



Prepared for:

**City of Takoma Park
Department of Public Works**

Dry Weather Screening, Analysis & Evaluation of Outfalls Report



May 2023

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TABLE OF CONTENTS

| | | |
|-----------|--|-----------|
| 1. | INTRODUCTION | 1 |
| 1.1. | Project Description | 1 |
| 1.2. | Study Area Description | 1 |
| 1.3. | Stormwater Regulatory Requirements..... | 2 |
| 1.3.1. | Federal & State Water Quality Criteria Tables..... | 2 |
| 2. | DISTRIBUTION MAP OF INSPECTED & SAMPLED OUTFALLS..... | 6 |
| 3. | SAMPLING RESULTS..... | 8 |
| 3.1. | Result Tables of Structures Sampled | 8 |
| 3.2. | Evaluation of Results | 24 |
| 3.3. | Photo Documentation of Sampled Outfalls | 25 |
| 4. | OUTFALL STABILITY | 27 |
| 4.1. | Photo Documentation of Select Outfalls | 28 |
| 4.2. | Evaluation of Outfall Stability | 31 |
| 5. | RECOMMENDATIONS | 31 |
| 6. | CONCLUSION | 32 |
| 7. | REFERENCES..... | 33 |

LIST OF FIGURES

| | |
|---|---|
| Figure 1 – Takoma Park Outfall Location Map | 7 |
|---|---|

LIST OF TABLES

| | |
|---|----|
| Table 1 – Maryland Water Criteria Specific to Designated Uses | 3 |
| Table 2 – U.S. EPA Recreational Water Quality Criteria | 4 |
| Table 3 – Parameters Measured & Significance | 5 |
| Table 4 – Structure #80 Results | 9 |
| Table 5 – Structure #212 Results | 10 |
| Table 6 – Structure #289 Results | 11 |
| Table 7 – Structure #290 Results | 12 |
| Table 8 – Structure #736 Results | 13 |
| Table 9 – Structure #853 Results | 13 |
| Table 10 – Structure #862 Results | 15 |
| Table 11 – Structure #879 Results | 16 |
| Table 12 – Structure #881 Results | 17 |
| Table 13 – Structure #965 Results | 18 |
| Table 14 – Structure #1013 Results | 19 |
| Table 15 – Structure #1077 Results | 20 |
| Table 16 – Structure #1106 Results | 21 |
| Table 17 – Structure #1107 Results | 22 |
| Table 18 – Structure #1220 Results | 23 |
| Table 19 – Evaluation of Field and Laboratory Test Results (2023) | 24 |

LIST OF APPENDICES

| |
|-------------------------------------|
| Appendix A – Laboratory Data Sheets |
|-------------------------------------|

1. INTRODUCTION

1.1. Project Description

The City of Takoma Park (City) has coverage under the Maryland Department of the Environment (MDE) National Pollutant Discharge Elimination System (NPDES) General Permit for Small municipal separate storm sewer system (MS4). The conditions of the permit require the City to develop, implement and enforce a program to detect and eliminate illicit discharges. The City has contracted BayLand Consultants & Designers, Inc. (BayLand) to provide dry weather analysis and outfall evaluation for 78 outfalls in the City of Takoma Park for five consecutive years. This will be the fifth year of the dry weather analysis and outfall evaluation.

The purpose of this project was to provide the City with quantitative data on non-stormwater discharges into Sligo Creek which eventually drains to the Northwest Branch of the Anacostia River, and a qualitative assessment of outfall conditions observed during the 2023 evaluation. BayLand performed dry weather screening for 78 outfalls within the City for illicit discharge and analyzed the surface water samples collected. Outfall screening took place after 72 hours of antecedent dry weather.

Field testing of any outfalls with flow after 72 hours of dry weather included surface water samples collected and measurements of pH, temperature, and chlorine. Field testing and water sample collection was conducted from March 7th through March 9th, 2023. The collected water samples were then sent to Australian Laboratory Services (ALS) Environmental for analysis of 16 different parameters (Table 1 – Conductivity through Total Phosphorus).

1.2. Study Area Description

Sligo Creek is a perennial tributary of the Northwest Branch of the Anacostia River. The Creek is one of the most urbanized in the Anacostia Watershed (Montgomery County Government, 2019). The Sligo Creek Watershed (USGS 01650800) is approximately 6.45 square miles and contains four major tributaries: Wheaton Branch, Comstock Branch, Takoma Park Branch, and Long Branch (USGS, 2019).

The drainage area is a mix of high density commercial and urban residential land uses. The neighborhoods were developed rapidly in the 1950s and 1960s, before modern environmental standards were put into place, which has led to degraded water quality in receiving streams. Montgomery County has begun installing several stormwater managements (SWM) and stream restoration projects in the watershed to help improve water quality (George, 2012). Over the last few years, the City has installed SWM facilities and has several bioretention facilities, a modular wetland and a stream restoration project that was completed in 2020 (Takoma Park, 2020). Updates and maintenance along the Sligo Creek trail were completed in 2020. New road construction over Sligo Creek at Park Valley Road was also completed between the 2019 and 2020 sampling times.

1.3. Stormwater Regulatory Requirements

The U.S. Environmental Protection Agency's (EPA) stormwater regulations define "illicit discharge" as "any discharge to municipal separate storm sewer that is not composed entirely of stormwater" (except for discharges from firefighting activities and a few other categories). Municipalities operating under a Phase II MS4 permit must develop and implement a plan to detect and address non-stormwater discharges. Sources of illicit discharges include, but are not limited to, sanitary wastewater, effluent from septic tanks, car wash wastewaters, improper oil disposal, radiator flushing disposal, laundry wastewater, spills from roadway accidents, and improper disposal of auto and household toxics. EPA guidance recommends that the plan to detect and address illicit discharges include the following four components:

1. Locate Problem Areas – Procedures for locating priority areas likely to have illicit discharges.
2. Find the Source – Procedures for tracing the source on an illicit discharge.
3. Remove/Correct Illicit Connections – Procedures for removing the source of the discharge.
4. Document Actions Taken – Procedures for program evaluation and assessment.

The EPA recommends visually screening outfalls during dry weather and conducting field tests of selected pollutants as part of the procedures for identifying priority areas.

1.3.1. Federal & State Water Quality Criteria Tables

Water quality criteria can be applied to both the local and national levels. The purpose of assigning water quality criteria a numeric value is for the protection of aquatic life and human health. The freshwater values for water criteria defined by the Code of Maryland Regulations (COMAR) can be found in Table 1.

The EPA sets the standards for the national recommended water quality criteria (Table 2). This table is the most up-to-date criteria for aquatic life ambient water quality criteria. Maryland uses these values as a guide and therefore both sets of criteria are listed and used as a part of this study.

For the purpose of applying *Escherichia coli* (*E. coli*) and Enterococci criteria levels, the more stringent Recreational Water Quality Criteria (RWQC) for primary contact were used due to Sligo Creek's easy water access and proximity to multiple parks and bike paths. The EPA defines primary contact as "activities where immersion and ingestion are likely and there is a high degree of bodily contact with the water, such as swimming, bathing, surfing, water skiing, tubing, skin diving, water play by children, or similar water-contact activities."

| Table 1 – Maryland Water Criteria Specific to Designated Uses | |
|---|---|
| Parameter | Criteria |
| pH | 6.5 to 8.5 |
| Temperature (F) | Maximum 32°C or ambient temperature, whichever is greater |
| Conductivity (umhos/cm) | No existing criteria |
| Turbidity (NTU) | Maximum of 150 NTU and monthly average of 50 NTU |
| Detergents | No existing criteria |
| Ammonia | No existing criteria |
| Boron | No existing criteria |
| E. coli (MPN/100ml) | 235 ¹ |
| Enterococci (MPN/100ml) | 61 ² |
| Total Coliform | No existing criteria |
| Fluoride | No existing criteria |
| Hardness | No existing criteria |
| Potassium | No existing criteria |
| Chloride | No existing criteria |
| Chlorine (mg/L) | < 0.10 mg/L |
| Color | Maximum of 75 units as a monthly average |
| Total Nitrogen (mg/L) | No existing criteria |
| Total Phosphorus (mg/L) | No existing criteria |

1 and 2: Bacteria Indicator Criteria for Recreational Full Body Contact. Source: COMAR 26.08.02.033
<http://www.dsd.state.md.us/comar/SubtitleSearch.aspx?search=26.08.02>.

| Table 2 – U.S. EPA Recreational Water Quality Criteria | |
|--|--|
| Parameter | Criteria |
| pH | 6.5 to 9.0 |
| Temperature (F) | Site and species specific |
| Conductivity (umhos/cm) | No existing criteria |
| Turbidity (NTU) | Site and species specific |
| Detergents | No existing criteria |
| Ammonia | Chronic 1.9 ¹ , Acute 17 ¹ |
| Boron | No existing criteria |
| E. coli (MPN/100ml) | 126 ² |
| Enterococci (MPN/100ml) | 35 ² |
| Total Coliform | No existing criteria |
| Fluoride | No existing criteria |
| Hardness | No existing criteria |
| Potassium | No existing criteria |
| Chloride | Chronic 230, Acute 860 |
| Chlorine (mg/L) | Chronic 0.011, Acute 0.019 |
| Color | 75 |
| Total Nitrogen (mg/L) | No existing criteria |
| Total Phosphorus (mg/L) | No existing criteria |

1: 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia Freshwater (EPA)

2: 2012 Recreational Water Quality Criteria (EPA)

Source: EPA Current Water Quality Criteria <http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm>

Table 3 – Parameters Measured & Significance

| Parameter | Significance |
|----------------------------|---|
| pH | A measure of the hydrogen ion concentration indicating neutrality, acidity, or alkalinity of a solution. Ideal range 6.5 to 8.0. |
| Water Temperature | Thermal property of ambient water that may affect aquatic organisms. Most sensitive organisms prefer uniformly colder waters. |
| Specific Conductivity | A measure of the ability of water to conduct an electrical current at 25C. Most streams range from 50 to 1500 umhos/cm, but studies have shown that “freshwater streams ideally should have a conductivity between 150 to 500 umhos/cm to support diverse aquatic life.” (Friends of Sligo Creek: Water Quality Parameters). |
| Turbidity | Turbidity is the measure of the specific portion of light that is deflected by undissolved particles as it passes through water. High levels of total suspended solids (TSS) will increase turbidity and decrease water clarity. EPA recommendations based on reference streams in Ecoregion IX suggest an ideal turbidity criteria of 3.15-13.5 (far lower than the COMAR Standard of 150 NTU). It should be noted that the COMAR Standard states that turbidity may not exceed levels detrimental to aquatic life and the 150 NTU Standard is typically applied to stormwater runoff from construction sites after erosion and sediment control measures. |
| Detergents (Surfactants) | Presence of surfactants which may be an indicator of washwater or sewage. No current criteria set; however a threshold of 0.50 mg/L has been established by MDE to determine the potential for the presence of an illicit discharge. |
| Ammonia | A nutrient that can increase algal blooms. Sources include organic decomposition, agricultural and urban runoff, and wastewater effluent. Elevated levels can present acute and chronic toxicity levels to freshwater aquatic organisms. |
| Boron | Boron is a naturally occurring chemical element essential to plant growth but may be toxic in excessive concentrations. Anthropogenic sources of boron in the freshwater streams include sewage sludge and effluents, atmospheric deposition from coal combustion, cleaning compounds and agricultural chemicals. Recommended guidelines for freshwater aquatic life are 0.67-2.0 mg/L. |
| Escherichia coli (E. coli) | A species of fecal coliform bacteria that is specific to fecal material from humans and other warm-blooded animals. The EPA recommends E. coli as the best indicator of health risk from water contact in recreational waters. Elevated levels may be an indicator of wastewater migration into a storm drain system. Threshold limits are based on water use and contact. |
| Enterococci | A subgroup of fecal streptococcus bacteria that are human-specific and used as a best indicator of health risk in saltwater because of their ability to survive, and as a useful indicator in freshwater too. Elevated levels may be an indicator of wastewater migration into a storm drain system. Threshold limits are based on water use and contact. |
| Total Coliform | A group of naturally occurring bacteria that are present in human feces, animal waste, soil, and other places in the environment. Not a recommended indicator of health risk in recreational waters due to their abundance in the environment; a more useful indicator of drinking water contamination. |
| Fluoride | A chemical element added to drinking water in some municipalities to reduce incidence of tooth decay. Elevated levels may be an indicator of potable water migration into a storm drain system. |
| Hardness | Hardness is a measure of the concentration of calcium and magnesium in water. Some aquatic species are sensitive to the hardness of water. It may be an indicator of sewage, washwater, tap water or industrial liquid waste. |
| Potassium | A naturally occurring element that can be used as an indicator of sewage and/or industrial waste. Elevated levels of potassium can be toxic to some aquatic species. |
| Chloride | Chloride ions are naturally occurring and may be present in groundwater baseflow. Large concentrations increase the corrosiveness of water and present acute and chronic toxicity to aquatic organisms. Sources of anthropogenic chlorides include road salt, sewage contamination, and water softener discharges. |

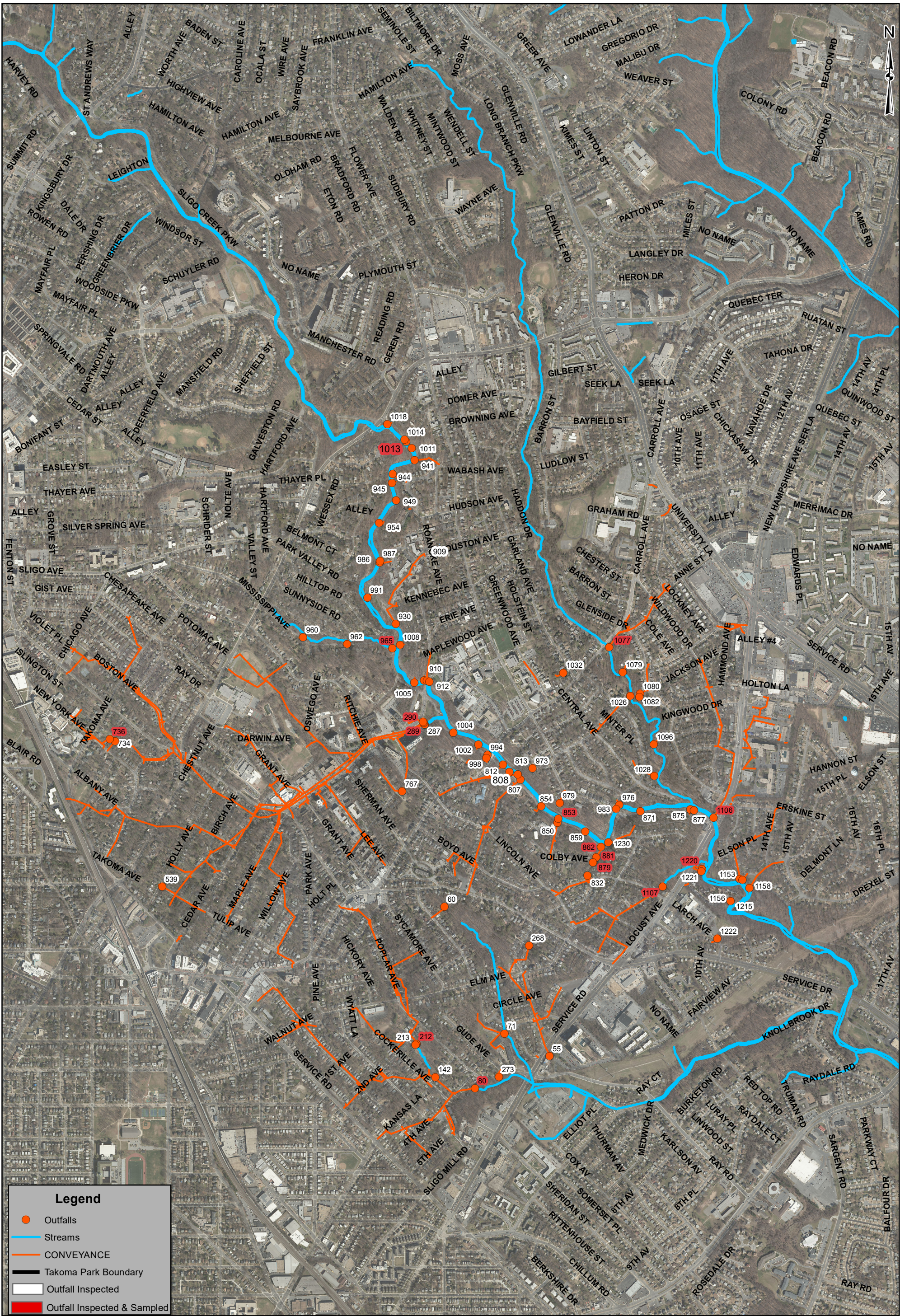
Table 3 – Parameters Measured & Significance

| Parameter | Significance |
|-----------------------|---|
| Chlorine (Total) | Chlorine is a chemical commonly used as a biocide in drinking water and wastewater treatment, as well as numerous other industrial applications. Excess levels of chlorine can have acute and chronic toxicity on aquatic organisms. It can be used as an indicator of wastewater, and potable water migration into a storm drain system, and/or illicit industrial discharges. |
| Color | A measure that indicates the amount of photosynthetically active light available to primary producers at lower depths. Color can be used as an indicator of sewage, grey water, and industrial discharges. |
| Total Nitrogen (TN) | A naturally occurring compound necessary for plant health. Excessive levels can accelerate algal growth, which can lead to depletions of dissolved oxygen in water and decreased light transmission to benthic organisms. Nitrogen is an indicator of sewage, and fertilizer contamination. EPA recommendations based on reference streams in Ecoregion IX suggest an ideal TN criteria of 0.07-1.0 mg/L. |
| Total Phosphorus (TP) | A naturally occurring compound necessary for plant health. Excessive levels can accelerate algal growth, which can lead to depletions of dissolved oxygen in water and decreased light transmission to benthic organisms. Phosphorus is an indicator of sewage, and fertilizer contamination. EPA recommendations based on reference streams in Ecoregion IX suggest an ideal TP criteria of 0.022-0.10 mg/L. |

2. DISTRIBUTION MAP OF INSPECTED & SAMPLED OUTFALLS

Visual inspections of 78 outfalls were conducted throughout the Sligo Creek watershed within the City of Takoma Park following 72 hours of dry weather (Figure 1). BayLand collected surface water samples at 15 outfalls where active flow was observed. 14 of those outfalls sampled had been sampled previously. Outfall #853 was not sampled in 2022 but was in 2021.

The spatial distribution of the 15 outfalls where dry weather flow was observed did not provide any obvious indicators of problem areas within the site vicinity to focus illicit discharge source identification and elimination efforts.



Legend

Outfalls

Streams

CONVEYANCE

Takoma Park Boundary

Outfall Inspected

Outfall Inspected & Sampled

1,20060001,200

Feet

1 " = 1,200 Feet

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Takoma Park Outfall
Location Map
2023

P:\8_32601 Takoma Park Dry Weather Screening\05 Year 2023\GIS\Outfall Location Map_2023.mxd

3. SAMPLING RESULTS

There were surface water samples collected at 15 distinct outfall locations where active water flow was observed following 72 hours of antecedent dry weather. Sample number 1230 should be ignored from the lab report in Appendix A as this was taken at the wrong outfall location but was submitted to the lab. Therefore, outfall 1230 was not actually sampled. 14 of the same outfalls were sampled in 2022 and 2021, 12 outfalls were sampled in 2020, 10 outfalls were sampled in 2019, eight outfalls were sampled in 2017, 2015, 2010, and 2007. Outfall testing results are summarized in Tables 4 through 18 and the laboratory data sheets are provided in Appendix A.

3.1. Result Tables of Structures Sampled

Table 4 – Structure #80 Results

| Parameter | 2007 Result | 2010 Result | 2015 Result | 2017 Result | 2019 Result | 2020 Result | 2021 Result | 2022 Result | 2023 Result | Maryland COMAR Standard | EPA Standard |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---|--|
| pH | 7.9 | 8.0 | 8.2 | 7.9 | 7.8 | 7.66 | 7.55 | 6.83 | 7.57 | 6.5 to 8.5 | 6.5 to 9.0 |
| Temperature (C) | 16.1 | 21.1 | 24.3 | 21.2 | 23.5 | 14.9 | 17.8 | 11.8 | 13.9 | Maximum 32°C or ambient temperature, whichever is greater | Site and species specific |
| Conductivity (umhos/cm) | 470 | 610 | 794 | 630 | 648 | 670 | 643 | 870 | 688 | No existing criteria | No existing criteria |
| Turbidity (NTU) | 6.0 | 0.3 | 1.5 | 0.67 | 16.4 | 3.65 | 3.72 | 5.88 | 7.0 | Maximum of 150 NTU and monthly average of 50 NTU | Site and species specific |
| Detergents | 1.6 | <0.10 | <0.025 | 0.026 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Ammonia | <0.2 | <0.2 | <0.2 | <0.2 | 0.119 | 0.123 | 0.449 | 0.259 | 0.239 | No existing criteria | Chronic 1.9 ¹ , Acute 17 ¹ |
| Boron | 6.4 | <0.05 | 0.025 | 0.0272 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| E. coli (MPN/100ml) | 2,100 | 1,100 | 488 | 198.9 | >2419.6 | 727 | 55 | 152 | 23 | 235 | 126 ² |
| Enterococci (MPN/100ml) | 9,300 | ≥2,400 | 238 | 36.8 | >2419.6 | 579 | 131 | 86 | 56 | 61 | 35 ² |
| Total Coliform | Presence | 1,300 | >2,420 | >2,419.6 | >2419.6 | >2419.6 | 1730 | >2419.6 | 70 | No existing criteria | No existing criteria |
| Fluoride | 0.5 | <0.2 | <0.2 | 0.21 | 0.24 | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Hardness | 144 | 120 | 138 | 130 | 110 | 153 | 134 | 151 | 137 | No existing criteria | No existing criteria |
| Potassium | 3.6 | 6.1 | 5.02 | 4.23 | 3.9 | 4.7 | 4.1 | 4.4 | 4.3 | No existing criteria | No existing criteria |
| Chloride | 63 | 130 | 164 | 150 | 149 | 140 | 127 | 171 | 133 | No existing criteria | Chronic 230, Acute 860 |
| Chlorine (mg/L) | 0.71 | 0.02 | 0.12 | 0.07 | 0.13 | 0.00 | 0.16 | ND | ND | < 0.10 mg/L | Chronic 0.011, Acute 0.019 |
| Color | <5 | 5 | 26 | 17 | 25 | 10 | 10 | 5 | 20 | Maximum of 75 units as a monthly average | 75 |
| Total Nitrogen (mg/L) | Not Tested | Not Tested | 2.1 | 3.6 | 1.67 | ND | 1.60 | 2.15 | 3.18 | No existing criteria | No existing criteria |
| Total Phosphorus (mg/L) | Not Tested | Not Tested | <0.05 | <0.05 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |

Table 5 – Structure #212 Results

| Parameter | 2007 Result | 2010 Result | 2015 Result | 2017 Result | 2019 Result | 2020 Result | 2021 Result | 2022 Result | 2023 Result | Maryland COMAR Standard | EPA Standard |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---|--|
| pH | 7.6 | 7.4 | 7.5 | 7.83 | 7.4 | 7.61 | 7.4 | 6.8 | 7.13 | 6.5 to 8.5 | 6.5 to 9.0 |
| Temperature (C) | 18.9 | 20.5 | 21.5 | 20.9 | 21.6 | 15.0 | 17.4 | 12.3 | 13.4 | Maximum 32°C or ambient temperature, whichever is greater | Site and species specific |
| Conductivity (umhos/cm) | 440 | 490 | 574 | 570 | 606 | 547 | 602 | 662 | 604 | No existing criteria | No existing criteria |
| Turbidity (NTU) | 70 | 0.7 | 1.0 | 0.94 | 2.45 | 9.17 | 3.50 | 5.54 | 3.4 | Maximum of 150 NTU and monthly average of 50 NTU | Site and species specific |
| Detergents | 0.12 | <0.10 | <0.025 | 0.028 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Ammonia | <0.2 | <0.2 | <0.2 | <0.2 | 0.131 | 0.110 | 0.443 | 0.188 | 0.223 | No existing criteria | Chronic 1.9 ¹ , Acute 17 ¹ |
| Boron | 5.1 | <0.05 | 0.13 | 0.0196 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| E. coli (MPN/100ml) | 7,500 | 650 | 548 | 88.4 | 387 | 50 | 312 | 133 | >2400 | 235 | 126 ² |
| Enterococci (MPN/100ml) | 4,300 | 1,100 | 98.4 | 7.5 | 1,410 | 105 | >2419 | 32 | 38 | 61 | 35 ² |
| Total Coliform | Presence | ≥2,400 | >2,420 | >2,419.6 | >2419.6 | 1050 | >2419.6 | 980 | >2400 | No existing criteria | No existing criteria |
| Fluoride | 0.2 | <0.2 | <0.2 | 0.16 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Hardness | 68 | 95 | 73.6 | 85 | 87 | 92.4 | 109 | 89 | 91 | No existing criteria | No existing criteria |
| Potassium | 3.7 | 4.9 | 3.26 | 3.54 | 3.7 | 3.6 | 3.9 | 3.2 | 3.7 | No existing criteria | No existing criteria |
| Chloride | 90 | 120 | 139 | 150 | 149 | 140 | 123 | 143 | 142 | No existing criteria | Chronic 230, Acute 860 |
| Chlorine (mg/L) | 90 | 0.02 | <0.01 | 0.06 | ND | 0.00 | 0.03 | ND | ND | < 0.10 mg/L | Chronic 0.011, Acute 0.019 |
| Color | <5 | <5 | 5 | 9.0 | 10 | 20 | 10 | 5 | 10 | Maximum of 75 units as a monthly average | 75 |
| Total Nitrogen (mg/L) | Not Tested | Not Tested | 2.1 | 4.4 | 2.03 | ND | 3.10 | 1.85 | 2.59 | No existing criteria | No existing criteria |
| Total Phosphorus (mg/L) | Not Tested | Not Tested | <0.05 | <0.05 | ND | ND | 0.10 | ND | ND | No existing criteria | No existing criteria |

Table 6 – Structure #289 Results

| Parameter | 2007 Result | 2010 Result | 2015 Result | 2017 Result | 2019 Result | 2020 Result | 2021 Result | 2022 Result | 2023 Result | Maryland COMAR Standard | EPA Standard |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---|--|
| pH | 7.4 | 7.8 | 8.1 | 7.68 | 7.4 | 8.31 | 7.42 | 6.83 | 7.39 | 6.5 to 8.5 | 6.5 to 9.0 |
| Temperature (C) | 18.3 | 18.9 | 21.6 | 19.6 | 22.2 | 15.4 | 14.6 | 12.83 | 12.61 | Maximum 32°C or ambient temperature, whichever is greater | Site and species specific |
| Conductivity (umhos/cm) | 790 | 800 | 789 | 840 | 971 | 907 | 860 | 2200 | 740 | No existing criteria | No existing criteria |
| Turbidity (NTU) | 9.2 | 200 | 1.9 | 1.5 | 8.34 | 7.83 | 1.13 | 0.24 | 2.5 | Maximum of 150 NTU and monthly average of 50 NTU | Site and species specific |
| Detergents | 0.27 | <0.10 | <0.025 | <0.02 | ND | ND | ND | 0.241 | ND | No existing criteria | No existing criteria |
| Ammonia | <0.2 | 0.4 | <0.2 | <0.2 | 0.375 | 0.105 | 0.174 | 0.381 | 0.275 | No existing criteria | Chronic 1.9 ¹ , Acute 17 ¹ |
| Boron | 5.8 | 0.10 | 0.035 | 0.0464 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| E. coli (MPN/100ml) | 930 | 730 | 488 | 107.6 | 105 | 2420 | 517 | 115 | 240 | 235 | 126 ² |
| Enterococci (MPN/100ml) | 2,300 | ≥2,400 | 1,050 | 517.2 | 190 | >2419.6 | 792 | 135 | 86 | 61 | 35 ² |
| Total Coliform | Presence | 1,700 | >2,420 | >2,419.6 | >2419.6 | >2419.6 | 980 | >2419.6 | 920 | No existing criteria | No existing criteria |
| Fluoride | 0.5 | 0.3 | <0.2 | 0.21 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Hardness | 244 | 250 | 189 | 210 | 209 | 164 | 183 | 185 | 191 | No existing criteria | No existing criteria |
| Potassium | 7.4 | 9.1 | 5.92 | 5.35 | 8.4 | 25.9 | 5.3 | 5.6 | 4.8 | No existing criteria | No existing criteria |
| Chloride | 120 | 160 | 156 | 190 | 217 | 142 | 199 | 190 | 152 | No existing criteria | Chronic 230, Acute 860 |
| Chlorine (mg/L) | 0.03 | <0.02 | 0.11 | 0.01 | ND | 0.02 | 0.09 | ND | ND | < 0.10 mg/L | Chronic 0.011, Acute 0.019 |
| Color | <5 | 48 | 18 | 19 | 25 | 20 | 5 | 5 | 5 | Maximum of 75 units as a monthly average | 75 |
| Total Nitrogen (mg/L) | Not Tested | Not Tested | 2.4 | 3.35 | 1.4 | 3.36 | 1.79 | 1.60 | 2.27 | No existing criteria | No existing criteria |
| Total Phosphorus (mg/L) | Not Tested | Not Tested | 0.26 | <0.05 | ND | 0.10 | ND | ND | ND | No existing criteria | No existing criteria |

Table 7 – Structure #290 Results

| Parameter | 2007 Result | 2010 Result | 2015 Result | 2017 Result | 2019 Result | 2020 Result | 2021 Result | 2022 Result | 2023 Result | Maryland COMAR Standard | EPA Standard |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---|--|
| pH | 9.7 | No flow | 8.1 | 7.99 | 7.2 | 8.12 | 7.30 | 7.12 | 7.56 | 6.5 to 8.5 | 6.5 to 9.0 |
| Temperature (C) | 25 | No flow | 21.8 | 19.6 | 23.3 | 16.7 | 13.6 | 11.72 | 11.06 | Maximum 32°C or ambient temperature, whichever is greater | Site and species specific |
| Conductivity (umhos/cm) | 1,500 | No flow | 716 | 740 | 1110 | 842 | 660 | 932 | 754 | No existing criteria | No existing criteria |
| Turbidity (NTU) | 11 | No flow | 1.5 | 2.6 | 32.6 | 8.30 | 0.60 | 2.22 | 15 | Maximum of 150 NTU and monthly average of 50 NTU | Site and species specific |
| Detergents | 0.13 | No flow | <0.025 | <0.02 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Ammonia | <0.2 | No flow | <0.2 | <0.2 | 0.174 | ND | ND | 0.498 | 0.375 | No existing criteria | Chronic 1.9 ¹ , Acute 17 ¹ |
| Boron | 5.1 | No flow | 0.037 | 0.0407 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| E. coli (MPN/100ml) | 4,300 | No flow | 687 | 70.8 | 2420 | 2420 | ND | 41 | 540 | 235 | 126 ² |
| Enterococci (MPN/100ml) | 7,500 | No flow | 687 | 32.7 | >2419.6 | >2419.6 | 2 | 75 | 75 | 61 | 35 ² |
| Total Coliform | Presence | No flow | >2,420 | 2,419.6 | >2419.6 | >2419.6 | ND | 1990 | >2400 | No existing criteria | No existing criteria |
| Fluoride | 0.4 | No flow | <0.2 | 0.32 | ND | ND | 0.58 | ND | ND | No existing criteria | No existing criteria |
| Hardness | 104 | No flow | 194 | 200 | 220 | 188 | 139 | 184 | 204 | No existing criteria | No existing criteria |
| Potassium | 4.3 | No flow | 5.87 | 5.51 | 10.3 | 9.7 | 3.6 | 5.8 | 5.3 | No existing criteria | No existing criteria |
| Chloride | 390 | No flow | 147 | 150 | 230 | 138 | 139 | 183 | 152 | No existing criteria | Chronic 230, Acute 860 |
| Chlorine (mg/L) | <0.2 | No flow | 0.11 | 0.06 | ND | 0.00 | 0.52 | ND | ND | < 0.10 mg/L | Chronic 0.011, Acute 0.019 |
| Color | <5 | No flow | 24 | 32 | 60 | 15 | 5 | 5 | 25 | Maximum of 75 units as a monthly average | 75 |
| Total Nitrogen (mg/L) | Not Tested | Not Tested | 3 | 4.99 | 2.59 | 2.47 | 2.26 | 3.31 | 2.89 | No existing criteria | No existing criteria |
| Total Phosphorus (mg/L) | Not Tested | Not Tested | 0.10 | <0.05 | ND | ND | 0.19 | ND | ND | No existing criteria | No existing criteria |

Table 8 – Structure #736 Results

| Parameter | 2007 Result | 2010 Result | 2015 Result | 2017 Result | 2019 Result | 2020 Result | 2021 Result | 2022 Result | 2023 Result | Maryland COMAR Standard | EPA Standard |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---|--|
| pH | Not Tested | Not Tested | Not Tested | Not Tested | 7.2 | 7.12 | 6.91 | 6.45 | 6.81 | 6.5 to 8.5 | 6.5 to 9.0 |
| Temperature (C) | Not Tested | Not Tested | Not Tested | Not Tested | 23.4 | 15.5 | 17.8 | 12.4 | 11.8 | Maximum 32°C or ambient temperature, whichever is greater | Site and species specific |
| Conductivity (umhos/cm) | Not Tested | Not Tested | Not Tested | Not Tested | 750 | 773 | 713 | 846 | 789 | No existing criteria | No existing criteria |
| Turbidity (NTU) | Not Tested | Not Tested | Not Tested | Not Tested | 1.13 | 0.27 | 0.28 | 1.81 | 0.60 | Maximum of 150 NTU and monthly average of 50 NTU | Site and species specific |
| Detergents | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Ammonia | Not Tested | Not Tested | Not Tested | Not Tested | 0.162 | 0.133 | ND | ND | 0.182 | No existing criteria | Chronic 1.9 ¹ , Acute 17 ¹ |
| Boron | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | ND | 0.054 | No existing criteria | No existing criteria |
| E. coli (MPN/100ml) | Not Tested | Not Tested | Not Tested | Not Tested | 45 | 2 | 2 | 4 | 17 | 235 | 126 ² |
| Enterococci (MPN/100ml) | Not Tested | Not Tested | Not Tested | Not Tested | 921 | 5 | 11 | 6 | 14 | 61 | 35 ² |
| Total Coliform | Not Tested | Not Tested | Not Tested | Not Tested | >2419.6 | 387 | 107 | 1350 | 17 | No existing criteria | No existing criteria |
| Fluoride | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Hardness | Not Tested | Not Tested | Not Tested | Not Tested | 189 | 186 | 188 | 199 | 231 | No existing criteria | No existing criteria |
| Potassium | Not Tested | Not Tested | Not Tested | Not Tested | 4.7 | 4.9 | 4.9 | 6.5 | 6.3 | No existing criteria | No existing criteria |
| Chloride | Not Tested | Not Tested | Not Tested | Not Tested | 186 | 180 | 123 | 136 | 116 | No existing criteria | Chronic 230, Acute 860 |
| Chlorine (mg/L) | Not Tested | Not Tested | Not Tested | Not Tested | ND | 0.01 | 0.16 | ND | ND | < 0.10 mg/L | Chronic 0.011, Acute 0.019 |
| Color | Not Tested | Not Tested | Not Tested | Not Tested | 5 | 5 | 5 | ND | 5 | Maximum of 75 units as a monthly average | 75 |
| Total Nitrogen (mg/L) | Not Tested | Not Tested | Not Tested | Not Tested | 2.03 | ND | 2.20 | 1.80 | 1.89 | No existing criteria | No existing criteria |
| Total Phosphorus (mg/L) | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |

Table 9 – Structure #853 Results

| Parameter | 2007 Result | 2010 Result | 2015 Result | 2017 Result | 2019 Result | 2020 Result | 2021 Result | 2022 Result | 2023 Result | Maryland COMAR Standard | EPA Standard |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---|--|
| pH | 8.0 | 8.1 | 7.6 | 7.3 | 7.2 | 7.37 | 7.74 | Not Tested | 7.43 | 6.5 to 8.5 | 6.5 to 9.0 |
| Temperature (C) | 21.7 | 22.2 | 23.5 | 23.0 | 22.1 | 17.4 | 16.8 | Not Tested | 12.3 | Maximum 32°C or ambient temperature, whichever is greater | Site and species specific |
| Conductivity (umhos/cm) | 410 | 460 | 508 | 470 | 522 | 637 | 635 | Not Tested | 534 | No existing criteria | No existing criteria |
| Turbidity (NTU) | 1.1 | 1.0 | 15.6 | 16 | 1.16 | 0.61 | 0.32 | Not Tested | 0.40 | Maximum of 150 NTU and monthly average of 50 NTU | Site and species specific |
| Detergents | 0.12 | <0.10 | <0.025 | 0.07 | ND | ND | ND | Not Tested | ND | No existing criteria | No existing criteria |
| Ammonia | <0.2 | <0.2 | 0.34 | 0.2 | ND | ND | 0.164 | Not Tested | ND | No existing criteria | Chronic 1.9 ¹ , Acute 17 ¹ |
| Boron | 4.1 | <0.05 | 0.012 | 0.0227 | ND | ND | ND | Not Tested | ND | No existing criteria | No existing criteria |
| E. coli (MPN/100ml) | 2300 | 190 | >2420 | 1119.9 | 32 | 17 | 20 | Not Tested | 540 | 235 | 126 ² |
| Enterococci (MPN/100ml) | 46000 | 1100 | >2420 | 235.2 | 38 | 15 | 32 | Not Tested | 260 | 61 | 35 ² |
| Total Coliform | Presence | ≥2400 | >2420 | >2419.6 | >2419.6 | 1120 | 649 | Not Tested | >2400 | No existing criteria | No existing criteria |
| Fluoride | <0.10 | <0.2 | <0.2 | 0.3 | ND | ND | ND | Not Tested | ND | No existing criteria | No existing criteria |
| Hardness | 100 | 95 | 100 | 130 | 92.9 | 145 | 122 | Not Tested | 98.2 | No existing criteria | No existing criteria |
| Potassium | 3.7 | 4.5 | 3.06 | 3.42 | 3.4 | 3.4 | 3.2 | Not Tested | 3.1 | No existing criteria | No existing criteria |
| Chloride | 70 | 92 | 111 | 80 | 134 | 92.7 | 150 | Not Tested | 112 | No existing criteria | Chronic 230, Acute 860 |
| Chlorine (mg/L) | 0.02 | 0.03 | 0.03 | 0.05 | ND | 0.00 | ND | Not Tested | ND | < 0.10 mg/L | Chronic 0.011, Acute 0.019 |
| Color | <5 | 5 | 49 | <5 | 5 | 5 | ND | Not Tested | 5 | Maximum of 75 units as a monthly average | 75 |
| Total Nitrogen (mg/L) | 8.0 | 8.1 | 7.6 | 7.3 | 7.2 | 7.37 | 7.74 | Not Tested | 2.55 | No existing criteria | No existing criteria |
| Total Phosphorus (mg/L) | 21.7 | 22.2 | 23.5 | 23.0 | 22.1 | 17.4 | 16.8 | Not Tested | 0.10 | No existing criteria | No existing criteria |

Table 10 – Structure #862 Results

| Parameter | 2007 Result | 2010 Result | 2015 Result | 2017 Result | 2019 Result | 2020 Result | 2021 Result | 2022 Result | 2023 Result | Maryland COMAR Standard | EPA Standard |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---|--|
| pH | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 7.23 | 7.57 | 7.5 | 7.7 | 6.5 to 8.5 | 6.5 to 9.0 |
| Temperature (C) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 17.5 | 17.8 | 11.27 | 9.39 | Maximum 32°C or ambient temperature, whichever is greater | Site and species specific |
| Conductivity (umhos/cm) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 584 | 706 | 619 | 549 | No existing criteria | No existing criteria |
| Turbidity (NTU) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 0.20 | 0.34 | 0.32 | 1.4 | Maximum of 150 NTU and monthly average of 50 NTU | Site and species specific |
| Detergents | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Ammonia | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | ND | 0.64 | 0.341 | ND | No existing criteria | Chronic 1.9 ¹ , Acute 17 ¹ |
| Boron | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | ND | No existing criteria | No existing criteria |
| E. coli (MPN/100ml) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 2 | 4 | 16 | 8 | 235 | 126 ² |
| Enterococci (MPN/100ml) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 11 | 20 | 3 | 10 | 61 | 35 ² |
| Total Coliform | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 173 | 649 | 167 | 540 | No existing criteria | No existing criteria |
| Fluoride | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Hardness | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 138 | 147 | 138 | 153 | No existing criteria | No existing criteria |
| Potassium | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 3.5 | 3.5 | 3.6 | 3.8 | No existing criteria | No existing criteria |
| Chloride | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 80.5 | 167 | 95.9 | 89.3 | No existing criteria | Chronic 230, Acute 860 |
| Chlorine (mg/L) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 0.00 | ND | ND | ND | < 0.10 mg/L | Chronic 0.011, Acute 0.019 |
| Color | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 5 | 5 | 10 | 10 | Maximum of 75 units as a monthly average | 75 |
| Total Nitrogen (mg/L) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | 1.16 | No existing criteria | No existing criteria |
| Total Phosphorus (mg/L) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | ND | No existing criteria | No existing criteria |

Table 11 – Structure #879 Results

| Parameter | 2007 Result | 2010 Result | 2015 Result | 2017 Result | 2019 Result | 2020 Result | 2021 Result | 2022 Result | 2023 Result | Maryland COMAR Standard | EPA Standard |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---|--|
| pH | Not Tested | Not Tested | Not Tested | Not Tested | 7.6 | 7.71 | 8.87 | 6.41 | 7.68 | 6.5 to 8.5 | 6.5 to 9.0 |
| Temperature (C) | Not Tested | Not Tested | Not Tested | Not Tested | 23.9 | 18 | 15.7 | 12.44 | 8.83 | Maximum 32°C or ambient temperature, whichever is greater | Site and species specific |
| Conductivity (umhos/cm) | Not Tested | Not Tested | Not Tested | Not Tested | 751 | 562 | 618 | 607 | 553 | No existing criteria | No existing criteria |
| Turbidity (NTU) | Not Tested | Not Tested | Not Tested | Not Tested | 0.82 | 0.51 | 0.46 | 0.46 | 0.65 | Maximum of 150 NTU and monthly average of 50 NTU | Site and species specific |
| Detergents | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Ammonia | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | 0.134 | 0.323 | ND | No existing criteria | Chronic 1.9 ¹ , Acute 17 ¹ |
| Boron | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| E. coli (MPN/100ml) | Not Tested | Not Tested | Not Tested | Not Tested | 461 | 15 | 3 | 47 | 4 | 235 | 126 ² |
| Enterococci (MPN/100ml) | Not Tested | Not Tested | Not Tested | Not Tested | >2419.6 | 21 | 36 | 4 | 10 | 61 | 35 ² |
| Total Coliform | Not Tested | Not Tested | Not Tested | Not Tested | >2419.6 | 1730 | 113 | 187 | 1600 | No existing criteria | No existing criteria |
| Fluoride | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Hardness | Not Tested | Not Tested | Not Tested | Not Tested | 168 | 124 | 124 | 136 | 148 | No existing criteria | No existing criteria |
| Potassium | Not Tested | Not Tested | Not Tested | Not Tested | 4.7 | 3.4 | 3.2 | 3.6 | 3.6 | No existing criteria | No existing criteria |
| Chloride | Not Tested | Not Tested | Not Tested | Not Tested | 170 | 79.3 | 139 | 94.8 | 89.9 | No existing criteria | Chronic 230, Acute 860 |
| Chlorine (mg/L) | Not Tested | Not Tested | Not Tested | Not Tested | ND | 0.00 | ND | ND | ND | < 0.10 mg/L | Chronic 0.011, Acute 0.019 |
| Color | Not Tested | Not Tested | Not Tested | Not Tested | 10 | 10 | 5 | 5 | 5 | Maximum of 75 units as a monthly average | 75 |
| Total Nitrogen (mg/L) | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Total Phosphorus (mg/L) | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |

Table 12 – Structure #881 Results

| Parameter | 2007 Result | 2010 Result | 2015 Result | 2017 Result | 2019 Result | 2020 Result | 2021 Result | 2022 Result | 2023 Result | Maryland COMAR Standard | EPA Standard |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---|--|
| pH | Not Tested | Not Tested | Not Tested | Not Tested | 7.3 | 7.94 | 8.23 | 6.71 | 7.53 | 6.5 to 8.5 | 6.5 to 9.0 |
| Temperature (C) | Not Tested | Not Tested | Not Tested | Not Tested | 24.3 | 18.6 | 16.2 | 11.55 | 9.56 | Maximum 32°C or ambient temperature, whichever is greater | Site and species specific |
| Conductivity (umhos/cm) | Not Tested | Not Tested | Not Tested | Not Tested | 756 | 549 | 621 | 612 | 550 | No existing criteria | No existing criteria |
| Turbidity (NTU) | Not Tested | Not Tested | Not Tested | Not Tested | 1.24 | 0.50 | 0.57 | 1.03 | 0.80 | Maximum of 150 NTU and monthly average of 50 NTU | Site and species specific |
| Detergents | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Ammonia | Not Tested | Not Tested | Not Tested | Not Tested | 0.271 | ND | 0.19 | 0.328 | ND | No existing criteria | Chronic 1.9 ¹ , Acute 17 ¹ |
| Boron | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| E. coli (MPN/100ml) | Not Tested | Not Tested | Not Tested | Not Tested | 248 | 36 | 6 | 5 | 6 | 235 | 126 ² |
| Enterococci (MPN/100ml) | Not Tested | Not Tested | Not Tested | Not Tested | 1550 | 15 | 20 | 11 | 2 | 61 | 35 ² |
| Total Coliform | Not Tested | Not Tested | Not Tested | Not Tested | >2419.6 | 2420 | 165 | 214 | 350 | No existing criteria | No existing criteria |
| Fluoride | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Hardness | Not Tested | Not Tested | Not Tested | Not Tested | 173 | 117 | 125 | 132 | 142 | No existing criteria | No existing criteria |
| Potassium | Not Tested | Not Tested | Not Tested | Not Tested | 5.3 | 3.5 | 3.3 | 3.5 | 3.4 | No existing criteria | No existing criteria |
| Chloride | Not Tested | Not Tested | Not Tested | Not Tested | 176 | 76.2 | 141 | 95.1 | 89.9 | No existing criteria | Chronic 230, Acute 860 |
| Chlorine (mg/L) | Not Tested | Not Tested | Not Tested | Not Tested | ND | 0.00 | 0.00 | ND | ND | < 0.10 mg/L | Chronic 0.011, Acute 0.019 |
| Color | Not Tested | Not Tested | Not Tested | Not Tested | 10 | 10 | 5 | 5 | 10 | Maximum of 75 units as a monthly average | 75 |
| Total Nitrogen (mg/L) | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | ND | 2.13 | No existing criteria | No existing criteria |
| Total Phosphorus (mg/L) | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |

Table 13 – Structure #965 Results

| Parameter | 2007 Result | 2010 Result | 2015 Result | 2017 Result | 2019 Result | 2020 Result | 2021 Result | 2022 Result | 2023 Result | Maryland COMAR Standard | EPA Standard |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---|--|
| pH | 7.3 | 7.9 | 7.8 | 7.68 | 7.19 | 7.65 | 7.53 | 7.38 | 7.06 | 6.5 to 8.5 | 6.5 to 9.0 |
| Temperature (C) | 21.1 | 20.5 | 24.8 | 19.2 | 26.2 | 18.3 | 15.7 | 11.22 | 11.66 | Maximum 32°C or ambient temperature, whichever is greater | Site and species specific |
| Conductivity (umhos/cm) | 800 | 790 | 1,040 | 990 | 746 | 750 | 694 | 900 | 814 | No existing criteria | No existing criteria |
| Turbidity (NTU) | 1.4 | 1.6 | 1.1 | <0.5 | 2.58 | 0.37 | 0.86 | 0.28 | 0.35 | Maximum of 150 NTU and monthly average of 50 NTU | Site and species specific |
| Detergents | 0.12 | <0.10 | <0.025 | <0.02 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Ammonia | <0.2 | <0.2 | <0.2 | <0.2 | ND | ND | ND | 0.315 | 0.210 | No existing criteria | Chronic 1.9 ¹ , Acute 17 ¹ |
| Boron | 4.8 | <0.05 | 0.013 | 0.0583 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| E. coli (MPN/100ml) | 430 | 690 | 411 | 488.4 | 613 | 153 | 56 | 17 | 8 | 235 | 126 ² |
| Enterococci (MPN/100ml) | 930 | ≥2,400 | 1,300 | 980.4 | >2,419.6 | 291 | 344 | 10 | 9 | 61 | 35 ² |
| Total Coliform | Presence | ≥2,400 | >2,420 | >2,419.6 | >2,419.6 | 2420 | 816 | 1550 | 240 | No existing criteria | No existing criteria |
| Fluoride | 0.2 | <0.2 | <0.2 | <0.1 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Hardness | 220 | 230 | 245 | 230 | 162 | 178 | 142 | 159 | 170 | No existing criteria | No existing criteria |
| Potassium | 6.1 | 7.0 | 5.58 | 5.28 | 4.7 | 4.4 | 4.1 | 4.5 | 4.2 | No existing criteria | No existing criteria |
| Chloride | 160 | 160 | 234 | 240 | 171 | 108 | 163 | 193 | 148 | No existing criteria | Chronic 230, Acute 860 |
| Chlorine (mg/L) | 0.09 | 0.02 | 0.04 | 0.02 | ND | 0.03 | 0.02 | ND | ND | < 0.10 mg/L | Chronic 0.011, Acute 0.019 |
| Color | <5 | 6 | 8 | 9.0 | 10 | 5 | 5 | 10 | 5 | Maximum of 75 units as a monthly average | 75 |
| Total Nitrogen (mg/L) | Not Tested | Not Tested | 1.6 | 5.49 | 1.86 | 1.87 | 2.46 | 3.41 | 2.52 | No existing criteria | No existing criteria |
| Total Phosphorus (mg/L) | Not Tested | Not Tested | <0.05 | <0.05 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |

Table 14 – Structure #1013 Results

| Parameter | 2007 Result | 2010 Result | 2015 Result | 2017 Result | 2019 Result | 2020 Result | 2021 Result | 2022 Result | 2023 Result | Maryland COMAR Standard | EPA Standard |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---|--|
| pH | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 7.44 | 7.22 | 7.74 | 6.5 to 8.5 | 6.5 to 9.0 |
| Temperature (C) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 16.8 | 9.11 | 10.06 | Maximum 32°C or ambient temperature, whichever is greater | Site and species specific |
| Conductivity (umhos/cm) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 1860 | 1980 | 1750 | No existing criteria | No existing criteria |
| Turbidity (NTU) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 0.15 | 0.72 | 0.35 | Maximum of 150 NTU and monthly average of 50 NTU | Site and species specific |
| Detergents | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | No existing criteria | No existing criteria |
| Ammonia | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 0.357 | 0.320 | 0.330 | No existing criteria | Chronic 1.9 ¹ , Acute 17 ¹ |
| Boron | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | No existing criteria | No existing criteria |
| E. coli (MPN/100ml) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 2 | 1 | 0 | 235 | 126 ² |
| Enterococci (MPN/100ml) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 6 | 548 | 5 | 61 | 35 ² |
| Total Coliform | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 579 | 1990 | 350 | No existing criteria | No existing criteria |
| Fluoride | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | No existing criteria | No existing criteria |
| Hardness | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 323 | 351 | 350 | No existing criteria | No existing criteria |
| Potassium | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 8.8 | 9.6 | 8.0 | No existing criteria | No existing criteria |
| Chloride | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 547 | 652 | 478 | No existing criteria | Chronic 230, Acute 860 |
| Chlorine (mg/L) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 0.04 | ND | ND | < 0.10 mg/L | Chronic 0.011, Acute 0.019 |
| Color | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 5 | 5 | 5 | Maximum of 75 units as a monthly average | 75 |
| Total Nitrogen (mg/L) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 3.51 | 2.31 | 2.71 | No existing criteria | No existing criteria |
| Total Phosphorus (mg/L) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | No existing criteria | No existing criteria |

Table 15 – Structure #1077 Results

| Parameter | 2007 Result | 2010 Result | 2015 Result | 2017 Result | 2019 Result | 2020 Result | 2021 Result | 2022 Result | 2023 Result | Maryland COMAR Standard | EPA Standard |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---|--|
| pH | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 7.36 | 6.32 | 6.41 | 6.5 to 8.5 | 6.5 to 9.0 |
| Temperature (C) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 12.8 | 9.72 | 12.39 | Maximum 32°C or ambient temperature, whichever is greater | Site and species specific |
| Conductivity (umhos/cm) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 785 | 909 | 840 | No existing criteria | No existing criteria |
| Turbidity (NTU) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 3.01 | 16 | 14 | Maximum of 150 NTU and monthly average of 50 NTU | Site and species specific |
| Detergents | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | No existing criteria | No existing criteria |
| Ammonia | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 0.395 | 0.711 | 0.386 | No existing criteria | Chronic 1.9 ¹ , Acute 17 ¹ |
| Boron | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | No existing criteria | No existing criteria |
| E. coli (MPN/100ml) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 28 | 1300 | 2 | 235 | 126 ² |
| Enterococci (MPN/100ml) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | ND | 4 | 21 | 61 | 35 ² |
| Total Coliform | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | >2419.6 | 1730 | 240 | No existing criteria | No existing criteria |
| Fluoride | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | No existing criteria | No existing criteria |
| Hardness | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 155 | 150 | 152 | No existing criteria | No existing criteria |
| Potassium | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 3.6 | 4.2 | 3.9 | No existing criteria | No existing criteria |
| Chloride | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 193 | 205 | 204 | No existing criteria | Chronic 230, Acute 860 |
| Chlorine (mg/L) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | ND | ND | ND | < 0.10 mg/L | Chronic 0.011, Acute 0.019 |
| Color | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | 20 | 5 | 25 | Maximum of 75 units as a monthly average | 75 |
| Total Nitrogen (mg/L) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | ND | 1.78 | ND | No existing criteria | No existing criteria |
| Total Phosphorus (mg/L) | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | Not Tested | ND | 0.16 | 0.15 | No existing criteria | No existing criteria |

Table 16 – Structure #1106 Results

| Parameter | 2007 Result | 2010 Result | 2015 Result | 2017 Result | 2019 Result | 2020 Result | 2021 Result | 2022 Result | 2023 Result | Maryland COMAR Standard | EPA Standard |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---|--|
| pH | 7.6 | 7.4 | 7.4 | 7.13 | 6.8 | 7.25 | 7.09 | 6.36 | 6.63 | 6.5 to 8.5 | 6.5 to 9.0 |
| Temperature (C) | 25.6 | 19.4 | 22.4 | 24.0 | 26.1 | 19.3 | 19.3 | 14.88 | 14.3 | Maximum 32°C or ambient temperature, whichever is greater | Site and species specific |
| Conductivity (umhos/cm) | 540 | 780 | 1,130 | 1,100 | 1180 | 1040 | 1070 | 1140 | 944 | No existing criteria | No existing criteria |
| Turbidity (NTU) | 3.4 | 7.9 | 18.9 | 30 | 46.0 | 29.3 | 14.0 | 45.2 | 7.9 | Maximum of 150 NTU and monthly average of 50 NTU | Site and species specific |
| Detergents | 0.12 | <0.10 | <0.025 | 0.086 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Ammonia | <0.2 | 0.6 | 0.47 | 0.48 | 0.591 | 0.336 | 0.411 | 0.708 | 0.496 | No existing criteria | Chronic 1.9 ¹ , Acute 17 ¹ |
| Boron | 6.3 | <0.05 | 0.021 | 0.0225 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| E. coli (MPN/100ml) | 230 | 33 | 4.1 | 191.8 | 5 | ND | 2 | 172 | 17 | 235 | 126 ² |
| Enterococci (MPN/100ml) | 1,500 | 43 | 7.4 | 2.0 | 133 | ND | 5 | 83 | 32 | 61 | 35 ² |
| Total Coliform | Presence | ≥2,400 | >2,420 | >2,419.6 | >2419.6 | 461 | 167 | 1730 | >2,400 | No existing criteria | No existing criteria |
| Fluoride | 1.0 | 0.3 | <0.2 | 0.15 | ND | 0.22 | ND | ND | ND | No existing criteria | No existing criteria |
| Hardness | 136 | 130 | 177 | 200 | 179 | 175 | 180 | 146 | 139 | No existing criteria | No existing criteria |
| Potassium | 5.2 | 7.2 | 6.24 | 6.170 | 5.8 | 5.3 | 4.9 | 4.7 | 4.5 | No existing criteria | No existing criteria |
| Chloride | 85 | 210 | 290 | 330 | 387 | 309 | 237 | 279 | 237 | No existing criteria | Chronic 230, Acute 860 |
| Chlorine (mg/L) | 0.02 | 0.03 | 0.05 | 0.16 | 0.13 | 0.03 | 0.02 | 0.11 | 0.14 | < 0.10 mg/L | Chronic 0.011, Acute 0.019 |
| Color | <5 | 57 | 183 | 250 | 100 | 60 | 5 | 5 | 20 | Maximum of 75 units as a monthly average | 75 |
| Total Nitrogen (mg/L) | Not Tested | Not Tested | 2.1 | 3.3 | 2.16 | ND | ND | ND | 2.29 | No existing criteria | No existing criteria |
| Total Phosphorus (mg/L) | Not Tested | Not Tested | 0.10 | <0.05 | ND | ND | ND | ND | 0.14 | No existing criteria | No existing criteria |

Table 17 – Structure #1107 Results

| Parameter | 2007 Result | 2010 Result | 2015 Result | 2017 Result | 2019 Result | 2020 Result | 2021 Result | 2022 Result | 2023 Result | Maryland COMAR Standard | EPA Standard |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---|--|
| pH | 7.3 | 7.9 | 8.0 | 7.94 | 7.1 | 7.32 | 7.3 | 5.87 | 6.42 | 6.5 to 8.5 | 6.5 to 9.0 |
| Temperature (C) | 16.7 | 18.9 | 22.1 | 18.6 | 24.3 | 66.1 | 18.6 | 12.1 | 12.8 | Maximum 32°C or ambient temperature, whichever is greater | Site and species specific |
| Conductivity (umhos/cm) | 720 | 910 | 1,200 | 900 | 716 | 758 | 696 | 763 | 641 | No existing criteria | No existing criteria |
| Turbidity (NTU) | 28 | 36 | 5.3 | 1.0 | 1.66 | 3.58 | 5.17 | 9.26 | 15 | Maximum of 150 NTU and monthly average of 50 NTU | Site and species specific |
| Detergents | 0.18 | <0.10 | <0.025 | 0.022 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Ammonia | 0.6 | 1.7 | 1.35 | <0.2 | 0.929 | 0.212 | 0.260 | 0.200 | 0.114 | No existing criteria | Chronic 1.9 ¹ , Acute 17 ¹ |
| Boron | 7.4 | <0.05 | 0.025 | 0.0242 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| E. coli (MPN/100ml) | 30 | 69 | 206 | 547.6 | 613 | 1410 | 82 | 4 | 240 | 235 | 126 ² |
| Enterococci (MPN/100ml) | 7,500 | 23 | 326 | 54.5 | 488 | 62 | 64 | 3 | 1300 | 61 | 35 ² |
| Total Coliform | Presence | ≥2,400 | >2,420 | >2,416.9 | >2419.6 | 1990 | 961 | 308 | 1600 | No existing criteria | No existing criteria |
| Fluoride | 0.3 | <0.2 | <0.2 | 0.12 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Hardness | 192 | 230 | 162 | 210 | 164 | 175 | 128 | 118 | 116 | No existing criteria | No existing criteria |
| Potassium | 6.0 | 8.6 | 4.75 | 4.65 | 5.7 | 4.9 | 3.7 | 3.3 | 3.6 | No existing criteria | No existing criteria |
| Chloride | 120 | 240 | 265 | 220 | 165 | 174 | 145 | 176 | 147 | No existing criteria | Chronic 230, Acute 860 |
| Chlorine (mg/L) | 0.09 | 0.02 | 0.1 | 0.0 | ND | 0.04 | ND | ND | ND | < 0.10 mg/L | Chronic 0.011, Acute 0.019 |
| Color | 50 | 60 | 59 | 19 | 20 | 25 | 25 | 5 | 15 | Maximum of 75 units as a monthly average | 75 |
| Total Nitrogen (mg/L) | Not Tested | Not Tested | 1.8 | 2.64 | 1.95 | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Total Phosphorus (mg/L) | Not Tested | Not Tested | <0.05 | <0.05 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |

Table 18 – Structure #1220 Results

| Parameter | 2007 Result | 2010 Result | 2015 Result | 2017 Result | 2019 Result | 2020 Result | 2021 Result | 2022 Result | 2023 Result | Maryland COMAR Standard | EPA Standard |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---|--|
| pH | 7.3 | 7.9 | 8.0 | 7.94 | 7.1 | 7.32 | 7.3 | 6.72 | 7.05 | 6.5 to 8.5 | 6.5 to 9.0 |
| Temperature (C) | 16.7 | 18.9 | 22.1 | 18.6 | 24.3 | 66.1 | 18.6 | 11.3 | 11.9 | Maximum 32°C or ambient temperature, whichever is greater | Site and species specific |
| Conductivity (umhos/cm) | 720 | 910 | 1,200 | 900 | 716 | 758 | 696 | 1090 | 703 | No existing criteria | No existing criteria |
| Turbidity (NTU) | 28 | 36 | 5.3 | 1.0 | 1.66 | 3.58 | 5.17 | 2.76 | 4.7 | Maximum of 150 NTU and monthly average of 50 NTU | Site and species specific |
| Detergents | 0.18 | <0.10 | <0.025 | 0.022 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Ammonia | 0.6 | 1.7 | 1.35 | <0.2 | 0.929 | 0.212 | 0.260 | 0.482 | 0.284 | No existing criteria | Chronic 1.9 ¹ , Acute 17 ¹ |
| Boron | 7.4 | <0.05 | 0.025 | 0.0242 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| E. coli (MPN/100ml) | 30 | 69 | 206 | 547.6 | 613 | 1410 | 82 | 67 | 33 | 235 | 126 ² |
| Enterococci (MPN/100ml) | 7,500 | 23 | 326 | 54.5 | 488 | 62 | 64 | 11 | 16 | 61 | 35 ² |
| Total Coliform | Presence | ≥2,400 | >2,420 | >2,416.9 | >2419.6 | 1990 | 961 | 411 | 240 | No existing criteria | No existing criteria |
| Fluoride | 0.3 | <0.2 | <0.2 | 0.12 | ND | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Hardness | 192 | 230 | 162 | 210 | 164 | 175 | 128 | 120 | 143 | No existing criteria | No existing criteria |
| Potassium | 6.0 | 8.6 | 4.75 | 4.65 | 5.7 | 4.9 | 3.7 | 3.7 | 4.4 | No existing criteria | No existing criteria |
| Chloride | 120 | 240 | 265 | 220 | 165 | 174 | 145 | 268 | 159 | No existing criteria | Chronic 230, Acute 860 |
| Chlorine (mg/L) | 0.09 | 0.02 | 0.1 | 0.0 | ND | 0.04 | ND | ND | ND | < 0.10 mg/L | Chronic 0.011, Acute 0.019 |
| Color | 50 | 60 | 59 | 19 | 20 | 25 | 25 | 25 | 25 | Maximum of 75 units as a monthly average | 75 |
| Total Nitrogen (mg/L) | Not Tested | Not Tested | 1.8 | 2.64 | 1.95 | ND | ND | ND | ND | No existing criteria | No existing criteria |
| Total Phosphorus (mg/L) | Not Tested | Not Tested | <0.05 | <0.05 | ND | ND | ND | 0.38 | 0.11 | No existing criteria | No existing criteria |

3.2. Evaluation of Results

E. coli displayed higher levels than some previous years at outfalls #212, #289, #290, and #1107, with levels exceeding the Maryland COMAR standards and/or EPA standards. Enterococci levels increased from 2022 at outfalls #212 and #1107, but decreased at #289 and #80 and remained the same at #290. Chloride decreased from previous years at outfalls #1013 and #1106 but still exceeds EPA chronic standards. In 2023 one more outfall was sampled with flowing water than last year. Elevated levels of bacteria decreased for most of the outfalls, but the most notable change was #1013. Outfall #1107 bacteria levels were considerably higher than 2022. Outfalls #290 and #1107 displayed orange colored water in both the pipe and outfall channel. Chlorine exceeds Maryland and EPA standards at outfall #1106. Two samples had pH levels that were below both Maryland COMAR and EPA standards. The pH levels were below 6.5 which could indicate leaf litter, woody debris and/or lawn fertilizers causing the water to be a bit acidic. Outfalls #736, #862, #879, #881, #965, and #1220 were all sampled and tested; however, zero parameters exceeded Maryland COMAR or EPA standards.

Table 19 – Evaluation of Field and Laboratory Test Results (2023)

| Structure # Flow Type | Exceedance Parameters | Conclusions |
|--------------------------|----------------------------------|---|
| #80 Moderate | Enterococci | Results suggest possible sanitary wastewater contamination or septic migration into storm drain system. Enterococci decreased from 2022 but exceeds the EPA standard. |
| #212 Substantial | E. coli Enterococci | Results continue to suggest possible sanitary wastewater contamination or septic migration into storm drain system. E. coli increased from 2022 and exceeds Maryland and EPA standards. Enterococci increased from 2022 and exceeds EPA standards. |
| #289 Substantial | E. coli Enterococci | Results continue to suggest possible sanitary wastewater contamination or septic migration into storm drain system. E. coli increased from 2022 and exceeds Maryland and EPA standards. Enterococci decreased from 2022 but continues to exceed Maryland and EPA standards. |
| #290 Substantial | E. coli Enterococci | Results suggest possible sanitary wastewater, and potable water migration into a storm drain system. E coli increased from 2022 and exceeds the EPA and Maryland standards. Enterococci remained the same as 2022 and continues to exceed Maryland and EPA standards. |
| #853 Moderate | E. coli Enterococci | Results suggest possible sanitary wastewater contamination or septic migration into storm drain system. E. coli and Enterococci exceed Maryland and EPA standards. |
| #1077 Trickle | Low pH | pH is below Maryland and EPA standards. Low pH can impede shell formation for aquatic invertebrates and can bring metals to a more dangerous dissolved state which has been shown to kill fish. |
| #1013 Trickle | Chloride | Results continue to suggest possible sanitary wastewater and potable water migration into a storm drain system, and/or illicit industrial discharges. Chloride exceeds EPA chronic standards. |
| #1106 Moderate | Chloride Chlorine | Results suggest possible sanitary wastewater and potable water migration into a storm drain system, and/or illicit industrial discharges. Chloride exceeds EPA chronic standards. Chlorine exceeds Maryland and EPA standards. |
| #1107 Trickle | Low pH E. coli Enterococci | Results suggest possible potable water migration. Low pH can impede shell formation for aquatic invertebrates and can bring metals to a more dangerous dissolved state which has been shown to kill fish. E. coli and Enterococci exceed Maryland and EPA standards. |

3.3. Photo Documentation of Sampled Outfalls



Photo 1 – Structure #80



Photo 2 – Structure #212



Photo 3 – Structure #289



Photo 4 – Structure #290



Photo 5 – Structure #736



Photo 6 – Structure #853



Photo 7 – Structure #862



Photo 8 – Structure #879



Photo 9 – Structure #881



Photo 10 – Structure #965



Photo 11 – Structure #1013



Photo 12 – Structure #1077



Photo 13 – Structure #1106



Photo 14 – Structure #1107



Photo 15 – Structure #1220

4. **OUTFALL STABILITY**

All 78 outfalls were investigated for key stability parameters while water quality sampling was being conducted. These parameters included bank erosion, deposition, condition of the outfall pipe and the condition of the outfall channel. As a result, 18 sites were identified as in need of retrofit, emergency repairs and/or should be monitored closely to prevent future failure.

4.1. Photo Documentation of Select Outfalls



Photo 16 – Structure #71: Outfall 50% clogged with sediment



Photo 17 – Structure #212 – Corner of outfall broken



Photo 18 – Structure #273 – Outfall partially filled with sediment



Photo 19 – Structure #289 & #290: Concrete apron cracked and undermined with deep scour pool; wingwall is cracked



Photo 20 – Structure #854: Outfall is filled with sediment and leaf matter



Photo 21 – Structure #881 is cracked on bottom causing erosion under pipe



Photo 22 – Structure #962: Road edge and concrete section of the outfall pipe is failing and bank erosion downstream



Photo 23 – Structure #960: Outfall has erosion under the pipe, has headcut and eroded banks leading to stream



Photo 24 - #979: Obstructed by concrete and debris



Photo 25 – Structure # 973: Outfall overgrown with vegetation and pipe broken



Photo 26 – Structure #986: Outfall overgrown with vegetation



Photo 27 – Structure #983: Base is eroded



Photo 28 – Structure #1004: Outfall filled 35 percent with sediment and debris



Photo 29 – Structure # 991: Outfall filled 95 percent with sediment and debris (don't have pic from this year)



Photo 30 – Structure #1028: End of concrete channel undermined, 2-foot drop to channel along with eroded banks



Photo 31 – Structure #1005: Outfall 95% full of sediment



Photo 32 – Structure #1107: Crack in the pipe causing water to flow under the outfall causing erosion beneath the pipe



Photo 33 – Structure #1230: 50 percent filled with sediment and debris

4.2. Evaluation of Outfall Stability

Outfalls were selected for potential retrofit or emergency repairs due to one or more of the following: excessive bank erosion, sediment deposition, flow obstruction, the poor condition of the outfall pipe and/or the poor the condition of the outfall channel.

Most of the issues at these 18 sites were either deterioration of the outfall pipe or an unstable outfall channel. These sites require further investigation to assess the total magnitude of deterioration and potential for outfall retrofit or emergency repair. Total Maximum Daily Load (TMDL) and MS4 water quality credits can also be calculated during this evaluation. The potential projects would provide stable outfall structures, stable outfall channels, minimize impact to adjacent private properties and existing forests, and maximize water quality and ecological uplift.

5. RECOMMENDATIONS

BayLand was unable to locate or identify illicit discharge sources upstream of the outfalls which exhibited dry weather flow during the limited field investigation. Further stormwater drainage system studies and analyses are recommended to determine the upstream illicit discharge sources.

Six of the 15 structures sampled had elevated levels of *E. coli* and/or enterococci. *E. coli* and enterococci are indicators of fecal material contamination for illicit discharge detection. Upstream flow tracing and mapping of sanitary sewer lines in relation to stormwater lines is recommended to determine if exfiltration pathways are the source of elevated *E. coli*, enterococci, and chlorine levels found this year. If the upstream source remains unidentified, closed-circuit television (CCTV) pipe inspection services are recommended. In-stream monitoring at points upstream and downstream of recreational areas can also be conducted to determine possible health risks to the public, if any, and to determine priority areas for illicit discharge elimination. Two of the 15 structures sampled displayed chloride levels which were above the EPA chronic toxicity standards. Chloride can be used as an indicator of wastewater, potable water migration into a storm drain system, and/or illicit industrial discharges. Chloride tests can be conducted by a lab and are relatively affordable. BayLand also recommends sampling surface water downstream of the outfalls to determine ambient chlorine levels in the receiving stream.

Two of the 15 structures sampled displayed pH levels below the Maryland standards and the EPA standards. Low pH can be used as an indicator of possible potable water migration. Low pH can impede shell formation for aquatic invertebrates and can bring metals to a more dangerous dissolved state which has been shown to kill fish. pH test kits are relatively affordable, and sampling can be conducted quickly and efficiently. BayLand recommends testing the pH in the receiving streams to determine if the recreational waters downstream are also slightly acidic.

Closed-circuit television (CCTV) was conducted on the storm drain systems for #289 and #290 in 2022. Inspection videos were captured from each outfall and up the storm drain network to a junction point where illicit discharge could be occurring. These videos were then reviewed for problems such as cracks, pipe deterioration, leaks, and other issues that could result in illicit discharges and the results were provided in a separate report. Illicit discharge tracking was most recently conducted in 2022 for outfall #1077 and the respective storm drain systems upstream.

We also recommend conducting a detailed outfall stability assessment for some of the higher priority unstable outfall sites. Some outfalls are in poor structural condition and are higher priority than the others. Other outfall channels are in poor condition and could benefit from retrofit. The outfalls can be investigated and assessed for all visual signs of water quality and structural impairments, existing vegetation, bank and bed erosion, and downstream channel instability. We would then rank the unstable outfalls according to the severity of instabilities, constructability, property ownership and potential for maximum MS4 and TMDL credit. BayLand can also provide design objectives and a concept level construction cost estimate. All this data would then be summarized and include a brief narrative of the outfall assessment methodology and restoration prioritization.

Based on previous years of recommendations and additional work performed by BayLand the highest priority recommendations would be to perform an outfall stability assessment at high priority outfalls and outfall channels. This would provide the most value to the City including any potential MS4 and TMDL credits.

6. CONCLUSION

The Sligo Creek Watershed has been significantly influenced by commercial and residential land uses, particularly relating to the stormwater system within Takoma Park. Takoma Park was rapidly developed roughly 70 years ago and therefore some of the storm drain infrastructure is in poor condition. Water sampling results continue to indicate possible sanitary wastewater contamination or septic migration into storm drain system. Chloride was prevalent in two of the samples collected this year. A few samples also resulted in pH levels being lower than the EPA and MD pH criteria.

Tracking and finding the illicit discharges will help reduce toxic pollutants which are threatening to aquatic life and human health. Looking into the sources of discharge can help determine appropriate action and then reduction in pollutants entering the stream system. Implementing outfall retrofits and emergency repairs will protect public infrastructure, reduce channel erosion and erosion threatening infrastructure, protect adjacent lands, improve, and enhance riparian buffer, and reduce pollutants to receiving bodies of water.

This is the fifth and final year of outfall screening under this contract with the City.

7. REFERENCES

Environmental Consultants and Contractors. 2017. *Dry Weather Water Analysis & Outfall Evaluation Report*. Chantilly, VA.

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Montgomery County Government, Department of Environmental Protection. 2019. *Sligo Creek Watershed*. https://web.archive.org/web/20120310143103/http://www.montgomerycountymd.gov/dectmpl.asp?url=%2Fcontent%2Fdep%2Fwater%2Fsub_sligo.asp.

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APPENDIX A

Laboratory Data Sheets



301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | www.alsglobal.com

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

Analytical Results Report For

BayLands Consultants & Designers, Inc.

Project Takoma Park Dry Weather

Workorder 3291377

Report ID 231595 on 3/17/2023

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Mar 07, 2023.

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 Elizabeth Parker (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.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Global.
ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):

Bill Heckert - BayLands Consultants & Designers, Inc.
Zachary Tate - BayLands Consultants & Designers, Inc.

Elizabeth Parker

Elizabeth Parker
Project Coordinator

(ALS Digital Signature)

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



Sample Summary

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | Collector | Collection Company |
|------------|-----------|--------|------------------|------------------|-----------|---------------------|
| 3291377001 | 1013 | Water | 03/07/2023 09:20 | 03/07/2023 18:53 | CBC | Collected By Client |
| 3291377002 | 965 | Water | 03/07/2023 11:30 | 03/07/2023 18:53 | CBC | Collected By Client |
| 3291377003 | 290 | Water | 03/07/2023 13:00 | 03/07/2023 18:53 | CBC | Collected By Client |
| 3291377004 | 289 | Water | 03/07/2023 13:00 | 03/07/2023 18:53 | CBC | Collected By Client |



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.
- 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 Notations

Sample Notations

Lab ID Sample ID

Result Notations

| Notation Ref. | |
|---------------|---|
| 1 | Method ASTMD6919-09 is equivalent to Method ASTMD6919-17. |
| 2 | The chlorine analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory. |
| 3 | The color determination was performed on a sample aliquot with a pH of 4 |
| 4 | MBAS calculated as LAS molecular weight 348 g/mol. |
| 5 | This sample result was calculated and reported using Method SM2340B-2011. |
| 6 | ALS-Middletown does not hold PADEP NELAP accreditation for this analyte by this method of analysis. |
| 7 | NPW TC analyzed following SM 9221B and EPA 600/8-78-017 pg 114. ND is defined as <2 MPN/100mL |
| 8 | Analyte was analyzed past the 8 hour holding time. |



Detected Results Summary

| Client Sample ID | 1013 | Collected | 03/07/2023 09:20 | | |
|----------------------|------------|-------------|------------------|---------------|------|
| Lab Sample ID | 3291377001 | Lab Receipt | 03/07/2023 18:53 | | |
| Compound | Result | Units | RDL | Method | Flag |
| METALS | | | | | |
| Hardness | 350 | mg/L | 0.33 | EPA 200.7 | # |
| Potassium, Total | 8.0 | mg/L | 0.25 | EPA 200.7 | # |
| MICROBIOLOGY | | | | | |
| E. Coli | 0 | MPN/100mL | 1 | SM9223B-16 | # |
| Enterococcus | 5 | MPN/100mL | 1 | Enterolert | # |
| Total Coliform | 350 | MPN/100mL | 1 | SM9223B-16 | # |
| WET CHEMISTRY | | | | | |
| Ammonia-N | 0.330 | mg/L | 0.100 | ASTM D6919-17 | # |
| Chloride | 478 | mg/L | 5.0 | EPA 300.0 | # |
| Color, Apparent | 5 | CU | 5 | SM2120B-2011 | # |
| Nitrate/Nitrite-N | 2.19 | mg/L | 0.10 | EPA 353.2 | # |
| Specific Conductance | 1750 | umhos/cm | 5 | SM2510B-2011 | # |
| Total Nitrogen | 2.71 | mg/L | 1.10 | Calculation | # |
| Turbidity | 0.35 | NTU | 0.30 | SM2130B-2011 | # |

Detected Results Summary

Client Sample ID
Lab Sample ID

965
3291377002

Collected
Lab Receipt

03/07/2023 11:30
03/07/2023 18:53

| Compound | Result | Units | RDL | Method | Flag |
|----------------------|--------|-----------|-------|---------------|------|
| METALS | | | | | |
| Hardness | 170 | mg/L | 0.33 | EPA 200.7 | # |
| Potassium, Total | 4.2 | mg/L | 0.25 | EPA 200.7 | # |
| MICROBIOLOGY | | | | | |
| E. Coli | 8 | MPN/100mL | 1 | SM9223B-16 | # |
| Enterococcus | 9 | MPN/100mL | 1 | Enterolert | # |
| Total Coliform | 240 | MPN/100mL | 1 | SM9223B-16 | # |
| WET CHEMISTRY | | | | | |
| Ammonia-N | 0.210 | mg/L | 0.100 | ASTM D6919-17 | # |
| Chloride | 148 | mg/L | 2.0 | EPA 300.0 | # |
| Color, Apparent | 5 | CU | 5 | SM2120B-2011 | # |
| Nitrate/Nitrite-N | 1.99 | mg/L | 0.10 | EPA 353.2 | # |
| Nitrate-N | 1.8 | mg/L | 1.0 | EPA 300.0 | # |
| Specific Conductance | 814 | umhos/cm | 5 | SM2510B-2011 | # |
| Total Nitrogen | 2.52 | mg/L | 1.10 | Calculation | # |
| Turbidity | 0.35 | NTU | 0.30 | SM2130B-2011 | # |

Detected Results Summary

Client Sample ID
Lab Sample ID

290
3291377003

Collected
Lab Receipt

03/07/2023 13:00
03/07/2023 18:53

| Compound | Result | Units | RDL | Method | Flag |
|----------------------|--------|-----------|-------|---------------|------|
| METALS | | | | | |
| Hardness | 204 | mg/L | 0.33 | EPA 200.7 | # |
| Potassium, Total | 5.3 | mg/L | 0.25 | EPA 200.7 | # |
| MICROBIOLOGY | | | | | |
| E. Coli | 540 | MPN/100mL | 1 | SM9223B-16 | # |
| Enterococcus | 75 | MPN/100mL | 1 | Enterolert | # |
| Total Coliform | >2400 | MPN/100mL | 1 | SM9223B-16 | # |
| WET CHEMISTRY | | | | | |
| Ammonia-N | 0.375 | mg/L | 0.100 | ASTM D6919-17 | # |
| Chloride | 152 | mg/L | 2.0 | EPA 300.0 | # |
| Color, Apparent | 25 | CU | 5 | SM2120B-2011 | # |
| Nitrate/Nitrite-N | 2.16 | mg/L | 0.10 | EPA 353.2 | # |
| Nitrate-N | 1.9 | mg/L | 1.0 | EPA 300.0 | # |
| Specific Conductance | 754 | umhos/cm | 5 | SM2510B-2011 | # |
| Total Nitrogen | 2.89 | mg/L | 1.10 | Calculation | # |
| Turbidity | 15 | NTU | 0.30 | SM2130B-2011 | # |



Detected Results Summary

| Client Sample ID | 289 | Collected | 03/07/2023 13:00 | | |
|----------------------|------------|-------------|------------------|---------------|------|
| Lab Sample ID | 3291377004 | Lab Receipt | 03/07/2023 18:53 | | |
| Compound | Result | Units | RDL | Method | Flag |
| METALS | | | | | |
| Hardness | 191 | mg/L | 0.33 | EPA 200.7 | # |
| Potassium, Total | 4.8 | mg/L | 0.25 | EPA 200.7 | # |
| MICROBIOLOGY | | | | | |
| E. Coli | 240 | MPN/100mL | 1 | SM9223B-16 | # |
| Enterococcus | 86 | MPN/100mL | 1 | Enterolert | # |
| Total Coliform | 920 | MPN/100mL | 1 | SM9223B-16 | # |
| WET CHEMISTRY | | | | | |
| Ammonia-N | 0.275 | mg/L | 0.100 | ASTM D6919-17 | # |
| Chloride | 152 | mg/L | 2.0 | EPA 300.0 | # |
| Color, Apparent | 5 | CU | 5 | SM2120B-2011 | # |
| Nitrate/Nitrite-N | 1.69 | mg/L | 0.10 | EPA 353.2 | # |
| Nitrate-N | 1.5 | mg/L | 1.0 | EPA 300.0 | # |
| Specific Conductance | 740 | umhos/cm | 5 | SM2510B-2011 | # |
| Total Nitrogen | 2.27 | mg/L | 1.10 | Calculation | # |
| Turbidity | 2.5 | NTU | 0.30 | SM2130B-2011 | # |



Results

| | | | |
|------------------|------------|-------------|------------------|
| Client Sample ID | 1013 | Collected | 03/07/2023 09:20 |
| Lab Sample ID | 3291377001 | Lab Receipt | 03/07/2023 18:53 |

METALS

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|------------------|--------|------|-------|-------|-----------|----------|--------------------|-----|------|
| Boron, Total | ND | ND | mg/L | 0.050 | EPA 200.7 | 1 | 03/13/2023 19:29 | SRT | E1 |
| Hardness | 350 | 5 | mg/L | 0.33 | EPA 200.7 | 1 | 03/10/2023 12:53 | SRT | E1 |
| Potassium, Total | 8.0 | | mg/L | 0.25 | EPA 200.7 | 1 | 03/10/2023 12:53 | SRT | E1 |

MICROBIOLOGY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|----------------|--------|-------|-----------|-----|------------|----------|--------------------|-----|------|
| E. Coli | 0 | 6,7,8 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/10/2023 16:16 | LAB | G |
| Enterococcus | 5 | 8 | MPN/100mL | 1 | Enterolert | 1 | 03/08/2023 19:27 | LAB | G |
| Total Coliform | 350 | 6,7,8 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/10/2023 16:16 | LAB | G |

WET CHEMISTRY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|--------------------------|--------|------|----------|-------|------------------|----------|--------------------|-----|------|
| Ammonia-N | 0.330 | 1 | mg/L | 0.100 | ASTM D6919-17 | 10 | 03/11/2023 10:03 | NML | D |
| Chloride | 478 | | mg/L | 5.0 | EPA 300.0 | 5 | 03/08/2023 17:28 | J1W | A |
| Chlorine, Total Residual | ND | ND,2 | mg/L | 0.10 | SM4500-Cl G-2011 | 1 | 03/08/2023 07:25 | GMM | A |
| Color, Apparent | 5 | 3 | CU | 5 | SM2120B-2011 | 1 | 03/08/2023 00:32 | NRB | A |
| Fluoride | ND | ND | mg/L | 0.50 | EPA 300.0 | 5 | 03/08/2023 17:28 | J1W | A |
| Nitrate/Nitrite-N | 2.19 | | mg/L | 0.10 | EPA 353.2 | 1 | 03/10/2023 08:40 | KMS | D |
| Nitrate-N | ND | ND | mg/L | 2.5 | EPA 300.0 | 5 | 03/08/2023 17:28 | J1W | A |
| Phosphorus, Total | ND | ND | mg/L | 0.10 | EPA 365.1 | 1 | 03/09/2023 22:45 | SAM | D |
| Specific Conductance | 1750 | | umhos/cm | 5 | SM2510B-2011 | 1 | 03/09/2023 13:20 | JXL | A |
| Surfactants (MBAS) | ND | ND,4 | mg/L | 0.180 | SM5540C-2011 | 1 | 03/08/2023 11:07 | GMM | C |
| Total Kjeldahl Nitrogen | ND | ND | mg/L | 1.0 | S4500NH3G-11 | 1 | 03/13/2023 14:25 | JXL | D |
| Total Nitrogen | 2.71 | | mg/L | 1.10 | Calculation | 1 | 03/14/2023 16:44 | CW | D |
| Turbidity | 0.35 | | NTU | 0.30 | SM2130B-2011 | 1 | 03/08/2023 00:03 | NRB | A |



Results

| | | | |
|------------------|------------|-------------|------------------|
| Client Sample ID | 965 | Collected | 03/07/2023 11:30 |
| Lab Sample ID | 3291377002 | Lab Receipt | 03/07/2023 18:53 |

METALS

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|------------------|--------|------|-------|-------|-----------|----------|--------------------|-----|------|
| Boron, Total | ND | ND | mg/L | 0.050 | EPA 200.7 | 1 | 03/13/2023 19:32 | SRT | E1 |
| Hardness | 170 | 5 | mg/L | 0.33 | EPA 200.7 | 1 | 03/10/2023 12:57 | SRT | E1 |
| Potassium, Total | 4.2 | | mg/L | 0.25 | EPA 200.7 | 1 | 03/10/2023 12:57 | SRT | E1 |

MICROBIOLOGY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|----------------|--------|-------|-----------|-----|------------|----------|--------------------|-----|------|
| E. Coli | 8 | 6,7,8 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/10/2023 16:16 | LAB | G |
| Enterococcus | 9 | | MPN/100mL | 1 | Enterolert | 1 | 03/08/2023 19:27 | LAB | G |
| Total Coliform | 240 | 6,7,8 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/10/2023 16:16 | LAB | G |

WET CHEMISTRY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|--------------------------|--------|------|----------|-------|------------------|----------|--------------------|-----|------|
| Ammonia-N | 0.210 | 1 | mg/L | 0.100 | ASTM D6919-17 | 10 | 03/11/2023 10:30 | NML | D |
| Chloride | 148 | | mg/L | 2.0 | EPA 300.0 | 2 | 03/08/2023 17:39 | J1W | A |
| Chlorine, Total Residual | ND | ND,2 | mg/L | 0.10 | SM4500-Cl G-2011 | 1 | 03/08/2023 07:25 | GMM | A |
| Color, Apparent | 5 | 3 | CU | 5 | SM2120B-2011 | 1 | 03/08/2023 00:32 | NRB | A |
| Fluoride | ND | ND | mg/L | 0.20 | EPA 300.0 | 2 | 03/08/2023 17:39 | J1W | A |
| Nitrate/Nitrite-N | 1.99 | | mg/L | 0.10 | EPA 353.2 | 1 | 03/10/2023 08:40 | KMS | D |
| Nitrate-N | 1.8 | | mg/L | 1.0 | EPA 300.0 | 2 | 03/08/2023 17:39 | J1W | A |
| Phosphorus, Total | ND | ND | mg/L | 0.10 | EPA 365.1 | 1 | 03/09/2023 22:38 | SAM | D |
| Specific Conductance | 814 | | umhos/cm | 5 | SM2510B-2011 | 1 | 03/09/2023 13:20 | JXL | A |
| Surfactants (MBAS) | ND | ND,4 | mg/L | 0.180 | SM5540C-2011 | 1 | 03/08/2023 11:07 | GMM | C |
| Total Kjeldahl Nitrogen | ND | ND | mg/L | 1.0 | S4500NH3G-11 | 1 | 03/13/2023 13:28 | JXL | D |
| Total Nitrogen | 2.52 | | mg/L | 1.10 | Calculation | 1 | 03/14/2023 16:41 | CW | D |
| Turbidity | 0.35 | | NTU | 0.30 | SM2130B-2011 | 1 | 03/08/2023 00:03 | NRB | A |



Results

| | | | |
|------------------|------------|-------------|------------------|
| Client Sample ID | 290 | Collected | 03/07/2023 13:00 |
| Lab Sample ID | 3291377003 | Lab Receipt | 03/07/2023 18:53 |

METALS

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|------------------|--------|------|-------|-------|-----------|----------|--------------------|-----|------|
| Boron, Total | ND | ND | mg/L | 0.050 | EPA 200.7 | 1 | 03/13/2023 19:36 | SRT | E |
| Hardness | 204 | 5 | mg/L | 0.33 | EPA 200.7 | 1 | 03/10/2023 13:00 | SRT | E |
| Potassium, Total | 5.3 | | mg/L | 0.25 | EPA 200.7 | 1 | 03/10/2023 13:00 | SRT | E |

MICROBIOLOGY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|----------------|--------|------|-----------|-----|------------|----------|--------------------|-----|------|
| E. Coli | 540 | 6,7 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/10/2023 16:16 | LAB | G |
| Enterococcus | 75 | | MPN/100mL | 1 | Enterolert | 1 | 03/08/2023 19:27 | LAB | G |
| Total Coliform | >2400 | 6,7 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/10/2023 16:16 | LAB | G |

WET CHEMISTRY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|--------------------------|--------|------|----------|-------|------------------|----------|--------------------|-----|------|
| Ammonia-N | 0.375 | 1 | mg/L | 0.100 | ASTM D6919-17 | 10 | 03/11/2023 12:19 | NML | D |
| Chloride | 152 | | mg/L | 2.0 | EPA 300.0 | 2 | 03/08/2023 17:49 | J1W | A |
| Chlorine, Total Residual | ND | ND,2 | mg/L | 0.10 | SM4500-Cl G-2011 | 1 | 03/08/2023 07:25 | GMM | A |
| Color, Apparent | 25 | 3 | CU | 5 | SM2120B-2011 | 1 | 03/08/2023 00:32 | NRB | A |
| Fluoride | ND | ND | mg/L | 0.20 | EPA 300.0 | 2 | 03/08/2023 17:49 | J1W | A |
| Nitrate/Nitrite-N | 2.16 | | mg/L | 0.10 | EPA 353.2 | 1 | 03/10/2023 08:40 | KMS | D |
| Nitrate-N | 1.9 | | mg/L | 1.0 | EPA 300.0 | 2 | 03/08/2023 17:49 | J1W | A |
| Phosphorus, Total | ND | ND | mg/L | 0.10 | EPA 365.1 | 1 | 03/15/2023 20:04 | SAM | D |
| Specific Conductance | 754 | | umhos/cm | 5 | SM2510B-2011 | 1 | 03/09/2023 13:20 | JXL | A |
| Surfactants (MBAS) | ND | ND,4 | mg/L | 0.180 | SM5540C-2011 | 1 | 03/08/2023 11:07 | GMM | C |
| Total Kjeldahl Nitrogen | ND | ND | mg/L | 1.0 | S4500NH3G-11 | 1 | 03/13/2023 14:27 | JXL | D |
| Total Nitrogen | 2.89 | | mg/L | 1.10 | Calculation | 1 | 03/14/2023 16:38 | CW | D |
| Turbidity | 15 | | NTU | 0.30 | SM2130B-2011 | 1 | 03/08/2023 00:03 | NRB | A |



Results

| | | | |
|------------------|------------|-------------|------------------|
| Client Sample ID | 289 | Collected | 03/07/2023 13:00 |
| Lab Sample ID | 3291377004 | Lab Receipt | 03/07/2023 18:53 |

METALS

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|------------------|--------|------|-------|-------|-----------|----------|--------------------|-----|------|
| Boron, Total | ND | ND | mg/L | 0.050 | EPA 200.7 | 1 | 03/13/2023 19:39 | SRT | E |
| Hardness | 191 | 5 | mg/L | 0.33 | EPA 200.7 | 1 | 03/10/2023 13:03 | SRT | E |
| Potassium, Total | 4.8 | | mg/L | 0.25 | EPA 200.7 | 1 | 03/10/2023 13:03 | SRT | E |

MICROBIOLOGY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|----------------|--------|------|-----------|-----|------------|----------|--------------------|-----|------|
| E. Coli | 240 | 6,7 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/10/2023 16:16 | LAB | G |
| Enterococcus | 86 | | MPN/100mL | 1 | Enterolert | 1 | 03/08/2023 19:27 | LAB | G |
| Total Coliform | 920 | 6,7 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/10/2023 16:16 | LAB | G |

WET CHEMISTRY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|--------------------------|--------|------|----------|-------|------------------|----------|--------------------|-----|------|
| Ammonia-N | 0.275 | 1 | mg/L | 0.100 | ASTM D6919-17 | 10 | 03/11/2023 12:06 | NML | D |
| Chloride | 152 | | mg/L | 2.0 | EPA 300.0 | 2 | 03/08/2023 17:59 | J1W | A |
| Chlorine, Total Residual | ND | ND,2 | mg/L | 0.10 | SM4500-Cl G-2011 | 1 | 03/08/2023 07:25 | GMM | A |
| Color, Apparent | 5 | 3 | CU | 5 | SM2120B-2011 | 1 | 03/08/2023 00:32 | NRB | A |
| Fluoride | ND | ND | mg/L | 0.20 | EPA 300.0 | 2 | 03/08/2023 17:59 | J1W | A |
| Nitrate/Nitrite-N | 1.69 | | mg/L | 0.10 | EPA 353.2 | 1 | 03/10/2023 08:40 | KMS | D |
| Nitrate-N | 1.5 | | mg/L | 1.0 | EPA 300.0 | 2 | 03/08/2023 17:59 | J1W | A |
| Phosphorus, Total | ND | ND | mg/L | 0.10 | EPA 365.1 | 1 | 03/09/2023 22:26 | SAM | D |
| Specific Conductance | 740 | | umhos/cm | 5 | SM2510B-2011 | 1 | 03/09/2023 13:20 | JXL | A |
| Surfactants (MBAS) | ND | ND,4 | mg/L | 0.180 | SM5540C-2011 | 1 | 03/08/2023 11:07 | GMM | C |
| Total Kjeldahl Nitrogen | ND | ND | mg/L | 1.0 | S4500NH3G-11 | 1 | 03/13/2023 14:30 | JXL | D |
| Total Nitrogen | 2.27 | | mg/L | 1.10 | Calculation | 1 | 03/14/2023 16:40 | CW | D |
| Turbidity | 2.5 | | NTU | 0.30 | SM2130B-2011 | 1 | 03/08/2023 00:03 | NRB | A |



Sample - Method Cross Reference Table

| Lab ID | Sample ID | Analysis Method | Preparation Method | Leachate Method |
|------------|-----------|------------------|--------------------|-----------------|
| 3291377001 | 1013 | EPA 200.7 | EPA TRMD | |
| | | Enterolert | Enterolert | |
| | | SM9223B-16 | SM9223B-16 | |
| | | ASTM D6919-17 | N/A | |
| | | Calculation | N/A | |
| | | EPA 300.0 | N/A | |
| | | EPA 353.2 | N/A | |
| | | EPA 365.1 | EPA 365.1 | |
| | | S4500NH3G-11 | S4500-NorgB-11 | |
| | | SM2120B-2011 | N/A | |
| | | SM2130B-2011 | N/A | |
| | | SM2510B-2011 | N/A | |
| | | SM4500-CI G-2011 | N/A | |
| | | SM5540C-2011 | N/A | |
| 3291377002 | 965 | EPA 200.7 | EPA TRMD | |
| | | Enterolert | Enterolert | |
| | | SM9223B-16 | SM9223B-16 | |
| | | ASTM D6919-17 | N/A | |
| | | Calculation | N/A | |
| | | EPA 300.0 | N/A | |
| | | EPA 353.2 | N/A | |
| | | EPA 365.1 | EPA 365.1 | |
| | | S4500NH3G-11 | S4500-NorgB-11 | |
| | | SM2120B-2011 | N/A | |
| | | SM2130B-2011 | N/A | |
| | | SM2510B-2011 | N/A | |
| | | SM4500-CI G-2011 | N/A | |
| | | SM5540C-2011 | N/A | |
| 3291377003 | 290 | EPA 200.7 | EPA TRMD | |
| | | Enterolert | Enterolert | |
| | | SM9223B-16 | SM9223B-16 | |
| | | ASTM D6919-17 | N/A | |
| | | Calculation | N/A | |
| | | EPA 300.0 | N/A | |
| | | EPA 353.2 | N/A | |
| | | EPA 365.1 | EPA 365.1 | |
| | | S4500NH3G-11 | S4500-NorgB-11 | |
| | | SM2120B-2011 | N/A | |
| | | SM2130B-2011 | N/A | |
| | | SM2510B-2011 | N/A | |
| | | SM4500-CI G-2011 | N/A | |
| | | SM5540C-2011 | N/A | |
| 3291377004 | 289 | EPA 200.7 | EPA TRMD | |
| | | Enterolert | Enterolert | |
| | | SM9223B-16 | SM9223B-16 | |
| | | ASTM D6919-17 | N/A | |
| | | Calculation | N/A | |
| | | EPA 300.0 | N/A | |
| | | EPA 353.2 | N/A | |
| | | EPA 365.1 | EPA 365.1 | |
| | | S4500NH3G-11 | S4500-NorgB-11 | |
| | | SM2120B-2011 | N/A | |
| | | SM2130B-2011 | N/A | |
| | | SM2510B-2011 | N/A | |
| | | SM4500-CI G-2011 | N/A | |
| | | SM5540C-2011 | N/A | |



QUALITY CONTROL DATA CROSS REFERENCE TABLE

| Lab ID | Sample ID | Preparation Method | Prep Batch | Prep Date/Time | By | Analysis Method | Anly Batch |
|------------|-----------|--------------------|------------|------------------|-----|------------------|------------|
| 3291377001 | 1013 | EPA TRMD | 958069 | 03/08/2023 22:14 | ANN | EPA 200.7 | 959490 |
| | | EPA TRMD | 958069 | 03/08/2023 22:14 | ANN | EPA 200.7 | 961507 |
| | | Enterolert | 958003 | 03/07/2023 19:24 | CXA | Enterolert | 958004 |
| | | SM9223B-16 | 961576 | 03/07/2023 19:43 | LAB | SM9223B-16 | 961578 |
| | | SM9223B-16 | 961576 | 03/07/2023 19:43 | LAB | SM9223B-16 | 961577 |
| | | N/A | N/A | N/A | | ASTM D6919-17 | 959523 |
| | | N/A | N/A | N/A | | Calculation | |
| | | N/A | N/A | N/A | | EPA 300.0 | 957883 |
| | | N/A | N/A | N/A | | EPA 353.2 | 958979 |
| | | EPA 365.1 | 958045 | 03/08/2023 16:47 | SAM | EPA 365.1 | 958058 |
| | | S4500-NorgB-11 | 959549 | 03/10/2023 16:29 | JXL | S4500NH3G-11 | 961092 |
| | | N/A | N/A | N/A | | SM2120B-2011 | 957673 |
| | | N/A | N/A | N/A | | SM2130B-2011 | 957672 |
| | | N/A | N/A | N/A | | SM2510B-2011 | 958941 |
| | | N/A | N/A | N/A | | SM4500-CI G-2011 | 957872 |
| | | N/A | N/A | N/A | | SM5540C-2011 | 957945 |
| 3291377002 | 965 | EPA TRMD | 958069 | 03/08/2023 22:14 | ANN | EPA 200.7 | 961507 |
| | | EPA TRMD | 958069 | 03/08/2023 22:14 | ANN | EPA 200.7 | 959490 |
| | | Enterolert | 958003 | 03/07/2023 19:24 | CXA | Enterolert | 958004 |
| | | SM9223B-16 | 961576 | 03/07/2023 19:43 | LAB | SM9223B-16 | 961578 |
| | | SM9223B-16 | 961576 | 03/07/2023 19:43 | LAB | SM9223B-16 | 961577 |
| | | N/A | N/A | N/A | | ASTM D6919-17 | 959523 |
| | | N/A | N/A | N/A | | Calculation | |
| | | N/A | N/A | N/A | | EPA 300.0 | 957883 |
| | | N/A | N/A | N/A | | EPA 353.2 | 958979 |
| | | EPA 365.1 | 958045 | 03/08/2023 16:47 | SAM | EPA 365.1 | 958058 |
| | | S4500-NorgB-11 | 959549 | 03/10/2023 16:29 | JXL | S4500NH3G-11 | 961092 |
| | | N/A | N/A | N/A | | SM2120B-2011 | 957673 |
| | | N/A | N/A | N/A | | SM2130B-2011 | 957672 |
| | | N/A | N/A | N/A | | SM2510B-2011 | 958941 |
| | | N/A | N/A | N/A | | SM4500-CI G-2011 | 957872 |
| | | N/A | N/A | N/A | | SM5540C-2011 | 957945 |
| 3291377003 | 290 | EPA TRMD | 958069 | 03/08/2023 22:14 | ANN | EPA 200.7 | 961507 |
| | | EPA TRMD | 958069 | 03/08/2023 22:14 | ANN | EPA 200.7 | 959490 |
| | | Enterolert | 958003 | 03/07/2023 19:24 | CXA | Enterolert | 958004 |
| | | SM9223B-16 | 961576 | 03/07/2023 19:43 | LAB | SM9223B-16 | 961578 |
| | | SM9223B-16 | 961576 | 03/07/2023 19:43 | LAB | SM9223B-16 | 961577 |
| | | N/A | N/A | N/A | | ASTM D6919-17 | 959525 |
| | | N/A | N/A | N/A | | Calculation | |
| | | N/A | N/A | N/A | | EPA 300.0 | 957883 |
| | | N/A | N/A | N/A | | EPA 353.2 | 958979 |
| | | EPA 365.1 | 958044 | 03/08/2023 16:43 | SAM | EPA 365.1 | 959079 |
| | | S4500-NorgB-11 | 959549 | 03/10/2023 16:29 | JXL | S4500NH3G-11 | 961092 |
| | | N/A | N/A | N/A | | SM2120B-2011 | 957673 |
| | | N/A | N/A | N/A | | SM2130B-2011 | 957672 |
| | | N/A | N/A | N/A | | SM2510B-2011 | 958941 |
| | | N/A | N/A | N/A | | SM4500-CI G-2011 | 957872 |
| | | N/A | N/A | N/A | | SM5540C-2011 | 957945 |



| Lab ID | Sample ID | Preparation Method | Prep Batch | Prep Date/Time | By | Analysis Method | Anly Batch |
|------------|-----------|--------------------|------------|------------------|-----|------------------|------------|
| 3291377004 | 289 | EPA TRMD | 958069 | 03/08/2023 22:14 | ANN | EPA 200.7 | 961507 |
| | | EPA TRMD | 958069 | 03/08/2023 22:14 | ANN | EPA 200.7 | 959490 |
| | | Enterolert | 958003 | 03/07/2023 19:24 | CXA | Enterolert | 958004 |
| | | SM9223B-16 | 961576 | 03/07/2023 19:43 | LAB | SM9223B-16 | 961578 |
| | | SM9223B-16 | 961576 | 03/07/2023 19:43 | LAB | SM9223B-16 | 961577 |
| | | N/A | N/A | N/A | | ASTM D6919-17 | 959525 |
| | | N/A | N/A | N/A | | Calculation | |
| | | N/A | N/A | N/A | | EPA 300.0 | 957883 |
| | | N/A | N/A | N/A | | EPA 353.2 | 958979 |
| | | EPA 365.1 | 958045 | 03/08/2023 16:47 | SAM | EPA 365.1 | 958058 |
| | | S4500-NorgB-11 | 959549 | 03/10/2023 16:29 | JXL | S4500NH3G-11 | 961092 |
| | | N/A | N/A | N/A | | SM2120B-2011 | 957673 |
| | | N/A | N/A | N/A | | SM2130B-2011 | 957672 |
| | | N/A | N/A | N/A | | SM2510B-2011 | 958941 |
| | | N/A | N/A | N/A | | SM4500-CI G-2011 | 957872 |
| | | N/A | N/A | N/A | | SM5540C-2011 | 957945 |



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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

Analytical Results Report For

BayLands Consultants & Designers, Inc.

Project Takoma Park Dry Weather

Workorder 3291574

Report ID 233371 on 3/27/2023

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Mar 08, 2023.

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 Elizabeth Parker (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.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Global.
ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):

Bill Heckert - BayLands Consultants & Designers, Inc.
Zachary Tate - BayLands Consultants & Designers, Inc.

Elizabeth Parker

Elizabeth Parker
Project Coordinator

(ALS Digital Signature)

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



Sample Summary

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | Collector | Collection Company |
|------------|-----------|--------|------------------|------------------|-----------|---------------------|
| 3291574001 | 1220 | Water | 03/08/2023 12:35 | 03/08/2023 19:23 | CBC | Collected By Client |
| 3291574002 | 1106 | Water | 03/08/2023 12:15 | 03/08/2023 19:23 | CBC | Collected By Client |
| 3291574003 | 1107 | Water | 03/08/2023 13:30 | 03/08/2023 19:23 | CBC | Collected By Client |
| 3291574004 | 853 | Water | 03/08/2023 09:20 | 03/08/2023 19:23 | CBC | Collected By Client |
| 3291574005 | 862 | Water | 03/08/2023 10:35 | 03/08/2023 19:23 | CBC | Collected By Client |
| 3291574006 | 881 | Water | 03/08/2023 10:32 | 03/08/2023 19:23 | CBC | Collected By Client |
| 3291574007 | 879 | Water | 03/08/2023 10:35 | 03/08/2023 19:23 | CBC | Collected By Client |
| 3291574008 | 1230 | Water | 03/08/2023 10:20 | 03/08/2023 19:23 | CBC | Collected By Client |



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.
- 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 Notations

Sample Notations

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

Result Notations

| Notation Ref. | |
|---------------|---|
| 1 | Method ASTMD6919-09 is equivalent to Method ASTMD6919-17. |
| 2 | The chlorine analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory. |
| 3 | The color determination was performed on a sample aliquot with a pH of 4 |
| 4 | MBAS calculated as LAS molecular weight 348 g/mol. |
| 5 | This sample result was calculated and reported using Method SM2340B-2011. |
| 6 | Analyte was analyzed past the 8 hour holding time. |
| 7 | ALS-Middletown does not hold PADEP NELAP accreditation for this analyte by this method of analysis. |
| 8 | NPW TC analyzed following SM 9221B and EPA 600/8-78-017 pg 114. ND is defined as <2 MPN/100mL |



Detected Results Summary

| | | | |
|------------------|------------|-------------|------------------|
| Client Sample ID | 1220 | Collected | 03/08/2023 12:35 |
| Lab Sample ID | 3291574001 | Lab Receipt | 03/08/2023 19:23 |

| Compound | Result | Units | RDL | Method | Flag |
|----------------------|--------|-----------|-------|---------------|------|
| METALS | | | | | |
| Hardness | 143 | mg/L | 0.33 | EPA 200.7 | # |
| Potassium, Total | 4.4 | mg/L | 0.25 | EPA 200.7 | # |
| MICROBIOLOGY | | | | | |
| E. Coli | 33 | MPN/100mL | 1 | SM9223B-16 | # |
| Enterococcus | 16 | MPN/100mL | 1 | Enterolert | # |
| Total Coliform | 240 | MPN/100mL | 1 | SM9223B-16 | # |
| WET CHEMISTRY | | | | | |
| Ammonia-N | 0.284 | mg/L | 0.100 | ASTM D6919-17 | # |
| Chloride | 159 | mg/L | 2.0 | EPA 300.0 | # |
| Color, Apparent | 25 | CU | 5 | SM2120B-2011 | # |
| Nitrate/Nitrite-N | 0.16 | mg/L | 0.10 | EPA 353.2 | # |
| Phosphorus, Total | 0.11 | mg/L | 0.10 | EPA 365.1 | # |
| Specific Conductance | 703 | umhos/cm | 5 | SM2510B-2011 | # |
| Turbidity | 4.7 | NTU | 0.30 | SM2130B-2011 | # |



Detected Results Summary

| | | | |
|------------------|------------|-------------|------------------|
| Client Sample ID | 1106 | Collected | 03/08/2023 12:15 |
| Lab Sample ID | 3291574002 | Lab Receipt | 03/08/2023 19:23 |

| Compound | Result | Units | RDL | Method | Flag |
|--------------------------|--------|-----------|-------|------------------|------|
| METALS | | | | | |
| Hardness | 139 | mg/L | 0.33 | EPA 200.7 | # |
| Potassium, Total | 4.5 | mg/L | 0.25 | EPA 200.7 | # |
| MICROBIOLOGY | | | | | |
| E. Coli | 17 | MPN/100mL | 1 | SM9223B-16 | # |
| Enterococcus | 32 | MPN/100mL | 1 | Enterolert | # |
| Total Coliform | >2400 | MPN/100mL | 1 | SM9223B-16 | # |
| WET CHEMISTRY | | | | | |
| Ammonia-N | 0.496 | mg/L | 0.100 | ASTM D6919-17 | # |
| Chloride | 237 | mg/L | 10.0 | EPA 300.0 | # |
| Chlorine, Total Residual | 0.14 | mg/L | 0.10 | SM4500-Cl G-2011 | # |
| Color, Apparent | 20 | CU | 5 | SM2120B-2011 | # |
| Nitrate/Nitrite-N | 1.33 | mg/L | 0.50 | EPA 353.2 | # |
| Nitrate-N | 1.1 | mg/L | 1.0 | EPA 300.0 | # |
| Phosphorus, Total | 0.14 | mg/L | 0.10 | EPA 365.1 | # |
| Specific Conductance | 944 | umhos/cm | 5 | SM2510B-2011 | # |
| Total Nitrogen | 2.29 | mg/L | 1.50 | Calculation | # |
| Turbidity | 7.9 | NTU | 0.30 | SM2130B-2011 | # |

Detected Results Summary

Client Sample ID

1107

Collected

03/08/2023 13:30

Lab Sample ID

3291574003

Lab Receipt

03/08/2023 19:23

| Compound | Result | Units | RDL | Method | Flag |
|----------------------|--------|-----------|-------|---------------|------|
| METALS | | | | | |
| Hardness | 116 | mg/L | 0.33 | EPA 200.7 | # |
| Potassium, Total | 3.6 | mg/L | 0.25 | EPA 200.7 | # |
| MICROBIOLOGY | | | | | |
| E. Coli | 240 | MPN/100mL | 1 | SM9223B-16 | # |
| Enterococcus | 1300 | MPN/100mL | 1 | Enterolert | # |
| Total Coliform | 1600 | MPN/100mL | 1 | SM9223B-16 | # |
| WET CHEMISTRY | | | | | |
| Ammonia-N | 0.114 | mg/L | 0.100 | ASTM D6919-17 | # |
| Chloride | 147 | mg/L | 2.0 | EPA 300.0 | # |
| Color, Apparent | 15 | CU | 5 | SM2120B-2011 | # |
| Nitrate/Nitrite-N | 0.84 | mg/L | 0.50 | EPA 353.2 | # |
| Specific Conductance | 641 | umhos/cm | 5 | SM2510B-2011 | # |
| Turbidity | 15 | NTU | 0.30 | SM2130B-2011 | # |



Detected Results Summary

| Client Sample ID | 853 | Collected | 03/08/2023 09:20 | | |
|----------------------|------------|-------------|------------------|--------------|------|
| Lab Sample ID | 3291574004 | Lab Receipt | 03/08/2023 19:23 | | |
| Compound | Result | Units | RDL | Method | Flag |
| METALS | | | | | |
| Hardness | 98.2 | mg/L | 0.33 | EPA 200.7 | # |
| Potassium, Total | 3.1 | mg/L | 0.25 | EPA 200.7 | # |
| MICROBIOLOGY | | | | | |
| E. Coli | 540 | MPN/100mL | 1 | SM9223B-16 | # |
| Enterococcus | 260 | MPN/100mL | 1 | Enterolert | # |
| Total Coliform | >2400 | MPN/100mL | 1 | SM9223B-16 | # |
| WET CHEMISTRY | | | | | |
| Chloride | 112 | mg/L | 2.0 | EPA 300.0 | # |
| Color, Apparent | 5 | CU | 5 | SM2120B-2011 | # |
| Nitrate/Nitrite-N | 2.55 | mg/L | 0.50 | EPA 353.2 | # |
| Nitrate-N | 2.3 | mg/L | 1.0 | EPA 300.0 | # |
| Phosphorus, Total | 0.10 | mg/L | 0.10 | EPA 365.1 | # |
| Specific Conductance | 534 | umhos/cm | 5 | SM2510B-2011 | # |
| Total Nitrogen | 2.55 | mg/L | 1.50 | Calculation | # |
| Turbidity | 0.40 | NTU | 0.30 | SM2130B-2011 | # |

Detected Results Summary

Client Sample ID

862

Collected

03/08/2023 10:35

Lab Sample ID

3291574005

Lab Receipt

03/08/2023 19:23

| Compound | Result | Units | RDL | Method | Flag |
|----------------------|--------|-----------|------|--------------|------|
| METALS | | | | | |
| Hardness | 143 | mg/L | 0.33 | EPA 200.7 | # |
| Potassium, Total | 3.5 | mg/L | 0.25 | EPA 200.7 | # |
| MICROBIOLOGY | | | | | |
| E. Coli | 13 | MPN/100mL | 1 | SM9223B-16 | # |
| Enterococcus | 3 | MPN/100mL | 1 | Enterolert | # |
| Total Coliform | 180 | MPN/100mL | 1 | SM9223B-16 | # |
| WET CHEMISTRY | | | | | |
| Chloride | 88.6 | mg/L | 2.0 | EPA 300.0 | # |
| Color, Apparent | 10 | CU | 5 | SM2120B-2011 | # |
| Nitrate/Nitrite-N | 0.59 | mg/L | 0.50 | EPA 353.2 | # |
| Specific Conductance | 552 | umhos/cm | 5 | SM2510B-2011 | # |
| Turbidity | 0.35 | NTU | 0.30 | SM2130B-2011 | # |



Detected Results Summary

| | | | |
|------------------|------------|-------------|------------------|
| Client Sample ID | 881 | Collected | 03/08/2023 10:32 |
| Lab Sample ID | 3291574006 | Lab Receipt | 03/08/2023 19:23 |

| Compound | Result | Units | RDL | Method | Flag |
|-------------------------|--------|-----------|------|--------------|------|
| METALS | | | | | |
| Hardness | 142 | mg/L | 0.33 | EPA 200.7 | # |
| Potassium, Total | 3.4 | mg/L | 0.25 | EPA 200.7 | # |
| MICROBIOLOGY | | | | | |
| E. Coli | 6 | MPN/100mL | 1 | SM9223B-16 | # |
| Enterococcus | 2 | MPN/100mL | 1 | Enterolert | # |
| Total Coliform | 350 | MPN/100mL | 1 | SM9223B-16 | # |
| WET CHEMISTRY | | | | | |
| Chloride | 89.9 | mg/L | 2.0 | EPA 300.0 | # |
| Color, Apparent | 10 | CU | 5 | SM2120B-2011 | # |
| Nitrate/Nitrite-N | 0.98 | mg/L | 0.50 | EPA 353.2 | # |
| Specific Conductance | 550 | umhos/cm | 5 | SM2510B-2011 | # |
| Total Kjeldahl Nitrogen | 1.2 | mg/L | 1.0 | S4500NH3G-11 | # |
| Total Nitrogen | 2.13 | mg/L | 1.50 | Calculation | # |
| Turbidity | 0.80 | NTU | 0.30 | SM2130B-2011 | # |

Detected Results Summary

Client Sample ID

879

Collected

03/08/2023 10:35

Lab Sample ID

3291574007

Lab Receipt

03/08/2023 19:23

| Compound | Result | Units | RDL | Method | Flag |
|----------------------|--------|-----------|------|--------------|------|
| METALS | | | | | |
| Hardness | 148 | mg/L | 0.33 | EPA 200.7 | # |
| Potassium, Total | 3.6 | mg/L | 0.25 | EPA 200.7 | # |
| MICROBIOLOGY | | | | | |
| E. Coli | 4 | MPN/100mL | 1 | SM9223B-16 | # |
| Enterococcus | 10 | MPN/100mL | 1 | Enterolert | # |
| Total Coliform | 1600 | MPN/100mL | 1 | SM9223B-16 | # |
| WET CHEMISTRY | | | | | |
| Chloride | 89.9 | mg/L | 2.0 | EPA 300.0 | # |
| Color, Apparent | 5 | CU | 5 | SM2120B-2011 | # |
| Nitrate/Nitrite-N | 0.72 | mg/L | 0.50 | EPA 353.2 | # |
| Specific Conductance | 553 | umhos/cm | 5 | SM2510B-2011 | # |
| Turbidity | 0.65 | NTU | 0.30 | SM2130B-2011 | # |

Detected Results Summary

Client Sample ID
Lab Sample ID

1230
3291574008

Collected
Lab Receipt

03/08/2023 10:20
03/08/2023 19:23

| Compound | Result | Units | RDL | Method | Flag |
|----------------------|--------|-----------|------|--------------|------|
| METALS | | | | | |
| Hardness | 153 | mg/L | 0.33 | EPA 200.7 | # |
| Potassium, Total | 3.8 | mg/L | 0.25 | EPA 200.7 | # |
| MICROBIOLOGY | | | | | |
| E. Coli | 8 | MPN/100mL | 1 | SM9223B-16 | # |
| Enterococcus | 10 | MPN/100mL | 1 | Enterolert | # |
| Total Coliform | 540 | MPN/100mL | 1 | SM9223B-16 | # |
| WET CHEMISTRY | | | | | |
| Chloride | 89.3 | mg/L | 2.0 | EPA 300.0 | # |
| Color, Apparent | 10 | CU | 5 | SM2120B-2011 | # |
| Nitrate/Nitrite-N | 0.54 | mg/L | 0.10 | EPA 353.2 | # |
| Specific Conductance | 549 | umhos/cm | 5 | SM2510B-2011 | # |
| Total Nitrogen | 1.16 | mg/L | 1.10 | Calculation | # |
| Turbidity | 1.4 | NTU | 0.30 | SM2130B-2011 | # |



Results

| | | | |
|------------------|------------|-------------|------------------|
| Client Sample ID | 1220 | Collected | 03/08/2023 12:35 |
| Lab Sample ID | 3291574001 | Lab Receipt | 03/08/2023 19:23 |

METALS

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|------------------|--------|------|-------|-------|-----------|----------|--------------------|-----|------|
| Boron, Total | ND | ND | mg/L | 0.050 | EPA 200.7 | 1 | 03/11/2023 11:51 | SRT | E1 |
| Hardness | 143 | 5 | mg/L | 0.33 | EPA 200.7 | 1 | 03/11/2023 11:51 | SRT | E1 |
| Potassium, Total | 4.4 | | mg/L | 0.25 | EPA 200.7 | 1 | 03/11/2023 11:51 | SRT | E1 |

MICROBIOLOGY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|----------------|--------|-------|-----------|-----|------------|----------|--------------------|-----|------|
| E. Coli | 33 | 6,7,8 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/11/2023 18:16 | LAB | G |
| Enterococcus | 16 | | MPN/100mL | 1 | Enterolert | 1 | 03/09/2023 20:16 | LAB | G |
| Total Coliform | 240 | 6,7,8 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/11/2023 18:16 | LAB | G |

WET CHEMISTRY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|--------------------------|--------|------|----------|-------|------------------|----------|--------------------|-----|------|
| Ammonia-N | 0.284 | 1 | mg/L | 0.100 | ASTM D6919-17 | 10 | 03/14/2023 12:21 | NML | D |
| Chloride | 159 | | mg/L | 2.0 | EPA 300.0 | 2 | 03/09/2023 12:21 | J1W | A |
| Chlorine, Total Residual | ND | ND,2 | mg/L | 0.10 | SM4500-Cl G-2011 | 1 | 03/09/2023 07:06 | GMM | A |
| Color, Apparent | 25 | 3 | CU | 5 | SM2120B-2011 | 1 | 03/09/2023 00:19 | NRB | A |
| Fluoride | ND | ND | mg/L | 0.20 | EPA 300.0 | 2 | 03/09/2023 12:21 | J1W | A |
| Nitrate/Nitrite-N | 0.16 | | mg/L | 0.10 | EPA 353.2 | 1 | 03/25/2023 06:46 | MXF | D |
| Nitrate-N | ND | ND | mg/L | 1.0 | EPA 300.0 | 2 | 03/09/2023 12:21 | J1W | A |
| Phosphorus, Total | 0.11 | | mg/L | 0.10 | EPA 365.1 | 1 | 03/21/2023 20:53 | SAM | D |
| Specific Conductance | 703 | | umhos/cm | 5 | SM2510B-2011 | 1 | 03/13/2023 10:45 | JXL | A |
| Surfactants (MBAS) | ND | ND,4 | mg/L | 0.180 | SM5540C-2011 | 1 | 03/10/2023 07:01 | GMM | C |
| Total Kjeldahl Nitrogen | ND | ND | mg/L | 1.0 | S4500NH3G-11 | 1 | 03/15/2023 10:30 | JXL | D |
| Total Nitrogen | ND | ND | mg/L | 1.10 | Calculation | 1 | 03/27/2023 12:20 | CW | D |
| Turbidity | 4.7 | | NTU | 0.30 | SM2130B-2011 | 1 | 03/09/2023 01:03 | NRB | A |



Results

| | | | |
|------------------|------------|-------------|------------------|
| Client Sample ID | 1106 | Collected | 03/08/2023 12:15 |
| Lab Sample ID | 3291574002 | Lab Receipt | 03/08/2023 19:23 |

METALS

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|------------------|--------|------|-------|-------|-----------|----------|--------------------|-----|------|
| Boron, Total | ND | ND | mg/L | 0.050 | EPA 200.7 | 1 | 03/11/2023 11:54 | SRT | E1 |
| Hardness | 139 | 5 | mg/L | 0.33 | EPA 200.7 | 1 | 03/11/2023 11:54 | SRT | E1 |
| Potassium, Total | 4.5 | | mg/L | 0.25 | EPA 200.7 | 1 | 03/11/2023 11:54 | SRT | E1 |

MICROBIOLOGY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|----------------|--------|-------|-----------|-----|------------|----------|--------------------|-----|------|
| E. Coli | 17 | 6,7,8 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/11/2023 18:16 | LAB | G |
| Enterococcus | 32 | | MPN/100mL | 1 | Enterolert | 1 | 03/09/2023 20:16 | LAB | G |
| Total Coliform | >2400 | 6,7,8 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/11/2023 18:16 | LAB | G |

WET CHEMISTRY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|--------------------------|--------|------|----------|-------|------------------|----------|--------------------|-----|------|
| Ammonia-N | 0.496 | 1 | mg/L | 0.100 | ASTM D6919-17 | 10 | 03/14/2023 13:02 | NML | D |
| Chloride | 237 | | mg/L | 10.0 | EPA 300.0 | 10 | 03/11/2023 15:50 | AXW | A |
| Chlorine, Total Residual | 0.14 | 2 | mg/L | 0.10 | SM4500-Cl G-2011 | 1 | 03/09/2023 07:06 | GMM | A |
| Color, Apparent | 20 | 3 | CU | 5 | SM2120B-2011 | 1 | 03/09/2023 00:19 | NRB | A |
| Fluoride | ND | ND | mg/L | 0.20 | EPA 300.0 | 2 | 03/09/2023 12:31 | J1W | A |
| Nitrate/Nitrite-N | 1.33 | | mg/L | 0.50 | EPA 353.2 | 5 | 03/22/2023 09:46 | KMS | D |
| Nitrate-N | 1.1 | | mg/L | 1.0 | EPA 300.0 | 2 | 03/09/2023 12:31 | J1W | A |
| Phosphorus, Total | 0.14 | | mg/L | 0.10 | EPA 365.1 | 1 | 03/21/2023 20:29 | SAM | D |
| Specific Conductance | 944 | | umhos/cm | 5 | SM2510B-2011 | 1 | 03/13/2023 10:45 | JXL | A |
| Surfactants (MBAS) | ND | ND,4 | mg/L | 0.180 | SM5540C-2011 | 1 | 03/10/2023 07:01 | GMM | C |
| Total Kjeldahl Nitrogen | ND | ND | mg/L | 1.0 | S4500NH3G-11 | 1 | 03/15/2023 10:38 | JXL | D |
| Total Nitrogen | 2.29 | | mg/L | 1.50 | Calculation | 1 | 03/23/2023 13:10 | CW | D |
| Turbidity | 7.9 | | NTU | 0.30 | SM2130B-2011 | 1 | 03/09/2023 01:03 | NRB | A |



Results

| | | | |
|------------------|------------|-------------|------------------|
| Client Sample ID | 1107 | Collected | 03/08/2023 13:30 |
| Lab Sample ID | 3291574003 | Lab Receipt | 03/08/2023 19:23 |

METALS

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|------------------|--------|------|-------|-------|-----------|----------|--------------------|-----|------|
| Boron, Total | ND | ND | mg/L | 0.050 | EPA 200.7 | 1 | 03/11/2023 11:57 | SRT | E1 |
| Hardness | 116 | 5 | mg/L | 0.33 | EPA 200.7 | 1 | 03/11/2023 11:57 | SRT | E1 |
| Potassium, Total | 3.6 | | mg/L | 0.25 | EPA 200.7 | 1 | 03/11/2023 11:57 | SRT | E1 |

MICROBIOLOGY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|----------------|--------|------|-----------|-----|------------|----------|--------------------|-----|------|
| E. Coli | 240 | 7,8 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/11/2023 18:16 | LAB | G |
| Enterococcus | 1300 | | MPN/100mL | 1 | Enterolert | 1 | 03/09/2023 20:16 | LAB | G |
| Total Coliform | 1600 | 7,8 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/11/2023 18:16 | LAB | G |

WET CHEMISTRY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|--------------------------|--------|------|----------|-------|------------------|----------|--------------------|-----|------|
| Ammonia-N | 0.114 | 1 | mg/L | 0.100 | ASTM D6919-17 | 10 | 03/14/2023 12:49 | NML | D |
| Chloride | 147 | | mg/L | 2.0 | EPA 300.0 | 2 | 03/09/2023 12:42 | J1W | A |
| Chlorine, Total Residual | ND | ND,2 | mg/L | 0.10 | SM4500-Cl G-2011 | 1 | 03/09/2023 07:06 | GMM | A |
| Color, Apparent | 15 | 3 | CU | 5 | SM2120B-2011 | 1 | 03/09/2023 00:19 | NRB | A |
| Fluoride | ND | ND | mg/L | 0.20 | EPA 300.0 | 2 | 03/09/2023 12:42 | J1W | A |
| Nitrate/Nitrite-N | 0.84 | | mg/L | 0.50 | EPA 353.2 | 5 | 03/22/2023 09:46 | KMS | D |
| Nitrate-N | ND | ND | mg/L | 1.0 | EPA 300.0 | 2 | 03/09/2023 12:42 | J1W | A |
| Phosphorus, Total | ND | ND | mg/L | 0.10 | EPA 365.1 | 1 | 03/21/2023 20:25 | SAM | D |
| Specific Conductance | 641 | | umhos/cm | 5 | SM2510B-2011 | 1 | 03/13/2023 10:45 | JXL | A |
| Surfactants (MBAS) | ND | ND,4 | mg/L | 0.180 | SM5540C-2011 | 1 | 03/10/2023 07:01 | GMM | C |
| Total Kjeldahl Nitrogen | ND | ND | mg/L | 1.0 | S4500NH3G-11 | 1 | 03/15/2023 10:40 | JXL | D |
| Total Nitrogen | ND | ND | mg/L | 1.50 | Calculation | 1 | 03/23/2023 13:08 | CW | D |
| Turbidity | 15 | | NTU | 0.30 | SM2130B-2011 | 1 | 03/09/2023 01:03 | NRB | A |



Results

| | | | |
|------------------|------------|-------------|------------------|
| Client Sample ID | 853 | Collected | 03/08/2023 09:20 |
| Lab Sample ID | 3291574004 | Lab Receipt | 03/08/2023 19:23 |

METALS

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|------------------|--------|------|-------|-------|-----------|----------|--------------------|-----|------|
| Boron, Total | ND | ND | mg/L | 0.050 | EPA 200.7 | 1 | 03/11/2023 12:00 | SRT | E1 |
| Hardness | 98.2 | 5 | mg/L | 0.33 | EPA 200.7 | 1 | 03/11/2023 12:00 | SRT | E1 |
| Potassium, Total | 3.1 | | mg/L | 0.25 | EPA 200.7 | 1 | 03/11/2023 12:00 | SRT | E1 |

MICROBIOLOGY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|----------------|--------|-------|-----------|-----|------------|----------|--------------------|-----|------|
| E. Coli | 540 | 6,7,8 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/11/2023 18:16 | LAB | G |
| Enterococcus | 260 | 6 | MPN/100mL | 1 | Enterolert | 1 | 03/09/2023 20:16 | LAB | G |
| Total Coliform | >2400 | 6,7,8 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/11/2023 18:16 | LAB | G |

WET CHEMISTRY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|--------------------------|--------|------|----------|-------|------------------|----------|--------------------|-----|------|
| Ammonia-N | ND | ND,1 | mg/L | 0.100 | ASTM D6919-17 | 10 | 03/14/2023 12:35 | NML | D |
| Chloride | 112 | | mg/L | 2.0 | EPA 300.0 | 2 | 03/09/2023 12:52 | J1W | A |
| Chlorine, Total Residual | ND | ND,2 | mg/L | 0.10 | SM4500-Cl G-2011 | 1 | 03/09/2023 07:06 | GMM | A |
| Color, Apparent | 5 | 3 | CU | 5 | SM2120B-2011 | 1 | 03/09/2023 00:19 | NRB | A |
| Fluoride | ND | ND | mg/L | 0.20 | EPA 300.0 | 2 | 03/09/2023 12:52 | J1W | A |
| Nitrate/Nitrite-N | 2.55 | | mg/L | 0.50 | EPA 353.2 | 5 | 03/22/2023 09:46 | KMS | D |
| Nitrate-N | 2.3 | | mg/L | 1.0 | EPA 300.0 | 2 | 03/09/2023 12:52 | J1W | A |
| Phosphorus, Total | 0.10 | | mg/L | 0.10 | EPA 365.1 | 1 | 03/21/2023 22:29 | SAM | D |
| Specific Conductance | 534 | | umhos/cm | 5 | SM2510B-2011 | 1 | 03/13/2023 10:45 | JXL | A |
| Surfactants (MBAS) | ND | ND,4 | mg/L | 0.180 | SM5540C-2011 | 1 | 03/10/2023 07:01 | GMM | C |
| Total Kjeldahl Nitrogen | ND | ND | mg/L | 1.0 | S4500NH3G-11 | 1 | 03/15/2023 10:43 | JXL | D |
| Total Nitrogen | 2.55 | | mg/L | 1.50 | Calculation | 1 | 03/23/2023 13:15 | CW | D |
| Turbidity | 0.40 | | NTU | 0.30 | SM2130B-2011 | 1 | 03/09/2023 01:03 | NRB | A |



Results

| | | | |
|------------------|------------|-------------|------------------|
| Client Sample ID | 862 | Collected | 03/08/2023 10:35 |
| Lab Sample ID | 3291574005 | Lab Receipt | 03/08/2023 19:23 |

METALS

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|------------------|--------|------|-------|-------|-----------|----------|--------------------|-----|------|
| Boron, Total | ND | ND | mg/L | 0.050 | EPA 200.7 | 1 | 03/11/2023 12:04 | SRT | E1 |
| Hardness | 143 | 5 | mg/L | 0.33 | EPA 200.7 | 1 | 03/11/2023 12:04 | SRT | E1 |
| Potassium, Total | 3.5 | | mg/L | 0.25 | EPA 200.7 | 1 | 03/11/2023 12:04 | SRT | E1 |

MICROBIOLOGY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|----------------|--------|-------|-----------|-----|------------|----------|--------------------|-----|------|
| E. Coli | 13 | 6,7,8 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/11/2023 18:16 | LAB | G |
| Enterococcus | 3 | 6 | MPN/100mL | 1 | Enterolert | 1 | 03/09/2023 20:16 | LAB | G |
| Total Coliform | 180 | 6,7,8 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/11/2023 18:16 | LAB | G |

WET CHEMISTRY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|--------------------------|--------|------|----------|-------|------------------|----------|--------------------|-----|------|
| Ammonia-N | ND | ND,1 | mg/L | 0.100 | ASTM D6919-17 | 10 | 03/14/2023 13:16 | NML | D |
| Chloride | 88.6 | | mg/L | 2.0 | EPA 300.0 | 2 | 03/09/2023 13:03 | J1W | A |
| Chlorine, Total Residual | ND | ND,2 | mg/L | 0.10 | SM4500-Cl G-2011 | 1 | 03/09/2023 07:06 | GMM | A |
| Color, Apparent | 10 | 3 | CU | 5 | SM2120B-2011 | 1 | 03/09/2023 00:19 | NRB | A |
| Fluoride | ND | ND | mg/L | 0.20 | EPA 300.0 | 2 | 03/09/2023 13:03 | J1W | A |
| Nitrate/Nitrite-N | 0.59 | | mg/L | 0.50 | EPA 353.2 | 5 | 03/22/2023 09:46 | KMS | D |
| Nitrate-N | ND | ND | mg/L | 1.0 | EPA 300.0 | 2 | 03/09/2023 13:03 | J1W | A |
| Phosphorus, Total | ND | ND | mg/L | 0.10 | EPA 365.1 | 1 | 03/21/2023 20:23 | SAM | D |
| Specific Conductance | 552 | | umhos/cm | 5 | SM2510B-2011 | 1 | 03/13/2023 10:45 | JXL | A |
| Surfactants (MBAS) | ND | ND,4 | mg/L | 0.180 | SM5540C-2011 | 1 | 03/10/2023 07:01 | GMM | C |
| Total Kjeldahl Nitrogen | ND | ND | mg/L | 1.0 | S4500NH3G-11 | 1 | 03/15/2023 10:45 | JXL | D |
| Total Nitrogen | ND | ND | mg/L | 1.50 | Calculation | 1 | 03/23/2023 13:07 | CW | D |
| Turbidity | 0.35 | | NTU | 0.30 | SM2130B-2011 | 1 | 03/09/2023 01:03 | NRB | A |



Results

| | | | |
|------------------|------------|-------------|------------------|
| Client Sample ID | 881 | Collected | 03/08/2023 10:32 |
| Lab Sample ID | 3291574006 | Lab Receipt | 03/08/2023 19:23 |

METALS

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|------------------|--------|------|-------|-------|-----------|----------|--------------------|-----|------|
| Boron, Total | ND | ND | mg/L | 0.050 | EPA 200.7 | 1 | 03/11/2023 12:07 | SRT | E1 |
| Hardness | 142 | 5 | mg/L | 0.33 | EPA 200.7 | 1 | 03/11/2023 12:07 | SRT | E1 |
| Potassium, Total | 3.4 | | mg/L | 0.25 | EPA 200.7 | 1 | 03/11/2023 12:07 | SRT | E1 |

MICROBIOLOGY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|----------------|--------|-------|-----------|-----|------------|----------|--------------------|-----|------|
| E. Coli | 6 | 6,7,8 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/11/2023 18:16 | LAB | G |
| Enterococcus | 2 | 6 | MPN/100mL | 1 | Enterolert | 1 | 03/09/2023 20:16 | LAB | G |
| Total Coliform | 350 | 6,7,8 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/11/2023 18:16 | LAB | G |

WET CHEMISTRY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|--------------------------|--------|------|----------|-------|------------------|----------|--------------------|-----|------|
| Ammonia-N | ND | ND,1 | mg/L | 0.100 | ASTM D6919-17 | 10 | 03/14/2023 10:18 | NML | D |
| Chloride | 89.9 | | mg/L | 2.0 | EPA 300.0 | 2 | 03/09/2023 13:13 | J1W | A |
| Chlorine, Total Residual | ND | ND,2 | mg/L | 0.10 | SM4500-Cl G-2011 | 1 | 03/09/2023 07:06 | GMM | A |
| Color, Apparent | 10 | 3 | CU | 5 | SM2120B-2011 | 1 | 03/09/2023 00:19 | NRB | A |
| Fluoride | ND | ND | mg/L | 0.20 | EPA 300.0 | 2 | 03/09/2023 13:13 | J1W | A |
| Nitrate/Nitrite-N | 0.98 | | mg/L | 0.50 | EPA 353.2 | 5 | 03/22/2023 09:46 | KMS | D |
| Nitrate-N | ND | ND | mg/L | 1.0 | EPA 300.0 | 2 | 03/09/2023 13:13 | J1W | A |
| Phosphorus, Total | ND | ND | mg/L | 0.10 | EPA 365.1 | 1 | 03/21/2023 20:27 | SAM | D |
| Specific Conductance | 550 | | umhos/cm | 5 | SM2510B-2011 | 1 | 03/13/2023 10:45 | JXL | A |
| Surfactants (MBAS) | ND | ND,4 | mg/L | 0.180 | SM5540C-2011 | 1 | 03/10/2023 07:01 | GMM | C |
| Total Kjeldahl Nitrogen | 1.2 | | mg/L | 1.0 | S4500NH3G-11 | 1 | 03/15/2023 09:51 | JXL | D |
| Total Nitrogen | 2.13 | | mg/L | 1.50 | Calculation | 1 | 03/23/2023 13:09 | CW | D |
| Turbidity | 0.80 | | NTU | 0.30 | SM2130B-2011 | 1 | 03/09/2023 01:03 | NRB | A |



Results

| | | | |
|------------------|------------|-------------|------------------|
| Client Sample ID | 879 | Collected | 03/08/2023 10:35 |
| Lab Sample ID | 3291574007 | Lab Receipt | 03/08/2023 19:23 |

METALS

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|------------------|--------|------|-------|-------|-----------|----------|--------------------|-----|------|
| Boron, Total | ND | ND | mg/L | 0.050 | EPA 200.7 | 1 | 03/11/2023 12:10 | SRT | E1 |
| Hardness | 148 | 5 | mg/L | 0.33 | EPA 200.7 | 1 | 03/11/2023 12:10 | SRT | E1 |
| Potassium, Total | 3.6 | | mg/L | 0.25 | EPA 200.7 | 1 | 03/11/2023 12:10 | SRT | E1 |

MICROBIOLOGY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|----------------|--------|-------|-----------|-----|------------|----------|--------------------|-----|------|
| E. Coli | 4 | 6,7,8 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/11/2023 18:16 | LAB | G |
| Enterococcus | 10 | 6 | MPN/100mL | 1 | Enterolert | 1 | 03/09/2023 20:16 | LAB | G |
| Total Coliform | 1600 | 6,7,8 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/11/2023 18:16 | LAB | G |

WET CHEMISTRY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|--------------------------|--------|------|----------|-------|------------------|----------|--------------------|-----|------|
| Ammonia-N | ND | ND,1 | mg/L | 0.100 | ASTM D6919-17 | 10 | 03/14/2023 10:32 | NML | D |
| Chloride | 89.9 | | mg/L | 2.0 | EPA 300.0 | 2 | 03/09/2023 13:24 | J1W | A |
| Chlorine, Total Residual | ND | ND,2 | mg/L | 0.10 | SM4500-Cl G-2011 | 1 | 03/09/2023 07:06 | GMM | A |
| Color, Apparent | 5 | 3 | CU | 5 | SM2120B-2011 | 1 | 03/09/2023 00:19 | NRB | A |
| Fluoride | ND | ND | mg/L | 0.20 | EPA 300.0 | 2 | 03/09/2023 13:24 | J1W | A |
| Nitrate/Nitrite-N | 0.72 | | mg/L | 0.50 | EPA 353.2 | 5 | 03/22/2023 09:46 | KMS | D |
| Nitrate-N | ND | ND | mg/L | 1.0 | EPA 300.0 | 2 | 03/09/2023 13:24 | J1W | A |
| Phosphorus, Total | ND | ND | mg/L | 0.10 | EPA 365.1 | 1 | 03/21/2023 20:49 | SAM | D |
| Specific Conductance | 553 | | umhos/cm | 5 | SM2510B-2011 | 1 | 03/13/2023 10:45 | JXL | A |
| Surfactants (MBAS) | ND | ND,4 | mg/L | 0.180 | SM5540C-2011 | 1 | 03/10/2023 07:01 | GMM | C |
| Total Kjeldahl Nitrogen | ND | ND | mg/L | 1.0 | S4500NH3G-11 | 1 | 03/15/2023 10:48 | JXL | D |
| Total Nitrogen | ND | ND | mg/L | 1.50 | Calculation | 1 | 03/23/2023 13:13 | CW | D |
| Turbidity | 0.65 | | NTU | 0.30 | SM2130B-2011 | 1 | 03/09/2023 01:03 | NRB | A |



Results

| | | | |
|------------------|------------|-------------|------------------|
| Client Sample ID | 1230 | Collected | 03/08/2023 10:20 |
| Lab Sample ID | 3291574008 | Lab Receipt | 03/08/2023 19:23 |

METALS

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|------------------|--------|------|-------|-------|-----------|----------|--------------------|-----|------|
| Boron, Total | ND | ND | mg/L | 0.050 | EPA 200.7 | 1 | 03/11/2023 12:23 | SRT | E1 |
| Hardness | 153 | 5 | mg/L | 0.33 | EPA 200.7 | 1 | 03/11/2023 12:23 | SRT | E1 |
| Potassium, Total | 3.8 | | mg/L | 0.25 | EPA 200.7 | 1 | 03/11/2023 12:23 | SRT | E1 |

MICROBIOLOGY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|----------------|--------|-------|-----------|-----|------------|----------|--------------------|-----|------|
| E. Coli | 8 | 6,7,8 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/11/2023 18:16 | LAB | G |
| Enterococcus | 10 | 6 | MPN/100mL | 1 | Enterolert | 1 | 03/09/2023 20:16 | LAB | G |
| Total Coliform | 540 | 6,7,8 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/11/2023 18:16 | LAB | G |

WET CHEMISTRY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|--------------------------|--------|------|----------|-------|------------------|----------|--------------------|-----|------|
| Ammonia-N | ND | ND,1 | mg/L | 0.100 | ASTM D6919-17 | 10 | 03/14/2023 10:45 | NML | D |
| Chloride | 89.3 | | mg/L | 2.0 | EPA 300.0 | 2 | 03/09/2023 13:34 | J1W | A |
| Chlorine, Total Residual | ND | ND,2 | mg/L | 0.10 | SM4500-Cl G-2011 | 1 | 03/09/2023 07:06 | GMM | A |
| Color, Apparent | 10 | 3 | CU | 5 | SM2120B-2011 | 1 | 03/09/2023 00:19 | NRB | A |
| Fluoride | ND | ND | mg/L | 0.20 | EPA 300.0 | 2 | 03/09/2023 13:34 | J1W | A |
| Nitrate/Nitrite-N | 0.54 | | mg/L | 0.10 | EPA 353.2 | 1 | 03/25/2023 06:46 | MXF | D |
| Nitrate-N | ND | ND | mg/L | 1.0 | EPA 300.0 | 2 | 03/09/2023 13:34 | J1W | A |
| Phosphorus, Total | ND | ND | mg/L | 0.10 | EPA 365.1 | 1 | 03/21/2023 20:51 | SAM | D |
| Specific Conductance | 549 | | umhos/cm | 5 | SM2510B-2011 | 1 | 03/13/2023 10:45 | JXL | A |
| Surfactants (MBAS) | ND | ND,4 | mg/L | 0.180 | SM5540C-2011 | 1 | 03/10/2023 07:01 | GMM | C |
| Total Kjeldahl Nitrogen | ND | ND | mg/L | 1.0 | S4500NH3G-11 | 1 | 03/15/2023 10:50 | JXL | D |
| Total Nitrogen | 1.16 | | mg/L | 1.10 | Calculation | 1 | 03/27/2023 12:19 | CW | D |
| Turbidity | 1.4 | | NTU | 0.30 | SM2130B-2011 | 1 | 03/09/2023 01:03 | NRB | A |



Sample - Method Cross Reference Table

| Lab ID | Sample ID | Analysis Method | Preparation Method | Leachate Method |
|------------|-----------|------------------|--------------------|-----------------|
| 3291574001 | 1220 | EPA 200.7 | EPA TRMD | |
| | | Enterolert | Enterolert | |
| | | SM9223B-16 | SM9223B-16 | |
| | | ASTM D6919-17 | N/A | |
| | | Calculation | N/A | |
| | | EPA 300.0 | N/A | |
| | | EPA 353.2 | N/A | |
| | | EPA 365.1 | EPA 365.1 | |
| | | S4500NH3G-11 | S4500-NorgB-11 | |
| | | SM2120B-2011 | N/A | |
| | | SM2130B-2011 | N/A | |
| | | SM2510B-2011 | N/A | |
| | | SM4500-CI G-2011 | N/A | |
| | | SM5540C-2011 | N/A | |
| 3291574002 | 1106 | EPA 200.7 | EPA TRMD | |
| | | Enterolert | Enterolert | |
| | | SM9223B-16 | SM9223B-16 | |
| | | ASTM D6919-17 | N/A | |
| | | Calculation | N/A | |
| | | EPA 300.0 | N/A | |
| | | EPA 300.0 | N/A | |
| | | EPA 353.2 | N/A | |
| | | EPA 365.1 | EPA 365.1 | |
| | | S4500NH3G-11 | S4500-NorgB-11 | |
| | | SM2120B-2011 | N/A | |
| | | SM2130B-2011 | N/A | |
| | | SM2510B-2011 | N/A | |
| | | SM4500-CI G-2011 | N/A | |
| | | SM5540C-2011 | N/A | |
| 3291574003 | 1107 | EPA 200.7 | EPA TRMD | |
| | | Enterolert | Enterolert | |
| | | SM9223B-16 | SM9223B-16 | |
| | | ASTM D6919-17 | N/A | |
| | | Calculation | N/A | |
| | | EPA 300.0 | N/A | |
| | | EPA 353.2 | N/A | |
| | | EPA 365.1 | EPA 365.1 | |
| | | S4500NH3G-11 | S4500-NorgB-11 | |
| | | SM2120B-2011 | N/A | |
| | | SM2130B-2011 | N/A | |
| | | SM2510B-2011 | N/A | |
| | | SM4500-CI G-2011 | N/A | |
| | | SM5540C-2011 | N/A | |



Project Takoma Park Dry Weather
Workorder 3291574

| Lab ID | Sample ID | Analysis Method | Preparation Method | Leachate Method |
|------------|-----------|------------------|--------------------|-----------------|
| 3291574004 | 853 | EPA 200.7 | EPA TRMD | |
| | | Enterolert | Enterolert | |
| | | SM9223B-16 | SM9223B-16 | |
| | | ASTM D6919-17 | N/A | |
| | | Calculation | N/A | |
| | | EPA 300.0 | N/A | |
| | | EPA 353.2 | N/A | |
| | | EPA 365.1 | EPA 365.1 | |
| | | S4500NH3G-11 | S4500-NorgB-11 | |
| | | SM2120B-2011 | N/A | |
| | | SM2130B-2011 | N/A | |
| | | SM2510B-2011 | N/A | |
| | | SM4500-CI G-2011 | N/A | |
| | | SM5540C-2011 | N/A | |
| 3291574005 | 862 | EPA 200.7 | EPA TRMD | |
| | | Enterolert | Enterolert | |
| | | SM9223B-16 | SM9223B-16 | |
| | | ASTM D6919-17 | N/A | |
| | | Calculation | N/A | |
| | | EPA 300.0 | N/A | |
| | | EPA 353.2 | N/A | |
| | | EPA 365.1 | EPA 365.1 | |
| | | S4500NH3G-11 | S4500-NorgB-11 | |
| | | SM2120B-2011 | N/A | |
| | | SM2130B-2011 | N/A | |
| | | SM2510B-2011 | N/A | |
| | | SM4500-CI G-2011 | N/A | |
| | | SM5540C-2011 | N/A | |
| 3291574006 | 881 | EPA 200.7 | EPA TRMD | |
| | | Enterolert | Enterolert | |
| | | SM9223B-16 | SM9223B-16 | |
| | | ASTM D6919-17 | N/A | |
| | | Calculation | N/A | |
| | | EPA 300.0 | N/A | |
| | | EPA 353.2 | N/A | |
| | | EPA 365.1 | EPA 365.1 | |
| | | S4500NH3G-11 | S4500-NorgB-11 | |
| | | SM2120B-2011 | N/A | |
| | | SM2130B-2011 | N/A | |
| | | SM2510B-2011 | N/A | |
| | | SM4500-CI G-2011 | N/A | |
| | | SM5540C-2011 | N/A | |
| 3291574007 | 879 | EPA 200.7 | EPA TRMD | |
| | | Enterolert | Enterolert | |
| | | SM9223B-16 | SM9223B-16 | |
| | | ASTM D6919-17 | N/A | |
| | | Calculation | N/A | |
| | | EPA 300.0 | N/A | |
| | | EPA 353.2 | N/A | |
| | | EPA 365.1 | EPA 365.1 | |
| | | S4500NH3G-11 | S4500-NorgB-11 | |
| | | SM2120B-2011 | N/A | |
| | | SM2130B-2011 | N/A | |
| | | SM2510B-2011 | N/A | |
| | | SM4500-CI G-2011 | N/A | |
| | | SM5540C-2011 | N/A | |



| Lab ID | Sample ID | Analysis Method | Preparation Method | Leachate Method |
|------------|-----------|------------------|--------------------|-----------------|
| 3291574008 | 1230 | EPA 200.7 | EPA TRMD | |
| | | Enterolert | Enterolert | |
| | | SM9223B-16 | SM9223B-16 | |
| | | ASTM D6919-17 | N/A | |
| | | Calculation | N/A | |
| | | EPA 300.0 | N/A | |
| | | EPA 353.2 | N/A | |
| | | EPA 365.1 | EPA 365.1 | |
| | | S4500NH3G-11 | S4500-NorgB-11 | |
| | | SM2120B-2011 | N/A | |
| | | SM2130B-2011 | N/A | |
| | | SM2510B-2011 | N/A | |
| | | SM4500-CI G-2011 | N/A | |
| | | SM5540C-2011 | N/A | |



QUALITY CONTROL DATA CROSS REFERENCE TABLE

| Lab ID | Sample ID | Preparation Method | Prep Batch | Prep Date/Time | By | Analysis Method | Anly Batch |
|------------|-----------|--------------------|------------|------------------|-----|------------------|------------|
| 3291574001 | 1220 | EPA TRMD | 959095 | 03/09/2023 23:27 | ANN | EPA 200.7 | 960384 |
| | | Enterolert | 959579 | 03/08/2023 20:07 | LAB | Enterolert | 959580 |
| | | SM9223B-16 | 961599 | 03/08/2023 21:01 | LAB | SM9223B-16 | 961602 |
| | | SM9223B-16 | 961599 | 03/08/2023 21:01 | LAB | SM9223B-16 | 961600 |
| | | N/A | N/A | N/A | | ASTM D6919-17 | 961003 |
| | | N/A | N/A | N/A | | Calculation | |
| | | N/A | N/A | N/A | | EPA 300.0 | 958877 |
| | | N/A | N/A | N/A | | EPA 353.2 | 965870 |
| | | EPA 365.1 | 961580 | 03/14/2023 14:31 | SAM | EPA 365.1 | 963201 |
| | | S4500-NorgB-11 | 961071 | 03/14/2023 08:05 | JXL | S4500NH3G-11 | 962312 |
| | | N/A | N/A | N/A | | SM2120B-2011 | 958272 |
| | | N/A | N/A | N/A | | SM2130B-2011 | 958273 |
| | | N/A | N/A | N/A | | SM2510B-2011 | 959607 |
| | | N/A | N/A | N/A | | SM4500-CI G-2011 | 958876 |
| | | N/A | N/A | N/A | | SM5540C-2011 | 959487 |
| 3291574002 | 1106 | EPA TRMD | 959095 | 03/09/2023 23:27 | ANN | EPA 200.7 | 960384 |
| | | Enterolert | 959579 | 03/08/2023 20:07 | LAB | Enterolert | 959580 |
| | | SM9223B-16 | 961599 | 03/08/2023 21:01 | LAB | SM9223B-16 | 961602 |
| | | SM9223B-16 | 961599 | 03/08/2023 21:01 | LAB | SM9223B-16 | 961600 |
| | | N/A | N/A | N/A | | ASTM D6919-17 | 961003 |
| | | N/A | N/A | N/A | | Calculation | |
| | | N/A | N/A | N/A | | EPA 300.0 | 958877 |
| | | N/A | N/A | N/A | | EPA 300.0 | 960377 |
| | | N/A | N/A | N/A | | EPA 353.2 | 962145 |
| | | EPA 365.1 | 961580 | 03/14/2023 14:31 | SAM | EPA 365.1 | 963201 |
| | | S4500-NorgB-11 | 961071 | 03/14/2023 08:05 | JXL | S4500NH3G-11 | 962312 |
| | | N/A | N/A | N/A | | SM2120B-2011 | 958272 |
| | | N/A | N/A | N/A | | SM2130B-2011 | 958273 |
| | | N/A | N/A | N/A | | SM2510B-2011 | 959607 |
| | | N/A | N/A | N/A | | SM4500-CI G-2011 | 958876 |
| | | N/A | N/A | N/A | | SM5540C-2011 | 959487 |
| 3291574003 | 1107 | EPA TRMD | 959095 | 03/09/2023 23:27 | ANN | EPA 200.7 | 960384 |
| | | Enterolert | 959579 | 03/08/2023 20:07 | LAB | Enterolert | 959580 |
| | | SM9223B-16 | 961599 | 03/08/2023 21:01 | LAB | SM9223B-16 | 961602 |
| | | SM9223B-16 | 961599 | 03/08/2023 21:01 | LAB | SM9223B-16 | 961600 |
| | | N/A | N/A | N/A | | ASTM D6919-17 | 961003 |
| | | N/A | N/A | N/A | | Calculation | |
| | | N/A | N/A | N/A | | EPA 300.0 | 958877 |
| | | N/A | N/A | N/A | | EPA 353.2 | 962145 |
| | | EPA 365.1 | 961580 | 03/14/2023 14:31 | SAM | EPA 365.1 | 963201 |
| | | S4500-NorgB-11 | 961071 | 03/14/2023 08:05 | JXL | S4500NH3G-11 | 962312 |
| | | N/A | N/A | N/A | | SM2120B-2011 | 958272 |
| | | N/A | N/A | N/A | | SM2130B-2011 | 958273 |
| | | N/A | N/A | N/A | | SM2510B-2011 | 959607 |
| | | N/A | N/A | N/A | | SM4500-CI G-2011 | 958876 |
| | | N/A | N/A | N/A | | SM5540C-2011 | 959487 |
| 3291574004 | 853 | EPA TRMD | 959095 | 03/09/2023 23:27 | ANN | EPA 200.7 | 960384 |
| | | Enterolert | 959579 | 03/08/2023 20:07 | LAB | Enterolert | 959580 |
| | | SM9223B-16 | 961599 | 03/08/2023 21:01 | LAB | SM9223B-16 | 961602 |
| | | SM9223B-16 | 961599 | 03/08/2023 21:01 | LAB | SM9223B-16 | 961600 |
| | | N/A | N/A | N/A | | ASTM D6919-17 | 961003 |
| | | N/A | N/A | N/A | | Calculation | |
| | | N/A | N/A | N/A | | EPA 300.0 | 958877 |
| | | N/A | N/A | N/A | | EPA 353.2 | 962145 |
| | | EPA 365.1 | 961582 | 03/14/2023 14:39 | SAM | EPA 365.1 | 963201 |
| | | S4500-NorgB-11 | 961071 | 03/14/2023 08:05 | JXL | S4500NH3G-11 | 962312 |
| | | N/A | N/A | N/A | | SM2120B-2011 | 958272 |
| | | N/A | N/A | N/A | | SM2130B-2011 | 958273 |
| | | N/A | N/A | N/A | | SM2510B-2011 | 959607 |
| | | N/A | N/A | N/A | | SM4500-CI G-2011 | 958876 |
| | | N/A | N/A | N/A | | SM5540C-2011 | 959487 |



| Lab ID | Sample ID | Preparation Method | Prep Batch | Prep Date/Time | By | Analysis Method | Anly Batch |
|------------|-----------|--------------------|------------|------------------|-----|------------------|------------|
| 3291574005 | 862 | EPA TRMD | 959095 | 03/09/2023 23:27 | ANN | EPA 200.7 | 960384 |
| | | Enterolert | 959579 | 03/08/2023 20:07 | LAB | Enterolert | 959580 |
| | | SM9223B-16 | 961599 | 03/08/2023 21:01 | LAB | SM9223B-16 | 961602 |
| | | SM9223B-16 | 961599 | 03/08/2023 21:01 | LAB | SM9223B-16 | 961600 |
| | | N/A | N/A | N/A | | ASTM D6919-17 | 961003 |
| | | N/A | N/A | N/A | | Calculation | |
| | | N/A | N/A | N/A | | EPA 300.0 | 958877 |
| | | N/A | N/A | N/A | | EPA 353.2 | 962145 |
| | | EPA 365.1 | 961580 | 03/14/2023 14:31 | SAM | EPA 365.1 | 963201 |
| | | S4500-NorgB-11 | 961071 | 03/14/2023 08:05 | JXL | S4500NH3G-11 | 962312 |
| | | N/A | N/A | N/A | | SM2120B-2011 | 958272 |
| | | N/A | N/A | N/A | | SM2130B-2011 | 958273 |
| | | N/A | N/A | N/A | | SM2510B-2011 | 959607 |
| | | N/A | N/A | N/A | | SM4500-CI G-2011 | 958876 |
| | | N/A | N/A | N/A | | SM5540C-2011 | 959487 |
| 3291574006 | 881 | EPA TRMD | 959095 | 03/09/2023 23:27 | ANN | EPA 200.7 | 960384 |
| | | Enterolert | 959579 | 03/08/2023 20:07 | LAB | Enterolert | 959580 |
| | | SM9223B-16 | 961599 | 03/08/2023 21:01 | LAB | SM9223B-16 | 961602 |
| | | SM9223B-16 | 961599 | 03/08/2023 21:01 | LAB | SM9223B-16 | 961600 |
| | | N/A | N/A | N/A | | ASTM D6919-17 | 960998 |
| | | N/A | N/A | N/A | | Calculation | |
| | | N/A | N/A | N/A | | EPA 300.0 | 958877 |
| | | N/A | N/A | N/A | | EPA 353.2 | 962145 |
| | | EPA 365.1 | 961580 | 03/14/2023 14:31 | SAM | EPA 365.1 | 963201 |
| | | S4500-NorgB-11 | 961071 | 03/14/2023 08:05 | JXL | S4500NH3G-11 | 962312 |
| | | N/A | N/A | N/A | | SM2120B-2011 | 958272 |
| | | N/A | N/A | N/A | | SM2130B-2011 | 958273 |
| | | N/A | N/A | N/A | | SM2510B-2011 | 959607 |
| | | N/A | N/A | N/A | | SM4500-CI G-2011 | 958876 |
| | | N/A | N/A | N/A | | SM5540C-2011 | 959487 |
| 3291574007 | 879 | EPA TRMD | 959095 | 03/09/2023 23:27 | ANN | EPA 200.7 | 960384 |
| | | Enterolert | 959579 | 03/08/2023 20:07 | LAB | Enterolert | 959580 |
| | | SM9223B-16 | 961599 | 03/08/2023 21:01 | LAB | SM9223B-16 | 961602 |
| | | SM9223B-16 | 961599 | 03/08/2023 21:01 | LAB | SM9223B-16 | 961600 |
| | | N/A | N/A | N/A | | ASTM D6919-17 | 960998 |
| | | N/A | N/A | N/A | | Calculation | |
| | | N/A | N/A | N/A | | EPA 300.0 | 958877 |
| | | N/A | N/A | N/A | | EPA 353.2 | 962145 |
| | | EPA 365.1 | 961580 | 03/14/2023 14:31 | SAM | EPA 365.1 | 963201 |
| | | S4500-NorgB-11 | 961071 | 03/14/2023 08:05 | JXL | S4500NH3G-11 | 962312 |
| | | N/A | N/A | N/A | | SM2120B-2011 | 958272 |
| | | N/A | N/A | N/A | | SM2130B-2011 | 958273 |
| | | N/A | N/A | N/A | | SM2510B-2011 | 959607 |
| | | N/A | N/A | N/A | | SM4500-CI G-2011 | 958876 |
| | | N/A | N/A | N/A | | SM5540C-2011 | 959487 |
| 3291574008 | 1230 | EPA TRMD | 959095 | 03/09/2023 23:27 | ANN | EPA 200.7 | 960384 |
| | | Enterolert | 959579 | 03/08/2023 20:07 | LAB | Enterolert | 959580 |
| | | SM9223B-16 | 961599 | 03/08/2023 21:01 | LAB | SM9223B-16 | 961602 |
| | | SM9223B-16 | 961599 | 03/08/2023 21:01 | LAB | SM9223B-16 | 961600 |
| | | N/A | N/A | N/A | | ASTM D6919-17 | 960998 |
| | | N/A | N/A | N/A | | Calculation | |
| | | N/A | N/A | N/A | | EPA 300.0 | 958877 |
| | | N/A | N/A | N/A | | EPA 353.2 | 962145 |
| | | EPA 365.1 | 961580 | 03/14/2023 14:31 | SAM | EPA 365.1 | 963201 |
| | | S4500-NorgB-11 | 961071 | 03/14/2023 08:05 | JXL | S4500NH3G-11 | 962312 |
| | | N/A | N/A | N/A | | SM2120B-2011 | 958272 |
| | | N/A | N/A | N/A | | SM2130B-2011 | 958273 |
| | | N/A | N/A | N/A | | SM2510B-2011 | 959607 |
| | | N/A | N/A | N/A | | SM4500-CI G-2011 | 958876 |
| | | N/A | N/A | N/A | | SM5540C-2011 | 959487 |



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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

Analytical Results Report For

BayLands Consultants & Designers, Inc.

Project Takoma Park Dry Weather

Workorder 3291937

Report ID 233384 on 3/27/2023

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Mar 09, 2023.

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 Elizabeth Parker (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.

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

Recipient(s):

Bill Heckert - BayLands Consultants & Designers, Inc.
Zachary Tate - BayLands Consultants & Designers, Inc.

Elizabeth Parker

Elizabeth Parker
Project Coordinator

(ALS Digital Signature)

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



Sample Summary

| Lab ID | Sample ID | Matrix | Date Collected | Date Received | Collector | Collection Company |
|------------|-----------|--------|------------------|------------------|-----------|---------------------|
| 3291937001 | 1077 | Water | 03/09/2023 12:40 | 03/09/2023 18:33 | CBC | Collected By Client |
| 3291937002 | 80 | Water | 03/09/2023 11:20 | 03/09/2023 18:33 | CBC | Collected By Client |
| 3291937003 | 212 | Water | 03/09/2023 10:50 | 03/09/2023 18:33 | CBC | Collected By Client |
| 3291937004 | 736 | Water | 03/09/2023 09:25 | 03/09/2023 18:33 | CBC | Collected By Client |



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.
- 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 Notations

Sample Notations

Lab ID Sample ID

Result Notations

| Notation Ref. | |
|---------------|---|
| 1 | This sample result was calculated and reported using Method SM2340B-2011. |
| 2 | NPW TC analyzed following SM 9221B and EPA 600/8-78-017 pg 114. ND is defined as <2 MPN/100mL |
| 3 | ALS-Middletown does not hold PADEP NELAP accreditation for this analyte by this method of analysis. |
| 4 | Analyte was analyzed past the 8 hour holding time. |
| 5 | The chlorine analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory. |
| 6 | The color determination was performed on a sample aliquot with a pH of 4 |
| 7 | MBAS calculated as LAS molecular weight 348 g/mol. |



Detected Results Summary

| Client Sample ID | 1077 | Collected | 03/09/2023 12:40 | | |
|----------------------|------------|-------------|------------------|---------------|------|
| Lab Sample ID | 3291937001 | Lab Receipt | 03/09/2023 18:33 | | |
| Compound | Result | Units | RDL | Method | Flag |
| METALS | | | | | |
| Hardness | 152 | mg/L | 0.33 | EPA 200.7 | # |
| Potassium, Total | 3.9 | mg/L | 0.25 | EPA 200.7 | # |
| MICROBIOLOGY | | | | | |
| E. Coli | 2 | MPN/100mL | 1 | SM9223B-16 | # |
| Enterococcus | 21 | MPN/100mL | 1 | Enterolert | # |
| Total Coliform | 240 | MPN/100mL | 1 | SM9223B-16 | # |
| WET CHEMISTRY | | | | | |
| Ammonia-N | 0.386 | mg/L | 0.100 | ASTM D6919-17 | # |
| Chloride | 204 | mg/L | 5.0 | EPA 300.0 | # |
| Color, Apparent | 25 | CU | 5 | SM2120B-2011 | # |
| Nitrate/Nitrite-N | 0.55 | mg/L | 0.50 | EPA 353.2 | # |
| Phosphorus, Total | 0.15 | mg/L | 0.10 | EPA 365.1 | # |
| Specific Conductance | 840 | umhos/cm | 5 | SM2510B-2011 | # |
| Turbidity | 14 | NTU | 0.30 | SM2130B-2011 | # |



Detected Results Summary

| | | | |
|------------------|------------|-------------|------------------|
| Client Sample ID | 80 | Collected | 03/09/2023 11:20 |
| Lab Sample ID | 3291937002 | Lab Receipt | 03/09/2023 18:33 |

| Compound | Result | Units | RDL | Method | Flag |
|----------------------|--------|-----------|-------|---------------|------|
| METALS | | | | | |
| Hardness | 137 | mg/L | 0.33 | EPA 200.7 | # |
| Potassium, Total | 4.3 | mg/L | 0.25 | EPA 200.7 | # |
| MICROBIOLOGY | | | | | |
| E. Coli | 23 | MPN/100mL | 1 | SM9223B-16 | # |
| Enterococcus | 56 | MPN/100mL | 1 | Enterolert | # |
| Total Coliform | 70 | MPN/100mL | 1 | SM9223B-16 | # |
| WET CHEMISTRY | | | | | |
| Ammonia-N | 0.239 | mg/L | 0.100 | ASTM D6919-17 | # |
| Chloride | 133 | mg/L | 2.0 | EPA 300.0 | # |
| Color, Apparent | 20 | CU | 5 | SM2120B-2011 | # |
| Nitrate/Nitrite-N | 2.42 | mg/L | 0.50 | EPA 353.2 | # |
| Specific Conductance | 688 | umhos/cm | 5 | SM2510B-2011 | # |
| Total Nitrogen | 3.18 | mg/L | 1.50 | Calculation | # |
| Turbidity | 7.0 | NTU | 0.30 | SM2130B-2011 | # |



Detected Results Summary

| Client Sample ID | 212 | Collected | 03/09/2023 10:50 | | |
|----------------------|------------|-------------|------------------|---------------|------|
| Lab Sample ID | 3291937003 | Lab Receipt | 03/09/2023 18:33 | | |
| Compound | Result | Units | RDL | Method | Flag |
| METALS | | | | | |
| Hardness | 91.0 | mg/L | 0.33 | EPA 200.7 | # |
| Potassium, Total | 3.7 | mg/L | 0.25 | EPA 200.7 | # |
| MICROBIOLOGY | | | | | |
| E. Coli | >2400 | MPN/100mL | 1 | SM9223B-16 | # |
| Enterococcus | 38 | MPN/100mL | 1 | Enterolert | # |
| Total Coliform | >2400 | MPN/100mL | 1 | SM9223B-16 | # |
| WET CHEMISTRY | | | | | |
| Ammonia-N | 0.223 | mg/L | 0.100 | ASTM D6919-17 | # |
| Chloride | 142 | mg/L | 2.0 | EPA 300.0 | # |
| Color, Apparent | 10 | CU | 5 | SM2120B-2011 | # |
| Nitrate/Nitrite-N | 2.08 | mg/L | 0.50 | EPA 353.2 | # |
| Specific Conductance | 604 | umhos/cm | 5 | SM2510B-2011 | # |
| Total Nitrogen | 2.59 | mg/L | 1.50 | Calculation | # |
| Turbidity | 3.4 | NTU | 0.30 | SM2130B-2011 | # |



Detected Results Summary

| Client Sample ID | 736 | Collected | 03/09/2023 09:25 | | |
|----------------------|------------|-------------|------------------|---------------|------|
| Lab Sample ID | 3291937004 | Lab Receipt | 03/09/2023 18:33 | | |
| Compound | Result | Units | RDL | Method | Flag |
| METALS | | | | | |
| Boron, Total | 0.054 | mg/L | 0.050 | EPA 200.7 | # |
| Hardness | 231 | mg/L | 0.33 | EPA 200.7 | # |
| Potassium, Total | 6.3 | mg/L | 0.25 | EPA 200.7 | # |
| MICROBIOLOGY | | | | | |
| E. Coli | 17 | MPN/100mL | 1 | SM9223B-16 | # |
| Enterococcus | 14 | MPN/100mL | 1 | Enterolert | # |
| Total Coliform | 17 | MPN/100mL | 1 | SM9223B-16 | # |
| WET CHEMISTRY | | | | | |
| Ammonia-N | 0.182 | mg/L | 0.100 | ASTM D6919-17 | # |
| Chloride | 116 | mg/L | 2.0 | EPA 300.0 | # |
| Color, Apparent | 5 | CU | 5 | SM2120B-2011 | # |
| Nitrate/Nitrite-N | 1.43 | mg/L | 0.50 | EPA 353.2 | # |
| Specific Conductance | 789 | umhos/cm | 5 | SM2510B-2011 | # |
| Total Nitrogen | 1.89 | mg/L | 1.50 | Calculation | # |
| Turbidity | 0.60 | NTU | 0.30 | SM2130B-2011 | # |



Results

| | | | |
|------------------|------------|-------------|------------------|
| Client Sample ID | 1077 | Collected | 03/09/2023 12:40 |
| Lab Sample ID | 3291937001 | Lab Receipt | 03/09/2023 18:33 |

METALS

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|------------------|--------|------|-------|-------|-----------|----------|--------------------|-----|------|
| Boron, Total | ND | ND | mg/L | 0.050 | EPA 200.7 | 1 | 03/18/2023 10:53 | SRT | E1 |
| Hardness | 152 | 1 | mg/L | 0.33 | EPA 200.7 | 1 | 03/18/2023 10:53 | SRT | E1 |
| Potassium, Total | 3.9 | | mg/L | 0.25 | EPA 200.7 | 1 | 03/18/2023 10:53 | SRT | E1 |

MICROBIOLOGY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|----------------|--------|-------|-----------|-----|------------|----------|--------------------|-----|------|
| E. Coli | 2 | 2,3,4 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/12/2023 17:16 | CXA | G |
| Enterococcus | 21 | | MPN/100mL | 1 | Enterolert | 1 | 03/10/2023 19:49 | LAB | G |
| Total Coliform | 240 | 2,3,4 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/13/2023 17:51 | PXS | G |

WET CHEMISTRY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|--------------------------|--------|------|----------|-------|------------------|----------|--------------------|-----|------|
| Ammonia-N | 0.386 | | mg/L | 0.100 | ASTM D6919-17 | 10 | 03/17/2023 01:21 | NML | D |
| Chloride | 204 | | mg/L | 5.0 | EPA 300.0 | 5 | 03/14/2023 18:04 | J1W | A |
| Chlorine, Total Residual | ND | ND,5 | mg/L | 0.10 | SM4500-Cl G-2011 | 1 | 03/10/2023 05:52 | NRB | A |
| Color, Apparent | 25 | 6 | CU | 5 | SM2120B-2011 | 1 | 03/09/2023 23:46 | NRB | A |
| Fluoride | ND | ND | mg/L | 0.20 | EPA 300.0 | 2 | 03/10/2023 17:12 | J1W | A |
| Nitrate/Nitrite-N | 0.55 | | mg/L | 0.50 | EPA 353.2 | 5 | 03/22/2023 09:46 | KMS | D |
| Phosphorus, Total | 0.15 | | mg/L | 0.10 | EPA 365.1 | 1 | 03/22/2023 21:26 | NJA | D |
| Specific Conductance | 840 | | umhos/cm | 5 | SM2510B-2011 | 1 | 03/16/2023 09:50 | JXL | A |
| Surfactants (MBAS) | ND | ND,7 | mg/L | 0.180 | SM5540C-2011 | 1 | 03/10/2023 07:01 | GMM | C |
| Total Kjeldahl Nitrogen | ND | ND | mg/L | 1.0 | S4500NH3G-11 | 1 | 03/16/2023 11:37 | JXL | D |
| Total Nitrogen | ND | ND | mg/L | 1.50 | Calculation | 1 | 03/23/2023 12:50 | CW | D |
| Turbidity | 14 | | NTU | 0.30 | SM2130B-2011 | 1 | 03/10/2023 03:48 | NRB | A |



Results

| | | | |
|------------------|------------|-------------|------------------|
| Client Sample ID | 80 | Collected | 03/09/2023 11:20 |
| Lab Sample ID | 3291937002 | Lab Receipt | 03/09/2023 18:33 |

METALS

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|------------------|--------|------|-------|-------|-----------|----------|--------------------|-----|------|
| Boron, Total | ND | ND | mg/L | 0.050 | EPA 200.7 | 1 | 03/18/2023 11:06 | SRT | E1 |
| Hardness | 137 | 1 | mg/L | 0.33 | EPA 200.7 | 1 | 03/18/2023 11:06 | SRT | E1 |
| Potassium, Total | 4.3 | | mg/L | 0.25 | EPA 200.7 | 1 | 03/18/2023 11:06 | SRT | E1 |

MICROBIOLOGY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|----------------|--------|-------|-----------|-----|------------|----------|--------------------|-----|------|
| E. Coli | 23 | 2,3,4 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/12/2023 17:16 | CXA | G |
| Enterococcus | 56 | 4 | MPN/100mL | 1 | Enterolert | 1 | 03/10/2023 19:49 | LAB | G |
| Total Coliform | 70 | 2,3,4 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/13/2023 17:51 | PXS | G |

WET CHEMISTRY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|--------------------------|--------|------|----------|-------|------------------|----------|--------------------|-----|------|
| Ammonia-N | 0.239 | | mg/L | 0.100 | ASTM D6919-17 | 10 | 03/17/2023 01:35 | NML | D |
| Chloride | 133 | | mg/L | 2.0 | EPA 300.0 | 2 | 03/10/2023 17:22 | J1W | A |
| Chlorine, Total Residual | ND | ND,5 | mg/L | 0.10 | SM4500-Cl G-2011 | 1 | 03/10/2023 05:52 | NRB | A |
| Color, Apparent | 20 | 6 | CU | 5 | SM2120B-2011 | 1 | 03/09/2023 23:46 | NRB | A |
| Fluoride | ND | ND | mg/L | 0.20 | EPA 300.0 | 2 | 03/10/2023 17:22 | J1W | A |
| Nitrate/Nitrite-N | 2.42 | | mg/L | 0.50 | EPA 353.2 | 5 | 03/22/2023 09:46 | KMS | D |
| Phosphorus, Total | ND | ND | mg/L | 0.10 | EPA 365.1 | 1 | 03/22/2023 21:28 | NJA | D |
| Specific Conductance | 688 | | umhos/cm | 5 | SM2510B-2011 | 1 | 03/16/2023 09:50 | JXL | A |
| Surfactants (MBAS) | ND | ND,7 | mg/L | 0.180 | SM5540C-2011 | 1 | 03/10/2023 07:01 | GMM | C |
| Total Kjeldahl Nitrogen | ND | ND | mg/L | 1.0 | S4500NH3G-11 | 1 | 03/16/2023 11:40 | JXL | D |
| Total Nitrogen | 3.18 | | mg/L | 1.50 | Calculation | 1 | 03/23/2023 12:52 | CW | D |
| Turbidity | 7.0 | | NTU | 0.30 | SM2130B-2011 | 1 | 03/10/2023 03:48 | NRB | A |



Results

| | | | |
|------------------|------------|-------------|------------------|
| Client Sample ID | 212 | Collected | 03/09/2023 10:50 |
| Lab Sample ID | 3291937003 | Lab Receipt | 03/09/2023 18:33 |

METALS

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|------------------|--------|------|-------|-------|-----------|----------|--------------------|-----|------|
| Boron, Total | ND | ND | mg/L | 0.050 | EPA 200.7 | 1 | 03/24/2023 10:40 | SRT | E1 |
| Hardness | 91.0 | 1 | mg/L | 0.33 | EPA 200.7 | 1 | 03/24/2023 10:40 | SRT | E1 |
| Potassium, Total | 3.7 | | mg/L | 0.25 | EPA 200.7 | 1 | 03/24/2023 10:40 | SRT | E1 |

MICROBIOLOGY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|----------------|--------|-------|-----------|-----|------------|----------|--------------------|-----|------|
| E. Coli | >2400 | 2,3,4 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/12/2023 17:16 | CXA | G |
| Enterococcus | 38 | 4 | MPN/100mL | 1 | Enterolert | 1 | 03/10/2023 19:49 | LAB | G |
| Total Coliform | >2400 | 2,3,4 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/13/2023 17:51 | PXS | G |

WET CHEMISTRY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|--------------------------|--------|------|----------|-------|------------------|----------|--------------------|-----|------|
| Ammonia-N | 0.223 | | mg/L | 0.100 | ASTM D6919-17 | 10 | 03/17/2023 01:49 | NML | D |
| Chloride | 142 | | mg/L | 2.0 | EPA 300.0 | 2 | 03/10/2023 17:33 | J1W | A |
| Chlorine, Total Residual | ND | ND,5 | mg/L | 0.10 | SM4500-Cl G-2011 | 1 | 03/10/2023 05:52 | NRB | A |
| Color, Apparent | 10 | 6 | CU | 5 | SM2120B-2011 | 1 | 03/09/2023 23:46 | NRB | A |
| Fluoride | ND | ND | mg/L | 0.20 | EPA 300.0 | 2 | 03/10/2023 17:33 | J1W | A |
| Nitrate/Nitrite-N | 2.08 | | mg/L | 0.50 | EPA 353.2 | 5 | 03/22/2023 09:46 | KMS | D |
| Phosphorus, Total | ND | ND | mg/L | 0.10 | EPA 365.1 | 1 | 03/22/2023 23:16 | NJA | D |
| Specific Conductance | 604 | | umhos/cm | 5 | SM2510B-2011 | 1 | 03/16/2023 09:50 | JXL | A |
| Surfactants (MBAS) | ND | ND,7 | mg/L | 0.180 | SM5540C-2011 | 1 | 03/10/2023 07:01 | GMM | C |
| Total Kjeldahl Nitrogen | ND | ND | mg/L | 1.0 | S4500NH3G-11 | 1 | 03/16/2023 11:42 | JXL | D |
| Total Nitrogen | 2.59 | | mg/L | 1.50 | Calculation | 1 | 03/23/2023 12:44 | CW | D |
| Turbidity | 3.4 | | NTU | 0.30 | SM2130B-2011 | 1 | 03/10/2023 03:48 | NRB | A |



Results

| | | | |
|------------------|------------|-------------|------------------|
| Client Sample ID | 736 | Collected | 03/09/2023 09:25 |
| Lab Sample ID | 3291937004 | Lab Receipt | 03/09/2023 18:33 |

METALS

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|------------------|--------|------|-------|-------|-----------|----------|--------------------|-----|------|
| Boron, Total | 0.054 | | mg/L | 0.050 | EPA 200.7 | 1 | 03/24/2023 10:47 | SRT | E1 |
| Hardness | 231 | 1 | mg/L | 0.33 | EPA 200.7 | 1 | 03/24/2023 10:47 | SRT | E1 |
| Potassium, Total | 6.3 | | mg/L | 0.25 | EPA 200.7 | 1 | 03/24/2023 10:47 | SRT | E1 |

MICROBIOLOGY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|----------------|--------|-------|-----------|-----|------------|----------|--------------------|-----|------|
| E. Coli | 17 | 2,3,4 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/12/2023 17:16 | CXA | G |
| Enterococcus | 14 | 4 | MPN/100mL | 1 | Enterolert | 1 | 03/10/2023 19:49 | LAB | G |
| Total Coliform | 17 | 2,3,4 | MPN/100mL | 1 | SM9223B-16 | 1 | 03/13/2023 17:51 | PXS | G |

WET CHEMISTRY

| Compound | Result | Flag | Units | RDL | Method | Dilution | Analysis Date/Time | By | Cntr |
|--------------------------|--------|------|----------|-------|------------------|----------|--------------------|-----|------|
| Ammonia-N | 0.182 | | mg/L | 0.100 | ASTM D6919-17 | 10 | 03/17/2023 01:08 | NML | D |
| Chloride | 116 | | mg/L | 2.0 | EPA 300.0 | 2 | 03/10/2023 17:43 | J1W | A |
| Chlorine, Total Residual | ND | ND,5 | mg/L | 0.10 | SM4500-Cl G-2011 | 1 | 03/10/2023 05:52 | NRB | A |
| Color, Apparent | 5 | 6 | CU | 5 | SM2120B-2011 | 1 | 03/09/2023 23:46 | NRB | A |
| Fluoride | ND | ND | mg/L | 0.20 | EPA 300.0 | 2 | 03/10/2023 17:43 | J1W | A |
| Nitrate/Nitrite-N | 1.43 | | mg/L | 0.50 | EPA 353.2 | 5 | 03/22/2023 09:46 | KMS | D |
| Phosphorus, Total | ND | ND | mg/L | 0.10 | EPA 365.1 | 1 | 03/22/2023 21:30 | NJA | D |
| Specific Conductance | 789 | | umhos/cm | 5 | SM2510B-2011 | 1 | 03/16/2023 09:50 | JXL | A |
| Surfactants (MBAS) | ND | ND,7 | mg/L | 0.180 | SM5540C-2011 | 1 | 03/10/2023 07:01 | GMM | C |
| Total Kjeldahl Nitrogen | ND | ND | mg/L | 1.0 | S4500NH3G-11 | 1 | 03/16/2023 11:45 | JXL | D |
| Total Nitrogen | 1.89 | | mg/L | 1.50 | Calculation | 1 | 03/23/2023 12:53 | CW | D |
| Turbidity | 0.60 | | NTU | 0.30 | SM2130B-2011 | 1 | 03/10/2023 02:33 | NRB | A |



Sample - Method Cross Reference Table

| Lab ID | Sample ID | Analysis Method | Preparation Method | Leachate Method |
|------------|-----------|------------------|--------------------|-----------------|
| 3291937001 | 1077 | EPA 200.7 | EPA TRMD | |
| | | Enterolert | Enterolert | |
| | | SM9223B-16 | SM9223B-16 | |
| | | ASTM D6919-17 | N/A | |
| | | Calculation | N/A | |
| | | EPA 300.0 | N/A | |
| | | EPA 300.0 | N/A | |
| | | EPA 353.2 | N/A | |
| | | EPA 365.1 | EPA 365.1 | |
| | | S4500NH3G-11 | S4500-NorgB-11 | |
| | | SM2120B-2011 | N/A | |
| | | SM2130B-2011 | N/A | |
| | | SM2510B-2011 | N/A | |
| | | SM4500-CI G-2011 | N/A | |
| | | SM5540C-2011 | N/A | |
| 3291937002 | 80 | EPA 200.7 | EPA TRMD | |
| | | Enterolert | Enterolert | |
| | | SM9223B-16 | SM9223B-16 | |
| | | ASTM D6919-17 | N/A | |
| | | Calculation | N/A | |
| | | EPA 300.0 | N/A | |
| | | EPA 353.2 | N/A | |
| | | EPA 365.1 | EPA 365.1 | |
| | | S4500NH3G-11 | S4500-NorgB-11 | |
| | | SM2120B-2011 | N/A | |
| | | SM2130B-2011 | N/A | |
| | | SM2510B-2011 | N/A | |
| | | SM4500-CI G-2011 | N/A | |
| | | SM5540C-2011 | N/A | |
| 3291937003 | 212 | EPA 200.7 | EPA TRMD | |
| | | Enterolert | Enterolert | |
| | | SM9223B-16 | SM9223B-16 | |
| | | ASTM D6919-17 | N/A | |
| | | Calculation | N/A | |
| | | EPA 300.0 | N/A | |
| | | EPA 353.2 | N/A | |
| | | EPA 365.1 | EPA 365.1 | |
| | | S4500NH3G-11 | S4500-NorgB-11 | |
| | | SM2120B-2011 | N/A | |
| | | SM2130B-2011 | N/A | |
| | | SM2510B-2011 | N/A | |
| | | SM4500-CI G-2011 | N/A | |
| | | SM5540C-2011 | N/A | |



| Lab ID | Sample ID | Analysis Method | Preparation Method | Leachate Method |
|------------|-----------|------------------|--------------------|-----------------|
| 3291937004 | 736 | EPA 200.7 | EPA TRMD | |
| | | Enterolert | Enterolert | |
| | | SM9223B-16 | SM9223B-16 | |
| | | ASTM D6919-17 | N/A | |
| | | Calculation | N/A | |
| | | EPA 300.0 | N/A | |
| | | EPA 353.2 | N/A | |
| | | EPA 365.1 | EPA 365.1 | |
| | | S4500NH3G-11 | S4500-NorgB-11 | |
| | | SM2120B-2011 | N/A | |
| | | SM2130B-2011 | N/A | |
| | | SM2510B-2011 | N/A | |
| | | SM4500-CI G-2011 | N/A | |
| | | SM5540C-2011 | N/A | |



QUALITY CONTROL DATA CROSS REFERENCE TABLE

| Lab ID | Sample ID | Preparation Method | Prep Batch | Prep Date/Time | By | Analysis Method | Anly Batch |
|------------|-----------|--------------------|------------|------------------|-----|------------------|------------|
| 3291937001 | 1077 | EPA TRMD | 961980 | 03/14/2023 22:52 | ANN | EPA 200.7 | 963018 |
| | | Enterolert | 959590 | 03/09/2023 19:37 | LAB | Enterolert | 959591 |
| | | SM9223B-16 | 961621 | 03/09/2023 20:43 | LAB | SM9223B-16 | 961622 |
| | | SM9223B-16 | 961621 | 03/09/2023 20:43 | LAB | SM9223B-16 | 961623 |
| | | N/A | N/A | N/A | | ASTM D6919-17 | 962232 |
| | | N/A | N/A | N/A | | Calculation | |
| | | N/A | N/A | N/A | | EPA 300.0 | 959485 |
| | | N/A | N/A | N/A | | EPA 300.0 | 961389 |
| | | N/A | N/A | N/A | | EPA 353.2 | 962145 |
| | | EPA 365.1 | 961585 | 03/14/2023 14:49 | SAM | EPA 365.1 | 964451 |
| | | S4500-NorgB-11 | 961492 | 03/15/2023 08:34 | JXL | S4500NH3G-11 | 962779 |
| | | N/A | N/A | N/A | | SM2120B-2011 | 959171 |
| | | N/A | N/A | N/A | | SM2130B-2011 | 959375 |
| | | N/A | N/A | N/A | | SM2510B-2011 | 962234 |
| | | N/A | N/A | N/A | | SM4500-CI G-2011 | 959380 |
| | | N/A | N/A | N/A | | SM5540C-2011 | 959487 |
| 3291937002 | 80 | EPA TRMD | 961980 | 03/14/2023 22:52 | ANN | EPA 200.7 | 963018 |
| | | Enterolert | 959590 | 03/09/2023 19:37 | LAB | Enterolert | 959591 |
| | | SM9223B-16 | 961621 | 03/09/2023 20:43 | LAB | SM9223B-16 | 961622 |
| | | SM9223B-16 | 961621 | 03/09/2023 20:43 | LAB | SM9223B-16 | 961623 |
| | | N/A | N/A | N/A | | ASTM D6919-17 | 962232 |
| | | N/A | N/A | N/A | | Calculation | |
| | | N/A | N/A | N/A | | EPA 300.0 | 959485 |
| | | N/A | N/A | N/A | | EPA 353.2 | 962145 |
| | | EPA 365.1 | 961585 | 03/14/2023 14:49 | SAM | EPA 365.1 | 964451 |
| | | S4500-NorgB-11 | 961492 | 03/15/2023 08:34 | JXL | S4500NH3G-11 | 962779 |
| | | N/A | N/A | N/A | | SM2120B-2011 | 959171 |
| | | N/A | N/A | N/A | | SM2130B-2011 | 959375 |
| | | N/A | N/A | N/A | | SM2510B-2011 | 962234 |
| | | N/A | N/A | N/A | | SM4500-CI G-2011 | 959380 |
| | | N/A | N/A | N/A | | SM5540C-2011 | 959487 |
| 3291937003 | 212 | EPA TRMD | 961980 | 03/14/2023 22:52 | ANN | EPA 200.7 | 965371 |
| | | Enterolert | 959590 | 03/09/2023 19:37 | LAB | Enterolert | 959591 |
| | | SM9223B-16 | 961621 | 03/09/2023 20:43 | LAB | SM9223B-16 | 961622 |
| | | SM9223B-16 | 961621 | 03/09/2023 20:43 | LAB | SM9223B-16 | 961623 |
| | | N/A | N/A | N/A | | ASTM D6919-17 | 962232 |
| | | N/A | N/A | N/A | | Calculation | |
| | | N/A | N/A | N/A | | EPA 300.0 | 959485 |
| | | N/A | N/A | N/A | | EPA 353.2 | 962145 |
| | | EPA 365.1 | 961589 | 03/14/2023 15:01 | SAM | EPA 365.1 | 964451 |
| | | S4500-NorgB-11 | 961492 | 03/15/2023 08:34 | JXL | S4500NH3G-11 | 962779 |
| | | N/A | N/A | N/A | | SM2120B-2011 | 959171 |
| | | N/A | N/A | N/A | | SM2130B-2011 | 959375 |
| | | N/A | N/A | N/A | | SM2510B-2011 | 962234 |
| | | N/A | N/A | N/A | | SM4500-CI G-2011 | 959380 |
| | | N/A | N/A | N/A | | SM5540C-2011 | 959487 |
| 3291937004 | 736 | EPA TRMD | 961980 | 03/14/2023 22:52 | ANN | EPA 200.7 | 965371 |
| | | Enterolert | 959590 | 03/09/2023 19:37 | LAB | Enterolert | 959591 |
| | | SM9223B-16 | 961621 | 03/09/2023 20:43 | LAB | SM9223B-16 | 961622 |
| | | SM9223B-16 | 961621 | 03/09/2023 20:43 | LAB | SM9223B-16 | 961623 |
| | | N/A | N/A | N/A | | ASTM D6919-17 | 962232 |
| | | N/A | N/A | N/A | | Calculation | |
| | | N/A | N/A | N/A | | EPA 300.0 | 959485 |
| | | N/A | N/A | N/A | | EPA 353.2 | 962145 |
| | | EPA 365.1 | 961585 | 03/14/2023 14:49 | SAM | EPA 365.1 | 964451 |
| | | S4500-NorgB-11 | 961492 | 03/15/2023 08:34 | JXL | S4500NH3G-11 | 962779 |
| | | N/A | N/A | N/A | | SM2120B-2011 | 959171 |
| | | N/A | N/A | N/A | | SM2130B-2011 | 959371 |
| | | N/A | N/A | N/A | | SM2510B-2011 | 962234 |
| | | N/A | N/A | N/A | | SM4500-CI G-2011 | 959380 |
| | | N/A | N/A | N/A | | SM5540C-2011 | 959487 |

