sample Submission
**Workorder** 3344985

## Reference

### Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136, including but not limited to the following EPA Method reference revisions:
  EPA 300.1 Rev. 1.0-1997
  EPA 300.0 Rev. 2.1-1993
  EPA 353.2 Rev. 2.0-1993
  EPA 410.4 Rev. 1.0-1993
  EPA 420.4 Rev. 1.0-1993
  EPA 365.1 Rev. 2.0-1993
  EPA 200.7 Rev. 4.4-1994
  EPA 200.8 Rev. 5.4-1994
  EPA 245.1 Rev. 3.0-1994
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

### Standard Acronyms/Flags

| | |
|---|---|
| J | Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte |
| U | Indicates that the analyte was Not Detected (ND) above the MDL |
| N | Indicates presumptive evidence of the presence of a compound |
| MDL | Method Detection Limit |
| PQL | Practical Quantitation Limit |
| RDL | Practical Quantitation Limit for this Project |
| ND | Not Detected - indicates that the analyte was Not Detected |
| Cntr | Analysis was performed using this container |
| RegLmt | Regulatory Limit |
| LCS | Laboratory Control Sample |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| DUP | Sample Duplicate |
| %Rec | Percent Recovery |
| RPD | Relative Percent Difference |
| LOD | DoD Limit of Detection |
| LOQ | DoD Limit of Quantitation |
| DL | DoD Detection Limit |
| I | Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL) |
| (S) | Surrogate Compound |
| NC | Not Calculated |
| * | Result outside of QC limits |
| # | Please reference the result in the Results Section for analyte-level flags. |

**Project** **Routine Sample Submission**
**Workorder** **3344985**

## Project Notations

**P1** Report modified to correct properties for mdl and reporting units. JLS 03/07/24

## Sample Notations

| Lab ID | Sample ID |
|---|---|

## Result Notations

| Notation Ref. | |
|---|---|
| 1 | The surrogate Terphenyl-d14 for method EPA 625.1 was outside of control limits. The % Recovery was reported as 31.8 and the control limits were 41 to 145. This result was reported at a dilution of 1. |

**Project** Routine Sample Submission
**Workorder** 3344985

## Detected Results Summary

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent | Collected | 02/05/2024 09:12 |
| Lab Sample ID | 3344985001 | Lab Receipt | 02/08/2024 15:45 |

| Compound | Result | Units | RDL | MDL | Method | Flag |
|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS** | | | | | | |
| Bromodichloromethane | 0.93 | ug/L | 0.50 | 0.18 | EPA 624.1 | # |
| Chloroform | 3.1 | ug/L | 0.50 | 0.15 | EPA 624.1 | # |

**Project** Routine Sample Submission
**Workorder** 3344985

## Detected Results Summary

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent | Collected | 02/05/2024 08:00 |
| Lab Sample ID | 3344985002 | Lab Receipt | 02/08/2024 15:45 |

| Compound | Result | Units | RDL | MDL | Method | Flag |
|---|---|---|---|---|---|---|
| **METALS** | | | | | | |
| Aluminum, Total | 91.6 | ug/L | 50.0 | 16.0 | EPA 200.7 | # |
| Boron, Total | 143 | ug/L | 50.0 | 16.0 | EPA 200.7 | # |
| Copper, Total | 9.3 | ug/L | 5.0 | 1.6 | EPA 200.7 | # |
| Zinc, Total | 25.6 | ug/L | 10.0 | 3.3 | EPA 200.7 | # |

**Project** Routine Sample Submission
**Workorder** 3344985

## Detected Results Summary

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent | Collected | 02/06/2024 07:55 |
| Lab Sample ID | 3344985003 | Lab Receipt | 02/08/2024 15:45 |

| Compound | Result | Units | RDL | MDL | Method | Flag |
|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS** | | | | | | |
| Bromodichloromethane | 0.44J | ug/L | 0.50 | 0.18 | EPA 624.1 | # |
| Chloroform | 2.3 | ug/L | 0.50 | 0.15 | EPA 624.1 | # |

**Project** Routine Sample Submission
**Workorder** 3344985

## Detected Results Summary

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent | Collected | 02/06/2024 08:00 |
| Lab Sample ID | 3344985004 | Lab Receipt | 02/08/2024 15:45 |

| Compound | Result | Units | RDL | MDL | Method | Flag |
|---|---|---|---|---|---|---|
| **METALS** | | | | | | |
| Aluminum, Total | 54.8 | ug/L | 50.0 | 16.0 | EPA 200.7 | # |
| Boron, Total | 206 | ug/L | 50.0 | 16.0 | EPA 200.7 | # |
| Copper, Total | 10.1 | ug/L | 5.0 | 1.6 | EPA 200.7 | # |
| Zinc, Total | 22.9 | ug/L | 10.0 | 3.3 | EPA 200.7 | # |

**Project** Routine Sample Submission
**Workorder** 3344985

## Detected Results Summary

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent | Collected | 02/07/2024 08:39 |
| Lab Sample ID | 3344985005 | Lab Receipt | 02/08/2024 15:45 |

| Compound | Result | Units | RDL | MDL | Method | Flag |
|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS** | | | | | | |
| Bromodichloromethane | 0.44J | ug/L | 0.50 | 0.18 | EPA 624.1 | # |
| Chloroform | 2.2 | ug/L | 0.50 | 0.15 | EPA 624.1 | # |

**Project** Routine Sample Submission
**Workorder** 3344985

## Detected Results Summary

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent | Collected | 02/07/2024 08:00 |
| Lab Sample ID | 3344985006 | Lab Receipt | 02/08/2024 15:45 |

| Compound | Result | Units | RDL | MDL | Method | Flag |
|---|---|---|---|---|---|---|
| **METALS** | | | | | | |
| Aluminum, Total | 90.0 | ug/L | 50.0 | 16.0 | EPA 200.7 | # |
| Boron, Total | 323 | ug/L | 50.0 | 16.0 | EPA 200.7 | # |
| Copper, Total | 10.8 | ug/L | 5.0 | 1.6 | EPA 200.7 | # |
| Zinc, Total | 32.6 | ug/L | 10.0 | 3.3 | EPA 200.7 | # |

**Project** Routine Sample Submission
**Workorder** 3344985

## Results

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent | Collected | 02/05/2024 09:12 |
| Lab Sample ID | 3344985001 | Lab Receipt | 02/08/2024 15:45 |

### VOLATILE ORGANICS

| Compound | Result | Flag | Units | RDL | MDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| Bromodichloromethane | 0.93 | P1 | ug/L | 0.50 | 0.18 | EPA 624.1 | 1 | 02/10/2024 15:13 | VLM | A |
| Chloroform | 3.1 | P1 | ug/L | 0.50 | 0.15 | EPA 624.1 | 1 | 02/10/2024 15:13 | VLM | A |

*SURROGATES*

| Compound | CAS No | Recovery | Limits(%) | Analysis Date/Time | Qualifiers |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 110% | 72 – 142 | 02/10/2024 15:13 | |
| 4-Bromofluorobenzene | 460-00-4 | 116% | 73 – 119 | 02/10/2024 15:13 | |
| Dibromofluoromethane | 1868-53-7 | 99.5% | 74 – 132 | 02/10/2024 15:13 | |
| Toluene-d8 | 2037-26-5 | 102% | 75 – 133 | 02/10/2024 15:13 | |

**Project** Routine Sample Submission
**Workorder** 3344985

## Results

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent | Collected | 02/05/2024 08:00 |
| Lab Sample ID | 3344985002 | Lab Receipt | 02/08/2024 15:45 |

### METALS

| Compound | Result | Flag | Units | RDL | MDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum, Total | 91.6 | P1 | ug/L | 50.0 | 16.0 | EPA 200.7 | 1 | 02/23/2024 16:04 | SRT | A |
| Boron, Total | 143 | P1 | ug/L | 50.0 | 16.0 | EPA 200.7 | 1 | 02/23/2024 16:04 | SRT | A |
| Copper, Total | 9.3 | P1 | ug/L | 5.0 | 1.6 | EPA 200.7 | 1 | 03/13/2024 12:41 | AXW | A |
| Zinc, Total | 25.6 | P1 | ug/L | 10.0 | 3.3 | EPA 200.7 | 1 | 02/23/2024 16:04 | SRT | A |

### SEMIVOLATILES

| Compound | Result | Flag | Units | RDL | MDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| bis(2-Ethylhexyl)phthalate | ND | ND,P1 | ug/L | 3.0 | 0.80 | EPA 625.1 | 1 | 02/13/2024 06:11 | M1O | B |

*SURROGATES*

| Compound | CAS No | Recovery | Limits(%) | Analysis Date/Time | Qualifiers |
|---|---|---|---|---|---|
| 2,4,6-Tribromophenol | 118-79-6 | 50.1% | 23 – 131 | 02/13/2024 06:11 | |
| 2-Fluorobiphenyl | 321-60-8 | 53.6% | 24 – 116 | 02/13/2024 06:11 | |
| 2-Fluorophenol | 367-12-4 | 21.3% | 10 – 85 | 02/13/2024 06:11 | |
| Nitrobenzene-d5 | 4165-60-0 | 49.9% | 32 – 125 | 02/13/2024 06:11 | |
| Phenol-d5 | 4165-62-2 | 19.3% | 7 – 56 | 02/13/2024 06:11 | |
| Terphenyl-d14 | 98904-43-9 | 31.8*% | 41 – 145 | 02/13/2024 06:11 | 1 |

**Project** Routine Sample Submission
**Workorder** 3344985

## Results

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent | Collected | 02/06/2024 07:55 |
| Lab Sample ID | 3344985003 | Lab Receipt | 02/08/2024 15:45 |

### VOLATILE ORGANICS

| Compound | Result | Flag | Units | RDL | MDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| Bromodichloromethane | 0.44J | J,P1 | ug/L | 0.50 | 0.18 | EPA 624.1 | 1 | 02/10/2024 15:37 | VLM | A |
| Chloroform | 2.3 | P1 | ug/L | 0.50 | 0.15 | EPA 624.1 | 1 | 02/10/2024 15:37 | VLM | A |

*SURROGATES*

| Compound | CAS No | Recovery | Limits(%) | Analysis Date/Time | Qualifiers |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 111% | 72 – 142 | 02/10/2024 15:37 | |
| 4-Bromofluorobenzene | 460-00-4 | 105% | 73 – 119 | 02/10/2024 15:37 | |
| Dibromofluoromethane | 1868-53-7 | 100% | 74 – 132 | 02/10/2024 15:37 | |
| Toluene-d8 | 2037-26-5 | 108% | 75 – 133 | 02/10/2024 15:37 | |

**Project** Routine Sample Submission
**Workorder** 3344985

## Results

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent | Collected | 02/06/2024 08:00 |
| Lab Sample ID | 3344985004 | Lab Receipt | 02/08/2024 15:45 |

### METALS

| Compound | Result | Flag | Units | RDL | MDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum, Total | 54.8 | P1 | ug/L | 50.0 | 16.0 | EPA 200.7 | 1 | 02/26/2024 17:51 | AXW | C |
| Boron, Total | 206 | P1 | ug/L | 50.0 | 16.0 | EPA 200.7 | 1 | 02/26/2024 17:51 | AXW | C |
| Copper, Total | 10.1 | P1 | ug/L | 5.0 | 1.6 | EPA 200.7 | 1 | 02/26/2024 17:51 | AXW | C |
| Zinc, Total | 22.9 | P1 | ug/L | 10.0 | 3.3 | EPA 200.7 | 1 | 02/26/2024 17:51 | AXW | C |

### SEMIVOLATILES

| Compound | Result | Flag | Units | RDL | MDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| bis(2-Ethylhexyl)phthalate | ND | ND,P1 | ug/L | 3.0 | 0.80 | EPA 625.1 | 1 | 02/13/2024 08:20 | M1O | A |

*SURROGATES*

| Compound | CAS No | Recovery | Limits(%) | Analysis Date/Time | Qualifiers |
|---|---|---|---|---|---|
| 2,4,6-Tribromophenol | 118-79-6 | 88.9% | 23 – 131 | 02/13/2024 08:20 | |
| 2-Fluorobiphenyl | 321-60-8 | 61.8% | 24 – 116 | 02/13/2024 08:20 | |
| 2-Fluorophenol | 367-12-4 | 41.1% | 10 – 85 | 02/13/2024 08:20 | |
| Nitrobenzene-d5 | 4165-60-0 | 59.1% | 32 – 125 | 02/13/2024 08:20 | |
| Phenol-d5 | 4165-62-2 | 29% | 7 – 56 | 02/13/2024 08:20 | |
| Terphenyl-d14 | 98904-43-9 | 45.6% | 41 – 145 | 02/13/2024 08:20 | |

**Project** Routine Sample Submission
**Workorder** 3344985

## Results

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent | Collected | 02/07/2024 08:39 |
| Lab Sample ID | 3344985005 | Lab Receipt | 02/08/2024 15:45 |

### VOLATILE ORGANICS

| Compound | Result | Flag | Units | RDL | MDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| Bromodichloromethane | 0.44J | J,P1 | ug/L | 0.50 | 0.18 | EPA 624.1 | 1 | 02/10/2024 16:00 | VLM | A |
| Chloroform | 2.2 | P1 | ug/L | 0.50 | 0.15 | EPA 624.1 | 1 | 02/10/2024 16:00 | VLM | A |

*SURROGATES*

| Compound | CAS No | Recovery | Limits(%) | Analysis Date/Time | Qualifiers |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 111% | 72 – 142 | 02/10/2024 16:00 | |
| 4-Bromofluorobenzene | 460-00-4 | 104% | 73 – 119 | 02/10/2024 16:00 | |
| Dibromofluoromethane | 1868-53-7 | 100% | 74 – 132 | 02/10/2024 16:00 | |
| Toluene-d8 | 2037-26-5 | 108% | 75 – 133 | 02/10/2024 16:00 | |

**Project** Routine Sample Submission
**Workorder** 3344985

## Results

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent | Collected | 02/07/2024 08:00 |
| Lab Sample ID | 3344985006 | Lab Receipt | 02/08/2024 15:45 |

### METALS

| Compound | Result | Flag | Units | RDL | MDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum, Total | 90.0 | P1 | ug/L | 50.0 | 16.0 | EPA 200.7 | 1 | 02/23/2024 16:14 | SRT | A |
| Boron, Total | 323 | P1 | ug/L | 50.0 | 16.0 | EPA 200.7 | 1 | 02/23/2024 16:14 | SRT | A |
| Copper, Total | 10.8 | P1 | ug/L | 5.0 | 1.6 | EPA 200.7 | 1 | 03/13/2024 12:42 | AXW | A |
| Zinc, Total | 32.6 | P1 | ug/L | 10.0 | 3.3 | EPA 200.7 | 1 | 02/23/2024 16:14 | SRT | A |

### SEMIVOLATILES

| Compound | Result | Flag | Units | RDL | MDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| bis(2-Ethylhexyl)phthalate | ND | ND,P1 | ug/L | 3.0 | 0.80 | EPA 625.1 | 1 | 02/15/2024 09:13 | S7M | B |

*SURROGATES*

| Compound | CAS No | Recovery | Limits(%) | Analysis Date/Time | Qualifiers |
|---|---|---|---|---|---|
| 2,4,6-Tribromophenol | 118-79-6 | 72.2% | 23 – 131 | 02/15/2024 09:13 | |
| 2-Fluorobiphenyl | 321-60-8 | 55.9% | 24 – 116 | 02/15/2024 09:13 | |
| 2-Fluorophenol | 367-12-4 | 38.8% | 10 – 85 | 02/15/2024 09:13 | |
| Nitrobenzene-d5 | 4165-60-0 | 62% | 32 – 125 | 02/15/2024 09:13 | |
| Phenol-d5 | 4165-62-2 | 27.6% | 7 – 56 | 02/15/2024 09:13 | |
| Terphenyl-d14 | 98904-43-9 | 42.6% | 41 – 145 | 02/15/2024 09:13 | |

**Project** **Routine Sample Submission**
**Workorder** **3344985**

## Sample - Method Cross Reference Table

| Lab ID | Sample ID | Analysis Method | Preparation Method | Leachate Method |
|---|---|---|---|---|
| 3344985001 | Effluent | EPA 624.1 | N/A | |
| 3344985002 | Effluent | EPA 200.7<br>EPA 625.1 | EPA TRMD<br>EPA 625.1 | |
| 3344985003 | Effluent | EPA 624.1 | N/A | |
| 3344985004 | Effluent | EPA 200.7<br>EPA 625.1 | EPA TRMD<br>EPA 625.1 | |
| 3344985005 | Effluent | EPA 624.1 | N/A | |
| 3344985006 | Effluent | EPA 200.7<br>EPA 625.1 | EPA TRMD<br>EPA 625.1 | |

**Project** **Routine Sample Submission**
**Workorder** **3344985**

## QUALITY CONTROL DATA CROSS REFERENCE TABLE

| Lab ID | Sample ID | Preparation Method | Prep Batch | Prep Date/Time | By | Analysis Method | Anly Batch |
|---|---|---|---|---|---|---|---|
| 3344985001 | Effluent | N/A | N/A | N/A | | EPA 624.1 | 1135720 |
| 3344985002 | Effluent | EPA TRMD | 1137699 | 02/14/2024 06:30 | MEM | EPA 200.7 | 1144499 |
| | | EPA TRMD | 1137699 | 02/14/2024 06:30 | MEM | EPA 200.7 | 1157208 |
| | | EPA 625.1 | 1136324 | 02/12/2024 11:10 | BNR | EPA 625.1 | 1136699 |
| 3344985003 | Effluent | N/A | N/A | N/A | | EPA 624.1 | 1135720 |
| 3344985004 | Effluent | EPA TRMD | 1137302 | 02/13/2024 21:57 | ANN | EPA 200.7 | 1146903 |
| | | EPA 625.1 | 1136324 | 02/12/2024 11:10 | BNR | EPA 625.1 | 1136699 |
| 3344985005 | Effluent | N/A | N/A | N/A | | EPA 624.1 | 1135720 |
| 3344985006 | Effluent | EPA TRMD | 1137699 | 02/14/2024 06:30 | MEM | EPA 200.7 | 1144499 |
| | | EPA TRMD | 1137699 | 02/14/2024 06:30 | MEM | EPA 200.7 | 1157208 |
| | | EPA 625.1 | 1137107 | 02/24/2024 10:20 | BNR | EPA 625.1 | 1138459 |

301 Fulling Mill Road
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

# CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 3344985
Logged By: CXW
PM: JLS
ALS Qu

**Client Name:** City of Lancaster
**Address:** 1220 New Danville Pike, Lancaster, PA 17603
**Contact:** Zachary Runk
**Phone#:** 717-293-5535
**Project Name/#:**
**Bill To:**

TAT [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? [ ] -Y
Fax? [ ] -Y No.:

| | Container Type | CG | AG | PL | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Container Size | 40mL | 250 | 125mL | | | | | | | |
| | Perservative | HCl | None | HNO3 | | | | | | | |

ANALYSES/METHOD REQUESTED

| | Sample Description/Location (as it will appear on the lab report) | Date Collected mm/dd/yy | Time hh:mm | *G or C | **Matrix | Dichlorobromomethane, Chloroform | Bis(2-Ethylhexyl)Phthalate | Al, B, Cu, Zn | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Enter Number of Containers Per Sample or Field Results Below. | | | | | | | | | | | |
| 1 | Effluent | 2/5/24 | 0912 | G | WW | 2 | | | | | | | | | |
| 2 | Effluent | 2/5/24 | 0800 | C | WW | | 1 | 1 | | | | | | | |
| 3 | Effluent | 2/6/24 | 0755 | G | WW | 2 | | | | | | | | | |
| 4 | Effluent | 2/6/24 | 0800 | C | WW | | 1 | 1 | | | | | | | |
| 5 | Effluent | 2/7/24 | 0839 | G | WW | 2 | | | | | | | | | |
| 6 | Effluent | 2/7/24 | 0800 | C | WW | | 1 | 1 | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |

(completed by Receiving Lab)

W.O. Temp: 4 Therm ID: 570
Courier/Tracking #:
Purchase Order #:
Project Comments:

**REPORT RESULTS FOR ALL SAMPLES IN ug/L**
**Report the following to the MDL: Al, B**

ALS Field Services: □ Pickup □ Labor

| Temp By: | WO Temp (°C) | Therm ID |
|---|---|---|
| W | 4 | 570 |

| | |
|---|---|
| Receipt Info Completed By: | CW |
| Cooler Custody Seal Intact | Y N NA |
| Sample Custody Seal Intact | Y N NA |
| Received on Ice | Y N NA |
| Cooler & Samples Intact | Y N |
| Correct Containers Provided | Y N |
| Sample Label/COC Agree | Y N |
| Adequate Sample Volumes | Y N |
| CR6 Samples Filtered | Y N NA |
| OP Samples Filtered | Y N NA |
| VOA Trip Blank | Y N NA |
| NJ≤ 4 Days? | Y N |
| Rad Screen (uCi) | |
| Courier/Tracking #: | |
| SDWA Compliance | Y N |
| PWSID | |
| WV Containers 0-6°C | Y N NA |

SAMPLED BY (Please Print): Zach Runk

Sampler Comments:

| Relinquished By / Company Name | Date | Time | Received By / Company Name | Date | Time |
|---|---|---|---|---|---|
| 1 City of Lancaster | 2-8-24 | 0800 | 2 ALS | 2.8.24 | 1015 |
| 3 | 2.8.24 | 1545 | 4 | | |
| 5 | | | 6 | | |
| 7 | | | 8 | | |
| 9 | | | 10 | | |

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE/DOD [ ]
Special Processing: USACE [ ] Navy [ ]
State Samples Collected In: [ ] NY [ ] NJ [X] PA [ ] NC [ ] other
Reportable to PADEP? Yes [ ] No [ ]
PWSID #
Sample Disposal: Lab [ ] Special [ ]
EDDS: Format Type-

* G=Grab; C=Composite
**Matrix - Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS SHIPPING ADDRESS: 301 Fulling Mill Road, Middletown, PA 17057

Rev 11/18

Main Site: 301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | www.alsglobal.com
Associated Site: 20 Riverside Drive | Spring City, PA 19475 | Phone: 610-948-4903 | Fax: 717-944-1430 |

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343, NJ PA101

Analytical Results Report For **Lancaster, City of [WW]**

| | |
|---|---|
| Project | Routine Sample Submission |
| Workorder | 3345201 |
| Report ID | 307681 on 3/14/2024 (Revised report. See Project Notations Section.) |

## Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Feb 12, 2024.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Jessica Smith (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.


ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):
Zach Runk - Lancaster, City of [WW]

*This page is included as part of the Analytical Report and must be retained as a permanent record thereof.*

Jessica Smith
**Jessica Smith** *(ALS Digital Signature)*
Project Coordinator

**Project** **Routine Sample Submission**
**Workorder** **3344079**

## Sample Summary

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | Collector | Collection Company |
|---|---|---|---|---|---|---|
| 3344079001 | Effluent Grab | Waste Water | 02/01/2024 14:10 | 02/05/2024 16:12 | ZR | Lancaster, City of [WW] |
| 3344079002 | Effluent Composite | Waste Water | 02/01/2024 08:00 | 02/05/2024 16:12 | ZR | Lancaster, City of [WW] |
| 3344079003 | Effluent Grab | Waste Water | 02/02/2024 10:10 | 02/05/2024 16:12 | ZR | Lancaster, City of [WW] |
| 3344079004 | Effluent Composite | Waste Water | 02/04/2024 08:00 | 02/05/2024 16:12 | ZR | Lancaster, City of [WW] |

**Project** **Routine Sample Submission**
**Workorder** **3344079**

## Reference

### Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136, including but not limited to the following EPA Method reference revisions:
  EPA 300.1 Rev. 1.0-1997
  EPA 300.0 Rev. 2.1-1993
  EPA 353.2 Rev. 2.0-1993
  EPA 410.4 Rev. 1.0-1993
  EPA 420.4 Rev. 1.0-1993
  EPA 365.1 Rev. 2.0-1993
  EPA 200.7 Rev. 4.4-1994
  EPA 200.8 Rev. 5.4-1994
  EPA 245.1 Rev. 3.0-1994
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

### Standard Acronyms/Flags

| | |
|---|---|
| J | Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte |
| U | Indicates that the analyte was Not Detected (ND) above the MDL |
| N | Indicates presumptive evidence of the presence of a compound |
| MDL | Method Detection Limit |
| PQL | Practical Quantitation Limit |
| RDL | Practical Quantitation Limit for this Project |
| ND | Not Detected - indicates that the analyte was Not Detected |
| Cntr | Analysis was performed using this container |
| RegLmt | Regulatory Limit |
| LCS | Laboratory Control Sample |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| DUP | Sample Duplicate |
| %Rec | Percent Recovery |
| RPD | Relative Percent Difference |
| LOD | DoD Limit of Detection |
| LOQ | DoD Limit of Quantitation |
| DL | DoD Detection Limit |
| I | Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL) |
| (S) | Surrogate Compound |
| NC | Not Calculated |
| * | Result outside of QC limits |
| # | Please reference the result in the Results Section for analyte-level flags. |

**Project** **Routine Sample Submission**
**Workorder** **3344079**

## Project Notations

| | |
|---|---|
| **P1** | Report modified to correct properties for mdl and reporting units. JLS 03/07/24 |

## Sample Notations

| Lab ID | Sample ID |
|---|---|

## Result Notations

| Notation Ref. | |
|---|---|
| 1 | The surrogate Terphenyl-d14 for method EPA 625.1 was outside of control limits. The % Recovery was reported as 39.8 and the control limits were 41 to 145. This result was reported at a dilution of 1. |
| 2 | The surrogate Terphenyl-d14 for method EPA 625.1 was outside of control limits. The % Recovery was reported as 35.7 and the control limits were 41 to 145. This result was reported at a dilution of 1. |

**Project** Routine Sample Submission
**Workorder** 3344079

## Detected Results Summary

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent Grab | Collected | 02/01/2024 14:10 |
| Lab Sample ID | 3344079001 | Lab Receipt | 02/05/2024 16:12 |

| Compound | Result | Units | RDL | MDL | Method | Flag |
|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS** | | | | | | |
| Bromodichloromethane | 1.5 | ug/L | 0.50 | 0.18 | EPA 624.1 | # |
| Chloroform | 6.1 | ug/L | 0.50 | 0.15 | EPA 624.1 | # |

**Project** Routine Sample Submission
**Workorder** 3344079

## Detected Results Summary

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent Composite | Collected | 02/01/2024 08:00 |
| Lab Sample ID | 3344079002 | Lab Receipt | 02/05/2024 16:12 |

| Compound | Result | Units | RDL | MDL | Method | Flag |
|---|---|---|---|---|---|---|
| **METALS** | | | | | | |
| Aluminum, Total | 40.1J | ug/L | 50.0 | 16.0 | EPA 200.7 | # |
| Boron, Total | 257 | ug/L | 50.0 | 16.0 | EPA 200.7 | # |
| Copper, Total | 9.7 | ug/L | 5.0 | 1.6 | EPA 200.7 | # |
| Zinc, Total | 28.7 | ug/L | 10.0 | 3.3 | EPA 200.7 | # |

**Project** Routine Sample Submission
**Workorder** 3344079

## Detected Results Summary

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent Grab | Collected | 02/02/2024 10:10 |
| Lab Sample ID | 3344079003 | Lab Receipt | 02/05/2024 16:12 |

| Compound | Result | Units | RDL | MDL | Method | Flag |
|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS** | | | | | | |
| Bromodichloromethane | 1.3 | ug/L | 0.50 | 0.18 | EPA 624.1 | # |
| Chloroform | 5.2 | ug/L | 0.50 | 0.15 | EPA 624.1 | # |

**Project** Routine Sample Submission
**Workorder** 3344079

## Detected Results Summary

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent Composite | Collected | 02/04/2024 08:00 |
| Lab Sample ID | 3344079004 | Lab Receipt | 02/05/2024 16:12 |

| Compound | Result | Units | RDL | MDL | Method | Flag |
|---|---|---|---|---|---|---|
| **METALS** | | | | | | |
| Aluminum, Total | 126 | ug/L | 50.0 | 16.0 | EPA 200.7 | # |
| Boron, Total | 87.5 | ug/L | 50.0 | 16.0 | EPA 200.7 | # |
| Copper, Total | 11.2 | ug/L | 5.0 | 1.6 | EPA 200.7 | # |
| Zinc, Total | 22.6 | ug/L | 10.0 | 3.3 | EPA 200.7 | # |

**Project** Routine Sample Submission
**Workorder** 3344079

## Results

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent Grab | Collected | 02/01/2024 14:10 |
| Lab Sample ID | 3344079001 | Lab Receipt | 02/05/2024 16:12 |

### VOLATILE ORGANICS

| Compound | Result | Flag | Units | RDL | MDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| Bromodichloromethane | 1.5 | P1 | ug/L | 0.50 | 0.18 | EPA 624.1 | 1 | 02/07/2024 15:05 | ILY | A |
| Chloroform | 6.1 | P1 | ug/L | 0.50 | 0.15 | EPA 624.1 | 1 | 02/07/2024 15:05 | ILY | A |

*SURROGATES*

| Compound | CAS No | Recovery | Limits(%) | Analysis Date/Time | Qualifiers |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 111% | 72 – 142 | 02/07/2024 15:05 | |
| 4-Bromofluorobenzene | 460-00-4 | 109% | 73 – 119 | 02/07/2024 15:05 | |
| Dibromofluoromethane | 1868-53-7 | 98.9% | 74 – 132 | 02/07/2024 15:05 | |
| Toluene-d8 | 2037-26-5 | 105% | 75 – 133 | 02/07/2024 15:05 | |

**Project** Routine Sample Submission
**Workorder** 3344079

## Results

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent Composite | Collected | 02/01/2024 08:00 |
| Lab Sample ID | 3344079002 | Lab Receipt | 02/05/2024 16:12 |

### METALS

| Compound | Result | Flag | Units | RDL | MDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum, Total | 40.1J | J,P1 | ug/L | 50.0 | 16.0 | EPA 200.7 | 1 | 02/20/2024 15:22 | AXW | A |
| Boron, Total | 257 | P1 | ug/L | 50.0 | 16.0 | EPA 200.7 | 1 | 02/20/2024 15:22 | AXW | A |
| Copper, Total | 9.7 | P1 | ug/L | 5.0 | 1.6 | EPA 200.7 | 1 | 02/20/2024 15:22 | AXW | A |
| Zinc, Total | 28.7 | P1 | ug/L | 10.0 | 3.3 | EPA 200.7 | 1 | 02/20/2024 15:22 | AXW | A |

### SEMIVOLATILES

| Compound | Result | Flag | Units | RDL | MDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| bis(2-Ethylhexyl)phthalate | ND | ND,P1 | ug/L | 3.0 | 0.79 | EPA 625.1 | 1 | 02/08/2024 10:47 | S7M | C |

*SURROGATES*

| Compound | CAS No | Recovery | Limits(%) | Analysis Date/Time | Qualifiers |
|---|---|---|---|---|---|
| 2,4,6-Tribromophenol | 118-79-6 | 77.8% | 23 – 131 | 02/08/2024 10:47 | |
| 2-Fluorobiphenyl | 321-60-8 | 74.9% | 24 – 116 | 02/08/2024 10:47 | |
| 2-Fluorophenol | 367-12-4 | 47.1% | 10 – 85 | 02/08/2024 10:47 | |
| Nitrobenzene-d5 | 4165-60-0 | 71.7% | 32 – 125 | 02/08/2024 10:47 | |
| Phenol-d5 | 4165-62-2 | 36.7% | 7 – 56 | 02/08/2024 10:47 | |
| Terphenyl-d14 | 98904-43-9 | 39.8*% | 41 – 145 | 02/08/2024 10:47 | 1 |

**Project** Routine Sample Submission
**Workorder** 3344079

## Results

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent Grab | Collected | 02/02/2024 10:10 |
| Lab Sample ID | 3344079003 | Lab Receipt | 02/05/2024 16:12 |

### VOLATILE ORGANICS

| Compound | Result | Flag | Units | RDL | MDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| Bromodichloromethane | 1.3 | P1 | ug/L | 0.50 | 0.18 | EPA 624.1 | 1 | 02/07/2024 15:28 | ILY | A |
| Chloroform | 5.2 | P1 | ug/L | 0.50 | 0.15 | EPA 624.1 | 1 | 02/07/2024 15:28 | ILY | A |

*SURROGATES*

| Compound | CAS No | Recovery | Limits(%) | Analysis Date/Time | Qualifiers |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 117% | 72 – 142 | 02/07/2024 15:28 | |
| 4-Bromofluorobenzene | 460-00-4 | 113% | 73 – 119 | 02/07/2024 15:28 | |
| Dibromofluoromethane | 1868-53-7 | 100% | 74 – 132 | 02/07/2024 15:28 | |
| Toluene-d8 | 2037-26-5 | 108% | 75 – 133 | 02/07/2024 15:28 | |

**Project** Routine Sample Submission
**Workorder** 3344079

## Results

| | | | |
|---|---|---|---|
| Client Sample ID | Effluent Composite | Collected | 02/04/2024 08:00 |
| Lab Sample ID | 3344079004 | Lab Receipt | 02/05/2024 16:12 |

### METALS

| Compound | Result | Flag | Units | RDL | MDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum, Total | 126 | P1 | ug/L | 50.0 | 16.0 | EPA 200.7 | 1 | 02/20/2024 15:37 | AXW | C |
| Boron, Total | 87.5 | P1 | ug/L | 50.0 | 16.0 | EPA 200.7 | 1 | 02/20/2024 15:37 | AXW | C |
| Copper, Total | 11.2 | P1 | ug/L | 5.0 | 1.6 | EPA 200.7 | 1 | 02/20/2024 15:37 | AXW | C |
| Zinc, Total | 22.6 | P1 | ug/L | 10.0 | 3.3 | EPA 200.7 | 1 | 02/20/2024 15:37 | AXW | C |

### SEMIVOLATILES

| Compound | Result | Flag | Units | RDL | MDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|---|---|---|---|---|---|---|---|---|---|---|
| bis(2-Ethylhexyl)phthalate | ND | ND,P1 | ug/L | 3.0 | 0.80 | EPA 625.1 | 1 | 02/08/2024 12:01 | S7M | A |

*SURROGATES*

| Compound | CAS No | Recovery | Limits(%) | Analysis Date/Time | Qualifiers |
|---|---|---|---|---|---|
| 2,4,6-Tribromophenol | 118-79-6 | 70.5% | 23 – 131 | 02/08/2024 12:01 | |
| 2-Fluorobiphenyl | 321-60-8 | 61.2% | 24 – 116 | 02/08/2024 12:01 | |
| 2-Fluorophenol | 367-12-4 | 38.9% | 10 – 85 | 02/08/2024 12:01 | |
| Nitrobenzene-d5 | 4165-60-0 | 59% | 32 – 125 | 02/08/2024 12:01 | |
| Phenol-d5 | 4165-62-2 | 31.6% | 7 – 56 | 02/08/2024 12:01 | |
| Terphenyl-d14 | 98904-43-9 | 35.7*% | 41 – 145 | 02/08/2024 12:01 | 2 |

**Project** Routine Sample Submission
**Workorder** 3344079

## Sample - Method Cross Reference Table

| Lab ID | Sample ID | Analysis Method | Preparation Method | Leachate Method |
|---|---|---|---|---|
| 3344079001 | Effluent Grab | EPA 624.1 | N/A | |
| 3344079002 | Effluent Composite | EPA 200.7 | EPA TRMD | |
| | | EPA 625.1 | EPA 625.1 | |
| 3344079003 | Effluent Grab | EPA 624.1 | N/A | |
| 3344079004 | Effluent Composite | EPA 200.7 | EPA TRMD | |
| | | EPA 625.1 | EPA 625.1 | |

**Project** **Routine Sample Submission**
**Workorder** **3344079**

## QUALITY CONTROL DATA CROSS REFERENCE TABLE

| Lab ID | Sample ID | Preparation Method | Prep Batch | Prep Date/Time | By | Analysis Method | Anly Batch |
|---|---|---|---|---|---|---|---|
| 3344079001 | Effluent Grab | N/A | N/A | N/A | | EPA 624.1 | 1133341 |
| 3344079002 | Effluent Composite | EPA TRMD | 1133701 | 02/08/2024 07:00 | MEM | EPA 200.7 | 1139911 |
| | | EPA 625.1 | 1133304 | 02/07/2024 10:50 | BNR | EPA 625.1 | 1133707 |
| 3344079003 | Effluent Grab | N/A | N/A | N/A | | EPA 624.1 | 1133341 |
| 3344079004 | Effluent Composite | EPA TRMD | 1133701 | 02/08/2024 07:00 | MEM | EPA 200.7 | 1139911 |
| | | EPA 625.1 | 1133304 | 02/07/2024 10:50 | BNR | EPA 625.1 | 1133707 |

301 Fulling Mill Road
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

# CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 3344079
Logged By: RAW
PM: JLS
ALS Quot

Client Name: City of Lancaster
Address: 1220 New Danville Pike
Lancaster, PA 17603
Contact: Zachary Runk
Phone#: 717-293-5535
Project Name/#:
Bill To:

TAT [X] Normal-Standard TAT is 10-12 business days.
[ ] Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? [ ] -Y
Fax? [ ] -Y No.:

| | Container Type | CG | AG | PL | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Container Size | 40mL | 250 | 125mL | | | | | | | |
| | Perservative | HCl | None | HNO3 | | | | | | | |

ANALYSES/METHOD REQUESTED

| | Sample Description/Location (as it will appear on the lab report) | Date Collected mm/dd/yy | Time hh:mm | *G or C | **Matrix | Dichlorobromomethane, Chloroform | Bis(2-Ethylhexyl)Phthalate | Al, B, Cu, Zn | Enter Number of Conta |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Effluent | 2/1/24 | 1410 | G | WW | 2 | | | |
| 2 | Effluent | 2/1/24 | 0800 | C | WW | | 1 | 1 | |
| 3 | Effluent | 2/2/24 | 1010 | G | WW | 2 | | | |
| 4 | Effluent | 2/4/24 | 0800 | C | WW | | 1 | 1 | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |

Temp By: DAG | WO Temp (°C): 3 | Therm ID: 570

Receipt Info Completed By: DAG
Cooler Custody Seal Intact Y N NA
Sample Custody Seal Intact Y N NA
Received on Ice Y N NA
Cooler & Samples Intact Y N
Correct Containers Provided Y N
Sample Label/COC Agree Y N
Adequate Sample Volumes Y N
CR6 Samples Filtered Y N NA
OP Samples Filtered Y N NA
VOA Trip Blank Y N NA
NJ≤ 4 Days? Y N
Rad Screen (uCi) 1
Courier/Tracking #:
1
SDWA Compliance Y N
PWSID
WV Containers 0-6°C Y N NA

Receipt Information (completed by Receiving Lab)
W.O. Temp: 3 Therm ID:
Courier/Tracking #:
Purchase Order #:
Project Comments:
REPORT RESULTS FOR ALL SAMPLES IN ug/L
Report the following to the MDL: Al, B
ALS Field Services: □ Pickup □ Labor
□ Composite Sampling □ Rental Equipment
Other:
Sample/COC Comments

SAMPLED BY (Please Print): Zach Runk
Sampler Comments:

| Relinquished By / Company Name | Date | Time | Received By / Company Name | Date | Time |
|---|---|---|---|---|---|
| 1 City of Lancaster | 02.05.24 | 0800 | 2 ALS Evan P | 2-5-24 | 1322 |
| 3 ALS Evan P | 2-5-24 | 1612 | 4 | 2-5-24 | 1612 |
| 5 | | | 6 | | |
| 7 | | | 8 | | |
| 9 | | | 10 | | |

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE/DOD
Special Processing: USACE [ ] Navy [ ]
State Samples Collected In: [ ] NY [ ] NJ [X] PA [ ] NC [ ]
Reportable to PADEP? Yes [ ] No [ ]
PWSID #
Sample Disposal: Lab [ ] Special [ ]
EDDS: Format Type-
other

* G=Grab; C=Composite
**Matrix - Al=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS SHIPPING ADDRESS: 301 Fulling Mill Road, Middletown, PA 17057

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